Funded by the European Union

EU4Climate
Armenia, Azerbaijan, Belarus, Georgia, Republic of Moldova, Ukraine

UNDP

Developing Low Emission Development Strategies in EaP countries

Comparative analysis of approach and long-term ambitions in Armenia, Azerbaijan, Belarus, Georgia, Republic of Moldova and Ukraine

Technical document
November 2022

This document has been prepared within the framework of the EU/UNDP EU4Climate Project, CRIS ENI/2017/387-538.

Report date: 7 November 2022

Prepared by Elisabeth Kampel (with inputs received from the national coordinators)
Study concept and editing by Yevgen Groza

The information provided is based on the following documents received from EaP countries:

- Armenia: Development of the Long-Term Low Emission Development Strategy of the Republic of Armenia, Draft Concept Proposal, July 2022
- Azerbaijan: Long Term Low Emissions Development Strategy Azerbaijan: contributing to the global mitigation of the climate change effect, Baku, October 2021
- Georgia: Long-Term Low Emission Development Strategy Concept (Final draft), 2021
- Moldova: The concept of the Low Emission Development Program of the Republic of Moldova until 2030 and the Action Plan for its implementation 2030 Low Emissions Development Program of Moldova and its Action Plan, 2021
- Ukraine: 2050 Low Emission Development Strategy, Kyiv, November 2017

It should be noted that all information presented for Ukraine is referring to the strategic documents developed before the war started by Russia, and therefore would need to be updated with a focus on post-war reconstruction needs once the situation allows.

This document has been prepared with financial assistance from the European Union. The contents of this publication are the sole responsibility of the author and do not necessarily reflect the opinion of the European Union or the UNDP

Table of Contents

List of Abbreviations

BTR	Biennial Transparency Report
BAU	Business as Usual
BUR	Biennial Update Report
CEPA	Comprehensive and Enhanced Partnership Agreement
CMA	Conference of the Parties serving as the Meeting of the Parties to the Paris Agreement
COP	Conference of the Parties
CRF	Common Reporting Format
CTF	Common Tabular Format
ETF	Enhanced Transparency Framework
GDP	Gross Domestic Product
GHG	Greenhouse Gas
IPCC	Intergovernmental Panel on Climate Change
LEDS	Low Emission Development Strategy
LTS	Long Term Strategy
LULUCF	Land-use, Land-use Change and Forestry
MPGs	Modalities Procedures and Guidelines
MRV	Monitoring, Reporting and Verification
NC	National Communication
NECP	National Energy and Climate Plan
NDCs	Nationally Determined Contributions
NIR	National Inventory Report
PA	Paris Agreement
UNFCCC	United Nations Framework Convention on Climate Change
WAM	With Additional Measures
WEM	With Existing Measures
WOM	Without Measures

1 EU4Climate Project in Focus

The EU4Climate project assists governments in the six Eastern Partnership countries - Armenia, Azerbaijan, Belarus[1], Georgia, the Republic of Moldova and Ukraine - to take action against climate change. It supports countries in implementing the Paris Climate Agreement and in improving climate policies and legislation with an ambition of limiting climate change's impact on citizens' lives and making them more resilient to it.

The EU4Climate project has a total budget of €8.8 million and is funded by the European Union (EU) with €8 million. The United Nations Development Programme (UNDP) is the implementing body and supports the project with €0.8 million. In each of the six beneficiary countries national coordinators have been appointed, who coordinate the national activities and ensure regional cooperation. The project started in December 2018 and lasts until December 2023 (60 months duration).

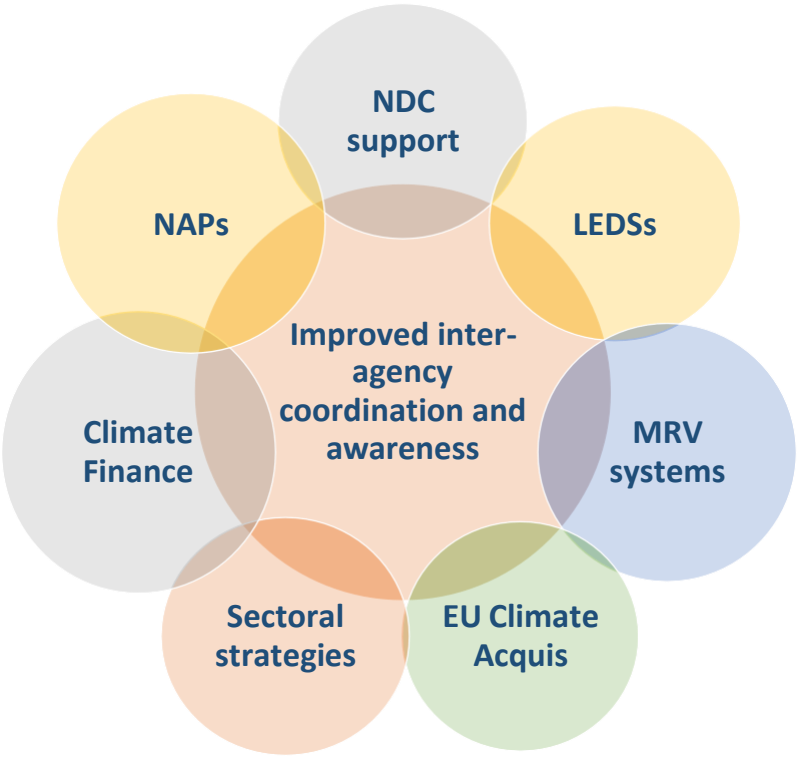
In supporting the development and implementation of climate-related policies of the Eastern Partnership countries that contribute to their low emission and climate resilient development and their commitments to the Paris Agreement, the Project identifies key actions and results. These are not only in line with the Paris Agreement, but also support the implementation of the European Green Deal, post 2020 Eastern Partnership priorities, Association Agreements and Comprehensive and Enhanced Partnership Agreement (CEPA), as well as the key global policy goals set by the UN 2030 Agenda for Sustainable Development. Implementing reforms to enhance Ukraine's and Moldova's resilience, energy security and green transition are closely linked to the European Union's candidate status and, therefore, a priority.

To realize these project goals, the following results should be achieved:

- Finalized or up-dated nationally determined contributions communicated to the UNFCCC;
- Improved inter-institutional awareness and coordination at political and technical level of the Paris Agreement and the corresponding national commitments;
- Development of national mid-century low-emission development strategies (LEDS);
- Established or strengthened MRV systems, with countries getting on track with Paris Agreement transparency requirements;
- Advanced alignment with EU climate acquis as provided by bilateral agreements with EU and in the context of Energy Community Treaty on climate matters that are not covered by the EU4Energy programme;
- Establishment of concrete sectoral guidelines for the implementation of the Paris Agreement in each of the Eastern Partners;
- Increased mobilization of climate finance;
- Enhanced adaptation planning.

[1]Participation of Belarus in the EU4Climate was suspended as of 24.02.2022 until further notice

Figure 1: Expected results of the EU4Climate project



As the results to be achieved are strongly interlinked, work on the different topics is carried out in parallel, whereby the various national circumstances are taken into consideration. Tackling climate change requires robust GHG inventory systems, identification of effective and cost-efficient measures, setting short and long-term goals, taking adaptation actions, mainstreaming of actions into all policy sectors and developing the legislative and institutional framework to implement the targets set. Naturally, the countries have been working on these issues already before the EU4Climate project so the actual needs are at different levels, but this will enable knowledge and best-practices exchange between the countries. This sharing of experience is ensured by regular regional workshops and events, in which experts from other countries and international institutions are also actively participating.

LEDS-related support from the EU4Climate project

The EU4Climate project assisted Georgia, Armenia, and Azerbaijan in preparing their LEDS, which includes the development of scenarios, analysis of mitigation options, carrying out consultations, quality assurance and control, report writing, consultation etc. Moldova was supported in developing the draft updated LEDS 2030 and carrying out the stakeholder consultation. Belarus was provided with guidance on the overall LEDS development including the preparation of a roadmap. Ukraine had already prepared its long-term strategy before the EU4Climate project started.

The support provided by national and international experts hired through the EU4Climate project included the following activities.

- Communication with governments and other key stakeholders
- Review of the underlying GHG inventory and support for necessary improvements
- Identification and selection of relevant climate policies by reviewing national strategies and legislation
- Guidance to sectoral policy analysis
- Definition and calculation of emission scenarios
- Guidance for methodologies used for emission scenarios
- Recommendations for integration of adaptation issues
- Financial impact analysis
- Selection of indicators
- Sharing of best practice examples
- Review of calculations and of draft LEDs
- Guidance for the assessment of aspects related to gender equality and vulnerable groups
- Development of LEDS implementation roadmaps
- Recommendations for monitoring framework and progress tracking
- Country-specific support as requested.

2 Reporting to the UNFCCC

All beneficiary countries of the EU4Climate project are parties to the UNFCCC and have signed the Paris Agreement. Article 4.1 of the Paris Agreement states the urgent need for achieving climate neutrality – defined as the balance between anthropogenic emissions by sources and removals by sinks of greenhouse gas emissions by 2050 and after.

> 1. In order to achieve the long-term temperature goal set out in Article 2, Parties aim to reach global peaking of greenhouse gas emissions as soon as possible, recognizing that peaking will take longer for developing country Parties, and to undertake rapid reductions thereafter in accordance with best available science, so as to achieve a balance between anthropogenic emissions by sources and removals by sinks of greenhouse gases in the second half of this century, on the basis of equity, and in the context of sustainable development and efforts to eradicate poverty.

Article 4.19 of the Paris Agreement asks Parties to prepare long-term low greenhouse gas emission development strategies. The reporting of these is not mandatory. The LT_LEDS submissions of 52 Parties are available[2]. Currently, Ukraine is the only country of the EaP countries to have submitted its LT-LEDS to the UNFCCC.

> 19. All Parties should strive to formulate and communicate long-term low greenhouse gas emission development strategies, mindful of Article 2 taking into account their common but differentiated responsibilities and respective capabilities, in the light of different national circumstances.

The preparation of long-term strategies is also requirement for EU Member States under the Energy Governance Regulation (Article 15). The national long-term strategies have been submitted by all EU Member States except four[3].

> *Article 15*
>
> **Long-term strategies**
>
> 1. By 1 January 2020, and subsequently by 1 January 2029 and every 10 years thereafter, each Member State shall prepare and submit to the Commission its long-term strategy with a perspective of at least 30 years. Member States should, where necessary, update those strategies every five years.

The EU itself has communicated its LEDS in 2020 committing to climate neutrality by 2050, which has been enshrined into law (European Climate Law (EU)2021/1119[4]). This will be achieved through the implementation of the 'European Green Deal', which already resulted in an amendment of climate, energy, transport and taxation policies to also prepare for meeting the intermediate target of reducing net greenhouse gas emissions by at least 55% by 2030, compared to 1990 levels.

Within the EU4Climate project, the EU is also helping governments of the EU Eastern Partner countries to align their policies with global and European ambitions and get on a low emission development pathway and enabling a just transition.

[2] https://unfccc.int/process/the-paris-agreement/long-term-strategies, as of 23 Sept 2022

[3] https://ec.europa.eu/info/energy-climate-change-environment/implementation-eu-countries/energy-and-climate-governance-and-reporting/national-long-term-strategies_en, as of 23 Sept 2022

[4] https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32021R1119&from=EN

3 Country specific circumstances

Designing and implementing low emission development pathways requires a good understanding of the specific national situation as there is no 'one-size fits all approach'. It goes without saying that phasing out fossil fuels is one of the key priorities. But then there is also methane, a greenhouse gas which has much larger impact and stays much longer in the atmosphere. Even worse for nitrous oxide or fluorinated gases. So, countries need to know where climate mitigation is most effective and develop their policies and measures along these lines.

Table 1 below shows some of the most relevant indicators to assess the GHG intensity of a country and in Figure 2 the total energy supply per source is presented. It can be seen that the range per indicator varies largely and is often a multiple of the lowest value. GHG emission intensities and the share of GHG emissions from the energy sector are largely depending on the use of fossil fuels in the energy sector (including heating and transport), the carbon-intensity of the industrial sector, and the use of renewable energy sources or the use of nuclear power. industrialisation of the country. The final energy consumption has increased in all countries except Belarus and Ukraine, since 2010, due to economic growth, and expansion of supply networks and an increasing transport sector. Therefore, measures to increase energy efficiency should be taken.

Table 1: Indicators per country

	GHG/head (1)	GHG/GDP (2)	FEC (GJ)/head (3)	Share of energy (4)	RES share (5)
Armenia	3.41	0.82	34.71	67%	10%
Azerbaijan	5.40	0.95	45.10	79%	2%
Belarus	6.19	0.99	84.92	64%	8%
Georgia	3.44	0.80	51.68	60%	25%
Moldova	5.29	1.54	48.30	67%	22%
Ukraine	7.48	3.26	46.85	65%	7%

Data sources:

(1) GHG/head in ton per capita: as included in EU4Climate country profiles

(2) GHG/GDP in ton/$1000 (constant 2010 USD), Worldbank as included in EU4Climate country profiles
GHG data: Armenia – latest year 2017, data source: 3rd Biennial Update Report (2021)
Azerbaijan - latest year 2016, data source: 4th National Communication (2021)
Georgia - latest year 2017, data source: 4th National Communication (2021)
Moldova - latest year 2019, data source: National Inventory Report 1990-2019 (2021)
Belarus, Ukraine – latest year 2020, data source: UNFCCC GHG Data Interface

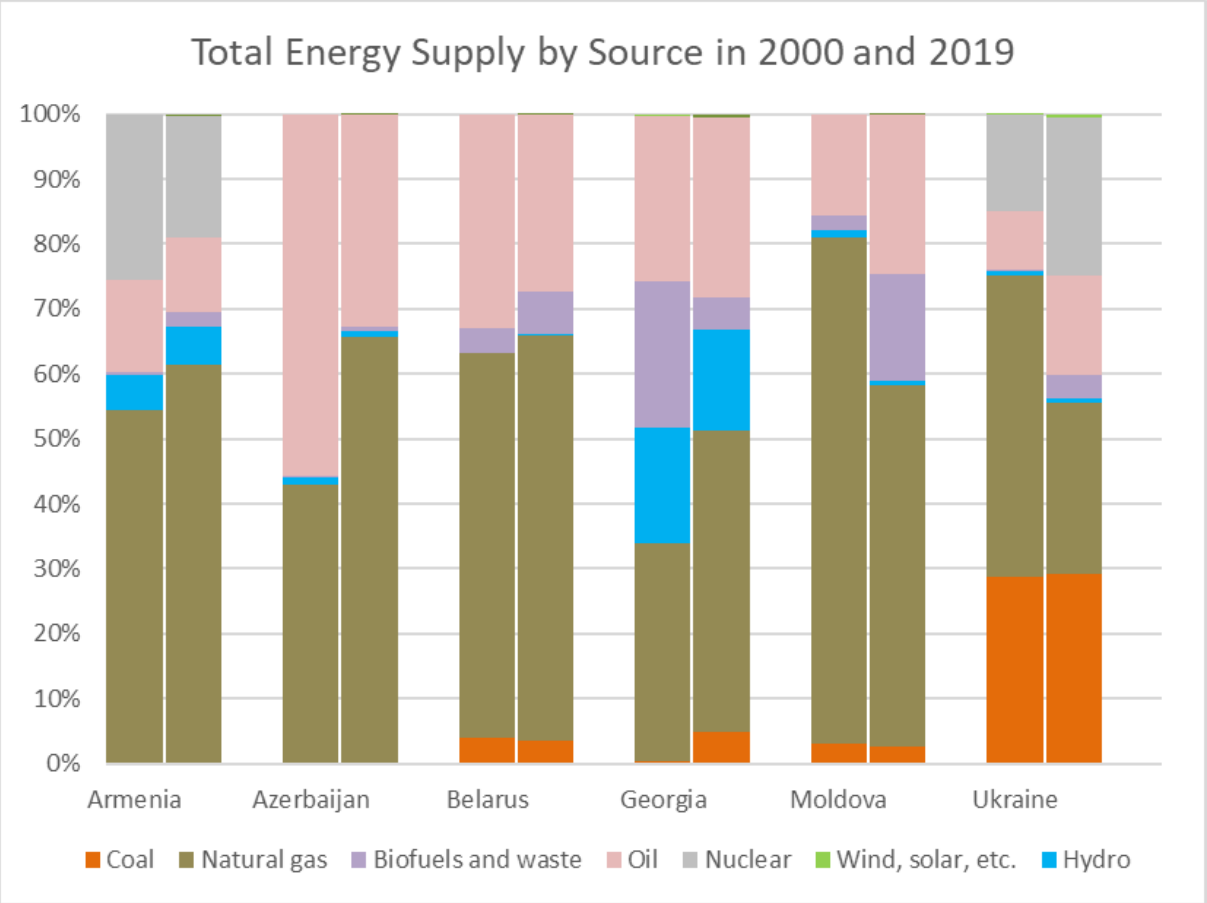
(3) Final Energy Consumption: IEA World Energy Balances https://www.iea.org/data-and-statistics/data-product/world-energy-statistics-and-balances

(4) Based on latest NC, BUR or GHG inventory submissions: Share of total emissions from energy sector in total GHG emissions excl. LULUCF

(5) IEA, Renewable share in final energy consumption (SDG 7.2) - 2019

The use of renewable energy sources in final energy consumption is in all countries at a rather low level, with Moldova and Georgia having the highest rates (>20%) (see Table 1). Looking at the different sources for the total energy supply (see Figure 2), hydropower is the most important renewable energy source, while solar and wind play a very minor source in all countries. Renewable energy is for countries depending largely on energy imports even more important, like for Armenia, Georgia and Moldova. Armenia and Ukraine also possess nuclear power plants, which are not renewable and sustainable but a carbon free energy source. Coal is still playing an important role in Ukraine, and to a much smaller extent in Belarus, Georgia, and Moldova.

Figure 2: Total Energy Supply by Source per country



Data source: IEA (2022), Energy Statistics Data Browser, IEA, Paris https://www.iea.org/data-and-statistics/data-tools/energy-statistics-data-browser

4 Key information of LEDSs in EaP countries

The table below (Table 2) summarises the key information from the LEDS prepared by countries. It must be noted that the LEDS of Ukraine has been prepared already in 2017 before the EU4Climate project has started.

In all countries, the ministry responsible is the Ministry dealing with environmental affairs and the LEDS are being prepared by external national and international consultants financed by the EU4Climate project. Positively highlighted should be the fact that the LEDS in all countries are covering the whole geographic area, all economic sectors and include all GHGs (i.e., CO2, N2O, CH4 and F-gases), as well as IPCC sectors. Although currently none of the LEDS is officially finalised and approved by the national governments, the final drafts are available except for Armenia. Nevertheless, official finalisation is anticipated by all countries by the end of 2022.

Regarding the ambition, Armenia, and Georgia state that climate neutrality is the goal for 2050. The 'best' emission scenario of Azerbaijan shows that climate neutrality could be achieved by 2081. In Moldova, the LEDS covers only the time until 2030 and lays down the action plan to implement the NDC2. Here, it should be noted, that Moldova's NDC2 target for 2030 is the one with the highest ambition.

The emission development paths designed by countries are following various mitigation options and result in emission trajectories, also covering intermediate years, which allows for monitoring and tracking progress. All countries have monitoring mechanisms in place, and plan for updates of the LEDS at regular intervals. Stakeholders from governmental entities, the private sector and the public have been included in the process of establishing the LEDS and approving the LEDS through consultation meetings and official public consultation phases. In Armenia and Moldova, the LEDS will be adopted by the government, while in Azerbaijan and Georgia the LEDS will not be legally binding but approved by the national governments.

Concerning adaptation, all countries have in common that the LEDS is focusing on mitigation, and adaption goals or adaption development plans are not part of the LEDS but treated in separate processes and documents.

Table 2: Key Information on LEDS in Armenia, Azerbaijan, Gerogia and Ukraine

	Armenia	Azerbaijan	Georgia	Moldova	Ukraine
Status	LEDS is under development, first draft expected early October 2022, finalised version for the governmental approval expected end of November 2022	LT-LEDS is under review in the Ministry of Ecology and Natural Resources. The finalization is expected by the end of the year 2022.	Final draft is available, minor updates regarding compatibility with the Governance regulation and Gender dimension are being added	The draft updated LEDS is finalised. Strategic Environmental Assessment as required by the law is ongoing.	finalised 2017 and submitted to UNFCCC in 2018
Responsible Entity	Ministry of Environment; Ministry of Economy and the Ministry of Territorial Administration and Infrastucture are coperformer ministries	Ministry of Ecology and Natural Resources	Ministry of Environmental Protection and Agriculture	Ministry of Environment	Ministry for Ecology and Natural Resources
Developed by	international consultancy company	team of national experts (consultants)	consultancy company with national and international experts	team of national experts (consultants)	national experts
Geographic Coverage	whole country/economy wide	whole country/economy wide	whole country/economy wide	whole country/economy wide	whole country/economy wide
GHG coverage	all GHGs (CO2, N2O, CH4, F-gases)	all GHGs (CO2, N2O, CH4, F-gases)	all GHGs (CO2, N2O, CH4, F-gases)	all GHGs (CO2, N2O, CH4, F-gases)	all GHGs (CO2, N2O, CH4) except F-gases
Sector coverage	all IPCC sectors	all IPCC sectors	all IPCC sectors	all IPCC sectors	all IPCC sectors
Time frame	2050	2050	2050	2030	2050

	Armenia	Azerbaijan	Georgia	Moldova	Ukraine
Ambition level	Climate neutrality by 2050	Climate neutrality	Climate neutrality by 2050	unconditional target -70% and conditional target up to -88% by 2030 compared to 1990	Climate neutrality by 2060 (stated in revised NDC)
Intermediate targets	for 2030 and 2040	for 2030 and 2040	trajectories until 2050	for 2025	sectoral trajectories until 2050
Stakeholder consultation	Validation workshop is planned for public and private sector stakeholders; final document will be circulated within the Government as required by regulation.	stakeholders involved to the public consultations, e.g. MENR, Ministry of agriculture, Ministry of energy, Ministry of finance, Ministry of transport and NGO's.	Yes, the ministries and NGOs were involved as stakeholders	Stakeholder consultation was carried with representatives from governmental authorities, civil society, academia, youth associations, developing partners, etc.	NA
Legal Status	Governmental adoption planned, following official instruction to be applied to all the strategies for adoption by the Government and requiring public finance for implementation	It will not be legally binding	It will not be legally binding	It will be approved by the Government through a Governmental Decision.	NA

	Armenia	Azerbaijan	Georgia	Moldova	Ukraine
Adaptation	LT-LEDS of Armenia will refer to the National Adaptation Plan adopted by the Government in 2021.	Separate adaptation goal is not presented in the document	Adaptation is mentioned, but a separate adaptation goal is not presented.	National Adaptation Planning is handled as a separate process.	no adaptation goals included
Monitoring	A description of the monitoring and review framework is a part of the strategy.	A mechanism for monitoring will be provided and implemented by the Ministry of Ecology and Natural Resources.	The Climate Change Council is the responsible body for conducting verification processes because it is a governmental entity that has the authority to review and discuss all key documents to be developed by Georgia under obligations of the UNFCCC and monitor the implementation of these documents	Governmental Decision 1277/2018 regulates the establishment and functioning of the National System for monitoring and reporting of greenhouse gas emissions and other information relevant to climate change.	GHG inventories are prepared on an annual basis to track progress.
Consistency with NDC	2050 mitigation goal set by initial NDC is maintained, and therefore reflected in the LEDS	The LEDS is consistent with revised NDC.	Differences of emission trajectories and the NDC targets are explained in the LEDS.	The targets are the same and updated LEDS 2030 is foreseen as a document that plans the implementation of the NDC2 at the national level.	As LEDS was prepared before initial NDC, inconsistencies are a matter of fact.

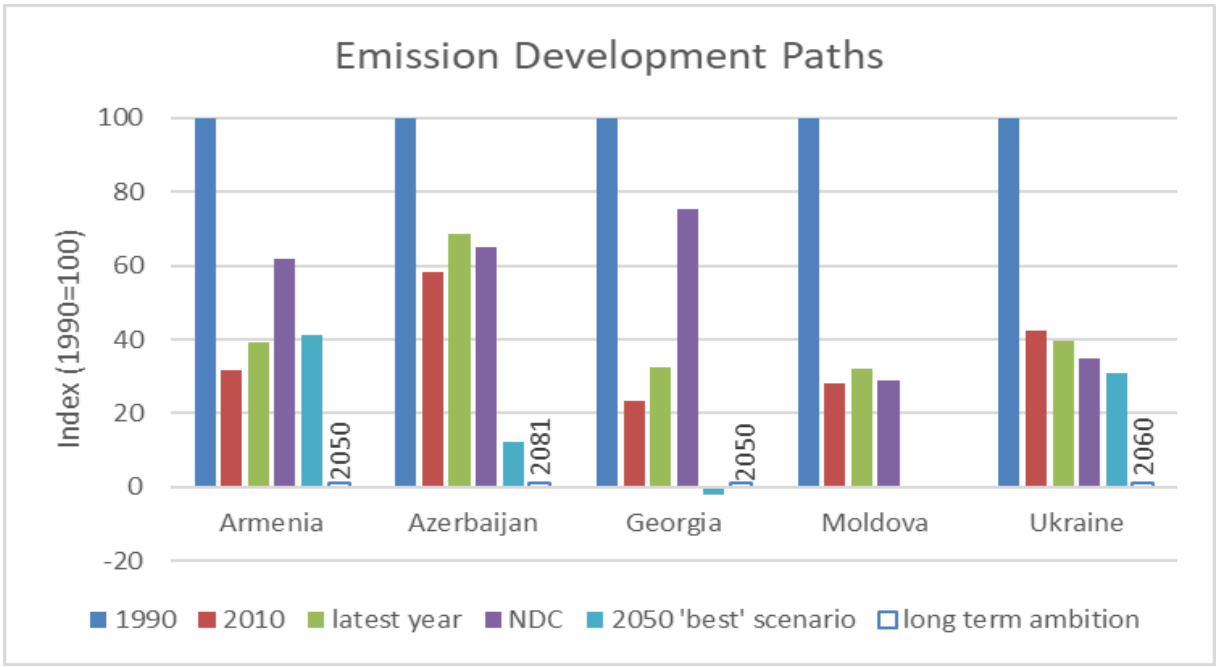
5 National Development Paths and Ambitions

This chapter provides summary information on the historic and projected GHG emission trends in the EaP countries. Country specific information is available in the subchapters.

All countries have in common that they experienced strong emission decreases in the early 1990ies due to the dissolution of the Soviet Union and the independency of these States which also led to a restructuring of economies. With increasing economic recovery also GHG emissions increased but stayed always clearly below 1990 levels. Ukraine is the only country showing a continuous decrease in emissions, while for others it is still not clear when emissions will peak, and a low carbon economy will take its effect.

Also, the emission level to be achieved by 2030 (as set in the NDCs) allows in Armenia and Georgia for substantial increases, while Moldova's and Ukraine's target are more ambitious following a downward trend toward climate neutrality. According to the 'best emission scenarios5' presented in the LEDS, only Georgia will get close to climate neutrality. Armenia has set climate neutrality as their ambition for 2050, but latest emission scenarios show that enhanced mitigation actions will be needed. Azerbaijan indicates that climate neutrality could be achieved by 2081. Moldova does not indicate when it plans to achieve climate neutrality, and Ukraine communicated in its last NDC that the goal is set for 2060 (see Figure 3).

Figure 3: Past and projected GHG emission development and ambition for climate neutrality



Note: latest year for Azerbaijan is 2016, for Armenia and Georgia 2017, for Moldova 2019 and for Ukraine 2020; Emissions are presented as net emissions; the revised NDC of Azerbaijan is only available as a draft

[5] The term 'best emission scenario' is used for the most optimistic emission scenario presented, i.e. the one showing the highest reductions.

5.1 Armenia

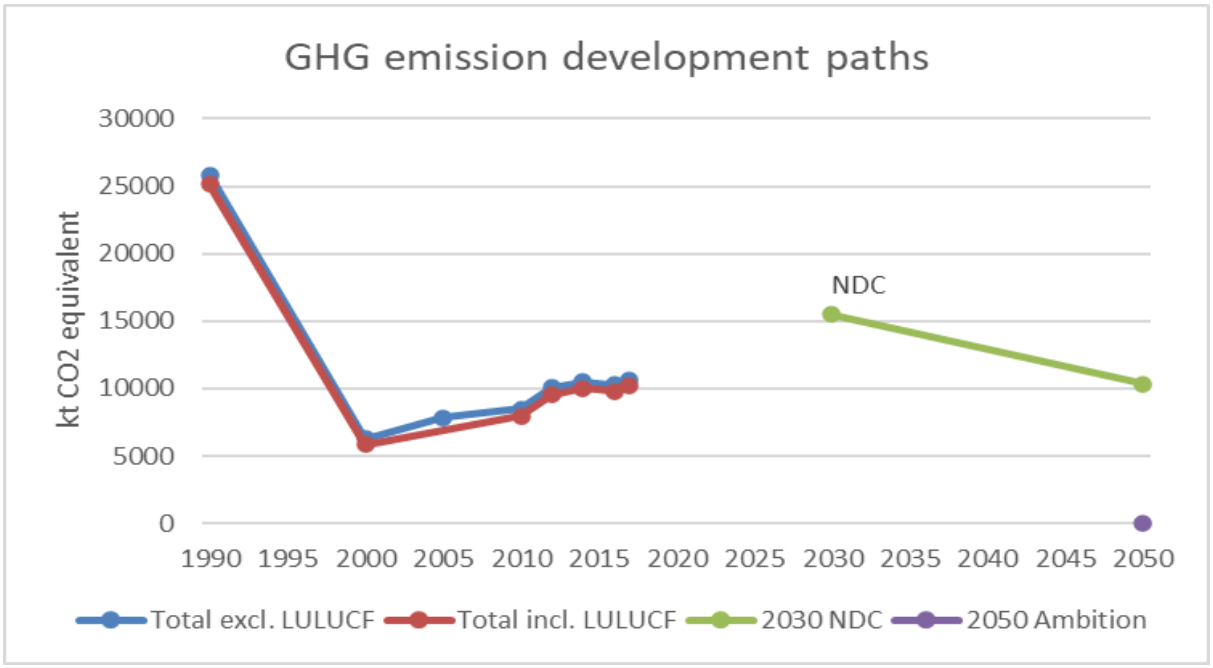
By its updated NDC Armenia maintains its 2050 mitigation goal of reducing its GHG emissions to at most 2.07 tCO_2eq/capita, which is also reflected in its Long Term - Low Emission Development Strategy (LT-LEDS). The target was stated in Armenia's INDC (2015) and was calculated based on fixed global carbon budget and Armenia's share of it.

Looking at the historic emissions, Armenia like the other EaP countries saw the highest GHG emission reduction in the early 1990ies as a result of the dissolution of the Soviet Union. From 2000 onwards, GHG emissions have been increasing with some years showing decreases, but an increasing trend continues although with a lower rate in recent years. The emission level to be achieved by 2030 as set in the NDC is an unconditional reduction of 40% compared to 1990. The target makes no difference with or without consideration of carbon sinks. So far, the contribution of the LULUCF sector (reduction of about 500kt CO_2eq.) is rather small.

Figure 4 shows that to stay below the targets communicated in the NDC, emissions can increase until 2030, and need to decrease to about the current emission level by 2050. It has to be noted that the 2050 emission level has been calculated based on the assumption that the population will increase to 5 million people by 2050 (based on national projections). Currently Armenia has about 3 million inhabitants.

The LEDS, which is currently under development will present scenarios how the long-term objective in achieving climate neutrality by 2050 can be achieved. It will be important to soon achieve the emission peak, to avoid drastic reduction at a later point in time.

Figure 4: GHG emission development path of Armenia.

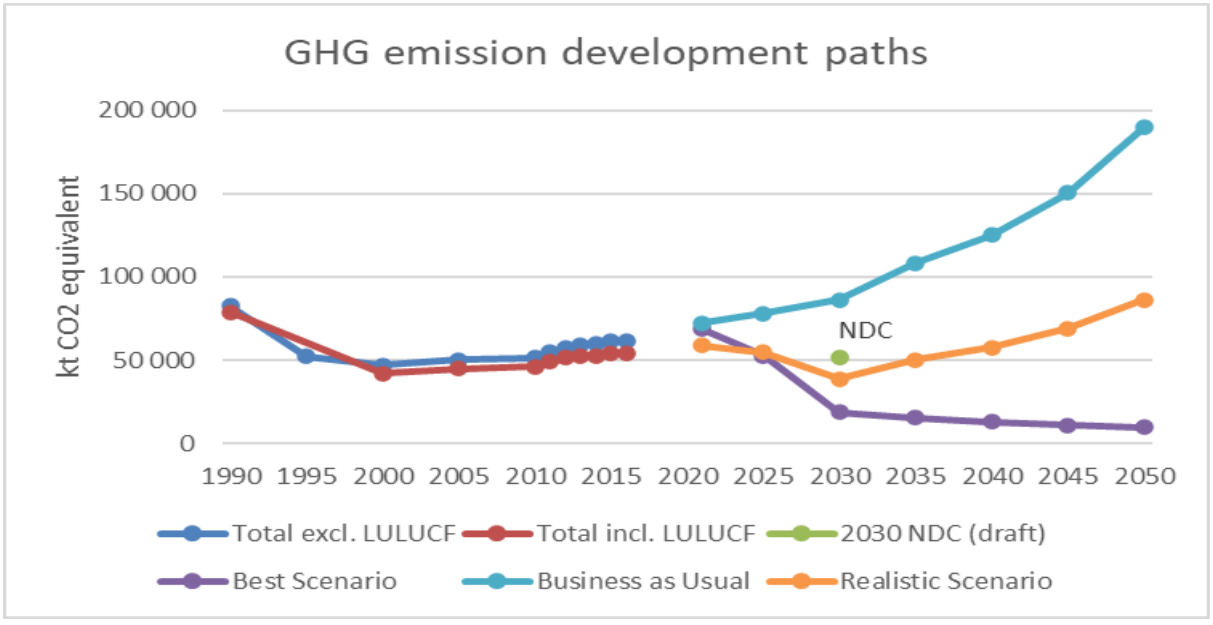


5.2 Azerbaijan

Azerbaijan prepared its Long-Term Low Emission Development Strategy in 2021 with the support of the EU4Climate project. An external consultancy company developed several mitigation options for a low carbon development considering a time frame up to 2080 and all emission sources and sinks. Three scenarios have been analysed, whereby the most optimistic scenario results in net-zero emission in 2081. Figure 3 below shows the historic development of total GHG emissions with and without removals, the draft NDC target[6] and the outlook until 2050. The NDC set a reduction target of -35-40% for 2030 (compared to 1990), which is a bit lower than the current emission level (3.4% below 2016 emission level) (see Figure 5).

Following the business-as-usual pathway, a continuous increase in GHG emission can be observed. The other two emission pathways are in 2030 both below the NDC target, but the realistic scenario shows a strong and continuous increase afterward, which is mainly caused by the energy sector. Relevant decreases are also projected for the agriculture sector. The energy sector is the main source of emissions (share of 79% in 2016) and determines therefore largely the projected emission trend. The realistic emission scenario shows substantial increases after 2030 and an emission peak is not projected. The only scenario leading towards long term reductions is the „best scenario “, which shows that emission peak has been achieved in 2021 and net zero emissions can be achieved by 2081. This analysis of possible emission scenarios reveals clearly that Azerbaijan needs to work towards realising its 'best scenario' by implementing additional measures. The International Energy Agency has therefore developed a roadmap helping Azerbaijan to realise a long-term sustainable energy planning[7].

Figure 5: Development Paths of Azerbaijan



Note: the NDC draft target is included in the figure as -35%.

[6] The revised NDC has not yet been submitted by Azerbaijan and is only available as a draft. Herein the NDC target is stated as a at least a reduction of 35% and towards 40% in greenhouse gas emission compared to 1990 levels, including the LULUCF sector.

[7] IEA, 2022: Implementing a Long-Term Energy Policy Planning Process for Azerbaijan: A Roadmaphttps://www.iea.org/reports/implementing-a-long-term-energy-policy-planning-process-for-azerbaijan-a-roadmap

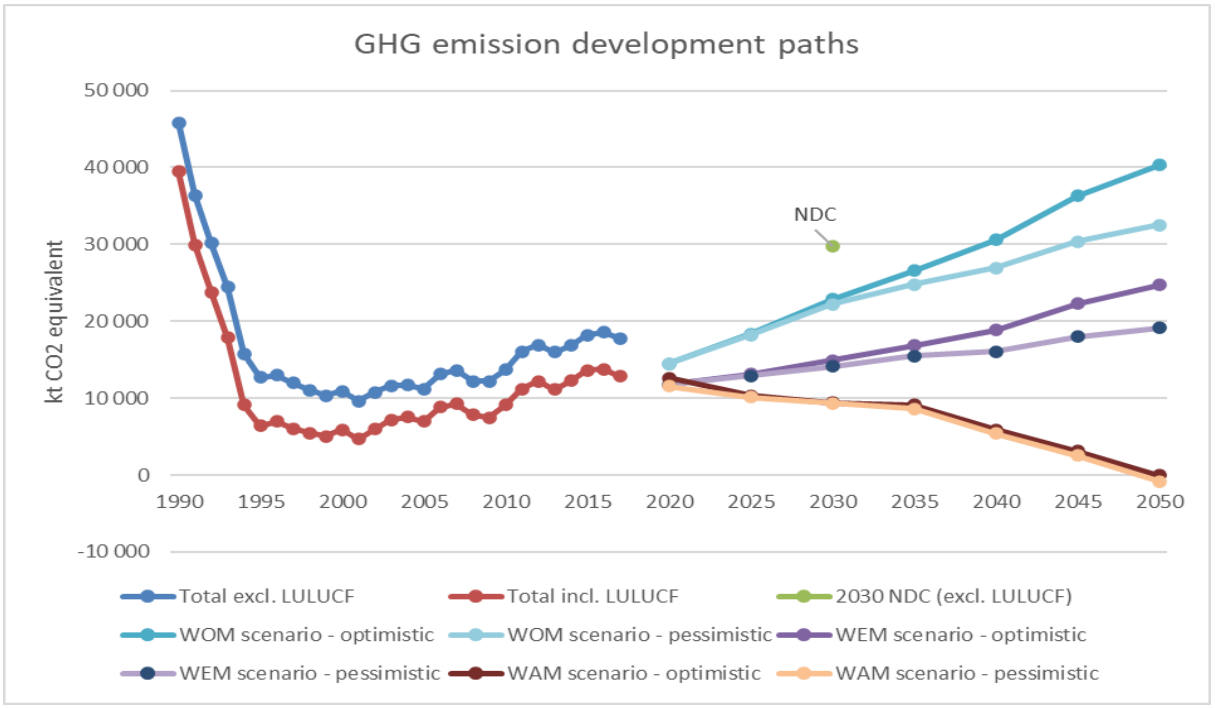
5.3 Georgia

Georgia's concept for a long-term low emission development was developed by an external consultancy company in close cooperation with ministries and national experts. The LEDS concept is planned to be approved by the government by December 2022. Georgia proclaims in its LEDS concept 'climate neutrality' as its goal and aims at achieving it by mid-century. The concept analyses different mitigation pathways how emissions may develop taking into account different policy scenarios and shows how climate neutrality could be achieved.

As shown in Figure 6 below, Georgia experienced the highest emission reduction in the early 1990ies as a result of the dissolution of the Soviet Union, and then after recovery saw a steady increase, but still far below 1990 levels. The unconditional NDC target for 2030 states an emission reduction of 35% (excluding LULUCF) compared to 1990 levels, which will be achieved in all emission scenarios even if the LULUCF is included. The NDC target allows for substantial emission increases (>60%) compared to the current emission level.

Climate neutrality by 2050 does not seem possible to be achieved with existing measures and can be reached only with additional measures. Still, this pathway is very ambitious and requires climate action across all levels and all economic sectors together with a need for also international technical and financial support.

Figure 6: Development Paths of Georgia



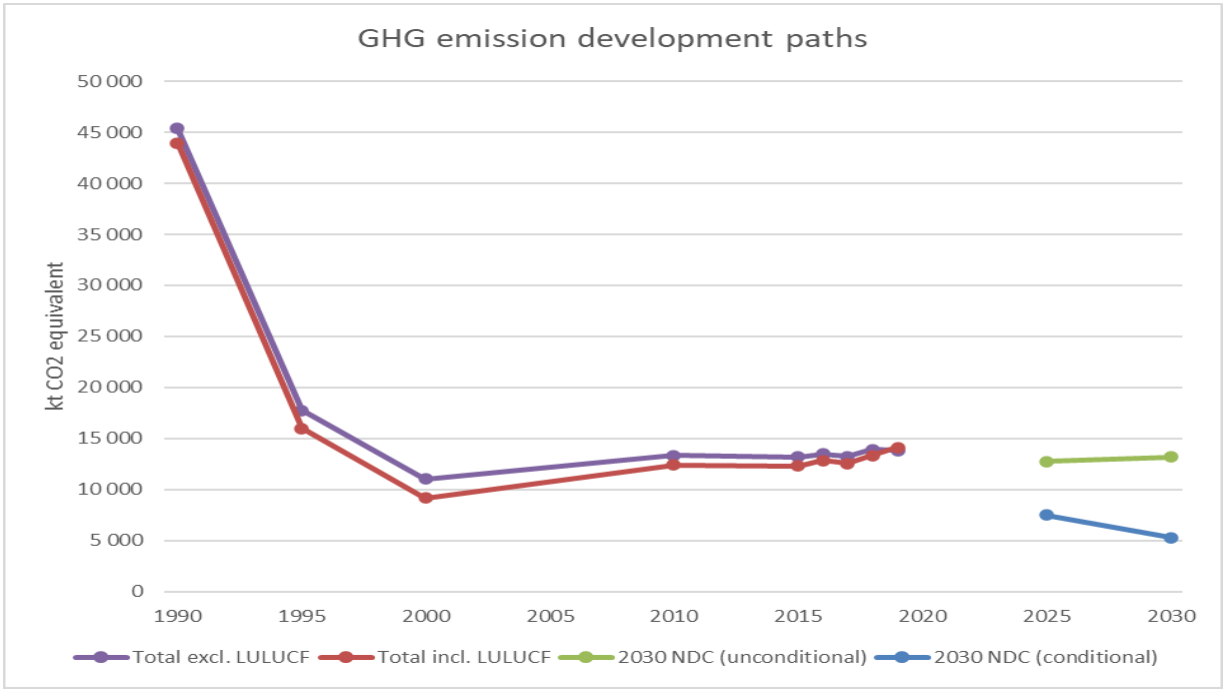
Note: the scenarios presented net emissions, the unconditional NDC target presented excludes LULUCF emissions

5.4 Moldova

The updated LEDS 2030 of Moldova has the purpose to provide the framework for achieving the objectives of greenhouse gas emission reduction as provided in the updated NDC (submitted in 2020 to the UNFCCC) and has therefore only a timeframe until 2030. An enhancement of the current NDC will result in further updates of the LEDS.

The general objective of the 2030 Low emissions development program corresponds to that established in NDC2 and aims at reducing GHG emissions unconditionally by 70% and conditionally by 88% compared to 1990 (see Figure 7). The specific objectives of mitigating GHG emissions by 2030 by sectors, unconditionally, in relation to the benchmark year are the following: energy – 81%, transportation – 52%, buildings – 74%, industrial processes – 27%, agriculture – 44%, land use, land use change and forestry (LULUCF) – 10%, waste – 14%. These objectives could have been more ambitious provided there would be financial support from international donors, technical assistance and transfer of technologies.

Figure 7: Development Paths of Moldova



Note: the NDC targets represent net emission levels

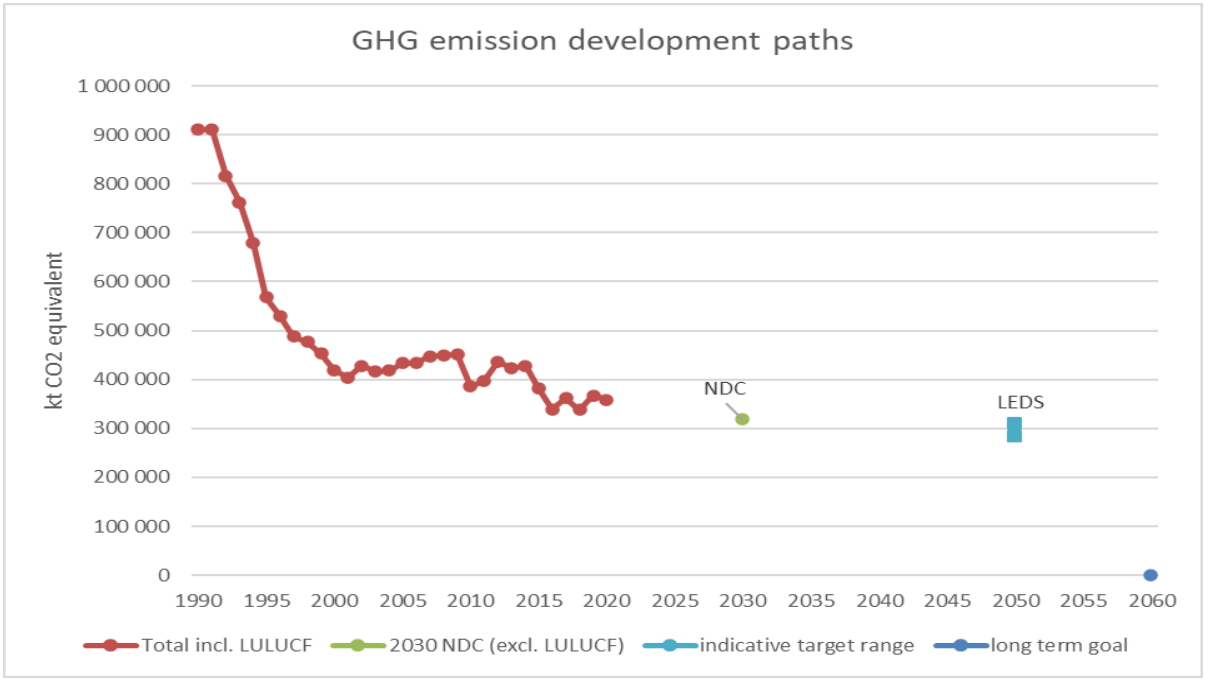
The program identifies the key actions for various sectors of the economy with a view to reducing GHG emissions compared to the level of 1990, the benchmark year, emphasizing energy efficiency, developing renewable energy sources, application of performing cement and glass producing technologies, conservative agriculture, afforestation, and efficient waste management.

5.5 Ukraine

Ukraine was the first EaP country having finalised and submitted its LEDS to the UNFCCC, which was in 2018 – so before the NDC have been revised in 2020. The LEDS The goal of the LEDS is to determine strategic directions for Ukraine's economic sustainable development based on national priorities accordant transition to low emission growth trajectory. The LEDS does not state a quantitative goal for 2050 or any other year. Sectoral scenarios have been built to achieve three strategic objectives:

- Objective I. Transition to an energy system which envisions the use of energy sources with low carbon content, development of the sources of clean electricity and heat energy, increase in energy efficiency and energy saving in all sectors of economy and housing and utilities infrastructure facilities, stimulation of the use of alternative to oil motor fuels and transition of cargo and passenger carrying operations to more environmentally clean types of transport.
- Objective II. Increase in the volumes of carbon absorption and uptake with the help of best climate change mitigation practices in agriculture and forestry.
- Objective III. Reduction in GHG emissions such as methane gas and nitrogen oxide predominantly associated with fossil fuel production, agriculture, and waste.

Figure 8: Development Paths of Ukraine



Note: the scenarios presented net emissions, the unconditional NDC target presented excludes LULUCF emissions

In Figure 8, the historic emission trend and future ambitions are presented. The NDC target, which is 65% reduction compared to 1990, is below the emission level from 2020. The indicative target range (31-34% of 1990) provided in the LEDS is about the same level. Here it has to be noted, that the LEDS was prepared several years before the NDC has been revised. The revised NDC also states that it is Ukraine's ambition to achieve climate neutrality by 2060.

Due to the full-scale invasion of Russia and active hostilities in a significant territory of Ukraine, the country faces a lot of distractions, as well as climate and economic challenges, such as loss of housing, destruction of energy infrastructure, complicated logistics, destruction of critical infrastructure objects, burning of forests, nature reserve fund. Military actions lead to additional direct and indirect emissions of greenhouse gases, as well as reduce the absorption potential of natural ecosystems.

Reviewing the goal of NDC, LEDs and other strategic documents, an important aspect should be taken into consideration such as emissions resulted from forest fires and missile explosions and burning of oil bases as well as potential increase of GHG emissions as a result of restoration of destroyed infrastructure.

Nevertheless, green reconstruction of Ukraine will be a core element in the reconstruction process. Of course, the specific reforms and international financial support are required, but this will help to achieve competitiveness, ensure economic development and assure that we "build back better".

5.6 Specific strong points

As strong points in the LEDS developed by the EaP countries the following issues can be mentioned:

Azerbaijan included a chapter with recommendations on how **gender equality** can be better integrated in sectoral policy planning and implementation. It outlines for the energy, transport, AFOLU and waste management sector the role of women, and how their participation could be strengthened to achieve an empowerment and inequalities abolished.

Armenia assessed in its LEDS also the **financing framework**, which includes information on different international and national financing types (e.g. green bonds, loans, funds) and possible financing institutions. Financing needs and possible sources are analysed on a sector level.

Georgia has carried out a **sensitivity analysis** to assess the impact of the uncertainty of the main drivers (population and GDP) on the emission scenarios. Two approaches – pessimistic and optimistic – have been used for the projections of baseline (WOM - without measures) scenario for each sector, resulting in a range between pessimistic and optimistic pathways of WOM development. The pessimistic development scenario is based on the assumption of slowly growing number of population and GDP, that is consistent with the latest statistical tendencies, while the optimistic scenario assumes the most optimistic expectations with respect to economic and demographic growth.

Moldova's LEDS also includes an **assessment of progress** in achieving GHG emission reduction targets set for 2020. This is done on a sectoral basis and compares the sectoral and total GHG emission targets with the emission data from the GHG inventory. This is valuable information for revising targets and planning additional policies and measures or continuing existing ones at sector level.

Ukraine was in the preparation of a long-term development strategy a **frontrunner** in the region. As the LEDS has already been developed in 2017 outlining the pathway until 2050. The LEDS has also been submitted to the UNFCCC in 2018.

6 LEDS preparation approaches

6.1 Modelling approaches

In this section the approaches taken by countries to determine their development pathways by considering different mitigation options are described, together with information on the models used. Forward looking scenarios have been used, and back-casting approaches have not been applied.

Armenia

Armenia is currently in the process of developing its LEDS based on different emission scenarios, which are based on the model LEAP. As a basis, the scenarios developed for the third Biennial Update Report covering the years 2012-2030 have been used. The scenarios considered are:

- Without measures: scenario excluding all policies and measures implemented, adopted or planned after 2012
- With existing measures: scenario including measures, which are already adopted or planned with a realistic chance of being implemented, such as increased use of renewable energy, nuclear power and reforestation.
- With additional measures: scenario including additional measures to further achieve emission reductions, which are mostly the reinforcement of existing measures.

For the years after 2030, the scenarios have been carried forward based on linear regression parameters and then the estimated impacts of policies and measures (e.g. use of renewable or nuclear energy) has been deducted. For each sector, an analysis of the influencing factors driving the emissions has been carried out and measures to limit GHG emission while ensuring energy security, livelihood, health, and environmental sustainability are identified.

Azerbaijan

Azerbaijan based the development paths on three different scenarios using the LEAP modelling tool.

- Business as Usual (BAU Scenario) serving as the benchmark, based on statistical data until 2021 and following existing conditions without the implementation of any mitigation policies and measures.
- Realistic Low Emission Development (RLED) Scenario considers existing mitigation options, governments commitments in official strategic, policy and programmatic documents.
- Best Low Emission Development (BLED) Scenario includes assumptions based on international best practises requiring additional mitigation policies and measures, and also additional financing.

The different mitigation pathways are undermined with a sectoral analysis of strengths and weaknesses and mitigation measures considered per sector for the ‘realistic scenario’ and the ‘best scenario’.

Georgia

The development of the LEDS started with data collection and policy analysis for each sector to select appropriate drivers. Population and GDP have been selected as general drivers for the projection of the baseline GHG emission scenarios. The pessimistic approach implies moderate, close to recent periods of time values, growth of population and GDP while the optimistic approach reflects the best reasonable expectations of the country concerning these drivers. Projections of these drivers have been made in close consultation with economic experts from the Ministry of Economy and

Sustainable Development, as this served for the elaboration of the baselines scenarios (pessimistic and optimistic). Based on the policy documents in place, including the Climate Change Strategy/Climate Change Action Plan, mitigation measures have been identified for both WEM and WAM packages. Sector specific models have been used: for the energy sector the TIMES model, FAO EX-ACT model for the LULUCF sector and the IPCC waste model. Finally, six scenarios (pessimistic and optimistic WOM, WEM and WAM) have been elaborated showing the tentative range of the GHG emissions up to 2050. The obtained results of the scenarios have been presented at the National Consultation Workshop to a wide circle of stakeholders for their comments and suggestions.
Analysing the projected emission trends for each scenario, the possibility of climate neutrality has been additionally discussed and the areas of additional mitigation potential identified. Further, additional calculations revealed the conditions (extent of additional efforts) sufficient for the achievement of climate neutrality by 2050.

Moldova

The 2030 LEDS of Moldova has a different approach than the other LEDS as it describes the quantitative contribution by sectors and presents the measures to be implemented. The underlying scenarios are based on the national greenhouse gas inventories and studies, researches, reports drafted by national consultants, including specialised international experience. This served for making the calculations and for analysing retrospective information, as well as developing scenarios of short-term, medium and long-term evolution of greenhouse gas emissions for each sector, considering the macroeconomic development scenarios of the Republic of Moldova. All these procedures are regulated by specific governmental decree (no. 1277/2018) on the establishment and operation of the national system for monitoring and reporting greenhouse gas emissions and other information relevant to climate change.
The sectoral scenario results are presented together with the sectoral objectives, actions needed and an estimate of the impact on GHG emission, as well as an estimation of financial means required.

Ukraine

The LEDS builds on sectoral analysis and development of sector specific scenarios considering specific mitigation options. For the energy and industry sector next to a baseline scenario the impact of specific energy efficiency measures, the impact of increased use of renewables and the impact of modernisation and innovation has been considered. A similar approach has been applied to other sectors.

The scenario calculation for the Energy and industry sector the TIMES model has been used, an economic-mathematical optimisation model of energy flows in Ukraine. For the scenarios of the forest sector the model of European Forest Institute (EFISCEN) based on processing information for each forest plot, which is included in the database of the State Forest Agency of Ukraine.

6.2 Involvement of Stakeholders

Armenia

Already in the early stages of preparing the LEDS, the project team arranged and conducted workshops with stakeholders. the Project team organized individual discussions with the ones which confirmed their willingness to cooperate and contribute to the development of LT-LEDS. The main purpose was to understand the awareness of the climate change framework and agenda globally and in the country, the actions and measures taken towards low-carbon development, the current projects on climate change implemented in Armenia by private and public sectors, the main opportunities and challenges for further enhancement of green agenda in the country, as well as available technical opportunities to reduce GHG emissions in each of the sectors. To structure the discussions, official letters to all the stakeholders with invitations to contribute to the process of development of LT-LEDS were prepared and sent. Considering the specifics of operations, different questionnaires were used and then discussed with the stakeholders in detail. The discussions were mainly performed via video calls or face-to-face meetings. Once the draft LEDS is finalised it is planned to conduct a validation workshop with the purpose to present the draft LT-LEDS to public and private sector stakeholders and finalize the LT-LEDS of Armenia based on the inputs received during and after the workshop. Afterwards, the document will be circulated within the Government as it is required by the regulation.

Azerbaijan

The preparation of the LEDS followed a participatory approach with state, non-government and private sector actors. Experts from government, research, private sector and academic backgrounds had the chance to express their views during a series of workshops. The final draft document was also available for public consultations.

Georgia

A wide range of stakeholders was involved in the Concept (draft) development process, consisting of representatives of public, sectoral, scientific, civil society organizations and non-governmental organizations and sectoral experts relevant with concept thematic content. Specific interviews have been conducted with the representatives and experts from sectoral ministries and agencies in order to collect climate relevant information and sector specific data, clarify issues regarding the existing and planned sector specific policy documents, gather information on parameters, projections and methodological approaches, that were later used to build long-term GHG emission scenarios for each sector. The consultations at the Ministry of Economy and Sustainable Development were aimed at obtaining expert advice for the selection of general ‘drivers' for development scenarios.

A 2-day workshop to present and discuss baseline scenarios and mitigation pathways was held in May 2021. The aim of the meeting was to present the elaborated scenarios of mitigation of GHG emissions for 2050 and discuss with the stakeholders the obtained results, measures of mitigation GHGs and assumptions, seeking valuable suggestions and comments from the audience for further refinements and adjustments for the measures and the scenarios.

The National Validation Workshop on Georgia’s Draft LT-LEDS Concept was held in December 2021. The aim of the meeting was to present the elaborated draft for Georgia’s LT LEDS Concept and discuss with the stakeholders the obtained results and main findings, seeking valuable suggestions and comments from the audience for further refinements and adjustments, if any, to reflect in the Final Draft.

Moldova

The 2030 LEDS of Moldova was prepared by a team of national experts supported by international experts in the framework of the EU4Climate project. Regular exchange with ministries (such as Ministry of Economy and Infrastructure, Ministry for Energy) and other governmental bodies ensured that different views have been considered and taken into account.

The document itself was shared with a wide range of stakeholders for comments and was also presented during stakeholder meeting.

Ukraine

Ukraine has established an institutional system dedicated to climate change. The Ministry for Ecology and Natural Resources of Ukraine is the Central executive body authorized to form and implement the State climate change policy. Operating as Advisory Coordination body is the Interagency Commission on UNFCCC implementation (IAC), which was created by the Cabinet of Ministers of Ukraine in 1999. IAC membership includes officials at the level of Deputy Ministers of key ministries and other executive bodies, plus, subject to, Ukrainian parliament members, representatives of R&D institutions and NGOs. In addition, Ukraine has established a practice for broad engagement of representatives from academic and expert community, public and business community into the Task forces drafting legislation as well as other strategic climate change related documents.

6.3 Challenges & Lessons learned

Armenia on data availability

The main challenge faced while developing the strategy related to the availability of primary data, and information on large scale investment initiatives, which are crucial for such task. There is a lack of coordination of the information processing throughout the private and public sectors. The major takeaways were that longer period of time should be planned for the communication with the stakeholders and should be done from the very beginning, as this would allow for a more justified and complete understanding about the subject matter.

Azerbaijan on its participatory approach and the limitation of data

Good practise: The approach for the development of LT-LEDS was a participatory process considered with continuous information exchange with various government agencies related to the climate change mitigation measures in formal and informal dialogue settings. Due to the covid limitations, several of such formal engagements were held online. Upon the easing of the restrictions face to face meetings and workshops were held and exchanges were conducted. The team consisted of experts per sector, including a modelling expert. In terms of the process and organization of the development of LT-LEDS, it was smooth and delivered as expected.

Limitations of the process are mainly related to the weak development of indicators and the lack of monitoring in the past years, it is, unfortunately, difficult to produce a statistically robust and reliable evidence supporting the scenarios. In other words, the scenarios developed are vulnerable to changes in variables due to external factors (i.e. macroeconomic shocks) or due to internal policy changes of the Government of Azerbaijan. Therefore, LT-LEDS requires continuous revision and update, at least the revision of the value and situation of these variables.

Georgia on the consistency between strategic documents

Lt-LEDs is probably the first long-term low emission development strategic document for Georgia. Its uniqueness was that the timeframe is long-term and covers all the economic areas. There was a previous attempt to create LEDs for the country, and working groups were established within the ministries, however, in the end, the document was never fully endorsed and adopted by the government.

The new document, Lt-LEDs was elaborated in parallel to NECP (National Energy and Climate Plan). NECP is a document that a country is obliged to adopt as a party to the Energy Community. The work on NECP started much earlier, and it is ownership by two ministries, the Ministry of Environmental Protection and Agriculture and the Ministry of Economy and Sustainable Development. This is also a challenge as it is also linked to inter-ministerial work, the same as Lt-LEDs, and is connected to the biggest sector, energy.

There could be several lessons or issues to be pointed out:

1. Under UNFCCC, Georgia is a developing country, hence the requirements are the same as for the developing countries
2. Under the Energy Community treaty, Georgia is a member, hence, all the requirements for the energy community apply to Georgia
3. These two different statuses actually do impact the development of these two documents
4. Georgia wants to submit Lt-LEDs this year while NECP document country has to submit to the energy community by the next year
5. Due to the membership of the of energy community, Lt-LEDs needs to have governance regulation integrated into the document
6. All these different requirements and responsibilities make it difficult for the country to submit the documents on time
7. There are different groups working on the documents, and even though experts do coordinate, still there are different modelling and scenarios that one might observe in these two documents

- ➢ Adoption of intergovernmental documents takes time, hence, sometimes documents are prepared but countries face different, new requirements to integrate, this is challenging
- ➢ This also relates to the targets, targets that were agreed on 3 years ago are not ambitious enough after 3 years, so then the discussion starts on how to change targets, hence, modelling, hence all the numbers within the documents.
- ➢ Could be that strengthening the role of the newly established Climate change council could improve coordination between the government stakeholders

Moldova on coherence between strategic documents (NECP and LEDS)

The coherence of the national public policy framework in the fields of climate and energy is an essential pre-condition for fulfilling the commitments assumed by the Republic of Moldova in its capacity as a Party to the UNFCCC and to the Energy Community Treaty. The complexity of the internal institutional context and the existing framework of public policies developed in order to combat climate change in the Republic of Moldova can explain the occurrence of situations in which certain results of the evaluations, data processing and modelling carried out in order to estimate GHG reduction targets might have a divergent character.

The coherence of the national public policy framework in the fields of climate and energy is an essential pre-condition for fulfilling the commitments assumed by the Republic of Moldova in its capacity as a Party to the UNFCCC and to the Energy Community Treaty. The complexity of the internal institutional context and the existing framework of public policies developed in order to combat climate change in the Republic of Moldova can explain the occurrence of situations in which certain results of the evaluations, data processing and modelling carried out in order to estimate GHG reduction targets might have a divergent character.

The approval of two climate and energy policy-planning documents with different GHG reduction targets can have a number of negative consequences. The occurrence of such a situation would mean a derogation from the GHG reduction targets that the Republic of Moldova has already presented in 2020 in the updated version of the National Determined Contribution (NDC2), as part of the country's commitments to the UNFCCC.

In this context, in 2021 a detailed analysis was carried out to analyse the factors that are at the origin of the establishment and publication of different values for the target objective of GHG emission reductions in two strategic documents: the Low Emissions Development Strategy (LEDS) of the Republic of Moldova until in 2030 (updated) and the integrated National Energy and Climate Plan (NECP, draft version).

After a review of the existing national public policy framework (including the commitments of the Republic of Moldova to the UNFCCC and to the Energy Community), an evaluation of the processes of development of the two documents mentioned above was carried out. Extended information was presented regarding the methodological approaches used by the expert teams, the modelling of the performed simulations, the way of collecting and using data and information, the experience of other countries in the region, etc. Following the analysis of the available content, several recommendations were formulated and communicated to decision-makers.

Information relevant to this activity was collected through direct consultations with representatives of the parties involved in the development of LEDS 2030 and NECP, and through the analysis of available national and international documentation.

7 Case studies & Best practice examples of implementation

7.1 Armenia

Energy Efficiency and Renewable Energy Program for 2022-2030

To improve the energy efficiency in the economy of Armenia in the next ten years, promote energy-saving, and increase the use of renewable energy sources to enhance energy security and reliability and reduce the negative environmental impacts the Government of the Republic of Armenia has adopted Program on Energy Saving and Renewable Energy for 2022-2030 (Program), which is based on "Strategic Program for the Development of the Energy Sector of the Republic of Armenia (until 2040)". The Program defines the directions, goals, and targets of the policies pursued in energy-saving and renewable energy sectors for 2022-2030, determining the main actions and measures to ensure the set targets. It will be implemented in three stages: 1) 2022-2024, 2) 2025-2027, and 3) 2028-2030, following the Action Plans for the separate stages of the Program. The first stage is already being implemented in accordance with the approved plan.

1. The goals and targets of the program.

The main targets of the Program refer to total primary energy supply and total final energy consumption.

The main goal for final energy consumption is the target for the entire economy, while the sectoral targets will be indicative. In addition to the primary targets, the Program sets targets for renewable energy development and energy-saving.

Armenia considers the further development of renewable energy (solar, wind, geothermal) a vital direction of its energy policy as an essential guarantee for energy independence and security, ensuring a reliable and quality electricity supply to consumers. The aim is to increase the share of solar energy production to at least 15% by 2030. To achieve this goal, the utilization of battery energy storage systems will be essential, which will significantly improve the safety and reliability of the power system. It is planned to launch battery energy storage systems with 300 MW (1200 MWh) capacity during the program period.

Energy efficiency targets differ between the primary energy supply and total final energy consumption indicators corresponding to the policies and baseline scenarios. In particular, the Program aims to ensure 815 ktoe cumulative energy saving for the total primary energy supply 2030. Cumulative energy saving for the total final energy consumption will amount to 931 ktoe. The latter accounts for about 20 percent of the total final energy consumption corresponding to the baseline scenario.

2. The low carbon development context

The Program goals and targets are in line with Armenia's low emissions development vision. In particular, the increased use of renewable energy will improve the share of low-carbon energy in electricity generation to meet the domestic demand (75% in 2030, compared to 72% in 2019). On the other hand, the low-carbon energy share in the total electricity generation structure will be decreased (51% in 2030 compared to 60% in 2019), given the assumption on exported natural gas-based electricity volume growth. At the same time, to meet the domestic demand, by 2030, greenhouse gas emissions from energy production will be reduced at an incomparably higher rate -by more than 60% compared to 1990. However, it is predicted that by 2030, total GHG emissions in the energy sector will be reduced by 50% compared to 1990.

The Program will positively impact the economic growth potential, will reduce the price pressure of fossil fuels on the economy and employment. The Program's main positive impact will be the reduction of the relative import of fossil fuels, except natural gas imported for electricity exports. This impact will peak in 2030 when savings are around 1.6% of GDP.

The Program will directly contribute to achieving the objectives stipulated by Sustainable Development Goal 7. In addition, the Program creates prerequisites for the further enlargement of the SDG framework to reflect the peculiarities of Armenia in this regard and emphasize the priorities of the foreseen policy. In particular, the expected energy intensity changes relevant to the baseline and announced policy scenarios observed in the Program are presented below:

	1990	2010	2018	2030
Baseline scenario				
Energy intensity, constant 2017 PPP $ (Armenia)	17.61	4.45	3.63	3.48
Energy intensity, constant 2017 PPP $ (world level)	7.14	5.58	4.75	3.30
Average annual change compared to 1990 (Armenia)		-6.65%		-3.97%
Average annual change compared to 1990 (world average) baseline		-1.20%		-1.91%
Average annual change compared to 2010- SDG 7.3 (world level)			-1.99%	-2.6%
Average annual change compared to 2010 (Armenia)			-2.50%	-1.22%
Announced policy scenario				
Energy intensity, constant 2017 PPP $ (Armenia)	17.61	4.45	3.63	3.01
Energy intensity, constant 2017 PPP $ (world level)	7.14	5.58	4.75	3.30
Average annual change compared to 1990 (Armenia)		-6.65%		-4.32%
Average annual change compared to 1990 (world average) baseline		-1.20%		-1.91%

	1990	2010	2018	2030
Average annual change compared to 2010 -SDG 7.3 (world level)			-1.99%	-2.6%
Average annual change compared to 2010 (Armenia)			-2.50%	-1.93%

3. Implementation of the program: policies and measures

- **Renewable energy sector**

In terms of scaling up the use of renewable energy potential (in particular, solar energy), the Program emphasizes the possibility of introducing and developing battery energy storage systems that will improve the safety and reliability of the country's energy system.

As the first step in this direction, developing a business model concept for the battery energy storage systems is anticipated. The development of large battery energy storage systems will be carried out through public-private partnerships, considering 2 business models:

1) A large solar power plant together with a battery energy storage system in the exact location. The possibilities of developing network battery energy storage systems, considering the international experience and the best practice in the sphere to be explored.

2) Separate battery energy storage systems. Particular importance will be paid to changes in tariff policy to encourage the launch of battery energy storage systems.

The program underlines the necessity of the assessment of wind energy's development perspectives and feasibility. Similarly, steps will be undertaken during the program period to scale up the applied scientific research framework in the renewable energy sector, creating a basis for the practical implementation of relevant outcomes.

- **Energy efficiency and energy saving**

The Program emphasizes the following three areas/sectors regarding energy saving and energy efficiency: 1. Households, 2. Transport, 3. Public schools, which account for most of the total final energy consumption. In addition, specific reference is made to industry and agriculture. The energy-saving and energy efficiency improvement policy will be aimed at increasing the level of "electrification" (replacing gas with electric energy) in the economy (in particular, in the residential buildings sector). Such a policy will contribute to scaling up the use of low-carbon energy, thereby reducing the negative impact on the environment.

In this direction, the Government intends to apply the following tools:
1) Measures for the operation of battery energy storage systems,
2) Changes in customs regulations, promoting the use of electricity-powered equipment,
3) Direct state support projects.

Additional steps will be taken to harmonize natural gas and electricity tariff policies, making market-pricing mechanisms applicable. During the program period, the RA Government intends to issue "green" bonds, used exclusively to improve energy efficiency and energy saving.

The Program monitoring and evaluation plan will guide the evaluation of the Program's progress, help to identify implementation problems, and planning relevant measures. In terms of the progress assessment, it is essential to identify and clarify baseline data, especially in the sectors defined by the Program. To this end, in 2022, it is planned to conduct representative studies relevant to the

methodology to obtain sustainable and comparable information on internationally recognized energy efficiency and consumption intensity indicators. For this purpose, it is scheduled to carry out special surveys or modify the household survey instruments carried out annually by the RA Statistical Committee.

7.2 Azerbaijan

Integration of Gender in Energy Policy

Mitigating the impacts of climate change is directly linked to gender equality. To be successful, governments should be encouraged to incorporate gender perspectives into their national policies, action plans and other measures on sustainable development and climate change, by carrying out systematic gender analysis; collecting and utilizing sex-disaggregated data; establishing gender-sensitive benchmarks and indicators; and developing practical tools to support increased attention to gender perspectives.

The participation, experiences, and voices of women in the strategies and programmes addressing the impacts of climate change are crucial as women are disproportionately impacted by climate change and because they have valuable knowledge and practical experiences to contribute to building the resilience of communities and nations.

One of the objectives set by the EU4Climate project is mainstreaming "Gender and Climate Change Integration into the Energy Policy."

The study aims to offer guidance to governments and their parties on how to develop and implement climate-friendly and gender-responsive policy initiatives in the field of energy policy in the country to contribute to sustainable economic development and ensure that all human beings enjoy prosperous and fulfilling lives.

As oil, gas, and coal are still primary energy consumption across the globe and global energy consumption keeps increasing, the "Energy Outlook" chapter of the paper defines the meaningful involvement of clean energy technology in gender issues.

In the "Gender and Energy Policy" chapter, the integration of gender perspective into the content of the different policies and addressing the issue of representation of women and men in the given policy area are underlined as main requirements for gender mainstreaming. Women's as well as men's concerns and experiences need to be integrated in the design, implementation, monitoring and evaluation of policies or programs in all political, economic and social spheres. Thus ensuring that inequality between women and men is not perpetuated. Although Azerbaijan is fully committed to gender equality, major international gender equality indicators suggest that women benefit less than men from economic and social development, and gender inequalities persist in several areas such as access to health, labour force participation and political decision making.

Given that men and women have different adaptive capabilities, climate change impacts the relationships between them - the gender dynamic, and climate change exacerbates these existing gender inequalities.

There are clear connections between sustainable development and gender equity, and there are many resources available which can inform the development of climate change policy, where there is limited research on the linkages between adaptation and gender. The findings in this paper indicate that a

gender focus needs to be an integral part of climate change policies and programmes to achieve more equitable and sustainable development in the face of climate change.

The nationally determined contributions (NDCs) provide important signals on government expectations related to the general direction and pace of likely policy initiatives to address climate change risks. Despite being a traditional fossil fuel (oil and gas) country, Azerbaijan has become more actively focusing on climate change matters of the energy sector during the last decade.

An examination of existing climate policy in Azerbaijan, including the Law on Use of Renewable Energy Sources for Electricity Generation, the Regulations on Control over Electric and Heat Energy, the Law on Power Engineering and others, shows that despite there being an understanding of the relationship between gender, poverty and vulnerability in relation to climate change, there has been insufficient focus on the incorporation of a gender analysis into the development and implementation of climate change laws.

Some of the mechanisms identified in this study to promote the mainstreaming of gender in climate change policies in Azerbaijan include:

- Gender dimensions can be integrated into all stages of the policy cycle: preparation, design, implementation, monitoring and evaluation of policies, regulatory measures and programmes, with a view to promoting equality between women and men, and combating discrimination
- Service delivery for poor households and women should be improved
- Introduce clean energy sources and/or appropriate technology for cooking and heating that improve women's health and reduce drudgery
- Maximize women's employment opportunities in the energy sector
- Build gender awareness among policy makers, government energy agencies, and energy utilities through targeted capacity development and training programs.
- Apply a gender-equal human resources management strategy through the effective application of gender equity laws and regulations in government energy agencies and energy utilities.
- Promote gender-responsive corporate social responsibility
- Development of necessary regulatory framework to support climate change adaptation
- Phasing out coal mining and use, fair transformation of coal-mining areas
- Development of energy efficiency at the stage of energy generation
- Ensure national adaptation planning is evidence-driven and country-owned, whether through the NDCs, NAPs, or Adaptation Communications processes
- Invest in climate monitoring and forecasting systems, and make climate services available to key stakeholders and the public
- Raise public awareness on climate risks and launch education or communication campaigns
- Align taxation system to climate adaptation objectives

- Provide public support for low income and vulnerable households that are at risk from natural disasters

7.3 Georgia

NDC Financing Strategy and Investment Plan

A team of consultants developed Georgia's NDC financial strategy and Investment Plan plus Climate Budget tagging methodology. This is the summary of the work that the team has provided and then presented to the government. Within this exercise the members of the government were trained on climate budget tagging as well.
NDC Financing Strategy and Investment Plan is structured along six principal components. First, the Climate finance framework in Georgia is elicited, followed second by the identification of barriers hampering adequate climate financing. Third, guidelines for resource mobilization are presented, involving the strengthening of national capacities, assessment of the climate finance needs and identification of potential funding sources. Fourth, an approach is presented to increase the prioritisation and mainstreaming of climate change-relevant budget programmes during budget formulation. Fifth, the strategy and investment plan setting out the programmes of investments required to implement each of the priority actions in the updated NDC is provided, and finally the implementation roadmap is presented to ensure the sustainable implementation of the NDC Financing Strategy and Investment Plan.

Barriers that were revealed for Financing Climate Change Actions are:

Lack of coherent national climate change policy framework to mobilise finance for climate action: Georgia does not consistently include climate change as a distinct policy area in its policy documents. To that end, climate change should be integrated into the national policy framework through an overarching strategy defining the country's direction it envisions to follow, and against which shorter-term documents containing the specific actions can be linked.

- Inconsistent stocktaking of investment needs for climate action: Accurate stocktaking of the financial investment needed to achieve Georgia´s mitigation and adaptation targets is a major enabler for mainstreaming climate change in the state budget. Precise figures for cost estimates of the strategies remain scarce, especially for the adaptation counterpart. Thus, for future policies, it is important to include specific and justified financial requirements for climate action that can subsequently be linked to budget programmes.
- Lack of private sector investments: Limited availability of low-cost, long-term capital in the Georgian private sector continues to be a major barrier to promote investments in climate-related projects. Private finance mechanisms in Georgia for climate change mitigation and adaptation projects typically require high up-front capital costs, long payback periods and a high reliance on government incentives. According to the Organisation for Economic Co-operation and Development (OECD) several private finance mechanisms in Georgia, such as corporate bonds, project bonds, direct lending from microfinance institutions, fund seeding and more, are already available but remain unused.

- Decreasing revenues, increasing expenditure and a growing public debt: At a national level, decreasing revenue growth, increasing expenditure and a growing public debt present severe financial constraints and limit state expenditure in climate related activities. In 2021, revenue recovered to 12.8 billion GEL, yet expenditures reached 14.2 billion GEL, presenting a net operating balance of -1.4 billion gel. These severe financial constraints are also reflected in Georgia's growing debt, with the country's public debt to gross domestic product (GDP) at 52% in 2021 and government debt to GDP at 54% in that year.
- High dependence on foreign financing: While Georgia´s high dependence on foreign financing since 1991 was drastically spurred by the August 2008 war, it has not decreased sufficiently since and yearly official development assistance (ODA) figures remain high at 2.89% of the gross national income (GNI) in 2019. This adds a risk of being too heavily reliant on unpredictable aid and donor-driven aid programmes.
- Currency depreciation: The national currency in Georgia, the GEL, has depreciated in recent years, further accelerated by the Covid-19 pandemic. Whereas in 2010, the official rate was 1.78 GEL to 1 USD, this has fallen to 3.22 GEL to 1 United States dollar (USD) in 2021. Moreover, the high degree of dollarisation creates a jeopardizing dynamic as with the GEL depreciating, the foreign debt burden increases in direct proportion with the depreciation, with debtors not being able to pay off the loans in USD as their income is in GEL. Georgia´s vulnerability to exchange rate risk negatively affects the country's macroeconomic environment and hinders the inflow of international investments.
- Lack of climate finance tracking: The lack of mechanisms for climate change reporting means that as of 2022 there is no specific disaggregation on climate change budget formulation, and no information is available on the specific climate change expenditures. This results in significant limitations pertaining to the extent and quality of information concerning climate finance presented by the country, both at the national and international levels. Thus, Georgia should further develop the system for calculating climate related expenditure to accurately determine the finance flows mobilised in the country through national expenditure as well as international support.

Guidelines for Resource Mobilisation

The three main building blocks of the guidelines for resource mobilisation are ensuring national institutional capacity, assessing the climate change financial needs, and identifying climate change funding sources. Each step contains several actions that Georgia should follow to ensure adequate resource mobilisation.

Ensuring national institutional capacity means that institutions seeking to secure funding have capacities to identify and engage most suitable partners. The core functions of institutions involved in securing financing for climate change thus are creating frameworks for fund flows, identifying the contribution of various stakeholders respectively and enhancing public engagement as well as reporting. This can be achieved by firstly defining the institutional needs, and subsequently evaluating the institutional capacities and identify the necessary areas to strengthen according to the defined institutional needs.

Accurate information on climate finance flows will allow Georgia to make more informed decisions about planning, prioritization, and allocation of resources for climate change, and to measure and evaluate progress. Each institution is required to communicate their financial needs for priority actions

and the posing gaps that require further funding, including costs associated with research, monitoring, capacity building, and increased/changed regular expenditures. The financial needs should be linked to the relevant climate change area defined in the country's updated NDC.

The country will require to conduct a financial landscaping exercise to select the type of investor that best matches the actions in its NDC, shortlist and engage those candidates that strongly align with the vision and objectives of the activity and with the funding criteria.

Prioritising and Mainstreaming Climate Change Budget Programmes

It is essential for Georgia to increase its efforts to integrate climate change as early as during pre-budget preparations to deliver certainty and predictability to ministries, departments, and agencies regarding their climate expenditure planning, and support them to streamline climate change policy integration into their budget submissions. To that end, the recently established Climate Change Council (CCC) should ensure that each ministry within the Council sets clear policy targets for climate change relevant initiatives. During medium-term and annual budget preparation, spending institutions must actively participate to ensure that the expenditure policy proposals are aligned with the policy objectives set out in approved and costed strategic plans. Coordination and higher-level

support should be provided by the Ministry of Finance, supported by the CCC through guidelines and capacity building.

To increase accountability and visibility at a national scale, Georgia could integrate climate change into Parliamentary budget hearings. Next to climate change prioritisation, budgeting needs to incorporate gender-responsive budgeting (GRB) processes. As of 2022, the budgetary framework of Georgia does not envisage any specific methodology/requirements for the analysis regarding gender budgeting and it does not include a direct obligation of applying GRB procedures. By 2023 it will provide, though not directly a gender-climate tag, an indication of a potential link between gender and climate change when programs are tagged for both.

Strategy and Investment Plan

The strategy and investment plan sets out the programme of investments required to implement each of the priority actions in the updated NDC, both unconditional and conditional, and the strategy for meeting these financing needs. It identifies the required costs of the priority mitigation and adaptation actions of Georgia's updated NDC, assesses the funding status of these actions, and provides funding options needed to address each funding gap.

Regarding mitigation, approximately 13 billion GEL, split between 8 billion GEL for reaching Georgia´s unconditional NDC targets and 5 billion GEL for the conditional NDC targets, are required to fulfil the obligations under the NDC. Concerning adaptation, the first NDC from 2017 reports financial need between 4.8-6.4 billion GEL. However, the updated NDC from 2021 sets more ambitious targets for both mitigation and adaptation, suggesting the approximate need of financing might in fact be much higher, which in turn underlines the importance of creating an adequate financial strategy for Georgia.

Total estimates of the funding gaps are 208 million GEL for unconditional mitigation activities and an additional 5 billion GEL for conditional mitigation actions. For adaptation, the gap is between 4.8 – 6.4 billion GEL, yet this figure was developed based on expert judgement, with no explanation or reference of the calculation methodology applied. Reflecting these initial estimates, the strategy and

investment plan distinguishes in its analysis of funding gaps per priority mitigation action between unconditional and conditional action as well as between sectors.

The funding gap of over 208 million GEL for the unconditional targets, accrues mostly to the energy sector (95% of the total funding gap). The remaining 5% of the total funding gap is distributed among the transport (1.3%), building (0.8%), agriculture (1.5%), and waste (1.4%) sectors. There is no funding gap for the industry and forest sectors.

Unconditional priority mitigation actions

Georgia's 2030 Climate Change Strategy and Action Plan identifies the ways for reaching Georgia's 2030 GHG emissions reduction targets for climate change mitigation, as set in Georgia's updated NDC. The 2021-2023 Action Plan lists the priority actions that are required to be implemented to reach Georgia's unconditional target.

Priority adaptation mitigation actions

Georgia's updated NDC acknowledges the need for adaptation to adverse effects of climate change, and Georgia is committed to continue studying its adaptive capacity of different economic sectors. The NDC covers the most vulnerable sectors of the economy, ecosystems, and other natural resources, namely, coastal zone, tourism, agriculture, water resources, biodiversity, forest lands, and human health. The key document for adaptation is the NDC counterpart National Adaptation Plan (NAP). However, as of March 2022 work on the elaboration of Georgia's NAP has not yet commenced. Recommendation therefore is to initiate the formulation using the initial guidelines for the formulation of NAPs by least developed country (LDC) Parties. The four key elements of the guideline comprise first laying the groundwork and addressing gaps through vulnerability and policy assessments, second designing preparatory elements such as policies and needs assessments, third implementation strategies to strengthen institutions and to prioritize needs, and finally reporting monitoring and review on a regular and institutionalized basis.

Implementation Roadmap

The implementation roadmap serves as the key pillar for the sustainable implementation of the NDC climate finance strategy. It addresses the barriers and gaps identified in Georgia's climate finance framework and is conceptualized as a living document that can be periodically updated and improved to ensure validity.

Policy recommendations

To further strengthen the policy framework in Georgia according to international best practise and address the main barriers identified, the country should:

- Integrate NDC implementation and the corresponding required financial flows into the national development policy cycle. For instance, if there is a regular cycle of five-year national development plans, this corresponds with the requirement to submit an updated NDC every five years to the UNFCCC Secretariat.

- Link NDC implementation with policy processes in place for SDG implementation such as the SDG electronic tracker system, which is coordinated and monitored by the Planning & Innovations Unit of the Administration of the Government of Georgia. This will facilitate identifying and monitoring activities related to climate change and their corresponding provided funding or financial needs and linking it to the envisioned targets of Georgia's updated NDC
- Ensure that government ministries, departments, and agencies responsible for policy development contain a team of experts or a department with a specific mandate to develop and coordinate climate action for their policy area and the corresponding link to the updated NDC sectors and actions. These teams can be further enhanced by assigning the mandate to coordinate SDG implementation and ensuring gender equality in their policy area.
- Georgia should further develop national policies for carbon taxes, policies for public-private partnerships, and policy incentives for private investments to facilitate the financial framework in the country.

Stakeholder Mapping and Institutional Arrangement Recommendations

The leading entities and partner institutions as stakeholders are responsible for evaluating the financial status of the actions throughout the implementation period of Georgia's updated NDC from 2020 to 2030, are identified for each mitigation or adaptation action and disaggregated by sector of the action. For mitigation, in total roles and responsibilities for 66 unconditional and 35 conditional NDC mitigation actions are distributed accordance with Georgia´s 2030 Climate Strategy and the 2021-2023 Action Plan of Georgia´s 2030 Climate Strategy. While Georgia acknowledges the need for adaptation to adverse effects of climate change, as of March 2022 work on the NAP has not yet commenced and concrete adaptation actions are missing, making it unfeasible to precisely assign leading entities and partner institutions beyond mapping out potential stakeholders or planning and implementation of the NAP.

Regarding the institutional arrangements for NDC finance, management is dispersed among different entities, making coordination difficult. In the context of NDC finance, the three main avenues requiring strong institutional arrangements relate to national expenditure, international support, and private sector investments. The proposed institutional architecture defines the entities involved in monitoring climate financial flows from different sources that are directed to NDC implementation, and the relationships between each architectural entity and institution. The entities coloured green concern the supportive role of the initial measurement of both domestic and international climate finance flows of climate change activities. The key entities related to the MRV system (the centralised data compilation, final reporting, and verification) are coloured yellow.

Capacity Building Programme

Capacity building is crucial to the enablement of stakeholders, as it ensures financial and human resources for the implementation of the NDC Financing Strategy and Investment Plan are mobilised. To deliver effective capacity building, first capacity gaps and barriers are identified based on which recommendations for raising awareness and engagement and learning-by-doing approach through trainings on financing for actions are provided. Capacity building measures can target the gaps at the individual, the institutional and the system level, depending on where shortcomings are identified.

The Capacity Building Programme for Georgia involves capacity needs assessments, train the trainer programmes, coaching and mentoring, national programme of climate change education, learning exchanges, stakeholder workshops, and support for policymakers in effective decision making. Progress on these activities can be tracked via a traffic light system aiming to quickly identify the capacity building activities that have been completed or that have not yet been commenced.

Implementation Timeline

The implementation period of the updated NDC of Georgia covers a time span of 10 years from 2020 to 2030. For each of the 66 unconditional NDC mitigation actions and 35 conditional NDC mitigation actions a timeline is developed to ensure the implementation of priority actions according to realistic timeframes. The timeline focuses on higher priority actions in the short-term, and less significant actions in the medium-term to long-term and is developed in accordance with Georgia´s 2030 Climate Strategy and the 2021-2023 Action Plan of Georgia´s 2030 Climate Strategy. Since no concrete actions for adaptation are lined out yet, the implementation timeframe for the adaptation component of the NDC is limited to timeline estimates for planning and implementation activities between 2020-2030.

Tracking NDC Finance

NDC-aligned finance tracking is fundamental for understanding the efficiency and effectiveness of financial flows toward the attainment of the NDC mitigation and adaptation targets. The introduction, harmonization and mainstreaming NDC-aligned finance tracking can kick-start a virtuous cycle for the implementation and continuous update of the NDC Financial Strategy and Investment Plan. Moreover, the establishment of a robust monitoring, reporting and verification (MRV) system for NDC financial flows is crucial to support the effective implementation of the updated NDC of Georgia. To align the national MRV System with NDC climate finance tracking, a five-pronged approach is proposed, aimed at evaluating and updating the NDC Financial Strategy and Investment Plan on a continuous basis and producing accurate and up-to-date information to key audience groups both on a national and international level. The five key points include estimating NDC implementation costs, scanning domestic budget, international and private investments for NDC implementation and based on the results identifying NDC finance gaps and support needed.

Furthermore, it is advised to assign a set of performance indicators to monitor the evolution of the NDC Financial Strategy and Investment Plan. These indicators are based on a two-step traffic light system that enables to track the progression over time in closing the finance gaps for all NDC actions in a simplified and visual manner. The first step involves tracking the status as either financed, partially financed or unfinanced, while the second step serves as the “Gap Closure Indicator.” The overall aim is to progressively secure the necessary funding for all NDC actions following the Guidelines for Resource Mobilization and Mainstreaming Climate Change Budgets.

It is essential Georgia reports information on NDC implementation to a multitude of national and international stakeholders. These include the UNFCCC to which Georgia should report information on the support needed and received for climate action in the country under the Enhanced Transparency Framework (ETF), and the national government to enable assessments and effectiveness of climate finance channelling. In addition, domestic and international donor and investors should be informed on NDC climate finance, as doing so enhances accountability and donor confidence. Lastly, the public needs to be updated regularly to raise awareness and transparency on climate action.

7.4 Moldova

Reduction of F-gas Emissions

Moldova developed with the support of the EU4Climate project a law to transpose the EU F-gas regulation ((EU) No 517/2014) and implement the Kigali amendment to gradually reduce the consumption and production of hydrofluorocarbons (HFCs). The information below summarizes the need for such a law and what the main provisions are. This law will contribute to substantially reduce the emission of fluorinated gases (specifically Hydrofluorocarbons) and support hereby a sustainable low emission development.

Background

Moldova did not have a regulation regarding the reduction of fluorinated greenhouse gases (hereinafter - F gases). The lack of such a law prevents the fair and correct transition towards a green, climate-neutral, and competitive economy, in accordance with the objectives of the Moldova's National Development Strategy "Moldova 2030".

Fluorinated greenhouse gases are a family of gases used in many industrial applications. Although F-gases do not have ozone-depleting properties, are generally of low toxicity and non-flammable, most of them have a high global warming potential (GWP), thus contributing to global warming, when released into the atmosphere.

Hydrofluorocarbons (hereinafter - HFCs) constitute the most widespread group of fluorinated gases. They are mainly used as refrigerants in refrigeration, air conditioning and heat pump equipment, blowing agents for foams, fire extinguishing agents, propellants for aerosols and solvents.

Due to the wide use of HFCs in the Republic of Moldova, their emissions increased in the period 1995-2019 by about 75.6 times (from 3.27 kt CO2 equivalent in 1995 to 247.02 kt CO2 equivalent in 2019), especially the emissions from expandable foams, as well as the accidental ones in the refrigeration and air conditioning sector (RAC).

In addition to the increased amounts of HFCs (substances imported in bulk), refrigeration equipment (refrigerators, freezers, commercial refrigerated display cases, industrial refrigeration installations) and air conditioning equipment (stationary and car air conditioners) represent one of the most relevant sources of emissions HFC.

International commitments

To achieve the objective of reducing GHG emissions by 2030, the Republic of Moldova will promote the gradual reduction of the import and consumption of hydrofluorocarbons, according to the schedule established by the Montreal Protocol on substances that destroy the ozone layer (hereinafter - the Montreal Protocol).

The Republic of Moldova ratified the Convention for the Protection of the Ozone Layer and the Protocol on Substances that Deplete the Ozone Layer by Resolution of the Parliament of the Republic of Moldova no. 966/1996. The country subsequently acceded to the London, Copenhagen, Montreal and Beijing amendments to the Montreal Protocol, including in its national regulatory framework both aspects - ozone-depleting and global-warming chemicals.

On October 15, 2016, in Kigali, Rwanda, Decision XXVIII/1: Additional Amendment to the Montreal Protocol, aimed at phasing out the use of hydrofluorocarbons worldwide, was signed.

The implementation of the provisions of the Kigali Amendment and the Law on Fluorinated Greenhouse Gases will demonstrate Moldova's commitment to reduce F-gas emissions and will contribute to the achievement of the goals established under the Paris Agreement.

Aim of the draft law on F-gases

The Republic of Moldova tends to reduce the impact on the environment of these substances by regulating strictly the consumption of f-gases and applying precautionary measures to prevent any leaks from equipment. The draft Law also sets quantitative limits for placing HFCs on the market.

The draft law is designed to mitigate climate change and protect the environment by reducing emissions of fluorinated greenhouse gases and taking measures to prevent emissions of f-gases throughout their life cycle.

The normative act will accelerate the modernization (greening) of refrigeration and air conditioning systems operating on HFCs. In addition to environmental protection, alternative refrigerants such as CO2, isobutane, propane, ammonia, etc., will also offer great energy-saving potential. Available technologies allow a smarter and more sustainable use of systems where artificial cold is used.

The main provisions of the draft law

The draft law sets measures for isolation, leakage prevention, use, recovery and destruction of F gases. At the same time, the draft law provides for the prohibition of the introduction on the market of some equipment and products containing F gases with high global warming potential and gradual reduction of imported quantities of hydrofluorocarbons.

The draft law consists of 8 chapters (39 articles) and 11 5es. The main provisions are:

- Voluntary release of F gases is prohibited if this is not technically necessary for the intended use of a product. Producers must make every effort to limit emissions during production, transport and storage of F-gases (Chapter III)
- Enterprises involved in the installation, servicing, maintenance, repair or disassembly of equipment containing F gases, as well as the recovery of F gases, must have certified personnel and the tools necessary for the operations. Also, the respective activities can only be carried out by trained and certified operators in the established manner. (Chapter III)
- The law gradually introduces bans on the sale of new items, such as certain categories of refrigerators and freezers, air conditioning systems, foams and aerosols containing F gases, where

there are safer and less polluting alternatives. With the introduction of restrictions on the import and consumption of hydrofluorocarbons, operators of equipment using HFCs must switch to alternative, climate-friendly refrigerants. (Chapter IV)

- Issuing authorizations for the import, export, re-export and transit of each batch of F gases, products and equipment containing F gases. The authorization is issued free of charge and is valid for one calendar year. For the import of hydrofluorocarbons, the authorization is valid until the end of the year for which the quota was allocated (Chapter IV).
- Reducing the climate impact of HCF use over time. By 2045, the annual amount of HFC imports will be 20% of the base level (calculated based on the average of the years 2020-2022. To achieve this objective, importing companies will be allocated annual HFC import quotas in accordance with the schedule set out in the Kigali Amendment to the Montreal Protocol (Chapter V).

Annex 5 of the draft law sets the reduction path until 2045 and beyond:

Years	Percentage for calculating the maximum amount of hydrofluorocarbons to be placed on the market and the corresponding quotas
2024-2028	freezing consumption at 100% of base level consumption (1)
2029-2034 (stage I)	90% from the base level consumption
2035-2039 (stage II)	70% from the base level consumption
2040-2044 (stage III)	50% from the base level consumption
2045 and further (stage IV)	20% from the base level consumption

Note: estimation of the base level (production/consumption of HFCs is calculated as the average of the years 2020, 2021, 2022 + 65% of the base level (production/consumption) of HCFCs.

- Annual reporting by companies of the quantities of F-gases produced, imported, exported and destroyed, as well as the way of using the imported F-gases. The draft law also establishes the reporting of the import of products and equipment containing F gases. (chapter VI) The effective monitoring of F gas emissions is essential for tracking the progress made in order to meet the emission reduction objectives.

Approval procedures

In the drafting process of the normative act, the procedural rules for ensuring decision-making transparency, provided by Law no. 239/2008 on transparency in the decision-making process, were applied and respected. The Draft Law and the Information Note are available to the public on the official website of the Ministry of the Environment at www.particip.gov.md.

The concept of the draft law on fluorinated greenhouse gases was examined during the public consultations with the involvement of representatives of relevant institutions, non-governmental organizations, and economic agents, under the EU4Climate project, financed by the European Union and implemented by UNDP.

The project was examined and approved by the Public Association of Refrigeration Technicians (May 2022). The proposals presented in the opinion were accepted and included in the finalized draft law.

7.5 Ukraine

Environmental security and Climate Change Adaptation Strategy

In October 2021 the Government of Ukraine has endorsed a new strategy to make Ukraine a more environmentally safe and climate-resilient country, ready to meet the already unavoidable impacts of the global climate crisis in Ukraine.

The *Environmental Security and Climate Change Adaptation Strategy of Ukraine until 2030* will also contribute to the delivery of Ukraine's international obligations under the Paris Agreement. It was developed with the support of the EU/UNDP EU4Climate Project, working according to a Decree of the President of Ukraine and the National Security and Defense Council of Ukraine of 14 September 2020.

The strategy sets the framework for adaptation action in Ukraine, focusing on essential steps to assess climate impacts on society, economy and nature, integrating adaptation in sectoral and local policies, and ensuring the better use of climate data. It defines ten vulnerable sectors and natural components –biodiversity; water resources; energy; public health; fisheries; agriculture and soils; forestry; cities and territorial communities; transport and infrastructure; coastal areas, and tourism.

By 2024, these sectors are to undergo an analysis of their climate vulnerability and the risks they face. Based on this research, vital adaptation measures will be developed and prioritized in sectoral and regional adaptation plans.

The Strategy's Action Plan sets out required changes to legislation, including incorporating climate adaptation in local economic and social development strategies, an environmental assessment process, and an environmental impact assessment process. Adaptation planning should become an integral part of daily planning for local authorities, communities, and businesses.

www.eurasia.undp.org

@undpeurasia