GEORGIA'S INTENDED NATIONALLY DETERMINED CONTRIBUTION SUBMISSION TO THE UNFCCC

Georgia is pleased to communicate its intended nationally determined contribution (INDC), elaborated by the Ministry of Environment and Natural Resources Protection of Georgia in close cooperation with the key ministries and other relevant stakeholders involved in the consultations process.

Introduction

Georgia is fully committed to the UNFCCC negotiation process with a view to adopting a global legally binding agreement at the Paris Conference in December 2015 applicable to all Parties in line with the below 2°C objective.

The dissolution of Soviet Union and the collapse of centrally planned economy in early 90s caused significant reduction in national greenhouse gases (GHG) emissions (lowest value 8,799 $KtCO_2eq$ in 1995). According to the Third National Communication of Georgia to the UNFCCC, GHG emissions from Georgia in 2011 constituted 16,036 $KtCO_2eq$ which is 34% of 1990 emissions level (47,975 $KtCO_2eq$).

Economic growth will be accompanied by increase in GHG emissions (if no efforts are made to reduce GHG emissions associated). Therefore, it is important to undertake efforts to substantially limit this increase by boosting investments in low carbon technologies throughout the country.

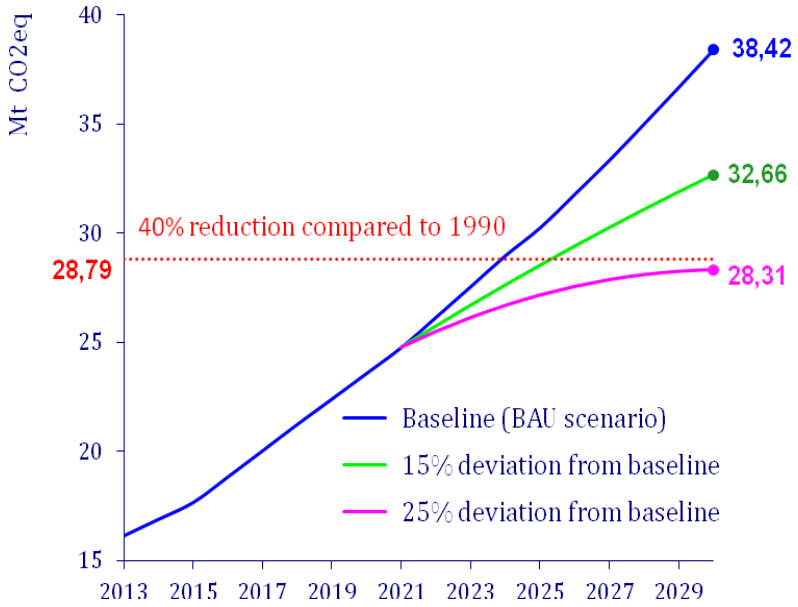
In 2010 Georgia acceded to the Copenhagen Accord and declared that *"Georgia will take steps to achieve a measurable, reportable and verifiable deviation from the baseline scenario (below "business as usual" levels) supported and enabled by finance, technology and capacity-building".*

The Government of Georgia acknowledges and appreciates the role of international support in Georgia's efforts to mitigate climate change, namely the support of the US Government in the development of a Low Emission Development Strategy (LEDS) and the support of the European Union and the Government of Germany in preparation of the INDC. The preparation of LEDS was launched in 2013 and is expected to be finalized in 2016. Georgia's INDC is largely based on currently available results achieved during the LEDS preparation process. The final LEDS and the mitigation actions specified therein will become key instrument in achieving Georgia's GHG emission reduction target.

Intended nationally determined contribution (INDC) of Georgia

The Lima Conference invited all Parties *"to communicate their intended nationally determined contributions well in advance of the twenty-first session of the Conference of the Parties in a manner that facilitates the clarity, transparency and understanding of the intended nationally determined contributions."*

Georgia plans to unconditionally reduce its GHG emissions by 15% below the Business as usual scenario (BAU) for the year 2030. This is equal to reduction in emission intensity per unit of GDP by approximately 34% from 2013 to 2030. The 15% reduction target will be increased up to 25% in a conditional manner, subject to a global agreement addressing the importance of technical cooperation, access to low-cost financial resources and technology transfer. This is equal to reduction of emission intensity per unit of GDP by approximately 43% from 2013 to 2030. The 25% reduction below BAU scenario would also ensure that Georgian GHG emissions by 2030 will stay by 40% below the 1990 levels.



In line with the *Lima Call for Climate Action*, in particular its paragraph 13, the following quantifiable information is hereby submitted:

Intended Nationally Determined Contribution of Georgia	
Party	Georgia
Type	Deviation from baseline, business as usual scenario
Coverage	All sectors excluding LULUCF
Sectors	• Energy • Industrial processes • Agriculture • Waste Information on GHG emissions reduction targets for the forestry sector of Georgia is given in Annex 1.
Scope	All greenhouse gases not controlled by the Montreal Protocol: • Carbon Dioxide (CO2) • Methane (CH4)

	• Nitrous Oxide (N2O) • Hydrofluorocarbons (HFCs) • Perfluorocarbons (PFCs) • Sulphur hexafluoride (SF6)
Base Year	2013
Period	1 January 2021- 31 December 2030
Reduction level	Georgia plans to unconditionally reduce its GHG emissions by 15% below the Business as usual scenario (BAU) for the year 2030. This is equal to reduction in emission intensity per unit of GDP by approximately 34% from 2013 to 2030. The 15% reduction target will be increased up to 25% in a conditional manner, subject to a global agreement addressing the importance of technical cooperation, access to low-cost financial resources and technology transfer. This is equal to reduction of emission intensity per unit of GDP by approximately 43% from 2013 to 2030. The 25% reduction below BAU scenario would also ensure that Georgian GHG emissions by 2030 will stay by 40% below the 1990 levels.
Pre-2020 mitigation actions	Georgia plans to finalize its Low Emission Development Strategy in 2016, which will detail pre-2020 mitigation actions. In addition, Government of Georgia is in process of drafting its first National Energy Efficiency Action Plan (NEEAP) that will be finalized by the end of spring 2016. The NEEAP will document the plans for implementation of energy efficiency measures which have significant mitigation potential for the period before 2020 and beyond. It is envisaged that the most intensive pre-2020 mitigation action in Georgia should be the voluntary reduction of GHG emissions committed by thirteen self-governing cities and municipalities joining the EU initiative "Covenant of Mayors" (CoM). Further facilitation of this initiative will significantly contribute to post -2020 implementation processes. Three Nationally Appropriate Mitigation Actions (NAMA) are under preparation and, in case of international support, are expected to be implemented prior to 2020. They are expected to be a basis for subsequent larger-scale mitigation actions for the post-2020 period. These NAMA activities include: • Gender-sensitive NAMA for sustainable energy in rural areas; • NAMA for Low Carbon Buildings in Georgia; • Vertically Integrated NAMA (V-NAMA) for the Urban Transport Sector. All above mentioned pre-2020 mitigation actions have been taken into account while calculating the BAU scenario.
% of Emissions Covered	100%
Planning Process	Georgia will support its mitigation target with comprehensive national climate change policy. The first step will be the finalization of the LEDS. In addition, Georgia plans to develop an action plan "climate 2021-2030" (intended to be finalized in 2018) which will define the legal instruments, activities, methods and other relevant issues.

	The legislative proposals, national programs and domestic legally-binding acts to implement 2030 climate target will be influenced by Georgia-EU association process and the planned membership in the European Energy Community.
Fair and ambitious	Georgia's INDC is fair and ambitious because despite the fact that national GHG emissions of Georgia represents only approximately 0.03% of global emissions, Georgia is committed to contribute in joint efforts to combat climate change by transforming its economy to low carbon and climate resilient pathway The INDC is Georgia's first quantified international commitment to mitigate climate change. The main share of mitigation actions will be implemented with national resources, in an unconditional manner. Only conditional measures will require international support.
Metric Applied	GWP 100y values published in IPCC SAR (CO2e): • CO2=1 • CH4 = 21 • N2O = 310
Methodologies for Estimating Emissions	• Revised 1996 IPCC Guidelines for National Greenhouse Gas Inventories. • 2006 IPCC Guidelines for National Greenhouse Gas Inventories • Good Practice Guidance and Uncertainty Management in National Greenhouse Gas Inventories

Adaptation

Climate change and its adverse impacts on ecosystems and economy pose severe threats to Georgia's sustainable development. Unique geographical location, complex dissected relief, land cover diversity and specific climate, containing almost every type of climatic zones, set conditions for wide variety of negative consequences of climate change in Georgia: (a) due to sea level rise and other factors Black Sea has affected certain areas of land, destroyed and/or damaged houses and infrastructure along the coast; (b) in highlands, growing frequency and intensity of floods, flashfloods, landslides and mudflows have caused a huge amount of damage in the economy; (c) due to decreased rainfall and enhanced evaporation semi-arid regions in Eastern Georgia are under the threat of desertification; (d) more frequent and intensive heat waves have affected human health; (e) rising temperatures, changes in precipitation patterns, reduced water availability, forest fires, pests and diseases have worsen the growth and productivity of forests. (f) Rising temperatures, increased winds and reduced water availability have significantly declined agricultural productivity.

In case of a 2^0C or higher increase in global warming, effects will become more severe in the future. This will create an extra burden on the development of society. Accordingly, adaptation to the adverse impacts of climate change is one of the main priorities for the Government of Georgia. The National Adaptation Plan will be prepared in order to further advance the implementation of adaptation actions. The main objective of the Government of Georgia is to improve country's preparedness and adaptive capacity by developing

climate resilient practices that reduce vulnerability of highly exposed communities. In this regard, Georgia takes steps to integrate climate risk and resilience into core development planning and implementation.

Georgia's agricultural sector plays a key role in the country's economy. Georgian farmers are going to fulfill a principal role in providing one of the fundamental needs of society: a safe, secure, and affordable food supply. This underlines the importance of the relationship between climate change impacts on agriculture and food security. During last decades negative consequences of climate change have drastically reduced agricultural productivity. For example, severe drought in 2000 has reduced the production of cereals close to zero; due to the prolonged drought almost 400,000 hectares of agricultural lands have been damaged. Within the last decade the occurrence of droughts in Eastern Georgia increased, the severe droughts have been observed every year accompanied with high temperatures ($40\text{-}42^0$) doubling the frequency of the occurrence of the intense droughts in the region.

For the adaptation of agricultural sector to the expected climate change, wide range of measures is planned. Those include, but are not limited to the following: (a) research and development of emergency response plans for agriculture dealing with droughts, floods, etc; (b) Introduction of innovative irrigation management and water application techniques; (c) implementation of various site specific anti-erosion measures; (d) establishment of information centers for farmers that provides guidance on adaptive management of agriculture; etc.

A complex mountainous topography makes the country more prone to the climate extremes and related events. Georgia is vulnerable to natural hazards including floods, flash floods, droughts, landslides, avalanches, and mud flows. Many of these extreme events have been recorded in the last two-three decades, the most recent one happening on the 13th of June 2015 in Tbilisi. The flash-flood was distinctive not only due to the high casualty (19 people dead and huge economic loss (around 100 million USD) but reconnecting to the fact that it was characterized by 9 different types of hydro-meteorological and geological extremes, occurring simultaneously within a very limited area. These weather extremes additionally result in changing of the hydrology of rivers, posing a serious impact on continuous water availability for drinking, irrigation and energy. Establishment of Early warning systems for climate related extreme events is considered as priority measure by the Government of Georgia.

Sea level rise impacts are projected to induce multiple negative consequences in coastal zone of Georgia. It is imperative to assess and implement adaptation measures in order to minimize economic losses. Combination of various coastal zone protection technologies are recommended by the second "Technology Needs Assessment" report of Georgia to prevent the significant damage caused by the Black Sea level rise. According to the National communications of Georgia to the UNFCCC costs of the coastline adaptation program is estimated about 600 million USD. In absence of adaptation measures the estimated losses only in the tourism sector will reach about 2 billion USD by 2030. Due to very high social costs involved, priority will be given to the integrated coastal planning and management instruments, rather than investments in coastal erosion abatement only.

Without international support Georgia is unable to cope with adverse effects of climate change. "Lima Call for Climate Action" (Decision 1/CP.20) "*Urges developed country Parties to provide and mobilize enhanced financial support to developing country Parties for ambitious mitigation and adaptation actions".*

According to the expert judgment estimated economic losses without adaptation measures during 2021-2030 will be about 10-12 billion USD, while adaptation measures will cost within 1.5-2 billion USD. Accessing finance that allows Georgia to adapt to the impacts of climate change is crucial. To estimate required financial support the following pre-2020 activities are planned: (a) prioritize selected adaptation policies and measures based on national circumstances and identify associated financial needs; (b) evaluate domestic sources of finances; and (c) determine need and sources for external financial support.

Georgia needs international support for the development and transfer of technologies to increase its adaptive capacity. In this regard technologies for the protection of coastal infrastructure; technologies for sustainable water management; sustainable agricultural technologies; and technologies for sustainable forest management are prioritized.

The implementation of adaptation actions for the period 2021 – 2030 requires the continuous development and strengthening of Georgia's capacities, in particular: (a) national capacity to develop adaptation strategies; (b) policy makers capacity for climate change adaptation planning; (c) capacity of communities to reduce their vulnerability to adverse impacts of future climate hazards; (d) capacity of national health system institutions, to respond to and manage long-term climate change-sensitive health risks.

It is fundamental to incorporate a gender- and human rights-sensitive approach in adaptation planning capacity building, prioritizing the most vulnerable sectors and regions in order to reduce social inequality and the gap between women and men rights.

Forests

Climate change adverse impacts pose severe threats to Georgia's forests. Rising temperatures, changes in precipitation patterns, reduced water availability, increased frequency of forest fires, as well as pests and disease outbreaks have reduced carbon sequestration ability of forests.

There is no reliable inventory data on most forest resources of Georgia. The last nation-wide forest inventory was conducted in early 1990s. According to the expert judgment, on 600,000 ha, which are declared for timber production forests (about 22% of Georgia's forest area), timber and fuel-wood extraction has significantly exceeded the respective annual allowable cut over the last two decades. In 2014, the forest resources assessment of the pilot area - Borjomi-Bakuriani Forest District shows the reduction in forest biomass by almost 20% over the past 15 years. However, it is premature to draw conclusions on the state of Georgia's forests based on the results obtained for one forest district covering only 45,000 hectares.

The Georgian Government prioritizes three options for climate change mitigation activities in forestry sector: (a) establish Sustainable Forest Management (SFM) practices; (b) conduct afforestation/reforestation and assist natural regeneration; and (c) expand the protected area.

Unconditional commitment

Georgia is committed to:

- Strongly support CO_2 reduction in one pilot area, the Borjomi-Bakuriani Forest district (currently the only forest district where carbon emissions have been quantified) by at least 70% between 2020 and 2030, by strengthening law enforcement and introducing SFM practices. It is estimated that this measure will lead to an overall emission reduction of at least 1 million tonnes of CO_2 over a period of 10 years in this district covering 45,000 hectares;
- Implement afforestation/reforestation activities on already identified 1,500 ha of degraded lands by 2030;
- Assist natural regeneration of forests through different silvicultural methods on 7,500 ha by 2030 in order to restore natural forest cover.

Conditional commitment

- In case of external financial and technical support, the country commits itself to afforest/reforest up to a total of 35,000 hectares, as well as supporting relevant activities to assist natural regeneration in identified areas needing afforestation / reforestation until 2030;
- If Georgia receives substantial financial and technical support for the development of forest inventories and remote sensing, as well as the development of internationally recognized practices for SFM and carbon monitoring for the identified forest districts

(covering up to 250,000 ha of forest lands) the country commits itself to support the sustainable management of forests with estimating measures leading to an overall carbon sequestration up to 6 million tons of CO_2 on these lands over a period 2020-2030. These forest lands include the forest district of Akhmeta (covering up to 70,000 ha) where the first set of locality/site-specific criteria and indicators (C&I) for SFM will be selected/tested and implemented. The objective is to gain relevant expertise for further development of the C&I for SFM in the rest of identified forest lands to achieve the nation-wide development of SFM practices, thereby support the carbon sequestration;

- With financial support from international sources to set up an adequate infrastructure and assure effective planning for management of the additional protected areas during 2020-2030, country commits itself to expand the protected area from 0.52 million ha to 1.3 million ha (about 20% of Georgia's territory) comprising at least 1 million ha of forests.