

Intended Nationally Determined Contributions of the Republic of Uzbekistan (INDC)

National Circumstances

The global climate change is recognized as an unquestionable fact, and changes in the Earth climate system, observed from the 1950s, are unprecedented. A considerable warming of the atmosphere and ocean has occurred, world snow and ice storage has decreased, and average global sea level has increased. *The main reason for climate change* is the anthropogenic increase in greenhouse gases (GHGs) concentration in the Earth surface layer of atmosphere. The analysis of observation data collected under the World Meteorological Organization's Global Atmospheric Watch Program shows that the averaged carbon dioxide and other greenhouse gases concentrations in atmosphere reaches their new maximum each year.

Uzbekistan is one of the countries most vulnerable to climate change. Without additional resource saving measures, the country may face deficiency of water resources, growth in land desertification and degradation, increase in occurrence of droughts and other dangerous phenomena, leading to instability of agricultural production and threatening to the country's food security. Since the early 1950s the average rates of air temperature growth throughout the territory of Uzbekistan were 0.29°C for each ten years, which is by 2 times higher than the global warming rates.

Besides, Uzbekistan has encountered the one of the most complicated problem for the Central Asia region – the Aral Sea ecological disaster. This is virtually one of the largest ecological disasters in the contemporary history. “The Aral Sea, once the unique and one of the most beautiful and largest inland water bodies in the world, has turned out to be at the edge of total disappearance during the life of one generation. This has caused unprecedented disaster and irreversible damage to the local population, ecosystem and biodiversity of the Priaralie”¹.

The climate change problem is of the global nature, since GHGs emissions are dispensed evenly in atmosphere and do not observe any boundaries. Therefore, only the international cooperation may help to stop increase in greenhouse gas emissions and eventually to decrease adverse impacts of climate change. Uzbekistan has signed and is successfully implementing its obligations under the UNFCCC. Uzbekistan also acclaims adoption of the new Global Climate Agreement.

Uzbekistan is the country with developing economy and the stable annual GDP growth rate of over 8%. The country's population is more than 31 million people. According to the UN prediction, the country's population will reach 37 million people by 2030.

In the long-term perspective, the structural reforms with focus on development of basic industry sectors, active investment policy for modernization and technological renewal of production, social, motor road and communication infrastructure will play the key role in speeding up paces of economic growth.

Strengthening measures and actions aimed at climate change mitigation. Uzbekistan carries out the targeted policy for energy saving in the key economy sectors. “*Decreasing in GDP energy consumption by approximately 2 times as a result of broad introduction of the advanced energy saving technologies*”² has been identified in Uzbekistan as the one of targeted tasks for period up to 2030.

¹ I.A.Karimov, International Conference “Development of cooperation in mitigation of ecological disaster impacts in the Aral Sea region”, 29 October 2014.

² Report of the President of RUz, Mr. Islam Karimov, at the extended session of the Cabinet of Ministers devoted to the results of the social and economic development of the country in 2015, and the most important priority directions of economic program for 2016 (16 January 2016).

Strengthening the institutional capacity and improving the legal framework are carried out in renewable energy sector and energy efficiency to achieve the long-term sustainable development goals. The draft Long-term Strategy for low carbon development is considered in the country. It identifies target indices to energy efficiency and the “Program of measures for transition to low carbon development” for the key sectors of economy (electric energy, thermal energy, housing and utilities sectors), which are the main contributors to GHGs emission in Uzbekistan.

The measures for energy saving will allow decreasing consumption of primary energy, mainly natural gas. Investments in energy efficiency and renewable energy sources are of high priority from both economic (decrease in costs for energy generation) and climate viewpoint (decrease in volumes of greenhouse gas emissions).

The republic successfully carries out measures for adaptation to and mitigation of climate change impacts, including implementation of Clean Development Mechanism (CDM) Projects within the framework of the Kyoto Protocol. Over the entire period of the CDM project activities in Uzbekistan, it has been put into circulation 15,229,536 tons of Certified Emission Reductions in CO₂-equivalent (CERs)³, and attracted foreign private investments in amount of USD 24.4 million.

The gradual modernization of the industry and a number of other measures implemented during the period from 1990 to 2010 have led to decrease in energy consumption of GDP by almost 2.5 times. Specific emissions of CO₂ per unit of GDP have been decreased by almost 50%.

Measures and actions aimed at energy resources saving have allowed Uzbekistan to stabilize level of greenhouse gas emissions and decrease its contribution to the world-wide emissions. According to the GHG inventory data, increase in the GHG emissions during the period from 1990 to 2010 was around 10% only.

During the period from 2007 to 2012, in accordance with the Decree of the Cabinet of Ministers⁴, 188 thousand units of vehicles were changed over to run on gas fuel.

Great attention is paid in the country to the development of renewable energy sources, especially solar energy. The production and experimental use of solar water heaters for hot water supply to residential houses and social facilities are carried out for more than 10 years. A large-scale project for construction of a number of photovoltaic power plants of 100MW each has been commenced. It is planned to bring up the share of solar energy in the total energy balance of the country to 6% by 2030.

Uzbekistan shares opinion of the world community regarding necessity to apply efforts to control the global climate change in accordance with the capabilities and responsibility of each country on a reasonable and equitable basis.

Pursuant to the decision of the 20th session of the Conference of the Parties to the United Nations Framework Convention on Climate Change⁵, 1/CP.20, and in accordance with the national circumstances and sustainable development goals, taking into account transition of the country to a resource-efficient development model, the Republic of Uzbekistan has identified and presents its **Intended Nationally Determined Contribution (INDC)** for the period up to 2030.

Long-term	In the long-term perspective up to 2030, the Republic of Uzbekistan
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³ http://cdm.unfccc.int/Issuance/cers_iss.html

⁴ Decree of the Cabinet of Ministers No.30, dated 10 February 2007 “On Measures for Developing the Network of Automobile Gas Filling Compressor Stations and Gas Refilling Stations, and Gradual Change-over of Automobile Transport to Run on Liquefied and Compressed Natural Gas”.

⁵ 1/CP.20 “Lima Call for Climate Action”. It contains invitation to all Parties to communicate their intended nationally determined contributions (INDCs) well in advance.

objectives	<p>intends to <i>strengthen measures and actions to struggle against climate change</i>, in order to achieve the following objectives:</p> <p>Mitigation Objectives</p> <ul style="list-style-type: none"> • To decrease specific emissions of greenhouse gases per unit of GDP by 10% by 2030 from level of 2010. <p>Achievement of the INDC long-term objective envisages support from the international organizations and financial institutions, ensuring access to the advanced energy saving and environmentally sound technologies, resources for climate financing.</p> <p>Adaptation</p> <p>Uzbekistan will also continue its efforts for adaptation capacity building to reduce risk of climate change adverse impact on various sectors of economy, social sector and Priaralie (Aral Sea coastal zone).</p>
Base year	2010
Time frame	2020 - 2030
Greenhouse gases	INDC comprises information about three main greenhouse gases (CO ₂ , CH ₄ , N ₂ O), with their share of approximately 95% in the total emission.
INDC is identified in the context of national interests, taking into account decrease in energy consumption for GDP	<p>Growth of Uzbekistan's GDP over the period 1990-2010 was +191%, while greenhouse gas emission for the same period was increased by 10.2% only.</p> <p>Therefore, the GDP growth rates outrun considerably that of the greenhouse gas emission. Achievement of the adopted target index ensures curb of GHGs emissions growth along with development of the economy.</p>
INDC facilitates achievement of the global goal.	<p>Intention of the country to curb growth rates of greenhouse gas emissions, decreasing their specific emission per unit of GDP by 10% by 2030 from level of 2010, will not create obstacles for the country's socio-economic development, and it corresponds to the general goals of policy for improving energy efficiency, decreasing resources consumption by the economy and increasing the share of RES in the country's energy balance, as well as to the goals of rational use and sustainable development. In future this will allow to the Republic of Uzbekistan jointly with other UNFCCC Parties to achieve the long-term global goal, i.e. to prevent growth of the average global air temperature by more than 2°C.</p>
Methodological approaches for assessment and inventory of GHGs emissions	<ul style="list-style-type: none"> • "Revised Guidelines for National Greenhouse Gas Inventories, IPCC, 1996". • "Guidelines for National Greenhouse Gas Inventories, IPCC, 2006". • "Reporting on Climate Change: User Manual for the Guidelines on National Communications from Non-Annex I Parties, 2004".
Planning processes for strengthening measures and actions for climate change mitigation and adaptation	
Political measures	<p>There are currently the legally binding programs and acts aimed at ensuring by 2020 the implementation of measures for decrease in energy consumption, introduction of energy saving technologies in various sectors of the economy, social sphere and development of RES:</p> <ul style="list-style-type: none"> • Decree of the President of the Republic of Uzbekistan No. UP-4512, dated 01 March 2013, "On Measures for Further Development of Alternative Energy Sources"; • Decree of the President of the Republic of Uzbekistan No. UP-4707,

	<p>dated 04 March 2015, “On Program of Measures for Ensuring Structural Reformation, Modernization and Diversification of Production for 2015-2019”;</p> <ul style="list-style-type: none"> • Resolution of the President of the Republic of Uzbekistan No. PP-2343, dated 05 May 2015, “ On Program of Measures for Reduction in Energy Consumption, Introduction of Energy Saving Technologies in Economy Sectors and Social Sphere for 2015-2019”; • Program of Actions for Environmental Protection of the Republic of Uzbekistan for 2013-2017; • Resolution of the Cabinet of Ministers of the Republic of Uzbekistan No. 255, dated 29 August 2015, “On Integrated Program of Actions for Mitigation of the Aral Sea Disaster Impacts, Rehabilitation and Socio-Economic Development of Priaralie Region for 2015-2018”; • Program for Further Development of Agricultural Production for 2015-2019; • Program for Further Irrigated Lands Improvement and Rational Use of Water Resources for 2013-2017. <p>The elaborated development concepts are reflected in the following papers:</p> <ul style="list-style-type: none"> - Analytical Report of the Center for Economic Research (CER) “Uzbekistan Towards 2030: Transition to the Resource-efficient Growth Model”, prepared within the framework of UNDP/WB Joint Project “National Strategy of Structural Reforms of Uzbekistan for 2030”; - Report “Towards Sustainable Energy: Strategy for Low Carbon Development of the Republic of Uzbekistan”, prepared within the framework of UNDP/Ministry of Economy Joint Project “Support to Uzbekistan in Transition to Low Carbon Development of National Economy” and reflecting predictions of development of various economy sectors and social sphere, their structural reformation.
<p>Implementation of measures aimed at improvement of energy efficiency in various sectors of economy and social sphere</p>	<ul style="list-style-type: none"> • Modernization and technical upgrading of industry; • Creation of new production facilities exclusively on the basis of introducing advanced energy efficient and energy saving technologies. • Decrease in specific fuel consumption for generation and use of electric energy; • Decrease in losses of natural gas with its extraction, processing and transportation; • Development and broad use of alternative energy sources: intensive construction of large solar photovoltaic power plants; creation of biogas plants; scaling up of wind power generation; • Improvement of energy efficiency of buildings on account of decrease in specific energy consumption; • Development of governmental financing schemes and subsidy support to energy saving measures; • Extension of transport and logistics communication systems, ensuring efficient energy resources use (including optimization of transportation routes, improvement of motor roads quality, etc.)’ • Expansion of measures on motor vehicles change over to run on

	alternative fuel.
Development of scientific researches, educational and training activities	<ul style="list-style-type: none"> • Carrying out of fundamental researches in the area of climate change, development of system for climate change monitoring and prediction, development of methodologies for assessment of climate change impacts, vulnerability and risks; • Expansion of applied scientific researches and designs for introduction of energy saving technologies and RES; • Education and advanced training for specialists in the area of energy saving and RES; • Development of information systems for efficient solution of climate change problems; • Intensification of outreach activities on issues associated with climate change, energy efficiency and resources saving.
Development of system for inventory, reporting and control over greenhouse gas (GHGs) emissions	<ul style="list-style-type: none"> • Improvement of the quality of the greenhouse gases inventory and decrease in the general uncertainty of the GHGs inventory through development and refinement of the national emission factors, approaches and methods for calculation of greenhouse gas emissions. • Development of the system for inventory of greenhouse gas sinks and emissions in the “Land Use Change and Forestry” sector on the basis of advanced GIS technologies.
<p>ADAPTATION</p> <p>Adaptation to climate change is the priority direction in Uzbekistan’s activities aimed at decrease in vulnerability and ensuring the country’s sustainability to climate change. Adaptation measures cover a wide scope of actions for protecting the communities from adverse impacts of climate change such as extreme droughts and dangerous hydro-meteorological phenomena, associated with the global change in air temperature; increasing the sustainability of strategic infrastructure and ecosystems for conservation of agro- and biodiversity; diminishing harmful impact of the Aral Sea disaster on the environment and life of millions of people living in Priaralie, through, inter alia, implementation of well conceived targeted projects and programs supported by proper financing sources. This will require substantial assistance from the United Nations institutions, other international organizations and partner countries in development.</p> <p>Some of the measures and actions for adaptation to climate change presented below are closely related to mitigation measures.</p>	
<p>Adaptation Measures in Uzbekistan for Period up to 2030</p>	
Adaptation of agriculture and water management sector⁶	<ul style="list-style-type: none"> • Improvement of the climate resilience of the agriculture through diversification of food crops production pattern; conservation of germplasm and indigenous plant species and agricultural crops resistant to droughts, pests and diseases; development of biotechnologies and breeding new crop varieties adopted to conditions of changing climate.

⁶ Governmental Program for Further Improvement of Irrigated Lands and Rational Use of Water Resources for the Period 2013-2017; Decree of the President of the Republic of Uzbekistan No.PP-1958, dated 19 April 2013; “Uzbekistan Towards 2030: Transition to the Resource-efficient Growth Model”, UNDP/CER (Center for Economic Research) Project, 2015; Program of Measures for Reduction in Energy Consumption, Introduction of Energy Saving Technologies in Economy Sectors and Social Sphere for 2015-2019; Decree of the President of the Republic of Uzbekistan No.PP-2343, dated 05 May 2015; and others.

	<ul style="list-style-type: none"> • Improvement of irrigated lands affected by desertification, soil degradation and drought, increase in soil fertility of irrigated and rainfed lands. • Further improvement of water management practice in irrigated agriculture with wide use of integrated water resources management approaches and innovative technologies for water saving, including broad introduction of drip irrigation systems. • Improvement of pasture productivity and fodder production in desert and piedmont areas.
Adaptation of social sector to climate change⁷	<ul style="list-style-type: none"> • Raising of awareness and improvement of access to information about climate change for all groups of population; • Development of early warning systems about dangerous hydro-meteorological phenomena and climate risk management; • Prevention of diseases onset and aggravation caused by climate change; • Widening the participation of the public, scientific institutions, women and local communities in planning and management, taking into account approaches and methods of gender equity.
Mitigation of the Aral Sea disaster impacts⁸	<ul style="list-style-type: none"> • Conservation of the current fragile ecological balance in Priaralie, combating desertification, improvement of management system, efficient and rational water resources use; • Creation of conditions for reproduction and conservation of genofond and population health in Priaralie, development of the social infrastructure, extensive network of medical and educational organizations; • Creation of essential social and economic mechanisms and incentives for improvement of quality and living standards for population, development of base infrastructure and communication system; • Conservation and rehabilitation of flora and fauna biodiversity, including through creation of local water bodies in Priaralie; • Expansion of foreign investment attraction for implementation of measures and actions for mitigation of the Aral Sea disaster impacts; • Conservation and restoration of forest resources, including afforestation of the dried Aral Sea bottom.
Adaptation of ecosystems	<ul style="list-style-type: none"> • Restoration of forests in mountain and piedmont areas, conservation of indigenous plant species in semi-deserts and deserts; • Conservation, restoration and maintenance of ecological balance in the protected nature territories; • Improvement of sustainability in management of fragile desert ecosystems.
Adaptation of strategic infrastructure and production facilities	<ul style="list-style-type: none"> • Introduction of adaptation criteria into governmental investment projects for construction, modernization, O&M of infrastructure in various sectors of economy; • Reconstruction and modernization of irrigation and drainage

⁷ Law of the Republic of Uzbekistan «On Sanitation-and-Epidemiological Safety of Population, No 451, dated 06 August 2015.

⁸ Decree of the Cabinet of Ministers of the Republic of Uzbekistan No.255, dated 29 August 2015 “On Integrated Program of Measures for Mitigation of the Aral Sea Disaster Impacts, Rehabilitation and Socio-Economic Development of the Priaralie region for 2015-2018”.

	<p>infrastructure in water management sector;</p> <ul style="list-style-type: none">• Expansion of sectoral programs for purification of municipal and industrial effluents, ensuring quality of water for drinking water supply and sanitation;• Modernization of gage stations on natural water courses, improvement of water resources monitoring and forecasting;• Improvement of the system for monitoring ameliorative conditions of irrigated lands and soil fertility;• Application of technologies for protection of littoral and river infrastructure, etc.
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