Developing of NDC 3.0 of Turkmenistan

2025 Annual Project Progress Report

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Project Manager:	Mr. Batyr Ballyyev (batyr.ballyyev@undp.org)

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I. Executive Summary

Context and key developments

To strengthen efforts to prevent climate change, reduce its negative impacts, and implement the UNFCCC international legal instruments in Turkmenistan, the project Climate Promise: From Pledge to Impact in Turkmenistan has been launched.

The project focuses on developing NDC 3.0, aligning it with global climate goals and Turkmenistan's international commitments under the Paris Agreement. Using a comprehensive approach, it includes technical assessments to set ambitious mitigation targets for the energy, industry, transport, and waste sectors. Simultaneously, it addresses adaptation targets for agriculture, water, and health.

A key feature of the project is the integration of gender-responsive and socially inclusive analyses, ensuring equity remains at the core of all planning and implementation processes.

To support these objectives, the project:

- identifies existing and potential climate finance opportunities, including public and private financing mechanisms, to promote sustainable investments;
- incorporates scenario projections to evaluate the impact of NDC 3.0 implementation on greenhouse gas (GHG) emissions reduction and socio-economic indicators (e.g., GHG emissions per capita and emission intensity relative to GDP);
- prioritizes capacity-building for stakeholders, equipping them with the knowledge and expertise needed to effectively revise and formulate NDC 3.0.

Ultimately, the project represents a comprehensive initiative aimed at developing a robust and future-focused NDC 3.0 document. It sets the stage for enhanced climate action and sustainable development in Turkmenistan. The results achieved by the project are a testament to the dedication and contributions of all stakeholders involved.

II. Introduction / Background

Project Background and Rationale

The current Nationally Determined Contribution (NDC 2.0) of Turkmenistan, approved in May 2022, incorporates measures aligned with the National Strategy on Climate Change (new edition, 2019). These measures reflect the country's progress and preparation for the development of NDC 3.0, in line with the Framework Plan for the Implementation of the Paris Agreement and the National Strategy on Climate Change.

In January 2024, the Interdepartmental Commission of Turkmenistan on Environmental Protection decided to establish a Working Group under the Commission. The group's mandate is to:

- develop a Work Plan for the implementation of the NDC;
- prepare a draft Work Plan for NDC implementation covering the period 2024–2030 (target completion: 1 July 2024).

The Working Group comprises specialists from Turkmenistan government departments, the United Nations Development Programme (UNDP), and other accredited international organizations in the country.

To further enhance the effectiveness of climate action and meet the objectives set out in the National Strategy on Climate Change, the UNFCCC, and the Paris Agreement, Turkmenistan has begun work on NDC 3.0. This update will include more ambitious targets for reducing greenhouse gas (GHG) emissions.

To advance the country's path toward carbon neutrality, it is essential to develop a specific action plan. This plan should:

- outline sectoral measures with an assessment of their potential to reduce or remove GHG emissions;
- define clear timelines;
- identify responsible entities and partners.
- Integrating these activities into national government programs will help secure public financing and attract private and/or international investment flows in line with Turkmenistan's priorities by 2030.

Furthermore, incorporating climate change and environmental impact requirements—alongside assessments of social and economic consequences—into strategic planning methodologies (via appropriate amendments) will ensure that state programs align with the goals of the National Program for Socio-Economic Development of Turkmenistan (2024–2052).

III. 2025 Progress Review: Key Activities and Results

Overall progress against outcomes

During the year, Turkmenistan's climate project achieved key milestones in advancing its climate commitments.

1. NDC 2.0 Implementation Assessment

A thorough analysis was conducted of Turkmenistan's Nationally Determined Contribution (NDC 2.0), first submitted in 2022 under the Paris Agreement. The assessment reviewed:

- which NDC 2.0 measures had been successfully implemented;
- which had not been implemented;
- the reasons behind any implementation gaps.

This comprehensive evaluation identified key challenges and shortcomings in the NDC 2.0 implementation process.

2. NDC Revision and Targets

The «NDC Revision Roadmap» outlines Turkmenistan's approach to updating its NDCs. The central goal is to reduce greenhouse gas (GHG) emissions by 20 % by 2030 (relative to 2010 levels) under a Business-as-Usual (BAU) scenario.

3. Coordination and Planning for NDC 3.0

A coordination meeting was held with UNDP project teams and focal points for the UNFCCC, UNCBD, and UNCCD. The focus was on developing general adaptation targets for NDC 3.0.

In parallel, Turkmenistan is conducting a comprehensive technical assessment to prepare ambitious mitigation targets for NDC 3.0 in the following sectors:

energy; industry; transport; waste.

4. Climate Vulnerability Assessment

An in-depth assessment of Turkmenistan's current vulnerability to climate change has been completed. This assessment:

- builds on findings from the Roadmap for National Adaptation Plan (NAP) Preparation;
- incorporates analysis from the Fourth National Communication (NC4).

5. Stakeholder Engagement on Gender and Inclusion

To advance gender-responsive climate action, key discussions and workshops were held with relevant stakeholders. Bilateral meetings took place with:

- the UNDP Democracy Project Manager;
- the UNFPA Manager.

The aim was to explore how gender-related indicators and actions can be integrated into the revised National Adaptation Plan on Gender Equality (2026–2030).

6. Climate Finance Analysis

As part of the NDC 2.0 stocktake, measures related to climate finance—as outlined in the NAP Roadmap—were analyzed. The objective was to determine the share of domestic and international financing allocated to adaptation efforts.

7. NDC 3.0 Commitments

Numerous meetings were held to discuss and identify NDC 3.0 commitments across three priority areas:

- mitigation;
- adaptation;
- gender and social inclusion.

Progress against each output

Deliverable 2.1.1. NDC Stocktake Assessment Report developed and nationally validated			
Indicators	**Baseline**	**Targets**	**Progress against targets**
NDC Stocktake Assessment Report including assessment of the level of achievement of NDC targets.	NDC Stocktake Assessment Report	NDC Stocktake Assessment Report (mitigation, adaptation targets, assessment of climate gender related actions)	The Turkmenistan NDC Stocktaking Report has been completed, providing a comprehensive analysis of the country's progress and challenges in implementing its NDC 2.0 commitments under the Paris Agreement. Turkmenistan has set an ambitious target to reduce greenhouse gas (GHG) emissions by 20 % by 2030 (compared to 2010 levels) under a Business-As-Usual (BAU) scenario. The energy sector is a primary focus, as it accounted for nearly 89 % of national emissions in 2021. The report demonstrates the government's commitment to aligning domestic measures—such as renewable energy projects—with international climate reporting obligations. It also identifies key priorities for both mitigation and adaptation. While notable progress has been made in planning renewable energy initiatives, their implementation remains at an early stage.
Deliverable 2.1.2. NDC Revision Roadmap developed			
Indicators	**Baseline**	**Targets**	**Progress against targets**

NDC Revision Roadmap developed	NDC Revision Roadmap developed	NDC Revision Roadmap developed including stages of actions on institutional development, mitigation and adaptation ambitions, gender-related indicators)	The «NDC Revision Roadmap» has been completed. It outlines Turkmenistan's approach to updating its Nationally Determined Contributions (NDCs), with the goal of reducing greenhouse gas (GHG) emissions by 20 % by 2030 (relative to 2010 levels) under a Business-as-Usual (BAU) scenario. Developed with support from the United Nations Development Programme (UNDP) and guided by the Inter-Ministerial Commission on Environmental Protection, the roadmap comprises six key steps: - Planning and preparation; - Situational assessment; - Prioritization; - Detailed drafting; - Formal adoption; - Public awareness efforts. Each step ensures meaningful stakeholder involvement and contributes to a cohesive, integrated national climate strategy.
Deliverable 2.1.3. NDC3.0 alignment with global climate goals and international commitments under the Paris Agreement			
Indicators	**Baseline**	**Targets**	**Progress against targets**
NDC concept to align with commitments under the Paris Agreement developed and officially approved	NDC 2.0 concept to align with commitments under the Paris Agreement	NDC 3.0 concept focused on more ambitioned targets to align with commitments under the Paris Agreement developed and officially approved, an analysis to improve collaboration of UNFCCC, UNCBD and UNCCD focal points	Meetings were convened to align actions with Turkmenistan's commitments under the Paris Agreement. Key one among them was a coordination meeting with UNDP project teams and focal points for the UNFCCC, UNCBD, and UNCCD. The meeting focused on: - developing general adaptation targets for NDC 3.0; - setting individual targets for key sectors vulnerable to climate change; - identifying major challenges; - reviewing key research, data, and indicators related to desertification and biodiversity. During brainstorming sessions, participants explored potential approaches and evidence bases for adaptation planning. It was agreed to review draft options for NDC adaptation targets.
Deliverable 2.1.4. Completed comprehensive technical assessment to inform ambition mitigation target for energy, industry, transport and waste sectors in NDC 3.0			
Indicators	**Baseline**	**Targets**	**Progress against targets**

A technical assessment ambitious mitigation targets for energy, industry, transport and waste sectors in NDC 3.0	The technical assessment of achievement of NDC 2.0 mitigation targets for energy sector	A technical assessment for setting ambitious mitigation targets for energy (incl. fuel burning and fugitive emissions), industry, transport and waste sectors in NDC 3.0 prepared	In preparation for setting ambitious mitigation targets for the energy, industry, transport, and waste sectors under NDC 3.0, Turkmenistan is undertaking a comprehensive technical assessment. This process follows an integrated approach that incorporates technological innovation, regulatory oversight, strategic planning, and international cooperation. The assessment focuses particularly on key sectors—notably the oil and gas industry and the power generation sector—with detailed evaluations to inform greenhouse gas (GHG) reduction commitments. <u>Oil and Gas Industry</u> A detailed analysis of the oil and gas industry has been conducted, assessing current GHG emissions (including CO_2, CH_4, and others) across all stages of operations—from extraction through processing and transportation. To strengthen data collection, a sector-specific questionnaire framework has been developed. This tool supports the formulation of long-term targets for reducing methane emissions in the sector. <u>Power Generation Sector</u> Similarly, an analysis of the power generation sector has been carried out to evaluate the current state of infrastructure and GHG emissions from power generation facilities. Recognizing the unique challenges of integrating technological advancements within the context of socio-economic development, a tailored questionnaire has been designed to collect relevant data from the sector. This sectoral assessment aims to identify pathways for transformative change that will enhance the sustainability of the energy sector and drive progress toward ambitious mitigation targets.
Deliverable 2.1.5. Completed comprehensive technical assessment to inform ambition adaptation target with consideration of agriculture, water and health sectors in NDC 3.0			
Indicators	**Baseline**	**Targets**	**Progress against targets**

A technical assessment for setting ambition adaptation targets for key economy sectors in NDC 3.0	The road map for developing a national adaptation plan including vulnerability assessment of key sectors	A technical assessment for setting ambition adaptation target for agriculture, water, health, energy sectors and municipal infrastructure in NDC3.0 developed	As part of efforts to define ambitious adaptation targets for NDC 3.0, Turkmenistan has conducted an in-depth assessment of its current vulnerability to climate change. This assessment builds on findings from the Roadmap for National Adaptation Plan (NAP) Preparation and the analysis carried out for the Fourth National Communication (NC4). The assessment provides a robust understanding of the country's geographical, economic, and social characteristics that influence its climate vulnerability. It included a thorough evaluation of existing adaptation measures—aimed at identifying actions already implemented and assessing their effectiveness. Based on this analysis, priority areas and key sectors requiring urgent adaptation interventions have been identified. These critical sectors include: Agriculture; Water resources; Healthcare; Biodiversity; Ecosystems. For each priority area, measurable, achievable, and relevant objectives will be developed. This approach ensures that adaptation goals are strategic and actionable. The objectives will strengthen the resilience of key sectors and address the specific challenges posed by climate change.
Deliverable 2.1.6. Conducting gender-responsive and socially inclusive analyses			
Indicators	**Baseline**	**Targets**	**Progress against targets**

A gender-responsive and socially inclusive analyses to identify relevant mitigation/adaptation activities, and develop gender-related indicators	The road map for developing a national adaptation plan including gender-related actions for mitigation and adaptation	A gender-responsive and socially inclusive analyses to identify relevant mitigation/adaptation activities prepared. Gender-related indicators to align with climate change actions developed.	In reviewing the progress of Turkmenistan's NDC 2.0, significant attention has been given to integrating gender equality into climate policies—particularly in sectors most vulnerable to climate change, such as agriculture, water, and healthcare. The report highlights approaches proposed during the development of the Roadmap for the National Adaptation Plan (NAP). These approaches aim to remove barriers related to gender inequality in key sectors. The goal is to ensure that climate adaptation strategies are inclusive and address the needs of all population groups—especially women and other vulnerable communities. To advance this agenda, key discussions and workshops were held with relevant stakeholders. Individual meetings took place with the UNDP Democracy Project Manager and the UNFPA Manager to explore how gender-related indicators and actions can be integrated into the revised National Adaptation Plan on Gender Equality (2026–2030). By prioritizing gender equality in its adaptation strategies, Turkmenistan is taking an important step toward a fairer and more effective response to climate change. Integrating gender-sensitive policies into the NAP—and aligning them with NDC commitments—ensures that everyone, particularly those most affected by climate impacts, can participate in and benefit from national climate actions. This approach not only supports social equity but also strengthens the country's capacity to adapt to future climate challenges.
Deliverable 2.1.7. Identified climate finance opportunities/existing public and private climate financing measures			
Indicators	**Baseline**	**Targets**	**Progress against targets**
An analysis including recommendations on climate finance opportunities developed	The road map for developing a national adaptation plan including analysis of climate financing	An analysis including recommendations on climate finance opportunities to be included to Finance and Investment Plans for adaptation developed	In the stocktake of Turkmenistan's NDC 2.0, a number of measures related to climate finance—as outlined in the Roadmap of the National Adaptation Plan (NAP)—were analyzed. The aim was to determine the share of domestic and international financing allocated to adaptation efforts. According to the Concept for the Development of Climate Finance in the Country (developed in support of the NAP Roadmap), an assessment was conducted of the potential costs and benefits of implementing adaptation measures in priority sectors through the year 2100. Additionally, 45 potential external sources of funding for climate projects were analyzed. A summary of these assessments, along with proposed adaptation projects, will be prepared for discussion with national partners—including the Ministry of Finance.
Deliverable 2.1.8. Scenario projections of influencing NDC 3.0 implementation on GHG emission reduction along with socio-economy indicators including GHG emission per capita, GHG emission intensity versus GDP			

Indicators	Baseline	Targets	Progress against targets
A modeling of socio-economic impacts of proposed GHG emission reduction in NDC 3.0	Scenario of GHG emission reduction including baseline, moderate and green-innovative scenario	An analysis with modeling of socio-economic impacts of proposed GHG emission reduction in NDC 3.0 developed	Meetings were conducted and attended to model the socio-economic impacts of the proposed GHG emission reductions in NDC 3.0. One key event was an online workshop organized by the Global CBIT Project on developing GHG emission projections using various models. During the workshop, several international modelling tools were presented, including: - LEAP; - PROSPECTA; - GACMO. Among these, GACMO was identified as the most user-friendly in terms of data requirements. As a result, the project team decided to test GACMO using energy balance data provided by international organizations such as the IEA, the United Nations, and the European Union.
Deliverable 2.1.9. Increasing capacity building of all relevant stakeholders in NDC revision and formulation of NDC3			
Indicators	**Baseline**	**Targets**	**Progress against targets**

# consultations and workshops to gather input and ensure broad participation in coordination platforms on climate and nature linkages and overall NDC	0 consultations and workshops to gather input and ensure broad participation in coordination platforms on climate and nature linkages and overall NDC	4 consultations and workshops to gather input and ensure broad participation in coordination platforms on climate and nature linkages and overall NDC	1. Meetings on Mitigation Consultations were held with specialists from the electric power sector to assess the status of BTR1 mitigation measures aligned with NDC 2.0 targets. The discussions covered: - measures currently in effect; - planned measures (including those post-2028); - new proposed measures; - postponed actions. Additionally, the team reviewed: modernization activities included in Turkmenistan's Economic Development Strategy (up to 2028); reasons for postponing certain strategic activities; plans for new energy-saving initiatives outside the current strategy. It was agreed to continue consultations to collect data on all ongoing, implemented, and planned actions, using the established BTR1 reporting formats. 2. Meetings on Adaptation a) Conference on the National Adaptation Plan (NAP) Roadmap The NAP Roadmap was presented and discussed with key stakeholders, including representatives from the private sector and youth groups. Outcomes: agreement to advance NAP development; commitment to include detailed information on adaptation activities and climate finance mechanisms. b) Workshop on the Revision of the National Action Plan on Combating Desertification The workshop focused on: - reviewing the implementation of the current desertification plan; - discussing the next five-year plan (including actions, indicators, and financial aspects). - Key agreement: to enhance gender and social inclusiveness in the upcoming plan. 3. Meetings on Gender and Social Issues a) Bilateral Meetings with UNDP and UNFPA Individual discussions were held with the UNDP Democracy Project Manager and the UNFPA Manager to: - mainstream gender indicators and climate-related activities into the revised National Adaptation Plan on Gender Equality (2026–2030); - review existing gender studies linked to climate change; - identify potential activities and indicators to integrate gender considerations into climate action. Agreements:

			- the project team will engage the Ministry of Environmental Protection to secure formal participation in the working group developing the plan; - a compilation of local gender studies related to climate change will be undertaken. b) UNDP Online Workshop on Gender and Climate Alignment The workshop explored ways to integrate gender issues into NDC processes. Key points: - presentation of new alignment methods, including the W+ Standard (a gender-responsive certification framework); - discussion of the W+ Standard's pilot phase, which requires extensive local community data to quantify gender-related climate benefits. Conclusion: While the W+ method shows promise, its current data-intensive requirements make immediate application in Turkmenistan challenging.
Deliverable 2.1.10. Developed the NDC 3.0 document"			
Indicators	**Baseline**	**Targets**	**Progress against targets**
The NDC 3.0 document developed	The NDC 3.0 preparation in process	The NDC 3.0 document prepared and officially approved	Activities including summarization, review, finalization, national adoption, and submission of the NDC 3.0 document to the UNFCCC are scheduled for the 2026 project period.

IV. Financial Summary

Table 1: Overview of available resources for the project duration

Donor	*Opening Balance*	*Contribution Received*	*Available Resources*
GEF-62000			
TRAC-00012			
Total			

Table 2: Overview of allocation and utilization per output

Output	*GEF*		*Track-00012*		*Total Budget*	*Total Utilization*
	Budget	*Utilization*	*Budget*	*Utilization*		
Deliverable 2.1.1. NDC Stocktake Assessment Report developed and nationally validated						

Deliverable 2.1.2. NDC Revision Roadmap developed						
Deliverable 2.1.3. NDC3.0 alignment with global climate goals and international commitments under the Paris Agreement						
Deliverable 2.1.4. Completed comprehensive technical assessment to inform ambition mitigation target for energy, industry, transport and waste sectors in NDC 3.0						
Deliverable 2.1.5. Completed comprehensive technical assessment to inform ambition adaptation target with consideration of agriculture, water and health sectors in NDC 3.0						
Deliverable 2.1.6. Conducting gender-responsive and socially inclusive analyses						
Deliverable 2.1.7. Identified climate finance opportunities/existing public and private climate financing measures						
Deliverable 2.1.8. Scenario projections of influencing NDC 3.0 implementation on GHG emission reduction along with socio-economy indicators including GHG emission per capita, GHG emission intensity versus GDP						
Deliverable 2.1.9. Increasing capacity building of all relevant stakeholders in NDC revision and formulation of NDC3						
Deliverable 2.1.10. Developed the NDC 3.0 document"						
Total						