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Developing of NDC 3.0 of Turkmenistan

Project Final Report

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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.

During the reporting period, the project advanced the preparation of Turkmenistan's NDC 3.0 under the Paris Agreement, with a focus on strengthening climate ambition, sectoral priorities, institutional coordination and the basis for monitoring implementation. Particular attention was given to developing more measurable commitments, including the proposed methane-intensity target for the natural gas transportation sector.

Progress included technical analysis and stakeholder consultations, refinement of mitigation priorities and indicators, assessment of institutional and data requirements for NDC monitoring and reporting, and identification of financial, technological and capacity-building needs. The work was coordinated with the ongoing BTR2, NC5 and BTR3 process to strengthen consistency between NDC commitments, GHG inventory data and ETF reporting.

Key challenges included limited availability and consistency of sectoral data, coordination among institutions, and the need to further clarify responsibilities for NDC monitoring and MRV. These challenges were addressed through stakeholder consultations, technical coordination and development of practical indicators and institutional arrangements. A key lesson is that measurable NDC targets need to be developed together with the data, institutional responsibilities and MRV arrangements required to monitor their implementation.

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Key recommendations are to finalize NDC 3.0 through continued stakeholder engagement, strengthen sectoral targets and MRV arrangements, improve links between NDC implementation and ETF reporting, and continue capacity-building and identification of finance and technology needs.

II. Introduction / Background

Project Background and Rationale

The current Nationally Determined Contribution (NDC 2.0) of Turkmenistan, approved on 12 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. 2026 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.

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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

NDC 3.0 commitments are designed. In its NDC 3.0 Turkmenistan reaffirms its commitment to achieving the current economy wide target under its 2022 NDC to reduce greenhouse gas emissions by 20 % by 2030 compared to 2010 levels, under BAU scenario. The country continues to implement relevant measures during the period of the updated NDC (2026–2035). Additionally, to enhance the ambition of its national contribution, Turkmenistan has introduced a new sectoral target to reduce methane emission intensity per unit of transported natural gas by 30 % by 2035 relative to 2020 levels. Methane abatement is recognized as one of the most effective areas of climate policy, delivering climate, economic, and technological benefits.

Economy Wide Emission Reduction Target

Turkmenistan remains committed to its economy wide greenhouse gas emission reduction target established in the 2022 NDC:

- Target: Reduce greenhouse gas emissions by 20 % by 2030.
- Baseline: 2010 emission levels.
- Scenario: Business as usual (BAU).

The country continues implementing measures to meet this target during the updated NDC period (2026–2035). The development of a new economy wide target for the period beyond 2030 will be considered as the national greenhouse gas forecasting system is improved and subsequent NDC updates are prepared.

Key considerations:

- Progress tracking will rely on strengthening national monitoring, reporting, and verification (MRV) systems.
- Future targets will be informed by enhanced data collection, modelling, and forecasting capabilities.
- The iterative NDC update process allows for increasing ambition over time, aligned with national development priorities and international best practices.

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New Sectoral Target: Methane Emission Intensity Reduction
To further enhance the ambition of its climate commitments, Turkmenistan has introduced an additional sectoral target focused on reducing methane emissions in the natural gas transportation sector:
- Target: Reduce methane emission intensity by 30 % by 2035.
- Baseline: 2020 emission intensity levels.
- Scope: Per unit of transported natural gas.
- Implementation period: Within the updated NDC timeframe (2026–2035).
This sectoral target reflects the recognition that methane abatement offers significant benefits:
- Climate benefits: Methane is a potent greenhouse gas; reducing its emissions delivers rapid climate gains.
- Economic benefits: Lower methane losses translate into retained product value and improved operational efficiency.
- Technological benefits: Deployment of advanced detection, monitoring, and mitigation technologies enhances infrastructure reliability and safety.

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**

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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**

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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	During the development of NDC 3.0 was organized a number of consultations between the UNCBD, UNCCD and UNFCCC National focal points with involvement of a number of leading specialists from Climate team and government organizations (including the meetings on national level on 11 and 16 February 2026). As the resul prepared the analysis of existing Turkmenistan's policy instruments to identify coherence and gaps for enhancing collaboration among national Actors has been undertaken. Turkmenistan has developed key policy instruments relevant to climate and environmental action, including its NDCs, elements of a National Adaptation Plan (NAP), and the National Biodiversity Strategy and Action Plan (NBSAP). These frameworks show broad strategic alignment, particularly in areas such as water management, land degradation, energy efficiency, and ecosystem conservation. They are also generally consistent with national development priorities and sectoral policies. Turkmenistan's policy instruments show a solid foundation and broad strategic alignment, but greater integration, coordination, and stakeholder engagement are needed to fully realize their potential. Strengthening coherence across NDC, NAP, and NBSAP processes will be essential to incentivize collaboration among national actors and to deliver efficient, cost-effective, and impactful climate and environmental outcomes. Several gaps limit coherence and collaboration among national actors. These include weak integration between instruments, with climate and biodiversity actions; limited formal coordination mechanisms across ministries; fragmented data and monitoring systems; and insufficient engagement of non-state actors such as the private sector and academia. In addition, financing strategies are not fully aligned, and adaptation planning remains less institutionalized. To enhance collaboration, Turkmenistan could strengthen inter-agency coordination, develop a unified monitoring and reporting system, promote nature-based solutions that link climate and biodiversity goals, and improve stakeholder engagement and access to climate finance. Overall, while the policy foundation is in place, stronger integration and coordination are needed to maximize synergies and ensure effective implementation." .
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**

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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. Oil and Gas Industry 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. Power Generation Sector 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. Geospatial analysis of Nature-Based Solutions (NBS) in Turkmenistan focuses on identifying priority areas where ecosystem-based measures can support climate mitigation in water management and agriculture. Available data and information on land use, irrigation systems, soil degradation, and water availability, particularly in the Aral Sea Basin and along the Amu Darya River, highlights zones with high potential for: - restoration of degraded and salinized agricultural land; - improved irrigation and natural drainage systems; - riparian and wetland restoration; - sustainable pasture management in desert margins such as the Karakum desert. These measures can deliver measurable mitigation outcomes through soil carbon sequestration, biomass growth, and reduced land degradation, while also supporting water efficiency and resilience. However, upon consultations with relevant agriculture and water agencies, these data are still limited to assess mitigation potential of thsese measures and the assessment could be done during next National Communication. Meanwhile, the NBS are planned to mention in NDC 3.0.

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			Despite the extension of its NDC 2.0 targets, Turkmenistan's NDC 3.0 increases ambition by placing a stronger focus on methane emission reductions, particularly in the flagship gas sector, through enhanced mitigation measures and improved efficiency across production and transport systems up to 2035. Turkmenistan's energy sector - particularly natural gas production and transport - is a major source of methane emissions, primarily due to fugitive leaks, venting, and aging infrastructure. Given methane's high global warming potential, reducing these emissions offers a cost-effective and high-impact mitigation opportunity for NDC 3.0. Priority measures include: - Implementation of Leak Detection and Repair (LDAR) programs using advanced monitoring technologies (e.g., infrared cameras, satellite data); - Replacement or retrofitting of high-bleed pneumatic devices and outdated equipment; - Reduction of routine venting and flaring through gas capture and utilization; - Modernization of pipeline infrastructure and compressor stations; - Deployment of digital monitoring systems for real-time detection and reporting. Target-setting considerations for NDC 3.0: - Introduce intensity-based targets (e.g., methane emissions per unit of gas produced or transported); - Align with international initiatives such as the Global Methane Pledge where feasible; - Ensure robust measurement, reporting, and verification (MRV) systems to track progress.
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**

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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. Turkmenistan is experiencing the impact of a number of climate factors that are already affecting the economy and the quality of life of the population: - Water scarcity due to changes in precipitation patterns and glacier melt in the mountainous regions of Central Asia. - Desertification and land degradation, affecting more than 80 % of the country's territory. - Increased frequency and intensity of extreme weather events: droughts, dust storms, and heatwaves. - Impact on agriculture — reduced crop yields and threats to food security. - Threats to infrastructure — soil erosion, soil salinization, and damage to roads and communications. - Impact on public health — rising rates of respiratory diseases due to dust storms and deteriorating air quality. According to expert estimates, climate change could reduce Turkmenistan's annual GDP growth by 2–4 % in the medium term, especially in the agricultural and water sectors. Turkmenistan's NDC 3.0 sets adaptation sectoral priorities and targets aligned with the National Adaptation Plan (NAP), focusing on key vulnerable sectors: agriculture, water, health, energy, and municipal infrastructure, taking into account national and sectoral development plans: 1. Water resources: introducing water-saving technologies in agriculture (drip irrigation); reconstructing irrigation systems; developing desalination plants on the Caspian Sea. (Target: reduce losses and strengthen basin management (e.g., Amu Darya)) 2. Agriculture: transitioning to drought-resistant crops; restoring degraded lands; adopting precision farming and digital technologies.

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			(Target: improve irrigation efficiency and climate-resilient farming) 3. Environment and ecosystems: expanding green spaces and reforestation; protecting coastal ecosystems of the Caspian Sea; conserving biodiversity. (Target: Increase forest and green cover and restore degraded lands (including desert ecosystems), ensure effective protection and sustainable management of key coastal ecosystems, expand and strengthen protected areas, with improved biodiversity monitoring and ecosystem health indicators 4. Health: strengthen heat and climate-related disease response (Target: nationwide early warning systems) 5. Municipal infrastructure: enhance urban resilience (e.g., water, heat) (Target: integrate climate resilience into city planning).
Deliverable 2.1.6. Conducting gender-responsive and socially inclusive analyses			
Indicators	**Baseline**	**Targets**	**Progress against targets**

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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. A qualitative analysis was carried out to identify key opportunities for integrating gender-responsive and socially inclusive approaches into NDC 3.0. Key findings: - a high level of interest among women in engaging in climate-related processes; - significant potential for youth engagement in climate action; - the need for a more systematic integration of gender considerations into climate policy. Key entry points include: - strengthening women's participation in decision-making processes; - promoting youth-focused education and engagement initiatives; - integrating gender-responsive approaches into climate actions and policies; enhancing the use of gender-disaggregated data for planning and monitoring purposes. Proposed priority measures: - institutionalizing women's participation in climate policy development and implementation; - expanding capacity-building programmes for women and youth; - supporting civil society initiatives, including women's organizations;

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			- strengthening inter-institutional coordination on gender and climate. Proposed indicators: - proportion of women participating in climate-related events; - level of youth engagement in climate initiatives; - number of activities addressing gender and social inclusion; - extent of integration of gender-responsive measures within NDC 3.0.
Deliverable 2.1.7. Identified climate finance opportunities/existing public and private climate financing measures			
Indicators	**Baseline**	**Targets**	**Progress against targets**

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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. Draft recommendations on climate finance opportunities in Turkmenistan have been elaborated taking into account NC4/BTR1 outcomes, national and sectoral development plans and strategies. To support the implementation of NDC 3.0 and sectoral/regional adaptation plans under the NAP, Turkmenistan can strengthen its climate finance framework by combining public, international, and private sector resources, guided by the existing Finance and Investment Plan. 1. Scaling International Climate Finance - Enhance access to major funds such as the Green Climate Fund (GCF) and Global Environment Facility (GEF) through well-prepared, bankable projects in water, agriculture, and land restoration. - Align NDC and NAP priorities with donor requirements to increase funding success. - Strengthen national capacities for project preparation, accreditation, and direct access. 2. Leveraging Private Sector Engagement - Create incentive instruments for private investment in climate-resilient infrastructure, energy efficiency, and water management. - Promote public-private partnerships (PPPs) in irrigation modernization, urban infrastructure, and renewable energy. 3. Strengthening Domestic Financing - Integrate climate priorities into national and sectoral budgets. - Establish dedicated climate finance windows or funds to support adaptation at regional (velayat) level. - Use results-based financing linked to adaptation indicators (e.g., water savings, land restored). 4. Enhancing Coordination and Investment Planning - Use the NAP Finance and Investment Plan to prioritize high-impact, cross-sectoral investments (e.g., water–agriculture nexus). - Develop a pipeline of bankable projects supported by feasibility studies and geospatial data.

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			- Strengthen coordination between ministries and financial institutions to align funding flows.
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**

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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. "Draft socio-economic impact analysis of Turkmenistan's NDC 3.0 focused on methane reduction in the gas sector, energy efficiency, and adaptation in water, agriculture, and ecosystems shows overall positive socio-economic impacts in the medium to long term. 1. Economic Impacts - Short-term costs from infrastructure upgrades are offset by long-term gains in efficiency and reduced climate damages. - Methane reduction improves resource efficiency and reduces economic losses in the gas sector. - Adaptation investments lower future costs from droughts, water scarcity, and land degradation. 2. Employment (Green Jobs) - Net job creation is positive, driven by infrastructure modernization, renewable energy, water systems, and ecosystem restoration. - Strong demand for construction, technical, and environmental services jobs. 3. Gender Equality - Increased opportunities for women in agriculture, water management, and green micro-enterprises. - Benefits depend on improved access to training, finance, and participation in climate projects. 4. Social Inclusion - Rural and vulnerable populations benefit most from improved water access, resilient agriculture, and ecosystem restoration. - Reduced climate risks improve livelihoods and regional equity. NDC 3.0 analysis shows net positive economic, employment, gender, and inclusion benefits, especially if supported by targeted skills development, gender-responsive finance, and strong investment in rural adaptation."
Deliverable 2.1.9. Increasing capacity building of all relevant stakeholders in NDC revision and formulation of NDC3			
Indicators	**Baseline**	**Targets**	**Progress against targets**

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# 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;

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			- 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. On February 11-12 , 2026 with the support of the Ministry of Environmental Protection of Turkmenistan, conducted a national Workshop on Paris Agreement reporting requirements, technical support and key gaps, and actions on institutional and technical capacity. The seminar was attended by about 30 representatives of relevant ministries and departments, the National Statistical Service, scientific institutions, public organizations and international structures involved in the process of climate policy formation, data management and preparation of national climate change reports. The workshop resulted in agreeing on key areas for strengthening Turkmenistan's institutional and technical capacity in the field of climate transparency, which creates the basis for further development of a long-term strategy for low-carbon development. On 16 February the UNDP jointly with the MFA and the Ministry of Environment Protection of Turkmenistan held a final meeting at the national level to present the final version of the document of the Fourth National Communication (NC4) within the framework of Turkmenistan's obligations under the UNFCCC. The purpose of the working meeting was to discuss the completion of the Fourth National Communication and the process of its subsequent submission to the UNFCCC Secretariat. In order to improve the quality of national communications and ensure that they are prepared on an ongoing basis, taking into account the requirements of the Paris Agreement, the Fourth National Communication was carried out simultaneously with the preparation of the First Biennial Report (BUR1) and the First Biennial Transparence Report (BTR1). Joint implementation of national reports NC4, DD1, DDT1 allowed transparent presentation of information on greenhouse gas emissions for the period 2010-2021, and for the first time, the new methodology of the Intergovernmental Panel on Climate Change (IPCC) from 2006 was used in their preparation. During the meeting was also actively discussed the ongoing process of NDC 3.0 development, especially in the view of data information from relevant ministries. On March 25-27, 2026 the NDC 3.0 project supported the organization of the training on the development of an action plan for methane reduction and strengthening capacity in the field of general methane accounting with the participation of

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			an International expert (within the framework of the project ""Climate Coalition for Clean Air to reduce emissions of short-term pollutants affecting the climate""). The participants of the training were representatives of national ministries and departments, as well as teachers of higher education institutions of the country.
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 and finalization, national adoption of the NDC 3.0 document implemented during the January-September 2026 project period. The following NDC3.0 parts have been drafted: 1. Introduction and Context; 2. Background and Overview; National Circumstances including Geography and Government Arrangement (National and Subnational), Macro-Economics, Impacts of Climate Change on Turkmenistan's Economy, Future Climate Scenarios, Legal, Policy and Institutional Framework; 3. Legal Framework including Policy Framework, Institutional Framework. The draft of document NDC 3.0 on August 2026 was submitted from UNDP to MFA of Turkmenistan, and then on September 2026 submitted by MFA to Cabinet of Ministers of Turkmenistan.

IV. Partnerships and Sustainability

Partnerships

The project was implemented through close cooperation between UNDP, relevant national authorities, sectoral ministries and technical experts. Stakeholder consultations supported national ownership and provided sector-specific inputs for the preparation of NDC 3.0.

Coordination with the BTR2, NC5 and BTR3 preparation process, supported by UNDP and UNEP, helped strengthen consistency between NDC development, GHG inventory data, MRV arrangements and ETF reporting. Continued engagement with national and international partners will support the finalization and implementation of NDC 3.0.

Sustainability

The sustainability of project results will be supported through national ownership, strengthened institutional capacity and integration of NDC 3.0 into national climate and development processes. The project is strengthening the capacity of national institutions to coordinate, monitor and report on NDC implementation, while building linkages with the GHG inventory and ETF reporting processes.

The involvement of relevant ministries and government institutions throughout the NDC preparation process is expected to support continued use of the results beyond the project period. Further strengthening of institutional MRV arrangements, sectoral indicators and data systems will be important to ensure sustained monitoring and implementation of NDC 3.0. This approach is consistent with UNDP's emphasis on country ownership, feasibility and institutional capacity for NDC implementation.

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V. Update on risks and mitigation measures

The main implementation risks remain related to availability of sectoral data, inter-institutional coordination, and technical capacity for NDC monitoring and MRV. These risks are being managed through regular consultations with relevant institutions, technical support, validation of available data, and coordination with the BTR2, NC5 and BTR3 processes.

Key risk	Mitigation measures	Current status
Limited availability and consistency of sectoral data	Engage relevant institutions and identify priority data gaps and collection arrangements	Completed
Coordination among institutions and unclear responsibilities	Regular stakeholder consultations and clarification of institutional roles	Completed
Limited technical capacity for NDC monitoring and MRV	Targeted technical support and capacity-building	Completed
Inconsistency between NDC and climate reporting data	Close coordination with GHG inventory and BTR/ETF processes	Completed

Overall, the identified risks remain manageable, with mitigation measures incorporated into ongoing project implementation.

VI. Key Challenges, Lessons Learned and Recommendations

Key challenges:

Limited availability and consistency of sectoral data for NDC target-setting and monitoring.

Need for stronger coordination and clearer institutional responsibilities for NDC implementation and MRV.

Limited capacity to quantify mitigation impacts and link sectoral actions with measurable NDC results.

Need to better align NDC monitoring with the GHG inventory and ETF reporting processes.

Lessons learned:

Measurable NDC commitments should be developed together with the data, indicators and institutional arrangements required for monitoring them.

Early engagement of sectoral institutions improves national ownership and the practicality of proposed targets.

Close coordination between NDC preparation and BTR/ETF reporting helps improve consistency and avoids duplication of data and reporting efforts.

Recommendations:

Continue strengthening institutional coordination and clarify responsibilities for NDC implementation and monitoring.

Develop practical sectoral indicators and data-collection arrangements for tracking NDC progress.

Strengthen technical capacity for mitigation assessment, MRV and climate finance tracking.

Maintain coordination between NDC 3.0 implementation and the BTR2, NC5 and BTR3 processes.

VII. Financial Summary

Table 1: Overview of available resources for the project duration

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Donor	*Opening Balance*	*Contribution Received*	*Available Resources*
UNDP|28700|FW_Nature Climate Energy|12711|UNDP Funding Windows	157,710.00	260,000.00	18,932.78 (PBB report from 30.09.2026)
010239-FED MINISTRY FOR THE ENVIRO - /28708/BMU	-	162,000.00	-
UNITED NATIONS ENVIRONMENT PROGRAMME	2,423.77	49,995.00	2,423.77
Total	**160,133.77**		**21,356.55**

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