NATIONALLY DETERMINED CONTRIBUTION (NDC3.0) OF MONGOLIA

CONTENT

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1. INTRODUCTION

1.1 Background

Mongolia ratified and joined the Paris Agreement of the United Nations Framework Convention on Climate Change (UNFCCC) on September 1, 2016. This obligated the country to contribute to and cooperate in global efforts on climate change mitigation and adaptation, and to protect its citizens from related impacts and risk. It also creates opportunities to work closely with international partner organizations and developed country partners on solving the pressing issues related to the global climate change challenges with their support. In this context, Mongolia developed the "Intended Nationally Determined Contributions (INDC)" document in 2015, setting a target of reducing greenhouse gas (GHG) emissions by 14 percent by 2030 compared to 2010 levels, and planned interventions to adapt to climate change. Subsequently, in accordance with the provisions of the Paris Agreement, the updated "Nationally Determined Contribution" (NDC2.0) document was developed and approved by the Cabinet. More ambitious interventions are being implemented in the environmental, social and economic sectors to increase the target of reducing GHG emissions by to 22.7 percent, adapting to climate change, and reducing the risks. These integrated goals and measures are being implemented in accordance with the main requirements of the UNFCCC and the Paris Agreement, and national and sectoral development programmes and plans.

Mongolia reaffirms the calls for action in the first global stocktake (GST1) decision, adopted by the 5th Conference of the Parties serving as the meeting of the Parties to the Paris Agreement (CMA), including the call for all Parties to contribute to the global efforts to successfully achieve the Paris Agreement's goal of limiting global climate change to 1.5°C and accelerate the transition to more sustainable and resilient development pathways in a just, orderly, and equitable manner.

Recalling the Article 4.8 of the Paris Agreement, as well as other CMA decisions and guidance (Decision 4/CMA.1, etc.), Mongolia provides descriptive and contextual information to enhance the clarity, transparency, and understanding (ICTU) of mitigation and adaptation targets and interventions identified in its NDC 3.0.

1.2 Mongolia's NDC3.0 Context

Recognizing the urgent need to address climate change challenges and risks, Mongolia aims to build climate resilient and low carbon society, and to provide sustainable economic growth through bold and ambitious climate action. The NDC3.0 mitigation and adaptation targets and actions will support Mongolia in achieving these aims.

Climate change impacts, vulnerabilities and risks are increasing in all key natural and socio-economic sectors and moving up by 1-2 risky level degree categories[1]. In order to tackle these

[1] Fourth National Communication of Mongolia under the United Nations Framework Convention on Climate Change, 2024

challenges, Mongolia has a priority to implement adaptation and resilience building measures in climate vulnerable environmental, social and economic sectors.

In addition, given the high carbon intensity of the country, greenhouse gases mitigation actions are important for Mongolia not only to reduce GHG emissions, but also to transit to the sustainable and green economy system. Approximately 90% of energy supplied to the national network of Mongolia is from coal-fired Thermal Power Plants (TPP). Renewable energy sources of electricity in Mongolia accounts for nearly 9,09%. Also, a relatively high number of livestock emit almost half of the country's total GHG emissions. These figures clearly show that Mongolia urgently needs to transfer from brown to more green energy system and to smart animal husbandry sector increasing their productivity and sustainability.

Mongolia has been developing the Long-Term Low Emission Development Strategies (LT-LEDS), National Adaptation Plan (NAP) and enhancing its NDC to align with the country's mid- and long-term development policies and programmes, such as Vision-2050 and the New Revival Policy. At the World Leader's Summit organized as part of the UNFCCC COP 27 which was held in November 2022 in Egypt Mr. Khurelsukh Ukhnaa, President of Mongolia has announced for the first time about the GHG "Net Zero" target of Mongolia which should be reached by 2050. Mongolia also has joined the "Global Methane Pledge".

This updated new NDC3.0 of Mongolia details the country's climate determined targets and planned actions with a timeframe for implementation up to 2035. The new NDC3.0 takes into account the Global and Mongolia's Stocktake, which evaluated the progress on achieving the GHG mitigation targets and adaptation goals, and actions intended to help policymakers and stakeholders strengthen their climate policies and actions.

The NDC3.0 facilitates interventions that not only achieve the determined targets and goals, but also take into consideration the macroeconomic and sectoral development strategies, GDP growth, and diversification of income of communities and people in the context of just transition in an orderly, inclusive and equitable manner. It additionally takes into account the national fiscal space, the domestic and international capital flows, the financing environment, and the legal, institutional and knowledge capacity for implementation.

The national climate initiatives and plans can double as national investment plans and development programmes, and help Mongolia to make a transformative shift to development that is greener and more sustainable. The NDC3.0 also offers a platform for the country to outline how stakeholders will support communities and industries heavily impacted by the transition to renewable energy and they can support greater social inclusion by stipulating specific benefits for women, men, youth and indigenous communities.

These integrated goals and measures identified in the NDC3.0 will be implemented in accordance with the main goal and requirements of the UNFCCC and the Paris Agreement and in line with the Global Sustainable Development Goals. Furthermore it will be implemented with the national laws and regulations including the "Law on Development Policy Planning of Mongolia", the "Common Procedures for Developing Development Policy Documents", , the National long-term development programme: "Vision-2050", the New Revival Policy and other development policies and programs of the government in relevant sectors.

1.3 National Circumstances

Geography: Mongolia is a landlocked country located in East Asia. The total land area of Mongolia is 1,564,116 square kilometres. Overall, the land slopes from the high Altai, Khangai and Khentei mountains of the west and the north to plains and depressions in the east and the south. The country has an average elevation of 1,580 m above sea level with the highest point at 4,374 m and the lowest point at 560 m. The landscape includes one of Asia's largest freshwater lakes, many salt lakes, marshes, sand dunes, rolling grasslands, alpine forests, and permanent mountain glaciers.

Climate: Mongolia has a severe continental climate characterized by high seasonality with long and cold winters, and relatively hot and short summers. The annual mean air temperature ranges between -10 and +6°C depending on geographical and climate zones. Annual precipitation exceeds 400 mm only at the peaks of the high mountains, generally 300-400 mm in the mountain ranges and very eastern region, 250-300 mm in Mongol Altai and forest-steppe, 150-250 mm in the eastern steppe region, and 50-150 mm in Gobi and desert region. In the southern side of the Altai Mountain range, annual precipitation is typically less than 50 mm. In Mongolia, 85% of the total precipitation falls in the warm season; approximately 3% of participation falls in snow form in winter season. Sunshine is abundant in Mongolia with clear-sky days ranging from 230 to 260 days in a year. The total duration of sunshine during a year reaches to about 2,600-3,300 hours. Mongolian steppe and desert-steppe regions are very windy with the annual average wind speed of 4-6 m/s. Therefore, the possibility to use solar and wind as an energy resource is relatively high.

Land resource: Mongolia, in terms of territory is the seventh largest country in Asia and the 19th largest in the world. According to the revised 2002 Law on Land, the land in Mongolia is classified into six categories: agricultural land; land of cities, villages and other urban settlements; land under roads and infrastructure networks; land for special needs or purposes; land with forest resources, and land with water resources. Based on this classification, as of 2022, 72.6% of the territory of Mongolia is agricultural land, 16.7% is land for special needs, 9.1% is land with forest resources, including bush and shrubs; 0.6% is urban areas, 0.4% is land with water resources and 0.5% is land under roads and infrastructure.

Land use: 4.7 million ha of pasture land and 81.5 thousand ha of cultivated area were degraded by 2022. Also, 10.5 thousand ha of settlement land, 56.8 thousand ha of forested area, and 0.2 thousand ha of water reservoirs were affected by some degree of degradation. A part of 14.3 thousand ha from these areas was affected heavily or damaged by digging and other form of land use[2]. As of 2020, there are a total of 120 specially protected areas (31 million ha), including 21 strictly protected areas (13.8 million ha), 37 national parks (13.5 million ha), 48 nature reserves, and 14 monuments contributing to the preservation of the nature, and ensuring the ecosystem balance. In addition, as of 2023, there are 1,401 locally protected areas covering 24.5 million ha and 15.7% of the total territory of Mongolia[3].

Water resource: Mongolia is a country with scarce fresh water reserves and most of the larger rivers have outgoing flows. Precipitation is the only source for surface water and groundwater. Mongolia has three watersheds. The rivers belong to the inland catchments basins of the Arctic

[2] Report by the Agency for Land Administration and Management, Geodesy and Cartography (ALGAMGC), 2023
[3] EIC, 2024

Sea, the Pacific Ocean and the Central Asia Inland Basin. In the north and west mountains, the water network featured by relatively high density. The south, central and south-east parts have fewer rivers and other water resources, as a rule, available in depressions with no outflow. Annual water resources are estimated at around 564.8 km^3 out of which 500.0 km^3 (88.5%) accumulates in the lakes, 34.6 km^3 (3.4%) forms in river systems, 19.4 km^3 (6.1%) is in glaciers, and 10.8 km^3 (1.91%) in groundwater. The surface water census covered 6,356 rivers, 584 mineral water, 13,222 springs, and 4,057 lakes and ponds in 2020[4].

Population: As of 2024, the population reached 3,544,835 people and scattered across the country, making Mongolia one of the least densely populated regions in the world, with average density of 2 people per square kilometer. An average life expectancy of the country is 71.77 years in 2024. An average life expectancy according to gender diversity, for women is 76.9 years and for men is 67.92 years. As of 2023, 70.8% of Mongolian population lives in urban areas. A high migration stream to the Ulaanbaatar city is becoming a cause of rapid growth of population in the capital city, with associated challenges related to air pollution, including black carbon, waste management, social services, traffic congestion etc.

Governance: The governance of Mongolia is parliamentary and composed of Government and local government units and politically unitary state. In terms of administrative delineation and units, it consists of 21 Aimags (provinces), 329 Soums (districts) and 1,560 Bags (counties). As for Ulaanbaatar, the capital city, it consists of 9 districts and 132 Khoroos (similar to counties). The new Constitution of Mongolia was adopted on January 13, 1992, and legalized the democratic form of government with a one-tier parliament and a presidential institution in Mongolia. Mongolia adopted a new democratic constitution and election law. In accordance with this new legal system Mongolia has a parliamentary democracy, with an election held every 4 years to elect 126 members of the Parliament. The President of Mongolia is a constitutional institution that plays a unique role in Mongolia's political system and governance structure.

Macroeconomy: Mongolia’s economy is primarily based on mining, quarrying, and agriculture. The country is rich in natural resources, but despite government efforts, very modest progress has been made in terms of industrialization and economic diversification. Over 80 percent of Mongolian exports are mineral products, such as copper ores and concentrates (31.0%), bituminous coal (29.9%), unwrought or semi-manufactured gold (10.9%), iron ores and concentrates (10.3%), crude oil (3%), and others. The second largest export from Mongolia is cashmere, representing around 3% of the total exports.

Over the past 30 years, Mongolia transformed itself into a vibrant democracy, slashed poverty, and tripled its GDP per capita, becoming an upper-middle income country in 2024. Mongolia’s economy continues to perform well, supported by a mining-driven recovery that has strengthened public finances and reduced public debt. Real GDP grew by 5.0 percent in 2024, led by robust activity in the mining and services sectors, despite a sharp contraction in agriculture due to a dzud (severe winter).

Despite heightened uncertainty stemming from major shifts in global trade policy, growth is projected to accelerate to 6.3 percent in 2025, largely driven by a substantial increase in copper production at Oyu Tolgoi and a gradual recovery in the agricultural sector. However, domestic

[4] NSO, 2021a

demand is expected to soften. Inflation and weak rural income growth are anticipated to weigh on private consumption, while private investment is expected to decline due to lower foreign direct investment, higher interest rates, and rising energy and input costs. Over the medium term, growth is projected to average 5.2 percent in 2026–2027, supported by an ongoing recovery in agriculture, industrial expansion, rising household incomes, and continued public investment[5].

Industry: Mongolia's industry sector is divided into the mining, quarrying, and manufacturing sub-sectors. The industry sector's share in GDP was 35.1%, which is mining and quarrying accounted for 28.2% and manufacturing for 6.9% in 2023. In terms of the total production structure of the industrial sector, the mining industry dominates. Mining and quarrying accounted for 16.1% of the total industrial production in 1990, and increased to 57.7% in 2022. Total industrial output increased by 24.4% in 2022 compared to the previous year, mainly due to increased output of the mining and quarrying production and the manufacturing production.

Mining and quarrying have rapidly developed in recent years to become one of the leading sectors in the economy of Mongolia. This is largely due to the start of mining activities at the largest mineral deposits of a strategic significance, such as Oyu tolgoi and Tavan tolgoi. The coal production has increased rapidly during the recent years. Mongolia's coal exports in 2024 reached a historic high of 83.7 million tons, a notable increase from previous years. In 2023, 83 million tons of coal were extracted, of which 69.6 million tons were exported; 14.9 tons of gold were extracted, of which 11.7 tons were exported.

The cement production and metal industry are considered as major contributors of GHG emissions of Mongolia. In 2024, the cement factories in Mongolia collectively supplied 2.2 million tons of cement, a 12% increase from 2023's production levels. Although the production amount is insufficient to meet demand, there are needs to increase cement production in the future. The metal industry, on the other hand, has steel production with electric arc furnaces (EAFs) and a direct reduced iron (DRI) production facility currently active.

Agriculture. The agriculture sector is one of the priority sectors for the country's economy and cultural heritage. Pasture based livestock and rainfed crop production are the key sub-sectors of the agriculture sector. Based on data from 2024, Mongolia's food and agriculture production represents 7.38% of the national GDP, while the sector employs an estimated 26% of the country's total workforce. The share of agriculture in total GDP peaked at 36% in the mid-1990s, but output shrank in the early 2000s amid rising industry and services growth, the share was 27.4% in 2000[6]. Compared to the previous year, agriculture's share of Mongolia's GDP fell significantly in 2024 due to a severe winter, known as a *dzud*, which caused major livestock losses.

In 2024, livestock production comprised 82.5% of the total agriculture production in Mongolia. The specific outputs were 21.9 thousand tons of meat, 113.6 million liters of milk, 938.8 thousand tons of combed down wool, and 2.2 thousand tons of scoured wool. Cashmere is considered a key export item and is triggering an uncontrolled increase in goat numbers, causing pasture overgrazing and land degradation. The massive migration is triggered by the climate-induced impacts on citizens' livelihoods, especially for herders. Most of the residents

[5] WB Mongolia report, 2025
[6] (ADB, 2020b)

moving to the capital's outskirts are former herders whose income sources were depleted due to harsh climate impacts, leading to major urban issues. Climate change challenges must be addressed through policies as it has multiple, cascading, and interconnected impacts.

Energy resource and energy production: Coal, mainly lignite, comprised 80% of the primary energy supply. As of 2023, Mongolia produced 8.49 billion kWh (78%) of electricity and imported 2.22 billion kWh (22%), with 90.9% of total demand supplied by CHPPs, approximately 9.0% by wind and solar power energy sources, 0.8% by hydropower and 0.01% by diesel power generators, respectively, and the demand is showing an increasing trend.

Loss of produced electricity and heat is relatively high in the country. The electricity lost is mostly in conversion processes, power station transmission, distribution, and operation. The heat is lost in distribution via above-ground due to leaking and poorly maintained pipes.

Development policy documents proclaim the use of renewable energy. But due to energy tariff issues, the government has been inactive in supporting ancillary activities, investors, and technology-based solutions, further fuelling the barrier. Cheap energy tariffs controlled by the government have also been criticized as a sign of unsustainable energy regulation, and the same is true of green hydrogen, a potential new energy source.

1.4 National Greenhouse Gas Inventory and the Business-as-Usual (BAU) Scenario

The historical national GHG emissions are based on Mongolia's Second Biennial Update Report and the Fourth National Communication submitted to the UNFCCC Secretariat in 2023 (BUR2) and 2024 (NC4), following the 2006 IPCC Guidelines for National GHG Inventories.

For the purpose of incorporating historical emissions and removals data into the projections of the Business-as-Usual (BAU) scenario, the results of Mongolia's GHG inventory in the Second Biennial Update Report (2023) broken by gas were converted to CO_2 equivalent values using the GWPs with a 100-year time horizon from the IPCC Fifth Assessment Report (GWP-100 AR5).

In developing the GHG baselines and projections for the NDC3.0, the international practices are followed and the emissions are estimated separately for energy and non-energy sectors. The energy sector includes the generation and consumption of electricity and heat. For energy consumption, the industry, construction, transportation, and agricultural sectors are considered. For the non-energy sector, the agriculture sector, industrial processes and product use (IPPU) sector, and waste sector are considered. Additionally, the GHG removals are estimated from the forestry sector.

Methodologies for estimating GHG emissions:

- Long-range Energy Alternatives Planning (LEAP) model (energy production and energy consumption),
- 2006 IPCC Guidelines for National GHG Inventories (non-energy sector).

Approach to accounting for forestry sink:

- 2019 Refinement to the 2006 IPCC Guidelines for National GHG Inventories
- Mongolia's Multiple Forest Reference Level submitted to UNFCCC in 2018.

BAU Scenario Assumptions:

The BAU scenario was developed based on the National GHG inventory (2010–2020)—which

incorporates certain improvements in the estimation of some subsectors and especially for forest sector removals—and its historical activity data, using the following key assumptions:

- Projected annual GDP growth rate,
- Projected population growth rate,
- Projected livestock population growth rate,
- Relevant criteria specific to the emissions of each sector etc.

1.5 Climate change and its future projections

Current climate change: Due to geographical location, landscape-specific features and severe continental climate, climate change is occurring more intensely in Mongolia than the global average, generally leading to drying trends, changes in precipitation patterns and seasonal distribution, and an increase in the frequency of natural disasters.

Air temperature: Annual mean temperature over Mongolia has increased by 2.46°C between 1940 and 2022[7], which is almost two times higher than the global average. Notably, the warming trend has intensified since late-1980s. Warming ranges between 2 and 3°C across most of the country, with relatively high warming observed in Ulaanbaatar city, Khuvsgul, and Sukhbaatar Aimags, reaching about 3.4°C. The recorded temperature increases have been particularly pronounced during the winter, with a rise of 3.2°C, and to a lesser extent in the summer, with an increase of 1.6°C. Both the maximum daily temperatures and minimum daily temperatures across Mongolia have increased.

Precipitation: Annual mean precipitation over Mongolia slightly increased in 1940-2022 period, but the length of dry periods increased during this period. In terms of geographical distribution for annual precipitation change, there is a 10-30% decreasing trend in the central part and a slightly increasing trend in the remaining part of the country**.** The cold season precipitation increased by 19% in 1940-2022 period, but there is no clear change or slight decrease in warm season precipitation. Meanwhile, projections indicate that other regions of the country are likely to see an increase in precipitation, suggesting a shifting pattern of rainfall distribution.

Changes in climate extreme indices and natural disasters: Both absolute daily maximum and minimum temperature over the territory of Mongolia have increased by 1.56°C and 1.74°C, respectively, in the last sixty years between 1961 and 2020, while the number of cold days throughout the entire country has decreased. Cool nights decreased by 5 days, cool days decreased by 9 days, warm days increased by 11 days, and ward nights increased by 11 days.

Frequency and magnitude of climate- and weather-induced natural disasters have increased by two times during last two decades.

Climate change future projections: The future climate projections for Mongolia highlight significant warming trends and shifts in precipitation patterns over the next century. These projections, developed by the Institute of Research and Information on Meteorology, Hydrology, and Environment (IRIMHE), incorporate state-of-the-art climate modeling techniques from the Coupled Model Intercomparison Project Phase 6 (CMIP6) and findings from the IPCC 6th Assessment Report (AR6)[8]. Utilizing various Shared Socio-economic Pathways

[7] Fourth National Communication of Mongolia under UNFCCC, 2024
[8] IPCC AR6, 2024

(SSPs) under different emissions scenarios (low, medium, and high), the analysis provides an ensemble mean forecast of the possible climate trajectories for Mongolia up to 2100.

Key findings of future projections of climate change in Mongolia include[9]:

- Projected changes of temperature over Mongolia are 0.7-1.4°C by 2030, 1.1-2.9°C by 2050, 1.2-6.5°C by 2080 depending on the emissions scenarios,
- More frequent and prolonged heatwaves, averaging an extension of 3 days, lead to increasing heat stress on agriculture, productivity loss, and water demand.
- An expected increase of 9-55% in winter precipitation in Mongolia by 2080 will result in deeper snowpacks and possibly more severe dzuds.
- Overall summer precipitation is projected to remain stable, but an increase in consecutive dry days leading to frequent and severe droughts, threatening agriculture and water resources,
- Autumn and spring will see slight precipitation increases, potentially extending the growing season but increasing flood and soil erosion risks,
- A reduction of 9-37 cold days per year and shorter cold spells by 3 days, potentially disrupting seasonal cycles and impacting agriculture and water cycles,
- Summers will experience longer heatwaves and drier conditions, exacerbating drought impacts, desertification, and heat stress on crops and livestock.

1.6 Impacts and risks associated with climate change in vulnerable sectors

The rapid changes in climate system strongly and adversely affects Mongolia's natural environment, vulnerable economic and social sectors, further increasing the country's dependence on weather and climate conditions[10].

According to research findings, global warming may create some favorable climatic and weather conditions for Mongolia; however, the overall negative impacts are expected to dominate. Generally, the climate is becoming warmer, winter cold is weakening, springs are arriving earlier, autumns are becoming colder and arriving later in a year, and the growing season for vegetation is lengthening, which could provide some advantages given Mongolia's typically cold continental climate. However, during the warm season, air temperature is increasing, precipitation is decreasing, evapotranspiration is increasing, and drying trends are intensifying. The number and frequency of extremely hot days are rising, while the occurrence of continuous light rainfall is declining. In addition, strong winds, storms, heavy rain, snowstorms, droughts, and dzud phenomena are becoming more frequent and intense. As a result of these adverse changes, glaciers, ice caps, and glacial rivers in high mountains are melting; rivers and tributaries originating from these sources, as well as lakes and ponds fed only by snow and rainwater, are drying up. Consequently, water availability for pastures, croplands, and biodiversity is deteriorating.

The Fourth National Communication of Mongolia under the UNFCCC assessed the climate change impacts on priority environmental and economic sectors - ecosystems, water

[9] National Adaptation Plan of Mongolia, 2024
[10] Mongolia's Fourth National Communication under the UNFCCC, 2024

resources, natural disaster risk reduction, livestock, agriculture, and forestry - using indices of current vulnerability and future risks. The assessment indicates that these sectors currently fall within the "vulnerable" category and are projected to escalate to the "high risk" category between 2046 and 2065.

Arid and semi-arid areas of Mongolia total nearly 43.4 % and 45.5 % of the country's territory, respectively. However, arid area is expected to increase by 3.7 % and semi-arid area by 5.9 % by 2030 in Mongolia. Meanwhile, humid and moderately humid areas will shrink by 6.3 % and 3.2 %, respectively in the country. These indicate more arid conditions will prevail in the country, in the near future. A total of 110 species of fauna and 192 species of flora were assessed to be endangered and introduced in the Mongolian Red Book as either critically endangered or endangered.

Rising temperatures are altering precipitation patterns in Mongolia, reducing river and lake flows, and rapidly diminishing both surface and groundwater resources, thereby heightening the risk of water scarcity. Between 2007 and 2017, 16% of all rivers, 21.8% of springs, and 28% of lakes and ponds dried up or disappear[11]. Mongolia ranks fifth globally in permafrost coverage[12], yet over the past 50 years its permafrost area declined by 33.7%.

According to Mongolia's Third National Communication to the UNFCCC (2017), during this century, the country's forest area in the forest-steppe zone is expected to decrease by 4-6%, and in the high mountain zones, the upper forest line will shift to higher elevations due to the melting of permanent snow, permafrost thaw, and temperature increases. The impact of forest fires and harmful insects is intensifying and is projected to increase 2-9 times compared to the baseline level during this century.

According to the 2020 assessment of Mongolia's pastureland condition, nearly 70% of the total pastureland has deteriorated with changes in plant species composition from its reference level (relatively pristine state). Regarding the degree of degradation, the national pasture monitoring results show that 22.4% of the total monitored area is moderately degraded, 17.9% is severely degraded, and 11.0% is extremely degraded, having lost its pasture quality.[13]

Pastoral livestock and arable farming sectors are most vulnerable at any changes in weather and climate of the country. The climate change-induced disasters have severe consequences, including loss of human life, deterioration of livelihoods, declining incomes, reduced quality of life, and diminished access to health care and education.

According to research by the Institute of Plant and Agricultural Science, soil analysis has revealed that a total of 926.4 thousand hectares of agricultural land has been affected by various levels of erosion, with 53.3% showing severe erosion conditions.[14] In arable farming, intensive mechanical soil cultivation combined with short-rotation fallowing has led to a sharp decline in soil fertility and extensive land degradation. The decrease in growing season precipitation, coupled with an increase in the proportion of heavy rainfall events, intensifying aridity, and increased frequency of droughts, is negatively impacting the potential for stable

[11] Impacts of climate change on pastoral herders livelihood and coping strategies in Mongolia, Report prepared for Green Climate Fund, Dr.B. Nandintsetseg and Dr. A.Bakei, 2020

[12] https://www.pressreader.com/mongolia/the-ub-post/20210614/281479279360912

[13] "Strategic Adaptation Goals and Action Planning of Mongolia" consulting service research report, MET, GCF, UNEP, CCRCC, Ulaanbaatar, 2023

[14] Institute of Plant and Agricultural Science, 2021

crop yields.

The greatest negative impact of climate change on society is on human health, both physical and mental health. This is directly linked to the environmental conditions, including clean air, safe drinking water, food security and supply, sustainable livelihoods, and adequate housing. Cardiovascular diseases are projected to increase the most as a result of climate change. In 2021, cardiovascular diseases were responsible for 18.9 percent of all deaths, an increase of 2.7 percentage points compared to 2020. By 2050, the number of hot summer days is expected to rise by 3.5 days, further elevating health risks for the population[15].

Vulnerable and low-income populations are the first to be affected by climate change.[16] The resulting degradation of living environments and the occurrence of natural disasters further exacerbate their vulnerability and contribute to rising poverty levels.[17] Pastoralist households are among the most affected by climate change in Mongolia. Thirty percent of pastoralists who make up one-fifth of the population live in poverty, making them highly susceptible to the increasing frequency of natural disasters.[18] Loss of livestock and other assets undermines household income and resilience, threatening livelihoods, health, and well-being. Gender dynamics shape these impacts.

Climate change poses significant risks to workers, particularly those engaged in outdoor and seasonal employment such as construction, road maintenance, and agriculture. These sectors involve prolonged exposure to extreme weather conditions, including heatwaves, storms, and changing precipitation patterns, which can adversely affect workers health and productivity.

In terms of curriculum content, the knowledge provided on climate change across formal, non-formal, and higher education programs remains insufficient. Climate change education for sustainable development is a relatively new concept within Mongolia's formal system. Natural science courses in high school cover important topics such as the environment, ecosystem, pollution, sustainable development through six courses, alongside four courses specifically focused on climate change.

Climate change poses a growing threat to Mongolia's rich cultural heritage. Historic buildings, monuments, and archaeological sites are increasingly at risk of damage or loss due to extreme weather events, changing precipitation patterns, and temperature fluctuations. Beyond physical heritage, climate change also endangers Mongolia's intangible cultural traditions. Traditional pastoralism and nomadic ways of life – central to the nation's identity- are particularly vulnerable. Increasingly frequent dzuds, droughts, and other climate-related hazards threaten the viability of livestock herding, which has sustained these traditions for centuries. As herders are forced to adapt, migrate, or abandon traditional practices, the continuity of knowledge, skills, and cultural expressions linked to nomadic life is at risk.

These facts indicate that in Mongolia, the natural ecological foundations such as biodiversity, water, and forest resources need to be protected, and the risks from climate-related natural disasters must be reduced. Among the social and economic sectors, particularly traditional pastoral animal husbandry, rainfed crop farming, social protection, education, and culture

[15] Fourth National Communication on Mongolia
[16] Human Development Report of UN, Speech Ban – Ki-Moon, The United Nations Secretary General, UN 2008
[17] Fourth National Communication on Mongolia
[18] Mongolia Country Climate and Development report, World Bank 2024

sectors, are the most vulnerable and sensitive to the negative impacts and risks of climate change[19].

It is essential to identify and implement actions to reduce negative impacts, risks, and losses that climate change may cause to environment, social and economic sectors. Therefore, it is imperative to develop and implement smart, adaptive measures to reduce the negative impacts and risks of climate change, particularly in vulnerable sectors.

1.7 Integration of NDC2.0, NAP, NBSAP, and other relevant programmes and plans of Mongolia into NDC 3.0

There are a number of policies and planning documents in Mongolia which already include certain interventions in vulnerable sectors to climate change to address challenges and risks associated with climate change in the country. These existing policy and plans, such as the National Adaptation Plan (NAP), NDC2.0, National Biodiversity Strategies and Action Plan (NBSAP) and other national and sectoral development programmes, should be integrated into NDC3.0.

A comparative analysis was conducted on the targets and measures for priority sectors, as defined in these policy and plans of Mongolia, to assess their feasibility for continued implementation until 2035 to achieve Mongolia's overarching climate goals, leading to a sustainable and climate-resilient future.

Since NDC2.0 was approved in November 2019, Mongolia has been actively undertaking appropriate actions to achieve the GHG mitigation targets and adaptation goals which were identified and planned. The NDC2.0 includes an adaptation component that included adaptation and resilience building goals and interventions in 8 priority sectors, such as biodiversity, water and forest resources, natural disaster management, animal husbandry and crop planting, public health and livelihood sectors. Therefore, the adaptation goals and actions identified in NDC2.0 until 2030 were assessed in identifying the NDC3.0 adaptation goals and actions.

By evaluating progress made towards achieving NDC2.0 targets, the country's stocktake process was helpful for policymakers and stakeholders to strengthen their climate policies and commitments for the NDC3.0, paving the ways to the accelerated actions. Ultimately the NDC2.0 stocktaking calls for a systematic transformation, which follows a whole-society and whole-economy approach that mainstreams climate resilience and development aligned with low greenhouse gas emissions.

Mongolia's National Biodiversity Strategies and Action Plan (NBSAP) serve as the country's framework for implementing the Convention on Biological Diversity (CBD), with a national plan adopted in 1996 and current work focused on aligning with the Global Biodiversity Framework (GBF) of 2022. Relevant issues identified in the updated national targets and action plans to align with the GBF and ensure effective implementation and biodiversity conservation efforts are considered in identifying nature-based solutions in ecosystem protecting goals and action in Mongolia's NDC3.0 to tackle biodiversity loss and promote sustainable development.

[19]Fourth national communication on climate change, 2023

1.8 NDC2.0 Stocktaking: Findings and Recommendations

The NDC2.0 stocktaking exercise was conducted in early 2025 in accordance with Article 4 of the Paris Agreement to track progress made in implementing and achieving national climate change targets and actions identified in its NDC2.0, and made recommendations for enhanced NDC3.0.

The outcome of the NDC2.0 stocktaking exercise shows that certain progress has been made towards Mongolia's NDC2.0 targets and interventions. These efforts are, however, insufficient and the country is not fully on-track to meet both 2030 mitigation and adaptation targets of the NDC2.0. The findings suggest that Mongolia should undertake urgent actions to achieve its NDC2.0 targets and goals in pursuit of reaching the sustainable development goals and to securing the lives and livelihoods of the country. The stocktaking exercise conducted by providing the recommendations for the NDC3.0 enhancement. These are as follows:

In identifying more promising and ambitious mitigation actions and measures:

- Consider the highest-priority issues and objectives in government and sectoral policies and measures that have significant GHG emission reduction potential;
- Select measures with available methodologies and approaches for estimating GHG emissions/removals and enhance transparency and tracking;
- Identify quantitative indicators to assess implemented actions;
- Take into account other co-benefits of selected actions for achieving mitigation targets;
- Try to include actions that are technically feasible and bankable;
- Ensure multi-stakeholder involvement and engagement;
- Appoint NDC focal points in stakeholder ministries and agencies, train them, and involve them in the NDC development process from the beginning.

In identifying adaptation actions:

- Provide alignment with national and sectoral development policies, action plans and priorities;
- Select actions with more significant impact on business profits and livelihood safeguards;
- Improve management and coordination of the implementation of the NDC action plan;
- Identify responsible ministries and organizations for each adaptation action;
- Include sectoral action plans and strategies in the NDC3.0 implementation plan;
- Clarify information sharing and reporting responsibilities for stakeholders and ensure transparency and tracking;
- Appoint NDC focal points in stakeholder ministries and agencies, train them, and involve them in the NDC development process from the beginning.

2. MITIGATION TARGETS AND ACTIONS

2.1 Greenhouse Gas Emission Reduction Target

The nation-wide GHG mitigation targets and actions of Mongolia demonstrate a strong

commitment to transitioning toward low-carbon and sustainable development. Mongolia focuses on reducing emissions from key sectors including the energy, livestock, industry, buildings, transport, and waste. It also focuses on enhancing energy supply and security while supporting the restoration of carbon sequestration capacities of forests and pasturelands. Although Mongolia will take great unconditional efforts to successfully implement the mitigation actions identified in the NDC3.0, meeting unconditional measures will require adequate international financial, technological and technical support.

Mongolia's GHG mitigation targets under the NDC3.0 are as follows:

Unconditional target: By implementing *unconditional measures* under national and sectoral development policies and plans, total GHG emissions (excluding LULUCF) could be reduced by 23.0% by 2030 and 30.3% by 2035 compared to the Business as Usual (BAU) scenario. This corresponds to a reduction of 16.0 million t CO_2-eq. in 2030 and 24.7 million t CO_2-eq. in 2035**.**

Forest sequestration: Under the BAU scenario for GHG absorption, forest sequestration in 2035 is estimated at **-**21.1 million t CO_2-eq**.** By implementing measures aimed at increasing forest sequestration, it could reach -24.4 million t CO_2-eq. by 2035, allowing an additional approximately 3.3 million t CO_2-eq. to be absorbed through enhanced sequestration.

Unconditional measures and forest sequestration: By successfully implementing measures to reduce GHG emissions from sources and increase GHG sequestration, Mongolia could reduce net GHG emissions by 19.3 million t CO_2-eq. by 2030, corresponding to a 39.8% reduction compared to the BAU scenario, and by 28.0 million t CO_2-eq. by 2035 corresponding to a 46.3% reduction.

Conditional targets: With the successful implementation of major GHG reduction measures in relevant sectors, supported by international finance and technology, an additional reduction of 1.8 million t CO_2-eq. by 2030 and 3.9 million t CO_2-eq. by 2035 could be achieved at the national level. Additionally, Mongolia is planning to restore 10% of heavily degraded rangelands in forest-steppe and steppe ecological zones. As a result, rangeland carbon sequestration will be enhanced, depending on above and below ground carbon content and the area.

Total GHG reduction and sequestration: If the above *unconditional measures, forest sequestration, and conditional measures* are all successfully implemented, Mongolia's total GHG emissions could be reduced by 52.8% by 2035 compared to the BAU scenario.

2.2 Information to facilitate clarity, transparency and understanding (ICTU) of Mongolia's NDC3.0

Mongolia reaffirms the calls for actions in the Conference of the Parties serving as the meeting of the Parties to the Paris Agreement (CMA) decision on first global stocktake (GST1), including the call for all Parties to contribute to the global efforts to successfully achieve the Paris Agreement's goal of limiting global climate change to 1.5°C and accelerate the transition process toward low-carbon and resilient development in a just, orderly, and equitable manner.

Recalling the Article 4.8 of the Paris Agreement, as well as other CMA decisions and guidance (Decision 4/CMA.1, etc.), Mongolia provides the descriptive and contextual Information to Enhance the Clarity, Transparency, and Understanding (ICTU), and the prioritised mitigation and adaptation goals and Interventions as parts of its NDC 3.0 (see below table).

INFORMATION TO FACILITATE CLARITY, TRANSPARENCY AND UNDERSTANDING (ICTU) OF NATIONALLY DETERMINED CONTRIBUTIONS OF MONGOLIA

Paragraph	GUIDANCE IN DECISION 4/CMA.1	ICTU GUIDANCE AS APPLICABLE TO MONGOLIA'S NDC 3.0
1. Quantifiable information on the reference point (including, as appropriate, a base year):		
(a)	Reference year(s), base year(s), reference period(s) or other starting point(s);	Base year for greenhouse gas (GHG) emission projections: 2010. Reference year for business-as-usual (BAU) emissions target: 2035.
(b)	Quantifiable information on the reference indicators, their values in the reference year(s), base year(s), reference period(s) or other starting point(s), and, as applicable, in the target year;	In the base year 2010, Mongolia's total GHG emissions amounted 26.4 million tonnes of CO_2 equivalent (Mt CO_2 eq.), and net emissions of 5.6 Mt CO_2 eq. Under the BAU scenario in 2035, the projected GHG emission levels are 81.7 Mt CO_2 eq. and net emissions of 60.6 Mt CO_2 eq., respectively. Mongolia aims to reduce its GHG emissions by 16.0 Mt CO_2 eq. in 2030 and by 24.7 Mt CO_2 eq. in 2035, by carbon sequestration 3.3 Mt CO_2 eq. in 2035, respectively, below to BAU scenario. Aggregated GHG emissions reduction and GHG removal, the total GHG emission of Mongolia would have the potential to be reduced by 28.0 Mt CO_2 eq. in 2035, compared to BAU. Additionally, with full international support to cover conditional implementation costs, Mongolia can achieve further emission reductions through carbon sequestration of 3.9 Mt CO_2 eq. by 2035.
(c)	For strategies, plans and actions referred to in Article 4, paragraph 6, of the Paris Agreement, or policies and measures as components of nationally determined contributions where paragraph 1(b) above is not applicable, Parties to provide other relevant information;	Not applicable.

(d)	Target relative to the reference indicator, expressed numerically, for example in percentage or amount of reduction;	Compared to the BAU scenario, Mongolia aims to reduce its GHG emissions by 30.3% through unconditional measures, reaching 46.3% with net emissions including forest removals, and up to 52.8% with conditional measures in 2035. As such, the 2035 targets are set as follows: - Unconditional emission reduction: 24.7 Mt CO_2 eq. - Carbon sequestration (forest sink): 3.3 Mt CO_2 eq. - Conditional reduction (with full international support): 3.9 Mt CO_2 eq. Additionally, Mongolia is planning to restore 10% of heavily degraded rangelands in forest-steppe and steppe ecological zones. As a result, rangeland carbon sequestration will be enhanced, depending on above and below ground carbon content and the area.
(e)	Information on sources of data used in quantifying the reference point(s);	The historical national GHG emissions are based on Mongolia's Second Biennial Update Report and Fourth National Communication submitted to the UNFCCC Secretariat in 2023 and 2024, as well as on the recalculated GHG inventory reflecting the change in global warming potentials (GWP) given in the SAR to AR5. These figures will be re-estimated in the Biennial Transparency Reports (BTRs).
(f)	Information on the circumstances under which the Party may update the values of the reference indicators.	The total emissions in the base year and the reference years are subject to further updates, depending on availability of additional actual data and country-specific parameters for estimation of emissions/removals in the country, as well as in the revision of various statistical data for annually reported figures, and the recalculation of the GHG inventory following the review of estimation methods and GWPs**.**
2. Time frames and/or periods for implementation:		
(a)	Time frame and/or period for implementation, including start and end date, consistent with any further relevant decision adopted by the Conference of the Parties serving as the meeting of the Parties to the Paris Agreement (CMA);	From January 1, 2025, to December 31, 2035.
(b)	Whether it is a single-year or multi-year target, as applicable.	Single-year target in 2035.

3. Scope and coverage:		
(a)	General description of the target;	Compared to the business-as-usual (BAU) scenario, Mongolia aims to reduce its GHG emissions by 30.3% through unconditional measures, reaching 46.3% with net emissions including forest removals, and up to 52.8% with conditional measures in 2035.
(b)	Sectors, gases, categories, and pools covered by the nationally determined contribution, including, as applicable, consistent with Intergovernmental Panel on Climate Change (IPCC) guidelines;	All sectors and categories, as defined by the 2006 IPCC Guidelines for National Greenhouse Gas Inventories, occurring in Mongolia. Sectors: All sectors and categories encompassing the following: (a) Energy generation (renewable energy use, energy efficiency improvement) (b) Energy consumption (contraction, transport industry) (c) Non-energy - Industrial processes and product use - Agriculture - Waste management - Land Use, Land-Use Change and Forestry (LULUCF) - forestry only. Targeted Gases: Carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O).
(c)	How the Party has taken into consideration paragraph 31(c) and (d) of decision 1/CP.21;	The sources and sinks that were included in Mongolia's previous NDC (2019) have been maintained.
(d)	Mitigation co-benefits resulting from Parties' adaptation actions and/or economic diversification plans, including description of specific projects, measures and initiatives of Parties' adaptation actions and/or economic diversification plans.	As one of the most vulnerable countries to climate change impacts, the Mongolia's NDC3.0 includes adaptation goals and actions covering 10 priority sectos with cross- cutting and co-benefiting actions. Targeted mitigation and adaptation interventions may have co-benefits supporting the successful implementation of goals and targets identified in the mid- and long-term development programmes, plans at national, sub-national and sectoral levels, and the sustainable development goals.

4. Planning processes:		
(a)	Information on the planning processes that the Party undertook to prepare its nationally determined contribution and, if available, on the Party's implementation plans, including, as appropriate: i. Domestic institutional arrangements, public participation and engagement with local communities and indigenous peoples, in a gender-responsive manner; ii. Contextual matters, including, inter alia, as appropriate; a) National circumstances, such as geography, climate, economy, sustainable development and poverty eradication. b) Best practices and experience related to the preparation of the Nationally Determined Contribution; c) Other contextual aspirations and priorities acknowledged when joining the Paris Agreement;	Mongolia considers that a policy coherent roadmap that aligns NDC 3.0 with Vision 2050, the Long-Term Vision, the NAP, the New Revival Policy, National Biodiversity Strategies and Action Plans (NBSAPs), National Program for Reducing Air and Environmental Pollution 2017–2025 and Implementation Action Plan, The State Policy on Energy for 2015-2030 and the Sustainable Finance Roadmap, etc. is critical to provide consistency, avoid duplication/gap, and signal investment readiness to international partners. Mongolia is planned the NDC3.0 implementations described as: - Domestic institutional arrangements, public participation and engagement with stakeholders with a gender-responsive action and targets; - Contextual matters, including, inter alia, as appropriate; - National circumstances, such as geography, climate, economy, sustainable development and poverty eradication. - Best practices and experience related to the preparation of the Nationally Determined Contribution; - Other contextual aspirations and priorities acknowledged when joining the Paris Agreement;
(b)	Specific information applicable to Parties, including regional economic integration organizations and their member States, that have reached an agreement to act jointly under Article 4, paragraph 2, of the Paris Agreement, including the Parties that agreed to act jointly and the terms of the agreement, in accordance with Article 4, paragraphs 16–18, of the Paris Agreement;	Not applicable.
(c)	How the Party's preparation of its nationally determined contribution has been informed by the outcomes of the global stocktake, in accordance with Article 4, paragraph 9, of the Paris Agreement;	Mongolia prepared its new NDC3.0 taking into account the outcomes of the first global stocktake at CMA5 (decision 1/CMA.5), which emphasized the need for urgent action to achieve the 1.5°C goal, and recognized the need for global emissions to peak before 2025. Also, it was decided to encourage Parties to formulate economy-wide emission reduction targets, covering all greenhouse gases, sectors and categories (paragraph 39), and tripling renewable energy capacity globally and doubling the global average annual rate of energy efficiency improvements by 2030, as well as accelerating

		efforts towards the phase-down of unabated coal power, transitioning away from fossil fuels in energy systems, accelerating zero- and low-emission technologies (paragraph 28), transitioning to sustainable lifestyles and sustainable patterns of consumption and production (paragraph 36), and others. The recommendations from the NDC2.0 national stocktaking exercise conducted in early 2025 were considered in developing NDC3.0 targets and action. Mongolia's NDC3.0 sets ambitious targets aligned with a straight pathway towards the Paris agreement temperature target and the achievement of net zero by 2050. This target is an economy-wide emission reduction target, covering major greenhouse gases, sectors and categories.
(d)	Each Party with a nationally determined contribution under Article 4 of the Paris Agreement that consists of adaptation action and/or economic diversification plans resulting in mitigation co-benefits consistent with Article 4, paragraph 7, of the Paris Agreement to submit information on: i. How the economic and social consequences of response measures have been considered in developing the nationally determined contribution; ii. Specific projects, measures and activities to be implemented to contribute to mitigation co-benefits, including information on adaptation plans that also yield mitigation co-benefits, which may cover, but are not limited to, key sectors, such as energy, resources, water resources, coastal resources, human settlements and urban planning, agriculture and forestry; and economic diversification actions, which may cover, but are not limited to, sectors such as manufacturing and industry, energy and mining, transport and communication, construction, tourism, real estate, agriculture and fisheries.	Refer to 4(d). Adaptation goals and action cover all vulnerable natural, economic and social sectors: Environmental sectors: - Biodiversity and ecosystem, - Water resources, - Forest resources, - Natural disaster management, Economic sectors: - Pasture animal husbandry, - Crop planting, Social sectors: - Public health, - Livelihood and safeguard, - Education, - Culture.

		In addition, cross-sectoral objectives, goals and measures for climate change were identified for gender, youth and as well for the strengthening the legal and institutional enabling environment and capacity building. The interventions for achieving the specific targets and goals in each sector will be implemented in close collaboration and integration of relevant development programmes and plans at national, sub-national and sectoral levels.
5. Assumptions and methodological approaches, including those for estimating and accounting for anthropogenic greenhouse gas emissions and, as appropriate, removals:		
(a)	Assumptions and methodological approaches used for accounting for anthropogenic greenhouse gas emissions and removals corresponding to the Party's nationally determined contribution, consistent with decision 1/CP.21, paragraph 31, and accounting guidance adopted by the CMA;	Mongolia's GHG emissions and removals were estimated in the Second Biennial Update Report (2023) using the 2006 IPCC Guidelines for National GHG Inventories and the Global Warming Potentials (GWPs) presented in the IPCC Second Assessment Report. For the purpose of incorporating historical emissions and removals data into the projections of the Business-as-Usual (BAU) scenario, the results of Mongolia's GHG inventory in Second Biennial Update Report (2023) using by gas were converted to CO_2 equivalent values using the GWPs with a 100-year time horizon from the IPCC Fifth Assessment Report. *Metric applied:* IPCC Fifth Assessment Report (AR5), 100-year time horizon GWPs applied in the NDC are: • CO_2: 1 • CH_4: 28 • N_2O: 265 In developing the GHG baselines and projections for the NDC, the international practices are followed and the emissions are estimated separately for energy and non-energy sectors. The energy sector is categorized as energy (electricity and heat) generation and consumption. For energy consumption, the industry, construction, transportation, and agricultural sectors are considered. As per the non-energy sector, the agriculture sector, industrial processes and production use (IPPU), and waste sector are considered. Additionally, the GHG removals are estimated from the forestry sector.

		Methodologies for estimating GHG emissions: - Long-range Energy Alternatives Planning (LEAP) model (energy production and energy consumption), - 2006 IPCC Guidelines for National GHG Inventories (non-energy sector) *Approach to accounting for forestry sink:* - 2006 IPCC Guidelines for National GHG Inventories, - Multiple Forest Reference Level, 2018 *BAU Scenario Assumptions:* The BAU scenario was developed based on the National GHG inventory (2010–2020) which incorporates certain improvements in the estimation some subsectors and specially for forest sector removals and its historical activity data, using the following key assumptions: - Projected annual GDP growth rate - Projected population growth rate - Projected livestock population growth rate - Relevant criteria specific to the emissions of each sector etc.
(b)	Assumptions and methodological approaches used for accounting for the implementation of policies and measures or strategies in the nationally determined contribution;	Not applicable.
(c)	If applicable, information on how the Party will take into account existing methods and guidance under the Convention to account for anthropogenic emissions and removals, in accordance with Article 4, paragraph 14, of the Paris Agreement, as appropriate;	Refer to 5(d).
(d)	IPCC methodologies and metrics used for estimating anthropogenic greenhouse gas emissions and removals;	The methods of estimation are consistent with the IPCC Guidelines and in accordance with decision 18/CMA.1. The metrics used for calculating GHG emissions and removals (expressed in CO_2 equivalent) are based on the GWPs for a 100-year time horizon, as presented in the IPCC Fifth Assessment Report. These estimation methods are subject to revision, depending on the outcomes of future international negotiations on estimation methodologies and accounting rules.

(e)	Sector-, category- or activity-specific assumptions, methodologies and approaches consistent with IPCC guidance, as appropriate, including, as applicable: i. Approach to addressing emissions and subsequent removals from natural disturbances on managed lands; ii. Approach used to account for emissions and removals from harvested wood products; iii. Approach used to address the effects of age-class structure in forests.	i. The emission and removal calculations from harvested wood products (HWP) are followed Tier 1 methodology provided in the 2006 IPCC Guidelines. ii. The effects of age-class structure have not been taken into account for estimation of forest removals. iii. Methodologies addressing emissions and subsequent removals from natural disturbances on managed lands are not applied.
(f)	Other assumptions and methodological approaches used for understanding the nationally determined contribution and, if applicable estimating corresponding emissions and removals, including: i. How the reference indicators, baseline(s) and/or reference level(s), including, where applicable, sector-, category- or activity-specific reference levels, are constructed, including, for example, key parameters, assumptions, definitions, methodologies, data sources and models used; ii. For Parties with nationally determined contributions that contain non- greenhouse-gas components, information on assumptions and methodological approaches used in relation to those components, as applicable; iii. For climate forcers included in nationally determined contributions not covered by IPCC guidelines, information on how the climate forcers are estimated; iv. Further technical information, as necessary;	The key parameters, assumptions, definitions, methodologies, data sources, and models used to estimate emissions and removals are provided in the aforementioned the GHG inventory. Elements 5f (ii), (iii) and (iv) are not applicable.
(g)	The intention to use voluntary cooperation under Article 6 of the Paris Agreement, if applicable.	Mongolia is currently developing the necessary frameworks and mechanisms to facilitate its participation in Article 6 activities, estimating carbon potentials and exploring opportunities for voluntary cooperation by leveraging bilateral arrangements with interested countries and organizations and assessing the benefits of engaging with the international carbon market.

6. How the Party considers that its nationally determined contribution is fair and ambitious in the light of its national circumstances:		
(a)	How the Party considers that its nationally determined contribution is fair and ambitious in the light of its national circumstances;	The Mongolia's contribution to the global GHG total emissions is almost negligible (0.09%). However, Mongolia continues to take measures and advance efforts to reduce emissions to support its smooth transition from brown to green economy, in particular energy transition strategy taking into account the country's circumstances. Due to the heavy reliance on fossil fuels for energy, and the high cost of renewable energy sources, there are significant challenges to scaling up its climate ambitions in Mongolia. Despite these challenges, Mongolia has set unconditional and conditional targets and action points. Conditional targets and action points with international financial and technical support will be an important precondition to increase Mongolia's GHG mitigation ambition.
(b)	Fairness considerations, including reflecting on equity;	Mongolia's NDC3.0 is based on UNFCCC's general principle of equity and common but differentiated responsibilities and respective capabilities reflecting the country's specific circumstances and recognising its small contribution to global total emissions. However, Mongolia intends to be a part of global efforts to achieve the goals of the Paris Agreement. As a country adversely impacted by climate change, Mongolia identified its fair and ambitious adaptation goals and action in each vulnerable environmental, economic and social sectors.
(c)	How the Party has addressed Article 4, paragraph 3, of the Paris Agreement;	Refer to 6(a)
(d)	How the Party has addressed Article 4, paragraph 4, of the Paris Agreement;	Mongolia's NDC is an economy-wide emission reduction target below a "business as usual" level.
(e)	How the Party has addressed Article 4, paragraph 6, of the Paris Agreement.	Not applicable.
7. How the nationally determined contribution contributes towards achieving the objective of the Convention as set out in its Article 2:		

(a)	How the nationally determined contribution contributes towards achieving the objective of the Convention as set out in its Article 2;	Mongolia's contribution to total global emissions is negligible at a fraction of 0.09% in 2020, while the per-capita emissions are 12.8 tonnes of CO_2 eq., which is relatively higher than the average for developing countries and the world average. Historically, more than 95% of the country's GHG emissions have originated from the energy and agriculture sectors, which are of particular importance to Mongolia's economy and way of life. Mongolia's prolonged cold season requires around seven months of heating for residential and commercial buildings, and traditional gers not connected to central heating system from October to April. This demand is largely met by using low-efficiency fossil fuel-based technology, contributing heavily to GHG emissions. As a nation with a long-standing nomadic tradition, Mongolia has long depended on livestock and agriculture, and the sector remains a key pillar of the economy. In 2023, agriculture accounted for 10.2% of gross domestic product (GDP), employing 24.9% of the labour force. However, agriculture is highly vulnerable to the adverse impacts of climate change, which compound Mongolia's broader development challenges as a developing country. Despite these constraints, Mongolia's updated NDC target has seen notable progress, driven by multi-sectoral participation, broad collaboration, and reinforced by strong enabling commitment. Under its new NDC, Mongolia has strengthened its climate ambition, increasing the unconditional emissions reduction target for 2030 from 22.7% in the NDC2.0 to 30.3% compared to the BAU scenario in the NDC3.0 by 2035. In the NDC2.0, the net emissions reduction target including forest removals was 38.4% unconditionally, and up to 44.9% conditionally, compared to the business-as-usual (BAU) scenario in 2030. In the updated NDC, the net emissions reduction target including forest removals is 46.3% unconditionally, and up to 52.8% conditionally, compared to the BAU scenario in 2035.
(b)	How the nationally determined contribution contributes towards Article 2, paragraph 1(a) and Article 4, paragraph 1, of the Paris Agreement.	The NDC3.0 target set will contribute to achieving the global goal of limiting warming to below 1.5°C, while considering that it contributes to national net-zero strategy and sustainable development by reducing dependency on coal-fired energy, and switching to more cost-effective, reliable, and sustainable energy sources.

3. ADAPTATION GOALS AND ACTIONS

3.1 Sectors most vulnerable and sensitive to climate change

International scientific studies and assessments by the Intergovernmental Panel on Climate Change (IPCC) indicate that since the pre-industrial era (before the 1850s), the global climate has warmed by nearly 1.2°C, precipitation patterns have shifted, and the frequency and severity of weather-related disasters have increased, causing greater damage. Consequently, countries need to implement measures to adapt to the changing climate in order to achieve sustainable development goals.

In Mongolia, climate change (2.46°C over 83 years) is occurring more intensely than the global average, generally leading to drying trends, changes in precipitation patterns and seasonal distribution, and an increase in the frequency of natural disasters. These changes strongly and adversely affect Mongolia's environmental, economic, and social sectors, further increasing the country's dependence on weather and climate condition [20]. Therefore, climate change adaptation is of particularly high importance for Mongolia.

According to research findings, global warming may create some favorable climatic and weather conditions for Mongolia; however, the overall negative impacts are expected to dominate. Generally, the climate is becoming warmer, winter cold is weakening, springs are arriving earlier, autumns are becoming colder later, and the growing season for vegetation is lengthening, which could provide some advantages given Mongolia's typically cold continental climate. However, during the warm season, precipitation is decreasing, evapotranspiration is increasing, and drying trends are intensifying. The number and frequency of extremely hot days are rising, while the occurrence of continuous light rainfall is declining. In addition, strong winds, storms, heavy rain, snowstorms, droughts, and dzuds phenomena are becoming more frequent and intense. As a result of these adverse changes, glaciers, snow and ice caps, and glacial rivers in high mountains are melting; rivers and tributaries originating from these sources, as well as lakes and ponds fed only by snow and rainwater, are drying up. Consequently, water availability for pastures, croplands, and biodiversity is deteriorating.

Therefore, research findings indicate that in Mongolia, the natural ecological foundations such as biodiversity, water, and forest resources need to be protected, and the risks from climate-related natural disasters must be reduced. Among the social and economic sectors, particularly pastural animal husbandry, crop planting, public health, social protection, education, and culture, are the most vulnerable and sensitive to the negative impacts and risks of climate change.

3.2 Adaptation objectives and measures by sector

Extensive research indicates that Mongolia's ecosystems and economic sectors are particularly vulnerable to changes in climate due to their direct dependence on weather and climate conditions. Therefore, climate change adaptation is critical important for Mongolia.

Based on the results of extensive research and studies conducted for each sector, the objectives, goals and measures for climate change adaptation have been defined for the most climate-vulnerable environmental, social, and economic sectors as follows:

3.2.1 Biodiversity

By implementing the below targets, Mongolia will identify vulnerable ecosystems and species,

[20] Mongolia's Fourth National Communication under the UNFCCC, 2024

and apply ecosystem-specific and nature-based measures that promote resilience. Key priority areas include high mountain regions, forests, riparian wetlands, freshwater systems, grasslands, soils and desert-steppe zones.

Goal. To create the necessary conditions for ecosystems and biodiversity to adapt to and withstand the impacts of climate change.

Target 1. Expand the legal protection of land by enlarging the boundaries of protected areas, designating ecological corridors, and enabling species migration and movement. This will improve the adaptive capacity and resilience of biodiversity vulnerable to climate change;

Measures:

1. Update the Red List assessments for flora and fauna to identify climate-vulnerable species and enhance their protection,
2. Conduct vegetation and resource assessments by ecological zones and plant communities,
3. Carry out phased research and monitoring of animal species, their populations, and distribution.

Target 2. Strengthen protection and sustainable use measures that support the regeneration of vulnerable and unique ecosystems. Establish long-term ecological monitoring sites and carry out targeted conservation research and actions.

Measures:

4. Implement conservation and sustainable use projects tailored to the recovery capacity of ecosystems across ecological zones, peatland restoration areas, ecological corridors and ecological infostructures,
5. Apply species-specific protection measures within protected areas to support the recovery of critically endangered and rare species,
6. Preserve genetic diversity of plants, crops, and animals by establishing gene banks and promoting sustainable use through policy and planning.

Conditional measure:

1. 30% and additional 3.1% of total area will be protected aiming to achieve target of 33.1% of total territory of the country to be protected in 2035 in Mongolia.

3.2.2 Water resources

Implementing the objectives outlined herein will not only establish a sound legal framework for the efficient use and protection of water resources but also promote the adoption of advanced technologies, improve inter-sectoral coordination on natural resource use, and ensure access to quality (sanitarily safe) water for enterprises and the population. In the initial phase of adaptation to climate change, it is essential to develop relevant national-level development programs and projects, secure financing, and implement technological solutions through the following key targets and actions:

Goal. Increase the capacity of the water resource sector to adapt to climate change and reduce vulnerability and risks to ensure water security.

Target 1. Improve the policy, legal, structural, and organizational environment for the climate change adaptation of the sector.

Measures:

1. Revising irrigation regimes and water use norms for pastures, agriculture, forests, industry, and mining to increase recycling and introduce water-efficient technologies. Establish a permanent monitoring system for water use,
2. Determining ecological flows and sustainable abstraction levels through hydrological and biological studies to guide rational water management,
3. Updating flood runoff standards and implementing structural standards for protective infrastructure and flow capacity assessments.

Target 2. Enhance the resilience of the water sector through the utilization of advanced technologies for conservation, restoration, sustainable use and secure water availability.

Measures:

1. Including river headwater sources under special protection,
2. Expanding medium-scale hydrogeological mapping to assess water resources,
3. Increasing monitoring of groundwater wells, improving databases and reporting mechanisms,
4. Creating water accumulation facilities and ponds in humid and sub-humid zones,
5. Supporting national satellite technology to monitor glaciers, lakes, and reservoirs, and automating hydrological data transmission and acquisition,
6. Regulating the thermal regime of water through riparian forestation and monitoring its effectiveness,
7. Restoring and expanding surface–groundwater interaction monitoring networks and water balance assessment systems,
8. Implement projects in arid and semi-arid regions through partnerships between local governments, the private sector, the mining industry, and light and heavy industry to establish Managed Aquifer Recharge (MAR) systems, covered reservoirs, and infiltration wells for the replenishment of groundwater resources,
9. In cool and moderately humid zones, construct irrigation ponds for hay and crop cultivation, fish and aquatic species breeding ponds, and community ponds (ardyn khuv). Develop natural overflow systems (khalia-toshin) and, through canals and pipelines, deliver water to wildlife and livestock in semi-arid and arid areas to improve water access,
10. Support pasture irrigation and household water use by delivering water to drying endorheic lakes, enabling the cultivation of berries, vegetables, and household-level fish farming,
11. Regulate the thermal regime of river and lake waters through shading from riparian forests, implement ecosystem protection measures, and support the breeding of native fish species such as *taimen* (*Hucho taimen*), *lenok* (Brachymystax), Arctic grayling (*Thymallus arcticus*), and other indigenous aquatic species.

Conditional measures:

12. Retaining the projected 6.4 km³ of meltwater in upstream basins of rivers such as Khovd (Altangadas, Bukhmurun), Bulgan, Kharkhiraa, Turgun, Zuil, Khushoot, Namir, Bayan, and Gorkhon,

13. Developing feasibility studies (FS) for Orkhon-Gobi and Shuren Hydropower Plants (HPPs) for hydropower generation and flow transfer from the Selenge and Orkhon River Basins to Gobi region,
14. Establish water accumulation zones in low-evaporation areas such as the upper and middle reaches of the Baidrag, Ongi, Taats, Ar-Aguit, and Tuin river basins, and address water supply issues along these rivers. At the same time, restore and protect ecosystems of Ulaan, Orog, Taatsiin Tsagaan, and Khaya lakes and associated wetlands, while developing infrastructure and capacity to regulate lake water regimes.

3.2.3 Forests

Goal: Protect forest ecosystem resilience and develop adaptive forest resources based on sustainable forest management.

Target 1. Protect natural forests, improve forest health, and enhance forest regeneration capacity

Measures:

1. Expand forest protection zones and increase climate-resilient forest resources,
2. Improve forest structure and condition through implementation of forest maintenance and cleaning measures,
3. Enhance measures to control forest diseases and harmful insects,
4. Strengthen the forest fire prevention system.

Target 2. Expand the scope of afforestation and forest restoration through advanced technologies and innovation.

Measures:

1. Support and implement public and private sector initiatives to localize and introduce advanced technologies and innovations in afforestation,
2. Implement optimal irrigation technologies and management solutions for afforestation.

Conditional measures:

3. Build forest seed banks maintaining genetic diversity and enhance tree species variety.

Target 3. Establish a legal framework for sustainable forest management aimed at improving forest ecosystem protection.

Measures:

1. Strengthen forest sector policies and strategies in alignment with climate change adaptation, while enhancing legal frameworks and forest protection standards,
2. Improve forest resource management through advanced planning and monitoring systems,
3. Strengthen the capacity of professional forestry organizations,
4. Improve sustainable management for the protection and rational use of forest by-products.

Conditional measure:

5. Establish and implement a comprehensive payment mechanism for forest ecosystem services.

3.2.4 Natural disasters

Goal. To strengthen national resilience and adaptive capacity by reducing vulnerability and risks associated with climate-induced natural disasters.

Target 1. Enhance the legal and regulatory framework related to disaster risk reduction.

Measures:

1. Introduce amendments to the Law on Disaster Protection and approve related rules, regulations, and standards,
2. Approve a revised version of the Law on Meteorological and Environmental Monitoring, along with its supporting procedures and technical standards,
3. Update the National Program on Community-Based Disaster Risk Reduction,
4. Revise and approve Government Resolution No. 286 (2015) on "Regulations, Lists, and Schedules for Hydrometeorological Data Use," including updated climatic and hydrological parameters for design norms in buildings, roads, and bridges,
5. Conduct disaster risk assessments at the city, in particular Ulaanbaatar capital and territorial levels and evaluate the level of implementation.

Target 2. Strengthen early warning systems and reduce disaster risks at all levels.

Measures:

1. Establish and maintain a centralized disaster risk information platform and database,
2. Improve impact-based forecasting tools and supercomputer technology, and expand public access to forecasts; enhance flood early warning observation networks by adding 10 new hydrology monitoring stations,
3. Introduce an integrated emergency alert system capable of disseminating early warnings to the public in real time,
4. Implement a city level and nationwide rapid alert system to ensure timely delivery of early warnings to the public,
5. Establish a national weather radar network,
6. Develop a strategy and master plan for flood protection infrastructure and monitor its implementation in major cities.

Conditional measures:

7. Implement a nationwide and city level rapid alert system to ensure timely delivery of early warnings to the public,
8. Establish a national weather radar network for timely detecting natural disasters in the country.

3.2.5 Animal husbandry and pastureland

Goal: To develop a sustainable and productive animal husbandry that is aligned with the carrying capacity of pasture and water resources, based on advanced adaptation technologies, resilient

to risks.

Target 1: Reduce pasture pressure by raising young livestock using advanced methods and technologies, developing biosecure compartment farming and supplying meat to target markets

Measures:

1. Support private sector initiatives to raise young livestock using advanced methods and technologies for meat production,
2. Develop protected farms aimed at preparing meat for target markets and implement traceability technology,
3. Develop and implement response strategies for new and re-emerging livestock and animal infectious diseases.

Conditional measure:

4. Provide financial and land support to farmers engaged in intensive young livestock breeding and biosecure compartment livestock farming.

Target 2. Improve livestock water and feed supply, quality and management to strengthen resilience against natural risks.

Measures:

1. Increase pasture well supply based on exploration surveys and improve usage and protection management,
2. Develop small-scale water collection facilities such as reservoirs, ponds, and pools utilizing excess snow and rainwater,
3. Improve the demand and supply of livestock feed production and support herders' initiatives to grow fodder crops in winter-spring camps,
4. Implement supplementary feeding systems adapted to livestock nutritional requirements and weather conditions,
5. Establish mandatory hay and feed reserves for herder households and implement them in conjunction with incentive mechanisms.

Conditional measure:

6. Develop wholesale trade and warehouse operations through herders' cooperatives in provinces and soums where hay and feed preparation is not possible.

Target 3. Introduce smart technologies in livestock production and pasture utilization

Measures:

1. Test and implement smart livestock movement monitoring systems and smart pasture management practices,
2. Create and implement a mobile app that provides herders with weather and market information,
3. Conduct extension training services among herders and farmers on smart technologies for livestock production and pasture utilization.

Conditional measures:

4. Strengthen technical and technological capacity for remote sensing monitoring of pasture conditions,

5. Train specialists and implement international projects in smart technologies for livestock production and pasture utilization.

Target 4. Establish sustainable and rational collaborative management practices for pastures and expand the scope of pasture restoration.

Measures:

1. Improve legal regulations regarding rights and responsibilities of stakeholders in pasture use and protection,
2. Secure and implement long-term contractual pasture use rights for primary herder household associations,
3. Incorporate collaborative pasture management into soum-level mid-term land management plans and enforce sustainable pasture use standards and certification,
4. Establish and implement financial mechanisms for sustainable pasture management.

Conditional measure:

5. Introduce and expand the scope of pasture restoration technologies and innovations.

3.2.6 Arable farming

Goal: Develop sustainable, resilient, and productive agricultural systems by implementing advanced adaptation technologies that preserve soil fertility.

Target 1. Expand the adoption of minimal and zero tillage technologies to conserve soil fertility and minimize moisture loss across grain, fodder, and industrial crop production systems.

Measures:

1. Expand the application of selective herbicides to support zero tillage farming practices,
2. Conduct extension training on machinery and technology among farmers,
3. Offer financial incentives to farmers adopting minimal and zero tillage agricultural practices.

Conditional measures:

4. Enhance the availability of smart-controlled machinery and equipment capable of performing multiple operations simultaneously in a single pass,
5. Implement fencing measures to protect crop stalks and straw in zero-tillage fields from livestock.

Target 2. Integrate cutting-edge climate-smart technologies into crop production systems to ensure consistent, sustainable high yields.

Measures:

1. Establish forest strip infrastructure for irrigation and seedling production, while expanding forested areas through the cultivation of economically valuable tree species (pine nut, bird cherry, sea buckthorn, etc.),
2. Promote wider adoption of plastic film mulching and precision drip irrigation systems across irrigated potato and vegetable fields, greenhouses, and fruit and berry production areas,

3. Implement integrated snow and rainwater harvesting systems to enhance agricultural irrigation capacity.

Conditional measures:

4. Establish and operate inter-soums service units for cloud seeding and artificial rain enhancement (in crop-growing regions).

Target 3. Introduce and adapt drought, disease, and pest-resistant crop varieties.

Measures:

1. Increase the planting area of locally-adapted, resilient crop varieties suitable for regional conditions,
2. Implement programs to breed, localize, and improve the supply of climate-resilient crop varieties.

Conditional measures:

3. Establish seed banks for climate-adapted varieties.

Target 4. Implement environmentally friendly smart technologies in crop production.

Measures:

1. Implement smart precision systems for optimal management of agricultural inputs (water, fertilizer, pesticides) and integrated pest and disease control,
2. Train specialists in smart technology for crop production and pasture utilization, and implement foreign projects,
3. Conduct extension training among farmers on smart agricultural technologies and create opportunities to provide advice and information to them using mobile applications.

Conditional measures:

4. Increase the supply and utilization of smart technology equipment and software for agricultural applications.

3.2.7 Public health

Goal. Strengthen the health care system for early detection, warning, and response to climate change related threats to human health.

Measures:

1. Enhance institutional capacity for early detection, warning, response, and mitigation of climate change related health threats,
2. Expand data collection and research on climate change-related diseases, and develop surveillance, information management, and early warning systems,
3. Develop climate resilient and environmentally sustainable health care infrastructure, and increase investment in these facilities,
4. Raise public awareness and understanding of the impacts of climate change on human health, and promote health preserving habits and behaviors across population.

3.2.8 Social protection and livelihood

Goal. Identify groups most vulnerable to climate change, enhance their resilience, strengthen welfare, protection, insurance, and prevention systems to address vulnerabilities, and diversify the economic activities of citizens to ensure sustainable livelihoods.

Measures:

1. Implement women and men sensitive policies to empower and prevent risks for households and individuals exposed or vulnerable to climate change,
2. Strengthen child protection systems to prevent, prepare for, and respond to the impacts of climate change,
3. Welfare, protection and insurance preventive system is established to reduce the vulnerability through identification and building capacity of vulnerable to climate change impact groups and increasing their income.

By implementing these measures, vulnerable groups will be better covered by social protection, welfare, and insurance systems, and the impacts on people's livelihoods will be assessed and addressed in a gender sensitive manner.

3.2.9 Education

Goal. Increase climate education, green skills, and public participation, while ensuring the implementation of UNFCCC, Article 12 of the Paris Agreement, and the UNFCCC Action for Climate Empowerment (ACE) framework.

Measures:

1. Integrate climate change content into all levels of curricula and strengthen universal climate education,
2. Develop a workforce equipped with climate change knowledge and green skills,
3. Forster public knowledge, attitudes, and behaviors that enable adaptation to and coping with climate change,
4. Promote public participation and leadership in climate change action, with a focus on children, adolescents, and youth,
5. Expand public awareness to information and establish knowledge sharing platforms.

3.2.10 Culture

Goal. Establish a system to protect tangible and intangible cultural heritage and traditional knowledge, and ensure their adaptation to climate change.

Measure:

1. Safeguard tangible and intangible cultural heritage at risk from climate change, and preserve traditional knowledge.

By implementing targeted programs and measures, tangible and intangible cultural heritage, along with traditional practices, can be preserved despite the impacts of climate change. These efforts will ensure the transmission of national heritage, traditions, and values to future generations, while protecting cultural identity and resilience.

4. CROSS-CUTTING OBJECTIVES, GOALS AND MEASURES

4.1 Inclusive Goal and Measures Ensuring Participation of Children, Youth, Vulnerable Groups, and Gender Equality

Goal. When implementing climate change-related goals and measures, ensure the full participation of all stakeholders, including children, youth, vulnerable groups, and men and women, guarantee equal opportunities for everyone, and establish climate-equitable and inclusive governance.

Objective 1. Ensure that all social groups, including men and women, persons with disabilities, vulnerable populations, youth, and the elderly are equally involved in climate actions, while integrating gender-responsive principles into climate policy, planning, and implementation.

Measures:

1. Ensure both men and women, as well as vulnerable communities are represented in climate related policy-making committees and climate governance structures, fostering gender-balanced decision-making in environmental sectors,
2. Facilitate market access for small-scale businesses led by both men and women, supporting climate-resilient production and sustainable value chains,
3. Develop a digital platform to disseminate traditional eco-friendly pastoral livestock management practices and modern adaptive technologies and innovations among young herders,
4. Enhance the capacity of the vulnerable communities, while ensuring equal access to natural resources, technologies, and decision-making for both men and women as well as the youth, people with disability and indigenous groups,
5. Provide climate education and training so that youth can make informed contributions and include the climate educational content in the secondary education, TVET, and tertiary education,
6. Allocate dedicated funding for participation of vulnerable communities in NDC processes and for climate actions led by these groups.

Objective 2. In line with Article 7.5 of the Paris Agreement, promote, respect, and consider gender equality and women's rights in all climate adaptation and mitigation measures by integrating gender-responsive approaches.

Under this objective, 3 measures are planned for implementation.

4.2 Establish a favorable legal, institutional and financial environment, and provide stakeholders with knowledge and information

Goal. Improve the favorable legal, institutional, and financial environment necessary to achieve NDC3.0 targets and action, and provide all stakeholders with knowledge and information

Target. Improve the legal, policy, and institutional arrangements for climate change adaptation in priority sectors and provide knowledge and information to the relevant parties.

Measures:

1. Improve the policy, legal, structural, and organizational environment for implementation of the climate response actions in priority environmental, social, and economic sectors,

2. Improve the structural and organizational environment for implementation of the climate response actions in priority environmental, social, and economic sectors,
3. Allocate dedicated funding to mitigation and adaptation measures identified in NDC3.0 in its implementation plan, including gender-responsive initiatives,
4. Leverage international climate finance mechanisms and foster public-private partnerships to sustain climate efforts,
5. Strengthen the knowledge and capacity of stakeholders of the environmental, social, and economic sectors on climate change adaptation, and provide information by expanding research activities.

5. SUPPORT NEEDS FOR IMPLEMENTATION

5.1 Financial Support

The financial needs for the NDC3.0 implementation are estimated initially as USD 14.84 billion, of which USD 9.64 billion for mitigation, and USD 5.2 billion for adaptation.

Mitigation total is USD 9.64 billion, of which USD 8.84 billion (92%) is unconditional and USD 795 million (8%) is conditional. The investment profile is dominated by energy and transport, while forestry relies heavily on external support.

Adaptation total is USD 5.2 billion, of which USD 1.79 billion (34%) is unconditional and USD 3.45 billion (66%) conditional including cross-sectoral actions. This reflects Mongolia's expectation that adaptation actions, particularly in water, health, and disaster risk reduction interventions will depend primarily on international support.

The conditional measures identified across different mitigation and adaptation sub-sectors will require additional funding resources from international sources, including development partners.

An Action Plan for NDC3.0, which will include a comprehensive financial needs and framework is planned to develop.

The financing needs for Mongolia's NDC 3.0 between 2025 and 2035 are both substantial and unevenly distributed across sectors. Mitigation accounts for nearly three-quarters of the overall requirements, driven primarily by large-scale infrastructure transformations in the energy and transport sectors, complemented by significant needs in construction and forestry. Adaptation, while smaller in aggregate terms, is highly concentrated in water resource management, reflecting the urgency of addressing Mongolia's vulnerability to water scarcity and desertification, with additional but more modest needs spread across the agriculture, health, disaster risk reduction, and social sectors.

The budget estimations include the funding sources for implementing the proposed objectives are planned based on stakeholder participation and support principles. Funding sources include the state budget, local governments budgets, international projects and programs, and other sources (such as sector producers and other private sector entities). These sources vary by sector due to specific characteristics and different targets respectively.

Anchoring NDC financing in Mongolia's public financial management (PFM) system will be essential. Climate budget tagging, medium-term expenditure frameworks, and climate expenditure reviews will increase transparency and improve alignment with national planning. This, in turn, will enhance donor confidence and help to attract private investment.

5.2 Technology Transfer and Public-Private Partnerships

Technology deployment is central to implement the NDC3.0 targets and actions in both mitigation and adaptation, and to meet the largest investment needs. In the mitigation sectors, the scale of commitments in energy (USD 3.27 billion) and transport (USD 3.74 billion) highlights the importance of renewable energy generation, grid efficiency improvements, cleaner fuels, electrification of transport, and multimodal public transit systems. In the construction sector (USD 1.83 billion), energy-efficient housing and retrofitting technologies are key cost drivers. Similarly, forestry and IPPU investments point to the role of monitoring, process optimization, and low-carbon industrial technologies.

For adaptation, the dominance of water resources (USD 3.24 billion) underscores the priority of technologies for reservoir construction, groundwater management, and integrated water resource monitoring systems. Other adaptation sectors highlight the need for drought-resistant seeds and smart irrigation (arable farming), reforestation monitoring and fire detection (forests), impact-based early warning systems (disaster risk reduction), and climate-resilient infrastructure and disease surveillance systems (public health).

The TNA confirms that Mongolia's highest-priority mitigation technologies are concentrated in the energy, transport, construction, waste, industry, and forestry sectors, which also account for the bulk of financing needs.

Public–Private Partnership (PPP) Framework is a central element of the NDC 3.0 Financing Framework, reflecting the important role of the private sector in mobilizing resources for Mongolia's climate commitments. The private finance is already foreseen as a major contributor in sectors such as energy, construction, and water resources, while other sectors such as transport, forestry, and waste currently rely more heavily on government or development partner support. This is underscore both the opportunities and the challenges for scaling PPPs: private participation is anticipated in some sectors, but additional effort will be needed to design bankable projects, allocate risks appropriately, and ensure an enabling environment for investment.

5.3 Capacity Building and Knowledge Sharing

Building capacities to disseminate and transfer scientific information and knowledge and educating the public and various stakeholders on climate change, its impacts, as well as targeted mitigation and adaptation measures are an essential precondition for the successful implementation of Mongolia's NDC3.0.

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