



INFF

Integrated National
Financing Frameworks

MONGOLIA

SPENDING NEEDS FOR REACHING
THE SUSTAINABLE DEVELOPMENT GOALS



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Acknowledgment and Disclaimer

This report was prepared as part of the UN Joint Programme “Rolling out an Integrated Approach to SDG Financing in Mongolia”. It contains the findings, conclusions, and recommendations for analysis of additional financing required for Mongolia to achieve Sustainable Development Goals by 2030.

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About UN Joint Programme “Rolling Out an Integrated Approach to the SDG financing in Mongolia”

Funded by the Joint SDG Fund, the Joint Programme seeks to accelerate the progress towards realizing SDGs by establishing an integrated national financing framework in Mongolia that aims to mobilize all financial resources – private and public, international and domestic - under one framework. The Joint Programme is being implemented by UNDP Mongolia and UNICEF Mongolia under the leadership of the Ministry of Finance of Mongolia.

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Abbreviations

GDP	Gross Domestic Products
IMF	International Monetary Fund
SDG	Sustainable Development Goals
SDSN	Sustainable Development Solutions Network, The United Nations
MoET	Ministry of Environment and Tourism
NSO	National Statistical Office
NDA	National Development Agency
UN	United Nations
UNDP	United Nations Development Programme
UNESCAP	United Nations Economic and Social Commission for Asia and the Pacific
UNICEF	United Nations International Children's Emergency Fund
UN Women	United Nations Entity for Gender Equality and the Empowerment of Women
WSP	Water, Sanitation Program, World Bank Group
ADB	Asian Development Bank
INFF	Integrated National Financing Framework
ICOR	Incremental Capital-Output Ratio
MFA	Multiplicative Factor Analysis
NDC	Nationally Determined Contribution
ODA	Official Development Assistance

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Executive summary

The 2030 Agenda sets 17 goals and 169 ambitious targets for social, economic, and environmental development under the overarching goal of “Leaving No One Behind”¹. The country needs a significant amount of financial, material, and human resources and an integrated approach for its mobilization to address myriad development challenges and achieve goals related to sustainable development in Mongolia.

The primary objective of this study is to benchmark additional spending required for each year through 2030 for Mongolia to achieve all SDGs. More specifically, this study aims to identify areas and sectors with the most spending needs; and estimates the total and additional annual spending required for each SDG. This will be an important input for developing the Integrated National Financing Strategy, which maps out financial resource availabilities and shortcomings; and subsequently provides financing mechanisms to bridge the financing gaps by strengthening policies, planning, and financing mechanisms and using innovative sources of financing to overcome the financing roadblocks to the achievement of SDGs.

The costing exercise is conducted using commonly used approaches in the literature, including Intervention or Program-based needs assessment, Unit cost analysis, Incremental capital-output ratio, Poverty Gap and Wash Cost model. The calculations are based on Mongolia’s nationally determined target levels in the framework of the SDGs, which are stated in Vision 2050, Five-Year Development Guidelines for 2021-2025, and Investment Program 2021-2025, and within Nationally Determined Contributions, and National SDGs indicators where available.

The estimates suggest that Mongolia needs approximately additional spending of 17 percent of GDP annually on average between 2021 and 2030 to achieve the relevant targets for the SDGs. Roughly 88 percent of all additional spending goes to improving health and wellbeing (SDG 3); providing quality education (SDG 4); increasing clean energy sources (SDG 7); developing industry, innovation, and infrastructure (SDG 9); developing sustainable cities and communities (SDG 11); climate actions (SDG 13); and supporting life on land (SDG 15).

Sustainable Development Index, calculated by the Sustainable Development Solutions Network, indicates that Mongolia’s achievement of SDGs is 63.5 percent, which is 2.4 percent lower than the regional average (Sachs, 2022). According to this index, SDG 9 lags the most and requires faster progress towards achieving the goal, and it is followed by SDG 2, 11, and 13, having a score of less than 50 percent. It is consistent with the SDGs, which require the most considerable spending as identified in this costing exercise.

¹ In 2015, the 70th session of the United Nations General Assembly introduced Sustainable Development Goals (SDGs) to be achieved by 2030, also known as Agenda 2030.



The estimated additional annual spending need for Mongolia is comparable to other lower-middle-income countries. Moreover, the sum of additional spending between 2021 and 2030 is closely matched with the amount required to fully achieve the Government’s newly announced “New Recovery Policy”, which will be implemented between 2021-2030, as there are considerable synergies between the policy’s focus areas and the areas that require the highest spending as exploited in this study.

This exercise was initiated during COVID, and the estimates have been updated to reflect the objectives of the new economic recovery policy. We should note that the social and economic environment that would determine the SDG outcomes will keep changing due to events, such as the Russia-Ukraine conflict and its impact on the global economic outlook (e.g., contributing to an economic downturn and higher than average inflation).



Part 1

INTRODUCTION



1. Introduction

The 2030 Agenda for Sustainable Development is a long-term global call to action to address development challenges in society, the economy, and the environment. Mongolia, one of the first countries to adopt the Sustainable Development Goals (SDGs), has both medium-term development plans and a long-term vision² and a roadmap supported by a relevant legal framework to take its development agenda forward for sustainable development. Achieving Mongolia's development objectives, as outlined in Vision 2050, requires substantial financial and material resources (natural resources such as minerals, wind, solar, etc.) and an integrated approach to address development challenges and achieve sustainable development goals.

Mongolia has faced economic challenges mainly due to the COVID-19 pandemic and increased exposure to external price shocks. Pandemic-related emergency spending and increased support for welfare policies have resulted in an increase in the budget deficit and debt pressures and narrowed budget space for development goals (IMF 2021³, UNDP 2021a⁴, UN and ADB 2018⁵). Extended border closure and global contraction have led to export losses and a reduction in revenue from mining sectors. Additionally, there are potential vulnerabilities for the macroeconomic and financial sector as inflation has increased beyond the target level, asset quality has deteriorated in the banking sector, limited international reserves have increased pressure on exchange rates, and pro-cyclical policies that are currently being undertaken could undermine debt and macro-financial stability (IMF 2021). These economic challenges lead to slow post-pandemic recovery and restrict financial flows for development priorities.

It is imperative to calculate realistically how much additional annual spending will be required for Mongolia to achieve SDGs by 2030, especially when there is not much opportunity to generate a surplus to be allocated for the development priorities. The costing analysis intends to facilitate improved and more targeted resource mobilization and alignment, accelerating the implementation of SDGs.

² “Five-Year Development Guidelines for 2021-2025” and “Vision-2050”.

³ IMF (2021) Article IV consultation. <https://www.imf.org/en/Publications/CR/Issues/2021/11/29/Mongolia-2021-Article-IV-Consultation-Press-Release-Staff-Report-and-Statement-by-the-510086>

⁴ UNDP (2021a) Baseline Assessments for Integrated National Financing Framework

⁵ UN and ADB (2018), SDGs Mainstreaming, Acceleration, and Policy Support

More specifically, it sheds light on areas/sectors with the most additional spending needs. It helps to strengthen the coherence of the planning, budgeting, and financing process and ensures better alignment of existing financing with development policies. It is essential to discuss the limitations of the study and employ its results in formulating policy actions. The study was initiated in 2020 under the assumption of the COVID-19 environment. The Russia-Ukraine conflict and its impact on Mongolia's socio-economic outlook may require revisiting the costing exercise and reassessing the needs under changing economic conditions, which could be carried out later. The study provides a benchmark estimate of costs for achieving SDGs, which may be subject to revision under changing economic conditions; hence, one is advised about this disclaimer in case anyone would like to refer to the estimates in this document.

The outcome document of the Third International Conference on Financing for Development in 2015 emphasized the importance of countries developing Integrated National Financing Frameworks (INFFs) to align financing with development priorities and mobilize new financial resources for sustainable development, especially from the private sector (UN, 2015)⁶. The costing analysis for SDGs is a critical input for sectoral budgets and determining financing gaps. The costing and financing outlay are important inputs for establishing an INFF financing strategy to identify SDGs or sectors that need the most pressing budgetary allocations, better alignment of resources to achieve SDG targets, and efficiency improvements. In essence, the INFF financing strategy provides financing mechanisms to bridge financing gaps by strengthening development planning, budgetary allocations, and financing processes within the framework of the long-term vision to overcome the financing roadblocks for achieving SDGs.

This study assesses the annual additional and total spending required for each year up to 2030 to make substantive progress towards SDGs in Mongolia. The spending needs are calculated using nationally determined target levels in the framework of SDGs, which are stated in the national development plans⁷ and policies of Mongolia, National SDGs indicators. However, not all SDG targets have clear achievement levels or indicators to measure the progress of SDGs in Mongolia, which affects the accuracy of the estimates, although this study strives to approximate required spending amounts based on what is available or can be a close proxy. Therefore, the amount of total and additional spending needs calculated in this study should be perceived as a benchmark to achieve SDGs by 2030. This study needs to be updated and improved, reflecting the economic impacts of ongoing pandemic situations, the Russia-Ukraine war, and related global price shocks.

The estimates suggest that Mongolia needs total spending of USD 97 billion⁸ (MNT 276 trillion) between 2021 and 2030, which includes the government's current spending or business as the typical cost of USD 54 billion. Hence, the cumulated additional required for achieving SDGs spending in the next ten years is around USD 43 billion (MNT 122 trillion), accounting for 17 percent of GDP annually. While this sounds like a staggering amount of money, given the need to build quality infrastructure, increase diversification, develop secondary industries, and transition from coal to renewable energy, the cost estimates are reasonable and comparable to other countries.

⁶ United Nations (2015) Addis Ababa Action Agenda of the Third International Conference on Financing for Development. <https://www.un.org/esa/ffd/ffd3/index.html>

⁷ Short, medium, and long term

⁸ Exchange rate of 1\$=2850MNT is used.



Approximately 88 percent of all additional spending is required to achieve seven SDG goals, which include SDG-3 good health, SDG-4 quality education, SDG-7 energy, SDG-9 industry innovation and infrastructure, SDG-11 sustainable cities, SDG-13 climate action, and SDG-15 life on land.

Recently, the Government has adopted the Targeted Development Plan 2021-2030, called “The New Recovery Policy”, through which progress towards Vision-2050 is to be accelerated. It conforms with the current remaining period for the Agenda 2030. This policy aims to recover the economy from the COVID-19 pandemic, promptly address development barriers, and create enabling environment, focusing on six main areas (relating to SDG 6, 7, 9, 11, 13, 15). According to Government sources, implementing the “New Revival Policy” requires MNT 57 trillion in the first round and 100-120 trillion MNT for full implementation, which translates into USD 35-42 billion⁹. This estimate is mainly consistent with the SDG costing presented here, given considerable synergies between the policy’s focus areas and the areas that need the most spending, as identified in this study.

Therefore, this costing exercise has direct implications for the successful implementations of both the Targeted Development Plan and SDGs by 2030. Additionally, the INFF financing strategy will be instrumental in accelerating the performance of “The New Recovery Policy” and SDGs.

The study is organized as follows: Section two provides an overview of methodologies used in the literature and approaches adopted for Mongolia’s costing exercise and its coverage. Section three describes data and its sources. Mongolia’s current SDG performance and the total and additional spending required to achieve SDGs fully are presented in Section four. This section also details the results for each SDG. Section five presents a conclusion, and Section six provides suggestions and recommendations.

⁹ <https://gogo.mn/r/n4o9y>





Part 2

METHODOLOGY



2. Methodology

2.1. International studies

A number of studies have been carried out globally to track progress and calculate the spending required to achieve SDG targets. The purpose and scope of the studies vary greatly, such as cross-country studies, regional studies, national costing and needs assessment exercises, sectoral/thematic costing, and costing analyses that cover cross-cutting areas. Currently, there is no consensus on which option is the most appropriate (AP-FIN, 2020¹⁰). However, as stated in the UNDP’s “SDG Costing Guidance Note¹¹”, the costing exercise can be done in three formats 1) cross-country studies, 2) at the national level, and 3) financing needs of sectoral/thematic areas. Our costing analysis is national in terms of coverage and uses nationally determined policy goals and targets. We employ a mixed approach in conducting costing analysis, applying such as poverty gap analysis, Incremental Capital-Output Ratio (ICOR) analysis, and unit cost analysis, those mostly adopted in Bangladesh’s national SDG costing exercise (Bangladesh, 2017¹²) and others, including World Bank’s WASH SDG Costing Tool 2020. Brief information on Bangladesh’s SDG costing study is given in Box 1.

Methodologies used in contemporary studies on SDG costing are summarized in Table 1. Some of the studies in the following table assess financing needs, which look at the ways to mobilize various financing resources and define required spending amounts. We should clarify that the purpose of this study is to compute the required spending amounts by sectors to reach nationally determined SDGs without focusing on financing aspects. The financing aspects, including tools and strategies for identifying and mobilizing available resources to meet the spending needs, will be further addressed in Mongolia’s Integrated National Financing Strategy based on the insights provided by this study.

¹⁰ AP-FIN, U. (2020). SDG Costing: A Guidance Note: Draft for Peer Review - 23-04-2020 Bangkok

¹¹ <https://sdgfinance.undp.org/sdg-tools/sdg-costing-guidance-note>

¹² Bangladesh, G. (2017). SDGs Financing Strategy. Dhaka: General Economics Division.



Table 1. Overview of SDG costing methodologies

Studies	Source	Comments
SDG costing and financing for low-income developing countries (study of 59 low-income countries)	Sustainable Development Solutions Network (SDSN)	It shows the SDGs financing needs for low-income countries by IMF classifications. The unit cost approach is used, and the financing needs are expressed as a percentage of GDP. In order to calculate the SDG Financing Gap, this report compares the SDG budget needs (inclusive of the necessary non-SDG outlays) with the potentially available domestic budget revenues. In addition, annual growth is at a constant rate (SDSN, 2019 ¹³).
Fiscal Policy and Development: Human, Social, and Physical Investment for the SDGs (SDG costing of five sectors for 72 emerging economies)	IMF	Gaspar et al. (2019) ¹⁴ estimate the additional annual private and public spending required for meaningful progress on the SDGs in 72 emerging economies, focusing on five sectors: education, health, roads, electricity, and water and sanitation. The study includes Mongolia and provides aggregated cost figures for the country groups. It adopts an input-outcome approach, which assumes that development outcomes are a mix of main cost factors. I.e., for each sector, it is assumed that performance is a function of a set of input variables.
Pakistan: Spending Needs for Reaching the Sustainable Development Goals (SDGs)	IMF	Brollo et al. (2021) ¹⁵ calculate the additional spending required for Pakistan to make substantial progress towards achieving SDGs, focusing on five areas: education, health, roads, electricity, water, and sanitation. The IMF’s SDG costing methodology as developed by Gaspar et al. (2019) is used in this study with the assumption that development outcomes are a function of a mix of inputs. For the health and education sector, the estimations are based on key cost inputs and unit costs. The cost associated with Water and Sanitation is computed based on the World Bank’s WASH cost model ¹⁶ . Electricity cost is also based on the unit cost approach accounting for additional electricity infrastructure needed to provide access to 100% of the projected population by 2030 and future consumption growth in relation to GDP growth. Road cost is calculated based on a combination of multivariate pooled regression analysis and unit cost per kilometer road in Pakistan.
SDG Financing Options in Rwanda: A Post-Pandemic Assessment	IMF	This study estimates the annual additional spending and resources required to achieve SDGs in Rwanda’s education, health, roads, electricity, water, and sanitation sectors. The other spending needs are estimated using the IMF’s SDG costing methodology described in the Pakistan study above. The required resources analysis is performed using a dynamic financing framework that employs IMF Fiscal Affairs Department’s Investment and Capital Stock database, demographic projections from the United Nations’ World Population Prospects, and medium-term forecasts by World Economic Outlook (Lledo and Perrelli, 2021 ¹⁷).
Viet Nam’s Development Success Story and the Unfinished SDG Agenda	IMF	Baum (2020 ¹⁸) estimates the additional spending needs to meet SDGs in five sectors: education, health, roads, water, and electricity infrastructure for Vietnam. This study employs IMF SDG costing methodology, WASH cost model, and pooled regression as described in Brollo et al. (2021) in the case of Pakistan.

¹³ SDSN. (2019). SDG Costing and financing for low-income developing countries.

¹⁴ Gaspar et al (2019). Fiscal Policy and Development: Human, Social, and Physical Investment for the SDGs. IMF Staff Discussion Note

¹⁵ Brollo et al (2021). Pakistan: Spending Needs for Reaching the Sustainable Development Goals (SDGs), IMF working paper No. 2021/108

¹⁶ Guy and Varughese (2016). “The Costs of Meeting the 2030 Sustainable Development Goal Targets on Drinking Water Sanitation, and Hygiene,” Water and Sanitation Program Technical Paper 103171 (Washington, DC: The World Bank Group).

¹⁷ Lledo and Perrelli (2021). SDG Financing Options in Rwanda: A Post-Pandemic Assessment, IMF working paper No. 2021/115.

¹⁸ Baum (2020). Vietnam’s Development Success Story and the Unfinished SDG Agenda, IMF working paper No. 2020/31.



Studies	Source	Comments
The Spending Challenges of Achieving the SDGs in South Asia: Lessons from India	IMF	Garcia-Escribano et al. (2021 ¹⁹) estimate the additional spending needs for sectors including education, health, water, electricity, and infrastructure for South Asian countries, particularly India. This study is based on IMF costing approach developed by Gaspar et al (2019), focusing on medium-term development challenges.
Costing the three transformative results (for 120 priority countries)	UNFPA	UNFPA (2019) ²⁰ based on data from 120 priority countries, highlighted three areas of SDGs: (i) ending preventable maternal deaths; (ii) ending the unmet need for family planning; and (iii) ending gender-based violence and all harmful practices against women and girls. This study is based on the unit cost approach, regression analysis, and mathematical models. Mongolia is one of the 120 priority countries. By 2030, the total investment required to meet these three areas of SDGs in the 120 priority countries will be USD 264 billion.
SDGs Financing Strategy Bangladesh Perspective	General Economic Division, The Government of Bangladesh	The costing report provides an estimate of the annual resource gap with the opportunity to update government interventions and financing strategies accordingly. This study employs poverty gap analysis, Incremental Capital-Output Ratio (ICOR) analysis, investment requirements for specific sectors, and block allocation for some targets. For some goals and targets, ongoing programs under the national budget were used as a base for the cost estimation to improve coverage (Bangladesh, 2017 ²¹).
Needs Assessment, Costing and Financing Strategy for SDGs	National Planning Commission, the Government of Nepal	The funding needs estimate is based on the interventions approved for each sector and their budgeted costs. Planned national interventions were used for the 9 SDGs. The total financing needs and financing gaps for each sector were estimated (Government of Nepal, 2018 ²²).
Financing the Child Centered SDGs in Ethiopia	UNICEF	The relevance of the SDGs targets was examined and used to determine the total funding needs. This study employs a unit cost approach and multi-factor functional analysis in computing total financing needs, available financing resources, and the corresponding financing gaps (UNICEF, 2019 ²³).
Handbook on Costing Gender Equality	UN Women	It covered five country cases and was based on unit cost calculations. It explains how to estimate the total financing required and the financing gaps. However, no monetary value estimates have been made (UN Women, 2015 ²⁴).
Costing water, sanitation and hygiene services	WSP and UNICEF	It is an MS-Excel-based tool for estimating the financing needs of SDG-6.1 and SDG-6.2, and it has been in use since 2015. The last update was in 2020. Countries can use the WASH SDG Costing Tool to calculate the investments needed to fulfill the SDG targets (UNICEF, 2020 ²⁵).

¹⁹ Garcia-Escribano et al (2021). The Spending Challenge of Achieving the SDGs in South Asia: Lessons from India. IMF working paper No. 2021/294.

²⁰ UNFPA (2019). Costing the Three Transformative Results. New York

²¹ ibid

²² Government of Nepal (2018). Needs Assessment, Costing and Financing Strategy for Sustainable Development Goals.

²³ UNICEF. (2019). Financing the Child Centred SDGs in Ethiopia.

²⁴ UNWomen. (2015). Handbook on Costing Gender Equality.

²⁵ UNICEF. (2020). Sustainable Development Goal Country Costing Model For WASH. UNICEF.

Box 1.

Bangladesh’s SDG costing exercise

Bangladesh is one of the fastest growing economies in South Asia. According to the “Sustainable Development Goals: Bangladesh Progress Report 2021”, Bangladesh has progressed well in reducing poverty, improving the quality of education, mitigating the effects of climate change, and maintaining a decent annual GDP growth rate.

The Government of Bangladesh estimates the amount of additional costs required to achieve all 17 goals of SDGs by 2030. Bangladesh’s costing exercise covers about 80 percent of 169 SDG targets using diversified methods, including Multiplicative Factor Analysis (MFA), Poverty gap analysis, Incremental Capital-Output Ratio (ICOR), Program-based approach, and Unit cost approach. The total additional cost after accounting synchronization is USD 928 billion between 2017-2030, which is around 24 percent of an annual GDP, with the highest costs coming from SDGs 7, 8, 9. Based on the costing analysis, potential financing options for SDGs are also discussed.

Methodological approaches adopted in the Bangladesh study are mainly followed in this study. First, Bangladesh is one of the few countries which determine total and additional financing needs in each year by each SDG, yet thoroughly considered the synchronization effect when aggregating the total costs. Second, the costing approaches adopted in Bangladesh are suitable for the data scarcity problem, which is also the case in Mongolia.



2.2 Methods and general procedures followed in Mongolia's costing exercise

The following basic steps are followed in estimating Mongolia's spending needs to achieve the nationally determined sustainable development goals and targets.

- 1. Identify the target level of development and the interventions required:** This stage identifies the relevant national targets that are measurable and/or can be expressed in monetary terms and identifies possible actions, programs, and policy options to achieve those targets. The calculations are based on Mongolia's nationally determined target levels in the framework of the SDGs, which are stated in Vision 2050, its Five-Year Development Guidelines for 2021-2025 and Investment Program 2021-2025, Nationally Determined Contributions, and National SDGs indicators²⁶. Additionally, the projections on economic growth by the World Bank (2021)²⁷ and poverty rate by UNESCAP (2021)²⁸, which also account for COVID-19 impacts, are utilized.
- 2. Select the appropriate method of spending needs:** This stage determines an appropriate costing approach for the selected target, including unit costs or budgets associated with the targeted programs or interventions. This study employs the last two methods out of the common approaches listed in Table 2 based on consultations with experts from the UNDP Bangkok and the International Monetary Fund. At the national level, we should note that no country currently has a uniform methodology and/or a complete model that applies to all targets, as SDGs are inclusive of almost all sectors of the economy, society, and the environment. Therefore, an appropriate methodology is selected mainly depending on the relevance, availability, adequacy, and quality of the information/data related to a target. More specifically, if there are programs and interventions that are being implemented aiming at the target, the corresponding costs are used in the calculation (Intervention-based needs assessments). The simple unit cost method is used when it is possible to calculate the underlying unit cost and value-added costs (simple unit cost estimations - input-output elasticities). The incremental capital-to-output ratio is used in Objective 8.1 (Incremental capital-output ratio ICOR) calculation.



Table 2. Pros and Cons of common approaches for estimating financing needs

Approach	Commonly used	Advantages	Limitations
Incremental Budgeting Approach	Annual increments allocated, most budgets	Simple, it does not involve significant costing expertise.	Limited vision, lack of connection with results
Historical Projections	Empirical data used for budgeting estimates	Based on real experience	Not comprehensive, historical experience may not be optimal for understanding the future
Cost Modelling	Extrapolation from small cases, budgeting new activities	Alternative scenarios, understanding cost effectiveness	It depends on the model
Activity-Based Costing	Project budgeting, programme budgets	Detailed bottom-up budgeting	Not necessarily focused on outcomes and typically constant unit costs assumed
Results-Based Costing	Planning by objectives, log-frame, programme-based budgeting	Best practice, detailed, focused on outcomes	Advanced approach, not used in many developing countries

Source: (AP-FIN, 2020)²⁹

²⁶ NDA (2020). National Indicators and Targets for Mongolia's Sustainable Development Goals. (draft)

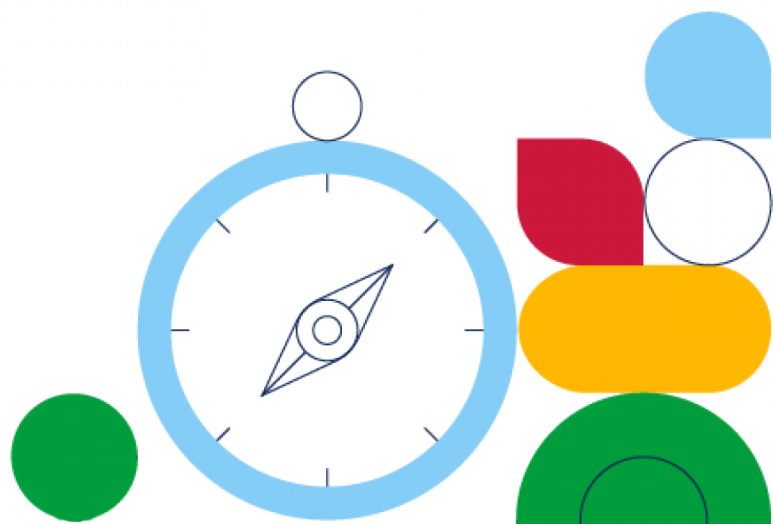
²⁷ World Bank (2021). Global Economic Prospectus. <https://openknowledge.worldbank.org/handle/10986/34710>

²⁸ UNESCAP. (2021). Excel model to assess the impact of COVID-19 and design policy responses. <https://www.unescap.org/resources/assessing-impact-covid-19-asia-and-pacific-and-designing-policy-responses-excel-based>

²⁹ *ibid*



- 3. Collect relevant data and consult appropriate parties:** At this stage, data related to SDGs of interest is collected from available sources. Mainly domestic country data are used. While it is not available, international data are utilized where appropriate.
- 4. Make simple, explicit calculations that focus on logical content:** This is the basic principle in our estimation. For simplification, a constant annual growth rate in each year is assumed unless it is determined differently in Vision 2050 or other policy documents. For example, the inflation rate is assumed to be 6 percent yearly, as envisioned in Vision 2050.
- 5. Estimate the total spending needs:** The total spending needs between 2021 and 2030 are calculated by summing up required spending for all SDGs across the years.
- 6. Identify baseline or business as usual cost for each goal:** Government's current spending in the budget or spending on the existing/ongoing programs in the corresponding SDGs is taken as a baseline cost. Sometimes (for example, in SDGs 3 and 4), associated baseline cost is expressed as a percentage share of GDP to facilitate further calculations. In the majority of cases, the baseline year is 2020.
- 7. Estimate additional spending needs:** The additional spending needs are computed by subtracting the baseline cost from the total spending needs calculated for each SDG. In case the projected 2020 baseline cost (governments business as usual) exceeds the amount of total required spending, yielding additional negative costs in some years, the negative estimates are replaced by zeros in calculation and '-' in reporting to avoid canceling out additional costs in any other year when additional spending amounts are summed up over the ten years (2021-2030).



2.3. The Coverage of SDG Costing Exercise in Mongolia

Vision-2050 is Mongolia's long-term development policy which aims to build a strong, diversified, green, and affluent economy by 2050. It is to be operationalized through a series of 10-year medium-term targeted policies. The first Targeted Development Program (2021-2030)³⁰ conforms with the current remaining period for the global Sustainable Development Goals that Mongolia has signed. Recently, the Government has adopted the first Targeted Development Plan 2021-2030, called "The New Recovery Policy," which has aimed to recover the economy from the COVID-19 pandemic, promptly address development barriers and create enabling environment, focusing on six main areas (relating to SDG 6, 7, 9, 11, 13, 15). The stakeholders stated the estimate of USD 35-42 billion (MNT 100-120 trillion) for the full implementation of this policy.

This study looked at programs, interventions, investments and targeted achievements up to 2030 at a national level in the framework of 17 SDGs and calculated the associated costs of implementing them. One could see that the estimated SDG cost in this study is inclusive of costs for implementing the New Recovery Policy, given that this study covers broader SDGs, and the remaining period of the global agenda 2030 overlaps with the policy implementation period. Therefore, the amount of estimated spending needs have the direct implications on the achievement of both the Targeted Development Plan and SDGs by 2030. More specifically, it sheds light on areas/sectors with the most spending needs, which helps to strengthen the coherence of the planning, budgeting, and financing process and ensure a better alignment of existing financing with development policies. Table 3 below shows the elements used in the costing exercise.



Table 3. Elements used in the costing exercise

	Targets	Percentage
Unit Cost	14	8%
Input-Outcome	31	18%
Intervention or program based	74	44%
Incremental Capital-Output ratio	1	1%
Total of Costed Targets	120	71%
Synchronized	31	18%
Fully Implemented	4	2%
Not Relevant	14	8%
Total	169	100%

The 70th session of the UN General Assembly in 2015 approved 17 goals and 169 objectives of the "Sustainable Development Goals," officially launched worldwide on 1st January 2016. In March 2017, the 48th session of the UN Statistical Commission identified 244 indicators to assess the implementation of SDGs. The costing exercise covers 120 targets. To avoid double-counting (over-estimating), 31 targets are synchronized with other goals and targets, following Bangladesh's SDG Financing Strategy (Bangladesh, 2017).

³⁰ The new Ministry of Economic Development (MED), established in Jan 2022, is working on a 'Targeted Development Program' (2022-2030) to operationalize the new economic recovery policy and align it with the achievement of SDGs. Government of Mongolia. 2022.



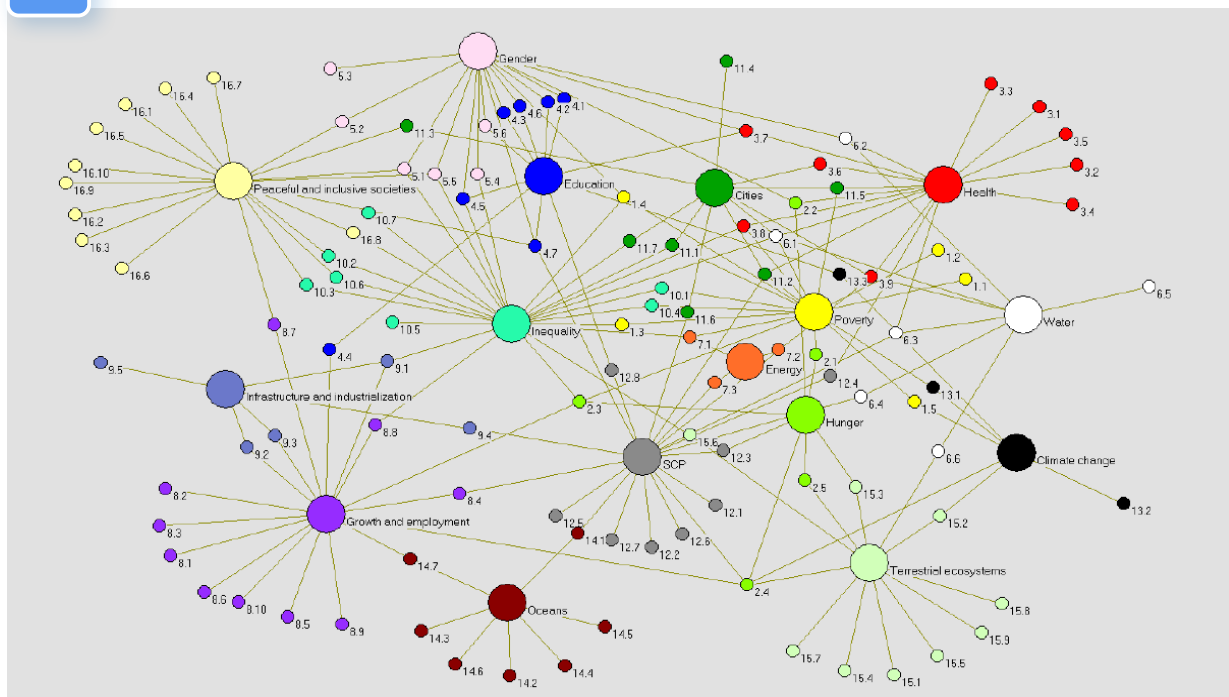
Hence, they are not added to the total spending needs. Fourteen targets are not directly relevant to Mongolia; hence, the costs associated with the corresponding targets are not estimated. This relates to 10 targets in SDG-14 and four in SDG-17 (17.2, 17.3, 17.7, 17.12), which account for 8 percent of all targets. Four targets have been fully implemented in Mongolia, including SDG-3.a: Strengthen the implementation of the World Health Organization Framework Convention on Tobacco Control in all countries, as appropriate, SDG-5.b: Enhance the use of enabling technology, in particular information and communications technology, to promote the empowerment of women. SDG-16.9: By 2030, provide legal identity for all, including birth registration, SDG-17.10: Promote a universal, rules-based, open, non-discriminatory, and equitable multilateral trading system under the World Trade Organization, including through the conclusion of negotiations under its Doha Development Agenda (UNDP, 2021b)³¹.

There are 52 targets (out of 74 in the table) for which the associated interventions and program costs reflected in the Action Plan of the Government of Mongolia for 2020-2024 are used. However, it does not fully consider the amount of funding required in the future. If the funding included in the Government’s action plan is related to more than one target, the planned amount of funding is divided into the relevant targets. This approach was also undertaken in the costing exercise for Nepal.

The correlation between the SDGs and targets (Figure 1), as shown in Blanc (2015), is used as a basis for synchronization in Mongolia’s overview of spending needs. This approach has also been used in Bangladesh. According to Blanc (2015)³², out of 107 SDG targets, there are 60 which are explicitly related to at least one other goal, while 19 are correlated to three or more goals creating a network of targets emphasizing interdependence and integration.



Figure 1. Coherence of SDG objectives



Source: (Blanc, 2015)

³¹ UNDP (2021b). Detailed assessment of the alignments of the existing plans and policies with the SDGs.

³² Blanc, D. L. (2015). Towards integration at last? The sustainable development goals as a network of targets. DESA Working Paper No. 141, 19.

Since the cost estimates are based on targets, the relationships shown in Table 4 are used to avoid overestimating required spending needs. The intersection of two SDGs that have targets with overlapped costs or inclusive of one another is highlighted in blue. For example, SDG-2.1 (ensure access by all to safe, nutritious, and sufficient food all year round) is similar to SDG-1.1 (By 2030, eradicate extreme poverty for all people everywhere). The yellow indicates each SDG’s correlation with itself, hence the perfect correlation, and the green highlight reveals a goal not relevant to Mongolia.



Table 4. Correlation between SDGs

	SDG-1	SDG-2	SDG-3	SDG-4	SDG-5	SDG-6	SDG-7	SDG-8	SDG-9	SDG-10	SDG-11	SDG-12	SDG-13	SDG-14	SDG-15	SDG-16	SDG-17
SDG-1	Own							Synchronized					Synchronized	-			
SDG-2	Synchronized	Own												-			
SDG-3			Own		Synchronized	Synchronized						Synchronized		-			
SDG-4				Own	Synchronized			Synchronized				Synchronized		-			
SDG-5					Own								Synchronized	-		Synchronized	
SDG-6						Own					Synchronized		Synchronized	-	Synchronized		
SDG-7							Own		Synchronized					-			
SDG-8								Own			Synchronized		Synchronized	-			
SDG-9								Synchronized	Own					-			
SDG-10									Synchronized	Own				-			
SDG-11			Synchronized								Own			-	Synchronized		
SDG-12								Synchronized			Synchronized	Own		-			Synchronized
SDG-13				Synchronized									Own	-			
SDG-14	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SDG-15			Synchronized											-	Own		
SDG-16								Synchronized						-		Own	Synchronized
SDG-17								Synchronized	Synchronized					-			Own

 Synchronized  Own  - Not relevant

The following principles were followed in correcting the duplication of spending needs for SDG objectives:

- Whether the targets are logically related,
- Check if there is a coherence between the indicators or the targets that are considered relevant,
- Determine whether the information/data used in the calculations is available, relevant, and adequate.

Not all estimated costs are included in the total and additional spending when there are target synchronizations.



Part 3

DATA


3. Data

The data used to estimate the spending needs required to achieve the SDGs are as follows:

- **Baseline information:** The latest available official statistics and data are used in the calculation. For the majority of estimates, the year 2020 figures are employed. For example, the newest Poverty Indicators are available in Poverty Update 2020 report. Nominal GDP was taken from the National Statistical Office figure for 2020. State Budget expenditures and other programs and interventions are as of 2020. However, in some cases, for example, for SDG-3 and SDG-4, the baseline expenditures (as a percentage of GDP) are employed as of 2019 due to a lack of information on private sector expenditures. Furthermore, for SDG-9, the baseline road length is based on the average of lengths constructed in the last five years to avoid downward bias due to COVID-19 impacts during the previous two years. Detailed explanations of the baseline parameters used in the cost estimation can be found in the appendix tables.
- **Target level:** Four primary sources of information are used.
 1. If a target contains a pre-determined achievement level, then that level is used. For example, SDG-8.1 (Sustain per capita economic growth in accordance with national circumstances and, in particular, at least 7 percent gross domestic product growth per annum in the least developed countries) has a self-contained target line, economic growth of 7 percent or more.
 2. Relevant targets in Annex 3 of the “Vision-2050” monitoring and evaluation indicators for Mongolia’s long-term development policy, are used where appropriate. For example, the length of the railway and road (km) to be constructed by 2025 and 2030 in Vision 2050 is the target for SDG-9.1.
 3. This study also employs the target levels of relevant indicators in the “National Indicators and Targets for Mongolia’s Sustainable Development Goals” shared by NDA (2020)³³. For example, the target line of indicator 2.1.2 (10 percent) reflected in the NDA document is used for SDG-2.1.
 4. The cost or funding is adopted directly if the costs associated with interventions or programs are already calculated as part of another study (SDG-13) or the amount is estimated using a specific model (SDG-6). For example, the financing needs for SDG-13: Climate action is determined by the results of the measures outlined in the “Nationally Determined Contribution Objectives for the Implementation of the Paris Agreement” (MOET, 2020)³⁴.
- **Annual changes:** Generally, the assumption of a gradual increase from the baseline to the targeted level is maintained. If the pattern of changes from year to year or growth rate is already determined for indicators in policy documents, then that is adopted in the calculation. The growth rate is set constant in the absence of targets each year, especially for 2026-2030. See the tables in Appendix 1 for a detailed description of each target.

³³ Ibid. The draft of this document is prepared by National Development Agency (which has become Ministry of Economic Development in January 2022) and shared with UNDP. The formal approval of this document is currently in process.

³⁴ MOET. (2020). National Determined Contribution Targets for the Implementation of the Paris Agreement. Page 92-102.



Part 4

RESULTS

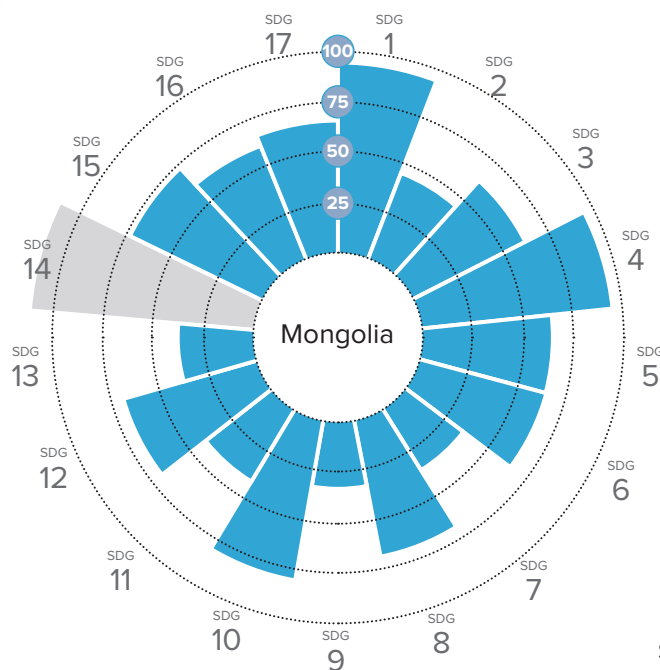
4. Results

4.1 Mongolia's SDG Performance

According to the Sustainable Development Index, calculated by the Sustainable Development Solutions Network, Mongolia's achievement of SDGs score is 63.5, which is around 2.4 percent lower than the regional average score of 65.9 (Sachs, 2022)³⁵. The results also show that Mongolia has not made substantial progress toward SDGs over the past three years. Figure 2 shows Mongolia's average performance by SDGs. The implementation of each SDG is measured by the SDG index score in percentage, and the difference between the score, and 100 percent indicates a distance to reach optimal SDG performance. From Figure 2, SDG 9 lags the most and requires faster progress towards achieving the goal. Followed by SDG 9, SDG 2, 7, 11, and 13 have much lower performance than the optimal level, having a score of less than 50 percent.



Figure 2. Mongolia's average performance by SDGs



Source: Sachs et al. (2022).

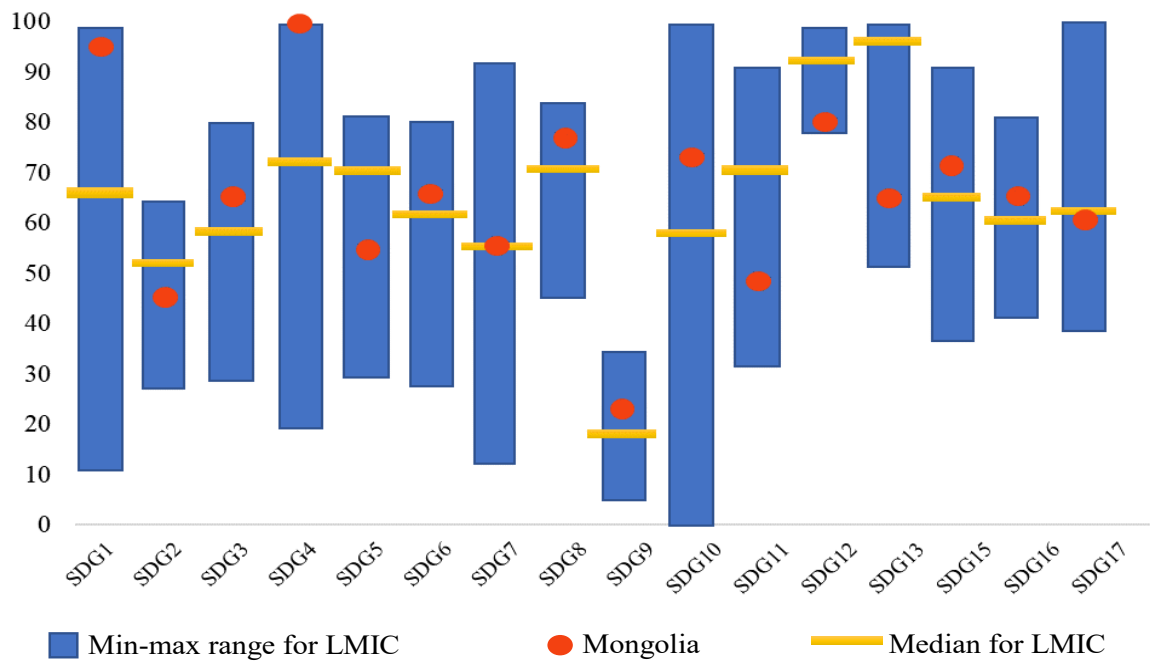
³⁵ Sachs et al (2022). The Sustainable Development Report. <https://dashboards.sdgindex.org/static/profiles/pdfs/SDR-2021-mongolia.pdf>

Figure 3 compares the performance of Mongolia with the performance of lower-middle-income countries³⁶ by SDGs. The blue bars in Figure 3 indicate the range between minimum and maximum index of SDG in lower-middle-income countries, and the yellow lines point to their medians. Red dots visualize how Mongolia is performing compared to its peers. These statistics are calculated based on the country scores provided by Sachs et al. (2020)³⁷ for the 45 countries classified as lower-middle-income following the World Bank classification.

Compared to its peers, Mongolia is progressing well in reducing poverty and providing quality education, achieving one of the top scores. While Mongolia is performing reasonably well in many SDGs, lots of efforts shall be made to advance SDGs 2 (zero hunger), 5 (gender equality), 11 (sustainable cities and communities), 12 (responsible consumption and production), and 13 (climate action) as the corresponding index scores appear to be below the median of peer countries.



Figure 3. Mongolia's SDG performance in comparison to lower-middle-income countries



Data source: Sachs et al. (2020)

³⁶ World Bank country classification by income level, as of 2020, is used. <https://datahelpdesk.worldbank.org/knowledgebase/articles/906519-world-bank-country-and-lending-groups>

³⁷ The latest available raw data for country scores by SDGs and by countries are provided by Sachs et al (2020). <https://www.sustainabledevelopment.report/reports/sustainable-development-report-2019/>

4.2 Overview of the total and additional spending needs

This section provides an overview of the total and additional annual spending needs required to achieve SDGs by 2030. Table 5 shows SDGs' total annual spending needs between 2021 and 2030. By 2030, the total spending needs will be around USD 97 billion (MNT 276 trillion). The majority of spending will go to developing industry, innovation, and infrastructure (SDG-9), providing quality education (SDG-4) and good health (SDG-3), and fighting against poverty (SDG-1). Although Mongolia is progressing well on these SDGs compared to other lower-middle-income countries, ambitious nationally determined SDG targets, as indicated in Vision 2050, will lead to an increase in associated costs (the details of the targets and cost calculations will be provided in subsection 4.3).

Some estimated costs are excluded from the total to reduce potential duplication. For example, the target 8.1 alone (maintaining 7 percent GDP growth in each year between 2021 and 2030) requires USD 65.3 billion (MNT 186 trillion) spending/funding according to the calculation (see details in Appendix 1.8.1). However, this spending has the potential of duplication and double counting. For instance, the estimates suggest a substantial amount of the expenditure on other targets is closely related to target 8.1. Therefore, the required spending to reach target 8.1 is excluded from the total costs needed to avoid double accountancy.

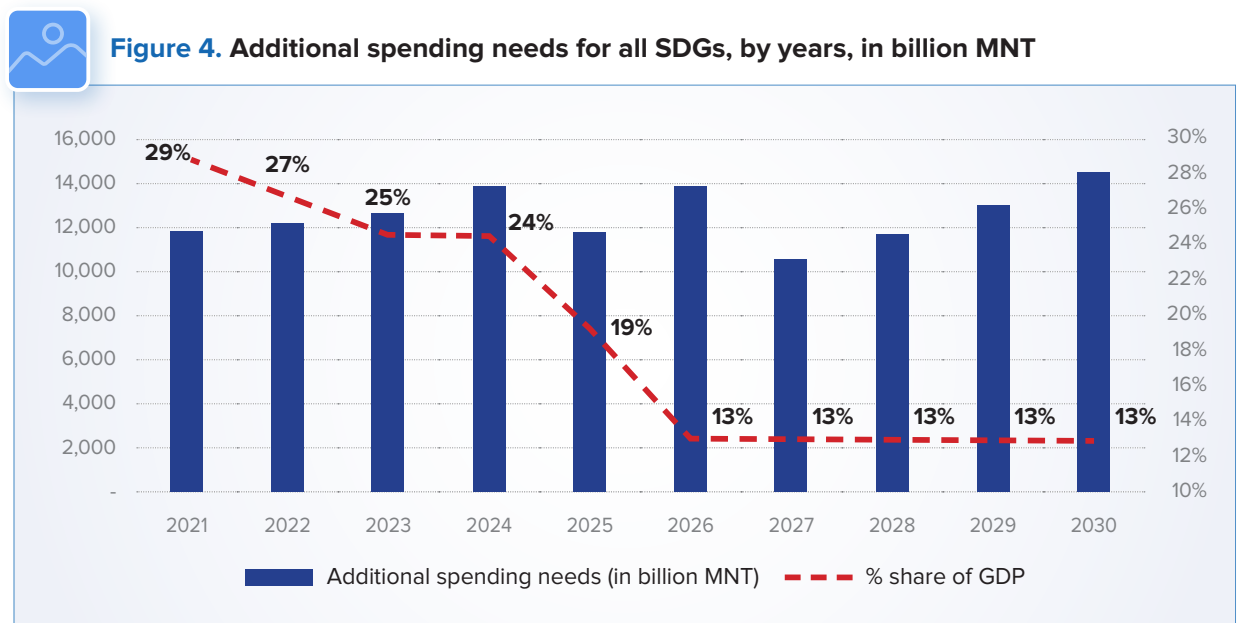


Table 5. Estimated total spending for SDGs, in billion MNT

Goals	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	Total	%
SDG-1	3,026.4	3,039.5	2,850.1	3,145.8	2,519.3	2,516.9	2,537.1	2,553.2	2,447.8	2,677.7	27,313.9	9.9%
SDG-2	1,331.4	1,266.5	1,271.9	1,277.3	169.4	164.9	158.6	150.3	141.3	127.4	6,059.1	2.2%
SDG-3	1,824.9	2,133.1	2,487.7	2,895.6	3,364.1	3,901.7	4,518.3	5,224.7	6,033.4	6,958.6	39,342.1	14.3%
SDG-4	2,158.9	2,486.0	2,859.7	3,286.2	3,772.8	4,327.6	4,959.9	5,680.1	6,500.1	7,433.3	43,464.6	15.8%
SDG-5	83.8	84.2	84.2	91.0	-	-	-	-	-	-	343.2	0.1%
SDG-6	471.3	499.6	529.5	561.3	595.0	630.7	668.5	708.6	751.1	796.2	6,211.8	2.3%
SDG-7	2,169.3	2,169.3	2,169.3	2,169.3	1,022.0	1,022.0	1,022.0	1,022.0	1,022.0	1,022.0	14,809.0	5.4%
SDG-8	167.8	167.8	153.8	194.5	45.0	-	-	-	-	-	728.9	0.3%
SDG-9	11,285.1	11,758.7	12,288.1	19,545.9	6,836.8	4,703.9	5,164.6	5,677.5	6,249.2	6,886.7	90,396.5	32.8%
SDG-10	42.1	53.3	67.8	125.1	81.4	125.8	185.4	263.4	364.0	492.1	1,800.4	0.7%
SDG-11	1,150.0	1,213.4	1,288.4	1,367.7	1,448.7	1,538.3	1,640.8	1,724.7	1,839.7	1,953.5	15,165.2	5.5%
SDG-12	163.0	137.3	143.7	246.8	61.7	79.4	84.2	89.2	94.6	100.3	1,200.2	0.4%
SDG-13	1,365.4	1,365.4	1,365.4	1,365.4	1,365.4	1,365.4	1,365.4	1,365.4	1,365.4	1,365.4	13,654.0	5.0%
SDG-14	Not relevant for Mongolia											
SDG-15	1,415.2	1,499.7	1,589.3	1,684.4	1,761.0	732.0	776.1	882.8	872.3	924.8	12,077.7	4.4%
SDG-16	215.4	215.4	215.4	424.4	-	-	-	-	-	-	1,070.6	0.4%
SDG-17	485.40	485.40	485.40	584.98	-	-	-	-	-	-	2,041.2	0.7%
Total spending needs in billion MNT	27,355.3	28,574.5	29,849.8	38,965.7	23,042.4	21,108.7	23,080.9	25,282.0	27,681.0	30,738.0	275,678.3	100%

This study also calculates additional annual spending needs of SDGs by subtracting the government’s current spending or business as usual cost (which is adjusted by expected inflation and real economic growth rates) from the total spending needs. Figure 4 depicts the annual additional spending needs of all SDGs over the next ten years and the percentage share of GDP (plotted in red dashed line). Mongolia needs approximately annual additional spending of 18 percent of GDP on average during 2021-2030 to make substantial progress on the SDGs.

For the initial years, the share of additional annual spending in GDP is higher compared to the latter years. This is because nominal GDP is expected to grow at a rate of inflation and real growth rates (which are 6 percent annually as set out by Vision 2050 and 5.4 percent annually as projected by the World Bank (2021), respectively), leading to an increase of a nominal GDP almost by a triple by the end of 2030³⁸, while the estimated annual additional spending needs in each year remain relatively stable. This explains the smallest percentage share of GDP, yet the highest annual cost amount in 2030, implying that the investments in the first few years will be of challenge and the burden will be eased with time.



³⁸ This seems a reasonable assumption as the nominal GDP had increased by over 3 times in the last 10 years. https://www.1212.mn/tables.aspx?tbl_id=DT_NSO_0500_001V1&13999001_select_all=0&13999001SingleSelect=_T1&ISIC_I_select_all=0&ISIC_ISingleSelect=&YearY_select_all=0&YearYSingleSelect=_2021_2020_2019_2018_2010_2011_2017_2016_2015_2014_2013_2012&viewtype=table

**Table 6. Additional spending needs for SDGs, in billion MNT**

Goals	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	Total	% in total	% in GDP
SDG-1	637.0	506.8	165.5	300.0	-	-	-	-	-	-	1,609.3	1.3%	0.2%
SDG-2	1,193.2	1,120.1	1,116.7	1,112.8	-	-	-	-	-	-	4,542.8	3.7%	0.6%
SDG-3	89.9	200.2	334.5	496.9	691.9	925.0	1,202.2	1,530.6	1,918.2	2,374.3	9,763.6	8.0%	1.4%
SDG-4	72.7	162.0	270.7	402.1	559.9	748.4	972.7	1,238.4	1,552.0	1,921.1	7,900.0	6.5%	1.1%
SDG-5	-	-	-	-	-	-	-	-	-	-			0.0%
SDG-6	454.1	480.4	508.1	537.3	568.2	600.8	635.1	671.3	709.4	749.6	5,914.3	4.9%	0.8%
SDG-7	2,149.8	2,147.5	2,145.0	2,142.1	991.7	988.1	984.1	979.7	974.8	969.2	14,472.0	11.9%	2.1%
SDG-8	167.8	167.8	153.8	194.5	45.0	-	-	-	-	-	728.9	0.6%	0.1%
SDG-9	3,754.2	4,135.4	4,561.7	5,050.1	5,604.1	3,899.3	4,290.7	4,727.7	5,216.2	5,762.7	47,002.1	38.7%	6.7%
SDG-10	(2.8)	5.6	17.3	71.6	24.6	65.7	121.6	195.8	292.3	416.1	1,207.8	1.0%	0.2%
SDG-11	679.2	702.5	725.0	746.5	766.5	784.6	800.3	813.2	822.6	827.7	7,668.1	6.3%	1.1%
SDG-12	162.1	136.3	142.5	245.6	60.3	77.8	82.4	87.3	92.4	97.8	1,184.6	1.0%	0.2%
SDG-13	1,053.6	1,017.0	976.2	930.6	879.6	822.6	759.0	687.9	608.5	519.7	8,254.6	6.8%	1.2%
SDG-15	1,385.7	1,449.0	1,532.7	1,621.2	1,690.3	653.1	687.9	724.3	762.3	801.9	11,308.6	9.3%	1.6%
Additional spending needs in billion MNT	11,796	12,231	12,650	13,851	11,882	9,565	10,536	11,656	12,949	14,440	121,557	100%	17.3%
Nominal GDP in billion MNT	14,311	46,020	51,267	57,111	63,622	70,875	78,954	87,955	97,982	109,152	704,250		
Additional cost as percentage in GDP	29%	27%	25%	24%	19%	13%	13%	13%	13%	13%	17.3%		

*The last column in the above table details additional spending as a percentage of GDP for each SDG target, while the last row provides information on additional spending required each year as a percentage of GDP.

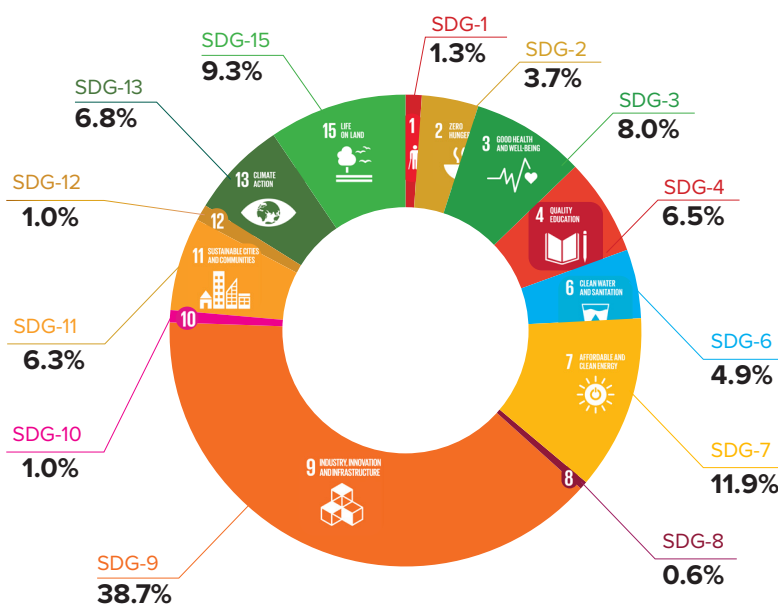
The additional annual spending amounts for each SDG are presented in Table 6. It also includes the projections of nominal GDP over the years and a percentage share of additional costs in nominal GDP for each year. The table suggests that a cumulated additional spending need by 2025 is around USD 22 billion (MNT 62 trillion); by 2030 it would reach a total sum of USD 43 billion (MNT 122 trillion). Figure 5 shows the distribution of additional spending needs by SDGs in which the largest share of spending goes to the ones highlighted in blue. More specifically, to achieve 2030 development targets, the most considerable funding is needed for Industry, innovation, and infrastructure (38.7 percent of all additional spending), followed by Affordable and clean energy (11.9 percent), Life on Land (9.3 percent), Good health and wellbeing (8.0 percent), Climate action (6.8 percent) and Quality education (6.5 percent), and sustainable cities and communities (6.3 percent), and sustainable cities and communities (6.3 percent).

Mongolia’s estimated additional spending need is comparable to other lower-middle-income countries (LIMC). Incomparable LIMC, the estimated costs range between 6.5-24 percent of GDP, as shown in Table 7. However, one must note that many of the studies presented in Table 7 employ IMF benchmarking methodology. Additional annual spending needs are expressed as percentage points of GDP in the year 2030 (in real terms). Our analysis computes the additional yearly spending as a percentage point of GDP in the corresponding year until 2030 (in nominal terms).

Although Mongolia’s average annual additional cost figure (around 17 percent of GDP) appears closer to the higher end of this range, it includes required additional spending to achieve all SDGs. Most studies in the literature focus on only five SDGs, namely health, education, water/sanitation, electricity, and road infrastructure. Exceptions are the studies for Bangladesh and Nepal, which compute the costs for achieving all SDGs, reporting the additional annual cost of 24 percent and 12.8 percent of GDP, respectively, to reach SDGs by 2030. Considering that Mongolia ranks the lowest in infrastructure development³⁹ among the countries in Table 7, the most extensive additional spending requirement comes from SDG 9 for infrastructure development, which is slightly higher than additional spending on average compared to that of lower-middle-income countries - and is justifiable.



Figure 5. Structure of additional spending needs




³⁹ <https://lpi.worldbank.org/international/global?order=Infrastructure&sort=asc>

**Table 7. Additional spending estimates in international studies**

N°	Studies	Region /Country Covered	SDGs Covered	Selected sector	Sectoral Financing Estimate as % of GDP	Additional Financing Estimate as a percentage of GDP
1	Baum (2020)	Viet Nam (Lower middle income)	SDG 3	Education	0%	Annual additional spending needs -7%
			SDG 4	Health	0.8%	
			SDG 6	Water/Sanitation	0.5%	
			SDG 7	Electricity	2.8%	
			SDG 9	Roads	2.9%	
2	Brollo et al., (2021)	Pakistan (Lower middle income)	SDG 3	Education	5.7%	Annual additional spending needs - 16%
			SDG 4	Health	5.4%	
			SDG 6	Water/Sanitation	2%	
			SDG 7	Electricity	0.7%	
			SDG 9	Roads	2.3%	
3	Escribano et al., (2021)	South Asia: India (Lower middle income)	SDG 3	Education	-	Annual additional spending needs-6.2%
			SDG 4	Health	-	
			SDG 6	Water/Sanitation	-	
			SDG 7	Electricity	-	
			SDG 9	Roads	-	
4	Lledo and Perrelli (2021)	Rwanda (Low income)	SDG 3	Education	6.1%	Annual additional spending needs-18.7%
			SDG 4	Health	2.2%	
			SDG 6	Water/Sanitation	4.5%	
			SDG 7	Electricity	2%	
			SDG 9	Roads	3.9%	
5	Ruiz and Soto (2019)	Guatemala (Lower middle income)	SDG 3	Education	3.3%	Annual additional spending needs-8.5%
			SDG 4	Health	1.4%	
			SDG 6	Water/Sanitation	0.6%	
			SDG 9	Roads	3.4%	
6	Tiedemann et al (2021)	Small Developing States: Benin (Lower middle income)	SDG 3	Education	5.5%	Annual additional spending needs-21%
			SDG 4	Health	4.2%	
			SDG 6	Water/Sanitation	1.7%	
			SDG 7	Electricity	2.4%	
			SDG 9	Roads	8.1%	
7	General Economics Division (GED)	Bangladesh (Lower middle income)	All	All	-	Annual additional spending needs-24.06%
8	National Planning Commission	Nepal (Lower middle income)	All	All	-	The annual funding gap between 2016-2030, is 12.8% of GDP.
9	UNICEF	Ethiopia (Low income)	20 targets particularly important for childhood development	-	-	Total expenditure as a percentage of GDP- 19.9% (in the aggregated model)

4.3 The details of spending need assessment by SDGs

This subsection outlines the approaches adopted, targets’ costs, and the corresponding results for each SDG. The costing process is selected depending on the corresponding target since the same method cannot be uniformly applied to all.

SDG-1: No Poverty			
	Targets costed	Targets considered synchronized	Targets with spending amounts that are determined in existing programs and interventions
Targets*	1.1, 1.3	1.2 with SDG-8 1.5 with SDG-1	1.4, 1.a, 1.b

* Please refer to the link for target details <https://unstats.un.org/sdgs/indicators/indicators-list/>

Total spending needs for SDG-1.1: “By 2030, eradicate extreme poverty for all people everywhere, currently measured as people living on less than \$1.25 a day” is calculated based on nationally determined targets on poverty, stated in Vision-2050 and its monitoring and evaluation indicators. According to the target in Vision-2050, poverty will be reduced to 20 percent by 2025 and 15 percent by 2030 from 28.4 percent in 2020 (NSO, 2020a). The differences between the upper and lower poverty lines are used in the calculation, which was MNT 1,090,680 per capita in 2018, which is used as a unit cost of transfer to people who live below the lower poverty line. Per capita transfers are projected to increase by the inflation rate of 6 percent each year until 2030. This approach follows Bangladesh’s (2017) methodology and details of the calculation can be found in Appendix 1.1.1.

SDG-1.2: Halving poverty is aligned with SDG 1.1 as it reduces the poverty rate by almost half. The financing can also account for its needs’ calculation of SDG-8 (Decent work and economic growth) and SDG-1.5 (Increase the resilience of vulnerable people). A separate calculation for SDG-1.2 is not made to avoid double accounting of the cost.

Indicator-1.3.1 in “National Indicators and Targets for Mongolia’s Sustainable Development Goals” is used for estimating the financing needs for SDG-1.3: social protection system and measures for all, including floors. More specifically, the financing needs requiring to increase the share of people who receive unemployment benefits and pensions, and are covered by accident insurance, have been calculated. As of 2020, the percentage of unemployed people receiving unemployment benefits is 21.8 percent, the percentage of employees covered by accident insurance is 86 percent, and the percentage of pensioners is 86.5 percent, targeted to increase to 26.8 percent, 99 percent, and 90.5 percent, respectively in 2030. The percentage increase from the baseline and the targeted level is assumed to be gradual and equal each year using a simple interpolation method. Calculated expenditures in 2020 are expected to grow with the inflation rate each year until 2030 (see details in Appendix 1.1.2).

SDG-1.4, SDG-1.a, and SDG-1.b can be achieved through policy coordination and coherence. Spending associated with these targets is planned in the Action Plan of the Government of Mongolia for 2020-2024 and is hence included in the total spending needs. The total expenditure in the Government’s action plan is allocated up to 2024. With the absence of government spending estimates, the total and additional expenditures estimated for 2025 and 2026 fall compared to previous years. However, projected inflation and GDP growth rates are used for estimating the spending amounts for the



remaining years⁴⁰. Table 8 presents the total and additional annual spending needs until 2030 for SDG-1. The latter is estimated by subtracting the Government’s business as usual costs on reducing poverty from the total required spending (see details in Appendix 1.1.3). However, note that a projected government’s business-as-usual cost appears to be higher than the total necessary spending in some years, yielding additional negative costs for those years. In this case, the negative amounts are replaced by zeros to avoid cancelling out additional costs in any other years when additional spending amounts over the years are summed up. This leads to the mismatch between the calculated additional spending amount and the difference between total spending and the Government’s business as usual cost. This is the case for Table 8 and some other subsequent tables.

From Table 8, the need for funding to reduce poverty between 2021 and 2030 is estimated to be MNT 27.3 trillion. Assuming that the Government’s social protection cost as of 2020 will be maintained and increased by the inflation level, it is projected to reach a total of MNT 31.5 trillion by 2030. Then, Mongolia needs additional additive spending of MNT 1.6 trillion up until 2025 and maintains business as usual costs afterward until 2030 to achieve SDG-1 targets. Since the Government’s social protection costs are assumed to increase higher than the total spending needed to reduce poverty, no additional annual expenditures will be required between 2025 and 2030. A general trend in additional spending needs for SDG-1 is plotted in Figure 6.



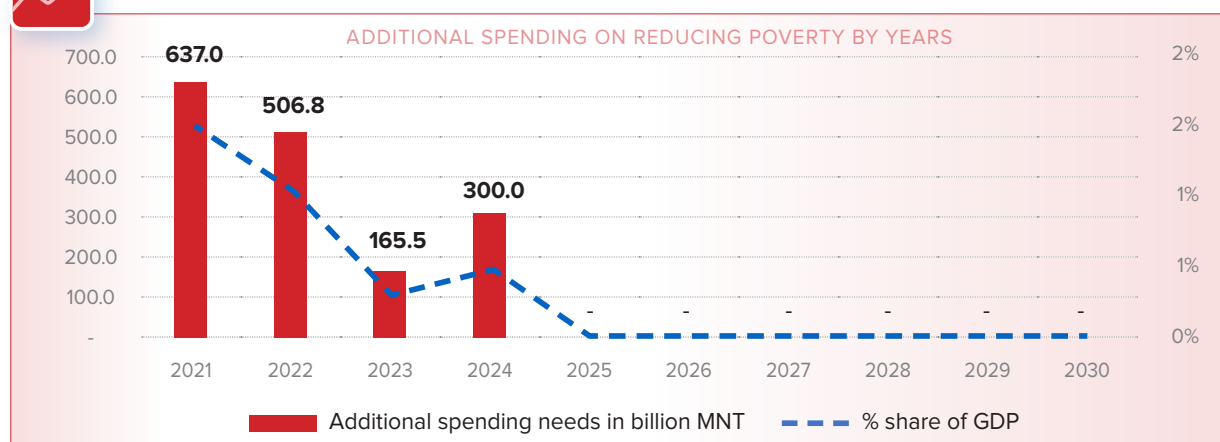
Table 8. Spending needs for SDG-1, in billion MNT

	2021-2025	2026-2030	Total
Total spending needs	14581.1	12732.8	27313.9
Government social protection cost projection (baseline 2020)	13469.0	18024.5	31493.5
Additional spending needs	1609.3 ⁴¹	-*	1609.3

* The Government’s baseline 2020 cost projection is more than the estimated total spending needs; hence, no additional spending is required for 2026-2030.



Figure 6. Trends in additional spending needs for SDG-1, at current prices, in billion MNT*



* In the year 2025, there is no additional cost as the baseline for the particular year is higher than the total cost required; hence, the graph would not show the cost for the individual year, but the cumulated 2021-2025 period would have an overall additional cost in the above table. Please refer to the methodology in section 2.2 above.

⁴⁰ It should be noted that the costs included in the Government Action Plan are not projected up to 2030 using inflation and GDP growth rate, as the targets and expenses of the Action Plan may change considerably every four-year depending on the priorities of the political ruling party hence, there are no-cost projections for some SDG targets for the year 2025 onwards

⁴¹ The government social protection cost exceeds the total spending needs starting from 2025 and the negative amounts are replaced by zero for the additional spending need. Hence the difference between the first two rows does not match the amount in the third row. See details in Appendix 1.1.3.



SDG-2: Zero hunger

	Targets costed	Targets considered synchronized	Targets with spending amounts that are determined in existing programs and interventions
Targets*	2.1, 2.2,		2.3, 2.4, 2.5, 2.a, 2.b, 2.c

* Please refer to the link for target details <https://unstats.un.org/sdgs/indicators/indicators-list/>

Target 2.1 aims to end poverty by 2030 and ensures that everyone, especially the poor and vulnerable, including infants, has access to healthy, nutritious, and adequate food throughout the year. A national food support voucher program for providing food support to a household with severe food security loss has been considered a cost to achieve this target. The number of households receiving food support will be reduced from 22.6% in 2020 to 10% in 2030, as targeted by NDA (2020)⁴². The monthly food voucher was 32000 MNT per adult and 16000 per child per month during the COVID pandemic, and the government pledged half the support from 2022 onwards. These amounts are adjusted with the inflation rate until 2030. The details of the calculation are presented in Appendix 1.2.1.

Spending needs for “SDG-2.2: By 2030, end all forms of malnutrition, including achieving, by 2025, the internationally agreed targets on stunting and wasting in children under five years of age” is calculated using the percentage share of stunting and wasting in children under 5 in kindergarten children and kindergarten meal expenditure. Stunting and wasting in children under five years of age was 9.4 percent in 2020. It is targeted to be reduced by 4 percent to 5.4 percent in 2030, as indicated in National indicators and targets for Mongolia’s SDGs (NDA, 2020). Additionally, the calculation accounted for the Government’s decision to double the cost of children’s meals at kindergartens, and the expenditure is further increased by the inflation rate annually (see Appendix 1.2.2 for details).

Action Plan of the Government of Mongolia for 2020-2024 includes a financing plan of MNT 1.6 trillion for targets 2.a, 2.b, 2.c and MNT 3 trillion for targets SDGs-2.3, SDGs-2.4, SDGs-2.5, which are taken into account when estimating the total spending needs (see details in Appendix 1.2.3).



Table 9. Spending needs for SDG-2, in billion MNT

	2021-2025	2026-2030	Total
Total spending needs	5316.6	742.5	6059.1
Government spending projection (Baseline 2020)	778.8	1042.2	1820.9
Additional spending needs	4542.8 ⁴³	-*	4542.8

* The Government’s baseline 2020 cost projection is more than the estimated spending needs; hence, no additional spending is required. Thus, additional spending estimates are not calculated for 2026-30.

⁴² Ibid.

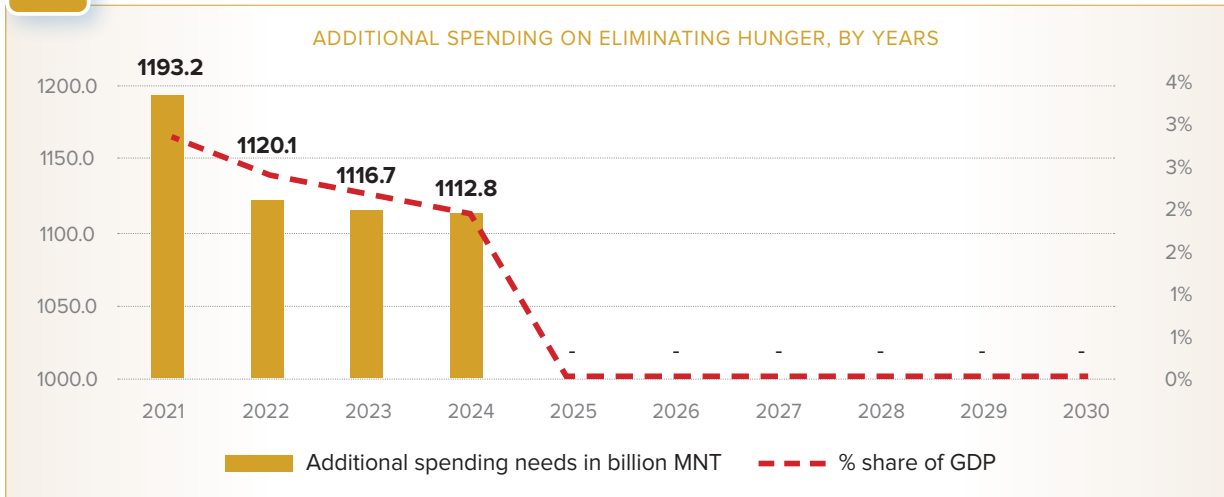
⁴³ The difference between the first two rows does not match the amount in the third row due to a higher baseline cost than the total spending from 2025. See details in Appendix 1.2.3.



The results are summarized in Table 9, and the dynamics of additional spending by years are shown in Figure 7. It is estimated that a total of MNT 6 trillion, from which MNT 4.5 trillion additional amount should be spent by 2030 to achieve national targets related to SDG-2. Due to the high planned expenditure in the Government action plan until 2024, total and additional spending needs are high in earlier years and lower in the later years. Thus, the projected baseline cost will cover the lower total costs between 2026-2030, leading to no additional spending for this SDG.



Figure 7. Trends in additional spending needs for SDG-2, at current prices, in billion MNT*



* In 2025, there is no additional cost as the baseline for the particular year is higher than the total cost required; hence, the graph would not show the cost for the individual year, but the cumulated 2021-2025 period would have an overall additional cost in the above table. Please refer to the methodology in section 2.2 above.



SDG-3: Good health and well being

	Targets costed	Fully implemented
Targets*	For this SDG, the overall cost is calculated based on total health spending (as a percentage share of GDP), and no separate estimation for each target is pursued.	3.a: Strengthen the implementation of the World Health Organization Framework Convention on Tobacco Control in all countries, as appropriate (UNDP, 2021a)

* Please refer to the link for target details <https://unstats.un.org/sdgs/indicators/indicators-list/>

The estimation for this goal is based on baseline and target levels of total health spending, including private and public as a percentage share of nominal GDP⁴⁴. The baseline level of health spending is defined as a sum of current and capital health expenditure (including public and private) as a share of GDP, which was around 4.2 percent as of 2019⁴⁵. The health spending target is 6.4 percent of the nominal GDP in 2030. This target is determined based on the average health expenditure share of GDP of non-advanced countries.

Non-advanced countries in the averaging are selected using two criteria: have achieved SDG 3 index⁴⁶ greater than 70 percent and have reached GDP per capita over USD 12,000 as of 2020⁴⁷. The first criterion is based on the assumption that the SDG 3 index will get at least to 70 percent by investing more in the health sector until 2030, which was 66 percent for Mongolia as of 2020. The second criterion relates to a goal in Vision-2050⁴⁸ that Mongolia's GDP per capita will increase to USD 12,054 by 2030. With these criteria, the target is computed based on the average of fifteen⁴⁹ countries.

The objective is to increase total health expenditure from 4.2 percent of GDP to 6.4 percent of GDP. We take the route that the health cost will be increased gradually until the target level (same as the Bangladesh approach) and interpolate the difference from the baseline to the target level by 2030 to yield additional spending for each year until 2030 (see Appendix 1.3.1 for details of the calculations).

As shown in Figure 8, the spending needs are growing rapidly between 2026-2030 due to the cumulated effects of economic growth and inflation rate along with the gradually increasing percentage share of health spending. A cumulated additional spending need for the next ten years will equal MNT 9.7 trillion, as shown in Table 10. The government of Mongolia mandates free and universal access to primary healthcare for its citizens. The recent study on the service availability and readiness assessment by Altantuya et al. (2019)⁵⁰ concluded that the availability of primary health center services is deficient due to a lack of diagnostic capacity, essential medicines, and availability of basic equipment.

⁴⁴ The latest available data for Mongolia is in 2019. Data retrieved from <https://databank.worldbank.org/reports.aspx?source=2&series=SH.XPD.CHEX.GD.ZS&country=>

⁴⁵ The domestic private health expenditure as a percent of current health expenditure is around 38 percent, according to the World Health Organization. The data can be found from: <https://apps.who.int/nha/database/ViewData/Indicators/en>

⁴⁶ Data retrieved from the global hub for real-time SDG data: <https://experience.arcgis.com/experience/a8866c3cec474d79b3e5ec9fa02c1ddc>

⁴⁷ Data retrieved from: <https://data.worldbank.org/indicator/NY.GDP.PCAP.CD>

⁴⁸ Vision-2050 Mongolia, Annex 3: <https://legalinfo.mn/mn/detail?lawId=211059&showType=1>

⁴⁹ Bahrain, Barbados, Chile, Costa Rica, Croatia, Hungary, Kuwait, Oman, Panama, Poland, Qatar, Saudi Arabia, United Arab Emirates, and Uruguay.

⁵⁰ Altantuya et al (2019). Free and universal access to primary healthcare in Mongolia: the service availability and readiness assessment. <https://bmchealthservres.biomedcentral.com/articles/10.1186/s12913-019-3932-5>



The surge of the COVID pandemic further points out the necessity to strengthen Mongolia's public health system preparedness at all levels, i.e., laboratory and human capacity, which require additional spending and reforms in the management system to increase the efficiency of the health care system. Ongoing result-based budgeting reform⁵¹ being piloted in the health sector is an important step forward in strengthening the national health system and well-being in more effective and cost-efficient ways.

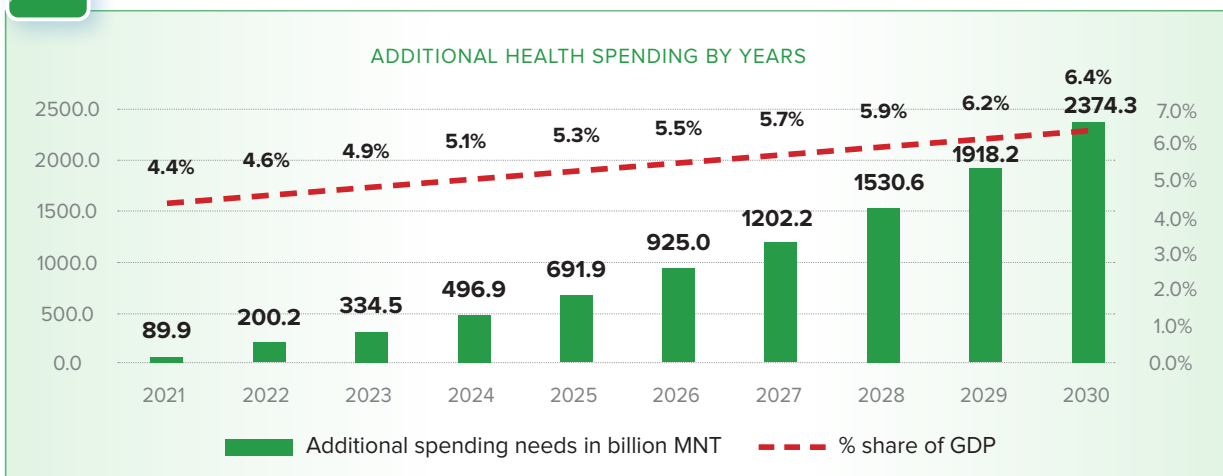


Table 10. Spending needs for SDG-3, in billions MNT

	2021-2025	2026-2030	Total
Total spending needs	12705.4	26636.7	39342.1
Government spending projection (baseline 2020)	10891.9	18686.6	29578.5
Additional spending needs	1813.5	7950.1	9763.6



Figure 8. Trends in additional spending needs for SDG-3, at current prices, in billion MNT



⁵¹ <https://www.undp.org/mongolia/projects/sdg-aligned-budgeting-transform-employment-mongolia>
https://cdn.who.int/media/docs/default-source/health-financing/who-symposium-on-health-financing-for-uhc/poster-mongolia.pdf?sfvrsn=949c22fc_2



SDG-4: Quality education

Targets costed

Targets*	For this SDG, the overall spending need is calculated based on total education sector expenditure (as a percentage share of GDP), and no separate calculation for each target is pursued.
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* Please refer to the link for target details <https://unstats.un.org/sdgs/indicators/indicators-list/>

The same principle as in SDG-3 is followed to calculate education costs for SDG-4. Both target and baseline education spending as a share of GDP is calculated as 6.8 percent and 5.1 percent, respectively. For Mongolia, government expenditure data on education is available⁵². Private sector education expenditure is derived based on the average private sector share in total education spending of peer lower-middle-income countries. More specifically, as of 2020, the government education expenditure was 4.4 percent of GDP. The private sector share is 13 percent of the total education sector spending, yielding a total cost equal to 5.1 percent of GDP.

The target level is computed based on the average education expenditure as a share of GDP of countries with an SDG 4 index greater than 97 percent and GDP per capita over USD 12,000. Mongolia's SDG 4 index, as of 2020, was 97.5, which is already a high level of achievement even for advanced economies. Therefore, developed economies are included in the pool to be selected in the averaging. The second criterion on the per capita GDP is based on a target by 2030, as envisioned in Vision-2050. It results in health expenditure at the target level of 6.8 percent of GDP by 2030.

The objective is to gradually increase spending on education (including private and public) from 5.1 percent to 6.8 percent of GDP by interpolating the difference of 1.7 percent across the years to calculate additional spending for each year until 2030 (see Appendix 1.4.1 for details of the calculations).

Over the next ten years, the cumulated additional spending required to achieve the quality education target will be MNT 7.9 trillion. The calculation represents the nominal amount that takes into account economic growth and inflation level.

Although Mongolia does well in achieving this SDG, compared to peer middle-income countries, it needs a systemic reform to improve the quality of education and ensure inclusive and equitable lifelong learning. This requires not only financial needs but also change at a policy level. UNESCO (2020)⁵³ provides four key policy recommendations related to education: to improve policy enforcement across the country with regard to preparing teachers to provide quality education, including supporting teachers in pursuit of professional development and continuous improvement; enhance policy or strategy to use Information and Communication Technologies to support education system and learning; increase access to equitable education for herder children by reducing barriers; address systemic issues related to equitable access to education by marginalized population including low-income children, children with disabilities, children from ethnic minority groups, girls, children with different gender identities, and rural children.

⁵² https://1212.mn/tables.aspx?TBL_ID=DT_NSO_2002_055V1

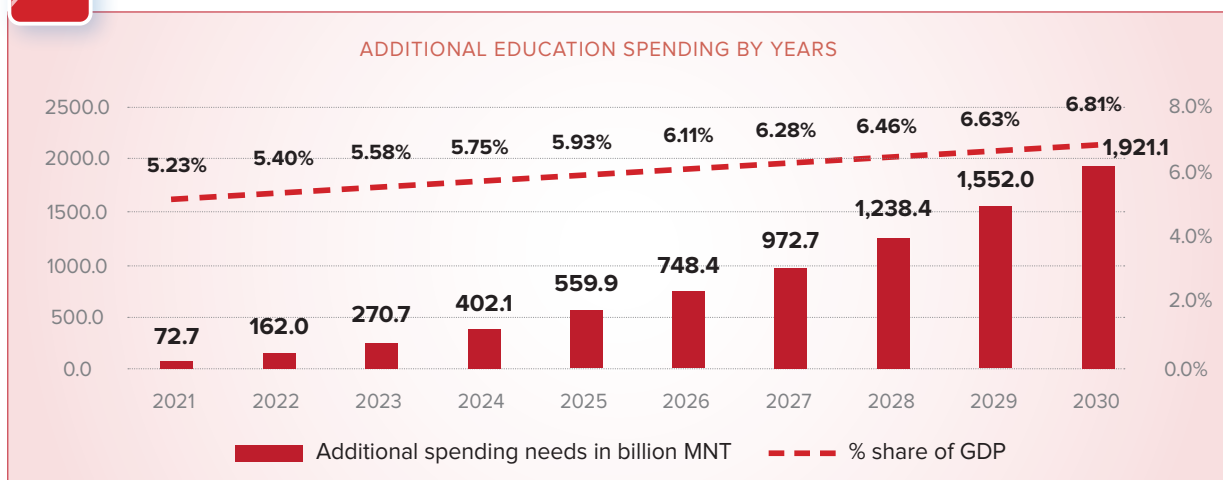
⁵³ UNESCO (2020). Mongolia Education Policy Review: Towards a Lifelong Learning System. <https://unesdoc.unesco.org/ark:/48223/pf0000373687>



Table 11. Spending needs for SDG-4, in billion MNT

	2021-2025	2026-2030	Total
Total spending needs	14563.5	28901.1	43464.6
Government spending projection (baseline 2020)	13096.2	22468.4	35564.6
Additional spending needs	1467.3	6432.7	7900.0

Figure 9. Trends in additional spending needs for SDG-4, at current prices, in billion MNT



SDG-5: Gender equality

	Targets costed	Targets considered as synchronized	Targets with spending amounts that are determined in existing programs and interventions
Targets*	No specific targets have been calculated and 5.b has been fully implemented (UNDP-Mongolia, 2021a).	5.1 with SDG 10, 16 5.2 with SDG 10, 16 5.3 with SDG-4 5.4 with SDG-10 5.5 with SDG-10 5.6 with SDG-3	5.a, 5.c

* Please refer to the link for target details <https://unstats.un.org/sdgs/indicators/indicators-list/>

No programs and interventions have clear targets or state the amount of funding required to achieve SDG-5⁵⁴. Since no measurable or monetized targets are available, the total cost associated with this SDG is not computed. Instead, we take the amount of MNT 343.2 billion, stated in the Action Plan of the Government of Mongolia for 2020-2024 for gender equality, to represent the total spending needs for SDG 5. We assume all other spending needs to achieve this SDG can be accounted for either in SDG-3, SDG-4, SDG-10, and SDG-16 due to synchronization or achieved through policy coordination. Details of the government’s disbursement plan for each target can be seen in Appendix 1.5.1.

⁵⁴ The result of the discussion with a specialist of the National Gender Committee.



SDG-6: Clean water and sanitation

	Targets costed	Targets considered as synchronized	Not costed (no targets or cost measures were available)
Targets*	6.1, 6.2	6.4 with SDG 2, 14 6.6 with SDG 14 6.a with SDG-14 6.b with SDG-14	6.3, 6.5

* Please refer to the link for target details <https://unstats.un.org/sdgs/indicators/indicators-list/>

SDG-6 funding need is calculated using the WASH SDG Costing Tool 2020 model (UNICEF, 2020)⁵⁵. This model has been used in several studies (IMF, 2019)⁵⁶. The model estimates the costs associated with the basic WASH standards and the safely managed standards defined in the SDG indicators 6.1.1 and 6.2.1. According to the estimates, Mongolia needs a total of MNT 6.2 trillion in spending to progress on SDG-6 by 2030 (see Appendix 1.6.1 for details).



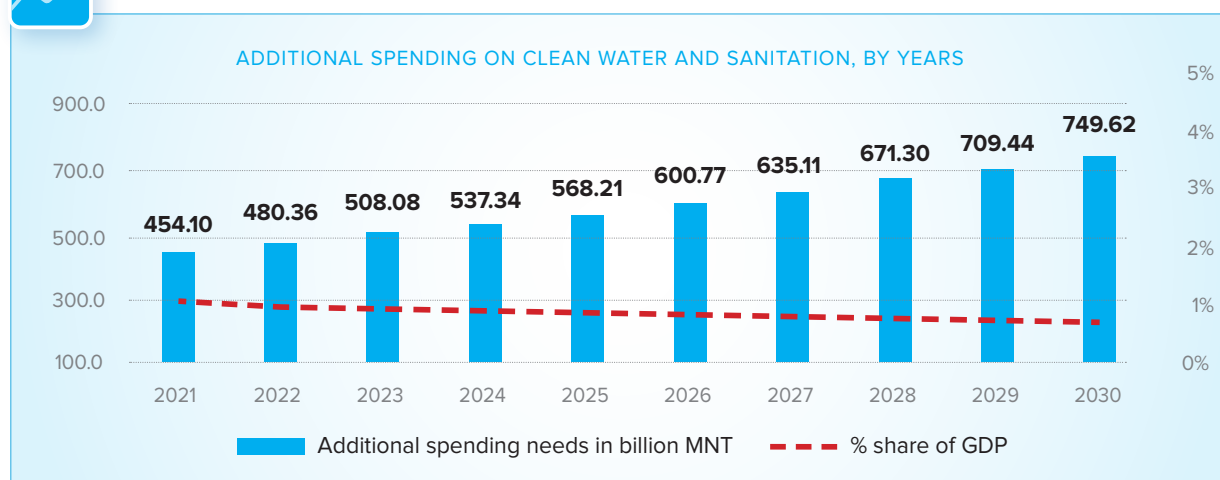
Table 12. Spending needs for SDG-6, in billion MNT

	2021-2025	2026-2030	Total
Total spending needs	2,656.6	3555.2	6,211.8
Government’s spending projection on clean water and sanitation measures and activities (the base year 2021)	108.5	118.9	297.5
Additional spending needs	2548.1	3366.24	5914.3

We assume that the government provides funding (MNT 17.2 billion on water related projects) as planned in the State Budget 2021⁵⁷. The amount will be increased each year, reflecting inflation and economic growth rate until 2030. Then, additional spending required to achieve SDG-6 is estimated to be MNT 5.9 trillion over the next ten years. Figure 10 shows the trend of additional expenditures on clean water and sanitation over the years.



Figure 10. Trends in additional spending needs for SDG-6, at current prices, in billion MNT



⁵⁵ Ibid.

⁵⁶ Ibid.

⁵⁷ The list of Investment Projects and Construction Activities to be funded by the State Budget in 2021.

SDG-7: Affordable and clean energy



	Targets costed	Fully implemented	Targets with spending amounts that are determined in existing programs and interventions
Targets*	7.2, 7.3	7.1	7.a, 7.b

* Please refer to the link for target details <https://unstats.un.org/sdgs/indicators/indicators-list/>

As of 2018, 95.5 percent of the total population is supplied with electricity (NSO, 2020)⁵⁸. If the interventions mentioned in the Action Plan of the Government of Mongolia for 2020-2024 are fully implemented, SDG-7.1 will be fully met, and no spending needs are required for this target as per the status quo.

Nevertheless, to calculate the spending needs for SDG-7.2 and SDG-7.3, the figures related to renewable energy sources and energy efficiency measures to be implemented in the Action Plan of Mongolia's Nationally Determined Contribution (NDC) are utilized (see Appendix 1.7.1 for details of the calculations). The document sets a timeframe between 2020 and 2025, with objectives of increasing electricity export, developing sustainable renewable energy, and improving energy efficiency in carbon-intensive sectors, including industry, construction, and transport. Although the NDC plan consists of mitigation and adaptation actions and measures, to avoid duplication, only mitigation actions are included in this SDG where appropriate and adaptation efforts are included in SDG-13. Mitigation actions and measures stated in the Nationally Determined Contribution Targets for the Implementation of the Paris Agreement are:

- Improving energy efficiency
- Increase renewable energy sources
- Build a new high-tech source of clean energy
- Improving production efficiency (Industry, Construction, Transportation)

Specifically, the NDC states that MNT 7280 billion is required for targeted renewable energy growth. This amount is distributed equally between 2021 to 2030, assuming that the same amount will be spent each year. Similarly, the amount of MNT 2940 billion for improving the energy efficiency rate in the NDC is equally divided each year. The costs associated with building energy infrastructure (7.b) and conducting clean energy research (7.a) are taken from the Government's action plan 3.5.1-3.5.7.



Table 13. Spending needs for SDG-7, in billion MNT

	2021-2025	2026-2030	Total
Total spending needs	9699.0	5110.0	14,809.0
Government spending projection on clean energy (baseline 2021)	123.0	214.1	337.0
Additional spending needs	9576.0	4895.9	14472.0

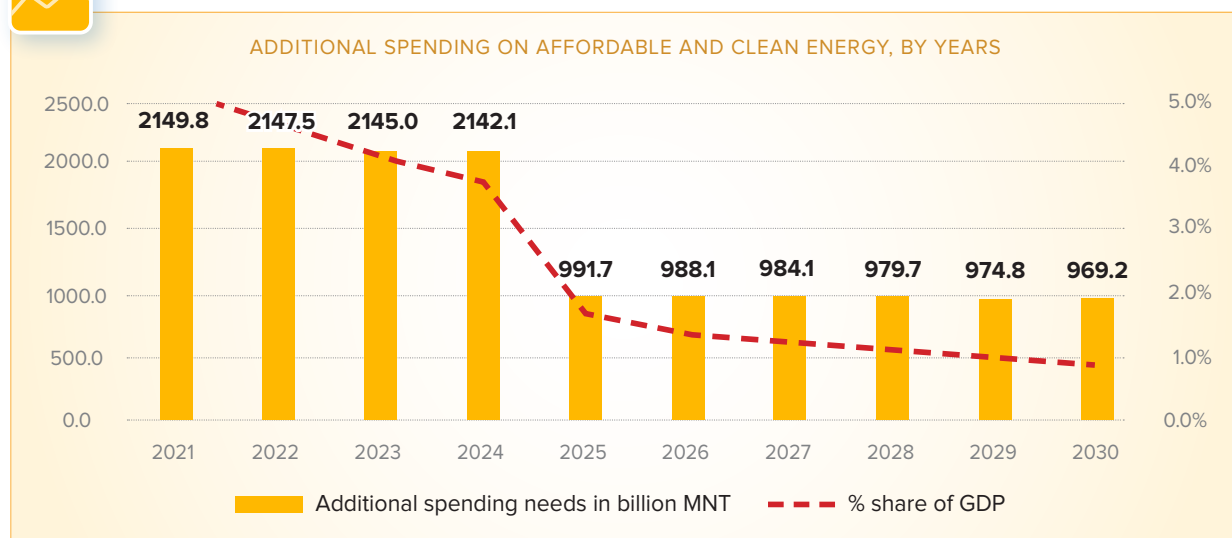
Table 13 represents the total spending required to achieve the above actions, around MNT 14.8 trillion. The government planned to spend MNT 19.5 billion on clean energy measures, including renewable energy, energy efficiency, and R&D, in 2021. We projected the government's yearly spending on energy until 2030 based on the baseline of 2021 and adjusted by economic growth and inflation rate.

⁵⁸ NSO (2020). National report on Population and Housing Census of Mongolia. https://1212.mn/BookLibraryDownload.ashx?url=Census2020_Main_report_Eng.pdf&ln=En

The additional spending needs between 2021 and 2030 is MNT 14.4 trillion for SDG-7. Figure 11 shows the trend in additional spending needs over the years.

Given that additional substantive spending is required to achieve this SDG, it is necessary to attract international climate finance sources, increase private sector involvement through appropriate incentive mechanisms or blended financing, and increase public awareness of environmentally friendly consumption and production using clean energy, especially in carbon-intensive industrial and construction sectors.

Figure 11. Trends in additional spending needs for SDG-7, at current prices, in billion MNT



SDG-8: Decent work and economic growth

	Targets costed	Targets considered as synchronized	Targets with spending amounts that are determined in existing programs and interventions
Targets*	8.1, 8.6, 8.9	8.2 with SDG-9 8.4 with SDG-12 8.7 with SDG-16	8.3, 8.5, 8.8, 8.10, 8.a, 8.b

* Please refer to the link for target details <https://unstats.un.org/sdgs/indicators/indicators-list/>

Sustainable and inclusive economic growth is one of the most important foundations of the Sustainable Development Goals. Achieving the SDG-8 will directly impact the achievement of many other goals. Especially, reaching the global target SDG-8.1: Sustain per capita economic growth of at least 7 percent gross domestic product growth per annum can directly impact on achieving at least six of the other goals (Bangladesh, 2017)⁵⁹. On the other hand, the spending needs for SDG-8 overlap with spending for other goals or targets, so care must be taken.

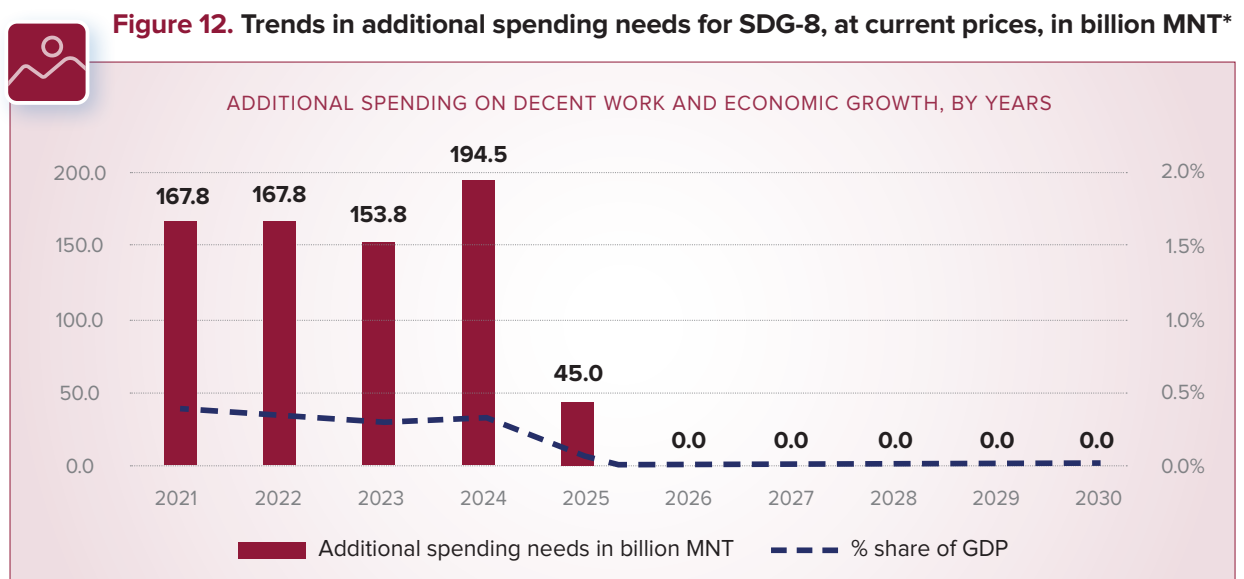
⁵⁹ Bangladesh Planning Commission/GED (2017). “SDGs Financing Strategy: Bangladesh Perspective”, General Economics Division, Planning Commission of the People’s Republic of Bangladesh. Page 33.

From the historical data, Mongolia has a high growth rate in years with increased investment and a low growth rate in years with low foreign direct investment (Chang, 2018)⁶⁰. The financing needs for target SDG-8.1 is based on the Incremental Capital and GDP Change Ratio (ICOR) method (Bangladesh, 2017). The calculation accounts for the associated spending required to maintain 7 percent real economic growth annually, based on the average incremental capital ratio to the output of around 3.4 percent, which is ten years on average between 2009 and 2019. The estimates suggest that Mongolia needs a total of MNT 186 trillion spending in the next ten years to achieve 7 percent GDP growth per annum. See Appendix 1.8.1 for details of the calculation. However, this amount is not included in the total and additional cost of SDG 8 due to synchronization in many SDGs.

The unit cost methodology is used for SDG-8.6: substantially reduce the proportion of youth not in employment, education, or training; details can be obtained from Appendix 1.8.2. Specifically, the proportion of youth not in education, employment, and training is targeted to decrease from 22.5 percent as of 2020 to 8 percent in 2030, according to the NDA (2020). The calculation yields MNT 3.7 trillion spending needs which is also not included in the cost associated with achieving SDG-8 because this target has a direct reference to SDG 4.

In the framework of SDG-8.9: Developing and implementing a sustainable tourism promotion policy, ‘Sustainable Tourism Development’ project is being implemented between 2021-2025, and the associated cost is MNT 229 billion as stated in the National Investment program 2021-2025⁶¹ (see details of the calculation in Appendix 1.8.3).

To account for the total cost of SDG-8, we also consider the amount of MNT 499.8 billion stated in the Government’s action plan in relation to SDG-8.3, SDG-8.5, SDG-8 a, b. Therefore, the total spending needs for SDG-8 sums up to MNT 728.9 billion by eliminating potential overlaps in other SDGs (see Appendix 1.8.4 for details). The additional spending needs will be equal to total spending in this case as only costs that were already planned and included in the national programs and the Government’s plan remained after removing the potential duplication. Figure 12 presents additional spending for SDG-8 by year.



* The spending need and baseline 2020 estimates are same hence no additional spending is required against business as usual. Please refer to methodology in section 2.2 above.

⁶⁰ Chang, M. a. (2018). The Effect of Foreign Direct Investment on the Economic Development of Mongolia. *Journal of Electronic Commerce in Organizations*, 16(3):12-21

⁶¹ <https://legalinfo.mn/mn/detail/15584>

SDG-9: Industry, innovation, and infrastructure



	Targets costed	Targets considered as synchronized	Targets with spending amounts that are determined in existing programs and interventions
Targets*	9.1, 9.5		9.2, 9.3, 9.4, 9.a, 9.b, 9.c

* Please refer to the link for target details <https://unstats.un.org/sdgs/indicators/indicators-list/>

Within the target SDG-9.1, infrastructure development is represented by road and railway construction. The spending needs for expanding the infrastructure (railways and roads) network is determined by the unit cost method (see Appendix 1.11.1 for details). According to Annex-3 articles 68 and 69 of Vision 2050, 8055 km of roads and 1960 km of railways will be built in Mongolia by 2030, which are accounted for in the cost estimation⁶². The unit costs as of 2020 for road and railways were estimated by dividing budgeted costs by the length of road and railways built, and the costs for subsequent years are assumed to grow with the inflation rate.

The National Indicator 9.5.1 in “National Indicators and Targets for Mongolia’s Sustainable Development Goals” by NDA (2020)⁶³ is to increase the research and development expenditures, expressed as a percentage share of GDP, to 3 percent by 2030. As of 2020, this ratio was 0.55 percent⁶⁴ of GDP. The baseline and targeted level differences is interpolated evenly across years, and the corresponding costs are calculated for SDG-9.5 (see Appendix 1.11.2 for details).

For all other targets in SDG-9 (9.2, 9.3, 9.4, 9.a, 9.b, 9.c), the associated costs are taken from the Government action plan 2020-2024 to be accounted for in the total spending required for this SDG.

Among all other SDGs, SDG-9 requires the most funding. By 2030, a total of MNT 90.4 trillion must be spent. This is mainly due to a highly ambitious target for developing infrastructure and innovation, as stated in the Vision-2050⁶⁵.



Table 14. Spending needs for SDG-9, in billion MNT

	2021-2025	2026-2030	Total
Total spending needs	61,714.6	28,681.9	90,396.5
Additional spending needs	23,105.5	23,896.7	47,002.1

If we look at the cost only to achieve medium-term development targets related to SDG-9, the total spending required would be MNT 61.7 trillion between 2021 and 2025, from which MNT 38.6 trillion can be financed through the State budget, pointing out additional funding of MNT 23.1 trillion is required. In the long-term, this additional spending need will reach MNT 47.0 trillion.

⁶² It is commented by IMF that SDG progress on roads can be measured by the cost associated with additional road networks needed to ensure broad rural all-weather road access, measured by the rural Access Index (RAI). This idea can be pursued in the further works of the costing analysis, which intend to take into account the impact of ongoing pandemic and Russia-Ukraine war on the economy.

⁶³ Ibid.

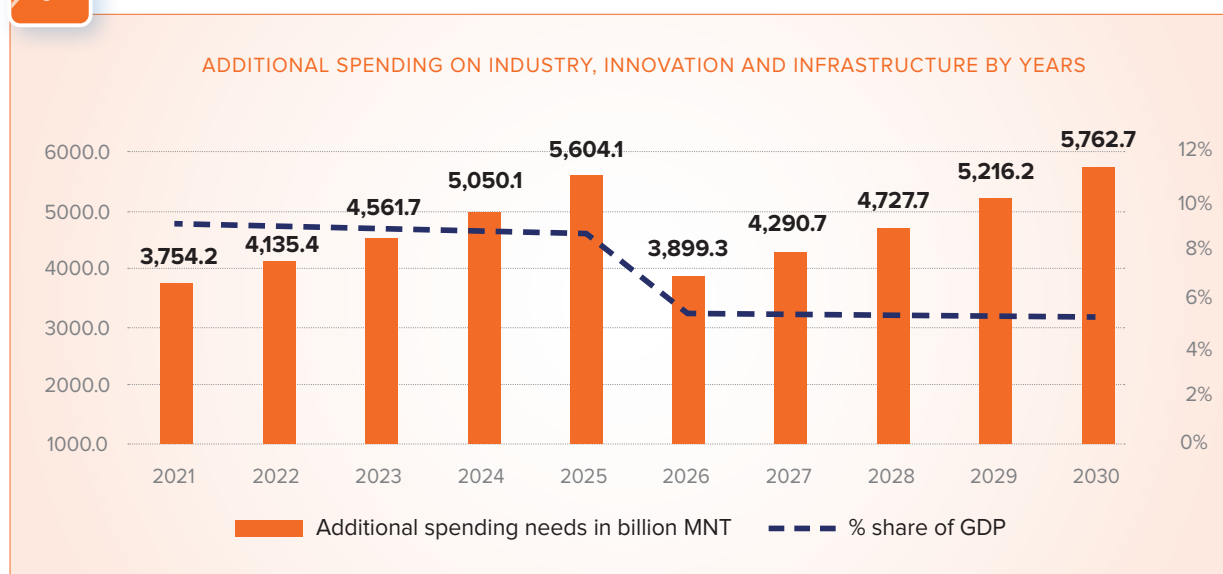
⁶⁴ <http://sdg.gov.mn/Goal/?id=9>

⁶⁵ <https://legalinfo.mn/mn/detail/15406>

One of the main objectives of the Government’s New Revival Policy is to develop infrastructures and innovations in air transport, road, railway, and for border operations and infrastructure⁶⁶. More specifically, there are more than ten projects planned for railway construction and repair; sixteen projects for new road and highway construction to connect borders and improve access; six projects to build a new domestic airport and increase domestic air transport capacity; and seven projects to improve the capacity of borders and introduce innovative logistic technology to increase access and simplify the transport process. These projects are expected to positively affect the economy by increasing the volume of transport, export of mining products, and hence the state income. Furthermore, they also help to increase productivity, create more jobs and support the development of other sectors such as tourism. Therefore, financing the required spending to develop infrastructure and innovation is essential. According to the government, the main principle of realizing these costs would be to establish a new economic structure based on the active participation of citizens, the private sector, and international investors, according to the government⁶⁷.



Figure 13. Trends in spending needs for SDG-9, at current prices, in billion MNT



⁶⁶ <https://files.fm/f/nc6nphced>

⁶⁷ <https://montsame.mn/en/read/285624>



SDG-10: Reduced inequalities

	Targets costed	Targets considered as synchronized	Targets with spending amounts that are determined in existing programs and interventions
Targets*	10.1	10.2, 10.6, 10.7, 10.b, 10.c with SDG-16	10.3, 10.4, 10.5, 10a

* Please refer to the link for target details <https://unstats.un.org/sdgs/indicators/indicators-list/>

The objective of SDG-10 is to reduce inequality between countries and within the country through capacity building and financial support for low-income people. We estimated the spending needs for SDG-10.1 (Progressively achieve and sustain income growth of the bottom 40 percent of the population at a rate higher than the national average), and the details can be obtained in Appendix 1.10.1. We take consumption as a variable that represents the change in income of the bottom 40 percent of the population. The average annual consumption growth of the lowest-income group or the bottom 40 percent of the population is 8.51 percent, while it is 9.23 percent for the total population. It is assumed that the growth of the population’s average income and the growth of the average consumption will be similar in pattern to each other. To increase the average annual consumption growth to 9.23 percent by 2025, the consumption growth will be increased by 0.14 percent each year; continuing with this growth rate, the average consumption group for the lowest income group will reach 9.93 percent by 2030. The required spending needs were then calculated.

The estimates suggest that MNT 1.6 trillion spending is needed to achieve this target. Moreover, for SDG-10, a total of MNT 197.1 billion is planned to be disbursed in the Government’s action plan concerning SDG-10.3, SDG-10.4, SDG-10.5, and SDG 10.a which is added to the total cost. Therefore, the total amount of spending needs to progress toward SDG-10 is approximately MNT 1.8 trillion. By subtracting the current government spending on livelihood support (target 10.1) and its projected amount over the ten years, the additional spending needs for this SDG is MNT 1.2 trillion, as in Table 15 (see details in Appendix 1.10.2).

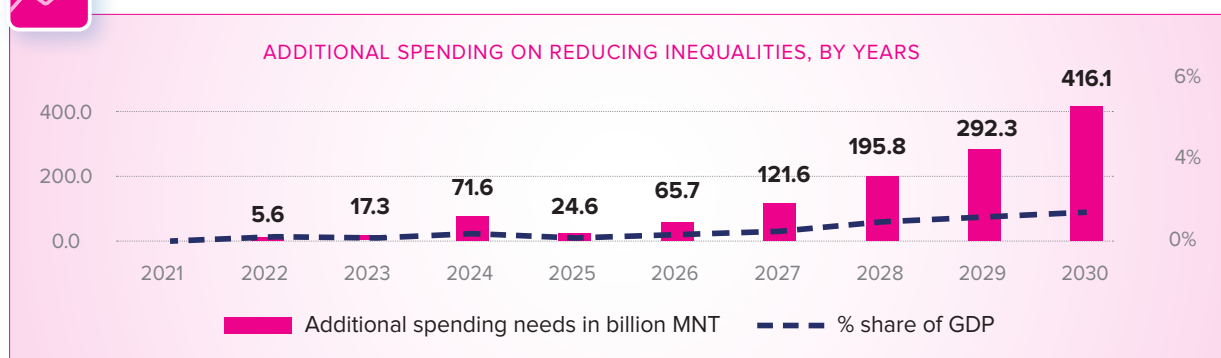


Table 15. Spending needs for SDG-10, in billion MNT

	2021-2025	2026-2030	Total
Total spending needs	369.7	1430.6	1,800.4
Government spending projection (Baseline 2020)	253.4	339.1	592.5
Additional spending needs	116.3	1091.5	1,207.9



Figure 14. Trends in spending needs for SDG-10, at current prices, in billion MNT



* In the initial years, the baseline allocations made by the government are higher than the estimates; hence, no additional spending is shown in the graph for the first two years. Please refer to the methodology in section 2.2 above.



SDG-11: Sustainable cities and communities



	Targets costed	Targets considered as synchronized	Targets with spending amounts that are determined in existing programs and interventions
Targets*	11.1, 11.2, 11.4, 11.7	11.3, 11.6, 11.a 11.b, 11.c with SDG-13	11.5

* Please refer to the link for target details <https://unstats.un.org/sdgs/indicators/indicators-list/>

Spending needs of 5 targets have been calculated for SDG-11: Sustainable cities and communities. For the SDG-11.1 target, the calculation is based on the unit cost per household of the new sub-center project, which is one of the options to provide an adequate, safe, and suitable environment for all households. As of 2020, the number of targeted households not connected to wastewater treatment and sewage networks was 443,356, and the unit cost per household is MNT 21.6 million, according to the ADB (2019)⁶⁸. Assuming the same number of households are selected each year until 2030, the cost is calculated where the price is adjusted by inflation (see Appendix 1.11.1 for details).

The cost of purchasing a new bus is used as a unit cost for estimating the spending needs of the SDG-11.2 target. According to the Development Vision of the Capital City of 2020⁶⁹, the number of public transports buses will be increased to 2112 in 2030, which were 1369 as of 2020. The number of additional buses to be purchased is evenly distributed across ten years, and costs are calculated for each year (see Appendix 1.11.2 for details).

The calculation of spending needs for SDG:11.4 utilizes per capita cultural heritage protection cost. As of 2020, per capita expenses for preserving and protecting national culture and heritage were MNT 27.7 thousand, which is projected to increase by inflation until 2030. The total expenses are calculated based on the per capita cultural heritage protection cost and population projection of Mongolia, provided by NSO (2018)⁷⁰ (see Appendix 1.11.3 for details).

The unit cost approach is also applied in calculating the required funding to achieve the target SDG-11.7. According to Vision 2050, the share of green space in public space will increase to 30 percent by 2030 from the estimated 16.6 percent in 2020. It is projected that the same amount of green space will be built by 2030, and the average normative cost approved by the Ministry of Environmental and Tourism is used for a unit cost (see Appendix 1.11.4 for details). The cost associated with implementing target SDG-11.5 is taken from the Government action plan 2020-2024.

Table 16 summarizes the total and additional costs associated with SDG-11. By 2030, the total spending needs for SDG-11 will be MNT 15.2 trillion. By subtracting the government's projected expenditures from the total spending needs, the total additional spending needs until 2030 is around MNT 7.7 trillion. Figure 15 depicts additional spending needs every year, which looks relatively stable over the years.

⁶⁸ ADB (2019). Ulaanbaatar urban services and ger areas development investment program: Tranche 3 – feasibility study – component 4 Volume, Table 6.2 on page 175.

⁶⁹ Development Vision of the Capital City (2020). https://www.mn.undp.org/content/dam/mongolia/Publications/4_UB%20City%20Roadmap.pdf

⁷⁰ National Statistical Office (2018). Renewed 2015-2045 population projection at a regional and sub-regional level based on the resident population of Mongolia, sex and age group, medium scenario.

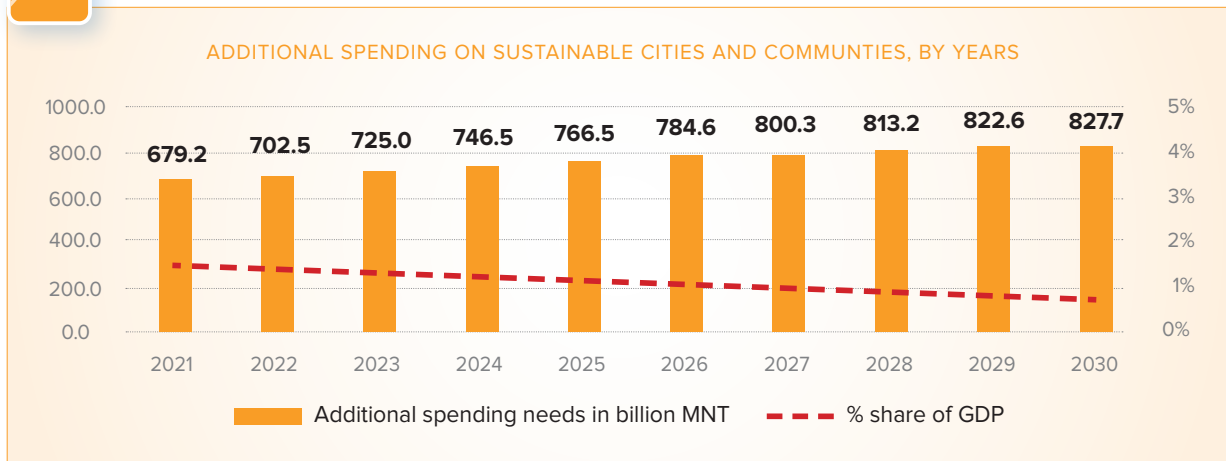


Table 16. Spending needs for SDG-11, in billion MNT


	2021-2025	2026-2030	Total
Total spending needs	6,468.2	8,697.2	15,165.4
Government spending projection (Baseline 2020)	2,848.5	4,648.8	7,497.3
Additional spending needs	3,619.7	4,048.4	7,668.06



Figure 15. Trends in financing needs for SDG-11, at current prices, in billion MNT





 SDG-12: Responsible consumption and production			
	Targets costed	Targets considered as synchronized	Targets with spending amounts that are determined in existing programs and interventions
Targets*	12.5	12.1, 12.2 with SDG-8 12.3 with SDG-9 12.4 with SDG-12.5	12.6, 12.7, 12.8, 12.a, 12.b, 12.c

* Please refer to the link for target details <https://unstats.un.org/sdgs/indicators/indicators-list/>

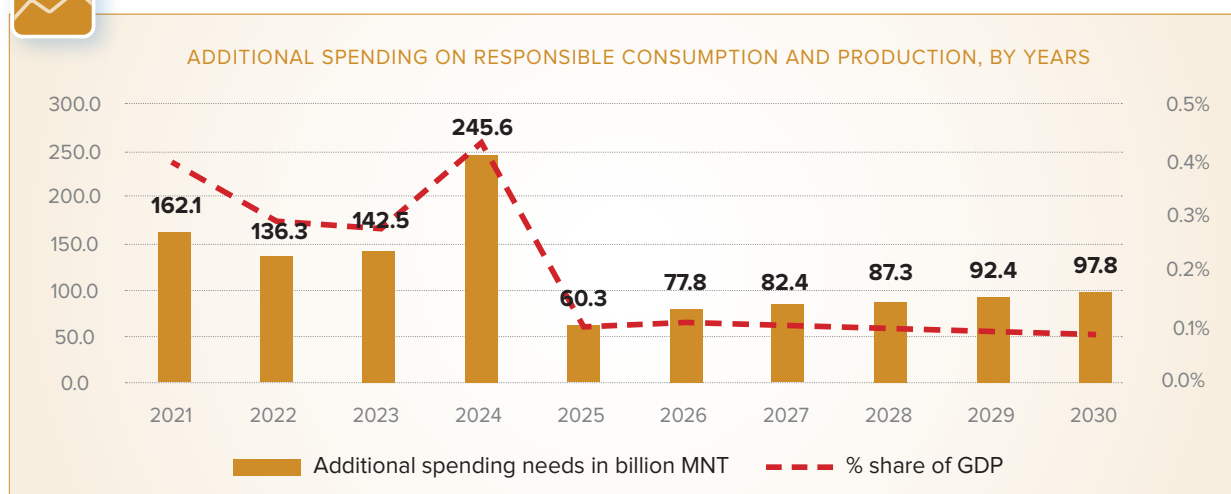
The spending needs for SDG-12.5 is calculated based on the National waste recycling level, as indicated by the target line of national indicator 12.5.1 in Sustainable Development Goals of Mongolia. More specifically, the target recycling rate is to reach 40 percent in 2030 (around 2438 thousand tons) and about 10 percent (about 343 thousand tons) as of 2020. The unit cost for recycling per ton is approximately USD 85, according to World Bank estimates⁷¹ (see details from Appendix 1.12.1).

Action Plan of the Government of Mongolia for 2020-2024 includes a spending plan of MNT 482.4 billion for targets 12.6, 12.7, 12.8, 12 a, b which are taken into account when estimating the total spending needs (see Appendix 1.12.2 for details of calculation). Table 17 below shows that the total funding required to achieve SDG-12 is MNT 1.2 trillion. In 2020, the government spent MNT 0.8 billion on waste-related activities, which is considered a baseline to predict government spending on waste until 2030. Considering the government’s business as usual cost, Mongolia needs additional spending of MNT 1.1 trillion for SDG-12 between 2021 and 2030. Figure 16 below shows the trend in additional spending needs over the years.

 **Table 17. Spending needs for SDG-12, in billion MNT**

	2021-2025	2026-2030	Total
Total spending needs	752.5	447.7	1200.2
The government expenditure projection on waste management (baseline 2020)	5.7	9.9	15.6
Additional spending needs	746.8	437.8	1184.6

 **Figure 16. Trends in additional spending needs for SDG-12, at current prices, in billion MNT**



⁷¹ https://datatopics.worldbank.org/what-a-waste/trends_in_solid_waste_management.html

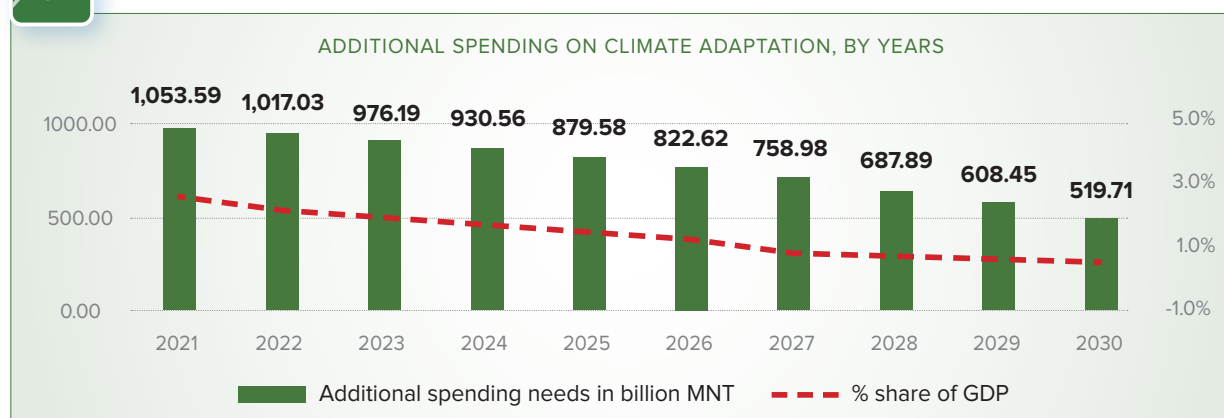


SDG-13: Climate action

For this goal, no specific calculations were made for each target. Mongolia’s Nationally Determined Contribution plan has already calculated the spending needed to achieve this goal. The cost associated with the adaptation to climate change-vulnerable economic and social sectors is accounted for here for a total cost. With the assumption that the same amount will be spent for adaptation actions each year, the total amount is divided into ten years to represent the total spending needed each year.



Figure 17. Trends in additional spending needs for SDG-13, at current prices, in billion MNT



In 2020, the government-funded MNT 282 billion on climate adaptation activities was used as a baseline. It is projected to increase to MNT 5.4 trillion by 2030, considering the real economic growth and inflation. Even with this significant expansion in baseline adaptation expenditures, the additional spending is MNT 8.2 trillion, much larger than the available funding (see Appendix 1.13.1 for details of calculation), as shown in Table 18. Figure 17 illustrates the trend in additional spending needs over the years.



Table 18. Spending needs for SDG-13, in billion MNT

	2021-2025	2026-2030	Total
Total spending needs	6827.0	6827.0	13,654.0
Government expenditure on climate adaptation measures (projection)	1970.06	3429.35	5399.41
Additional spending needs	4856.94	3397.65	8254.6

The Government’s New Recovery Policy includes a policy area on green recovery, which will be an essential instrument and instrumental for the implementation of financing for climate actions. Additionally, Government is establishing the Trust Fund for Green Finance, which will operate independently and provide sustainable financial services for climate change and nature conservancy⁷². The financing sources for this trust fund will be local investors, foreign citizens, business entities, and international organizations through their projects, programs, and technical assistance. A joint effort of the Mongolian Billion Tree Foundation⁷³ initiated by local commercial banks and the Trust Fund will contribute to meeting the required additional spending to achieve this SDG.

⁷² <https://files.fm/f/xf9fdap86>

⁷³ <https://english.news.cn/20220331/9ac696827e3e4de085cedd17a8ad587e/c.html>



SDG-14: Life below water



While it is relevant for Mongolia in terms of inland freshwater ecosystems, it has not been calculated considering the small number of inland water resources.



SDG-15: Life on land

	Targets costed	Targets considered as synchronized	Targets with spending amounts that are determined in existing programs and interventions
Targets*	15.1, 15.3, 15.5, 15.6, 15.9, 15.a, 15.c	15.7 accounted for 15.c 15.b accounted in 15.1	15.2

* Please refer to the link for target details <https://unstats.un.org/sdgs/indicators/indicators-list/>

Within the framework of SDG-15.1, calculations were made using national indicators 15.1.1: Percentage of total forested land area and 15.1.2: Percentage of protected areas important for terrestrial and freshwater biodiversity in NDA (2020). Specifically, by 2030 the size of forest area will reach 9 percent, the size of the protected area will reach 30 percent of the total area, and the share of protected water sources will reach 60 percent. The expenditures corresponding to these indicators were costed. Subsequently, the normative costs of afforestation, the budget of the protected area administration, and the budget of the watershed protection administration were used as unit costs (see Appendix 1.15.1 for details).

In estimating the financing needs for SDG-15.3: Combat desertification, the spending needs to achieve the mid-term achievement of Goal 9 of the National Biodiversity Program⁷⁴ of Mongolia were used (see Appendix 1.15.2). Goal 9 of the National Biodiversity Program aims to reduce pastureland and degradation by up to 70 percent, and the corresponding costs are accounted for in the cost of target 15.3.

The associated costs in National Biodiversity Program were used for SDGs-15.5, SDGs-15.6, SDG-15.9, SDGs-15.a and SDGs-15.c, corresponding to Goal 4, Goal 3, Goal 2, Goal 14, and Goal 8, respectively (see Appendix 1.15.3, 1.15.4, 1.15.5, 1.15.6, 1.15.7).

The total spending needs until 2025 is MNT 7.9 trillion, while the total projected Government spending for this period is MNT 0.27 trillion based on the annual Government budget for 2020, yielding an amount of MNT 7.7 trillion additional required spending. By 2030, the need for additional funding will increase to MNT 11.3 trillion. The bulk of this cost is dedicated to reforestation.

The President’s “One Billion Tree” Initiative strongly promotes the goal of reforestation. Local commercial banks established the Mongolian Billion Tree Foundation⁷⁵ in March 2022, which aimed at supporting the President’s initiative and creating a funding structure for afforestation programs, combat desertification, tree planting, and other environmental activities. In addition, as indicated in the National Roadmap of Sustainable Financing, the banking sector will promote green loan issuance to reach 10 percent of total loan portfolio by 2030⁷⁶. These activities will support the achievement of this goal.

⁷⁴ MOET (2019). Financing Needs Assessment of National Biodiversity Program of Mongolia. Page 138.

⁷⁵ <https://english.news.cn/20220331/9ac696827e3e4de085cedd17a8ad587e/c.html>

⁷⁶ <https://montsame.mn/en/read/293582>

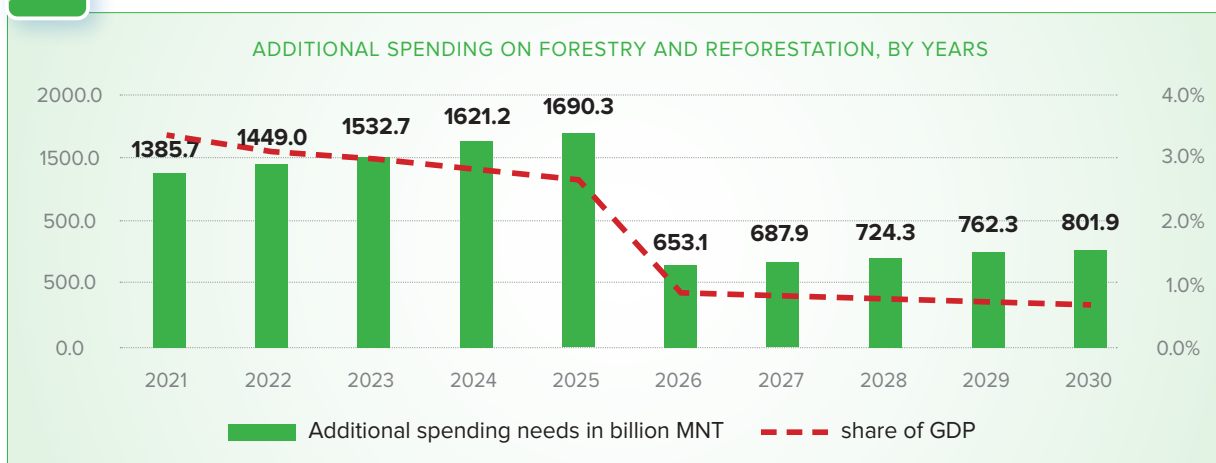


Table 19. Spending needs for SDG-15, in billion MNT

	2021-2025	2026-2030	Total
Spending needs	7949.6	4128.1	12077.7
Government spending (projection with a baseline of 2020)	270.5	498.6	769.1
Additional spending needs	7679.1	3629.5	11308.6



Figure 18. Trends in additional spending needs for SDG-15, at current prices, in billion MNT



SDG-16: Peace, justice and strong institutions

No specific calculations have been made for this purpose. SDG-16.9: providing legal identity for all, including birth registration, has been achieved (UNDP, 2021a)⁷⁷. Other targets are assumed to be achieved through policy coordination and coherence, as there are no active programs or ongoing interventions that we measure in monetary terms. However, MNT 1070.7 billion MNT is planned to be allocated for this goal according to the Action Plan of the Government of Mongolia for 2020-2024. Therefore, we assume that Government’s action plan covers costs for promoting peaceful and inclusive societies, providing access to justice for all, and building effective, accountable, and inclusive institutions at all levels. We also include the amount in the total spending needs. See Appendix 1.16.1 for details.

⁷⁷ Ibid.



SDG-17: Partnerships for the goals

	Fully implemented or not relevant	Targets considered as synchronized	Targets with spending amounts that are determined in existing programs and interventions
Targets*	17.2, 17.3, 17.7, 17.10, 17.12	17.6 with SDG-9,10 17.8 with SDG-16 17.11 with SDG-9 17.16 with SDG-10	17.1, 17.4, 17.5, 17.9, 17.13, 17.14, 17.15, 17.17

* Please refer to the link for target details <https://unstats.un.org/sdgs/indicators/indicators-list/>

No specific calculations have been made for this goal. SDG-17.10: “By finalizing the negotiations under the Doha Development Program, the goal of supporting the development of a global, rule-based, open, non-discriminatory and equitable international trade system under the auspices of the World Trade Organization” has been achieved. Goals (SDG-17.2, SDG-17.3, SDG-17.7, and SDG-17.12) are irrelevant to Mongolia (UNDP, 2021a)⁷⁸. Targets 17.6, 17.8, 17.11, 17.16 are synchronized in other SDGs and targets as indicated in the table above.

MNT 2041.2 billion is planned to be allocated for this goal according to the Action Plan of the Government of Mongolia for 2020-2024. Since no programs or interventions are identified for this goal, we take this amount as the total spending needed to strengthen the means of implementation and revitalize the global partnership for sustainable development. The details can be found in Appendix 1.17.1.

⁷⁸ Ibid.



Part 5

CONCLUSIONS



5. Conclusions

Mongolia's costing exercise has drawn the following conclusions to reach SDGs by 2030.

1. Achieving the SDGs by 2030 will require an additional MNT 122 trillion. The estimates are comparable to calculations for other countries and with the forecasts of the Government of Mongolia for the 'New Revival Policy.'
2. The required additional spending under SDG-3, SDG-4, SDG-7, SDG-9, SDG-11, SDG-13, and SDG-15 account for about 88 percent of all additional spending needs, showing that Mongolia needs to make significant headway in developing infrastructure, combating climate change, providing good education and health services, and urban development.
3. Within the framework of this study, calculations were made for 13 out of 16 goals relevant to Mongolia, and the remaining three goals require additional data collection and detailed baseline research. None of the existing criteria can be used to estimate funding needs for these three goals.
 - The target level of 11 out of 13 national indicators has not been determined for SDG-5.
 - SDG-16 has 12 targets and 23 national indicators, but the targeted achievement of 21 indicators is unclear. It needs to be defined.
 - SDG-17 has 19 targets and 25 national indicators, but the target level of 18 indicators is unclear. It needs to be defined.



Part 6

RECOMMENDATIONS



6. Recommendations

1. This costing exercise is the first attempt to estimate the required costs for accelerating and achieving Agenda 2030; hence, it defines a benchmark. Under changing geo-political and socio-economic conditions, there is a need to revisit the SDG costing exercise if the global recession continues for more extended period and economic recovery does not kick start before the end of the year.
2. In the future, actions must be taken to ensure the completeness of the SDG quantitative data to facilitate more accurate costing exercises and future analysis of the progress/achievements towards sustainable development goals. It is paramount to increase the scope and frequency of statistical and administrative data, enrich the database at www.sdg.gov.mn, and update the information regularly. Appendix 2 includes the list of indicators that are not regularly reported but can be essential to improve the quality of the costing exercise in this study.
3. Since the SDGs are correlated, creating a unified database of programs and activities related to the implementation of SDGs and related targets is essential. The methodology used in the “Detailed assessment of the alignment of existing plans and policies with the SDGs” study by UNDP (2021b)⁷⁹ can be further applied to assessing overlaps between the provisions of the development policy documents in Mongolia. This will have a positive impact on improving inter-sectoral coordination and cooperation.
4. This study can be further improved by improving calculation methodologies and approaches to incorporate country’s specifics and constantly enriching the relevant database.

⁷⁹ Ibid.



APPENDIX

Appendix 1. The details of the calculations.



APPENDIX 1.1.1 SDG-1.1: By 2030, eradicate extreme poverty for everyone everywhere, currently measured as people living on less than \$1.25 a day.

		2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	Total
Population	A	3,353,470	3,417,118	3,479,936	3,541,803	3,602,546	3,662,221	3,720,945	3,778,876	3,836,214	3,893,168	3,950,052	
Poverty rate	B	28.4%	28.0%	26.0%	24.0%	22.0%	20.0%	19.0%	18.0%	17.0%	16.0%	15.0%	
Number of people under poverty line	C	952,385	958,473	906,495	851,774	794,332	732,444	706,980	680,198	652,156	622,907	592,508	
Population live under lower poverty line (Headcount is 13.9% in 2018)*	D	466,132											
by year	E		452,495	427,956	402,123	375,004	345,787	333,765	321,121	307,883	294,074	279,723	
Per capita expenditure of the poor for a month by using the upper poverty line, MNT	F	218,614											
Per capita expenditure of the poor for a month by using the lower poverty line, MNT	G	127,724											
Per Capita transfer for a particular year	H	1,090,680	1,156,121	1,225,488	1,299,017	1,376,958	1,459,576	1,547,150	1,639,979	1,738,378	1,842,681	1,953,242	
Inflation rates	I		6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	
Financing needs in billion MNT	J		523.1	524.5	522.4	516.4	504.7	516.4	526.6	535.2	541.9	546.4	5,257.5

Assumptions:

- In 2020, the lower poverty headcount will be the same as in 2018.
- Vision 2050 aims to reduce poverty to 20 percent by 2025 and one percent annually by 2030.
- The Upper Poverty Line and the Lower Poverty Line of 2018 remained the same in 2020.
- Per capita transfers are adjusted for annual inflation.



Sources of information used and explanations of calculations

A	National Statistical Office (2018). Renewed 2015-2045 population projection at regional and sub-regional level based on resident population of Mongolia, sex and age groups, medium scenario
B	Annex 3 to the State Great Hural Resolution # 52, 2020. Key indicators and targets for monitoring and evaluation of “Vision-2050” long-term development policy of Mongolia. Poverty rate is specified in line 22. The annual target is set to be constant.
C	C=A*B
D	NSO (2020) Mongolia Poverty Update 2018: Main Report of Household Socio-Economic Survey 2018, Table C.2, Page 78. Poverty estimates based on the lower poverty line. 2018 National poverty headcount is 13.9 percent, which was used to estimate the number of people living below the poverty line in 2020.
E	In 2020, 47.2 percent of the poor population lived below the lower poverty line. E = (47.2%)*C
F	NSO (2020) Mongolia Poverty Update 2018 : Main Report of Household Socio-Economic Survey 2018, Table B.2, Page 78.



G	NSO (2020) Mongolia Poverty Update 2018: Main Report of Household Socio-Economic Survey 2018, Table B.2, Page 78.
H	In 2020, H=12*(F-G). It will be corrected by inflation in the next years.
I	Annex 3 to the State Great Hural Resolution # 52, 2020. Key indicators and targets for monitoring and evaluation of "Vision-2050" long-term development policy of Mongolia. Inflation rate is specified in line 33. The annual target is set to be constant.
J	J=E*H

APPENDIX 1.1.2. SDG-1.3: Implement nationally appropriate social protection systems and measures for all, including floors, and by 2030 achieve substantial coverage of the poor and the vulnerable.



		2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	Total
Percentage of unemployed people receiving unemployment benefits	A	21.8	22.3	22.3	23.3	23.3	23.8	24.4	25	25.6	26.2	26.8	
Expenditures, bln MNT	B	50.2											
Per percentage expenditures, bln MNT	C	2.3											
Inflation rates	D	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	
Financing needs	E		54.4	54.4	56.9	56.9	58.1	59.6	61.0	62.5	64.0	65.4	
Percentage of employees covered by accident insurance	F	86	87.3	88.6	89.9	91.2	92.5	93.8	95.1	96.4	97.7	99.0	
Expenditures, bln MNT	G	29.3											
Per percentage expenditures, bln MNT	H	0.3											
Inflation rates	I	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	
Financing needs	J		31.5	32.0	32.5	32.9	33.4	33.9	34.3	34.8	35.3	35.8	
Retirement age population	K	216850	226930	237861	249701	262509	280389	295443	311207	327267	321052	354633	
Growth rates	L		0.046	0.048	0.050	0.051	0.068	0.054	0.053	0.052	(0.019)	0.105	
Percentage of pensioners (including formal and informal insurance)	M	86.5	86.9	87.3	87.7	88.1	88.5	88.9	89.3	89.7	90.1	90.5	
Expenditures, bln MNT	N	1666.2											
Per percentage expenditures, bln MNT	O	19.26											
Inflation rates	P		0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	
Financing needs	Q		1,852	1,864	1,875	1,886	1,923	1,907	1,915	1,921	1,807	2,030	
Financing needs in billion MNT	R		1,938	1,950	1,964	1,976	2,015	2,001	2,010	2,018	1,906	2,131	19,908.8



Assumptions:

- Unemployment benefits, accident insurance, and the pension insurance fund accounted for part of the financing needs.
- The financing needs for SDG-1.1 are included in this target's financing needs.

Sources of information used and explanations of calculations	
A	NDA. (2020). National Indicators and Targets for Mongolia's Sustainable Development Goals – for Internal Use, page 4
B	Unemployment insurance fund expenditures in 2020. Source: Ministry of Labor and Social Welfare
C	$C=B/A$
D	Annex 3 to the State Great Hural Resolution # 52, 2020. Key indicators and targets for monitoring and evaluation of “Vision-2050” long-term development policy of Mongolia. Inflation rate is specified in line 33. The annual target is set to be constant.
E	$E_t=A_t * C_{2020} * (1+D_t)$
F	NDA. (2020). National Indicators and Targets for Mongolia's Sustainable Development Goals – for Internal Use, page 4
G	Total expenditures of the Industrial Accident and Occupational Disease Insurance Fund in 2020. Source: Ministry of Labor and Social Welfare
H	$H=G/F$
I	Annex 3 to the State Great Hural Resolution # 52, 2020. Key indicators and targets for monitoring and evaluation of “Vision-2050” long-term development policy of Mongolia. Inflation rate is specified in line 33. The annual target is set to be constant.
J	$J_t=F_t * H_{2020} * (1+I_t)$
K	National Statistical Office (2018). Renewed 2015-2045 population projection at regional and sub-regional level based on resident population of Mongolia, sex and age groups, medium scenario
L	Growth rates
M	NDA. (2020). National Indicators and Targets for Mongolia's Sustainable Development Goals – for Internal Use, page 4
N	Pension insurance fund expenditures in 2020. Source: Ministry of Labor and Social Welfare
O	$O=N/M$
P	National Statistical Office (2018). Renewed 2015-2045 population projection at regional and sub-regional level based on resident population of Mongolia, sex and age groups, medium scenario
Q	$P_t=P_t * O_{2020} * (1+L_t+M_t)$
R	$R=E+J+Q$

APPENDIX 1.1.3. Summary of total and additional spending needs for SDG-1.



Targets	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	Total
1.1	523.1	524.5	522.4	516.4	504.7	516.4	526.6	535.2	541.9	546.4	5,257.5
1.2											-
1.3	1938.1	1949.9	1964.1	1975.7	2014.6	2000.5	2010.5	2018.0	1906.0	2131.4	19,908.8
1.4	49.7	49.7	49.7	93.8							242.9
1.5											-
1.a	234.0	234.0	32.5	266.5							767.0
1.b	281.5	281.5	281.5	293.4							1,137.8
Total spending needs in billion MNT	3,026.4	3,039.5	2,850.1	3,145.8	2,519.3	2,516.9	2,537.1	2,553.2	2,447.8	2,677.7	27,313.9
Government spending (as of 2020), projected to increase by inflation rate	2,389.3	2,532.7	2,684.7	2,845.8	3,016.5	3,197.5	3,389.3	3,592.7	3,808.3	4,036.8	31,493.5
Additional Spending needs in billion MNT	637.0	506.8	165.5	300.0	-	-	-	-	-	-	1,609.3

* Please refer to the link for target details <https://unstats.un.org/sdgs/indicators/indicators-list/>

APPENDIX 1.2.1 SDG-2.1: By 2030, end hunger and ensure access by all people, in particular the poor and people in vulnerable situations, including infants, to safe, nutritious, and sufficient food all year round.



		2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	Total
Number of Adults	B	2,072,831	2,099,938	2,126,215	2,151,541	2,175,743	2,198,879	2,234,963	2,270,254	2,304,952	2,339,266	2,375,408	
Number of Children	C	1,236,861	1,275,374	1,313,396	1,349,348	1,382,013	1,411,784	1,435,557	1,456,319	1,474,555	1,498,991	1,509,519	
Share of households with severe food insecurity	D	22.6%	22.2%	21.8%	21.4%	21.0%	20.7%	18.6%	16.4%	14.3%	12.1%	10.0%	
Number of Adults in need of food assistance	E	468,460	466,186	463,515	460,430	456,906	455,168	414,809	372,776	329,147	283,987	237,541	
Number of Children in need of food assistance	F	279,531	283,133	286,320	288,760	290,223	292,239	266,439	239,128	210,566	181,978	150,952	
Expenditure of food vouchers for an adult per year (32000 MNT and then 16000 MNT per month)	G	384,000	384,000	203,520	215,731	228,675	242,396	256,939	272,356	288,697	306,019	324,380	
Expenditure of food vouchers for a child per year (16000 MNT in 2021 and then 8000 MNT per month)	H	192,000	192,000	101,760	107,866	114,338	121,198	128,470	136,178	144,349	153,009	162,190	
Inflation	I			6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	
Spending needs in billion MNT	J		233.4	123.5	130.5	137.7	145.7	140.8	134.1	125.4	114.7	101.5	1387.3

Assumptions:

- The percentage of households with severe food insecurity refers to the percentage of adults and children with severe food insecurity.
- In 2021, a monthly food voucher of MNT 32,000 will be issued for each adult and MNT 16,000 per child. It will be halved in the following years. (Move to the basic value of food vouchers. In 2021, it doubled due to the measures of the COVID-19 period.)
- Food voucher valuations are adjusted for inflation.



Sources of information used and explanations of calculations	
B	National Statistical Office (2018). Renewed 2015-2045 population projection at regional and sub-regional level based on resident population of Mongolia, sex and age groups, medium scenario
C	National Statistical Office (2018). Renewed 2015-2045 population projection at regional and sub-regional level based on resident population of Mongolia, sex and age groups, medium scenario
D	NDA. (2020). National Indicators and Targets for Mongolia's Sustainable Development Goals – for Internal Use, page 8
E	$E=B*D$
F	$F=C*D$
G	In 2021, $G=12*32000$. It will be halved in the next years, reflecting the effects of inflation. $G=12*16000*(1+I)$
H	In 2021, $G=12*16000$. It will be halved in the next years, reflecting the effects of inflation. $G=12*8000*(1+I)$
I	Annex 3 to the State Great Hural Resolution # 52, 2020. Key indicators and targets for monitoring and evaluation of “Vision-2050” long-term development policy of Mongolia. Inflation rate is specified in line 33. The annual target is set to be constant.
J	$J=(E*G+F*H)/1'000'000'000$

APPENDIX 1.2.2. SDG-2.2: By 2030, end all forms of malnutrition, including achieving by 2025 the internationally agreed targets on stunting and wasting in children under five years of age, and address the nutritional needs of adolescent girls, pregnant and lactating women, and older persons.



		2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	Total
Number of Kindergarten children	K	326875	327771	328952	329094	328167	323273	321421	319546	317935	333245	318763	
Percentage of stunting and wasting in children under 5 years of age	L	9.4%	9.4%	9.0%	8.0%	7.0%	6.5%	6.3%	6.1%	5.8%	5.6%	5.4%	
Number of stunting and wasting in children under 5 years of age	M	30726	30810	29606	26328	22972	21013	20185	19364	18567	18728	17213	
Kindergarten meal cost as doubled (current cost is 2475MNT per day)	N	2450	4950	5247	5562	5896	6249	6624	7022	7443	7890	8363	
Inflation	O			6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	
Number of days per year	P	180	180	180	180	180	180	180	180	180	180	180	
Spending needs in billion MNT	Q		27.5	28.0	26.4	24.4	23.6	24.1	24.5	24.9	26.6	25.9	255.7

Assumptions:

- 9.4 percent of children aged 2-5 are stunted and underweight. It will decrease to 5.4 percent by 2030.
- It is assumed that the decision of the Government of Mongolia to double the cost of children's meals will be implemented.
- Meal cost estimates are adjusted for inflation.



Sources of information used and explanations of calculations	
K	National Statistical Office (2018). Renewed 2015-2045 population projection at regional and sub-regional level based on resident population of Mongolia, sex and age groups, medium scenario
L	NDA. (2020). National Indicators and Targets for Mongolia's Sustainable Development Goals – for Internal Use, page 8
M	M=K*L
N	Based on Action Plan 2.3.10.4 in the Action Plan of the Government of Mongolia for 2020-2024.
O	Annex 3 to the State Great Hural Resolution # 52, 2020. Key indicators and targets for monitoring and evaluation of "Vision-2050" long-term development policy of Mongolia. Inflation rate is specified in line 33. The annual target is set to be constant.
P	Minimum number of days for kindergarten food subsidy
Q	Q=M*N*P/1'000'000'000

APPENDIX 1.2.3. A summary of total and additional spending needs for SDG-2.



Targets	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	Total
2.1	233.4	123.5	130.5	137.7	145.7	140.8	134.1	125.4	114.7	101.5	1387.3
2.2	27.5	28.0	26.4	24.4	23.6	24.1	24.5	24.9	26.6	25.9	255.7
2.3	81.4	81.4	81.4	81.4							325.8
2.4	285.0	285.0	285.0	285.0							1140.1
2.5	344.3	344.3	344.3	344.3							1377.2
2.a	344.3	344.3	344.3	344.3							1377.2
2.b	1.1	1.1	1.1	1.3							4.5
2.c	14.4	59.0	59.0	59.0							191.2
Total spending needs in billion MNT	1331.4	1266.5	1271.9	1277.3	169.4	164.9	158.6	150.3	141.3	127.4	6059.1
Government spending (as of 2020) on food voucher expenditure, stunting and wasting children, projected to increase by inflation rate	138.1	146.4	155.2	164.5	174.4	184.9	196.0	207.7	220.2	233.4	1820.9
Additional spending needs in billion MNT	1193.2	1120.1	1116.7	1112.8							4542.8

* Please refer to the link for target details <https://unstats.un.org/sdgs/indicators/indicators-list/>

https://unstats.un.org/sdgs/indicators/Global Indicator Framework after 2022 refinement_Eng.pdf

APPENDIX 1.3.1. SDG-3: Good health and well-being.



All targets covered		2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	Total
Health expenditure share of GDP	A	4.2%	4.4%	4.6%	4.9%	5.1%	5.3%	5.5%	5.7%	5.9%	6.2%	6.4%	
Inflation	B	2.3%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	
Real GDP Growth	C	-4.6%	4.3%	5.4%	5.4%	5.4%	5.4%	5.4%	5.4%	5.4%	5.4%	5.4%	
Nominal GDP, bln.MNT	D	37453.3	41311.0	46020.4	51266.7	57111.1	63621.8	70874.7	78954.4	87955.2	97982.1	109152.1	
Total spending needs in billion MNT	E		1824.9	2133.1	2487.7	2895.6	3364.1	3901.7	4518.3	5224.7	6033.4	6958.6	39342.1
Additional spending needs in billion MNT	F		89.9	200.2	334.5	496.9	691.9	925.0	1202.2	1530.6	1918.2	2374.3	9763.6

Assumptions:

- The spending needs for providing good health and well being is expressed as a percentage share of GDP.
- In 2019, the share of health sector expenditures in GDP was 4.2 percent. By 2030, the health sector expenditure will gradually grow to 6.4 percent of the GDP.



Sources of information used and explanations of calculations	
A	The latest available baseline data is 4.2 percent of GDP as of 2019 if both private and public sector health cost is accounted. The target level is 6.4 percent which is calculated based on the average health expenditure share of GDP of non-advanced countries as described in the main text. A required 2.2% increase is evenly distributed over the ten years using the linear interpolation approach.
B	Annex 3 to the State Great Hural Resolution # 52, 2020. Key indicators and targets for monitoring and evaluation of "Vision-2050" long-term development policy of Mongolia. Inflation rate is specified in line 33. The annual target is set to be constant.
C	The following sources were used. World Bank. (2021). Global Economic Prospects: Subdued Global Economic Recovery. Washington DC: World Bank.
D	Based on the 2020 NGDP, the annual NGDP is calculated using the following formula. $D = D_{t-1} * (1 + B_t + C_t)$
E	$E = D * A$
F	$F = (A - 4.2%) * D$



APPENDIX 1.4.1. SDG-4: Quality Education.



All targets covered		2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	Total
Education expenditure share of GDP	A	5.05%	5.23%	5.40%	5.58%	5.75%	5.93%	6.11%	6.28%	6.46%	6.63%	6.81%	
Inflation	B	2.3%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	
Real GDP Growth	C	-4.6%	4.3%	5.4%	5.4%	5.4%	5.4%	5.4%	5.4%	5.4%	5.4%	5.4%	
Nominal GDP, bln.MNT	D	37453.3	41311.0	46020.4	51266.7	57111.1	63621.8	70874.7	78954.4	87955.2	97982.1	109152.1	
Total spending needs in billion MNT	E		2,158.9	2,486.0	2,859.7	3,286.2	3,772.8	4,327.6	4,959.9	5,680.1	6,500.1	7,433.3	43,464.6
Additional spending needs in billion MNT	F		72.7	162.0	270.7	402.1	559.9	748.4	972.7	1,238.4	1,552.0	1,921.1	7,900.0

Assumptions:

- The spending needs for providing quality education is expressed as a percentage share of GDP.
- In 2020, the share of education sector expenditures in GDP was 5.1 percent. By 2030, the education sector expenditure will gradually grow to 6.8 percent of the GDP.



Sources of information used and explanations of calculations	
A	The baseline and target levels are 5.1 percent and 6.8 percent, respectively. The calculations are described in the main text. A required 1.7 percent increase is evenly distributed over the ten years using the linear interpolation approach.
B	Annex 3 to the State Great Hural Resolution # 52, 2020. Key indicators and targets for monitoring and evaluation of “Vision-2050” long-term development policy of Mongolia. Inflation rate is specified in line 33. The annual target is set to be constant.
C	The following sources were used. World Bank. (2021). Global Economic Prospects: Subdued Global Economic Recovery. Washington DC: World Bank.
D	Based on the 2020 NGDP, the annual NGDP is calculated using the following formula. $D = D_{t-1} * (1 + B_t + C_t)$
E	$E = D * A$
F	$F = (A - 5.1%) * D$



APPENDIX 1.5.1. SDG-5: Gender equality.

Targets	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	Total
5.1	0.1	0.1	0.1	0.2							0.6
5.2	40.1	40.1	40.1	40.2							160.6
5.3	6.1	6.1	6.1	6.2							24.5
5.4	9.8	9.8	9.8	14.1							43.5
5.5	0.0	0.2	0.2	0.2							0.5
5.6											-
5.a	0.0	0.2	0.2	0.2							0.6
5.b											-
5.c	0.0	0.0	0.0	0.0							0.1
Spending needs in billion MNT	83.8	84.2	84.2	91.0	0	0	0	0	0	0	343.2

* Please refer to the link for target details <https://unstats.un.org/sdgs/indicators/indicators-list/>

Assumptions:

- Action Plan of the Government of Mongolia for 2020-2024 covers costs for achieving gender equality and empowering all women and girls.
- The majority of targets in this goal can be achieved via policy coordination and coherence.

APPENDIX 1.6.1 SDG-6: Clean water and sanitation.



All targets covered		2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	Total
build and maintain universal basic coverage	A	60	60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0	600.0
safely managed services	B	96	96.0	96.0	96.0	96.0	96.0	96.0	96.0	96.0	96.0	96.0	864.0
Total cost, mln USD	C	156.0	156.0	156.0	156.0	156.0	156.0	156.0	156.0	156.0	156.0	156.0	1,464.0
Inflation	D		0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	
Total spending needs in billion MNT	E	444.6	471.3	499.6	529.5	561.3	595.0	630.7	668.5	708.6	751.1	796.2	6,211.8
Government spending (as of 2021) on clean water and sanitation, projected to increase by inflation rate	F		17.2	19.2	21.4	24.0	26.8	29.9	33.4	37.3	41.7	46.6	297.5
Additional spending needs in billion MNT	G		454.10	480.36	508.08	537.34	568.21	600.77	635.11	671.30	709.44	749.62	5,914.3

Assumptions:

- All funding needs to achieve SDG-6 were met at the expense of the SDG_WASH_Cost_Tool_EN_Updated 2020 method. The base year is 2021.
- The total cost growth is adjusted by the inflation rate.



Sources of information used and explanations of calculations	
A	Mongolia was selected from the Data Verification sheet, and 2021 was the base year. The results described in 1.a were obtained from the SDG Costing Summary Report sheet. Download the calculation file at https://www.sanitationandwaterforall.org/tools-portal/tool/sdg-costing-tool .
B	
C	C=A+B
D	Annex 3 to the State Great Hural Resolution # 52, 2020. Key indicators and targets for monitoring and evaluation of “Vision-2050” long-term development policy of Mongolia. Inflation rate is specified in line 33. The annual target is set to be constant.
E	Total spending needs required to achieve SDG 6. $E=D*2850$ (exchange rate of 2020)/1000*(1+inflation)
F	The government planned MNT 17.2 billion costs for clean water and sanitation related activities and projects in 2021 ⁸⁰ . Considering the 2021 budget is the base, we estimated the projection of the government spending, adjusted by the inflation rate and real economic growth. $F=F*(1+inflation)*(1+real\ GDP)$
G	G=E-F

APPENDIX 1.71 SDG-7: Affordable and clean energy.



All targets covered		2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	Total
7.2 Increase share of Renewable energy	A	728.0	728.0	728.0	728.0	728.0	728.0	728.0	728.0	728.0	728.0	7280.0
7.3 Improve rate of Energy efficiency	B	294.0	294.0	294.0	294.0	294.0	294.0	294.0	294.0	294.0	294.0	2940.0
7.a Clean energy research (Investment Programme 2021-2025)	C	15.7	15.7	15.7	15.7							62.9
7.b Energy infrastructure (Investment Programme 2021-2025)	D	1131.5	1131.5	1131.5	1131.5							4526.2
Inflation	E	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	
Total spending needs in billion MNT	F	2169.3	2169.3	2169.3	2169.3	1022.0	1022.0	1022.0	1022.0	1022.0	1022.0	14809.0
Government spending (as of 2021) on energy, projected to increase by inflation rate	G	19.5	21.7	24.3	27.1	30.3	33.9	37.9	42.3	47.2	52.8	337.0
Additional spending needs in billion MNT	H	2149.8	2147.5	2145.0	2142.1	991.7	988.1	984.1	979.7	974.8	969.2	14472.0

⁸⁰ The list of Investment Projects and Construction Activities to be funded by the State Budget in 2021. Total water expenditure is the sum of project investment amount from #XII.1.4 to #XII.1.95.



Assumptions:

- The need for funding to achieve the goal of climate change mitigation (increase renewable energy production and improve energy efficiency rate) will be determined by the amount of funding outlined in the “Nationally Determined Contribution Targets for the Implementation of the Paris Agreement” (pp. 92-109)⁸¹.
- Spend the same amount each year.
- Investment sources for energy research and infrastructure are the Action plan 3.5.1, 3.5.2, 3.5.3, 3.5.4, 3.5.5, 3.5.6, and 3.5.7 in the Action Plan of the Government of Mongolia for 2020-2024.



Sources of information used and explanations of calculations	
A	According to the NDC Implementation estimation, MNT 7280 billion is required for targeted renewable energy growth.
B	According to the NDC Implementation estimation, MNT 2940 billion is required for the targeted improved energy efficiency rate.
C	Based on Action plan 3.5.6 in the Action Plan of the Government of Mongolia for 2020-2024.
D	Energy sources are the Action plan 3.5.1, 3.5.2, 3.5.3, 3.5.4, 3.5.5, 3.5.6, and 3.5.7 in the Action Plan of the Government of Mongolia for 2020-2024.
E	Annex 3 to the State Great Hural Resolution # 52, 2020. Key indicators and targets for monitoring and evaluation of “Vision-2050” long-term development policy of Mongolia. Inflation rate is specified in line 33. The annual target is set to be constant.
F	$F=A+B+C+D$
G	In 2021, the government spending plan on energy measures was MNT 19 billion, excluding activities related to fossil fuel and coal power plants. ⁸² Planned Investment Projects and Programs from The State Budget 2021. Ministry of Energy. XVIII.1.1-XVIII.1.30. 2022-2030 government spending is projected by inflation and economic growth rates.
H	$H=F-G$

⁸¹ <http://www.ccrcc.mn/stat/file/u/ndcmongolia.pdf>

⁸² <https://legalinfo.mn/mn/detail/15726>



APPENDIX 1.8.1 SDG-8.1: Sustain per capita economic growth in accordance with national circumstances and, in particular at least 7 percent per annum gross domestic product growth in the least developed countries.

		2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	Total
Annual Investment in bln MNT	B	2146.1508	3,846	8,388	9,396	6,578	6,042	5,176	7,185	10,306	12,516	15,192	
Nominal GDP in bln MNT	C	6590.63714	9,757	13,174	16,688	19,174	22,227	23,150	23,943	27,876	32,411	37,281	
Annual Increase in GDP in bln MNT	D		3,166	3,417	3,515	2,486	3,053	923	792	3,933	4,535	4,870	
Incremental Capital Output Ratio (ICOR)	E		1.2	2.5	2.7	2.6	2.0	5.6	9.1	2.6	2.8	3.1	3.4

		2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	Total
Real GDP growth	K		-0.046	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	
Inflation	L		0.023	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	
Nominal GDP	M		37453.3	42322.2	47824.1	54041.3	61066.6	69005.3	77976.0	88112.8	99567.5	112511.3	127137.8	
Incremental Capital Output Ratio (ICOR)	N		3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	
Total spendin needs in billion MNT	O			10,114.1	11,429.0	12,914.7	14,593.6	16,490.8	18,634.6	21,057.1	23,794.6	26,887.8	30,383.3	186,299.7

Assumptions:

- The average ratio of Incremental capital to output (ICOR) between 2009-2019 will be maintained until 2030.
- Economic growth will be 7 percent annually until 2030.



Sources of information used and explanations of calculations	
B	https://www.1212.mn/Stat.aspx?LIST_ID=976_L05&type=tables
C	https://www.1212.mn/tables.aspx?TBL_ID=DT_NS0_0500_003V1
D	$D_t = (C_t - C_{t-1})$
E	$E = B/D$
K	The economic growth rate in 2019 is based on World Bank estimates. (2021). Global Economic Prospects: Subdued Global Economic Recovery. Washington DC: World Bank. Further economic growth is projected at 7 percent.
L	Annex 3 to the State Great Hural Resolution # 52, 2020. Key indicators and targets for monitoring and evaluation of “Vision-2050” long-term development policy of Mongolia. Inflation rate is specified in line 33. The annual target is set to be constant.
M	Based on the 2020 GDP, the annual GDP is calculated using the following formula. $M_t = M_{t-1} * (1 + K_t + L_t)$
N	The assumption is that the incremental capital-output ratio will remain unchanged at 3.4 until 2030.
O	$O = K * M * N / 100$

APPENDIX 1.8.2. SDG-8.6: By 2020, substantially reduce the proportion of youth not in employment, education or training.



		2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	Total
Youth Population (15-24)	Q	461605	461114	465019	473307	485998	509785	533145	560239	590355	571383	644033	
Porportion of Youth Population (not in Education, Employment or Training)	R	22.5%	20.1%	17.5%	16.2%	14.9%	13.6%	12.5%	11.4%	10.2%	9.1%	8.0%	
Number of Youth (not in Education, Employment or Training)	S	103861	92684	81378	76676	72414	69331	66536	63643	60452	52110	51523	
Annual Cost in bln.MNT	T	0.004	0.004	0.004	0.005	0.005	0.005	0.006	0.006	0.006	0.007	0.007	
Inflation	U		0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	
Total spending needs in billion MNT	V		390.1	363.1	362.6	363.0	368.4	374.8	380.0	382.6	349.6	366.4	3700.7

Assumptions:

- By 2030, the percentage of unemployed and uneducated people aged 15-24 will be 8 percent.
- The spending needs for vocational training will increase with expected inflation.



Sources of information used and explanations of calculations	
Q	National Statistical Office. (2018). Renewed 2015-2045 population projection at regional and sub-regional level based on resident population of Mongolia, sex and age groups, medium scenario.
R	NDA. (2020). National Indicators and Targets for Mongolia's Sustainable Development Goals – for Internal Use, page 29
S	$S=Q \cdot R$
T	All expenditures related to vocational education (718,040) reflected in the 2020 General Budget of Mongolia (total expenditure and net loan amount of 159.5 billion MNT) were calculated by comparing the number of students (40,165) studying for vocational education in that year. In the following year, the cost of this unit was adjusted by the inflation of the year.
U	Annex 3 to the State Great Hural Resolution # 52, 2020. Key indicators and targets for monitoring and evaluation of “Vision-2050” long-term development policy of Mongolia. Inflation rate is specified in line 33. The annual target is set to be constant.
V	$V=S \cdot T$



APPENDIX 1.8.3. SDG-8.9: By 2030, devise and implement policies to promote sustainable tourism that creates jobs and promotes local culture and products.



		2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	Total
The cost of the comprehensive project “Sustainable Tourism Development” to be implemented between 2021-2025, in billion MNT	A		53.0	53.0	39.0	39.0	45.0						229.1
Total spending needs in billion MNT	B		53.0	53.0	39.0	39.0	45.0	0.0	0.0	0.0	0.0	0.0	229.1

Assumptions:

- Assumed that this goal will be achieved by implementing the ADB-funded Sustainable Tourism Development Project.

Sources of information used and explanations of calculations	
A	ADB’s “Mongolia: Sustainable Tourism Project” has been used as a basis for achieving the required funding per year. The cost associated with this project was taken as stated in the National Investment program 2021-2025. https://legalinfo.mn/mn/detail/15584
B	A=B

APPENDIX 1.8.4 A summary of total and additional spending needs for SDG-8.



Targets	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	Total
8.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8.2											-
8.3	76.0	76.0	76.0	84.0							312.0
8.4											-
8.5	38.1	38.1	38.1	70.7							185.0
8.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8.7											-
8.8											-
8.9	53.0	53.0	39.0	39.0	45.0	-	-	-	-	-	229.1
8.1											-
8.a	0.2	0.2	0.2	0.4							1.0
8.b	0.4	0.4	0.4	0.4							1.8
Total spending needs in billion MNT	167.8	167.8	153.8	194.5	45.0	0.0	0.0	0.0	0.0	0.0	728.9

* Please refer to the link for target details <https://unstats.un.org/sdgs/indicators/indicators-list/>

https://unstats.un.org/sdgs/indicators/Global Indicator Framework after 2022 refinement_Eng.pdf

APPENDIX 1.9.1. SDG-9.1: Develop quality, reliable, sustainable and resilient infrastructure, including regional and trans-border infrastructure, to support economic development and human well-being, with a focus on affordable and equitable access for all.



Roads													
		2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	Total
Unit Cost per km, MNT	A	1,016	1,077	1,142	1,210	1,283	1,360	1,441	1,528	1,619	1,717	1,820	10,371.2
Inflation	B		6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	
Target Length of Road, km	C	504.4	1323.2	1323.2	1323.2	1323.2	1323.2	287.8	287.8	287.8	287.8	287.8	
Spending Needs, bln.MNT	D		1425.0	1510.5	1601.2	1697.2	1799.1	414.8	439.7	466.0	494.0	523.7	
Cost in 2020, bln MNT, projected to increase by inflation rate	E	512.5	566.6	633.0	707.2	790.1	882.8	986.3	1101.9	1231.1	1375.4	1536.7	
Additional spending needs in billion MNT	F		858.5	877.5	894.0	907.1	916.3	0.0	0.0	0.0	0.0	0.0	

Railways													
		2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	Total
Unit Cost per km, MNT	G	10,971	11,629	12,327	13,066	13,850	14,681	15,562	16,496	17,486	18,535	19,647	29,182.4
Inflation	H		6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	
Target Length of Road, km	I		234.8	234.8	234.8	234.8	234.8	157.2	157.2	157.2	157.2	157.2	
Spending Needs, bln.MNT	J		2,730.5	2,894.3	3,068.0	3,252.0	3,447.2	2,446.4	2,593.2	2,748.7	2,913.7	3,088.5	
Total cost in 2020 in billion MNT, projected to increase by inflation rate	K	-											
Additional spending needs in billion MNT	L		2,730.5	2,894.3	3,068.0	3,252.0	3,447.2	2,446.4	2,593.2	2,748.7	2,913.7	3,088.5	

Assumptions:

- Infrastructure development is represented by road and railway construction.
- By 2030, 8055 km of roads and 1960 km of railways will be built in Mongolia.





Sources of information used and explanations of calculations	
A	In 2020, the unit cost was calculated by comparing the length of the road built with the state budget with the budgeted cost, and it is estimated to increase in the following years with the inflation rate.
B	Annex 3 to the State Great Hural Resolution # 52, 2020. Key indicators and targets for monitoring and evaluation of "Vision-2050" long-term development policy of Mongolia. Inflation rate is specified in line 33. The annual target is set to be constant.
C	The base value of 2020 was estimated as the average length of the road built in the previous 5 years. The values of 2021-2030 were represented by the Annex 3 to the State Great Hural Resolution # 52, 2020. Key indicators and targets for monitoring and evaluation of "Vision-2050" long-term development policy of Mongolia. The length of national roads to be built is specified in line 68. The annual target is set to be constant.
D	$D=A \times C / 1'000$
E	The cost of 2020 was projected to increase in the following with the inflation rate.
F	$F=D \times E$
G	In 2020, the unit cost was estimated as the railway built by the state budget, and it is estimated to increase in the following years with the inflation rate.
H	Annex 3 to the State Great Hural Resolution # 52, 2020. Key indicators and targets for monitoring and evaluation of "Vision-2050" long-term development policy of Mongolia. Inflation rate is specified in line 33. The annual target is set to be constant.
I	Annex 3 to the State Great Hural Resolution # 52, 2020. Key indicators and targets for monitoring and evaluation of "Vision-2050" long-term development policy of Mongolia. The length of newly built railroads is specified in line 69. The annual target is set to be constant.
J	$J=I \times H / 1'000$
K	The 2020 cost was estimated as the state budget expenses for the railway construction
L	$L=J-K$

APPENDIX 1.9.2. SDG-9.5: Enhance scientific research, upgrade the technological capabilities of industrial sectors in all countries, in particular developing countries, including, by 2030, encouraging innovation and substantially increasing the number of research and development workers per 1 million people and public and private research and development spending.



		2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	Total
Inflation		2.3%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	
Real GDP growth		-4.6%	4.3%	5.4%	5.4%	5.4%	5.4%	5.4%	5.4%	5.4%	5.4%	5.4%	
Nominal GDP	M	37453.3	41311.0	46020.4	51266.7	57111.1	63621.8	70874.7	78954.4	87955.2	97982.1	109152.1	
R&D Expenditure Share of GDP	N	0.55%	0.95%	1.34%	1.72%	2.11%	2.50%	2.60%	2.70%	2.80%	2.90%	3.00%	
Spending needs in billion MNT	O		392.5	616.7	881.8	1205.0	1590.5	1842.7	2131.8	2462.7	2841.5	3274.6	17,239.8
Total R&D cost in 2020 in billion MNT		206.0											
Additional spending needs in billion MNT			165.24	363.56	599.82	890.93	1,240.63	1,452.93	1,697.52	1,978.99	2,302.58	2,674.23	13,366.44



Assumptions:

- Nominal GDP growth is the same as used in all estimates in this study. Please see Appendix 2.4.
- Research and development spending will reach 3 percent of GDP by 2030.

Sources of information used and explanations of calculations	
M	Please see Appendix 2.4.
N	NDA. (2020). National Indicators and Targets for Mongolia's Sustainable Development Goals – for Internal Use, page 33 The R&D expenditure share of GDP is 0.55% in 2020 ⁸³ .
O	M=K*L

APPENDIX 1.9.3. The summary of total and additional spending needs.



Targets	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	Total
9.1	4,155.5	4,404.8	4,669.1	4,949.3	5,246.2	2,861.2	3,032.8	3,214.8	3,407.7	3,612.1	39,553.6
9.2	6299.4	6299.4	6299.4	12528.4							31,426.7
9.3	357.9	357.9	357.9	715.7							1,789.3
9.4	14.2	14.2	14.2	28.4							71.0
9.5	392.5	616.7	881.8	1205.0	1590.5	1842.7	2131.8	2462.7	2841.5	3274.6	17,239.8
9.a	0.5	0.5	0.5	1.0							2.6
9.b	34.8	34.8	34.8	69.6							174.0
9.c	30.4	30.4	30.4	48.4							139.6
Total spending needs in billion MNT	11285.1	11758.7	12288.1	19545.9	6836.8	4703.9	5164.6	5677.5	6249.2	6886.7	90396.5
Additional spending needs in billion MNT	3,754.2	4,135.4	4,561.7	5,050.1	5,604.1	3,899.3	4,290.7	4,727.7	5,216.2	5,762.7	47,002.1

* Please refer to the link for target details <https://unstats.un.org/sdgs/indicators/indicators-list/>

[https://unstats.un.org/sdgs/indicators/Global Indicator Framework after 2022 refinement_Eng.pdf](https://unstats.un.org/sdgs/indicators/Global%20Indicator%20Framework%20after%202022%20refinement_Eng.pdf)

⁸³ <http://sdg.gov.mn/Goal/?id=9>.



APPENDIX 1.10.1 SDG-10.1: By 2030, progressively achieve and sustain income growth of the bottom 40 per cent of the population at a rate higher than the national average.



		2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	Total
Annual consumption per capita, in MNT (40 percent of the population with the lowest income)	A	1,696,314											
Growth rates	B	8.51%											
Annual consumption per capita, in MNT (Total population)	C	3359191											
Growth rates	D	9.23%											
Annual consumption expenditure growth of the target group (40 percent) at current levels (8.51%)	E	1,840,664	1,999,947	2,175,895	2,370,455	2,585,825	2,824,486	3,089,130	3,382,894	3,709,330	4,072,458	4,476,838	
Planned increase in annual consumption expenditures of the target group (40 percent)	F	8.51%	8.65%	8.80%	8.94%	9.09%	9.23%	9.37%	9.51%	9.65%	9.79%	9.93%	
Annual consumption expenditures of the target group (40 percent) are projected to increase	G	1,840,664	1,997,297	2,167,259	2,351,684	2,551,803	2,768,952	3,004,578	3,260,256	3,537,691	3,838,735	4,165,396	
Per capita consumption expenditure growth gap (target amount)	H	-	2,650.6	8,636.0	18,770.7	34,021.8	55,534.9	84,551.3	122,637.6	171,638.5	233,723.7	311,441.6	
Population	I	3,353,470	3,417,118	3,479,936	3,541,803	3,602,546	3,662,221	3,720,945	3,778,876	3,836,214	3,893,168	3,950,052	
40 percent of the population with the lowest income	J	1,341,388	1,366,847	1,391,974	1,416,721	1,441,018	1,464,888	1,488,378	1,511,550	1,534,486	1,557,267	1,580,021	
Financing needs in billion MNT	K	-	3.6	12.0	26.6	49.0	81.4	125.8	185.4	263.4	364.0	492.1	1,603.3

Assumptions:

- The income and consumption of the population will change in the same direction and pattern.
- Consumption growth indirectly reflects income growth.
- The growth rate of low-income 40 percent consumption will increase by a constant 0.14 percentage points and will be equal to the growth rate of consumption of the total population (9.23%) by 2025. Furthermore, the growth rate will increase to 9.93 percent by 2030. The growth rate will increase by 0.14 points every year.

Sources of information used and explanations of calculations												
A	The average monthly consumption per capita is taken from https://www.1212.mn/tables.aspx?TBL_ID=DT_NSO_1900_013V1 . It was then multiplied by 12 months to convert it into annual consumption. Due to the nature of the data, which is calculated every two years, the average annual growth is assumed to be the same for the annual growth rate of consumption between 2016 and 2018.											
B												
C	Monthly consumption per capita, in 10 groups equal to the number of households, in MNT	I	II	III	IV	V	VI	VII	VIII	IX	X	Total
	As of 2016	78,405	111,258	135,688	157,850	182,519	210,712	242,832	285,165	353,155	605,365	236,288
	As of 2018	91,587	130,897	158,083	184,871	214,022	247,528	287,783	340,872	425,130	718,553	279,912
	Annual average consumption growth, in percent	8.51%				9.23%						
D	The 2018 data in the table above calculates the 2020 average.											
E	The average annual consumption of 40 percent of the population with the lowest income has increased by the target growth rate. $E_t = E_{t-1} * (1 + F_t)$											
F	The consumption growth rate of 40 percent of the population with the lowest income will increase by 0.14 percentage points at constant pace, equal to the growth rate of consumption of the total population (9.23%) by 2025. The future growth rate is expected to increase to 9.93 percent by 2030.											
G	The average annual consumption is shown when the consumption growth rate of 40 percent of the population is assumed to be at a constant of 8.51 percent. $E_t = E_{t-1} * (1 + F_{2020})$											
H	$G = E - G$											
I	National Statistical Office (2018). Renewed 2015-2045 population projection at regional and sub-regional level based on resident population of Mongolia, sex and age groups, medium scenario.											
J	$J = 0.4 * I$											
K	$K = H * J$											

APPENDIX 1.10.2 A summary of total and additional spending needs for SDG-10.



Targets	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	Total
10.1		3.6	12.0	26.6	49.0	81.4	125.8	185.4	263.4	364.0	492.1	1,603.3
10.2												-
10.3		0.0	0.0	0.0	0.1							0.2
10.4		37.6	37.6	37.6	75.2							187.9
10.5		0.0	2.8	2.8	0.0							5.5
10.6												-
10.7												-

10.a		0.9	0.9	0.9	0.9							3.5	
10.b												-	
10.c												-	
Total spending needs in billion MNT		42.1	53.3	67.8	125.1	81.4	125.8	185.4	263.4	364.0	492.1	1,800.4	
Government spending (as of 2020) on livelihood support, projected to increase by inflation rate		42.4	45.0	47.7	50.5	53.5	56.8	60.2	63.8	67.6	71.6	75.9	592.5
Additional spending needs		(2.8)	5.6	17.3	71.6	24.6	65.7	121.6	195.8	292.3	416.1	1,207.8	

* Please refer to the link for target details <https://unstats.un.org/sdgs/indicators/indicators-list/>


APPENDIX 1.11.1. SDG-11.1: By 2030, ensure access for all to adequate, safe and affordable housing and basic services, and upgrade slums.



		2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	Total
Unit cost per household, in USD	A	7,584											
Unit cost per household, in MNT	B	21,614,801											
Inflation rates	C		6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	
Inflation-adjusted unit costs	D		22,911,690	24,286,391	25,743,574	27,288,189	28,925,480	30,661,009	32,500,669	34,450,710	36,517,752	38,708,817	
Number of target households	E	443,356											
Annual number of target households	F		44,336	44,336	44,336	44,336	44,336	44,336	44,336	44,336	44,336	44,336	
Spending needs in billion MNT	G		1,016	1,077	1,141	1,210	1,282	1,359	1,441	1,527	1,619	1,716	13,389
Total cost, in billion MNT, projected to increase by inflation rate	H	306	338.5	378.2	422.5	472.1	527.4	589.2	658.3	735.5	821.7	918.1	
Additional spending needs in billion MNT	I		677	699	719	738	755	770	783	792	797	798	7,528

Assumptions:

- Adequate, safe, affordable housing and basic services will include flood protection, water supply, drainage, roads, electricity, and communications.
- Household unit costs in 2020 will be MNT 21.6 million. In the future, the effect of price increases will be measured by inflation.
- The target group is the constant number of households (excluding herder households) not connected to treatment and sewerage networks.

Sources of information used and explanations of calculations	
The unit cost is based on ADB. (2019). Ulaanbaatar urban services and ger areas development investment program: Tranche 3 – feasibility study – component 4 Volume. Please see Table 6.2 on page 175.	
	
Total cost, in USD	65,913,768
Flood protection and drainage lines	9,376,405
Heating, treatment facilities and sewer lines	8,075,604
Streets within the district	39,225,446
Telecommunications infrastructure	9,236,314
Number of households to be covered (for Sharkhad and Tolgoit sub-centers)	8,691
Per household costs, in US dollars	7,584
Number of households not connected to treatment facilities and sewerage networks	624,406
Herder households	181,050
Target household	443,356
Commissioned residential buildings, by number of housing units in 2020	14,165
A	Of the reported costs, only those related to safety and basic services are included.
B	Converted to the average annual USD exchange rate in 2020 (\$ 1 = ₮ 2850).
C	Annex 3 to the State Great Hural Resolution # 52, 2020. Key indicators and targets for monitoring and evaluation of “Vision-2050” long-term development policy of Mongolia. Inflation rate is specified in line 33. The annual target is set to be constant.
D	Unit cost was adjusted for expected inflation. $E_t = E_{t-1} * (1 + D_t)$
E	As of 2020, the number of households not connected to treatment and sewerage networks was 624,406 . Excluding 181,050 herder households, the number of target households was estimated at 443,356.
F	Until 2030, the same number of households will be selected each year. $G_t = F_{2020} / 10$
G	$H = E * G / 1'000'000'000$
H	$H = D * F / 1'000'000'000$
H	In the NSO report, 14165 housing units were commissioned in 2020.
I	$I = G - H$

APPENDIX 1.11.2. SDG-11.2: By 2030, provide access to safe, affordable, accessible and sustainable transport systems for all, improving road safety, notably by expanding public transport, with special attention to the needs of those in vulnerable situations, women, children, persons with disabilities and older persons.



		2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	Total
Number of buses for public transportation	A	960	1369	1451	1534	1617	1699	1782	1884	1947	2029	2112	
Number of additional buses to be purchased for public transportation	B		106	82	83	83	82	83	102	63	82	83	
Unit cost in USD	C		89,000										
Unit cost in MNT (tax inclusive)	D		291,697,500	309,199,350	327,751,311	347,416,390	368,261,373	390,357,055	413,778,479	438,605,187	464,921,499	492,816,789	
Inflation rates	E		6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	
Spending needs in billion MNT	F		30.92	25.35	27.20	28.84	30.20	32.40	42.21	27.63	38.12	40.90	323.8
Total cost in 2020 in billion MNT, projected to increase by inflation rate	G	29	30.42	32.25	34.18	36.23	38.41	40.71	43.15	45.74	48.49	51.40	401.0
Additional spending needs in billion MNT	H		-	-	0	-	-	-	-	-	-	-	0.0

Assumptions:

- The goal will be achieved by purchasing additional buses for public transportation.
- The price of the new bus will be USD89,000 plus custom taxes in 2021 and is projected to increase by inflation rates.



Sources of information used and explanations of calculations	
A	The number of buses for public transportation is specified in the Development Vision document of the Capital City that was approved by the Resolution No.32/04 of the Citizens' Representative Meeting of the Capital
B	$B = B_t - B_{t-1}$ According to the Public Transportation Department's information and reports, it planned to purchase 106 buses for public transportation in 2021 ⁸⁴ .
C	Price ⁸⁵ of buses with similar technical specifications as stated in the plans of the Public Transportation Department
D	Converted to the average annual USD exchange rate in 2021 (\$ 1 = ₮ 2850).
E	Annex 3 to the State Great Hural Resolution # 52, 2020. Key indicators and targets for monitoring and evaluation of "Vision-2050" long-term development policy of Mongolia. Inflation rate is specified in line 33. The annual target is set to be constant.
F	$F = B * D / 1'000'000'000$
G	The total cost is specified in the 2020 Annual Report of the Public Transportation Department ⁸⁶ and is projected to increase with the inflation rate.
H	$H = F - G$

⁸⁴ <https://livetv.mn/p/275614>

⁸⁵ https://www.alibaba.com/product-detail/luxury-LHD-and-right-hand-driver_60825214128.html?spm=a2700.galleryofferlist_catalog.normal_offer.d_title.3b0b1821Ablz0M

⁸⁶ https://transport.ub.gov.mn/en/?page_id=964

APPENDIX 1.11.3. SDG-11.4: Strengthen efforts to protect and safeguard the world's cultural and natural heritage.

		2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	Total
Population	A	3,353,470.0	3,417,118.0	3,479,936.0	3,541,803.0	3,602,546.0	3,662,221.0	3,720,945.0	3,778,876.0	3,836,214.0	3,893,168.0	3,950,052.0	
Total amount of expenses per person spent on preservation and protection of national cultural and natural heritage, in MNT	B	27,700.0	29,362.0	31,123.7	32,991.1	34,970.6	37,068.8	39,293.0	41,650.6	44,149.6	46,798.6	49,606.5	
Spending needs in billion MNT	C		100.3	108.3	116.8	126.0	135.8	146.2	157.4	169.4	182.2	195.9	1438.3
Total cost in billion MNT, projected to increase by inflation rate	D	92.89	98.5	104.4	110.6	117.3	124.3	131.8	139.7	148.1	156.9	166.4	
Additional spending needs in billion MNT	E		1.87	3.94	6.21	8.71	11.45	14.44	17.72	21.31	25.26	29.59	140.5

Assumptions:

- The total expenses per person on preservation and protection is MNT 27,700 and is projected to increase with the inflation rate.



Sources of information used and explanations of calculations	
A	National Statistical Office (2018). Renewed 2015-2045 population projection at regional and sub-regional level based on resident population of Mongolia, sex and age groups, medium scenario.
B	http://sdg.gov.mn/Goal/?id=11
C	$C=A*B/1'000'000'000$
D	The total expenses per population on preservation and protection in 2020 are projected to increase with the inflation rate.
E	$E=C-D$

APPENDIX 1.11.4. SDG-11.7: By 2030, provide universal access to safe, inclusive and accessible, green and public spaces, particularly for women and children, older persons and persons with disabilities.



		2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	Total
Public space in Ulaanbaatar, ha	A	3140											
Percentage of green space on Public space	B	16.6%	17.9%	19.2%	20.5%	21.8%	23.1%	24.4%	25.7%	27.0%	28.3%	30%	
Green spaces, ha	C	521.24	563.316	604.136	644.956	685.776	726.596	767.416	808.236	849.056	889.876	942	
Target green space	D		42.076	40.82	40.82	40.82	40.82	40.82	40.82	40.82	40.82	52.124	
unit cost, in million MNT	E	5.12	5.42	5.75	6.09	6.46	6.85	7.26	7.69	8.15	8.64	8.64	
Spending needs in billion MNT	F		0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.4	0.5	3.0
Total cost in 2020 in billion MNT, projected to increase by inflation rate	G	0.22	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.4	0.4	3.1
Additional spending needs in billion MNT	H		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Assumptions:

- In 2020, the percentage of green space per public space was 15 percent and which is expected to reach 30 percent in 2030.
- The same amount spaces will be green each year.

Sources of information used and explanations of calculations	
A	As of 2019, the size of land in Ulaanbaatar is considered constant until 2030. https://www.1212.mn/tables.aspx?TBL_ID=DT_NS0_2400_015V4
B	Green space was 15 percent in 2020 and expected to reach 30 percent by 2030 based on the target 6.3 in the Annex to the 2016 Resolution No. 35 of the State Great Hural of Mongolia "Action Plan for Implementing Green Development Policy of Mongolia (2016-2030)". As of 2020, green space is estimated at 16.6 percent. ⁸⁷
C	C=A*B
D	$D_t = C_t - C_{t-1}$
E	The average normative costs approved by the Ministry of Environment and Tourism in 2020 ⁸⁸ are projected to increase with inflation rates
F	F=D*E/1000
G	The additional green spaces built in 2020 account for 1.4 percent ⁸⁹ . G=1.4%*A*E/1000
H	H=F-G

⁸⁷ http://sdg.gov.mn/Home/Page/Green_development_indicator

⁸⁸ <http://www.mne.mn/wp-content/uploads/2020/10/ойжууланм-ойн-аж-ахуйн-арга-хэмжээний-зардлын-нормамуе-2.pdf>

⁸⁹ http://sdg.gov.mn/Home/Page/Green_development_indicator


APPENDIX 1.11.5. The summary of the total and additional spending needs for SDG-11.

Targets	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	Total
11.1	1,016	1,077	1,141	1,210	1,282	1,359	1,441	1,527	1,619	1,716	13,389
11.2	30.9	25.4	27.2	28.8	30.2	32.4	42.2	27.6	38.1	40.9	323.8
11.3											-
11.4	100.3	108.3	116.8	126.0	135.8	146.2	157.4	169.4	182.2	195.9	1,438.3
11.5	2.7	2.7	2.7	2.7							11.0
11.6											0.0
11.7	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.4	0.5	3.0
11.a											-
11.b											-
11.c											-
Total spending needs in billion MNT	1,150.0	1,213.4	1,288.4	1,367.7	1,448.7	1,538.3	1,640.8	1,724.7	1,839.7	1,953.5	15,165.2
Government spending (as of 2020) and projected to increase by inflation and growth rate	467.6	515.1	567.6	625.9	690.4	762.0	841.5	929.7	1,027.5	1,136.2	7,563.5
Additional spending needs in billion MNT	679.2	702.5	725.0	746.5	766.5	784.6	800.3	813.2	822.6	827.7	7,668.1

* Please refer to the link for target details <https://unstats.un.org/sdgs/indicators/indicators-list/>

APPENDIX 1.12.1. SDG-12.5: By 2030, substantially reduce waste generation through prevention, reduction, recycling, and reuse.


		2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	Total
Unit cost, in USD	A	85											
Inflation rates	B		0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	
Unit cost, in billion MNT	C	0.24	0.26	0.27	0.29	0.31	0.32	0.34	0.36	0.39	0.41	0.43	
National level of waste recycling, thousand tons	D	343.1	601.9	751.6	914.9	1091.7	1282.1	1513.2	1744.3	1975.4	2206.5	2437.6	
Target waste recycling rate	E		258.8	149.7	163.3	176.8	190.4	231.1	231.1	231.1	231.1	231.1	
Spending in billion MNT	F		66.5	40.7	47.1	54.1	61.7	79.4	84.2	89.2	94.6	100.3	717.8

Assumptions:

- By 2030, 2437.6 thousand tons of waste will be recycled annually.



Sources of information used and explanations of calculations	
A	The unit cost is considered as \$85 (35+50) based on World Bank ⁹⁰ estimates Lower-income countries spending on waste operations – USD35; Waste management is labor intensive, and costs of transportation alone are in the range of \$20–\$50 per ton.
B	Annex 3 to the State Great Hural Resolution # 52, 2020. Key indicators and targets for monitoring and evaluation of “Vision-2050” long-term development policy of Mongolia. Inflation rate is specified in line 33. The annual target is set to be constant.
C	It is converted to MNT at the average annual exchange rate against the USD in 2020. Subsequently, unit costs (in MNT billion) area adjusted for inflation.
D	NDA. (2020). National Indicators and Targets for Mongolia’s Sustainable Development Goals – for Internal Use, page 41
E	$E_t = D_t - D_{t-1}$
F	$F = C * E$

APPENDIX 1.12.2. The summary of total and additional spending needs for SDG-12.

Targets		2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	Total
12.1													
12.2													
12.3													
12.4													
12.5	A		66.5	40.7	47.1	54.1	61.7	79.4	84.2	89.2	94.6	100.3	717.8
12.6	B		1.4	1.4	1.4	2.8							7.1
12.7	C		14.4	14.4	14.4	28.5							71.8
12.8	D		33.4	33.4	33.4	66.9							167.2
12.a	E		34.8	34.8	34.8	69.6							174.0
12.b	F		12.5	12.5	12.5	24.9							62.3
12.c	G												-
Financing needs in billion MNT	H		163.0	137.3	143.7	246.8	61.7	79.4	84.2	89.2	94.6	100.3	1200.2
Government spending (as of 2021) on waste, projected to increase by inflation rate	I	0.8	0.9	1.0	1.1	1.3	1.4	1.6	1.7	2.0	2.2	2.4	15.6
Additional spending needs in billion MNT	G		162.1	136.3	142.5	245.6	60.3	77.8	82.4	87.3	92.4	97.8	1184.6

⁹⁰ Ibid

* Please refer to the link for target details <https://unstats.un.org/sdgs/indicators/indicators-list/>



APPENDIX 1.13.1. SDG-13: Climate action



All targets	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	Total
The climate change adaptation financing needs		1,365.4	1,365.4	1,365.4	1,365.4	1,365.4	1,365.4	1,365.4	1,365.4	1,365.4	1,365.4	13,654.0
Government spending (as of 2020) on climate adaptation, projected to increase by inflation rate	282.04	311.81	348.37	389.21	434.84	485.82	542.78	606.42	677.51	756.95	845.69	5,399.4
Additional spending needs in billion MNT		1,053.59	1,017.03	976.19	930.56	879.58	822.62	758.98	687.89	608.45	519.71	8,254.6

Assumptions:

- SDG-13: The need for funding to achieve the goal of mitigating the effects of climate change will be determined by the required budget outlined in the “Nationally Determined Contribution Targets for the Implementation of the Paris Agreement” (pp. 92-109).
- Spend the same amount of financing needed each year.

APPENDIX 1.15.1. SDG-15.1: By 2020, ensure the conservation, restoration and sustainable use of terrestrial and inland freshwater ecosystems and their services, in particular forests, wetlands, mountains and drylands, in line with obligations under international agreements.



		2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	Total
Share of protected areas	B	21.7	23.3	24.9	26.5	28.1	29.7	30	30	30	30	30	
Government spending on protected areas	C	11.7	12.9	14.4	16.1	18.0	20.1	22.4	25.1	28.0	31.3	34.9	
Unit cost	D	0.54	0.57	0.60	0.64	0.68	0.72	0.76	0.81	0.86	0.91	0.96	
Inflation rates	E		6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	
Spending needs	F		13.3	15.0	17.0	19.1	21.3	22.9	24.2	25.7	27.2	28.9	214.5

Share of protected surface water sources	G	49.4	50.5	51.6	52.7	53.8	55	56	57	58	59	60	
Government spending on protected areas	H	4.4	4.9	5.5	6.1	6.9	7.7	8.6	9.6	10.7	11.9	13.3	
Unit cost	I	0.09	0.10	0.10	0.11	0.11	0.12	0.13	0.14	0.14	0.15	0.16	
Inflation rates	J		6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	
Spending needs	K		4.8	5.2	5.6	6.1	6.6	7.2	7.7	8.3	9.0	9.7	70.3

Total area, thousand hectares	L	156411.6					156411.6					156411.6	
Percentage of total forest area	M	7.9%	8.30%	8.40%	8.50%	8.60%	8.7%					9.0%	
Forested land, thousands of hectares	N	12356.5					13607.8					14077.0	
Target area, thousand hectares	O		250.3	250.3	250.3	250.3	250.3	93.8	93.8	93.8	93.8	93.8	
Unit cost, million MNT	P	5.1	5.4	5.7	6.1	6.5	6.8	7.3	7.7	8.2	8.6	9.2	
Inflation rates	Q		6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	
Necessary spending needs, in billion MNT	R		1357.0	1438.4	1524.7	1616.2	1713.1	681.0	721.8	765.1	811.0	859.7	11488.0
Government spending on forestry		5.9	6.6	7.3	8.2	9.2	10.2	11.4	12.8	14.3	15.9	17.8	

Total spending needs in billion MNT			1375.0	1458.6	1547.3	1641.3	1741.1	711.0	753.8	799.1	847.2	898.2	11772.8
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In this context, calculations were made for two indicators.

SGD-15.1.1. Percentage of total forest area**Assumptions:**

- By 2030, the size of forest areas will reach 9.0 percent of the total area.
- The reforestation unit costs 5.1 million MNT per hectare, projected to increase with the inflation rate.



Sources of information used and explanations of calculations	
L	Total land size of Mongolia, thousand hectares – https://www.1212.mn/tables.aspx?TBL_ID=DT_NSO_2400_015V4
M	NDA. (2020). National Indicators and Targets for Mongolia's Sustainable Development Goals – for Internal Use, page 44
N	$N=L*M$
O	The target is assumed to be the same for the years in the corresponding interval.
P	Per the decree of the Minister of Environment and Tourism (2020), "Reforestation and Forestry Cost Normative" ⁹¹ was used for determining the unit costs. We assumed unit cost is the average cost from #1 to #17 types of afforestation activities.
P	Between 2021-2030, $P_t = P_{t-1} * (1 + Q_t)$
Q	Annex 3 to the State Great Hural Resolution # 52, 2020. Key indicators and targets for monitoring and evaluation of "Vision-2050" long-term development policy of Mongolia. Inflation rate is specified in line 33. The annual target is set to be constant.
R	$R=O*P$

SDG-15.1.2. The conservation, restoration and sustainable use of terrestrial and inland freshwater ecosystems and their service.**Assumptions:**

- By 2030, the size of protected areas will reach 30 percent of the total area.
- By 2030, the share of protected water sources will reach 60 percent.



Sources of information used and explanations of calculations	
B	NDA (2020). National Indicators and Targets for Mongolia's Sustainable Development Goals – for Internal Use, page 44
C	In 2020, the costs of the Protected Areas will be used as a basis. Source: Ministry of Environment and Tourism – www.mne.mn
D	In 2020, $D=C/B$. In the following years, $D_t = D_{t-1} * (1 + E_t)$
E	Annex 3 to the State Great Hural Resolution # 52, 2020. Key indicators and targets for monitoring and evaluation of "Vision-2050" long-term development policy of Mongolia. Inflation rate is specified in line 33. The annual target is set to be constant.
F	$F=B*D$
G	NDA (2020). National Indicators and Targets for Mongolia's Sustainable Development Goals – for Internal Use, page 44

⁹¹ <http://www.mne.mn/wp-content/uploads/2020/10/ойжуулалт-ойн-аж-ахуйн-арга-хэмжээний-зардлын-норматив-2.pdf>

H	In 2020, the expenditures of the Water Basin Protection Administration will be used as a basis. Source: Ministry of Nature, Environment and Tourism – www.mne.mn
I	In 2020, I=H/G. In the next years, $I_t = I_{t-1} * (1 + J_t)$
J	Annex 3 to the State Great Hural Resolution # 52, 2020. Key indicators and targets for monitoring and evaluation of “Vision-2050” long-term development policy of Mongolia. Inflation rate is specified in line 33. The annual target is set to be constant.
K	$K=G*I$

APPENDIX 1.15.2. SDG-15.3: By 2030, combat desertification, restore degraded land and soil, including land affected by desertification, drought and floods, and strive to achieve a land degradation-neutral world.



		2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	Total
Goal 9 of the National Biodiversity Program: Expenditures to reduce Mongolia's pastureland degradation by up to 70 percent in 2019-2021, in billion MNT	A	11.5											
Inflation rates	B		6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	
Unit cost, in billion MNT	C	3.8											
Spending needs in billion MNT	D		4.1	4.3	4.6	4.9	5.1	5.5	5.8	6.1	6.5	6.9	53.7

Assumptions:

- The financing needs reflected in the medium-term financing needs of the National Biodiversity Program of Mongolia will be met at the 2020 baseline.

Sources of information used and explanations of calculations	
A	(MOET, Financing Needs Assessment of National Biodiversity Program of Mongolia, 2019), page 138
B	Annex 3 to the State Great Hural Resolution # 52, 2020. Key indicators and targets for monitoring and evaluation of “Vision-2050” long-term development policy of Mongolia. Inflation rate is specified in line 33. The annual target is set to be constant.
C	Since the need for funding is estimated at three years period, it is assumed that the same amount will be spent each year.
D	In 2021, $C_t = C_{t-1} * (1 + B_t)$ and corrected by inflation expected in the next years



APPENDIX 1.15.3. SDG-15.5: Take urgent and significant action to reduce the degradation of natural habitats, halt the loss of biodiversity and, by 2020, protect and prevent the extinction of threatened species.



		2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	Total
Goal 4 of the National Biodiversity Program: Expenditures required for the implementation of the National Program for the Protection of Indigenous, Very Rare and Endangered Species in 2019-2021, in billion MNT	A	7.6											
Inflation rates	B		6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	
Unit cost, in billion MNT	C	2.5											
Spending needs in billion MNT	D		2.7	2.9	3.0	3.2	3.4	3.6	3.8	4.0	4.3	4.5	35.5

Assumptions:

- The financing needs reflected in the medium-term financing needs of the National Biodiversity Program of Mongolia will be taken at the 2020 baseline.

	Sources of information used and explanations of calculations
A	(MOET, Financing Needs Assessment of National Biodiversity Program of Mongolia, 2019), page 138
B	Annex 3 to the State Great Hural Resolution # 52, 2020. Key indicators and targets for monitoring and evaluation of “Vision-2050” long-term development policy of Mongolia. Inflation rate is specified in line 33. The annual target is set to be constant.
C	Since the need for funding is estimated at three years, it is assumed that the same amount will be spent each year.
D	In 2021, $C_t = C_{t-1} * (1 + B_t)$ and corrected by inflation expected in the next years

APPENDIX 1.15.4. SDG-15.6: Promote fair and equitable sharing of the benefits arising from the utilization of genetic resources and promote appropriate access to such resources, as internationally agreed.



		2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	Total
Goal 3 of the National Biodiversity Program: Expenditures required to protect and use the genetic resources of economically important species, create a legal environment for fair use of their benefits, and prevent genetic degradation in 2019-2021, in billion MNT	A	15.4											
Inflation rates	B		6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	
Unit cost, in billion MNT	C	5.1											
Spending needs in billion MNT	D		5.4	5.8	6.1	6.5	6.9	7.3	7.7	8.2	8.7	9.2	71.7



Assumptions:

- The financing needs reflected in the medium-term financing needs of the National Biodiversity Program of Mongolia will be taken at the 2020 baseline.

Sources of information used and explanations of calculations	
A	(MOET, Financing Needs Assessment of National Biodiversity Program of Mongolia, 2019), page 138
B	Annex 3 to the State Great Hural Resolution # 52, 2020. Key indicators and targets for monitoring and evaluation of “Vision-2050” long-term development policy of Mongolia. Inflation rate is specified in line 33. The annual target is set to be constant.
C	Since the need for funding is estimated at three years, it is assumed that the same amount will be spent each year.
D	In 2021, $C_t = C_{t-1} * (1 + B_t)$ and corrected by inflation expected in the following years

APPENDIX 1.15.5. SDG-15.9: By 2020, integrate ecosystem and biodiversity values into national and local planning, development processes, poverty reduction strategies and accounts.



		2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	Total
Expenditures required to implement the activities specified in Goal 2 of the National Biodiversity Program in 2019-2021, in billion MNT	A	0.6											
Inflation rates	B		6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	
Unit cost, in billion MNT	C	0.2											
Spending needs in billion MNT	D		0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3	2.6

Assumptions:

- The financing needs reflected in the medium-term financing needs of the National Biodiversity Program of Mongolia will be taken at the 2020 baseline.

Sources of information used and explanations of calculations	
A	(MOET, Financing Needs Assessment of National Biodiversity Program of Mongolia, 2019), page 138
B	Annex 3 to the State Great Hural Resolution # 52, 2020. Key indicators and targets for monitoring and evaluation of “Vision-2050” long-term development policy of Mongolia. Inflation rate is specified in line 33. The annual target is set to be constant.
C	Since the need for funding is estimated at three years, it is assumed that the same amount will be spent each year.
D	In 2021, $C_t = C_{t-1} * (1 + B_t)$ and corrected by inflation expected in the following years



APPENDIX 1.15.6. SDG-15.a: Mobilize and significantly increase financial resources from all sources to conserve and sustainably use biodiversity and ecosystems.



		2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	Total
Goal 14 of the National Biodiversity Program Objective: To identify the main sources of funding required for the implementation of the Biodiversity Strategic Plan and to establish an effective use system for 2019-2021.	A	8.1											
Inflation rates	B		6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	
Unit cost, in billion MNT	C	2.7											
Spending needs in billion MNT	D		2.9	3.0	3.2	3.4	3.6	3.8	4.1	4.3	4.6	4.8	37.8

Assumptions:

- The financing needs reflected in the medium-term financing needs of the National Biodiversity Program of Mongolia will be taken at the 2020 baseline.

Sources of information used and explanations of calculations	
A	(MOET, Financing Needs Assessment of National Biodiversity Program of Mongolia, 2019), page 138
B	Annex 3 to the State Great Hural Resolution # 52, 2020. Key indicators and targets for monitoring and evaluation of “Vision-2050” long-term development policy of Mongolia. Inflation rate is specified in line 33. The annual target is set to be constant.
C	Since the need for funding is estimated at three years, it is assumed that the same amount will be spent each year.
D	In 2021, $C_t = C_{t-1} * (1 + B_t)$ and corrected by inflation expected in the following years

APPENDIX 1.15.7. SDG-15.c: Enhance global support for efforts to combat poaching and trafficking of protected species, including by increasing the capacity of local communities to pursue sustainable livelihood opportunities.



		2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	Total
Goal 8 of the National Biodiversity Program: Expenditure on the rational use and conservation management of natural resources, especially wildlife resources, through the establishment of public-private partnerships in 2019-2021, in billion MNT	A	1.3											
Inflation rates	B		6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	
Unit cost, in billion MNT	C	0.4											
Spending needs in billion MNT	D		0.5	0.5	0.5	0.6	0.6	0.6	0.7	0.7	0.7	0.8	6.2

Assumptions:

- The financing needs reflected in the medium-term financing needs of the National Biodiversity Program of Mongolia will be taken at the 2020 baseline level.

Sources of information used and explanations of calculations	
A	(MOET, Financing Needs Assessment of National Biodiversity Program of Mongolia, 2019), page 138
B	Annex 3 to the State Great Hural Resolution # 52, 2020. Key indicators and targets for monitoring and evaluation of “Vision-2050” long-term development policy of Mongolia. Inflation rate is specified in line 33. The annual target is set to be constant.
C	Since the need for funding is estimated at three years, it is assumed that the same amount will be spent each year.
D	In 2021, $C_t = C_{t-1} \cdot (1 + B_t)$ and corrected by inflation expected in the following years

APPENDIX 1.15.8. The summary of total and additional spending needs for SDG -15.

All targets		2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	Total
15.1	A		1375.0	1458.6	1547.3	1641.3	1741.1	711.0	753.8	799.1	847.2	898.2	11772.8
15.2	B		24.4	24.4	24.4	24.4							97.4
15.3	C		4.1	4.3	4.6	4.9	5.1	5.5	5.8	6.1	6.5	6.9	53.7
15.4	D												-
15.5	E		2.7	2.9	3.0	3.2	3.4	3.6	3.8	4.0	4.3	4.5	35.5
15.6	F		5.4	5.8	6.1	6.5	6.9	7.3	7.7	8.2	8.7	9.2	71.7
15.7	G												-
15.8	H												-
15.9	I		0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3	2.6
15.a	J		2.9	3.0	3.2	3.4	3.6	3.8	4.1	4.3	4.6	4.8	37.8
15.b	K												-
15.c	L		0.5	0.5	0.5	0.6	0.6	0.6	0.7	0.7	0.7	0.8	6.2
Total spending needs in billion MNT	M		1415.2	1499.7	1589.3	1684.4	1761.0	732.0	776.1	822.8	872.3	924.8	12077.7
Government spending	N	26.61	29.4	50.7	56.6	63.2	70.6	78.9	88.2	98.5	110.1	123.0	
Additional spending needs	O		1385.7	1449.0	1532.7	1621.2	1690.3	653.1	687.9	724.3	762.3	801.9	11308.6

* Please refer to the link for target details <https://unstats.un.org/sdgs/indicators/indicators-list/>



Sources of information used and explanations of calculations	
N	The government spending on environmental protection and afforestation is taken from the 2020 State Budget Performance. While from 2022, we projected the government spending higher because it pledged to increase the afforestation expenditure 3.6 times higher ⁹² compared to 2020 spending.
O	O=N-M

APPENDIX 1.16.1 The summary of total spending needs for SDG -16.



Targets	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	Total
16.1	83.9	83.9	83.9	167.8							419.44
16.2	5.7	5.7	5.7	5.8							22.91
16.3	17.7	17.7	17.7	35.3							88.38
16.4	0.0	0.0	0.0	0.1							0.17
16.5	0.0	0.0	0.0	0.1							0.17
16.6	2.6	2.6	2.6	5.1							12.86
16.7	0.5	0.5	0.5	1.0							2.44
16.8	17.9	17.9	17.9	35.1							88.91
16.9											-
16.1	87.1	87.1	87.1	174.1							435.26
16.a	0.0	0.0	0.0	0.0							0.11
16.b											-
Total spending needs in billion MNT	215.4	215.4	215.4	424.4	-	-	-	-	-	-	1,070.6
Additional spending needs in billion MNT	215.4	215.4	215.4	424.4	-	-	-	-	-	-	1,070.6

* Please refer to the link for target details <https://unstats.un.org/sdgs/indicators/indicators-list/>

Assumptions:

- Action Plan of the Government of Mongolia for 2020-2024 covers costs for promoting peaceful and inclusive societies, providing access to justice for all, and building effective, accountable, and inclusive institutions at all levels.
- The majority of targets in this goal can be achieved by improving policy coordination and coherence.

APPENDIX 1.17.1 The summary of total spending needs for SDG -17

Assumptions:

- Action Plan of the Government of Mongolia for 2020-2024 covers costs for strengthening the means of implementation and revitalizing the global partnership for sustainable development
- The majority of targets in this goal can be achieved via policy coordination and coherence.



Targets	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	Total
17.1	0.1	0.1	0.1	0.1							0.2
17.2	81.4	81.4	81.4	162.9							407.2
17.3	1.7	1.7	1.7	2.8							8.1
17.4	0.5	0.5	0.5	1.0							2.6
17.5	1.2	1.2	1.2	2.3							6.0
17.6											-
17.7	161.9	161.9	161.9	161.9							647.5
17.8	11.2	11.2	11.2	19.8							53.3
17.9	2.1	2.1	2.1	3.4							9.7
17.1	0.4	0.4	0.4	0.4							1.4
17.11	53.2	53.2	53.2	53.2							212.9
17.12	1.7	1.7	1.7	2.9							7.9
17.13											-
17.14											-
17.15	1.6	1.6	1.6	3.2							7.9
17.16	0.0	0.0	0.0	0.0							0.1
17.17	165.6	165.6	165.6	165.6							662.2
17.18	2.8	2.8	2.8	5.6							14.0
17.19											-
Total spending needs in billion MNT	485.4	485.4	485.4	585.0							2,041.2

* Please refer to the link for target details <https://unstats.un.org/sdgs/indicators/indicators-list/>

Appendix 2.

A list of indicators that can be used to improve estimates of financing needs for SDGs


(Note: These indicators are not regularly calculated from any sources of information in Mongolia and should be reported annually in the future)

N°	Indicators that are not regularly calculated	Whether the target line is determined by the NDA	Use to estimate financing needs for a target
1	1.3.1 Proportion of population covered by social protection floors/systems, by sex, distinguishing children, unemployed persons, older persons, persons with disabilities, pregnant women, newborns, work-injury victims and the poor and the vulnerable	Mothers are covered by maternity benefits, The level of achievement of the sub-criteria of a pensioner with a disability who has reached the age of 16 and has lost 50 percent or more of his or her ability to work has not been determined.	1.3: Implement nationally appropriate social protection systems and measures for all, including floors, and by 2030 achieve substantial coverage of the poor and the vulnerable
2	1.a.1 Proportion of domestically generated resources allocated by the government directly to poverty reduction programmes	Determined.	1.a. Ensure significant mobilization of resources from a variety of sources, including through enhanced development cooperation, in order to provide adequate and predictable means for developing countries, in particular least developed countries, to implement programmes and policies to end poverty in all its dimensions
3	1.a.3 Sum of total grants and non-debt-creating inflows directly allocated to poverty reduction programmes as a proportion of GDP		
4	1.b.1 Proportion of government recurrent and capital spending to sectors that disproportionately benefit women, the poor and vulnerable groups	Not determined.	1.b. Create sound policy frameworks at the national, regional and international levels, based on pro-poor and gender-sensitive development strategies, to support accelerated investment in poverty eradication actions
5	2.3.1 Volume of production per labour unit by classes of farming/pastoral/forestry enterprise size	Determined.	2.3. By 2030, double the agricultural productivity and incomes of small-scale food producers, in particular women, indigenous peoples, family farmers, pastoralists and fishers, including through secure and equal access to land, other productive resources and inputs, knowledge, financial services, markets and opportunities for value addition and non-farm employment
6	2.3.2 Average income of small-scale food producers, by sex and indigenous status	Not determined.	

N°	Indicators that are not regularly calculated	Whether the target line is determined by the NDA	Use to estimate financing needs for a target
7	2.4.1 Proportion of agricultural area under productive and sustainable agriculture	Determined.	2.4. By 2030, ensure sustainable food production systems and implement resilient agricultural practices that increase productivity and production, that help maintain ecosystems, that strengthen capacity for adaptation to climate change, extreme weather, drought, flooding and other disasters and progressively improve land and soil quality
8	7.b.1 Investments in energy efficiency as a proportion of GDP and the amount of foreign direct investment in financial transfer for infrastructure and technology to sustainable development services	Not determined.	7.b. By 2030, expand infrastructure and upgrade technology for supplying modern and sustainable energy services for all in developing countries, in particular least developed countries, small island developing States and landlocked developing countries, in accordance with their respective programmes of support
9	8.9.2 Proportion of jobs in sustainable tourism industries out of total tourism jobs	Not determined.	8.9. By 2030, devise and implement policies to promote sustainable tourism that creates jobs and promotes local culture and products
10	9.b.1 Proportion of medium and high-tech industry value added in total value added	Determined.	9.2. Promote inclusive and sustainable industrialization and, by 2030, significantly raise industry's share of employment and gross domestic product, in line with national circumstances, and double its share in least developed countries
11	11.1.1 Proportion of urban population living in slums, informal settlements or inadequate housing	Not determined.	11.1. By 2030, ensure access for all to adequate, safe and affordable housing and basic services and upgrade slums
12	11.7.1 Average share of the built-up area of cities that is open space for public use for all, by sex, age and persons with disabilities	Not determined.	11.7. By 2030, provide universal access to safe, inclusive and accessible, green and public spaces, in particular for women and children, older persons and persons with disabilities
13	11.7.2 Proportion of persons victim of physical or sexual harassment, by sex, age, disability status and place of occurrence, in the previous 12 months	Not determined.	
14	11.c.1 Proportion of financial support to the least developed countries that is allocated to the construction and retrofitting of sustainable, resilient and resource-efficient buildings utilizing local materials	Not determined.	11.c. Support least developed countries, including through financial and technical assistance, in building sustainable and resilient buildings utilizing local materials

N°	Indicators that are not regularly calculated	Whether the target line is determined by the NDA	Use to estimate financing needs for a target
15	12.4.2 Hazardous waste generated per capita, and proportion of hazardous waste treated, by type of treatment	Not determined.	12.4. By 2020, achieve the environmentally sound management of chemicals and all wastes throughout their life cycle, in accordance with agreed international frameworks, and significantly reduce their release into air, water and soil in order to minimize their adverse impacts on human health and the environment
16	12.5.1 National recycling rate, tons of material recycled	Determined.	12.5. By 2030, substantially reduce waste generation through prevention, reduction, recycling and reuse
17	12.c.1 Amount of fossil-fuel subsidies per unit of GDP (production and consumption) and as a proportion of total national expenditure on fossil fuels	Not determined.	12.c. Rationalize inefficient fossil-fuel subsidies that encourage wasteful consumption by removing market distortions, in accordance with national circumstances, including by restructuring taxation and phasing out those harmful subsidies, where they exist, to reflect their environmental impacts, taking fully into account the specific needs and conditions of developing countries and minimizing the possible adverse impacts on their development in a manner that protects the poor and the affected communities
18	16.1.4 Proportion of population that feel safe walking alone around the area they live	Not determined.	16.1. Significantly reduce all forms of violence and related death rates everywhere
19	16.3.1 Proportion of victims of violence in the previous 12 months who reported their victimization to competent authorities or other officially recognized conflict resolution mechanisms	Not determined.	16.3. Promote the rule of law at the national and international levels and ensure equal access to justice for all
20	16.5.2 Proportion of persons who had at least one contact with a public official and paid a bribe to a public official, or were asked for a bribe by those public officials, during the previous 12 months	Not determined.	16.5. Substantially reduce corruption and bribery in all their forms
21	17.17.1 Amount of United States dollars committed to (a) public-private partnerships and (b) civil society partnerships for infrastructure.	Not determined.	17.17. Encourage and promote effective public, public-private and civil society partnerships, building on the experience and resourcing strategies of partnerships



The image features a dark blue background with a series of colorful, wavy lines that flow from the top right towards the bottom left. The lines are in various colors including yellow, orange, red, pink, purple, blue, and green. The lines are of varying thickness and create a sense of movement and depth. In the bottom left corner, there are two lines of white text providing URLs.

<https://jointsdgfund.org/where-we-work/mongolia>
<https://inff.org/country/mongolia>