Inquiry: Design of a Sustainable Financial System

IFC International Finance Corporation WORLD BANK GROUP

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UN environment

NATIONAL SUSTAINABLE FINANCE ROADMAP OF MONGOLIA

Unlocking Mongolia's Potential to Become a Sustainable Finance Knowledge Centre in the Region

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UN Environment Inquiry

The Inquiry into the Design of a Sustainable Financial System has been initiated by the United Nations Environment Programme (UN Environment) to advance policy options to improve the financial system's effectiveness in mobilizing capital towards a green and inclusive economy—in other words, sustainable development. Established in January 2014, it published its final, global report in April 2018.

More information on the Inquiry is at: *www.unepinquiry.org* or from: Ms. Mahenau Agha, Director of Outreach *mahenau.agha@un.org*.

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Mongolian Sustainable Finance Association (MSFA)

The Mongolian Sustainable Finance Association (MSFA) was formed by the Mongolian Bankers Association (MBA) in December 2017 with the vision to become a sustainable finance knowledge and leadership centre in the region. The MSFA closely collaborates with various stakeholders to create cross-sector linkages and cohesive action to promote the role of finance in sustainability, climate change resilience and ecological preservation. For more information, visit: *www.toc.mn*.

About this report

Nomindari Enkhtur, Tumurkhuu Davaakhuu and Iain Henderson are the lead authors of this report. It was developed through a partnership between the UN Environment Inquiry, IFC and the MSFA. IFC's engagement in this initiative has been supported by the Government of Japan through the Ministry of Finance. The document was developed under the guidance of, and with valuable contributions from, the project Advisory Committee, consisting of the Ministry of Environment and Tourism, the Ministry of Finance, the Central Bank of Mongolia, the Financial Regulatory Commission, the Mongolian Stock Exchange, the Mongolian Bankers Association, and the United Nations Development Programme Representative Office in Ulaanbaatar.

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ABBREVIATIONS AND ACRONYMS

ADB	Asian Development Bank
AFI	Alliance for Financial Inclusion
ASSM	Artisanal and Small-Scale Mining
DBM	Development Bank of Mongolia
E&S	Environmental and Social
EE	Energy Efficiency
EFF	Extended Fund Facility
ESG	Environmental, Social and Governance
ESRM	Environmental and Social Risk Management
FDI	Foreign Direct Investment
FIs	Financial Institutions
FMO	Dutch Development Bank
FRC	Financial Regulatory Commission
FX	Foreign Exchange
GCF	Green Climate Fund
GDP	Gross Domestic Product
GGGI	Global Green Growth Institute
GHG	Greenhouse gas
GNI	Gross National Income
IDA	International Development Association
IFC	International Finance Corporation
IMF	International Monetary Fund
INDC	Intended Nationally Determined Contribution
JCM	Joint Crediting Mechanism
JICA	Japan International Cooperation Agency
LULUCF	Land Use, Land Use Change and Forestry
MBA	Mongolian Bankers Association
MET	Ministry of Environment and Tourism
MFIs	Micro-finance Institutions
MGFC	Mongolia Green Finance Corporation
MNT	Mongolian Tugrik (currency)
MoF	Ministry of Finance
MRV	Monitoring, Reporting and Verification
MSE	Mongolian Stock Exchange
MSFA	Mongolian Sustainable Finance Association
MSFI	Mongolian Sustainable Finance Initiative
MW	Megawatt
NBFIs	Non-bank Financial Institutions
NDC	Nationally Determined Contribution
NGDP	National Green Development Policy
NGO	Non-governmental Organization

NPL	Non-performing Loan
NSO	National Statistics Office
PAGE	Partnership for Action on Green Economy
PV	Photovoltaic
SBN	Sustainable Banking Network
SDV	Sustainable Development Vision
SMEs	Small and Medium-sized Enterprises
SSE	Sustainable Stock Exchanges
UN	United Nations
UNDP	United Nations Development Programme
UNEP FI	United Nations Environment Programme Finance Initiative
UNFCCC	United Nations Framework Convention on Climate Change
UNITAR	United Nations Institute for Training and Research
US$	United States Dollar

EXECUTIVE SUMMARY

The polluting, resource-intensive growth pathway that humanity has followed for many centuries has caused serious damage to the planet and the people who live on it. Pollution, natural resource depletion, inequality and climate change are bringing significant economic stresses that have historically not been accounted for, nor properly addressed, in development plans globally.

There is a growing awareness that the risks of inaction are considerable, but also that a new development model can unlock great opportunities for many countries including Mongolia. As a result, the Parliament of Mongolia has endorsed a clear sustainable development pathway to 2030. This vision is enshrined in several key documents and lays out ambitious goals related to economic growth, diversification, ecological balance and social stability. These sustainability aspirations have the potential to deliver strong social, environmental and economic outcomes that will also contribute to the delivery of the Sustainable Development Goals (SDGs). Several key challenges have been identified that will need to be addressed. Among these, sustainable finance has been highlighted as a core obstacle that needs to be overcome to fully unlock the potential of Mongolia.

Banks dominate the Mongolian financial sector, holding 88% of financial assets. They have been advancing the sustainability agenda domestically since 2013. While the momentum from commercial banks has been highly encouraging, there is a growing realization that the entire financial system will need to be harnessed to help the country pivot onto a new sustainable growth trajectory. This includes the capital markets, the non-bank sector, insurance and institutional investors. In order to help realize this ambition, Mongolia has developed a sustainable finance roadmap through an inclusive, multi-stakeholder process. The roadmap systematizes and clarifies existing developments while also drawing on relevant international experience from the growing number of countries who are scaling up sustainable finance worldwide.

Impetus for the roadmap has come from economic, environmental and social drivers. Mongolia's economy is closely aligned with the commodity cycle, which can lead to volatile growth patterns. These 'boom and bust' cycles highlight the benefits that a more diversified economy could bring. Environmental challenges are numerous. A serious and growing problem is air pollution. The World Bank has estimated the associated costs at just under 10% of Mongolian GDP. Recent air pollution levels have been recorded at 80 times the recommended World Health Organization limit and 10% of all deaths in Ulaanbaatar are related to complications from air pollution. There is also a growing awareness of climate change, including from changing temperatures, increased desertification, and growing water stress in many parts of the country. Financial inclusion remains high on the social agenda. Nearly 70% of the Mongolian workforce is employed by small and medium-sized enterprises (SMEs) and many face challenges in accessing finance.

The 2014 National Green Development Policy (NGDP) is one of several national policies that will help Mongolia address these challenges and deliver on its sustainable development ambitions. The NGDP explicitly recognizes the importance of sustainable finance as a strategic objective. The private sector banks, under the Mongolian Sustainable Finance Initiative (MSFI), have been driving sustainable finance innovations including the development of the Mongolian Sustainable Finance Principles. Examples of further innovation include the recent development of the Mongolia Green Finance Corporation (MGFC) initiative to scale the opportunity side of sustainable finance.

The momentum for sustainable finance stems in part from a gap between what is required for sustainable development and what is currently flowing. While the gap is large, calculating the exact size of the sustainable investment shortfall is difficult. Challenges include definitional, methodological and data issues. However, drawing on domestic analysis and using international examples, it is clear that the finance gap is considerable. Furthermore, much of the investment is required for activities that would require medium- to long-term capital.

Barriers to scaling sustainable finance can be grouped into both generic and sustainability-related barriers. Generic barriers include high interest rates and a lack of medium- to long-term funding, challenges in access to finance and scarce alternatives to bank lending. Sustainability-related barriers include an underdeveloped sustainable finance toolkit for policymakers, limited capacity, and a lack of policy alignment.

An inclusive process has led to the development of the National Sustainable Finance Roadmap of Mongolia until 2030, which covers three core areas that help overcome the barriers to scaling sustainable finance. Measures identified can be broadly grouped into three categories: (i) embedding environmental and social risk management measures; (ii) scaling green finance flows; and (iii) developing the enabling environment. Key stakeholders and partners have been identified to drive the process forward, and actions have been mapped out in terms of priorities and sequencing.

Sustainable finance in Mongolia represents a tremendous opportunity to help the country achieve its full potential through balanced, sustainable growth. Current flows remain inadequate to capitalize on this opportunity. The Mongolian Sustainable Finance Roadmap seeks to address these barriers that are currently holding back sustainable finance and allow Mongolia to continue its development into a sustainable finance regional champion.

PART 1: REVIEW OF THE STATE OF SUSTAINABLE FINANCE IN MONGOLIA

1.1 INTRODUCTION

The financial system is the lifeline of a country's economy and development. Putting sustainability at the heart of financial policies and practices is urgently needed if the Sustainable Development Goals are to be achieved and low-carbon development is to be realized.

In April 2016, the Parliament of Mongolia endorsed the Sustainable Development Vision 2030, which charts the country's development path for the years leading up to 2030. The vision offers an ambitious set of goals centred on economic growth and diversification, ecological balance, and social stability. The country strives to achieve an upper middle-income status by 2030, based on per capita income, while ending all forms of poverty, reducing income inequality, promoting green economy growth, and building a stable, professional governance system.[1]

Other important policies that guide Mongolia's sustainable development path are the National Green Development Policy (2014) and the Nationally Determined Contribution under the Paris Agreement (2016), focusing on the energy, industry, agriculture and waste sectors. The expected mitigation impact of these policies and measures is a 14% reduction in total national greenhouse gas (GHG) emissions compared to the projected emissions under a business-as-usual scenario.

However, Mongolia faces many challenges in achieving its sustainability goals and targets. The major barrier is financial, and relates to a lack of funding, financial incentives and investments. This key barrier contributes to further challenges such as the need to introduce advanced new technologies, equipment and practices to promote green growth.[2]

Contributing to roughly 90% of the financial sector, banks have been actively leading the sustainable finance agenda in Mongolia since 2013. Convened by the Mongolian Bankers Association, the banking sector has led the process of market transformation to integrate environmental and social (E&S) considerations in lending and investment activities through a collective sustainable finance framework. Although the framework is not mandatory, all banks in the country implemented it, which testifies to their commitment to E&S issues and fosters harmonized practices on green finance across the country.[3]

WHY SUSTAINABLE FINANCE:

- Finance sustainable growth over the long term
- Protect the stability of the financial system from climate, environmental, social and governance related risks
- Mobilize capital from international, public and private sources, to finance sustainable investments and growth.

Many developments are taking place, but a vast reform agenda in the financial sector still lies ahead for Mongolia. The banking sector has proven that it is an important component of the sustainable development solution. However, the entire financial system also needs to be mobilized, including non-bank financial institutions, insurance, capital markets, and institutional investors. Along the development of sustainable finance, key stakeholders involved in the financial system have recognized the importance of creating a level playing field and of coordinating individual sector policies in a more integrated and strategic way.

Mongolia has also made a commitment to become a sustainable finance knowledge and leadership centre in the region. This ambitious goal requires more alignment between policies in the financial, sustainability, and real sectors to ensure resources and efforts are used efficiently and effectively.

An integrated approach to sustainable finance can also trigger more investment into clean, green sectors such as energy efficiency, renewable energy, green buildings, sustainable agriculture, and eco-tourism. It represents the opportunity for new market creation and development.

On the other hand, economic development benefits from sustainable finance in terms of better resilience and risk management of the financial market through the integration of climate and environmental, social and governance (ESG) considerations. Sustainability has become a fundamental part of the global financial system stability, contributing to sustainable economic growth, inclusiveness, and new market opportunities.

The development of a national sustainable finance roadmap creates opportunities for a long-term strategic approach towards mobilizing finance for Mongolia's green development targets, as well as better policy coherence among the public and private sectors, international organizations and networks. The roadmap is a holistic, context-based plan covering the roles and responsibilities of key stakeholders in regulating, coordinating and implementing sustainable finance-related activities and various financing solutions to direct investments for progress in sustainable development.

The **objective** of the Mongolian Sustainable Finance Roadmap is to agree on an integrated, multi-stakeholder, strategic approach towards accelerating the development of a sustainable financial system in the country by 2030 in alignment with the national sustainable development and climate targets.

More **specific objectives** of the roadmap are to:

1. Integrate sustainability in financing and investment policies and frameworks, with consideration for climate, environmental, social and governance factors.
2. Re-orient and increase green investment flows that contribute to the creation of a low-carbon, climate-resilient and circular economy.
3. Enhance the understanding and cooperation between financial and real sector players, creating an enabling environment that looks at sustainable finance as the new business-as-usual.

The successful implementation of the roadmap will require close partnerships between various stakeholders including ministries, financial regulators, private financial sector participants, civil society organizations, and development partners supporting the sustainable finance transformation process.

This document reviews the current state of sustainable finance in Mongolia. It provides an overview of existing market principles, policies and regulations, estimated investment needs, incentive mechanisms, and barriers to scale up sustainable finance. It also proposes a strategic roadmap for Mongolia to overcome the identified barriers to move to a sustainable financial system. The activities in the roadmap are categorized into short-, medium-, and long-term approaches and are endorsed by the Sustainable Finance Advisory Committee consisting of the Ministry of Finance, the Ministry of Environment and Tourism, the Bank of Mongolia, the Financial Regulatory Commission, the Mongolian Stock Exchange, the Mongolian Bankers Association, and the Mongolian Sustainable Finance Association. The activities and targets included in the roadmap are also integrated in the National Financial Market Development Programme 2025, developed by the Ministry of Finance, the Bank of Mongolia, and the Financial Regulatory Commission in 2017. As a follow-up to the roadmap, a detailed action plan will be developed that clearly defines actions, targets, timelines, responsibilities, and performance indicators to implement the roadmap. The suggested immediate next steps are listed at the end of the report.

It should be noted that the terms green and sustainable are often used interchangeably in the report.

1.2 Country Economy Overview

Mongolia is a landlocked country in East Asia with a population of roughly 3.2 million people, 63.17% of whom are between the ages of 15-59.[4] It is one of the most sparsely populated countries in the world. Over the past 25 years, Mongolia has transformed into a vibrant democracy; it saw its GDP per capita triple, school enrolment increase, and maternal and child mortality decline dramatically. With vast agricultural and mineral resources and an increasingly educated population, Mongolia's long-term development prospects are bright. As of 2017, nearly three in four Mongolians live in urban areas, with around 40% of the population living in the capital city, Ulaanbaatar.[5]

Economic growth slowed to 1% in 2016, amid declining exports due to a weakening of the commodity market and slower growth in the key export market of China. The Government's excessive budget deficit and public debt burdens resulted in the Mongolian Government requesting the IMF's support in the form of a three-year Extended Finance Facility (EFF) arrangement in May 2017, for an amount equivalent to US$434.3 million. According to the fifth review of the agreement, all quantitative targets under the programme have been met and good progress has been made, especially with regard to structural reforms and policies to rehabilitate and strengthen the financial sector.[6]

The authorities are moving ahead with an ambitious structural reform agenda that will help sustain growth over the medium term, promote diversification and competitiveness, and mitigate the boom-bust cycle. The economy picked up in 2017 and grew by 5.1%, buoyed by strong coal exports and a recovery of foreign direct investment (FDI). The growth outlook remains positive for 2018-2020, with a World Bank estimate of more than 6%.[7] Mongolia is categorized as a lower middle-income country and as of 2017, it had a poverty rate of 21.6% and an inflation rate of 4.3% (annual average).[8] The unemployment rate dropped to 7.3% in 2017.[9]

Table 1: GDP Structure by Key Economic Sectors

GDP composition as of Q4 2017	Amount (MNT billion)	Percentage
GDP	**27 167.0**	**100%**
Mining	5939.6	22%
Retail and wholesale	3068.0	11%
Agriculture	2 920.2	11%
Manufacturing	2336.5	9%
Real estate	1653.2	6%
Financial services	1344.8	5%
Transportation	1309.9	5%
Education	1054.0	4%
Construction	962.3	4%
Other industries	4038.8	15%
Product tax	2539.7	11%

Source: National Statistics Office (2018)

1.3 Sustainability Challenges

Air pollution: Mongolia suffers the environmental consequences from urbanization and the exploitation of its natural resources. Air pollution in Mongolia's capital city is among the highest in the world.[10] Coal and wood burning by households in the *ger* (yurt) area and coal emissions from power plants contribute to the air pollution levels. A study of the World Bank estimated in 2011 the health damage at 19% of GDP in Ulaanbaatar and 9% of GDP in Mongolia.[11]

In the winter of 2016, levels of particulate matter in the air in Ulaanbaatar rose to almost 80 times the recommended safety level set by the World Health Organization, and five times worse than the air quality in Beijing.[12] A 2013 study by Canada's Simon Fraser University concluded that 10% of deaths in Ulaanbaatar were related to complications from air pollution.[13]

Given the severity of the issue, all stakeholders, including the financial sector, have important roles to contribute towards combating air pollution. Banks have already started taking action by introducing dedicated financial products for insulation and alternative clean heating systems. But these efforts need to be scaled up and backed by more affordable funding sources to drive a significant change.

Climate change: The mean surface air temperature has increased by 2.07°C between 1940 and 2013, which is almost 2.5 times higher than the world average of 0.85°C.[14] Climate change contributes to desertification, drying rivers, melting glaciers and thawing permafrost. This is in turn affecting agriculture and herding negatively through increased variability in seasonal weather patterns and extreme weather events such as *zud*.[i]

Mongolia's goals to adapt to climate change and reduce Mongolia's GHG emissions to targeted levels are conditioned on financial support from the international community and the private sector. Therefore, more financing flows and innovative funding options need to be created to reduce emissions from the energy, agriculture, and forestry sectors. In addition, the adoption of climate risk frameworks by financial institutions will reduce risks from extreme weather events and help unlock the potential for more adaptation finance flows involving private capital.

Land degradation through mining: Mining has caused environmental harm to the Mongolian countryside. This is partly due to weak environmental standards and the limited capacity to enforce environmental laws and regulations. While exploration and mining activities by larger-scale operations can be highly damaging, artisanal and small-scale mining is also environmentally damaging as a result of the uncontrolled use of chemicals, such as mercury and cyanide for mineral processing. In some cases, herders living in mining areas face challenges from severe dust, water pollution and pasture damage.[15] Financial institutions can help minimize or eliminate the hazards associated with mining through the integration of environmental and risk management requirements in lending and investment activities.

Desertification: The Mongolian steppe is one of the world's largest remaining grassland ecosystems. However, it has degraded rapidly in recent years. Research shows that 77.8% of Mongolia's territory has been affected by desertification to some degree, while 10% of the land is considered highly vulnerable to degradation, an increase of 2%-3% since 2006. The steppe and central Mongolia are most affected by desertification, and in need of urgent rehabilitation.[16] This issue has been negatively affecting the growth of the agriculture sector (the country's second most important source of income), requiring increased investments, the introduction of climate risk frameworks, and the effective enforcement and coordination of relevant policies to address the challenge.

i *Zud* (Mongolian: зуд) is a Mongolian term for a severe winter in which large number of livestock die, primarily due to starvation due to being unable to graze, in other cases directly from the cold.

Water vulnerability: Mongolia in general has limited water resources, with high geographic variation in rainfall and a major dependency on groundwater. Available water resources are becoming increasingly vulnerable as a result of overuse and pollution, as well as growing pressure from seasonal variation and climate change. Furthermore, there are concerns over soil and groundwater pollution partly due to extensive use of pit latrines in *ger* districts. [17] Green finance products promoting water efficiency and management, and the integration of E&S requirements in lending/investment decisions related to borrowers who are engaged in projects requiring significant amounts of water could contribute to protecting the scarce water resources.

Urban planning: Currently, the Municipality of Ulaanbaatar City does not provide urban engineering services at a sufficient level to the citizens, especially to those in *ger* areas who are unable to benefit from centralized water, sewage and heating supplies. The city of Ulaanbaatar is facing serious challenges in catching up with, and closing the long overdue infrastructural gaps, in order to accommodate the rapidly growing urban population. In addition, poor enforcement of building codes and urban planning norms is allowing for developments that pose major risks to people and the surrounding environment. These issues could be addressed through the increase of financing flows into green infrastructure projects as well as targeted financing requirements in compliance with relevant laws and regulations.

Environmental and social responsibility of industries: Mongolia has a wide array of environmental and social laws and regulations in place. According to environmental impact assessment and audit regulations, all businesses that are using natural resources have to undergo both environmental impacts assessments and regular environmental audits. However, due to the lack of capacity to ensure the enforcement of the regulations, industries have become increasingly non-compliant when it comes to E&S risk mitigation and management. The integration of ESG criteria in financial sector activities should be further promoted into the wider market to level the playing field and to strengthen industries' environmental and social management systems.

Financial inclusion and SMEs: Access to finance is one of the main obstacles to the growth of many businesses, particularly SMEs. Mongolia's SMEs represent a large and growing segment of the economy. As of November 2016, more than two thirds of the 90,000 businesses registered in Mongolia are classified as SMEs. Small companies generate around 20% of Mongolia's GDP and provide employment to almost 750,000 people, representing 70% of the national workforce.[18]

Addressing the above-mentioned issues requires increased investment from various sources and the implementation of ESG criteria-based lending practices across the financial sector. The failure to tackle these issues with the right financing strategy can present severe sustainability risks to the country and restrictions to economic growth.

1.4 Key Sustainability Policies and Frameworks

The Government of Mongolia recognizes the country's sustainability issues and has approved a series of programmes and policies to encourage green development in the country. At the core of Mongolia's transition to a green economy is the **National Green Development Policy** adopted in 2014. The Policy emphasizes six strategic objectives, each with clearly defined, measurable targets such as: i) reducing GHG emissions in the energy sector by increasing energy efficiency by 20% by 2030, increasing the share of renewable energy in total energy generation to 20% by 2020 and 30% by 2030, renewing energy and industrial sector technologies, reducing wasteful consumption and losses, and optimizing pricing policies; ii) reducing building heat losses by 20% by 2020 and 40% by 2030; iii) reducing solid waste for landfills by 20% by 2020 and 40% by 2030; and others.[19]

The NGDP recognizes the importance of sustainable finance and has integrated it as Strategic objective #3: "Increase investment in natural capital, human development, and clean technology by introducing financing, tax, lending and other incentives to support green economy growth". The strategy focuses on enhancing more environmentally and socially responsible lending practices across financial institutions, promoting the trade of low-carbon and energy-efficient technologies, creating a green taxation system, promoting green public procurement, incorporating green growth indexes into national statistic systems and increasing investments into green industries and projects.

In April 2016, the Parliament of Mongolia endorsed the **Sustainable Development Vision (SDV) 2030** that aims to achieve the below targets:

1. Increase its GNI per capita to US$17,500 and become an upper middle-income country based on its income per capita.
2. Ensure average annual economic growth of not less than 6.6% through 2016-2030.
3. End poverty in all its forms.
4. Reduce income inequality and have 80% of the population in the middle and upper-middle income classes.
5. Increase the enrolment rate in primary and vocational education to 100%, and establish lifelong learning system.
6. Improve the living environment of the Mongolian people to lead a healthy and long life; increase life expectancy at birth to 78 years.
7. Be placed among first 70 countries on the ranking of countries by the Human Development Index.
8. Preserve ecological balance and be placed among first 30 countries in the world on the rankings of the countries by the Green economy index in the world.
9. Be ranked among first 40 countries in the world by the Doing Business Index and among first 70 countries by the Global Competitiveness Index in the world.
10. Build professional, stable and participative governance, free of corruption that is adept at implementing development policies at all levels.

An important focus of the SDV 2030 is economic diversification beyond mining through the development of the agriculture, light industry and food manufacturing, construction, tourism, energy and infrastructure sectors. The SDV also encourages long-term sustainability, credibility and accountability in the banking and finance sector, as well as public-private partnerships to leverage funding for sustainable development.[20]

Mongolia's Nationally Determined Contribution (NDC) has its conceptual roots in the Green Development Policy of Mongolia and outlines a series of policies and measures that the country commits to implement up to 2030, in the energy, industry, agriculture, and waste sectors. The expected mitigation impact of these policies and measures will be a 14% reduction in total national GHG emissions, excluding land use, land use change, and forestry (LULUCF), by 2030, compared to the projected emissions under a business-as-usual scenario. The NDC highlights that a substantial private sector share is expected (leveraged by public funds) to be a part of the NDC funding. Mongolia is interested in opportunities to access international climate funds, namely the Green Climate Fund (GCF), and in participation with crediting mechanisms to implement emission reduction measures.[21]

IMPORTANT SUSTAINABILITY RELATED POLICIES AND REGULATIONS:

- Mongolian Sustainable Development Vision (2016-2030), 2016
- National Green Development Policy (2014-2030), 2014
- National Action Programme on Climate Change (NAPCC) (2011-2021), 2011
- State Policy on Energy (2015-2030), 2015
- National Renewable Energy Programme (2005-2020), 2005
- National Agriculture Development Policy (2010-2021), 2010
- State Policy on Forest (2016-2030), 2015
- MDGs based comprehensive national development programme (2008-2021), 2008
- Law on renewable energy, 2015
- Law on energy conservation, 2015

Transformative change is happening in Mongolia across many sectors. However, due to financial and technical challenges and the adverse economic situation within the country, implementation is inefficient and challenging the country's paradigm shift towards low-carbon, climate-resilient development. Sustainable finance can create new investment opportunities to not only support but also accelerate the transition of Mongolia to an inclusive, green growth development model.

1.5 Current Development of Sustainable Finance in Mongolia

Mongolia's transition towards a sustainable financial system is mostly driven by a private-sector led initiative called the Mongolian Sustainable Finance Initiative. As part of the MSFI, the Mongolian Sustainable Finance Principles were launched in 2014 as the result of a joint effort from the Mongolian Bankers Association (MBA) and its member banks, with the support of the Ministry of Environment and Tourism and the Central Bank of Mongolia, and with international support from IFC and FMO. The principles are designed to help banks identify, mitigate, and manage E&S risks associated with their lending portfolio, promote the business case for green finance and manage banks' own environmental footprint. All 15 banks in the country joined the initiative and committed to the principles, which increased the leverage and potential impact of this framework and counterbalances its voluntary nature. The ambition of the framework is emphasized by its wide scope of application (all the financial institutions' activities) and its supporting four sector-specific guideline documents for Mongolia's four key economic sectors: mining, construction, manufacturing, and agriculture. The industry-specific guidelines and supporting tools provide financial institutions with additional detailed and operational guidance on managing sensitive activities in terms of E&S risks.

Mongolian Sustainable Finance Principles

1. Protect the natural environment
2. Protect people and communities
3. Protect cultural heritage
4. Promote "green economy" growth
5. Promote financial inclusion
6. Promote ethical finance and corporate governance
7. Promote transparency and accountability
8. Practice what we preach

The success of the E&S framework is mainly due to the continuous efforts of the MBA to raise awareness among Mongolian banks and convince them of its necessity.[22] To recognize and motivate good performance, the MBA has introduced the "Best Sustainable Bank" award.

To enable the wider coverage of the entire financial sector, the MBA board established the Mongolian Sustainable Finance Association, a member-driven non-governmental organization (NGO) with the mandate to develop and promote sustainable finance practices in Mongolia. The association started operating in 2018. Mongolia is also a member of the IFC-supported Sustainable Banking Network (SBN) and the UN Environment Finance Initiative (UNEP FI).

In order to further promote the opportunities that sustainable finance offers and create more green finance flows, the initiative is working on the establishment of the Mongolia Green Finance Corporation, a national financing vehicle that would promote green, clean, resource-efficient and socially inclusive projects. The MGFC initiative is a joint collaboration between the banking sector, the government represented by the Ministry of Finance and the Ministry of Environment and Tourism, and international partners including the GCF and the Global Green Growth Institute (GGGI). It aims to enable access to low-cost credit facilities that will ultimately help boost private sector involvement in green development. A key mandate of the MGFC is to help the Government of Mongolia meet the goals of the National Green Development Policy and the NDCs under the Paris Agreement. The main focus of the vehicle is to promote energy efficiency by large energy consumers, green affordable building development, and air pollution reduction in the capital city.

Since 2016, the initiative has been moving towards a more blended approach of voluntary and mandatory implementation. In 2015, the Central Bank of Mongolia issued an official directive requiring that all the banks to report the implementation of the Sustainable Finance Principles in their annual reports starting in 2016. The Central Bank of Mongolia and the MSFA are currently discussing on developing an official framework for the review and supervision of the implementation of the Mongolian Sustainable Finance Principles by the banks.

The Ministry of Finance is working on the introduction of sustainable public procurement standards through the Amendment to the Law on Public Procurement in 2018. Moreover, the Ministry of Finance has established a Green Development Fund as an arm of the Development Bank of Mongolia to attract long-term concessional green funding sources to finance large green infrastructure projects.

The Ministry of Environment and Tourism (MET) has been a strong supporter of banks' sustainable finance efforts, and demonstrated its commitment through the stipulation of sustainable finance targets in various green development policies and documents. The Ministry of Environment has introduced tax exemptions for 41 types of green technologies. It is also currently assessing the potential to establish a Green Trust Fund that would support the country's adaptation priorities by mobilizing, blending, and overseeing the allocation of financial assets. A polluter pays liability requirement for financial institutions was introduced under the Law on Environmental Impact Assessment. However, the regulation lacks consistent enforcement mechanisms.

The Ministry of Finance, the Central Bank and the Financial Regulatory Commission have approved the Financial Market Development Programme 2025, which covers strategic objectives to build a more sound and stable financial system, including a dedicated section for sustainable and green finance targets.

Mongolia has taken a multi-stakeholder, consultative approach to develop its sustainable finance framework. Civil society, media and academia have contributed to the agenda by supporting awareness-raising and public understanding of sustainable finance. Three major universities are collaborating with the IFC, MSFA and UNITAR to officially integrate sustainable and green finance concepts in their banking and finance curriculums to contribute to the training of future sustainability-oriented financial sector leaders.

The MSFI is emerging as one of the regional pioneers in promoting the shift to sustainable finance and has shared its experience with countries such as Cambodia, Kyrgyzstan and the Philippines, with the support of the SBN.

1.6 Defining Sustainable and Green finance

In the Mongolian Sustainable Finance Principles guidance document introduced by the MBA, "sustainable finance" is defined as follows:

"Sustainable Finance takes into account the **risks and impacts** on the environment and communities when private and public entities make investment, lending or any other financing decisions. Where possible, they develop remedial measures to mitigate the risks and impacts identified. In cases where no remedial options are possible, such entities may refuse financing given the significant negative impact identified. Also, sustainable finance is about **investing in** initiatives that drive positive environmental, social and economic development."

The definition covers both the ESG risk management aspects and business opportunity aspects of sustainable finance. Furthermore, it encourages banks to take actions to minimize their own environmental footprint such as through the energy efficiency of facilities, and reduced water and paper consumption.

As for the ESG risk management aspects, the initiative proposes that banks consider the following E&S impacts in their lending and investment decisions:

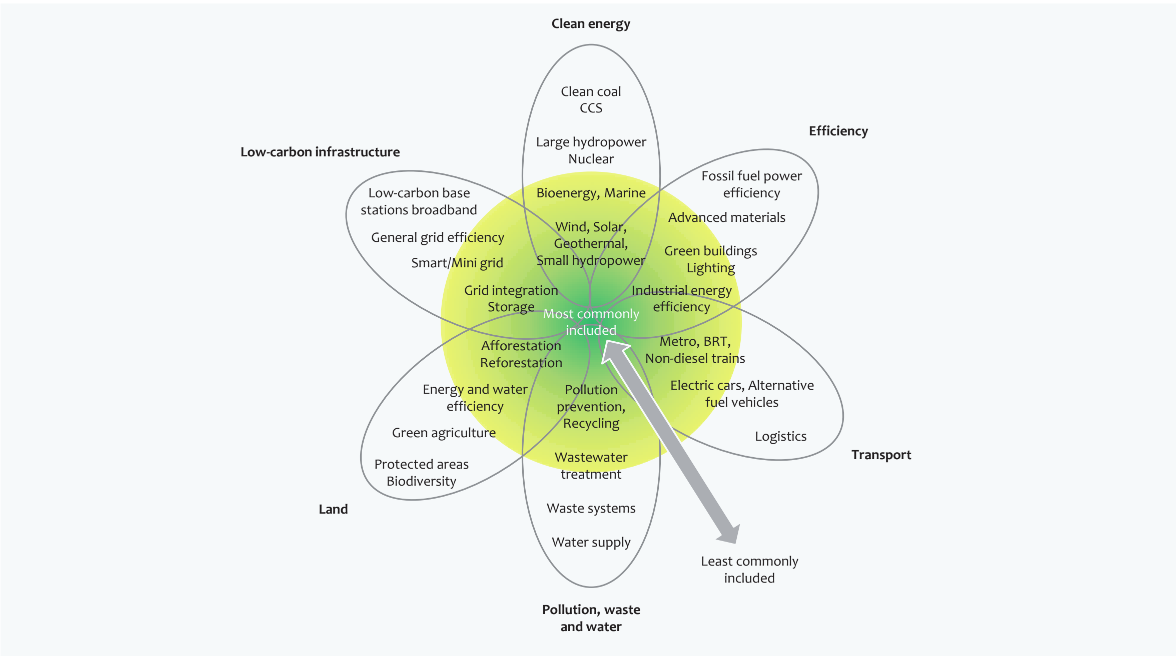
TABLE 2: E&S DUE DILIGENCE REQUIREMENTS BY MONGOLIAN BANKS

Environmental Considerations	Social Considerations	Governance & Management
Environmental laws, regulations and standards	Social laws, regulations and standards	E&S management policies and procedures
Air, water and soil pollution	Occupational health and safety	Dedicated E&S staff
Biodiversity	Workplace & employee rights, employment regulations	Emergency preparedness planning
Protected areas	Human rights and gender equality	Anti-corruption policy
Use of hazardous chemicals	Local communities	Transparency and accountability
Waste generation	Cultural heritage	Large accidents, corruption or other regulatory issues
Resource efficiency	Impact on people with disabilities and minorities	

In the Mongolian Sustainable Finance Principles, **green finance** is referred to as "facilitating and financing projects involving renewable or clean energy, resource efficiency, clean production, reduced emissions, improved waste management, and other activities that contribute to green economic growth and development." However, this definition needs to be further elaborated to provide a universal understanding among stakeholders as to the definition of green assets. Furthermore, the *term "climate financing"* also needs to be defined to specify its differentiation from green finance.

Some commonly accepted components of green finance definitions are aggregated below from examples of other countries:

FIGURE 1: COMPONENTS OF GREEN FINANCE DEFINITIONS

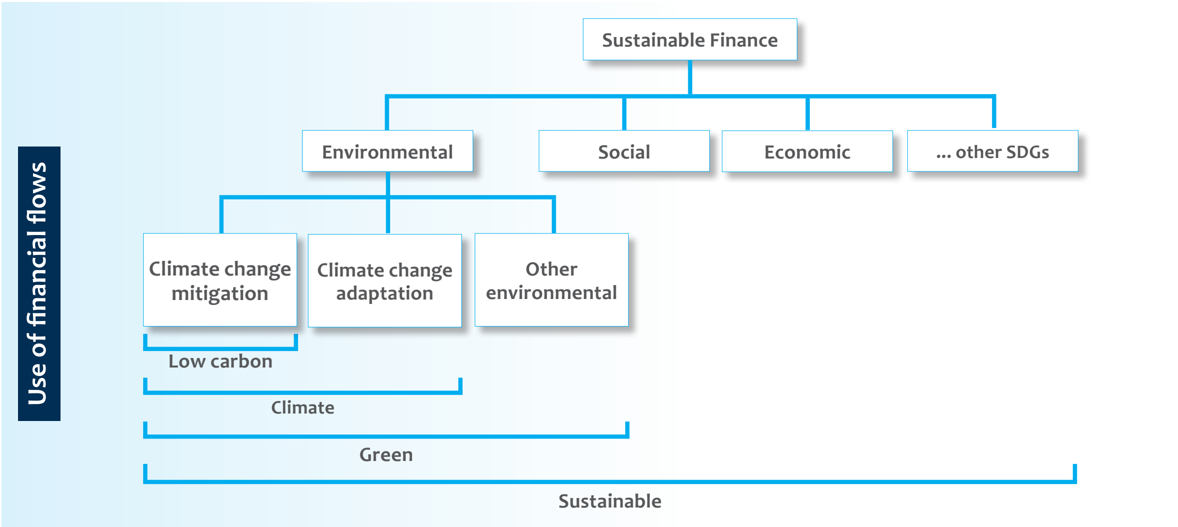


Source: UN Environment Inquiry

Given Mongolia's sustainability targets in a wide range of sectors, the elements of sustainable finance also cover various issues beyond environmental considerations including financial inclusion, and social aspects such as health, education, job creation and affordable housing.

Figure 2 illustrates the elements of sustainable finance as defined by the UN Environment Inquiry.

FIGURE 2: ELEMENTS OF SUSTAINABLE FINANCE



Source: UN Environment Inquiry/World Bank Group (2017)

1.7 SUSTAINABLE INVESTMENT NEEDS AND OPPORTUNITIES

TOP-DOWN APPROACH:

Mongolia's sustainable development and climate targets represent growing sustainable investment needs and opportunities. The total investment needed to finance the Mongolian National Green Development Policy is estimated at US$6.96 billion. The NDC targets are based on the NGDP objectives. Estimations of adaptation measures as part of the NDC show that Mongolia will need around US$2.7 billion. The implementation of the mitigation measures is estimated at another US$3.5 billion until 2030.[23]

TABLE 3: POLICIES AND MEASURES FOR NDCS IMPLEMENTATION UP TO 2030

Stated contribution	Specific measures	Investment needs (US$ million)
Increase the share of renewable electricity capacity to 30% of total electricity generation capacity by 2030, from 7.62% in 2014.	Installation of 675 MW of large hydropower facilities.	1,350
	Installation of 354 MW of wind power facilities	584
	Installation of 145 MW of solar PV power facilities.	573
Reduce building heat loss by 40% by 2030, compared to 2010 levels.	Improved insulation for existing panel apartment buildings of 18,184 households in Ulaanbaatar.	90
Improved efficiency of coal-fired heating plants and thermal power plants.	Improved efficiency of coal-fired plants.	900
Total		**3,497**

Source: Government of Mongolia (2015)

Table 4: Summary of Adaptation Targets and Investment Needs

Sector	Adaptation targets	Investment gap (US$ million)
Animal husbandry and pastures	• Reduce rate of pasture degradation • Regulate headcounts and types of animals including wild animals to match with pasture carrying capacities	46.0
Arable farming	• To reduce bare fallow to 30% • To introduce crop rotation system with 3-4 routes and 3-5 crops • To expand irrigated cropland by 2-2.5 times	150.0
Water resources	• 30 % of the territory will be state protected by 2030 and sustainable financial mechanism will be introduced • To create water reservoirs at rivers and at outlets of lakes, and to construct multipurpose systems of water use • To find solutions (and subsequently implement) for sustainable water supply in Ulaanbaatar and for industries and mining in the Gobi region	2410.0
Forest resource	• Forest area will be increased to 9% by 2030 through reforestation activities • To reduce forest degradation rate caused by human activities, fires, insects and diseases • To make forests resilient to climate change by improving their productivity and changing their composition and structure	31.0
Natural disaster management	• To strengthen early warning system for natural disasters	65.4
Total		**2,702.4**

Source: Government of Mongolia (2015)

The total annual financing needed to achieve Mongolia's green development and climate targets could therefore be estimated at US$413 million, breaking down the total financing needs of around US$6 billion over 15 years. The majority is medium and long-term investment, with 80% expected to be financed from international and private sources. This estimate does not include investments into social sectors beyond climate change.

Adding the financing needs of other large-scale green projects (Annex A) planned by the Government of Mongolia and Ulaanbaatar City, an investment amount of US$15.5 billion can be estimated. A large share will need to go into large renewable energy projects, such as hydropower and wind power plants. The policies and projects are planned to be implemented between 2015 and 2030. As such, the annual investment need is estimated at around US$1.03 billion. Funds for these investments will need to come from both the private and public sectors, including both domestic and international sources.

Using a macroeconomic approach, a range of 4% to 5% of the country's GDP could be estimated as directional estimates of green investment needs based on China's experience. By applying this approach, the annual green investment requirement of Mongolia could be calculated at US$440-550 million (US$1.03 billion represents approximately 10% of Mongolia's GDP). The variance in annual green investment needs as a percentage of GDP for China and Mongolia is attributed to the major size difference between the two economies, *e.g.* China's (US$11 trillion) versus Mongolia's (US$11 billion).

Bottom-up approach:

As part of the Mongolia Green Finance Corporation initiative, a green credit market study was conducted through a collaboration between the MSFA, the Ministry of Environment and Tourism, and the Partnership for Action on Green Economy (PAGE) to estimate the size Mongolia's green finance market. The study was refined to review the green investment needs and market potential of the sectors described below:

Cleaner Alternative Heating Products for the Ger Segment

As *ger* districts account for 80% of air pollution, the single-family residential housing market is a target market for energy efficiency lending. Approximately 240,000 households (around 60% of the city's population) live in the *ger* district of Ulaanbaatar alone, with approximately four members in each household. Inhabitants of *gers* use wood- and coal-fired stoves for heating and cooking, which amounts to 800,000 tons of raw coal annually.[24] To tackle the air pollution issue, both the public and *ger* area residents have demonstrated strong demand for concessional finance opportunities to buy alternative technologies that would lower fuel cost and raise energy efficiency. According to a detailed market assessment conducted with the support of FMO, the initial market size (15%) of such a financial product is estimated at EUR7.2 million. The entire market coverage in the medium term is estimated at EUR139.2 million.

Energy Efficiency Products for Large Energy Consumers

Another assessment of the energy efficiency potential in Mongolia was undertaken by the International Institute for Energy Conservation under the Asian Development Bank (ADB) Regional Technical Assistance Project: Asia Energy Efficiency Accelerator. The report highlighted opportunities driven by the approval of the Implementing Rules and Regulations of the Energy Conservation Law, which clearly defines Designated Entities that will be required to regularly submit energy consumption reports and plans to reduce energy consumption. As suggested by the results of the report, the combined market size based on import/export statistics is around US$100 million annually. The ADB report also concluded that even though there are some existing EE financing schemes, financial gaps remain. Interest rates are high and maximum loan term available is up to five years.

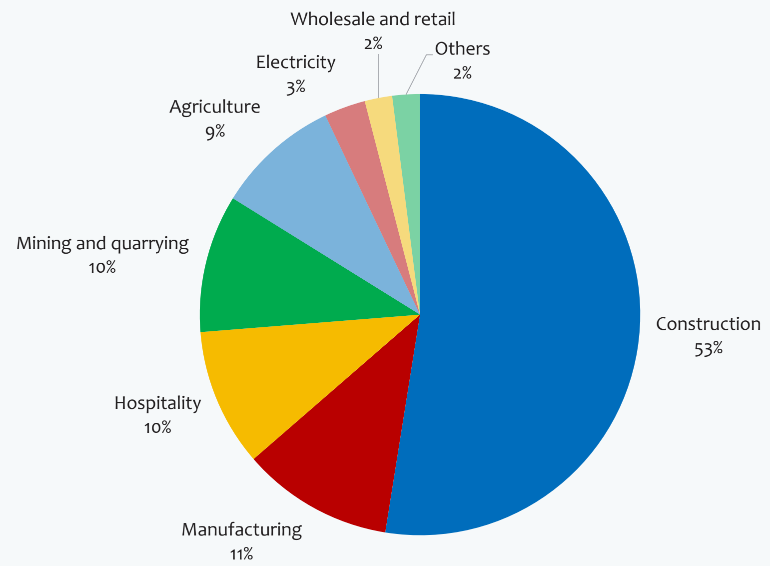
Green Mortgage

With an increase in housing demand due to economic growth and a surging rural to urban migration, the construction sector had been thriving over the past decade. The projection of housing demand based on the population growth rate indicates that approximately 140,000 apartment units will be constructed between 2020 and 2030, which translates to around 14,000 new units annually. Recognizing this trend, the Government of Mongolia has introduced a low interest (8%) mortgage programme channelled through banks, which resulted in the disbursement of around 94,000[25] housing loans since the programme inception in 2013. However, this funding does not meet the demand of the constantly growing mortgage loan requests received by banks. According to the Central Bank of Mongolia, the monthly excess demand is estimated at MNT35 billion (US$14 million). Considering the monthly average mortgage demand, which is US$24 million, investment into the affordable, green housing sector could drive a market demand of US$300 million annually.

Green SME Finance

The SME and industrial sectors in Mongolia generally use old equipment and inefficient processes. The majority of SMEs (95%) are interested in obtaining a loan in the future, mostly for the purchase of equipment and machinery, as well as to cover working capital needs.[26] According to the above-mentioned market study commissioned as part of the MGFC initiative, the total SME market investment requirement is roughly calculated at US$90 million annually. Figure 3 illustrates the investment need by sector.

Figure 3: SME Green Investment Demand Breakdown



Source: PAGE (2016)

Aggregating all the above sectors, Mongolia's annual green investment need, taking a bottom-up approach, could be estimated at US$690 million per year.

Apart from the sectors specified above, there is potential to develop new green industries and influence existing industries to become more environmentally sustainable. However, this transition will need substantial efforts, capacity-building and awareness-raising and strategic investments plans.

Conclusion

By applying both the top-down and bottom-up approaches, the total annual green investment needs of Mongolia range from **US$690 million to US$1.03 billion**, depending on the type and scale of the projects.

1.8 Current Supply

There is no centralized data to map green investment flows in Mongolia. While the country has comprehensive environmental regulations, it lacks effective implementation due to insufficient allocation and management of funding sources. In Mongolia, the financing of green policies and sectors is mainly determined by the state budget, investment by international donors, and natural resources fees.

Public resources

The UNDP Biodiversity Finance Initiative (BIOFIN) has assessed current public financing sources for environmental activities.

According to the findings of the assessment, domestic public resources related to environmental activities are mainly generated from natural resources-related tax revenues (see Annex B: List of related tax revenues). The collection of these revenues is undertaken by the state or local budget regulated by the Mongolian law on State Budget. The amount of these fees has been gradually increasing and, as of 2015, a total contribution of MNT550 billion (US$225 million) has been made to the state and local budget fund.

The main objective of the Mongolian Law on Natural Resources Use Fee is to collect fees from individuals and organizations for the use of natural vegetation, water, forest, and wildlife, and to allocate a mandated certain percentage of these fees to environmental protection and rehabilitation activities as shown in Annex 3. Other fees are collected from the use of non-renewable or mineral resources, and from taxes on fuel (*i.e.* on coal, gas, oil). The estimated annual revenue of these fees is US$12 million.

The right to spend the collected fees is given to province, city, soum and district level administrations. Unfortunately, these authorities tend to inappropriately exercise this right and do not spend the regulated percentage of fees on environmental protection and rehabilitation activities. Furthermore, the majority of natural resources fees are collected from mining regions such as the Umnugobi and Orkhon provinces, which tends to create inequality of income and spending of environmental fee revenues in different regions. Therefore, the fee collection and redistribution mechanism needs to be improved to ensure that the environmental purposes are met.

External resources

According to the findings of the PAGE green credit market study, international development banks and donor organizations have planned to implement projects supporting green growth (Annex C) in Mongolia with investments of US$2.76 billion between 2016 and 2021.[27] It should be noted that most of the projects included in the assessment are large-scale infrastructure projects and technical assistance projects to improve the Mongolian government's capacity to achieve its green growth targets.

Existing Financing Facilities for Green Lending

MonSEFF (Mongolian Sustainable Energy Financing Facility) is a credit line of US$25 million. Through MonSEFF, businesses can access loans for energy-efficient equipment and renewable energy solutions. Energy efficiency loans are made available for projects such as plant retrofitting, new equipment, improvement of production processes or building energy efficiency. Renewable energy loans are awarded for the provision of power for self-consumption. MonSEFF can allocate up to US$2.5 million per project, providing 100% of the loan amount approved by the bank or a part of it. The interest rate of the loan made available to the end borrower ranges from 1.4 to 1.5% per month or 16%-18% per year (loan in MNT).[28]

JICA's Two-Step Loan programme for SMEs also provides funding for SMEs that want to undertake investments that contribute to environmental protection and improved air quality. The environmental protection side of JICA's programme was apparently less successful due to the lack of clear definitions and criteria for green projects. The total amount of the JICA facility is US$55 million, of which 20% (or US$11 million) will be dedicated to environmental projects.

Further progress has been made with respect to accessing climate finance through the Green Climate Fund (GCF). A business loan programme for GHG emission reductions has been designed with one of Mongolia's commercial banks, XacBank, as the only local GCF accredited entity at the moment. GCF has provided US$20 million to aid Mongolian enterprises in their efforts to invest in energy efficiency and renewable energy projects, and another US$8.7 million to build Mongolia's second large-scale solar plant with a capacity of 10 MW.[29] Furthermore, ADB is implementing a US$540 million project with the support of GCF to improve the climate resilience of Ulaanbaatar and reduce GHG emissions and air pollution by creating eco-districts.[30]

With respect to Mongolia's energy ambitions, several key developments in deploying renewable energy and energy-efficient technologies took place. The Salkhit wind farm is the country's first wind power project, and has a capacity of 50 MW. Furthermore, four renewable energy power plants with a total of 120 MW will be put into operation in Mongolia's south-east province of Dornogovi in 2018.[31]

An example of national bilateral cooperation comes from the Joint Crediting Mechanism (JCM) with Japan, which has been successfully implemented since 2013. The JCM facilitates the diffusion of low-carbon technologies and evaluates contributions to GHG emission reductions by applying measurement, reporting, and verification (MRV) methodologies. Although Mongolia implements the projects, the associated emission reductions contribute to Japan's emission reduction efforts.[32]

Other Mongolian banks are also actively looking into developing more green financial products and tapping new market opportunities. For example, Khan bank has recently approved its green credit policy and introduced concessional green loan products targeted at energy efficiency and air pollution reduction. It is expected that the scale of these activities will be widened through the Mongolia Green Finance Corporation. The target fund size for the first phase of MGFC is US$50 million, to be supported by funding from GCF, the Government of Mongolia and local banks.

Access to finance for the SME sector is also addressed through a number of programmes implemented by ADB, JICA, World Bank, the Credit Guarantee Fund and the Government's SME Development Fund. The total investment offered by these projects is around US$170 million.

In general, the existing financing mechanisms directly funding individual banks had very limited impact to date. The main reasons for this are: i) limited coverage of the banking sector (only 2 banks participate in the schemes), ii) lack of clear definitions and criteria to assess environmental projects, iii) high end-borrower interest rates due to the high cost of funding source and foreign exchange (FX) risk, iv) low tenor, v) poor technical capacity of end-borrowers, and vi) poor inter-agency cooperation.

Participation by both local banks and institutional investors in green and development sectors has been limited. To date, international donors have been the most prominent providers of capital in green development investment. However, local financial institutions have the potential to leverage funding in these areas. This is particularly important in the wake of limited government and international funding.

1.9 Characteristics of the Mongolian Financial Sector

Overview

The development of the financial sector in Mongolia is relatively advanced, even though it faced several crises in the past decade. These financial crises provided opportunities for financial regulators to strengthen the financial sector policy framework and to build the capacity of financial institutions to overcome risks and external threats.

The Central Bank of Mongolia regulates the banking sector, while the Financial Regulatory Commission (FRC) is responsible for non-banks including non-bank financial institutions (NBFIs), insurance companies, the Mongolian Stock Exchange, savings and credit cooperatives, and microfinance institutions. Both regulators are active members of international sustainable finance networks such as the Sustainable Banking Network and the Alliance for Financial Inclusion (AFI).

Current financial sector regulations and policies have a strong focus on enhancing financial institutions' corporate governance, compliance, financial inclusion, consumer protection, debt restructuring, and risk management frameworks. However, the focus on sustainability-related risks and financing measures is still weak. The Ministry of Finance, the Bank of Mongolia, and the Financial Regulatory Commission have adopted the National Financial Market Development Programme 2025, which envisions the creation of a resilient financial system that meets international financial standards. The programme sets out several key sustainable finance reforms. This integration of sustainable and green finance standards will help Mongolia accelerate the achievement of these goals and ensure a stable and sound financial system in the face of environmental, social, and climate-related risks.

The Mongolian financial system is dominated by banks, which represent almost 90% of the financial sector assets. The non-bank financial sector, including insurance and the stock market, is still small.

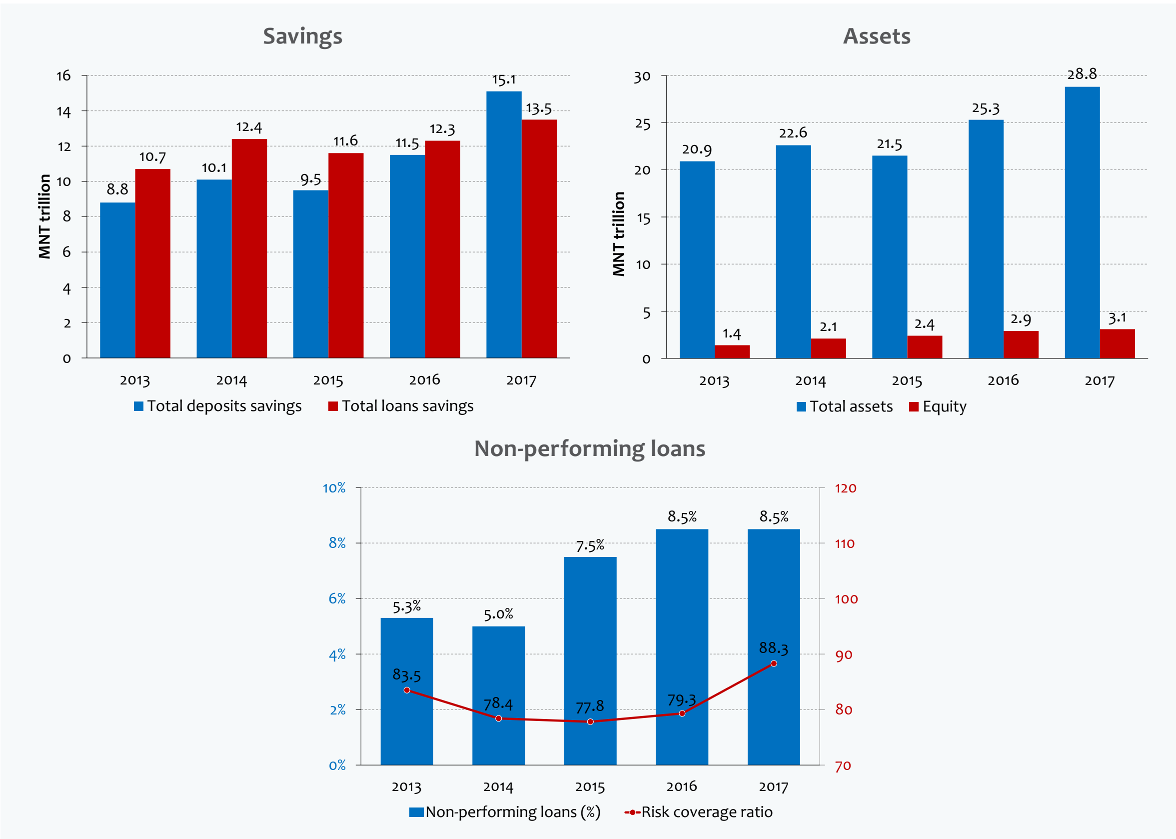
Table 5: Structure of the Mongolian Financial Sector as of Q4 2017

	Number	Assets (MNT billion)	% of Total Asset
Banking sector	**14**	**28,772.9**	**88.3%**
Private	13	26,434.9	81.1%
State-owned	1	2,338	7.2%
Foreign	-	-	
Non-banking sector	**841**	**3807.2**	**11.7%**
Capital market (securities companies)	52	2,440.2	7.5%
Insurance companies	17	244.7	0.8%
Savings and credit cooperatives	290	153.1	0.5%
NBFIs	534	969.2	3.0%
Total	**907**	**32,580.1**	**100%**

Source: Bank of Mongolia and Financial Regulatory Commission

The banking sector consists of 14 commercial banks. The top six banks (all privately owned except for State Bank) hold approximately 91% of the sector's total assets of US$10.5 billion, and 90% of the loans (out of the total US$5.4 billion) as of 2017. Non-performing loan (NPL) rates are at 8.5% as of Q4, 2017.[33]

Figure 4: Banking Sector Overview



Source: Mongolian Bankers Association (2018)

The loan assets of the banking sector are very diversified, with major investments into the real estate, wholesale and retail, manufacturing, construction, and mining sectors. However, sectors that have a larger impact on development, such as agriculture, health, transportation and education, account for only 8% of the total loan portfolio. The environmental and social risks of these sectors are mitigated and managed through banks' adoption of the Mongolian Sustainable Finance Principles, a collective framework based on international standards and local needs.

Table 6: Structure of Loan Assets, Q4 2017

Sectors	Total loan assets (MNT million)	Total loan assets by %	E&S risk category defined by the MSF principles
Real estate	1,905,004	14.1%	Low
Wholesale, retail	1,864,394	13.8%	Low-High
Manufacturing	1,372,625	10.2%	Medium-High
Construction	1,261,334	9.3%	Medium-High
Mining	1,034,339	7.7%	High
Financial and insurance activities	387,745	2.9%	Low
Agriculture	310,484	2.3%	Low-High
Hospitality and tourism	285,984	2.1%	Low
Transportation	189,899	1.4%	Low
Education	112,294	0.8%	Low
Health and social activities	72,527	0.5%	Low
Others	4,715,235	34.9%	Low-High
Total loan	**13,511,864**	**100**	

Source: Bank of Mongolia

Mongolian banks offer a wide range of financial products, such as business and individual banking, investment banking, project finance, insurance services, custodian services and engagements with the capital market. E&S due diligence requirements are applied to all types of business loans above the threshold of US$25,000. This threshold is relatively low compared to international standards such as the Equator Principles, which apply to project finance and advisory services with total capital cost of US$10 million and above.

Green financing contributes to a small part of the total loan portfolio of the sector. In the absence of a commonly agreed definition of green projects and assets, tracking green financing flows in the sector has been limited. Based on individual banks' own green finance definitions, the total size of green lending is estimated at 5%[34] of total loan assets. However, this number is growing rapidly with increased involvement of commercial banks in financing large-scale renewable energy projects. For example, XacBank, the first Mongolian bank accredited by GCF, is financing a 10 MW solar photovoltaic (PV) power plant to support Mongolia's renewable energy transition.

Access to financial services in Mongolia is relatively high when measured by the demographic penetration of branches. New technologies, such as mobile and Internet banking, are growing fast – especially mobile banking, given the rapid increase in mobile phone users. The table below illustrates the coverage of access to financial services as of 2017.

Table 7: Access to Finance Indicators

Indicator	Value
Number of ATMs	2,017 (66.4 ATMs for every 1,000 people)
Number of card holders	3.4 million
Number of internet banking users	1.4 million
Number of mobile banking users	1.5 million

Source: Mongolian Bankers Association (2017)

Although there is a market framework for ESG investment and lending in the banking sector, further development is still needed in other parts of the financial sector to address the challenge of green finance and climate change.

The non-banking financial sector is comprised of 17 insurance companies, 290 credit unions, 534 NBFIs and 52 securities and brokerage firms as of 2017. Microfinance companies constitute about 5% of total financial sector assets and 2% of total financial sector lending. Even though the current share is small, the non-banking financial sector offers a strong potential for growth, with an annual growth in total assets of 25%. Microfinance companies serve about 1.35 million customers nationwide, representing about 30% of the total population, mostly small businesses or clients who are usually excluded from the formal banking system.[35] Therefore, non-banks have a critical role in contributing to sustainable development by enhancing access to finance and alleviating poverty. A large share of non-banks' clients operates in rural areas that are sensitive to climate and disaster risks. To date, there is no sector-wide sustainable finance framework specifically developed to fit the needs of NBFIs. However, the Financial Market Development Programme 2025 reflects targets to introduce sustainable finance in the non-bank sector, and a few major NBFIs have approached the Mongolian Sustainable Finance Association with interest to adopt the Mongolian Sustainable Finance Principles.

The majority of funding from microfinance institutions goes to consumer loans and business loans to support the mining, construction, manufacturing and agriculture sectors. However, MFIs face significant funding constraints that limit their growth. They are not allowed to take deposits, and are thus mainly dependent on their capital base and borrowings from banks and foreign institutions to fund loans.

Mongolia has a nascent **insurance industry**. The total assets of the 17 reported insurance firms in operation were about US$95 million in 2017.[36] Data from the Financial Regulatory Commission shows that total premiums reached the equivalent of US$56.1 million as of 2017. There is only one life insurance company, which was established in 2008. The rest are engaged in general insurance. In 2005, the World Bank introduced index-linked insurance to protect herders (who make up about 30% of the population) that are most exposed to climate change and livestock mortality.[37] The increase in climate-related risks calls for further engagement of the insurance industry in sustainable finance.

The **Mongolian Stock Exchange (MSE)** was established in 1991 to serve as a vehicle for the privatization of large-scale enterprises. The MSE has seen rapid growth in the past decade. As of the end of 2017, there were 300 listed companies at the MSE with a total asset of US$1 billion. In 2017, the MSE signed a commitment to promote sustainable and transparent capital markets, signifying its participation in the Sustainable Stock Exchanges (SSE) initiative. As a member of this voluntary UN initiative, the exchange will work with investors, issuers, policymakers, capital market regulators and its stock exchange peers around the world to promote responsible investment in sustainable development.[38]

The **Development Bank of Mongolia** (DBM) is a government-owned, policy-oriented development finance institution in Mongolia. In February 2017, amendments to the Law on Development Bank were approved to strengthen the independence, governance, decision-making structure and supervision of the Bank. The DBM provides financing to major policy-oriented projects including priority sectors within the government economic development policy, such as infrastructure, roads and transportation, engineering infrastructure, energy, manufacturing, processing, mining, and housing industries. Furthermore, the Government of Mongolia has also approved the legal framework for establishing a Green Development Fund under the Development Bank of Mongolia. The fund has not started disbursements yet.

MSME collateral issues are primarily addressed by the **Mongolian Credit Guarantee Fund**. From 2014 to 2017, it issued guarantees to the tune of US$34 million, unlocking a total of US$65 million in loans. In 2016, the Mongolian Parliament ratified a loan agreement with the ADB for a US$60 million project to improve the credit guarantee system to promote economic diversification and jobs.[39]

Mongolia's tremendous mineral reserves, agricultural endowments, and proximity to the vast Asian market continue to make it an attractive **foreign direct investment** destination in the medium to long term. The IMF agreement has enabled the Government of Mongolia to refinance on the international market bonds that came due in 2017, a more attractive and politically palatable alternative to relying exclusively on Chinese financing. Challenges notwithstanding, there is significant longer-term upside to the Mongolian investment climate. Promising signs include recently implemented legislation and programmes to support large-scale development of the domestic agriculture sector. Agriculture and animal husbandry, along with renewable energy, are sectors in which Mongolia has natural advantages and that show promise for economic diversification and green FDI growth.[40]

1.10 Key Barriers

Sustainable finance barriers can be broadly grouped into two categories. The first set relates to generic finance barriers that can affect all transactions. The second one relates to the sustainable dimension of investments. These sets of barriers are often interrelated and there can be considerable overlap in many instances. Many longer-tenor sustainable investments have higher capex requirements relative to more carbon-intensive investments, for example. This means that although access to longer tenors of finance might be a generic challenge for many projects seeking finance, the higher capex component of a sustainable project can create an additional hurdle. Both sets of barriers will need to be addressed to effectively scale up sustainable finance.

Generic:

Lack of long-term funding and high interest rates: Mongolian financial institutions lack long-term funding and domestic deposit and lending interest rates remain in double digits. The average annual loan interest rate is at 17.7% for banks [41] and 40% for NBFIs for local currency lending. High interest rates are influenced by macroeconomic conditions, government securities, policy rates, and average deposit rates. In addition, financial institutions are exposed to interest and exchange rate risks due to maturity mismatches and unhedged foreign currency lending that contributes to high interest rates. The average loan tenor is around 2.5 years. [42] This is a major issue for long-term financing in green projects with a long-term outlook. Vehicles such as the Mongolia Green Finance Corporation could help address this issue and provide the long-term, low-cost funding that is much needed to support green lending.

Scarce investment pools: Alternative sources of medium- to long-term finance to bank lending are relatively scarce in Mongolia. Sources of equity held by investors with longer-term investment horizons, such as insurers and pension funds, are in relatively short supply. Pension and insurance funds can have average liability lengths of up to 20 years. Such longer-term liability profiles are potentially suitable for many sustainable assets identified in Section 7, which are characterized by the need for medium- to long-term investment.

Access to finance: While financial intermediation in Mongolia has been growing fast, access to finance remains a constraint for enterprises, and especially for micro, small, and medium enterprises (MSMEs). In most cases in Mongolia, banks require collateral to guarantee a loan. This issue hinders financing in general and will also pose challenges to new green project developers that have innovative ideas but lack track records and collateral assets. Therefore, the provision of the right risk-sharing instruments should be considered in the roadmap.

SUSTAINABLE FINANCE BARRIERS:

Limited capacity: Due to the lack of common understanding about green assets and low capacity to implement green projects, financial institutions (FIs) find it challenging to develop new financing instruments to build their green pipeline. As a start, definitions and criteria for green assets need to be developed. Furthermore, the ESG capacity of FIs needs to be enhanced to understand climate and E&S risks as an integral part of credit risk that could cause negative implications if not managed properly.

Policy alignment: To date, sustainable finance developments in Mongolia have been mostly led by banks on a voluntary basis. To ensure the alignment of all actors in the financial sector, mandatory sustainable finance policies, guidelines and frameworks need to be introduced and engagements could be initiated in sectors such as microfinance, insurance, and capital markets. Inter-agency coordination is important in these efforts guided by the National Sustainable Finance Roadmap.

Underdeveloped sustainability toolkit for financial decision makers: The lack of clear definitions and clarity over what a 'green' project or asset is throughout the Asian region increases pipeline development costs for investors, banks, and companies looking to invest. Without clarity on what is, and what is not green, internal budgeting, accounting, and performance measurement functions will struggle to allocate capital towards green projects and assets. The lack of clarity will also hinder the measurement of environment-related risks. Even where asset- or enterprise-level data is available, the lack of common standards and metrics makes comparison across a universe of green opportunities challenging.

PART 2: PROPOSED ROADMAP

2.1 Objectives and Guiding Principles of the Roadmap

Over the past five years, Mongolia has undertaken a voluntary process to integrate sustainability considerations into finance. The momentum created by the banking sector, policymakers and international organizations should not be lost. Although a lot has been achieved, the engagement between the financial institutions, financial regulators, international partners and other key stakeholders can still be invigorated through the development of a national roadmap that would provide a systematic approach towards Mongolia's transition into a green economy.

Building on the increasingly complex landscape of sustainable and green finance, efficient use of the growing public and private resources, as well as diversified external ones, is important to ensure that different resources are managed coherently to better support the implementation of Mongolia's sustainability agenda.

With this in mind, a proposed roadmap to unlock Mongolia's potential to design a financial system aligned with the sustainable development goals of the country was developed through a process of collaboration and consultation involving key regulators, associations and international partners.

A Working Definition of a Sustainable Financial System: A sustainable financial system is stable and creates, values and transacts financial assets in ways that shape real wealth to serve the long-term needs of a sustainable and inclusive economy along all dimensions relevant to achieving those needs, including economic, social, and environmental issues; sustainable employment; education; retirement financing; technological innovation; resilient infrastructure construction; and climate change mitigation and adaptation.

Source: UN Environment Inquiry

The **objective** of the National Sustainable Finance Roadmap of Mongolia is to agree on an integrated, multi-stakeholder, strategic approach towards accelerating the development of a sustainable financial system in the country by 2030 in alignment with the national sustainable development and climate targets.

The more **specific objectives** of the roadmap are to:

1. Integrate sustainability in financing and investment policies and frameworks taking into account climate, environmental, social, and governance considerations;
2. Reorient and increase green investment flows towards the creation of a low-carbon, climate-resilient and circular economy; and
3. Enhance the understanding and cooperation between financial and real sector players, creating an enabling environment that looks at sustainable finance as the new business-as-usual.

The roadmap is rooted in a wider development vision of the country that requires active involvement of government authorities and also follows the Mongolian Sustainable Finance Principles as guiding principles in order to create a level playing field through:

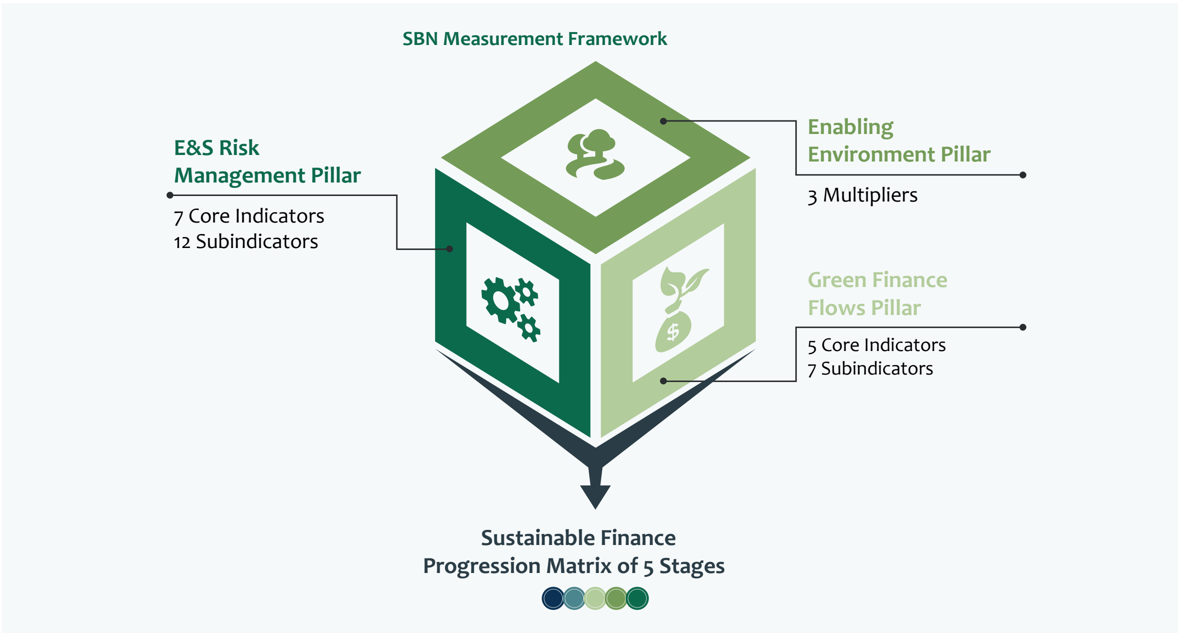
- The ***protection*** of natural environment, people and communities, and cultural heritage.
- The ***promotion*** of green economic growth, financial inclusion, ethical finance and corporate governance, and transparency and accountability.
- The ***practice*** of all these principles and reporting on a regular basis on the progress.

The roadmap seeks an effective public-private partnership approach under a unified ultimate objective to align economic growth with environmental protection, preservation of the unique Mongolian nomadic culture, way of life, history and values, and to orchestrate it in harmony with sustainable livelihoods and education, health and the lifestyle of Mongolians.

2.2 Approach and International Best Practices

The structure of the proposed roadmap was designed based on the recommendations of the "Diagnostic Toolkit" developed by the UN Environment Inquiry as well as the SBN Measurement Framework developed and agreed to by SBN members. These frameworks draw on international best practices such as the IFC Performance Standards and the Equator Principles, as well as progressive individual country experiences such as China, Indonesia and Morocco.

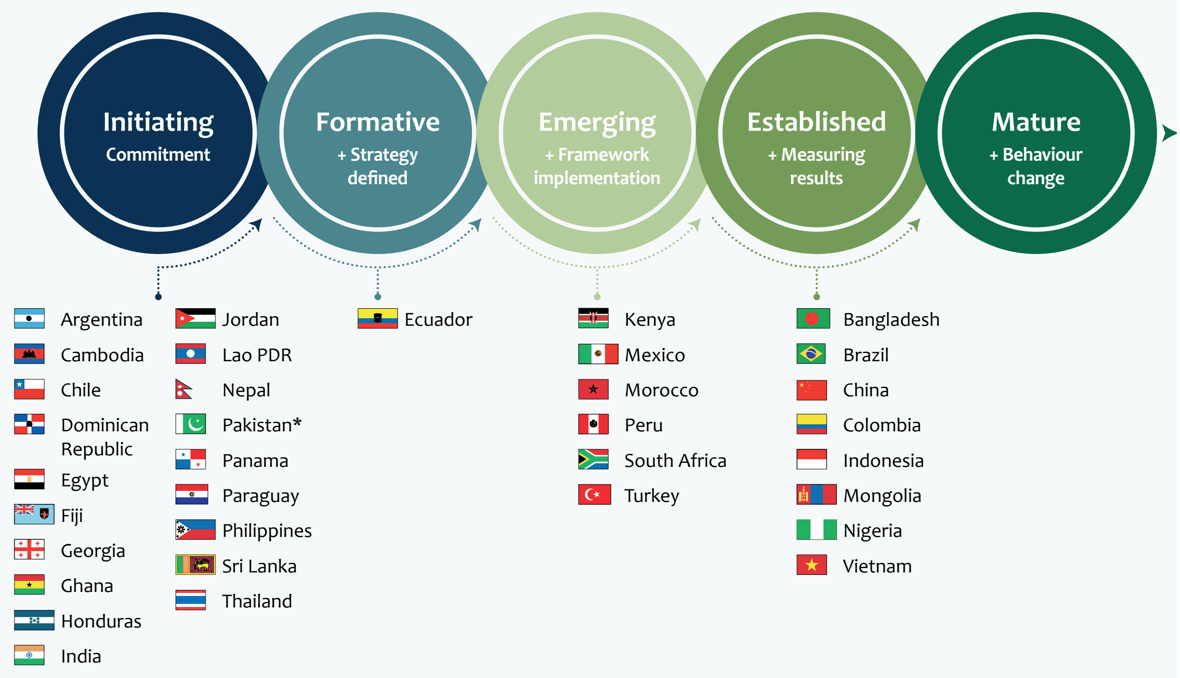
Figure 5: SBN Measurement Framework



Source: SBN (2018)

According to the 2018 SBN Global Progress Report, Mongolia is one of the 8 countries that reached an "established" stage in the implementation of sustainable finance. Mongolia received good assessment results on the E&S Risk Management Pillar, with the Mongolian environmental and social risk management (ESRM) framework being recognised as one of the most comprehensive frameworks among SBN members.

FIGURE 6: SBN PROGRESSION MATRIX WITH ASSESSMENT RESULTS

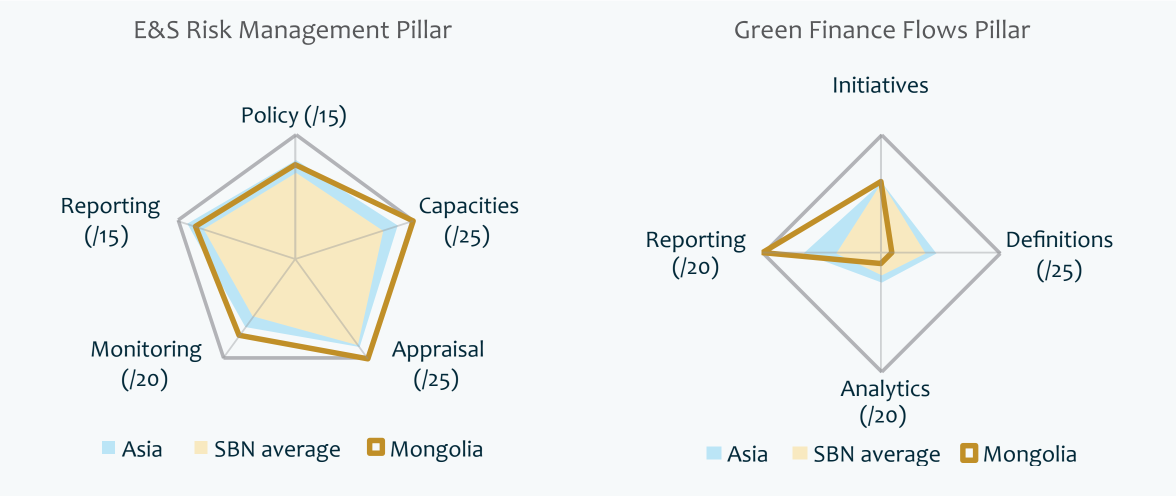


* Pakistan launched its policy in October 2017, after the cut off date of June 2017 for the SBN Progress Report

Source: SBN (2018)

However, Mongolia could also benefit from developing a framework of definitions and methodologies to help financial institutions increase green finance flows. The implementation of the Mongolian Sustainable Finance Principles could also be expanded to other financial activities, such as insurance and capital markets.[43] Climate risks are also not adequately addressed in the current framework.

FIGURE 7: COUNTRY PROGRESS REPORT



Source: SBN (2018)

2.3 Summary of Proposed Actions under the Roadmap until 2030

PILLAR 1: E&S RISK MANAGEMENT

1. E&S Risk Policies and Regulations

- Banks and MFIs
  - Mandatory E&S policy for banks
  - Mandatory E&S policy for MFIs
  - Integration of sustainable finance into existing policies/regulations
  - Training, awareness, and implementation support
- Stock Exchange
  - Research and analysis
  - ESG disclosure and reporting requirements
  - Training, awareness, and implementation support
- Green Insurance
  - Research and new products
  - Legal and regulatory framework
  - Mandatory liability insurance
  - Training, awareness, and implementation support

2. Market Standards

- Banks
  - Sub-sector guidelines and checklist
  - Guidance on monitoring, reporting and disclosure
  - Gender and climate frameworks
  - Collective grievance mechanism
  - ESG-affected pricing methods
  - Stress testing guidelines
  - Sustainability-considerate performance measures
  - Environmental audit guidelines
- MFIs
  - Research and analysis
  - Sustainable finance framework for NBFIs
  - Training, awareness and implementation support
- ESG Credit Information
  - E&S scoring framework, training

3. Supporting Policy Initiatives

- Set up of E&S compliance database of companies
- Communication system on E&S legal environment and requirements
- Capacity building and awareness
- Green technology and finance R&D
- Demonstration projects
- Enforcement of laws and regulations

PILLAR 2: GREEN FINANCE FLOWS

4. Green Finance Policies and Initiatives

- Financial regulators
  - Policy signalling
  - Green finance guidelines
  - Credit incentives
  - Different prudential requirements
  - Capacity-building
- Ministry of Finance
  - MGFC initiative
  - Fund allocation
  - Access to international funds
  - Environmental tax
  - Tax incentives
  - Green procurement
  - FDI flow
  - Grants and technical assistance

5. Green Finance Definition

- Approval of green finance definition
- Tools and guidelines
- Green project assessment capacity
- MRV

6. Green Bond

- Scoping study
- Market assessment
- Policy environment
- Guidelines and principles
- Green bond catalogue
- Verification system
- Tax incentives
- Capacity-building
-

7. Data Collection and Measurement

- Green pipeline database and strategic investment plan
- Framework to track green finance flows
- Tools and methodologies

8. Green Financial Products

- Green mortgages
- Retail loan products
- SME lending
- Corporate lending
- Adaptation finance
- Biodiversity finance
- Project finance
- Digital finance
- Capacity-building

PILLAR 3: ENABLING ENVIRONMENT

9. Governance and Coordination

- Establishment of Sustainable finance committee and secretariat
- Strengthening the MSFA
- Reporting and transparency

10. Capacity Development

- Financial institutions
- Regulators and policymakers
- New generation finance professionals
- Technical service providers
- Project developers

11. Research

- Collaboration with universities
- Collaboration with research institutions
- Partnering with NGOs

12. Progress Measurement

- Measurement and reporting framework
- National indicators
- Regular review and update

2.4 Details of Proposed Actions

PILLAR 1: E&S RISK MANAGEMENT

Environmental and social (E&S) and climate risks pose major perils to the stability and soundness of the financial system. Financial institutions' business activities involving a client with poor environmental and social performance may potentially expose a financial institution to risk, whether legal, credit, or reputational. Therefore, within the financial system, addressing environmental and social issues potentially associated with financing decisions and business operations is considered an integral part of sustainable finance. Market innovation, as seen through the leadership of the Mongolian banking sector, has been fundamental to the evolution of sustainable finance. However, market action on its own is unlikely to overcome key barriers and market failures that prevent the expansion of sustainable finance to the level necessary for achieving the Sustainable Development Goals and the objectives of the Paris Agreement on climate change.[44] This signals the need for policies and regulations to guide the behaviour of financial institutions and their E&S risk exposure by creating a level playing field. Having sustainable E&S risk management policies in place offers a benchmark for the environmental, social and governance issues to be managed and offer guidance to FIs on effective approaches to design E&S management systems.

PROPOSED MEASURES:

2.4.1 E&S Risk Policies and Regulations

Banks and MFIs: To provide regulatory enforcement to the implementation of the market-led Sustainable Finance Principles, financial regulators (Central Bank of Mongolia and the Financial Regulatory Commission) can introduce supporting policies, regulations or guidelines mandating all FIs to have E&S management systems in place and to assess their E&S risk exposure in lending and investment decision-making. Complementing these regulatory guidelines, appropriate implementation tools and reporting, monitoring, supervision, and disclosure requirements should be developed to ensure effective enforcement of the policies. Other measures that could be introduced are climate risk assessment and disclosure frameworks, as well as key performance indicators (KPIs) to track FIs' performance.

The Central Bank of Mongolia (BoM) has shown positive support to introduce a mandated sustainable finance policy, followed by the decision to establish a working group consisting of BoM, MSFA, and banks to develop a draft policy guideline. Another reform that could be taken by financial regulators is to embed sustainability considerations into existing financial sector policies, legislation, and directives, such as the monetary policy, Law on Commercial Banks, Law on NBFIs, the Securities Law, the Insurance Law, FIs' licensing requirements, and credit and risk management-related directives.

The introduction of ESG and green finance requirements to state-owned and policy FIs (*e.g.* DBM, State bank), and the promotion of them as sustainability champions, is another way to send positive policy signals to the market.

To carry out the above-mentioned activities efficiently, the capacity of financial regulators on sustainable finance needs to be enhanced as well.

Stock exchange: The growth of the Mongolian Stock Exchange has reached 67.4% in 2017[45] and it is expected that similar growth will continue in the future as market liquidity improves and more and more Mongolian companies seek IPOs on the local market. These positive developments represent opportunities and responsibilities for the MSE in playing a more prominent role in sustainable capital market development. This includes the introduction of ESG reporting and disclosure requirements into MSE's listing rules and the provision of guidance and training to issuers. To ensure the market is developed systematically, a stepped approach could be taken by first issuing voluntary ESG disclosure "comply or explain" guidelines, and then shifting into a mandatory model once sufficient capacity is built in the sector. This will be a good contribution towards enhancing responsible business operations in the across many sectors of the economy.

Momentum on this topic is increasing among stock exchanges globally and the Sustainable Stock Exchanges initiative of the UN now includes over 78 stock exchanges. MSE's continued engagement with the SSE will help to benefit from existing guidance and tools, international experience and good practices, and capacity-building support.

Green insurance: Recording steady expansion, the Mongolian insurance sector's prospects are good. Insurance companies work closely with banks and other FIs on the development of new innovative products and services, and green insurance could be explored. Green insurance could be used as an instrument to reduce risks in new areas of green investments, such as renewable energy projects or green bonds. They could also play a role by creating products focused on climate related risks. An example of this is the Index-Based Livestock Insurance for herders. Furthermore, more ESG responsible business operations could also be promoted trough the introduction of environmental pollution liability insurance to be applied to high sustainability risk sectors such as mining.

To develop the green insurance market appropriately, a comprehensive green insurance system needs to be established including the development of a legal and regulatory framework, the engagement of local governments and FIs in the enforcement of liability insurance, the introduction of measures to assess the risk landscape of E&S damages and the responding compensation system, and massive awareness-raising and capacity development about the benefits of such insurance products.

2.4.2 Market Standards

Banks: Given the high share (nearly 90%) of the banking sector in the financial system, most of the green finance resources will continue to flow through bank lending, project finance, or equity investing, at least in the short to medium term. Therefore, the banking sector is expected to continue to play a major role in the development of a sustainable financial system. Although a lot has been done by the leadership of banks and the MBA, there is still a potential for improvement in the areas listed below. The MSFA could play a leading role in implementing these activities:

- The development of subsector checklists and guidelines in key economic sectors, such as the textile and cashmere sector, will help banks better understand and manage specific E&S risks in the sector and propose appropriate remedial actions.
- To increase the effectiveness of mainstreaming environmental considerations in FIs' financing process, more detailed and operational guidance, specifically on ongoing monitoring, reporting, and disclosure aspects, could be developed.
- The existing principles and guidelines could be updated to reflect gender- and climate-related risks, followed by a guiding framework to develop climate and gender strategies, reporting requirements and capacity development activities.
- The development of a sample climate risk assessment tool will help unlock adaptation finance opportunities involving private capital.
- ESG affected pricing and preferential treatment methods for priority sectors could be introduced to increase the focus on the business case for good environmental and social management for companies.
- The development of environmental stress testing guidelines and tools could help banks better understand and address the potential internalized costs and environmental risks of their investments.

- To ensure the accuracy and quality of E&S due diligence conducted by business units, banks could adopt sustainability risk-adjusted performance measures. This will also contribute to promoting and incentivizing good performance and management of sustainability responsibilities.
- To increase transparency and accountability, banks could implement and report on their process for receiving and responding to concerns from stakeholders.

MFIs: The broader investment community is key to delivering the financial solutions for Mongolia's transition into a more sustainable economy. NBFIs and savings and credit cooperatives (SCCs) are the second largest players in the financial system and make crucial contributions in the development of an inclusive economy. The majority of MFIs serve low-income clients, including micro-companies and the self-employed, with small loans. However, following the rapid growth of the sector, MFIs with larger assets have also emerged to finance businesses operating in high-risk sectors such as mining, construction and manufacturing. Therefore, appropriate sustainable finance guidelines and policies could be introduced to create consistency and a level playing field in the entire financial market.

Some major NBFIs have already shown interest to take part in the sustainable finance movement led by the MSFA. To effectively engage the microfinance sector, it is important to take a phased approach starting with larger MFIs and gradually involving the smaller ones. The MFI sustainable finance framework could be based on the Mongolian Sustainable Finance Principles and adjusted to the specific needs and E&S risks of the sector and its clients.

Similar to the MBA, industry associations in the microfinance sector have the potential to lead many efforts to increase sustainability capabilities within MFIs. Capacity-building support and the provision of technical guidance are essential to assisting MFIs to build E&S management systems.

ESG Credit Information: Credit information companies could make important contributions to the Roadmap by introducing E&S risk scores or ratings based on different criteria such as companies' E&S compliance history, track record and exposure to ESG risks. This information is essential for FIs to categorize their investments by their sustainability risk level and to define appropriate pricing of lending and investment deals.

2.4.3 Supporting Policy Initiatives

The successful transition to a national sustainable finance system would also require the involvement of ministries, legislators and the wider political arena. These play an important role in creating a supportive enabling environment for sustainable investment. A number of high-level policies and commitments confirm the Government of Mongolia's commitment to sustainable growth and green development, but these should also be complemented by sector-specific strategies and action plans. To date, there is no public policy or regulation that guides and promotes green investment and sustainable finance. Specific actions that could be taken by the Ministry of Environment and Tourism include the following:

- Consider establishing a national database to record the environmental compliance of non-financial firms from which banks will be required to restrict loans.
- Develop a communication system to provide regular updates and clarifications regarding the amendments and the issuance of new policies, laws and regulations so that banks could reflect these changes in their internal E&S policies and due diligence processes.
- Continuously build the capacity of the financial sector on environmental and social issues, climate risks, and management practices.
- Together with development partners, support the implementation of demonstration projects that address climate change and contribute to green economy growth.
- In collaboration with various partners including the academia, NGO and private sector, promote research and development (R&D) in green finance, green technology and green innovation areas.

- In collaboration with the Ministry of Finance, improve the enforcement of the Law on Natural Resources Use Fee, and realign the revenue for environmental benefits. Other laws that require strengthened enforcement include the licensing and auditing of Environmental Impact Assessment and Environmental Audit companies.

PILLAR 2: GREEN FINANCE FLOWS

The financial system could play an important role in promoting the green transformation of our economies.[46] Mongolia made ambitious commitments as part of the SDGs and the Paris Agreement, and the investment required to shift Mongolia's current resource-intensive economy to a green one ranges between US$690 million to US$1.03 billion annually. Mobilizing that funding will take a joint effort, with all financial system stakeholders playing a role. Public funds alone will not be sufficient and the majority of funding is expected to come from the private sector, leveraging on international and public climate funds. E&S risk management is only one side of the sustainable finance coin. In order to fully realize Mongolia's green economy targets, the smart design and effective scaling of market innovations and policy measures to advance green finance are needed.

2.4.4 Green Finance Policies and Initiatives

The actions of financial regulators and policymakers are essential in making all financial flows consistent with a pathway towards low-emissions and climate-resilient development. Activities could range from broad policy signalling to setting specific incentive programmes to scale up green project funding.

The Central Bank and the Financial Regulatory Commission could play an important role in green finance by introducing policy frameworks and standards that promote the issuance of green financial products, such as through:

- Green finance guidelines and frameworks
- Encouragement and assistance to FIs to use and mobilize various green finance funding sources and credit lines
- Directed green credit policy instruments (*e.g.* subsidized loan rates for priority sectors, interest rate discounts, guarantees)
- Differentiated reserve requirements
- Differentiated capital adequacy requirements

The Ministry of Finance could contribute to the national roadmap by developing a green finance policy and framework in line with ongoing efforts, such as the Mongolia Green Finance Corporation and the green procurement initiative. The following are some activities that could be explored:

- Support the establishment of the Mongolia Green Finance Corporation as the country's centralized green finance mechanism to act as an intermediary to funnel private, public and international funding sources. Develop an enabling regulatory framework for such innovative, multi-partner institutions to operate efficiently.
- Allocate resources to green activities through targeted refinance schemes, matching funds, guarantees, and other risk-sharing instruments. This can be done through policy financial institutions (*e.g.* Credit Guarantee Fund, DBM, green development fund, MGFC) or international organizations that provide more affordable funding for green projects.
- Ensure the alignment and cohesion of different financial instruments, including green credit schemes (*e.g.* JCM, MonSEFF) as well as different green funds (*i.e* Green Development Fund, MGFC, UB City Green Fund, Environmental fund, Air pollution fund).

- Ensure that the revenues from the collection of environmental taxation and fees (*e.g.* natural resource fee, pollution fee) are properly reallocated to incentivize and promote an inclusive green economy. This may require amendments to some laws and regulations.
- Taxes are important instruments to influence the structure and behaviour of the economy. The provision of tax preferences for green businesses, such as tax exemptions from investment income tax, withholding tax, and stamp duty, could help boost the green finance sector. On the other hand, introducing environmental taxation to generate more revenue for environment and climate-oriented activities could be useful.
- Promote green procurement practices to support the development of green companies and increase the stability of demand for green finance.
- Assist and guide the private sector to tap various globally available green funding sources such as the GCF. Where possible, provide policy support and instruments to reduce market risks and FX swap costs of policy-oriented green funds.
- Align FDI flows with Mongolia's sustainable growth agenda through the introduction of tax incentives and ESG investment guidelines for high-risk sector investments.
- Allocate grants and technical assistance for green project development, feasibility studies, business plan writing and investor pitches. Also, support the linkage of local and international venture capital (VC) funding with green start-ups and green technology inventors and innovators.

2.4.5 Green Finance Definition

Banks and other FIs are currently limited in their ability to quantify green finance because green finance could be happening in mainstream lending but not specifically defined as green financing. The lack of a clear definition for "green" makes it difficult to identify green projects that could be attractive to sustainable investors, therefore limiting potential green finance flows in the country. The Mongolian economy could benefit from the development of a set of definitions and methodologies to help investors and project developers assess the green impact of their projects. The definitions should provide a clear distinction between "climate finance", "green finance", and "sustainable finance". International examples could be used as a reference and adjusted to the unique green development needs of the country. The Green Taxonomy Working Group as part of the Green Finance Leadership Program could be an interesting platform to exchange information on international best practices. Also, the ongoing work of the European Union, China, and the G20 can be good reference points for green taxonomy development.

Certification and MRV: In addition to green finance definitions, other crucial elements are assessment tools, verification systems and certification schemes by independent, professional assessment companies are crucial. These will help boost investors' confidence when investing into green projects. It is important to ensure that the assessment and appraisal process is conducted by green project experts and auditors, and that the certification process is run independently to avoid any conflict of interest.

2.4.6 Green Bonds

The scale of the investment challenge to reach Mongolia's sustainability targets requires new, longer-term flows of capital. The green bond market is seen globally as having a key potential to contribute in closing the green investment gap and helping countries reach their sustainability targets.

Green bonds are fixed-income instruments for which proceeds are earmarked exclusively for new and existing projects with environmental benefits. These commonly relate to climate change mitigation or adaptation/resilience, as well as other environmental issues, including natural resources depletion, loss of biodiversity, and impacts on air, water or soil. Social and Sustainability Bonds are also emerging, which address either social impacts or a combination of social and environmental benefits respectively. Global green bond issuance is increasingly aligned with the Green Bond Principles (GBP), the Social Bond

Principles (SBP), and the Sustainability Bond Principles established by the International Capital Market Association (ICMA), as well as the Climate Bond Standard by the Climate Bonds Initiative (CBI).

The green bond market was initially dominated by multilateral development banks, but now attracts a wider range of investors. Global green bond issuance surpassed US$160 billion in 2017 and is expected to be US$180-210 billion in 2018. The market share of corporate issuance of green bonds has increased, and so have bonds issued by financial institutions relative to issuances from development banks and government-backed entities. A growing variety of assets and projects financed through the green, social, and sustainability bond market is emerging. New instruments such as asset-backed securities (ABS) and loans are also being attributed the green label. Several countries have started the issuance of sovereign green bonds.

An SBN report published in October 2018[47] reviewed 13 national green bond frameworks that have been developed in emerging markets. It found that new regulations and market-level guidance is enabling rapid growth and innovation in green bond issuance in emerging markets, helping to achieve national climate change commitments and the SDGs. National and regional case studies demonstrate the need for a combination of policy leadership and market-based action to ensure success.

Contributors to the report's nine national and regional case studies highlighted the need to establish and maintain credibility within local green bond markets in order to build investor confidence and ensure that positive impacts are achieved. A number of interviewees mentioned the risk of "greenwashing". ESG risk management is increasingly seen as a critical foundation of integrity and value creation for green bond issuance. The research also showed the importance of ongoing awareness-raising and capacity-building of key market players, such as issuers (especially banks), investors, verifiers, and policymakers.

To develop the green bond market in Mongolia, the Financial Regulatory Commission and the Mongolian Stock Exchange could introduce green principles and guidelines, supported by a set of criteria for identifying and classifying eligible green assets (*e.g.* Green bond catalogue), accounting methods to quantify the environmental and climate benefits of green bonds, and guidance on reporting and disclosure. Integrating ESG considerations into use of proceeds could also enhance the impact of green bonds. Furthermore, independent and professional third-party verification systems could be built to assure the green claims of issuers. To incentivize green bond issuance, price differentials, guarantees and tax exemptions or credits could be explored.

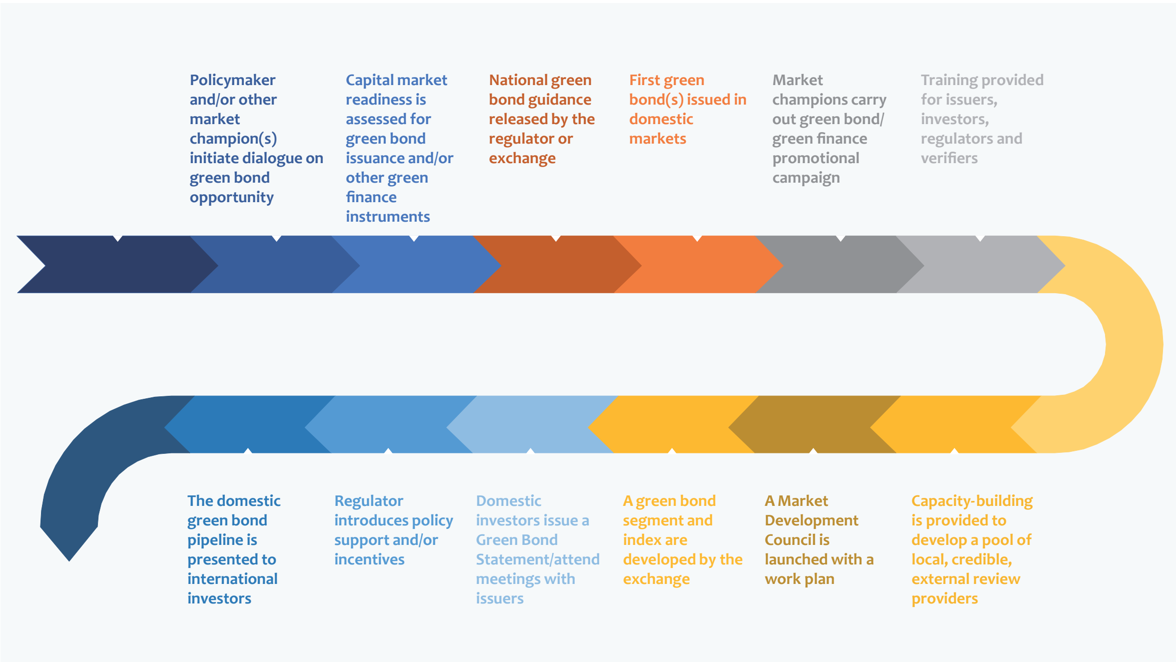
Mongolia could also benefit from the ongoing SBN Green Bond Working Group and the Climate Bonds Initiative to learn from good practices in peer countries. The SBN "Creating Green Bond Markets Report" includes a Green Bond Market Development Toolkit, which features, among other things, a Self-Assessment Matrix and a Roadmap with common milestones.

Figure 8: Self-Assessment and Planning Matrix

	Phase 1	Phase 2	Phase 3
Market infrastructure	Review current debt capital market structure for bonds and its readiness/suitability for green bond growth	Develop supporting market infrastructure (index, dedicated exchange segment)	Organize an international investor roadshow to present the domestic green bond pipeline
Guidance	Initiate dialogue with domestic market players to consider and, if appropriate, develop national guidelines, aligned with international practices	Convene a Market Development Council with relevant capital market institutions to propose and consult on policy recommendations	Consider incentives as appropriate (grants for external reviews, tax exemptions)
Issuance	Assess readiness and opportunities for green bond issuance	Build demand side through engagement with local investors. Potentially deliver a Green Bond Statement from domestic investors and convene forums with selected potential issuers	Engineer demonstration issuances: such as sovereign, municipal, financial institution, and/or corporate bonds
Capacity-building	Set up a promotional campaign to engage market professionals	Set up, partner and deliver training programmes for issuers, investors, verifiers and regulators	Consider accreditation schemes for training programmes, as well as dedicated training incentives for industry professionals

Source: SBN (2018)

Figure 9: Roadmap with Common Milestones for Developing Green Bond Markets



Source: SBN (2018)

There is also a related growing body of work in fora such as the G20, looking into other channels to turn private, unrated, illiquid assets on bank balance sheets into public, rated and freely tradable investment products. This extends beyond green bonds to products including covered bonds, investment trusts, and 'YieldCos'.

Once transformed, institutional investors can purchase these sustainable instruments on the capital markets, and meet their existing product, liquidity, and creditworthiness constraints. Such active bank balance sheet management opens up a broader universe of domestic and international investors with a range of investment horizons and return expectations. The process might also encourage more bank lending if there is a low-cost and predictable means to refinance the assets once early stage projects are operational

2.4.7 Data Collection and Measurement

Currently, there is no collective measurement system that tracks the total public and private green finance flows in Mongolia. Consistency in information will assist in long-term planning and better allocation of green investment opportunities. There is growing focus in Europe currently on a system to facilitate the tagging of sustainable assets, especially by primary lenders such as banks. This could enhance the visibility of internal sustainable stocks and flows, satisfying the growing global demand by investors for more environmental financial visibility. It could also help banks measure their sustainable asset quality and performance of sustainable assets versus non-sustainable assets. Sustainable tagging could also help financial institutions with the creation of sustainable investment products such as green asset backed securities. Mongolia could specifically benefit from the two activities mentioned below that are related to green finance data collection and measurement:

Green pipeline database and strategic investment plan: Mongolia could develop a strategic green investment plan to identify its green investment pipeline (both public and private projects), priority sectors, and financial instruments and funding options from various types of sources. This will help build a collective database of green projects and their size, type, sustainability impact, and financing needs.

Tracking of green finance flows: Key stakeholders could jointly develop a framework to track national green finance flows and provide guidance and tools that would allow FIs to measure their green finance flows in current and future portfolios.

2.4.8 Green Financial Products

Financial institutions could better address the opportunity side of sustainable finance through the introduction of new products and services to expand their green portfolio. They could realign existing products or create new products with more preferential terms meeting the needs of companies contributing to long-term green growth. A number of potential products for the Mongolian financial sector were identified through various studies by GGGI and the UN Environment Inquiry as described below:

Retail loan products may include: electric vehicle loan programmes, loans for efficient electric heating equipment for *gers* (yurts) – the predominant form of housing in Ulaanbaatar, presently heated by coal burners that cause health-threatening air pollution in the capital – and energy efficiency for single and multi-family housing. These loan programmes can use a portfolio approach to credit structuring and therefore represent a good application for loan loss reserve risk sharing products. Leveraging on the financial access rate of banks, products such as green credit cards and green deposits could also be considered as innovative products contributing to sustainability.[48]

Green mortgages are increasing in popularity globally. Research presented to the G20 by ING in 2018 indicates that roughly 40% of total global CO_2 emissions come from buildings. ING Bank in the Netherlands has become the first bank globally to only finance or refinance sustainable buildings (above a 'C' energy efficiency threshold). Analysis of its property lending book indicates that green offices benefit from a 10% premium compared to conventional offices in both rent and market value.

SME lending is needed for medium- to long-term productive equipment financing. Most SMEs have energy efficiency potential, as they typically operate with old equipment requiring replacement. This replacement need is the main factor driving the demand for energy efficiency financing in this sector. Some subsectors with market potential include the sustainable textile and cashmere sector.

Corporate lending, including for example, mining, cement and food processing, also has a need for energy efficiency investments. This market will be driven in part by the recent Energy Conservation Act of 2014, which mandates energy audits and energy efficiency investments to achieve 15% energy efficiency improvements over five years for the largest energy consumers.

Adaptation finance will increasingly have to move beyond its current focus on integration into public budgeting discussions and international climate finance flows. It will be through the integration of decisions into day-to-day operations of financial institutions that the most significant adaptation potential in economic development can be achieved.

Biodiversity finance is another potential product that can benefit from the partnership of the private and public sector. Due to the transitional ecosystems and harsh continental climatic conditions, the biodiversity in Mongolia is unique and delicate. New innovative financing approaches to protect biodiversity could present benefits on a multi-stakeholder level.

Project finance for wind and small power projects and green infrastructure is needed, and is a market that needs to be supported with the blend of private and public finance instruments. Also, longer-term financial instruments and the capital market have vital roles to drive investment into green project finance.

Digital finance: The universe of sustainable digital finance solutions is a cross-cutting theme across the finance space that has considerable potential to deliver sustainability outcomes. It covers a broad spectrum of technologies, including mobile payment platforms, satellite technologies, crowdfunding, the Internet of Things, and big data. While advances in digital finance have been most pronounced in the field of social inclusion, there is emerging innovation where both social and environmental considerations are central to the design of digital innovation. Given the growing digital penetration rates in Mongolia, the application of digital solutions to sustainability issues warrants further analysis as an enabler for the products mentioned above, but also across several other areas of the Roadmap.

Sector focus: The development of new green financial products could be aligned with the country's priority economic and sustainability sectors, including energy, agriculture, processing, construction, tourism, and infrastructure development.

PILLAR 3: ENABLING ENVIRONMENT

A sound enabling environment is critical to translate sustainable finance policies and principles into action.[49] This covers effective governance and cooperation frameworks, implementation mechanisms, stakeholder engagement, and building long-lasting local capacity. Mongolia's approach towards sustainable finance has been very inclusive in the past and this model needs to be taken forward to realize the successful implementation of the Roadmap.

2.4.9 Governance and Coordination

Establishment of a Sustainable Finance Committee: Selecting the appropriate entity that would lead the implementation of the Roadmap is key to its success. However, given that there is no single "super regulator" supervising the entire financial sector, all financial regulators and policymakers have equally important roles and responsibilities in the sustainable financial system. Consistent inter-agency collaboration across the entire financial system is needed to achieve the effective realization of the Roadmap. Furthermore, the leadership of the private sector is one of the critical success factors of the Mongolian Sustainable Finance Initiative and needs to be maintained. In the face of this unique blend of private and public sector partnership, it is suggested to establish a National Sustainable Finance Committee that would serve as an interagency structure to provide leadership in the implementation of the National Sustainable Finance Roadmap across the government and the private sector.

The committee could consist of high-level representatives from the Central Bank of Mongolia, the Financial Regulatory Commission, the Ministry of Finance, the Ministry of Environment, the Mongolian Stock Exchange, the Mongolian Bankers Association, other financial industry associations, private sector and civil society representatives, such as the Environmental Audit Association. The committee could be chaired in rotation by the participating organizations. It will work closely with various international partners and networks operating in the sustainable finance field, connecting and steering emerging individual efforts towards a common goal. The Mongolian Sustainable Finance Association could serve as the secretariat of the committee responsible for the execution of policies and decisions made by the committee and ensuring there are no gaps between policy commitment, coordination, and implementation.

Furthermore, the National Sustainable Finance Committee could benefit from closely engaging with international partners and networks working in the sustainable finance field such as the IFC-facilitated SBN, UNEP FI, PRI, Climate Bonds Initiative, AFI, SSE, and the Green Finance Leadership Program. Bilateral country collaborations with countries such as China, Cambodia, Kyrgyzstan, and the Philippines are also important and could be facilitated through the support of the SBN.

To promote transparency and accountability, it is proposed that the committee tracks progress and reports publicly on the action plan and implementation of the roadmap on a regular basis.

Strengthening the Mongolian Sustainable Finance Association (MSFA): The Mongolian Bankers Association established the MSFA in December 2017, with the goal to expand sustainable finance into other parts of the financial sector, and create a national green investors' network. Apart from banks, the association's principal membership is open to commercial and development banks, microfinance institutions, insurance companies, and institutions operating in the capital market. The MSFA will also closely collaborate with international organizations, universities, the media and civil society organizations to create cross-sector linkages and cohesive action to promote the role of finance in sustainability.

The need for this unique platform arose from the growing recognition of the need to adopt a market-wide approach to mobilize finance for sustainable development. The main functions of the MSFA are to develop and release sustainable finance standards and guidelines for various financial industries, track the performance of member financial institutions, conduct relevant research and studies to identify international best practices, support capacity-building and green product innovation, and conduct awareness-raising activities. Furthermore, the MSFA will promote international knowledge exchange with other countries pursuing the sustainable finance agenda, with the vision to become a knowledge and leadership centre in the region.

2.4.10 Capacity Development

For many of the suggested changes to be effective, enabling dialogue and promoting education among all market participants is a critical component. These capacities could be built through various innovative training activities such as developing handbooks, introducing technical trainings, initiating policy dialogues, organizing knowledge exchanges both domestically and internationally, and sharing good practice examples. To reach a wider range of audience in a cost- and time-efficient way, the recently developed MSFI online learning platform by MSFA, FMO, and IFC could be leveraged to introduce various targeted training modules. The Mongolian Sustainable Finance Association has a potential role to lead this capacity development process through the development of a strategic capacity development plan involving the stakeholders listed below:

Financial institutions: Since sustainable finance is still a relatively new topic, financial institutions need to enhance their abilities to identify, assess and effectively manage climate and environmental risks. There remains a big gap in terms of professionals that understand green finance from a business perspective and possess the skills to identify new green projects or turn mainstream projects into green pipelines.

Regulators and policymakers: Internal capacity development of regulatory and supervision agencies is critical to effectively enforce the implementation of sustainable finance frameworks. Therefore, their role should be highlighted in helping to build a sustainable financial system.

New generation finance professionals: It is important to equip the next generation of financial professionals in Mongolia with necessary knowledge and skills in sustainable finance. To lead this process, UNITAR, IFC, MSFA and three major universities are jointly implementing a project to develop university-level courses on sustainable finance and embed them into banking and finance-related programmes. Such initiatives can be expanded to other universities and the financial sector could partner in these efforts by contributing to the curriculum development, conducting train-the-trainer programmes and facilitating on-site visits and internships for students.

Project developers: To achieve the market shift, project developers also need to enhance skills in areas of E&S risk management, environmental impact measurement and reporting, green project preparation, funding proposal development, and investor pitches.

Local sustainability service providers: Technical service providers, such as NGOs and consulting firms that conduct green finance audit, issue verification/certification for project sustainability, and/or provide trainings to other key players, also play a key role. Building the capacity of current and potential sustainability service providers (or supporting institutions) is essential to address future demands from FIs for such services and build resources in a sustainable manner to serve the market.

General awareness-raising: Conducting awareness-raising campaigns for the public and media is vital to stimulate engagement and the interest of civil society groups in support of sustainable finance.

2.4.11 Research

Sustainable finance is still an emerging field where many questions remain unanswered. The introduction of the right policies and incentives will need to be based on and supported by credible data, professional research findings, and recommendations. Green finance also strongly benefits from opportunities created by innovation and new technology development. To date, there has been very limited local capacity to conduct green finance-related research and development. Therefore, academia, research institutions, civil society and community organizations, as well as the private sector, could be better engaged to fill in the need for sustainable finance-related policy, product, and technology research and design.

2.4.12 Progress Measurement

There is growing recognition that progress towards aligning the financial system with sustainable development needs to be measured. Existing data are often fragmented, incomplete, and do not allow for effective analysis within a country or between countries. An effective framework for measuring progress can help highlight areas for improvement and can also help assess the effectiveness of measures that have been introduced.[50] The SBN Measurement Framework can be used as a basis to design a national measurement and reporting framework based on the specific activities and intended timelines of the roadmap.

The four key questions that need to be addressed in the measurement and reporting framework are:

1. what are the key performance indicators;
2. who is responsible for measuring and reporting;
3. to whom the reporting should be submitted/disclosed; and
4. when or how frequently should such measuring and reporting occur.

In the medium-term implementation of the roadmap, planned in 2023, the National Statistics Office could explore the development of national sustainable finance performance indicators in support of the country's green economy targets.

The roadmap itself serves as a living document and will need to be regularly reviewed and updated to adjust to new market developments and needs. For example, this version of the Roadmap does not cover asset management and institutional investors, given the relatively young development stage of these sectors compared to other sectors of the financial system.

2.5 Linking Barriers to Solutions

Table 8: Mongolia Sustainable Finance Barrier-Solution Assessment

BARRIERS	SOLUTIONS	**Pillar 1: E&S Risk Management**	1. E&S Risk Policies and Regulation	2. Market Standards	3. Supporting Policy Initiatives	**Pillar 2: Green Finance Flows**	4. Green Finance Policies and Initiatives	5. Green Finance Definition	6. Green Bond	7. Data Collection and Measurement	8. Green Financial Products	**Pillar 3: Enabling Environment**	9. Governance and Coordination	10. Capacity Development	11. Research	12. Measurement and Reporting
Generic	Lack of long-term funding						✓		✓							
	Scarce Investement pools						✓		✓							
	Access to finance						✓	✓			✓					
Sustainable	Limited capacity		✓	✓	✓				✓	✓	✓		✓	✓	✓	✓
	Policy alignment		✓	✓	✓		✓	✓	✓				✓			✓
	Underdevelopment toolkit		✓	✓	✓		✓	✓			✓				✓	✓

2.6 Proposed Action Plan

It is important to ensure that the proposed actions of the roadmap are clear, time-bound, and enforceable. Below is a suggested action plan that could guide the overall implementation of the roadmap. Specific and subsector action plans need to be further developed to reflect the comprehensive actions that need to be taken.

Short term (1-2 years), Medium term (3-7 years), Long term (8-12 years)

	Reform	Sector	Activities	Timeline	Activity Lead	Potential Partners
PILLAR 1: E&S RISK MANAGEMENT						
1	**E&S Risk Policies and Regulations**	Banking & NBFIs	1.1 Develop and approve E&S risk management policy and framework for banks (reporting, supervision and KPIs)	Short term	BoM, MSFA, MBA	IFC, GCF
		Banking & NBFIs	1.2 Develop and approve E&S risk management policy and framework for MFIs (reporting, supervision and KPIs)	Medium term	FRC, MSFA, NBFIA	IFC, GCF, AFI
		Banking & NBFIs	1.3 Embed sustainability considerations into existing financial sector policies, legislations and directives	Medium term	BoM, FRC	MSFA, MBA
		Banking & NBFIs	1.4 Report publicly statistical information and data on aggregate sustainable and green finance flows in the financial sector	Medium term	BoM, FRC	MSFA, MBA
		Banking & NBFIs	1.5 Build capacity and awareness and provide technical implementation support and guidance	Ongoing	BoM, FRC	MSFA, IFC
		Stock exchange	1.6 Join the SSE initiative and take part in SBN Green Bond Working Group	Short term	MSE, FRC, MSFA	IFC, SBN, GCF, UN-SSE
		Stock exchange	1.7 Conduct baseline research to determine needs and strategy to introduce ESG listing requirements	Short term	MSE, FRC, MSFA	IFC, GCF, UN-SSE
		Stock exchange	1.8 Issue voluntary disclosure guidelines and frameworks (templates and guiding tools)	Short term	MSE, FRC, MSFA	IFC, GCF, UN-SSE
		Stock exchange	1.9 Build capacity and awareness and provide technical implementation support and guidance to relevant stakeholders	Ongoing	MSE, FRC, MSFA	IFC, GCF, UN-SSE, EAA
		Stock exchange	1.10 Issue mandatory requirements for listed companies	Medium term	MSE, FRC	
		Green insurance	1.11 Conduct baseline research to understand needs and strategies to introduce green insurance	Medium term	FRC, Insurance association	MSFA
		Green insurance	1.12 Develop new green insurance products supported by implementing tools	Medium term	FRC, Insurance association	MSFA, UN-PSI
		Green insurance	1.13 Develop and approve a green insurance regulatory framework	Long term	FRC, Insurance association	MSFA,UN-PSI
		Green insurance	1.14 Build capacity and awareness and provide technical implementation support and guidance to relevant stakeholders	Ongoing	FRC, Insurance association	MSFA,UN-PSI

	Reform	Sector	Activities	Timeline	Activity Lead	Potential Partners
PILLAR 1: E&S RISK MANAGEMENT						
2	**Market Standards**	Banks	2.1 Develop subsector checklists (sustainable textile and cashmere, etc.)	Short-Medium term	MSFA, banks	MNCCI, AVSF/Switch-Asia, EAA
			2.2 Develop detailed and operational guidance on ongoing monitoring, reporting, and disclosure aspects	Short term	MSFA, banks	
			2.3 Develop framework for gender finance	Short term	MSFA, banks	IFC, GCF
			2.4 Integrate climate-related risks into existing frameworks	Short term	MSFA, banks	
			2.5 Develop process for receiving and responding to concerns from stakeholders	Short term	MSFA, banks	
			2.6 Introduce ESG-affected pricing methods	Medium term	MSFA, banks	
			2.7 Develop environmental stress testing guidelines and tools	Medium term	MSFA, MBA, banks	ICBC
			2.8 Adopt sustainability risk-adjusted compensation measures (integration in staff performance KPIs)	Medium term	MSFA, banks	
			2.9 Integrate environmental audit related requirements into the Mongolian Sustainable Finance Principles and Sector Guidelines. Develop detailed handbook and conduct trainings on environmental audit	Medium term	MSFA, EAA, banks	MET
		MFIs	2.10 Conduct research to understand the characteristics of the MFI market and identify strategy to introduce sustainable finance in microfinance	Short term	FRC, MSFA,NBFI association	IFC, GCF
			2.11 Invite larger NBFIs to join the MSFA and develop sustainable finance principles and frameworks for MFIs	Short term	MSFA, NBFI association	IFC, GCF
			2.12 Build capacity and awareness and provide technical implementation support and guidance	Short term	FRC, MSFA, NBFI association, EAA	IFC, GCF
		Scoring	2.13 Develop ESG scoring framework for credit information companies	Medium term	Credit information companies, BoM, MSFA	IFC, MET
			2.14 Build capacity and awareness and provide technical implementation support and guidance to relevant stakeholders	Ongoing	Credit information companies, BoM, MSFA	IFC, MET

	Reform	Sector	Activities	Timeline	Activity Lead	Potential Partners
PILLAR 1: E&S RISK MANAGEMENT						
3	**Supporting Policy Initiatives**	Cross-sector	3.1 Develop effective communication mechanism with FIs to provide E&S regulatory environment updates	Short term	MET, MSFA, EAA	banks
			3.2 Organize continuous capacity development activities for the financial sector and awareness-raising events for the general public on E&S issues, EIA, environmental audit, and regulatory requirements	Ongoing	MET	MSFA, civil society, EAA
			3.3 Set up national database which records the environmental compliance of non-financial firms	Medium term	MET	MSFA, MNCCI, EAA
			3.4 Support set up of green finance, product and technology research and development (R&D) centre	Ongoing	MET, MSFA	
			3.5 Implement green demonstration projects to boost market awareness and interest	Ongoing	MET	MSFA
			3.6 Strengthen proper re-allocation of environmental taxation and fees	Long term	MET, MoF	
			3.7 Introduce higher requirements for the licensing of environmental impact assessment and environmental audit companies	Long term	MET	
PILLAR 2: GREEN FINANCE FLOWS						
4	**E&S Risk Policies and Regulations**	Financial regulators	4.1 Provide broad policy signalling to promote green finance (monetary policy, etc.)	Short term	BoM, FRC	MSFA
			4.2 Develop and approve green finance guidelines and framework	Medium term	BoM, FRC	MSFA
			4.3 Provide green finance incentive mechanisms	Long term	BoM, FRC	
			4.4 Introduce differentiated prudential requirements to promote green finance	Long term	BoM, FRC	
			4.5 Build green finance policy and supervision capacity of regulators	Long term	BoM, FRC	MSFA
		Fiscal policy	4.6 Establish the Mongolia Green Finance Corporation and set up an enabling regulatory environment	Short term	MoF, MET, MSFA, GCF, Xac bank	GGGI
			4.7 Allocate resources to green activities through targeted refinance schemes, matching funds, guarantees and other risk sharing instruments (credit guarantee fund)	Ongoing	MoF, Credit Guarantee Fund	
			4.8 Promote access for green start-up to international green funding sources including concessional funding, venture capital, grants, and technical assistance	Ongoing	MoF	
			4.9 Launch green procurement standards and framework (monitoring, reporting)	Short term	MoF, MET	
			4.10 Introduce green FDI guidelines	Medium term	MoF	
			4.11 Develop green taxation regulation and framework	Long term	MoF, MET	

	Reform	Sector	Activities	Timeline	Activity Lead	Potential Partners
PILLAR 2: GREEN FINANCE FLOWS						
5	**Green Finance Definition**	Cross-sector	5.1 Define green finance and develop sector-specific taxonomies	Short term	SF Committee, MSFA	GFLP, IFC, GCF
			5.2 Develop tools and guidelines to assess green projects	Short term	SF Committee, MSFA	EAA
			5.3 Build local capacity to assess, identify, measure, develop and write green project proposals	Short-mid term	SF Committee	MSFA, MET
			5.4 Develop green project MRV and certification scheme	Medium term	SF Committee	MSFA, MET
6	**Green Bonds**	MFIs	6.1 Conduct scoping study to assess needs and identify strategy to develop green bond market	Short term	MSE, FRC, MSFA	CBI, IFC, GCF
			6.2 Conduct market assessment and feasibility study of potential green projects to be financed with bonds	Short term	MSE, FRC, MSFA	CBI, IFC, GCF
			6.3 Introduce green bond guidelines, green bond catalogue, reporting guidance and incentive mechanisms	Medium term	MSE, FRC, MSFA	CBI, IFC, GCF
			6.4 Develop third-party verification system	Medium term	MSE, FRC	
			6.5 Introduce green bond tax or other incentive mechanisms	Long term	MoF	
			6.6 Build capacity and awareness, and provide technical implementation support and guidance to relevant stakeholders	Ongoing	MSE, FRC, MSFA	CBI, IFC, GCF
7	**Data Collection and Measurement**	Cross-sector	7.1 Set up green pipeline database	Medium term	MoF, MET, UB City	MSFA
			7.2 Develop green finance strategic investment plan	Medium term	MoF, MET,	MSFA
			7.3 Introduce statistics system to track green finance flows	Long term	NSO, MET, BoM, FRC	MSFA
			7.4 Develop calculation methodology, tools and tracking platforms for FIs, regulators and policymakers	Long term	MSFA, NSO, MET, BoM, FRC	
8	**Green Financial Products**	Cross-sector	8.1 Support FIs in the process to develop new green products and services (e.g. Retail loan products; Green Mortgage; SME lending; Corporate lending; Adaptation finance; Biodiversity finance; Project finance; Digital finance)	Ongoing	MSFA	GCF, GGGI, AFI, UN-DFA
			8.2 Develop various financial products (both banking and capital markets) and related policy and technical mechanisms to support the green and affordable housing sector	Medium term	MoF, MSFA, MCUD,	Green Building Council
			8.3 Implement comprehensive green finance capacity building programme for FIs	Ongoing	MSFA	GCF, GGGI

	Reform	Sector	Activities	Timeline	Activity Lead	Potential Partners
PILLAR 3: ENABLING ENVIRONMENT						
9	**Governance and Coordination**	Cross-sector	9.1 Establish National Sustainable Finance Committee and select Secretariat Organization	Short term	MOF, MET, BOM, FRC, MBA, MSFA, MSE	IFC, GCF, UN Environment
			9.2 Set up thematic working groups	Short term	SF Committee	MSFA
			9.3 Develop and approve Action Plan and Budget	Short term	SF Committee	MSFA
			9.4 Create/enhance partnerships with sustainable finance networks and international organizations	Ongoing	SF Committee	UN, SBN, CBI, AFI, SSE, PSI
			9.5 Create bilateral collaborations with other countries	Ongoing	SF Committee	SBN
			9.6 Track progress and report publicly the implementation of the roadmap	Annually	SF Committee	MSFA
			9.7 Build the capacity of the committee and secretariat	Ongoing	SF Committee	MSFA, IFC
10	**Capacity Development**	Green insurance	10.1 Financial institutions	Ongoing	MSFA	IFC, FMO
			10.2 Regulators and policymakers		MSFA	IFC
			10.3 University students		MSFA, universities	IFC, UNITAR
			10.4 Project developers		MSFA, MNCCI	private sector
			10.5 Local sustainable technical service providers (NGOs and consulting firms)		MSFA, MET	MNCCI
			10.6 General awareness-raising		All	Civil society
11	**Research**	Cross-sector	11.1 Support green finance and technology research in collaboration with universities, NGOs and research institutions	Ongoing		
12	**Progress Measurement**		12.1 Develop measurement framework to track implementation of roadmap	Short term	SF Committee	MSFA
			12.2 Develop reporting framework	Short term	SF Committee	MSFA
			12.3 Conduct regular review and update of the roadmap	Ongoing	SF Committee	MSFA

2.7 STAKEHOLDER MAPPING

<table>
<tr><th colspan="3">Key Convening, Decision-making, Implementing and Monitoring Body</th></tr>
<tr><td colspan="3">National Sustainable Finance Committee and Secretariat</td></tr>
<tr><th>Policy Development</th><th colspan="2">Market Standards</th></tr>
<tr><td>Key financial and sustainability policy and regulatory bodies:
• Central Bank
• Ministry of Finance
• Financial Regulatory Commission
• Ministry of Environment and Tourism
• Stock exchange
• National Development Agency
Other key government agencies:
• Ministry of Energy
• Ministry of Construction and Urban Development
• Ministry of Food, Agriculture and Light Industry
• UB City Municipality
• Energy Regulatory Commission
• National Statistics Office
• Mongolian State Professional Inspection Agency</td><td>Financiers and investors:
• Banks
• Development bank
• Non-banks
• Small-scale cooperatives
• Insurance companies
• Leasing companies
• Fintech companies
• Investment funds
• State funds
• Institutional investors
• Foreign investors</td><td>Industry associations and networks:
• Mongolian Sustainable Finance Association
• Mongolian Bankers Association
• Insurance association of Mongolia
• NBFI Association
• Capital markets association
• Mandatory insurance association
• National Chamber of Commerce
• Business Council of Mongolia
• American Chamber of Commerce
• UB Chamber of Commerce
• Green building council
• Environmental Audit Association (EAA)</td></tr>
<tr><th>Technical and Funding Support</th><th colspan="2">Capacity-building, Awareness & Research</th></tr>
<tr><td>Key international organizations:
• United Nations Agencies (i.e. UN Environment, UNDP, UNITAR, etc.)
• International Finance Corporation (IFC)
• World Bank
• Dutch Development Bank (FMO)
• Green Climate Fund (GCF)
• Global Green Growth Institute (GGGI)
• Partnership for Action on Green Economy (PAGE)
• UNDP Biofin
• Asian Development Bank (ADB)
• European Bank for Reconstruction and Development (EBRD)
• Organization for Economic Cooperation and Development (OECD)
• Japan International Cooperation Agency (JICA)
• Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ)
• Swiss Agency for Development and Cooperation (SDC)
• German development Bank (KfW)
• Asian Infrastructure Investment Bank (AIIB)
• Agronomes et Vétérinaires sans frontières (AVSF)
• GERES
• World Wildlife Fund (WWF)
• Asia Foundation
• Global Environment Facility (GEF)
• USAID
• AUSAID</td><td>International Networks
• Sustainable Banking Network (SBN)
• UN Environment
• Sustainable Stock Exchange Initiative (SSEI)
• Climate Bonds Initiative (CBI)
• Sustainable Insurance Initiative (SII)
• Alliance for Financial Inclusion (AFI)
• NDC Partnership
• Global Reporting Initiative (GRI)
• Green Bank Network
• Green Investment Banks Initiative (Rocky Mountain Institute)
• Principles for Responsible Investment (PRI)
• Association of Development Financing Institutions in Asia and the Pacific (ADFIAP)</td><td>Training and research institutions:
• Universities
• Banking and Finance Academy (BFA)
• Economic Policy and Competitiveness Research Center (EPCRC)
• Mongolia Marketing Consulting Group (MMCG)
• Central bank research department
• Education for Sustainable Development (ESD)
• Women Business Center
• Hub Innovation Center
Civil society and environmental NGOs
• Environmental NGOs
• Environmental Audit Association (EAA)
• EIA association
• Ger hub
• Ger mapping center
Media
• National televisions
• Websites
• Newspapers</td></tr>
</table>

2.8 Next Steps

This Roadmap presents a guide to align the financial system with Mongolia's green growth and sustainable development goals. In order to start the implementation of the roadmap, the following immediate next steps could be taken:

1. **Development of detailed Action Plan** to support the implementation of the roadmap including clear timelines, responsibilities and expected outcomes.
2. **Organizing of stakeholder and public consultation** to ensure alignment of the roadmap with other sector initiatives
3. **Development of budget** and identification of funding sources
4. **Launch and kick-off** of implementation phase
5. **Establishment of National Sustainable Finance Committee** and selection of secretariat
6. **Set up of thematic working groups**

ANNEXES

Annex A: Planned large-scale renewable energy projects

Project Title	Green targets	Project Investment, (US$ million)	Project Investment, (MNT billion)
Egiin gol Hydropower plant	Renewable energy: Hydropower plant	827.6	1,976.7
Shuren Hydropower plant	Renewable energy: Hydropower plant	780.0	1,863.0
“Orkhon Gobi” project	Water management	530.0	1,265.9
Oyu Tolgoi wind power plant project	Renewable energy: Wind power plant	200.0	477.7
Sainshand wind power plant project	Renewable energy: Wind power plant	120.0	286.6
Choir wind power plant project	Renewable energy: Wind power plant	100.0	238.8
Tsetsii wind power plant project	Renewable energy: Wind power plant	95.0	226.9
Projects to be implemented by the Ulaanbaatar development corporation (22 projects)	Environmental protection, renewable energy, energy efficiency and eco-tourism	8,046.0	1,9217.4
Affordable housing projects	Green housing	2,152.7	5,141.5
Implementation of the National Green Development Policy and commitments made under the Paris Agreement	Policy planning, coordination implementation, state budget investment	2,612.6	6,240.0
Total		**15,463.9**	**36,896.9**

Annex B: Types of natural resource fees

Natural resources related tax revenues, allocated to state budget are:

- Royalty of mineral resources;
- Fee for issuing mining exploration and exploitation licenses;
- Payment for air pollution;
- Payment for water pollution;
- 70% of oil royalty;
- 70% of payment for issuing oil exploration and exploitation licenses.

Natural resources related tax revenues, allocated to aimag and capital city's budget are:

- Payment of land tenure;
- Payment of water use for commercial and production purpose;
- 20% of license fee for issuing oil exploration and exploitation right.

Natural resources related tax revenues allocated to soum and district budget are:

- License fee and payment for hunting and catching wild animals;
- License fee for using all natural resources except mineral resources;
- Payment for using wild plants;
- Payment for using wood for fuel and production;
- Royalty for widely distributed mineral resources such sand and gravel for construction;
- Payment for using water and mineral water for household purpose;
- 10 per cent of license fee for issuing oil exploration and exploitation right.

Types of natural resource use fees	Minimum percentage of natural resources use fee that shall be spent on environmental protection and rehabilitation activities
1. Natural vegetation resources use fee	30 %
2. Wildlife resources use fee	50 %
3. Land resources use fee	30 %
4. Forest resources use fee	85 %
5. Water and spring resources use fee	55 %

Environmental protection spending of natural resources use fee (MNT billion)

Type of taxes	2012	2013	2014	2015
Total amount	**23,861.7**	**24,744.9**	**323,215.6**	**13,607.3**
Air pollution fee	1,377.1	1,255.5	15,923.1	1,410.7
Air pollution fee – Raw coal producers	22,452.8	23,474.0	307,154.1	12,188.2
Air pollution fee – Large stationary sources	25.1	9.1	96.4	0.1
Air pollution fee – Special license holders	6.7	6.4	42.0	8.3

Source: General Taxation Office

Annex C: Total finances of the active and planned projects and programmes for green development in Mongolia by the international banks and organizations

International Organizations and Banks	Project Investment (US$ million)	Project Investment (MNT million)
World Bank	120.7	288.2
Asian Development Bank	1,178.7	2,815.3
EBRD	527.1	1,258.9
UNDP	3.9	9.4
Swiss Development Agency for Cooperation	48.3	115.4
GIZ	75.9	181.3
JICA	57.4	137.1
MCC of US	750.0	1,791.3
Total	**2,762.0**	**6,596.8**

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