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Enhancing Accessibility of Green Financing Through Non-Bank Financial Institutions in Mongolia

Lagnai Tuvshintur[1] Nyamaa Dulamsuren[2]

[1]National University of Mongolia, Business School, Department of Accounting

[2]National University of Mongolia, Business School, Department of Accounting

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Abstract

Climate change, global warming, and environmental pollution are global concerns. Green financing serves as a financial market-driven approach to protecting the environment and ensuring sustainable development. In December 2019, with the policy support of the Mongolian Financial Stability Council, the "Mongolian Green Taxonomy" document was approved by the Bank of Mongolia, the Financial Regulatory Commission, and the Ministry of Finance, aligning with international green economy principles and criteria. This taxonomy provides a framework for identifying and classifying environmentally sustainable economic activities in Mongolia and serves as a guideline for financial institutions to promote green finance.

This study examines green financing and green loan products within Mongolian NBFIs, analyzes the current situation, identifies challenges, and proposes recommendations to increase green financing accessibility based on international standards for environmental performance measurement. Furthermore, it aims to explore how NBFIs can contribute to Mongolia's transition to a green economy and improve access to financing for businesses and individuals engaging in environmentally sustainable projects. The research findings will assist financial regulators, policymakers, and financial institutions in developing strategies to strengthen green finance in Mongolia.

Keywords: environmental performance, economic sustainability, financial regulations, green financing, green loans, microloans, non-bank financial institutions, sustainable development

Introduction

The global average temperature has risen significantly since the 20th century and is projected to increase by 1.5°C above pre-industrial levels by 2040 . Over the past 80 years, Mongolia's average temperature has risen by 2.25°C, nearly twice the global average. Mongolia's harsh climate and fragile ecosystem make it highly vulnerable to climate change impacts, including desertification, water scarcity, and biodiversity loss. These environmental changes pose significant risks to Mongolia’s economy, which heavily relies on agriculture, mining, and livestock herding.

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According to data from the National Statistics Office and the Ministry of Environment and Tourism, greenhouse gas (GHG) emissions in Mongolia are primarily generated by the agriculture sector (56.6%) and the energy sector (41.3%). Coal consumption contributes to 85% of the country's GHG emissions. The country's per capita CO2 emissions stand at 11.2 tons, 2.4 times higher than the global average, highlighting the urgent need for green investment and financing solutions.

The United Nations Environment Program (UNEP) has identified Mongolia as a country facing a significant shortage of green financing sources. This shortage hinders the transition to a sustainable economy and limits investment in environmentally friendly projects. Given these circumstances, this study was deemed timely and essential by researchers to assess the current state of green financing in Mongolia and identify opportunities for improvement.

Review of Existing Studies.

Numerous studies have examined the interrelationship between green financing and socio-economic development. Key representative studies include:

- The Impact of Green Financing on the Economy and Society: This study uses system dynamics modelling to assess the effects of green financing on various economic indicators, including GDP growth, employment rates, and environmental sustainability. The study highlights the importance of integrating green financing mechanisms into mainstream financial policies.
- Trends in the Green Economy and Implementation in Mongolia: This research introduces Mongolia’s green economy policies, examines ongoing projects, and evaluates their effectiveness in promoting sustainable development. It identifies key barriers to implementing green initiatives and suggests solutions to overcome them.
- Study on Green Financing Sources in Mongolia: This report evaluates Mongolia’s existing and potential green financing sources, including public funds, international grants, and private sector investments. The study assesses the accessibility and efficiency of green financial instruments and proposes strategies to enhance their availability.

These studies collectively provide a foundation for understanding the role of green finance in achieving environmental and economic goals in Mongolia. However, there is still a need for more comprehensive research on how NBFIs can effectively integrate green finance principles into their operations and contribute to sustainable economic growth.

Methods and literature review

Sustainable Development Theory, Ecological Economics Theory, and Sustainable Finance Theory serve as the primary theoretical foundations for this study. These theories explain the relationship between economic growth, the depletion of global resources, the fundamental principles of sustainable development, and the need to limit the use of natural resources to maintain economic stability. Alongside these theories, the researcher also explains the current state of green finance and some of the challenges it faces through the "Lemon Market Theory".

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The key contributors to this theory include Akerlof, G.A. (1970), Spence, A.M. (1973), Crawford, V.P., and Sobel, J. (1982). According to Lemon Market Theory, it is crucial to address information asymmetry and ensure transparency in the market. This theory explains how a lack of information can negatively impact the market and why it is essential to eliminate "information asymmetry" . In a market where informed agents (companies) and uninformed investors coexist, it is vital to provide concise and strategically clear information to ensure informed decision-making, as suggested by Crawford, V.P., and Sobel (1982). Later researchers named this concept "chief talk mode". Subsequent studies by Battaglini, M. (2002), Aumann, R.J., and S. Hart (2003), Krishna, V., and J. Morgan (2004), Ottaviani, M., and P.N. Sorensen (2006), Kartik, N., M. Ottaviani, Marco, and F. Squintani (2007), Mullainathan, S., J. Schwartzstein, and A. Shleifer (2008) have explored ways to effectively disseminate information between senders (companies) and receivers (investors) to eliminate information asymmetry. These theories illustrate how information asymmetry, lack of transparency, and inefficient information dissemination negatively impact business and the economy.

Lemon Market Theory and the Mongolian Market. In Mongolia's economy, particularly in the small and medium-sized enterprise (SME) sector and green finance projects, the lack of transparency, the openness of corporate information, the availability of investment data, access to concessional loans, and insufficient financing sources remain pressing issues.

These challenges have been evident in cases such as the Development Bank and the Small and Medium Enterprise Loan Fund, proving that market inefficiencies due to information asymmetry are a significant concern.

Current Status of Green Financing in NBFIs. The study was conducted based on the "Green Index 2.0" methodology to assess the current state of green financing in Non-Bank Financial Institutions (NBFIs). This methodology is widely used internationally and is applied to evaluate and analyse environmental performance, green products, and service-related issues. It consists of 16 qualitative indicators across four standards. This methodology is utilized by rating and social auditing tools such as SPI4, Micro Finanza Social Rating, and Alinus.

Qualitative Indicators

1. Standard 1: The extent to which NBFIs define, manage, and monitor their environmental strategy.
2. Standard 2: How well NBFIs manage internal environmental risks.
3. Standard 3: The management of external environmental risks.
4. Standard 4: The extent to which NBFIs support green opportunities.

Research Findings

Over the past 10 years, different regions have issued the following amounts in green bonds:

- European countries: $997 billion
- Asia-Pacific countries: $512 billion

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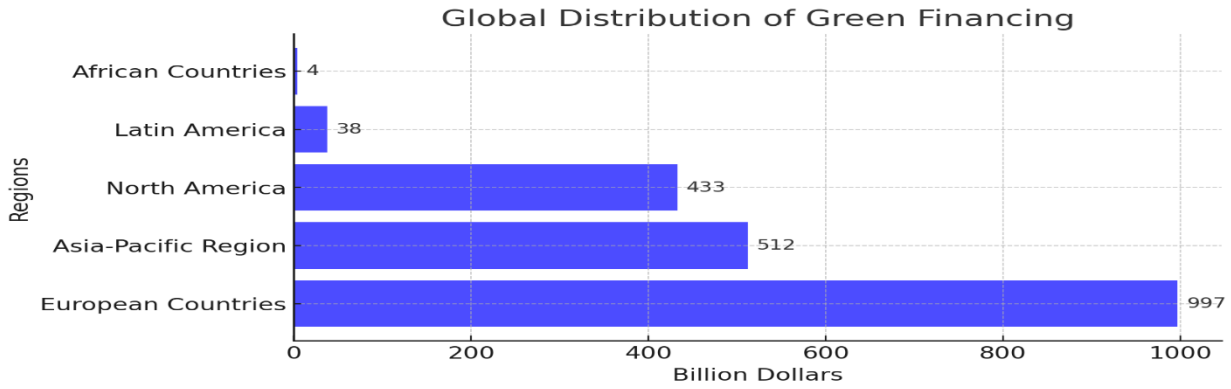
- North American countries: $433 billion
- Latin American countries: $38 billion
- African countries: $4 billion
- Cross-border issuances: $153 billion

The United Nations (UN) has urged its member countries to transition from a brown economy to an inclusive green economy. Of the 17 Sustainable Development Goals (SDGs) established by the UN, 14 goals focus on maintaining environmental balance.

Graph 1. Global Distribution of Green Financing



As of Q3 2024, there are a total of 549 licensed Non-Bank Financial Institutions (NBFIs) operating in Mongolia. A study was conducted covering their "micro green loan" products.

Among these NBFIs: 4.9% are foreign-invested, 95.1% are domestically owned.

The total assets of NBFIs account for 9.1% of Mongolia's Gross Domestic Product (GDP).

Regarding foreign-invested NBFIs: 48.1% are funded by Japan, 25.9% by South Korea, The remaining share comes from the United States, the United Kingdom, Canada, Malaysia, and China.

Among the surveyed NBFIs: 82% are located in Ulaanbaatar, 18% operate in rural areas. The first section of this study aims to assess the financial capabilities and opportunities within the NBFI sector.

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Table 1. Sector Overview: Total Asset and Liability Structure (Q3 2024)

Indicator	Billion MNT	Percentage
Financial Assets:	6,151.60	95.9%
Cash and cash equivalents	726.7	11.3%
Investments	72.4	1.1%
Loans (net)	5,155.50	80.4%
Factoring receivables (net)	18	0.3%
Derivative financial assets	0.8	0%
Other financial assets	178.2	2.8%
Non-financial assets	266	4.1%
Total Assets	6,417.60	100%

Financial Liabilities:

Indicator	Billion MNT	Percentage
Total financial liabilities	2,866.5	44.7%
Trust services	1,062.8	16.6%
Funding from banks and financial institutions	1,026.3	16%
Other sources of funding	543.0	8.5%
Derivative financial liabilities	1.1	0%
Other financial liabilities	232.9	3.6%
Subordinated debt	0.4	0%
Total non-financial liabilities	171.8	2.6%

Equity:

Indicator	Billion MNT	Percentage
Total equity	3,371.3	52.7%
Shareholders' equity	1,714.9	26.7%
Additional paid-in capital	85.7	1.3%
Treasury stock	(2.5)	0%
Asset revaluation surplus	5.2	0.1%
Retained earnings (profit/loss)	1,501.7	23.4%
Other equity	74.3	1.2%
Total Equity	6,417.6	100%

Source: Compiled from the Financial Regulatory Commission's (FRC) Financial Sector Overview Report.

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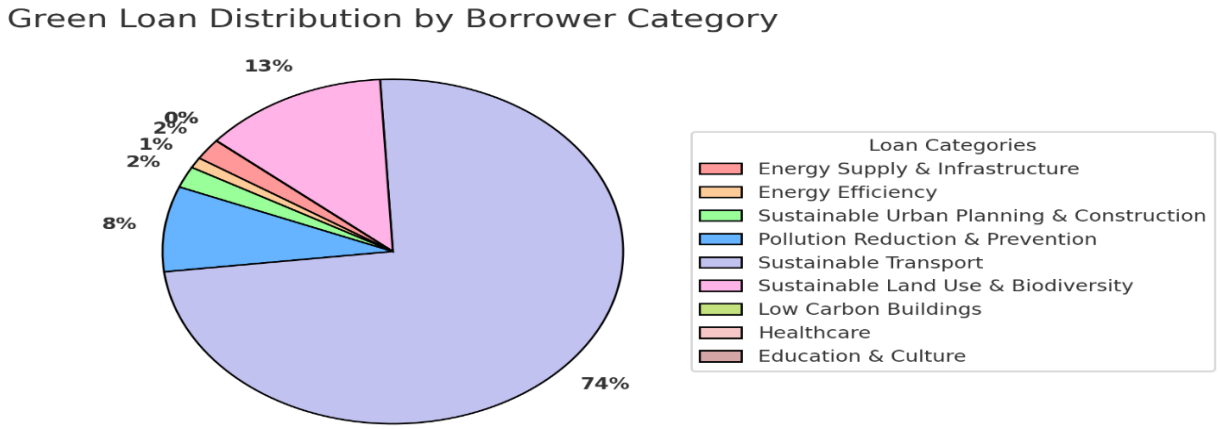
Table 2. MA comparative financial analysis (Ratio Analysis) for the sector using above data

Indicator	Value	Description
Loans/Total Assets (%)	80.33%	80.33% of total assets are financed through loans.
Loans/Total Liabilities (%)	179.85%	Loans are almost 1.8 times higher than total liabilities, indicating a high proportion of loans in the sector.
Loans/Equity (%)	152.92%	152.92% of equity is composed of loans, suggesting a need to consider loan risk management.
Debt Ratio (Total Liabilities/Total Assets)	44.67%	44.67% of the sector's total assets are funded by liabilities. Generally, a ratio above 50% is considered high debt pressure.
Financial Leverage Ratio (Total Assets/Equity)	1.90	Total assets are almost twice the amount of equity, meaning the sector finances a significant portion through loans and liabilities, reflecting a moderate leverage structure.
Equity Utilization Ratio (Net Loans/Equity)	1.53	The sector has issued loans 1.53 times the amount of its equity. As NBFIs primarily engage in lending activities, they exhibit high loan dependency and have limited equity protection.

Source: Researchers' calculations

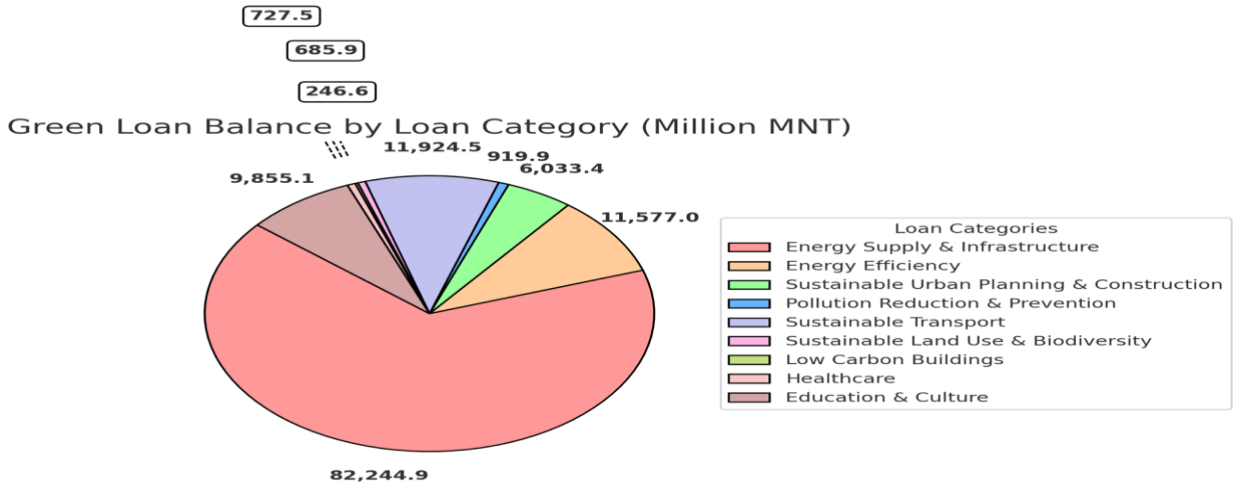
As of Q3 2014, NBFIs provided 12 types of green loans to 6,386 borrowers, which accounts for 2.4% of total outstanding loans or MNT 126.4 billion.

Graph 2. Green Loan Distribution by Borrower Category



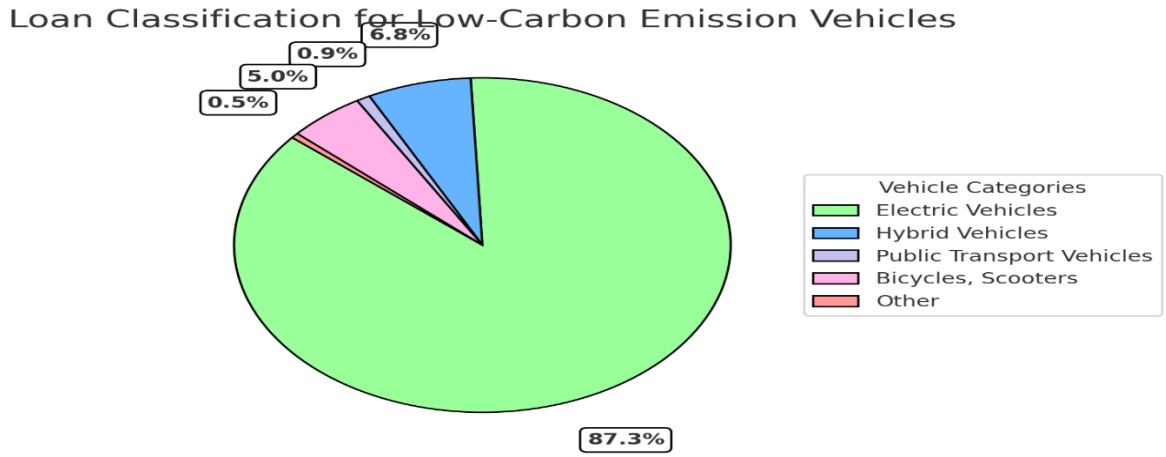
Source: Compiled from the Financial Regulatory Commission's (FRC) website.

Graph 3. Green Loan Balance by Loan Category (Million MNT)



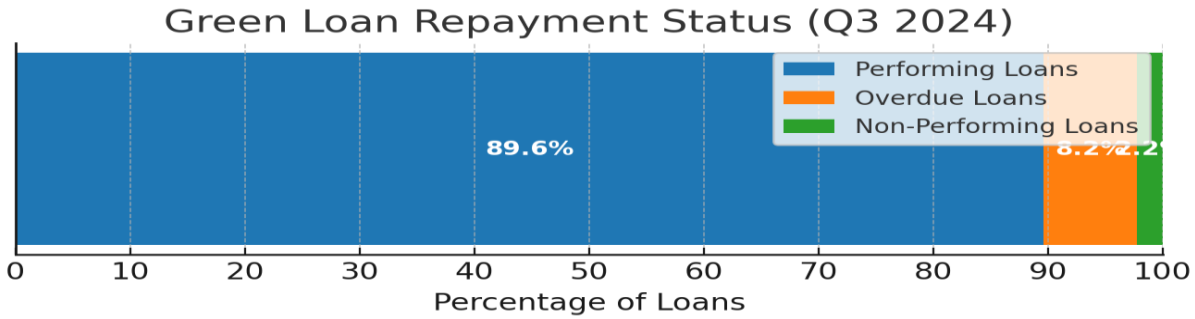
Source: Compiled from the Financial Regulatory Commission's (FRC) website.

Graph 4. Loan Classification for Low-Carbon Emission Vehicles



Source: Compiled from the Financial Regulatory Commission's (FRC) website.

Graph 5. Green Loan Repayment Status (Q3 2024)



Source: Compiled from the Financial Regulatory Commission's (FRC) website.

In the next phase of the study, a survey was conducted among 549 NBFIs, and 373 institutions (68%) responded. The survey was collected electronically between December 9 to 29, 2024. The responses were evaluated based on the following rating system for the average Green Index percentage.

Table 3. Conversion of Average Green Index to Ratings

Average Green Index (%)	Rating
0-19%	Poor
20-39%	Moderate
40-59%	Satisfactory
60-79%	Good
80-100%	Excellent

Standard 1 evaluates whether microfinance institutions have an official environmental strategy, a designated environmental officer or committee, and a system for reporting environmental performance.

Table 4. Evaluation of Environmental Strategy Management

Standard 1	Assessment of Defining, Managing, and Monitoring Environmental Strategy	Average Percentage (%)
Core Practice	Does the institution have a defined environmental strategy?	21.8%
Indicator	Does the institution integrate environmental protection into its mission and values?	34.2%
Indicator	Does the institution have an official policy outlining environmental objectives and performance indicators?	9.3%
Core Practice	Does the institution manage and monitor its environmental strategy?	8.6%
Indicator	Has the institution appointed an environmental committee or officer?	9.1%
Indicator	Does the institution report environmental performance internally (e.g., to the Board of Directors or investors)?	9.7%

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Indicator	Does the institution publicly disclose its environmental performance?	6.8%
Overall Average Rating	13.8%	

Source: Researchers' Compilations

For the NBFIs surveyed, Standard 1 received an average score of 13.8%, which is classified as "insufficient".

Among the Standard 1 indicators, the highest performance (34.2%) was for organizations incorporating environmental protection into their mission and values. However, the remaining four indicators scored below 20%, indicating very poor performance. The lowest-scoring indicator was publicly reporting environmental performance in annual reports, with only 6.8% compliance.

Among the survey participants:

- 16% include environmental concerns in their mission and values.
- 48% do not include environmental considerations at all.
- 15% have an environmental policy, while 85% lack any formal environmental policy.
- 13% have appointed an internal environmental officer or committee, while the majority have not designated a specific person or department for environmental issues.
- 20% of the participants implement the requirements of this standard, whereas 80% do not comply.

Standard 2 assesses how institutions manage internal environmental risks, such as reducing their ecological footprint by saving paper, energy, and other resources at both headquarters and branch levels. The average score per indicator is shown below:

Table 5. Internal Environmental Risk Management Performance

Standard 2	Managing Internal Environmental Risks	Average Percentage (%)
Core Practice	Does the institution take action to reduce its internal environmental footprint?	23.4%
Indicator	Does the institution implement at least two initiatives at headquarters and branches, such as using renewable energy, recycling waste, reducing electricity, water, paper, fuel consumption, or lowering greenhouse gas emissions?	23.4%
Core Practice	Does the institution monitor its internal ecological footprint?	19.9%
Indicator	Does the institution track its progress in meeting at least two quantitative goals for reducing electricity, water, paper, fuel consumption, waste, and greenhouse gas emissions at headquarters and branches?	19.0%

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Overall Average Score	21.2%	

Source: Researchers' Compilation

For Standard 2, NBFIs received an average rating of 21.2%, which is classified as "moderate". The extent to which NBFIs implement measures to reduce their internal ecological footprint is evaluated based on actions such as reducing paper, fuel, and energy consumption.

Among the surveyed institutions: 28% monitor their internal environmental impact in some form. 73% do not monitor their internal environmental impact at all.

Standard 3: Management of External Environmental Risks. This standard evaluates whether:

- Environmental risk levels are considered as part of the loan approval process.
- Institutions take measures to educate clients about environmental risks and ways to mitigate them.
- Environmental risk assessment impacts decision-making.
-

Table 6. Management of External Environmental Risks

Standard 3	Assessment of External Environmental Risk Management	Average Percentage (%)
Core Practice	Does the institution conduct environmental risk assessments for clients?	11.8%
Indicator	Does the institution have a specific methodology for assessing the environmental risks of clients' activities?	8.9%
Indicator	Does the institution train loan officers on how to assess the environmental risks of clients' activities?	14.6%
Core Practice	Does the institution include environmental risk factors in its credit policies and internal regulations?	10.8%
Indicator	Does the institution categorize loan applications based on environmental risk levels and implement specific procedures for each category?	10.8%
Core Practice	Does the institution support activities aimed at reducing environmental risks?	8.7%
Indicator	Does the institution organize awareness programs about environmental risks and mitigation strategies for clients?	8.7%
Overall Average Score	10.8%	

Source: Researchers' Compilation

The study results indicate that the management of external environmental risks received an average rating of 10.8%, which is classified as "insufficient".

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Among the survey respondents: 18% categorize loan applications based on the borrower's environmental risk level. 82% do not classify loan applications based on environmental risk. 14% implement measures to reduce environmental risks associated with borrowers. 86% do not take any action to mitigate environmental risks.

Standard 4: Promotion and Incentivization of Green Opportunities. This standard evaluates how microfinance institutions (MFIs) support and promote green opportunities by offering specialized financial and non-financial services for renewable energy, sustainable agriculture, and environmentally friendly businesses.

Table 7. Promotion and Incentivization of Green Opportunities

Standard 4	Promotion and Incentivization of Green Opportunities	Average Percentage (%)
Core Practice	Does the institution offer special financial products for clean energy?	14.3%
Indicator	Does the institution provide special loan products for renewable energy or energy efficiency?	14.3%
Core Practice	Does the institution offer special financial products for sustainable or environmentally friendly agriculture?	14.1%
Indicator	Does the institution provide loans or other financial services to support climate-smart agriculture?	14.1%
Core Practice	Does the institution provide other green finance or non-financial products?	11.6%
Indicator	Does the institution offer loan products for environmentally friendly activities (e.g., renewable energy, energy-efficient products, recycling, waste management, clean water, etc.)?	17.7%
Indicator	Does the institution provide insurance products to protect customers from environmental risks, either directly or through third-party partnerships?	10.8%
Indicator	Does the institution offer training programs on sustainable business practices, either independently or in collaboration with environmental organizations?	6.3%
Overall Average Score	12.6%	

Source: Researchers' Compilation

The results indicat that the promotion and incentivization of green opportunities received an average rating of 12.6%, which is classified as "insufficient".
Among the surveyed institutions:

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- The lowest performance indicator was training clients on how to operate environmentally friendly businesses, with only 6.3% compliance.
- 15% of respondents offer microinsurance products designed to protect businesses and individuals from environmental risks, while 85% do not offer such services.
- 9% of NBFIs provide training and awareness programs on sustainable business practices for clients, while 90% do not engage in such activities.
-

Green Index 2.0 Quantitative Indicators

The "Green Index 2.0" methodology includes qualitative indicators for assessing environmental performance within four standards. Additionally, quantitative indicators allow for a more detailed examination of certain qualitative factors.

Table 8: Summary of Quantitative Indicators

Indicator	Monitoring	Used for Decision-Making
Offers green loans	13%	33%
Tracks reductions in electricity, water, paper, and fuel consumption over reporting periods	49%	51%
Conducts training programs for clients and the public on green business opportunities and environmental risks	14%	39%
Monitors the number of borrowers covered by microinsurance	6%	21%
Tracks loan applications rejected due to environmental risks	16%	38%
Monitors the outstanding balance of loans classified as environmentally risky	17%	30%

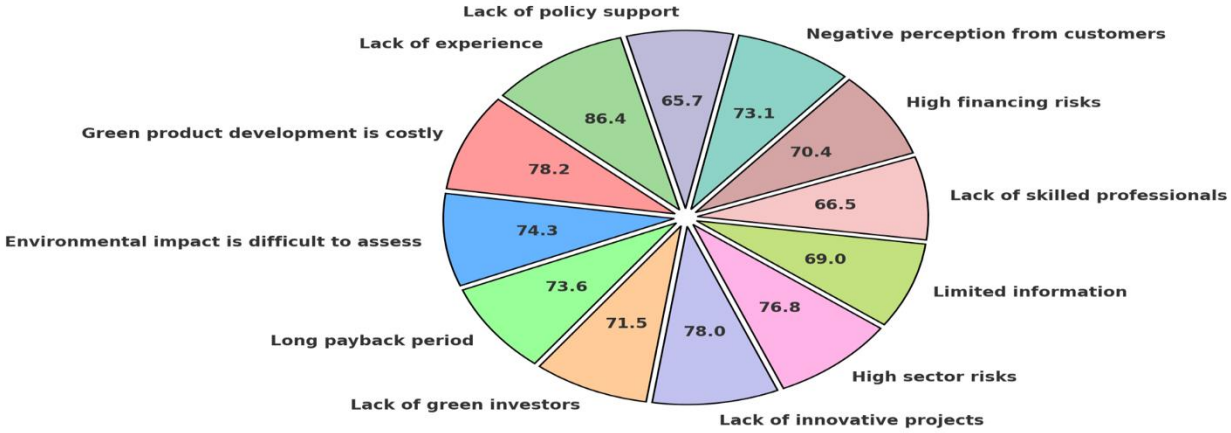
Source: Researchers' Compilation

The results indicate that among all NBFIs in Mongolia, only 6% to 17% of institutions offer green loan services or conduct environmental protection activities, including awareness and education programs related to these topics.

However, 49% of NBFIs monitor their electricity, water, paper, and fuel consumption annually, considering this as an initial step in reducing their internal ecological footprint.

- 51% of institutions believe that tracking internal environmental impact is easy, as these indicators are recorded as expenses in financial reports.
- 63% consider such monitoring useful for decision-making.

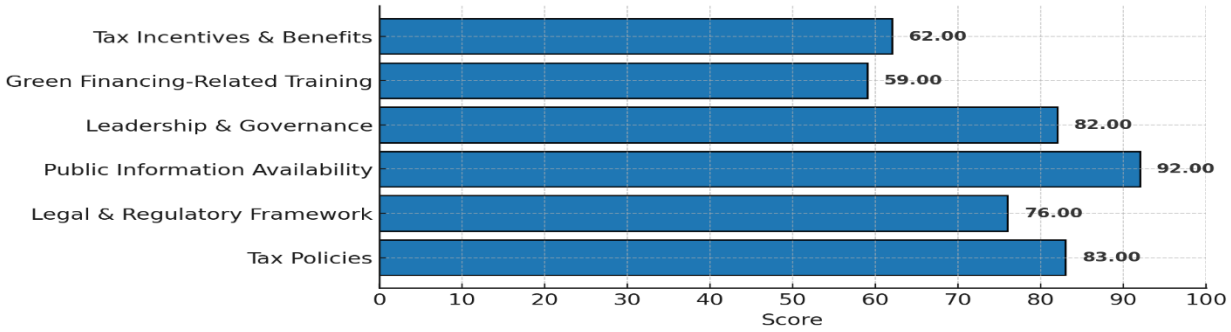
Graph 6. Challenges in Developing Green Financial Products



Source: Researchers Compilation

The following graph illustrates the responses to the question:
"What support is critically needed to introduce green microfinance products or expand the range of green financial services?"

Graph 7. Support Needed for Offering Green Financial Products



Source: Researchers' Compilation

From this, it can be seen that the majority of survey respondents indicated that tx policies, legal regulations, information on green microfinance, training programs, and methodological guidelines are critical.

Conclusion and Recommendations

The availability, policy, and implementation of green financing in Mongolia remain relatively weak. To meet international standards, government regulation, financial support, and transparency need to be improved. Our research indicates that NBFIs need to increase the volume of green loans by implementing social responsibility initiatives, incentive mechanisms, and stricter green index requirements.

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For instance:

- 80.33% of total assets in Mongolian NBFIs are composed of loans, indicating a high-leverage financial structure.
- The debt-to-total-assets ratio (44.67%) remains within an acceptable range, but further risk mitigation measures are required.
- To reduce financial leverage, NBFIs should lower dependence on loan financing and increase equity capital.

To ensure financial stability, NBFIs should focus on the following strategies:

- Enhancing loan risk management.
- Reducing high-risk loan portfolios.
- Focusing on creditworthy borrowers.
- Lowering debt-to-equity ratios.

Green Finance Accessibility & Performance

- Green financing remains insufficient, with only 2.4% of total outstanding loans classified as green loans, which is below international benchmarks.
- The average Green Index score of surveyed NBFIs is 29%, indicating weak development in green finance policies and operations.
- 71% of surveyed NBFIs scored below 20%, highlighting inadequate internal environmental risk management (21.2%) and external environmental risk management (10.8%).
- Only 12.6% of NBFIs actively promote and incentivize green opportunities, demonstrating low engagement in green investments.

Recommendations to Improve Green Finance Accessibility

1. Policy Reforms – Strengthen government regulations and introduce preferential policies to support green financing.
2. Increase Financial Resources – Expand foreign investments and strengthen collaboration with international organizations.
3. Enhance Transparency & Information Accessibility – Regularly report green finance effectiveness and provide training & guidance for financial institutions and the public.
4. Increase NBFI Participation – Diversify green loan products and establish incentive mechanisms for financial institutions.

The research findings indicate that Mongolia has significant potential for green finance development. However, improving financial mechanisms and regulatory support is essential to unlock this potential.

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