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The Green Bond in Nepal: An Alternative Green Solution

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Abstract
This study explores the potential of green bonds as a sustainable finance instrument in Nepal—a country rich in natural resources but limited in financial capacity to meet its climate and development goals. Through a qualitative approach involving literature review, policy analysis, and semi-structured interviews with stakeholders from regulatory bodies, financial institutions, and development agencies, the research assesses Nepal's regulatory and institutional landscape. Key gaps are identified in market forces, equilibrium, and capacity. While progress has been made—such as the development of a Green Taxonomy and ESG frameworks—significant reforms and capacity-building are required to establish a functional green bond market. The study concludes that green bonds represent a viable tool for mobilizing climate finance and attracting public and private investment. The findings offer strategic insights for policymakers and financial actors to support Nepal's transition to a low-carbon, climate-resilient economy.

Keywords: *Green Bond, Financial Tool, Sustainable Municipal Financing, JEL Codes: D2, D22, G1, G2, G3, G14.*

Background

Green bonds are fixed-income financial instruments used to raise capital for projects with positive environmental impacts. Investors lend funds to entities—such as governments, businesses, or organizations—at a set interest rate, receiving periodic interest payments and the principal at maturity. As a growing source of sustainable finance, green bonds contribute significantly to environmental sustainability. Since the first issuance by the European Investment Bank in 2007, green bonds have gained global traction. Key milestones include the introduction of the Green Bond Principles in 2014, which standardized the market and spurred rapid growth in issuance and academic interest (Muhammad *et al.*, 2022; Reboredo, 2021). Regulatory developments, such as those in China, highlight the critical role of policy in shaping green bond markets (Huang &Yue, 2020). Green bonds are now recognized as vital tools in financing environmental projects and promoting sustainable development (Pham, 2021).

Globally, green bonds have emerged as an important financial instrument to fund environmentally beneficial projects (Flammer, 2021). While developed countries have actively utilized this tool, many developing nations are still exploring its potential for resource mobilization. In Nepal, the Nepal Rastra Bank (NRB), the central bank, has introduced a preliminary framework for green bonds; however, it lacks comprehensive guidelines to fully meet policy and regulatory requirements. Encouragingly, access to concessional financing has

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increased interest among banks and investment firms in green bonds as a viable financing instrument. The NRB guidelines call for Banks and Financial Institutions (BFIs) to integrate Environmental and Social (E&S) risk assessments into their credit risk management systems, ensuring that financing decisions are informed by E&S considerations (Nepal Rastra Bank, 2020). Given Nepal's rich biodiversity and high vulnerability to climate change, there is a critical need for sustainable infrastructure investment to achieve national climate and development goals (Pandey &Dahal, 2022). Although green bonds are increasingly recognized as a promising avenue for sustainable finance in Nepal, their adoption remains in the early stages. This highlights the need for a comprehensive evaluation of their viability, market potential, and policy alignment (Rai, 2025).

Nepal has a total climate-smart investment opportunity estimated at USD 46 billion between 2018 and 2030, which can be unlocked through effective green finance mechanisms (International Finance Corporation, 2017). Green bonds offer a promising tool to bridge this financing gap and support the country's sustainable development objectives. Notably, the Securities Board of Nepal (SEBON) permits foreign investors to participate in green bond markets, expanding the investor base and enhancing access to sustainable finance (SEBON, 2023).Promoting green investment is essential for stimulating green growth that is resilient, equitable, and aligned with long-term development goals. The United Nations Development Programme (UNDP) outlines a strategic roadmap with immediate, medium, and long-term priorities to reduce financing gaps and build a robust green finance ecosystem in Nepal (UNDP, 2021).

At the global level, institutions such as the World Bank and the International Finance Corporation (IFC) have led green bond issuance, raising capital from a broad spectrum of institutional and retail investors. These organizations have also set market standards for transparency and reporting, shaping best practices in green finance (World Bank, 2020). The issuance of corporate green bonds can also be interpreted through the lens of signaling theory, which suggests that firms use green bonds to signal their environmental commitment to investors, especially in contexts where direct information is lacking (Lyon & Maxwell, 2011; Lyon & Montgomery, 2015).

Green bonds are fixed-income securities issued by governments, corporations, or multilateral institutions to finance or refinance projects with positive environmental impacts (Inderst *et al.*, 2012; Syzdykov& Masse, 2019). These projects typically include renewable energy, energy and water efficiency, bioenergy, and low-carbon transportation (Campiglio, 2016; Mercer, 2015). Beyond financial returns, green bonds incorporate environmental benefits, aligning with Environmental, Social, and Governance (ESG) principles (Bartels *et al.*, 2016; Hart &Zingales, 2017). For investors, they offer a relatively low-risk opportunity to support sustainability (Kidney *et al.*, 2012). However, barriers remain—particularly in low-income countries—due to limited technical capacity and the small size of financial institutions. Adequate bond size is essential for ensuring liquidity and market viability. Between 2007 and 2016, only 6.5% of global green bond issuance reached low-income countries, highlighting the need for targeted support to expand access in these markets (Banga, 2019).

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The "fundamental channel" theory suggests that green bond issuance signals valuable investment opportunities (Myers &Majluf, 1984; Kang &Stulz, 1996). Empirical studies often use matched samples to compare green and non-green bonds—typically from the same issuer and with similar characteristics—to assess pricing differences (Choi *et al.*, 2019; Zerbib, 2019). Research shows green bonds may offer higher yields than their brown counterparts (Bachelet *et al.*, 2019), though some studies, such as those focusing on U.S. local government-issued bonds, have limited generalizability (Larcker& Watts, 2019).Investor skepticism remains a barrier, with concerns over the authenticity of green claims (Reed *et al.*, 2017). Market reactions vary: developed markets tend to react more negatively to green bond issuance than emerging markets, possibly due to higher expectations or scrutiny (Lebelle *et al.*, 2020). In contrast, countries like China have leveraged green finance and public-private partnerships to align economic growth with environmental goals (Wang *et al.*, 2024). Overall, green bonds are increasingly recognized as key instruments for promoting sustainable development worldwide (Chen, Huang, & Wu, 2023).Green bonds are closely correlated with treasury and investment-grade corporate bonds, while green stocks align more with general equity markets across timeframes (Ferrer, Benitez, & Bolos, 2024). Green finance has emerged as a vital approach to support sustainability by promoting environmentally responsible investment practices (Acharya *et al.*, 2024). In Nepal, the government has actively funded climate-related projects and implemented policy measures as part of its commitments under the UN Framework Convention on Climate Change (UNFCCC) (Rawal, 2024). Additionally, the implementation of Environmental and Social Risk Management (ESRM) guidelines is progressing, particularly in areas such as policy development, staff training, and integration of E&S risks into the core strategies of commercial banks (Tiwari, 2024).

Despite growing global literature on green bonds, comprehensive studies specific to Nepal remain limited. This research addresses this gap by examining Nepal's green bond landscape, identifying key implementation barriers, and offering context-specific policy recommendations.

Research Methodology

This study adopts a qualitative and descriptive research approach, combining primary and secondary data sources. Primary data were collected through interviews with policymakers, financial institution representatives, and sustainable finance experts. Secondary data were obtained through a review of relevant literature, policy documents, and reports from institutions such as Nepal Rastra Bank (NRB), SEBON, and international organizations.

Financial Dynamics and Market Perception of Green Bonds

Green bonds are debt instruments issued to fund projects that have positive environmental impacts, such as climate change mitigation and the development of sustainable infrastructure. These bonds are typically issued by corporations, governmental bodies, or sovereign entities, all of which are committed to using the raised funds exclusively for environmentally beneficial projects. A key feature of green bonds is the requirement for transparent allocation of proceeds, ensuring accountability and trust among investors. Financially, green bonds often offer lower interest rates compared to traditional bonds, reflecting their appeal to investors seeking

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sustainable investment opportunities. However, from a purely financial standpoint, green bonds may not always provide immediate cost advantages unless issuers can secure these lower interest rates. This has led to the perspective that "a bond is a bond, whether green or conventional," highlighting the minimal financial differentiation in certain market conditions.

Global Green Bond Landscape

The global and European green bond markets, discussing issuance trends and the role of green bonds in sustainable finance (Ibrić, Kozarević, &Mesković, 2024).The development of green bonds, addressing issues such as green washing and financial performance, and proposing solutions to enhance their effectiveness (Zhang, Z., 2023).Abibliometric analysis of green bond research, identifying key trends and future directions in the field (Riaz, Tabassum, & Riaz,2024).The global practices of green finance emphasizing the role of green bonds in promoting economic sustainability and addressing environmental challenges(Tang,2024).A comprehensive bibliometric analysis of green finance literature highlighting emerging research trends and the evolution of green finance, including green bond (Mohanty, *et al.*, 2023).

Globally, green bonds have gained traction as a means to finance renewable energy, energy efficiency, and other climate-related projects. The issuance of green bonds by entities such as World Bank and the European Investment Bank has set precedents for developing countries. Studies indicate that green bonds not only attract environmentally conscious investors but also offer issuers access to a broader investor base and potentially lower borrowing costs. The global green bond market has grown exponentially in the last decade, driven by increasing concerns over climate change and the urgent need for sustainable investments. Green bonds, as a financial instrument, are specifically designed to finance projects that have a positive environmental impact. These projects typically focus on areas such as renewable energy, energy efficiency, waste management, sustainable water, and transportation systems. By allowing investors to direct their capital toward sustainable initiatives, green bonds provide a mechanism for financing a low-carbon and climate-resilient economy.

The green bond market officially began in 2007 with the issuance of the first green bond by the European Investment Bank (EIB). However, it wasn't until the Paris Agreement in 2015 that the green bond market truly gained momentum. The agreement highlighted the global commitment to climate action, which provided the necessary policy framework to encourage investments in green projects. As a result, the green bond market has grown rapidly, reaching over $1 trillion in cumulative issuance by 2020 and continuing to expand each year (Climate Bonds Initiative, 2020; ICMA, 2021). In 2022, global green bond issuance reached a new high, surpassing $500 billion, with projections for even greater growth in the coming years. The market's growth has been fueled by the increasing awareness of environmental issues and a growing desire among investors to align their portfolios with sustainable and socially responsible practices. Notable issuers include governments, municipalities, corporations, and financial institutions, all seeking to meet their sustainability goals and address climate change (World Bank, 2020).The green bond market officially began in 2007 with the European Investment Bank’s issuance of a

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'Climate Awareness Bond,' marking the start of a new era in climate finance (EIB, 2020). The green bond has no long official tool for its operation to climate finance.

Table 1 World Green Bond Landscape

Key Aspects	Status
First Issuance	2007 by the European Investment Bank (EIB); followed by the World Bank in 2008
Market Size (2024 est.)	Over USD 2.5 trillion cumulative issuance globally
Leading Issuers	Sovereigns (e.g., France, Germany, China) Development Banks (e.g., World Bank, EIB, International Financial Cooperation (IFC) Corporates (e.g., Apple, Toyota)
Key Standards	Green Bond Principles (GBP) by International Capital Market Association (ICMA) Climate Bonds Standard (CBS) by Climate Bonds Initiative (CBI)
Use of Proceeds	Renewable energy, energy efficiency, sustainable transport, water & waste management, green buildings
Verification & Reporting	Requires third-party reviews, impact reporting, and transparency as per GBP and CBS
Benefits	Mobilizes private capital for climate goals Promotes Environmental, Social, and Governance (ESG) integration Enhances issuer reputation
Challenges	High issuance costs Limited pipeline of green projects Risk of green washing
Recent Trends	Growth in sovereign and sub-sovereign green bonds Rise of thematic bonds (e.g., blue, SDG bonds)
Top Markets	USA, China, France, Germany, Netherlands, UK
Emerging Markets Growth	Rapid expansion in countries like India, Brazil, Indonesia, and South Africa
Key Supporting Institutions	ICMA, CBI, IFC, World Bank, United Nations Environment Programme Finance Initiative (UNEP-FI), Organisation for Economic Co-operation and Development (OECD)

Source: Authors' Study, 2025

Table 1 shows global green bond landscape. The key aspects of studies of global landscape indicate that green bonds not only attract environmentally conscious investors but also offer issuers access to a broader investor base and potentially lower borrowing costs. The Paris Agreement acted as a pivotal turning point so which significantly boosting global demand for green bonds as investors aligned portfolios with low-carbon transition pathways (World Bank, 2020). By the end of 2020, cumulative global green bond issuance exceeded USD 1 trillion, highlighting growing investor confidence in sustainable finance (Climate Bonds Initiative, 2021).

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Global green bond issuance reached a record USD 517.4 billion in 2022, up from USD 522 billion in 2021, despite macroeconomic uncertainties (Climate Bonds Initiative, 2023). The demand for green bonds is driven by increasing climate risks, regulatory shifts, and growing pressure on corporations and governments to disclose and reduce environmental impact (ICMA, 2022). Governments, corporations, development banks, and municipalities are among the most active issuers, using green bonds to finance renewable energy, energy efficiency, clean transportation, and climate-resilient infrastructure" (OECD, 2020).

Table 2: South Asia Green Bond Landscape

Country	Green Bond Framework	Sovereign Green Bonds	Private Sector Activity	Challenges	Opportunities
India	Yes (established)	Yes	Active (banks, RE firms)	Low demand in recent auctions; high yield expectations; underfunded RE sector	Large RE market; supportive policies (e.g. RBI taxonomy)
Bangladesh	Yes (developing)	No	Limited (IDCOL 2021)	Weak framework, low awareness, few bankable green projects	Potential via multilateral support and infrastructure investment
Sri Lanka	Yes (since 2023)	No	None	Investor confidence due to sovereign risk; nascent ESG ecosystem	Growing interest in sustainability; recent policy progress
Nepal	Limited (no full framework)	No	None	No bond framework, weak financial markets, limited project pipeline	Hydro potential; donor engagement in climate finance
Bhutan	Limited (interest shown)	No	None	Lack of regulatory capacity and market infrastructure	Hydropower sector could drive future green finance
Pakistan	Yes (via	No	Early	Political	Support from ADB,

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	SBP)		stage (ADB support)	instability, low investor confidence, poor credit ratings	World Bank, and domestic clean energy
Maldives	Emerging interest	No	None	Small economy, limited investor base, climate vulnerability	Blue/green finance potential; climate adaptation needs
Afghanistan	None	No	None	Political instability, lack of financial system development	Not a current focus; long-term development dependent

Source: Authors' Study, 2025

India leads the South Asian region in green bond activity. It has a well-established regulatory framework including green bond guidelines from SEBI and a green taxonomy under development by the Reserve Bank of India. Although India has not yet issued sovereign green bonds.Its private sector—particularly renewable energy firms and banks—actively participates in green bond markets. However, the country faces challenges such as low demand in recent auctions, high yield expectations, and a significant funding gap in the renewable energy sector. Despite these issues, India holds strong potential due to its ambitious clean energy targets and improving policy support. The development of India's green bond market, focusing on its framework, market development, and expansion in financing sustainable projects and the challenges and opportunities in enhancing this market to support India's environmental goals(Swain *et al.*, 2024). The barriers faced by South Asian countries in developing green bond markets and proposes a roadmap focusing on policy development, infrastructure strengthening, and the creation of climate-compatible green projects (Sudan, 2023).The spillover effects between green bonds and metal and bullion markets in Asia, including South Asian economies, highlighting the interdependencies in financial market (Panwar *et al.*, 2023). The role of green debt instruments, such as green sukuk, in portfolio diversification was used during the COVID-19 pandemic with a focus on South Asian markets like Indonesia and Pakistan (Narayan, *et al.*, 2022).

The geen sukuk issuance in Indonesia as an investment instrument for sustainable development, with implications for other South Asian countries (Arifiadi&Wirdyanigsih, 2019).The results reveal that Asian green bonds provide higher yields with less risk to their investors than Latin American green bonds (Abhilash *et al.*, 2024).The green bond strategies of G20 economies, including India, in emission reduction and sustainable development, offering lessons for South Asian countries (Sarawagi *et al.*, 2025).The insights into green bond issuance in low- and

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middle-income countries, including South Asian nations, focusing on challenges and opportunities (Ntsama *et al.*, 2021).There is alignment of green bonds with the Paris Agreement and Sustainable Development Goals with implications for South Asian countries' financing strategies (Tolliver *et al.*, 2019).India's green bond market and its role in driving sustainable economic transition offering a model for other South Asian countries (Prakash &Sethi, 2021). Thegreen bond issuance and policies in Southeast Asia, including insights applicable to South Asian countries are focusing on financing renewable energy and energy efficiency projects (Azhgaliyeva *et al.*, 2019).

Bangladesh has a developing green bond framework but has yet to fully realize its market potential. The country has not issued sovereign green bonds but its Infrastructure Development Company Limited (IDCOL) made a notable private sector issuance in 2021. However, broader market activity remains limited due to weak regulatory support, low investor awareness, and a scarcity of viable green projects. Nevertheless, with growing interest in sustainable infrastructure and backing from international development partners, Bangladesh has room to expand its green finance initiatives.

Sri Lanka introduced a regulatory framework for sustainable bonds in 2023 signaling its intent to develop a green finance market. Yet, the country has not issued any sovereign or private green bonds so far. Investor concerns tied to the nation's sovereign credit rating and economic uncertainty have dampened market enthusiasm. That said the recent policy efforts provide a foundation for future growth especially if investor confidence improves andEnvironmental, Social, and Governance (ESG) investment flows increase in the region.
Nepal is in the early stages of developing its green bond market. It lacks a fully developed regulatory framework and has no record of sovereign or private green bond issuance. The primary challenges include a weak financial ecosystem and a lack of bankable green projects. However, Nepal's abundant hydropower resources offer significant long-term opportunities for green finance particularly if international development agencies support the development of an enabling environment.

Bhutan has expressed interest in green finance but currently lacks a formal green bond framework. It has not issued any sovereign or private green bonds and faces structural challengescontaining limited financial infrastructure and market capacity. Still, Bhutan's reliance on hydropower and commitment to environmental sustainability suggest that with proper regulatory support and capacity building the country could become a candidate for green bond development in the future.

Pakistan has established a green bond framework through the State Bank of Pakistan though it has yet to issue sovereign green bonds. Private sector activity remains in the early stages with support from development institutions like the ADB. The main obstacles include political instability, low credit ratings, and weak investor confidence. However, Pakistan has a growing need for climate-resilient infrastructure and renewable energy and international financial support could help unlock green bond potential.

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The Maldives shows emerging interest in green and blue finance but does not yet have a formal green bond framework. No sovereign or private issuances have occurred. As a small island nation highly vulnerable to climate change it faces constraints due to its small financial market and limited investor base. Nonetheless, the country's environmental priorities and reliance on ocean ecosystems present a unique opportunity to develop blue/green bonds with international support.

Afghanistan currently lacks any form of green bond framework with no sovereign or private issuances. The country’s political instability, economic challenges, and underdeveloped financial system make it an unlikely candidate for green bond development in the near future. Efforts to build a green finance market would depend on long-term peace and stabilization along with extensive international assistance.

Nepalese Green Bond Landscape

In the context of Nepal, sustainable banking refers to the integration of environmental, social, and governance (ESG) principles into the core functions of financial institutions to support long-term sustainable development. Given Nepal's vulnerability to climate change and its rich natural resources, this approach plays a crucial role in promoting responsible lending and investment decisions that prioritize environmental protection and social equity. Green financial instruments—such as concessional loans or investment funds targeting renewable energy, sustainable agriculture, and eco-tourism—are designed to channel capital into environmentally sound projects. These instruments help bridge the financing gap for climate-resilient infrastructure and green enterprises. Banks and Financial Institutions (BFIs) are required to integrate environmental and social (E&S) risk management into their overall credit risk management processes to ensure sustainable financing practices (Nepal Rastra Bank, 2020) By aligning financial flows with national climate goals and development priorities, sustainable banking and green finance tools contribute to building a green economy in Nepal one that reduces carbon emissions, enhances energy and resource efficiency, protects biodiversity, and ensures more balanced and responsible use of natural ecosystems. The Green Finance Taxonomy aims to provide a classification system to identify economic activities that qualify as environmentally sustainable in the context of Nepal’s climate commitments and development priorities” (Nepal Rastra Bank, 2023).Green investment opportunities are commonly understood as investments that aim to lower carbon emissions, reduce greenhouse gas outputs, and minimize the depletion of natural resources, while simultaneously promoting sustainable livelihoods. Research conducted in Nepal and other developing nations has proposed specific criteria for identifying green technologies and has also outlined key sectors with strong potential for green investment (GGGI, 2017; Hepburn *et al.*, 2020). Nepal has issued its first-ever green bond, marking a significant milestone in the country's sustainable finance journey.This initiative was launched in a special ceremony held today (Tuesday) in Kathmandu.

In Nepal, Nepal Infrastructure Bank Green Energy Debenture 2088–89 green bond is a seven-year of financial instrument with an annual interest rate of 6 percent .NPR 5 billion has been approved by Nepal Rastra Bank and other regulatory bodies through financial and technical

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support from the Global Green Growth Institute (GGGI) and the Korea International Cooperation Agency (KOICA).

Table 3: Nepalese Green Bond Landscape

Key Aspects	Status
Governance Authority	Nepal Rastra Bank (NRB), Securities Board of Nepal (SEBON)
Key Procedures	ESRM Guidelines (2020) by NRB Green Bond Provisions (2023) by SEBON
Taxonomy Framework	Draft "Nepal Green Finance Taxonomy" (2023) by NRB – under consultation
Market Position	Emerging no official green bond issuance as of yet
Potential Sectors	Renewable energy (hydro, solar), sustainable transport (EVs), waste management, green buildings
Challenges	Limited municipal investor base Currency risk for foreign investors Lack of hedging instruments Low awareness & capacity in municipalities
Prospects	Strong potential in hydropower, solar, and agriculture Growing climate finance interest
Official Support	UNDP, GGGI, IFC, GCF, ADB, World Bank, KOICA, GGGI, TDF – providing policy, capacity, and technical assistance
Concern Stakeholders	SEBON enabling green bond issuance NRB taxonomy for defining green investments
Future Outlook	Dependent on taxonomy adoption, investor mobilization, and development of local project pipeline

Source: Authors' Study, 2025

Table 2illustrates the key aspects of Nepalese Green Bond Landscape. The regulatory authority, key regulations, taxonomy framework, market status, eligible sectors (Proposed), challenges, opportunities, institutional support, current initiatives and future outlook. Nationally in Nepal, the regulatory framework for green finance is evolving. The Nepal Rastra Bank (NRB) introduced the Environmental and Social Risk Management (ESRM) guidelines in 2018, integrating them into the Unified Directives in 2020 to promote sustainable banking practices. Conversely, lack of standardized definitions, limited capacity among financial institutions, and municipal government and a dearth of bankable green projects hinder the widespread adoption of

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green bonds in Nepal.Securities Board of Nepal (SEBON) were introduced as part of the Seventh Amendment to the Securities Registration and Issuance Regulation. These provisions enable companies to issue green bonds, with the funds raised earmarked for sustainable development projects and initiatives addressing climate change. Additionally, foreign investors are eligible to invest in these bonds. (The Green Bond Provisions, 2023). However, several challenges remain, including limited green finance awareness, gaps in institutional and regulatory frameworks, insufficient capacity-building and technical expertise among financial institutions, the need for policy reforms and legal amendments (such as securities registration and issuance regulations), and constrained demand and market forces from both investors and issuers. These factors collectively limit the supply and uptake of green bonds in Nepal (Pandey &Ghimire, 2025).

The launch of Nepal's first-ever Green Bond with support from international partners including International Financial Center (IFC), British International Investment (BII), and MetLife represents a landmark moment in the country's financial sector. This initiative signals a transformative shift illustrating Nepal's potential to lead by example in climate finance by mobilizing global capital toward a more sustainable and resilient future.Nepal reached a significant milestone in sustainable finance through the issuance of its first-ever green bond by NMB Bank. The $60 million investment was anchored by the International Finance Corporation (IFC) with co-investments from British International Investment (BII) and MetLife. This landmark transaction represents the first thematic bond and the first private international placement of a local issuer's bond in Nepal's capital markets. The proceeds will be used to finance sustainable initiatives, particularly in electric mobility and solar energy, aligned with national climate goals. The bond is expected to create approximately 8,000 jobs over five years and marks IFC's first global local currency debt securities syndication. Supported by the IDA Private Sector Window, this initiative underscores the strategic role of blended finance and international partnerships in mobilizing capital for green economic development in emerging markets in Nepal.Key results are discussed as follows:

Green Bonds as a Sustainable Finance Tool

Green bonds are innovative instruments designed to channel investment towards projects with measurable environmental benefits. They align investor interests with sustainability goals, offering a way to integrate climate action into mainstream finance. For Nepal, green bonds can serve as a critical tool to attract finance for climate-resilient infrastructure and renewable energy initiatives.

Economic and Environmental Context in Nepal

Nepal's economy is largely dependent on agriculture and natural resources, which are increasingly vulnerable to climate risks. The country faces growing environmental challenges, including deforestation and glacial melt. Green bonds offer an opportunity to direct funds towards mitigating these issues by financing sustainable projects, thereby supporting both economic growth and environmental conservation.

Status of Green Bond Market in Nepal

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Although green bonds have gained traction globally, Nepal's green bond market is still in its infancy. Limited issuance, low awareness, and the absence of tailored regulatory frameworks restrict market growth. However, pilot initiatives and growing interest from financial institutions indicate a potential foundation for future development.

Challenges in Developing the Green Bond Market

Several obstacles slow the growth of green bonds in Nepal, including insufficient technical knowledge, inadequate data for project validation, and weak investor confidence. Additionally, the lack of standardized reporting and verification mechanisms poses risks of "greenwashing," undermining trust in the market. Addressing these issues is essential for sustainable market expansion.

Strategies to Promote Green Bonds in Nepal

To boost the green bond market, Nepal needs a multi-pronged approach involving capacity building for financial institutions, developing clear standards for green projects, and enhancing transparency through rigorous monitoring and reporting. Public-private partnerships and incentives for issuers and investors can also accelerate market development.

Potential Impact of Green Bonds on Nepal's Sustainable Development

Effectively mobilizing green bonds could significantly enhance Nepal's ability to finance low-carbon and climate-resilient projects. This financial instrument can help close the funding gap for sustainable infrastructure, promote green job creation, and support Nepal's commitments under international climate agreements. Ultimately, green bonds could play a pivotal role in achieving sustainable development goals.

Policy and Regulatory Landscape

Nepal's regulatory framework for green bonds is evolving. Institutions such as Nepal Rastra Bank (NRB) and the Securities Board of Nepal (SEBON) have initiated policies to support green financing, including preliminary guidelines on Environmental and Social Risk Management (ESRM). However, these policies remain nascent and require further development to provide clear, comprehensive frameworks for green bond issuance, monitoring, and impact assessment. Efforts are ongoing to align with global best practices, such as the Green Bond Principles and ESG standards.

Market Potential and Investment Opportunities

Nepal presents a climate-smart investment opportunity of USD 46 billion by 2030, much of which can be supported through green bonds. Sectors such as renewable energy, sustainable transport, water management, and climate-resilient infrastructure offer substantial potential for green investment. Green bonds can attract both domestic and foreign investors, particularly if backed by strong regulatory support and transparency measures. However, limited market size and investor awareness remain key challenges to unlocking this potential.

Institutional Capacity and Implementation Barriers

Despite growing interest, several barriers hinder the effective implementation of green bonds in Nepal. These include limited technical capacity among financial institutions, lack of standardized

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frameworks, low investor trust, and insufficient awareness. Many banks and financial institutions are still in the early stages of integrating ESG and environmental risk into their core operations. Capacity building, training, and institutional reforms are essential to make green bond markets viable and sustainable.

Role of Stakeholders and International Support

Collaboration among stakeholders—government agencies, financial institutions, development partners, and international organizations—is crucial to advance Nepal's green bond agenda. Organizations like the World Bank, IFC, and UNDP have played key roles in supporting green finance globally and can provide technical and financial assistance to Nepal. Engaging the private sector and building investor confidence through transparency, certification, and impact reporting are vital to scaling up green bond issuance.

In conclusion, Green bonds are emerging as a viable financing tool in Nepal to support environmentally sustainable projects. As a country highly vulnerable to climate change and rich in natural resources, Nepal faces both the need and opportunity to adopt green finance. While the global green bond market is rapidly growing, Nepal is still in the early stages of exploring this financial instrument. The government's commitment to climate action, aligned with international frameworks like the UNFCCC, has created a policy environment supportive of green finance, including green bonds.Green bonds offer a strategic pathway for Nepal to mobilize climate finance, bridge infrastructure gaps, and support its transition to a low-carbon, climate-resilient economy. While progress has been made in policy and awareness, much remains to be done in terms of regulatory development, institutional capacity, and investor engagement. A phased roadmap—focusing on policy refinement, market readiness, and international collaboration—can help unlock the full potential of green bonds as an alternative green solution.

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