Research

TAKING STOCK OF GREENING IN THE GEORGIAN FINANCIAL SYSTEM

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TAKING STOCK OF GREENING IN THE GEORGIAN FINANCIAL SYSTEM

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LIST OF ABBREVIATIONS

ADB	Asian Development Bank
BOG	Bank of Georgia
CFD	Contract for Difference
DGNB	German Sustainable Building Council
EBRD	European Bank for Reconstruction and Development
EE	Energy Efficiency
EG	Enterprise Georgia
ERP	Extended Producer Responsibility
EU	European Union
EV	Electric Vehicle
FMO	Dutch Entrepreneurial Development Bank
GCAP	Georgia Capital
GEFF	Green Economy Financing Facility
GGU	Georgia Global Utilities
GIS	Geographic Information System
GR	Green Measures
GRPO	Georgian Renewable Power Operations
GSSS	Green, Social, Sustainable, and Sustainability-linked
HPP	Hydropower Plant
IFC	International Finance Corporation
IFI	International Financial Institution
JSC	Joint Stock Company
KPI	Key Performance Indicator
MSME	Micro, Small and Medium Enterprise
NBG	National Bank of Georgia
NGFS	Network of Central Banks and Supervisors for Greening the Financial Systems
PCB	ProCredit Bank
RE	Renewable Energy
SLB	Sustainability-linked Bond
SCADA	Supervisory Control and Data Acquisition
SDG	Sustainable Development Goal
SME	Small and Medium Enterprise

EXECUTIVE SUMMARY

Green finance holds great importance today when it comes to combating climate change and achieving sustainability goals by directing investments towards environmentally-friendly projects. This approach promotes energy efficiency, clean transportation, and sustainable agriculture, while also mitigating greenhouse gas emissions and fostering economic growth. Ultimately, by integrating environmental considerations into financial decisions, green finance ensures a more sustainable and resilient global economy.

Recognizing the key role of the financial sector in mitigating the effects of climate change, financial institutions have increasingly been adopting and developing green finance mechanisms. In particular, central banks and other regulatory bodies have revised their frameworks and tweaked their procedures to address the risks posed by climate change more effectively. Of note, the National Bank of Georgia (NBG), as one of the International Monetary Fund's (IMF) central bank members, has a legal mandate to prioritize the promotion of sustainable economic growth. Consequently, the NBG actively fosters sustainability and/or so-called "greening" initiatives.

In particular, the NBG has embraced climate considerations through participating in efforts such as the Sustainable Banking Framework and becoming a member of the Network of Central Banks and Supervisors for Greening the Financial Systems (NGFS). Moreover, it has introduced a national green taxonomy aimed at standardizing green classifications across Georgian financial institutions. This move ensures comparability and credibility in the reporting of green initiatives. Altogether, these initiatives undertaken by the NBG are designed to establish a stable regulatory framework, enhancing market discipline, readiness, and transparency to accommodate sustainable finance. In addition, such efforts help to direct capital towards sustainable sectors, thereby accomplishing long-term economic and environmental benefits.

On top of regulatory developments headed by the NBG, international financial institutions (IFIs) have been increasing their efforts to develop green finance mechanisms in Georgia. In collaboration with local commercial banks and other public and private institutions, IFIs are facilitating the flow of capital toward more environmentally-friendly endeavors through diverse mechanisms, such as credit lines, green bond issuance, technical assistance, and consultancy encouraging the development and adoption of green practices.

While some positive trends are visible in green finance in Georgia, significant challenges persist that could impede the effective execution of green finance initiatives. Specifically, limited public and business awareness of green finance opportunities is among the main hindrances to the development of green finance in Georgia. This is being compounded by expertise gaps and a lack of human resources in financial institutions necessary to assess, report, and monitor green projects. Aligning policies and regulations across sectors and government levels has also proved troublesome, as development priorities sometimes conflict with environmental conservation goals.

This policy paper aims to analyze the current status of green finance in Georgia, identifying and addressing gaps and opportunities therein and then issuing recommendations. Of the latter, key recommendations include fostering collaboration among stakeholders, including the NBG, commercial banks, and IFIs to ensure alignment with green finance initiatives. Moreover, by establishing dedicated platforms for dialogue and organizing regular meetings, stakeholders can work more collaboratively to exchange expertise and address current gaps and obstacles hindering the progress of green finance.

Simultaneously, to address potential barriers, the paper highlights that efforts must be intensified to enhance the capacity and technical proficiency of bank personnel in navigating green finance principles and regulatory frameworks. To address these shortcomings, comprehensive training programs, facilitated by international and local experts leveraging IFI resources, could equip bank staff with the necessary skills in risk management, portfolio assessment, reporting, and compliance with green taxonomy regulations.

Furthermore, the paper concludes that it is essential to establish robust monitoring and enforcement mechanisms to sustain the integrity and credibility of green finance activities in Georgia. Here, regular audits and inspections conducted by the NBG may help to validate the reporting accuracy, prevent greenwashing, and ensure adherence to established standards, thereby boosting transparency and accountability within the financial sector. By addressing potential barriers and implementing comprehensive monitoring and enforcement measures, solid foundations can be laid in Georgia to promote green investments and sustainable economic development.

INTRODUCTION TO INTERNATIONAL GREEN FINANCE

Today, mitigating the impacts of climate change through various mechanisms is becoming increasingly prominent across the globe. Notably, major international climate-change-related agreements have been established such as the United Nations Framework Convention on Climate Change (UNFCCC) in 1992, followed by the Kyoto Protocol in 1997 and the Paris Agreement in 2015. These have all spurred country-level initiatives, commitments, and the introduction of nationally determined contributions (NDCs) aimed at reducing greenhouse gas emissions and adapting to the effects of climate change.

Acknowledging the importance of the financial sector in the fight against climate change, there has been a notable uptick in efforts made to develop green finance mechanisms. From a regulatory standpoint, many central banks and financial regulators have taken, or are taking, steps to integrate climate change aspects into their operations, in many cases through approaches to risk exposure. Relevant frameworks here tend to operate on the understanding that environmental risks represent a new breed of financial risk that central banks must address. While these changes or endeavors recognize the significance of addressing climate change, they have so far fallen short of fully embracing the transformative potential of a so-called "double materiality" approach (Dafermos, Gabor, Maria, & Lerven, 2022). The latter concept emphasizes not only the impact of climate-related factors on financial systems but also the reciprocal influence of these systems on the climate and broader sustainability issues (Täger, 2021).

Therefore, embracing the "double materiality" approach to making decisions in the financial sector holds the potential to drive markets to transition towards greening. Such an approach empowers central banks to become more proactive in addressing climate-related instability, by intervening to mitigate climate risks and opening up opportunities to facilitate green economic development (Dafermos, 2021). Indeed, this concept has gained increasing prominence in recent years. For instance, the EU's "Guidelines on reporting climate-related information" convey a "double materiality" perspective, mandating companies to disclose both financial materiality and environmental and social materiality concerning climate change (Boissinot, et al., 2022). Thus, in the wake of that recent development, central banks and other regulatory bodies are already making modifications and are expected to further refine frameworks and procedures to counter the various risks posed by climate change. Among the initiatives to be undertaken, these may involve enhancing climate risk disclosure and classification standards, enabling financial institutions and investors to evaluate their climate-related risks more effectively, and assisting regulators in comprehensively assessing systemic risks[1].

[1] https://www.imf.org/en/Topics/climate-change/green-finance

Notably, the promotion of green financing aiming to channel financial resources toward sustainable development priorities is not only driven by central banks, with individual banks, micro-credit institutions, insurance companies, and investors from public, private, and non-profit domains all have a part to play. The encouragement of green financing can also be enhanced through other measures or strategies including making alterations to a nation's regulatory frameworks, the harmonization of public finance incentives, increased participation from various economic sectors, closer alignment of public sector financing decisions with the environmental aspects of the Sustainable Development Goals (SDGs), facilitating investments in clean and sustainable technologies, the provision of greater funding for environmentally-conscious economies, and the broader adoption of green bonds[2].

As governments and companies in developing countries pursue the environmental objectives outlined in the Paris Agreement, an increase is anticipated in the issuance of green, social, sustainability, and sustainability-linked (GSSS) bonds[3]. This represents a crucial mechanism facilitating private investment in the green transition. Of note, the International Finance Corporation (IFC) predicted that green bond issuance will rise by 14% in emerging markets outside China in 2023, and then 11%in 2024 (IFC, Amundi, 2023).

To enhance the credibility of the GSSS asset class and to attract more funding to sustainable projects in emerging markets in general, addressing the issue of greenwashing[4] is crucial. Against this background, central banks can play a pivotal role in making financial markets supportive of green transitions. However, the fragmentation of emerging financial markets and the existence of country-specific regulations and market conditions can hinder green investments at the international level due to high screening costs, a lack of regulatory consistency, and standardized taxonomies. Despite the above-mentioned challenges, central banks can actively support the greening of economies by incorporating climate risks into regulatory and supervisory frameworks, thereby shaping the data disclosure and risk management practices of the financial institutions that they supervise, introducing mandatory sustainability-related disclosure practices, and developing common criteria to avoid greenwashing. Meanwhile, leading central banks, such as the European Central Bank, opting to practice "double materiality" principles could serve as an example to follow for emerging markets in their efforts to develop well-functioning green finance. By considering both financial materiality and environmental/social materiality, GSSS bonds align

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2 https://www.unep.org/regions/asia-and-pacific/regional-initiatives/supporting-resource-efficiency/green-financing

3 Green, social, sustainability, and sustainability-linked (GSSS) bonds are specialized financial instruments issued to finance projects with positive environmental or social impacts. Green bonds specifically fund environmentally beneficial projects, while social bonds support initiatives addressing social issues. Sustainable bonds are broader in scope and combine both environmental and social benefits, while sustainability-linked bonds are designed to incentivize issuers to achieve sustainability goals by tying the interest rate of the bond to the issuer's sustainability performance.

4 i.e. where issuers misrepresent their meeting of sustainability criteria.

with "double materiality." In particular, these bonds aim to address not only the financial risks and returns associated with traditional bonds but also the broader impacts on environmental and social sustainability. Such alignment allows investors and issuers to evaluate and address a wider range of risks and opportunities, thereby fostering more sustainable financial markets and supporting the transition to a greener and more equitable economy.

Currently, diverse approaches to green finance are being adopted by various financial institutions, international initiatives, standard setters, and regulatory bodies. However, the lack of standardized definitions and tracking methods in the financial sector hinders the assessment of overall progress. The limited availability of data further impedes the analysis of green finance flows. However, the bond market stands out for its refined definitions and tracking mechanisms, setting an example for other sectors. To progress further, improving loan tracking processes within the banking sector and establishing clear decision-making criteria for institutional investors are essential steps forward. Achieving a comprehensive understanding of green finance necessitates tracking at the project level, where collaboration among market players is essential (Klein, Widge, Bergedieck, Maheshwari, & Avendano Ugaz, 2019). These measures would not only enhance transparency and accountability, but would also facilitate more informed decisions being made in pursuit of sustainable finance goals.

At a regional level, in the South Caucasus, Georgia is considered to have a more open financial system than its counterparts, Armenia and Azerbaijan. Despite the existence of several restrictions, the country still demonstrates an openness to investors and international financing of climate actions (UNFCCC, 2023). Relatedly, the NBG has already incorporated significant climate change considerations into its oversight functions. This includes joining the IFC's Sustainable Banking Initiative and developing a sustainable finance roadmap, which is primarily focused on enhancing the understanding of sustainable finance, knowledge dissemination, and transparency (NBG, 2019). In addition, the NBG joined the NGFS in 2020 and has since published annual environmental, social, and governance (ESG) reporting and disclosure principles (INSPIRE, 2020). The latest development in this regard occurred in 2023, when the NBG introduced a national green taxonomy aimed at unifying green classifications among national players in the financial sector. These measures could potentially stimulate increased capital flows towards sustainable sectors while aiding Georgian banks in enhancing their capacity to raise green capital. The potential medium- and long-term impact of the above-mentioned initiatives of the NBG is to provide a credible, predictable, and stable regulatory framework, and prepare the market for a transition to sustainable finance, which will eventually boost transparency and market discipline.

Notably, Georgia has a relatively highly concentrated domestic banking sector. According to the World Bank[5], in 2021 the bank concentration[6] of the country's three

[5] https://databank.worldbank.org/source/global-financial-development/Series/GFDD.OI.01

[6] Assets of the three largest commercial banks as a share of total commercial banking assets. Total assets include total earning assets, cash and dues from banks, foreclosed real estate, fixed assets, goodwill, other intangibles, current tax assets, deferred tax assets, discontinued operations, and other assets.

largest banks reached 84.3% of the total commercial banking sector. With that in mind, it could be argued that the presence of a small number of participants could facilitate the spread of new knowledge and best practices. Notably, the competitive dynamics within the banking sector may also hinder the dissemination of knowledge and popularization of best practices.

Despite some positive green finance trends in Georgia, there are still considerable challenges possibly hindering the effective implementation of sustainable initiatives. Indeed, the nascent nature and relatively small scale of green finance in Georgia contribute to the limited awareness among the general public and businesses thereof, posing challenges with respect to garnering sufficient interest and participation in green finance initiatives. Moreover, expertise gaps in financial institutions may impede the effective assessment, financing, and monitoring of green projects. Furthermore, aligning policies and regulations across different sectors and levels of government is also complicated, as Georgia's development priorities, such as infrastructure investment and job creation, may sometimes conflict with environmental conservation goals. Overcoming these obstacles will demand continued collaboration and the following of a shared vision to bring about a more resilient and inclusive financial system.

Looking ahead, it is crucial to evaluate the current status of green finance in Georgia and its role in the country's climate change mitigation efforts. Having signed major climate change agreements and with the intensification of efforts to develop green finance mechanisms, Georgia's financial landscape is undergoing a significant transformation, as is explored in the next section.

INTRODUCTION TO GREEN FINANCE IN GEORGIA

Despite having shown significant progress over the last decade, green finance in Georgia remains at a nascent stage. Of note, the Georgian environmental policy framework[7] has been modified to promote greening in different areas, directly and indirectly affecting the development of green finance in the country. Here, collaborative efforts among key stakeholders have been crucial. Relatedly, this section divides these stakeholders into three distinct categories: IFIs, which have pioneered green finance mechanisms in Georgia; the NBG, which serves as the primary regulatory authority for governing the financial institutions; and commercial banks, which are pivotal actors in promoting green credit initiatives.

INTERNATIONAL FINANCIAL INSTITUTIONS (IFIS)

According to the UNFCCC, green financing in Georgia has mainly been multilateral, rather than bilateral8. In particular, the donor countries and entities to have reported the largest bilateral contributions have been the EU (particularly, France and Germany), Japan, Switzerland, and the United States. Meanwhile, the multilateral institutions contributing most to green finance have been the Asian Development Bank (ADB), the European Bank for Reconstruction and Development (EBRD), the European Investment Bank (EIB), and the World Bank Group (UNFCCC, 2023). IFIs play a vital role in promoting green banking and other green financial tools, like the issuance of green bonds. Specifically, the activities of IFIs operating in Georgia include, but are not limited to, the following areas:

- Establishing green lines of credit, as well as supplying medium-to-long-term financing and concessional financing;
- Investing in risk sharing, for instance by providing loan guarantees;

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[7] Environmental policy refers to the laws, regulations, and other policy mechanisms concerning environmental and sustainable development issues. These issues generally include air and water pollution, solid waste management, biodiversity, ecosystem management, maintenance of biodiversity, and the protection of natural resources, wildlife, and endangered species. Policies concerning energy or regulation of toxic substances including pesticides and many types of industrial waste are also part of environmental policy. Such policy/policies can be deliberately adopted to direct and oversee human activities and prevent harmful effects on the biophysical environment and natural resources, as well as making sure that changes in the environment do not damage humans. For further information regarding Georgian environmental policies, please refer to the website of the LEPL Environmental Information and Education Centre (https://www.eiec.gov.ge/En/Topics/OverView/16/).

[8] Multilateral financing encompasses financial assistance from international institutions involving multiple countries pooling resources for development projects, such as World Bank, the IMF, and the ADB. Conversely, bilateral financing involves direct financial aid from one country to another, often in the form of loans, grants, or technical cooperation agreements between governments.

- Enabling investments in the energy sector, such as financing renewable energy, energy efficiency, and energy access;
- Facilitating green construction projects;
- Creating learning platforms and activities for commercial banks; and
- Providing technical assistance in the identification, quantification, and evaluation of climate-friendly product lines.

The involvement of IFIs in green finance initiatives can be traced back to the EBRD[9] in 2007. Since then, the EBRD has allocated funds through various banks, initially focusing on business financing before transitioning to consumer financing between 2014 and 2017. Here, consumers received loans primarily through TBC Bank and Bank of Georgia (BOG) for household appliances meeting energy efficiency criteria. As the technical criteria became progressively stringent, a green technology selector was developed. This selector is regularly updated to categorize products based on their energy efficiency. Meanwhile, retailers such as Elite Electronics, Alta, Bosch, and Saga underwent training to promote energy-efficient products, and sales officers were financially incentivized to encourage consumers to purchase energy-efficient products.

Commercial banks in Georgia, such as TBC Bank, BOG, BasisBank, ProCredit Bank, and Credo Bank, along with microfinance institutions, have cooperated closely with IFIs in various projects aiming to offer better access to funding, provide technical assistance, and mitigate risks in green finance initiatives. Notably, interviews conducted for this paper with representatives of major banks in Georgia have indicated IFIs' growing interest and involvement in green financing, with this trend expected to continue in the future.

COMMERCIAL BANKS

In Georgia, commercial banks have a critical role in shaping the financial landscape. As of January 2024, the stock of loans to the national economy issued by commercial banks totaled 50.1 billion GEL. Of this amount, 22.9 billion GEL was allocated to businesses, while 27.2 billion GEL was issued to households (NBG, 2024). Throughout 2023, there has been a significant month-by-month increase in the volume of loan stocks in both categories, indicating that the already significant role of commercial banks in financing businesses and households is becoming even more pronounced. Several factors contribute to the growth in loan stocks for businesses. These include the expansion of their economic activities, the need for capital investment, and businesses' participation in government loan guarantee programs. In Georgia there are currently 15 commercial banks and 34 microfinance institutions operating (NBG, 2024). However, the involvement of many of these institutions in green finance remains limited.

[9] https://www.messenger.com.ge/issues/2708_october_5_2012/2708_econ_one.html

For commercial banks, the integration of greening initiatives was initially propelled by international stakeholder engagement. This was subsequently intensified by regulatory developments in Georgia aimed toward climate change mitigation such as the Law of Georgia on Energy Efficiency, the Law of Georgia on Energy Efficiency of Buildings, and the introduction of extended producer responsibility (EPR) principles. Another notable milestone in this regard was the NBG's adoption of green taxonomy regulations, enabling commercial banks to identify green financial products within their portfolios more effectively.

Prior to the NBG's introduction of the Sustainable Finance Taxonomy (hereinafter, the NBG Taxonomy)[10], certain banks, such as ProCredit and TBC Bank, had already established their own internal criteria for green loans. Meanwhile, others relied on classifications used by IFIs to evaluate the greenness of projects[11]. The creation of the NBG Taxonomy marked a significant step as it makes information reported by commercial banks comparable. Such standardization massively reduces reporting errors and ensures consistency in reporting practices, thereby enhancing communication among stakeholders and sectors. For businesses, it also simplifies the process of navigating the realm of sustainable finance. The differing criteria among IFIs had demanded that commercial banks allocate significant resources to disclose their loans. However, the standardization brought in by the NBG Taxonomy ensures that all banks operate using a common language, thereby saving resources and promoting greater transparency in green finance.

With the support of IFIs, commercial banks have undertaken various activities to advance green initiatives. These include warranty schemes, the continuity of collateral, cashback incentives, and the provision of technical assistance. However, it is worth noting that technical assistance, such as energy audits and recommendations, has enjoyed limited uptake within the Georgian business community. As negotiations with IFIs progress, a shift towards providing more financial incentives rather than technical assistance is anticipated. Such an adjustment would reflect a careful response to the observed challenges in uptake and align with the evolving needs of businesses in Georgia's green finance landscape. However many IFIs oppose this approach and argue that only financial incentives should not be the driving factor for green finance adoption.

According to all interviewed representatives of commercial banks, the most effective and appealing financial incentive for their clients is cashback mechanisms, followed by reduced interest rates and collateral guarantee programs. Grant programs, which extend financial support for sustainable initiatives, have also proved successful in encouraging client participation.

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[10] From this point onward, the Sustainable Finance Taxonomy introduced by the NBG will be referred to as the NBG Taxonomy in this report to ensure it is clearly distinguished from internal sustainable finance taxonomies of commercial banks.

[11] For further information refer to the chapter "Green Taxonomies Used in the Georgian Financial Sector."

Despite the joint efforts of IFIs and commercial banks, currently, green loans comprise only a small portion of commercial banks' total portfolio.[12] Banks face significant challenges when it comes to incentivizing clients to embrace sustainable practices and frequently state that awareness of the cost-effectiveness of green initiatives is very low among businesses and individuals, both of which often lack the foresight to recognize the future benefits of selecting greener products and services. Addressing these knowledge barriers will be crucial to furthering the adoption of green finance initiatives in Georgia.

NATIONAL BANK OF GEORGIA (NBG)

The NBG is among the 12% of IMF central bank members with a legal mandate directly addressing the promotion of sustainable economic growth (Hulkó, Kálmán, & Lapsánszky, 2023). The NBG first embarked on its green finance initiatives in 2017, following the lead of other pioneering central banks that began similar efforts in 2015. The introduction of the NBG Taxonomy in 2023 marked a pivotal point for green finance in Georgia. Prior to that, the development of the taxonomy and sustainable finance reporting commenced in 2020 during the COVID-19 pandemic. The process involved aligning financing criteria with EU standards and adapting them to fit with Georgian regulations, with input from international experts and local stakeholders. Here, a diverse set of stakeholders were involved, including the EBRD, and experts from the IFC and World Bank. In addition, Finance in Motion provided expertise on the local situation, while the Ministry of Economy and Sustainable Development (MoESD) and the Ministry of Environmental Protection and Agriculture (MEPA) also partook. Notably, the engagement of commercial banks in the development of the NBG Taxonomy was limited largely to amendments and training sessions conducted after it had been established.

Following the introduction of the NBG Taxonomy at the beginning of 2023, commercial banks were required to submit monthly reports, which initially revealed the significant prevalence of hydropower financing. This provided valuable insights into the sector, albeit challenges emerged for smaller banks unfamiliar with green finance reporting practices. Nevertheless, cooperation between the NBG and banks remained robust, with an emphasis on employing soft enforcement measures to address initial difficulties. According to the NBG, it is actively communicating, and planning to further their efforts, with IFIs with the aim that they will gradually adopt the NBG Taxonomy instead of their own internal taxonomies.

As of 2023, the majority of activities in the NBG's Sustainable Finance Action Plan

[12] It must be noted that following the introduction of taxonomy regulation in 2023 obliging banks to report their green loans in accordance with established criteria, the information disclosed in the reports on the green portfolio may not reflect the actual figures, as some banks, to avoid penalties, opt for zero reporting instead of identifying and reporting green loans. Taxonomy introduction efforts are ongoing, and it is expected that real numbers will gradually be included in the reports.

2019-2022 had been completed[13]. These include the development of a dedicated sustainable finance division, joining the NGFS network, organizing sustainable finance forums and conferences, developing ESG guidelines, adopting a sustainable finance taxonomy and corresponding regulations, and devising a tool to calculate the emissions resulting from the lending activities of commercial banks (NBG, 2023).

In 2024, the NBG plans to publish a new roadmap which is expected to include refining the taxonomy, addressing challenges in reporting, and improving enforcement mechanisms. In addition, the NBG, with support from the EIB, is currently developing climate scenario analysis and a stress testing framework to assess the vulnerability of commercial banks under various climate scenarios (NBG, 2023).

Notably, there are no immediate plans to calculate carbon savings due to the complexity of doing so and a lack of incentives. Among the challenges identified hindering such efforts are the diverse range of factors influencing emissions reductions, the lack of standardized measurement methodologies, and limited in-house knowledge about, and incentives for, the adoption of such methodologies by commercial banks. However, in the long term, once reliable data collection methods are in place and the capacities of involved stakeholders have been boosted, these hindering factors can be gradually overcome through the adoption of transparent and internationally recognized calculation standards.

[13] https://nbg.gov.ge/en/page/sustainable-finance-roadmap

GREEN FINANCE INSTRUMENTS IN GEORGIA

In this chapter, an overview of green finance instruments in Georgia is provided, highlighting the most commonly used mechanisms. These include lines of credit in commercial banks backed by IFIs, which have been instrumental in promoting green initiatives. In addition, it examines the relatively new practice of issuing green bonds, which represents a significant step towards sustainable finance in Georgia.

Furthermore, the chapter examines the initiatives of public funding agencies aimed at supporting green projects and fostering environmental sustainability. Moreover, the potential of debt-for-environment swaps, an innovative approach to addressing environmental challenges while managing debt obligations, is explored in the context of Georgia.

LINES OF CREDIT IN COMMERCIAL BANKS

Lines of credit in commercial banks serve as a flexible financial arrangement between lenders and borrowers establishing a maximum loan amount, which the borrower can access. IFIs routinely offer lines of credit, using local intermediaries to facilitate the distribution of funds, often backing green and sustainable initiatives. In Georgia, commercial banks are commonly employed as such intermediaries.

The EU supports SMEs with concessionary loans through commercial banks and microfinance institutions as part of initiatives like EU4Business including,14 the Green for Growth – Extension to Neighborhood East project. This is being delivered in collaboration with TBC Bank, Isbank Georgia, and MFO Crystal, and aims to finance agricultural SMEs investing in water storage and irrigation technologies, retailers investing in energy-efficient boilers and insulation, and businesses undertaking major energy efficiency investments. Under the project, loans of up to 60,000 EUR, available in local currency, are offered to eligible applicants.

With the assistance of IFIs and through lines of credit, commercial banks can provide special incentives for green financial products. These incentives encourage and enable banks to offer environmentally-friendly options such as green loans, green mortgages, collateral guarantee programs, cashback incentives, and tailored lending conditions for electric vehicles (EVs). This in turn facilitates the creation of innovative financial solutions aligned with the SDGs, promoting the transition to a greener economy.

Such initiatives ensure that both major investors and corporations, as well as SMEs, have access to green lines of credit. In particular, large-scale investors can utilize these lines of credit to fund significant green projects like renewable energy ventures or eco-friendly infrastructure developments. Meanwhile, SMEs are empowered to un-

[14] https://eu4business.ge/en/access-to-finance/

dertake their own sustainability initiatives, whether by implementing energy-efficient technologies or adopting eco-friendly practices. Through broadening access to green lines of credit, these initiatives contribute to a more inclusive and sustainable economy, fostering innovation and progress across various sectors.

GREEN BONDS

Green bonds are fixed-income financial instruments used to fund projects that bring environmental and/or climate benefits. Their issuance represents an innovative financial tool designed to enhance transparency and accountability for investors, specifically when funding new or existing environmentally beneficial projects. However, while green bonds have gained popularity in many developed countries, their issuance in Georgia has been limited thus far. In recent years, Georgian companies and institutions have nevertheless begun to explore the potential of issuing green bonds to fund environmentally sustainable ventures.

One notable project amid the introduction of green bonds in the Georgian financial market is the ADB-funded Georgian Green Bond Project of Georgia Global Utilities (GGU)[15]. This initiative aims to address critical infrastructure needs by providing the population with a 24-hour water supply, streamlining water supply and drainage systems in urban centers and towns, and ensuring their proper functioning and improvement. As a result, the project not only supports GGU's sustainable water supply and clean power operations, but also contributes to gender equality through the provision of capacity-building opportunities for women within GGU. Notably, GGU issued 250 million USD in 5-year green bonds, with a semi-annual interest payment of 7.75% in July 2020, co-managed by TBC Capital. These bonds are jointly and severally guaranteed by GGU's water and energy subsidiaries. This was Georgia's first-ever green bond issuance. According to the Green Bond Allocation and Impact Report of 2021[16], 220 million USD was allocated in 2020 on refinancing issuers' outstanding indebtedness at the time of issuance (GGU, 2021). The report provides details of allocation by category, project description, and impact, as presented in Figure 1.

[15] GGU, a wholly owned subsidiary of JSC Georgia Capital, is a water utility and renewable energy holding company in Georgia, which supplies potable water and provides wastewater collection and processing services to more than one-third of Georgia's population and generates electricity through its portfolio of four hydropower plants with an aggregate installed capacity of 149 MW.

[16] https://www.ggu.ge/_files/ugd/608e6c_85e769cd3548401d97db7874ea5bed2f.pdf

Figure 1: Green bond allocation by category and project (2021)

SDG	Category	Green project descriptions	Total amount allocated	Reported environmental impact(s)
7. Affordable and Clean Energy	Renewable energy	• Construction and development of hydro and wind power plants.	94 million USD	• 220 MW of installed capacity; • 598 GWh of clean energy generation; • 120,822 CO2 eq. emissions avoided in tons; and • Over 180,000 households served with clean energy.
7. Affordable and Clean Energy	Energy efficiency	• Installation of water flow meters and zoning of water supply area; • Installation of smart water infrastructural assets; • Introduction of GIS and SCADA systems, and other support programs.	10 million USD	• 179.5 GWh of self-produced electricity consumption; and • 0.37 KWh of electricity used per one m3 of water production.
11. Sustainable Cities and Communities	Pollution prevention and control	• Modernization of Gardabani Wastewater Treatment Plant.	21 million USD	• The treatment of on average 165 million m3 of wastewater and 11,162 m3 of sludge; and • The concentrations of key parameters of treated wastewater comply with the maximum permissible concentration limits.

11. Sustainable Cities and Communities & 6. Clean Water and Sanitation	Sustainable water and wastewater management	• Rehabilitation and development of the water and wastewater network; • Installation of customer water meters; • Refurbishment of pumping stations, reservoirs, and water treatment plants; • New customer connections; and • Replacement of liquid chlorine systems with sodium hypochlorite systems.	120 million USD	• Upgrade of 121.6 kilometers of the water network; • Upgrade of 46.1 kilometers of the wastewater network; • Annual water loss reduction of 1.7 million m3; • 3,875 new customers connected to an uninterrupted water supply and wastewater treatment services; and • 28,438 water meters installed including 1,413 smart meters.
13. Climate Change Adaptation	Climate change adaptation	• Installation of an early warning system at Zhinvali HPP Riverbank protection.	1 million USD	• Protection of up to 50,000 people as a result of the pre-notification system installed.

Source: Georgia Global Utilities (GGU)

Later, Georgian Renewable Power Operations JSC (GRPO), the holding company of the GGU's operational renewable energy assets, successfully issued 80 million USD green-secured bonds on 12 October 2022, thereby significantly contributing to the development of the Georgian capital market. This issuance, backed by the FMO, the ADB, the IFC, and the EBRD, aimed to refinance the shareholder loan from Georgia Capital (GCAP), which was used to redeem the renewable energy business portion of GGU's 250 million USD Eurobond[17] in September 2022. Despite growing global interest in green bonds, market volatility due to financial uncertainty and Russia's war on Ukraine have posed challenges for new issues. However, major investors, including the FMO (40 million USD), the ADB (4 million USD), the IFC (20 million USD), and the EBRD (14 million USD), supported the bonds, acting as "anchors" to attract international commercial and retail investors (White, 2022).

[17] Interest rate – 7.75%

Another notable issuance was that of Tegeta in July 2023, becoming the first company in the history of the automotive industry in the South Caucasus region to issue green status bonds in national currency, on the local capital market. In Tegeta's issuance of 20 million GEL in green bonds, the ADB was a major investor. The corresponding framework document outlines Tegeta's obligations, including the import and sale of EVs and the establishment of a network of 70 charging stations nationwide. Tegeta had previously issued bonds in 2019 and conducted the largest-ever issuance of local corporate bonds in GEL in the year before that, totaling 150 million GEL. In addition, the company issued securities worth 25 million USD, offering bonds to individual investors18. The funds were to be allocated towards hitting the company's targets of reducing car and van emissions by 55% and 50%, respectively, by 2030, and achieving zero emissions from new cars by 2035 (TEGETA Holding, 2023).

In April 2023, GeoSteel successfully placed its first 2-year bonds, totaling 15 million USD. This bond issuance represents the first-ever sustainability-linked initiative and the only one offered by an actor in Georgia's heavy industry sector to date (NBG, 2023). The resources raised are to be utilized to refinance existing loan obligations and to finance a capital project in direct mining, which aims to clean up the steel production process by bypassing the heating furnace and making a saving of 75% in gas consumption by December 2024 (Caucasus Business Week, 2023).

The latest green bonds development in Georgia was initiated by the ADB, which serves as a strategic investor providing crucial support to adopt an innovative financial instrument. The ADB and GCAP collaborated to issue the latter's inaugural sustainability-linked bond (SLB), marking the ADB's first investment in a private sector SLB (ADB, 2023). GCAP's issuance of 150 million USD over a five-year term represents the largest bond listed on the Georgian Stock Exchange and the most significant sustainability-linked offering in Georgia and the South Caucasus region to date. This issuance is integral to GCAP's objective of achieving net-zero operations by 2050, with a key feature of it being GCAP's commitment to reducing greenhouse gas emissions by 20% by 2027 compared to the 2022 baseline. This aligns in general with Georgia's obligations under the Paris Agreement and has attracted 83 million USD from private sector investors, which is an unprecedented amount for a Georgia-listed corporate bond.

PRIVATE SECTOR FINANCING BY PUBLIC AGENCIES

In Georgia, two prominent agencies are dedicated to financing micro, small, and medium enterprises (MSMEs), namely the Rural Development Agency and Enterprise Georgia.

The Rural Development Agency19 oversees programs and projects initiated by the MEPA. At present, the Agency offers participation in up to 13 programs, some of

[18] https://forbes.ge/en/tegeta-holding-issued-green-bonds-worth-20-000-000-gel-the-first-green-emission-issued-in-the-georgian-national-currency/

[19] https://www.rda.gov.ge/en/programs

which directly emphasize environmentally-friendly initiatives such as a co-financing program for energy-efficient stoves and the promotion of bio-production. Other programs may indirectly support green technologies, their focuses vary. Meanwhile, due to a lack of interest from the private sector in green agriculture, the impact of the Agency on green financing has thus far been minimal. The low level of interest here can be attributed to a general lack of awareness of the importance of environmental issues and shortcomings in knowledge regarding the long-term financial and non-financial benefits of using energy-efficient technologies in business operations. Businesses in rural areas often prioritize cost savings by opting for cheaper, less environmentally-friendly technologies and methods. By doing so, they overlook the potential future expenses associated with such operations and their external impacts.

At the same time, Enterprise Georgia[20] facilitates business support, export promotion, and investment across various sectors in Georgia. In particular, its Business division supports entrepreneurs in starting, growing, or modifying their businesses, its Export division works on making local products more competitive on global markets, and its Invest division (Invest in Georgia) helps to attract foreign investment by assisting investors and serving as a liaison between them and the Georgian government. Therefore, the role of Enterprise Georgia in the development of green finance in Georgia is potentially significant.

Currently, Enterprise Georgia's financing mechanisms for business development include a credit guarantee program and a universal business program comprising loan/leasing and grant components. The priority areas for Enterprise Georgia include manufacturing, hotels, and tourism(including agrotourism and ecotourism). Meanwhile, Invest in Georgia focuses on energy, automotive manufacturing, electronics, advanced manufacturing, logistics & distribution, and business process outsourcing.

Recently, a survey conducted by Enterprise Georgia showed that businesses in the country lack awareness of the benefits of introducing green practices, and generally perceive the costs of adopting eco-friendly practices to be relatively high. Notably, the internal portfolio analysis of Enterprise Georgia revealed that the share of business projects meeting the requirements of the NBG Taxonomy was low among its various programs, with the highest such share being in its industrial program and the lowest in its micro-grants program. Although Enterprise Georgia currently lacks green products in its portfolio, it is working to add more environmentally sustainable initiatives in the near future. Specifically, Enterprise Georgia plans to provide more details about new projects in the second quarter of 2024, focusing on SMEs, leasing, and loan co-financing. It is exploring various models, to find the most effective mechanisms and intends to use its Growth Hubs[21] to hold trainings on the benefits of going green. Ma-

[20] https://www.enterprisegeorgia.gov.ge/en/business-development

[21] Growth Hubs are regional consulting centers under the management of Enterprise Georgia. The activities of Growth Hubs include the provision of business diagnostic and consulting services, facilitating the improvement of business skills through training and lectures, and providing relevant information on funding activities to businesses.

terials and modules are being developed for courses, but specific taxonomy categories have not been settled on. Ultimately, the strategies of Enterprise Georgia toward the facilitation of environmental practices in Georgian enterprises is likely to involve the introduction of tailored support programs, green finance products, other financial incentives, and educational campaigns and training.

DEBT-FOR-ENVIRONMENT SWAPS

A debt-for-environment swap is a financial arrangement in which a creditor country forgives or reduces the debt owed by a debtor country in exchange for the debtor country's commitment to invest in environmental conservation or sustainability projects. This mechanism allows debtor countries to alleviate their debt burden while simultaneously addressing environmental challenges. By reallocating debt payments towards environmental initiatives, debt-for-environment swaps innovatively foster sustainable development in economically vulnerable countries and regions. Indeed, debt-for-environment swaps were explored by Georgia and Kyrgyzstan in the early 2000s, yet negotiations proved unsuccessful. Historically, such swaps have been intricate, and thus difficult to structure and finalize. Nonetheless, they hold potential benefits, particularly in leveraging nature-based solutions where climate co-benefits often hinge on sustained public investment.

Notably, the forestry sector presents significant opportunities across the Central Asia and South Caucasus region. Armenia, Azerbaijan, Georgia, and Kyrgyzstan have all prioritized this sector in their official communications to the UNFCCC as part of their climate change mitigation strategies. Furthermore, international initiatives such as the Bonn Challenge recognize the restoration of degraded forests in the region as a viable climate mitigation measure (UNFCCC, 2023). In Georgia, the new Forest Code[22] was approved in 2020. This codified reforms aimed at the development and implementation of the principles of sustainable management of forest resources. The main foundations thereof are the reduction of pressure on the use of forests and the provision of ecological and economic benefits. Subsequently, the new "Rule on Forest Use"[23] was introduced to determine legislative mechanisms on sustainable management and the use of forests, designed to safeguard the sustainable use of Georgia's forest resources by enhancing protection and maintaining the ecological value of forests. Therefore, against the backdrop of these developments in Georgia's forestry sector, financial arrangements such as debt-for-environment swaps may accelerate sustainable development and improve environmental practices in this sector even further.

[22] https://matsne.gov.ge/ka/document/view/4874066?publication=2#DOCUMENT:1;
[23] https://matsne.gov.ge/ka/document/view/5169447?publication=0

GREEN TAXONOMIES USED IN THE GEORGIAN FINANCIAL SECTOR

Essentially, a green taxonomy is a classification system defining which economic activities can be considered environmentally sustainable. It sets out criteria to establish a given activity contributes to environmental objectives, such as climate change mitigation, the use of sustainable energy, and transitioning to the circular economy. A taxonomy is a tool that can guide investors, businesses, and policymakers in identifying and supporting green activities.

Before the adoption of the NBG Taxonomy, some banks and IFIs had already created their own internal green taxonomies in Georgia. Most of these taxonomies are still being used, parallel to the NBG Taxonomy. During the development of the NBG Taxonomy, the EU Green Taxonomy[24] and several national taxonomies were analyzed, with the final document produced by the NBG, taking the local context into consideration.

THE GREEN TAXONOMY OF NBG

The NBG Taxonomy is divided into 11 main categories, each of which comprise various categories and sub-categories. Figure 2 illustrates the distribution of categories and sub-categories accordingly.

Figure 2: Green Taxonomy distribution by categories and sub-categories

Main Category	Number of Categories	Number of Sub-categories
Energy	7	16
Energy Efficiency	3	8
Waste	4	9
Water	3	7
Pollution	2	6
Transport	7	17
Agriculture	2	7
Biodiversity	3	12
Buildings	3	11
Production	2	6
Service	3	6

Source: National Bank of Georgia

[24] https://finance.ec.europa.eu/sustainable-finance/tools-and-standards/eu-taxonomy-sustainable-activities_en

During the development of categories and technical criteria, the NBG conducted meetings with representatives of government structures responsible for individual business sectors. Doing so ensured that the NBG was reliably informed about the existing national baselines in Georgia and could account for potential changes in legislation and government requirements in the future. For instance, the technical criteria for the construction of new buildings in the NBG Taxonomy differentiate between three time periods: 2022-2024; 2024-2029; and 2030 onwards. Each time period has different criteria such as with regard to construction permits or energy audits of buildings.

Internal taxonomies, such as the one developed by ProCredit Bank Georgia, utilize U values (a metric applied to determine the effectiveness of building elements in preventing heat transfer) to assess energy efficiency in buildings. In contrast, the green taxonomy of Kazakhstan (NBK, 2021) only considers buildings to be energy-efficient if they have been certified by international organizations like LEED, EDGE, BREEAM, or DGNB.

Some sub-categories such as "electricity generation from solar energy and wind" lack specific technical criteria in the NBG Taxonomy. Without clear guidelines, loans under these categories are automatically classified as green. This practice has also been observed in banks' internal taxonomies.

However, such an approach may lead to ambiguity and the potential misrepresentation of investments as "green." In contrast, sub-categories like "electricity generation from hydropower" have specific technical criteria, ensuring a more rigorous evaluation process.

Sub-categories like the "Purchase of EE industrial machinery and technology" and "Energy efficient appliances (end user)" are modeled on on external EU labels. While this simplifies loan assessment, many products on the Georgian market, particularly industrial machinery, may not bear EU energy labels, leading to the potential underreporting of green loans.

To aid banks in the adoption of the new taxonomy, the NBG introduced a tool based on Microsoft Access. However, none of the banks utilize the tool, which has been available for a year already, citing compatibility issues and the need for a more efficient solution. Despite these challenges, the development of the NBG Taxonomy represents a significant step towards promoting sustainable finance in Georgia. Nevertheless, ongoing refinements and collaboration among stakeholders will be required to ensure its effectiveness.

PROCREDIT BANK GEORGIA'S GREEN TAXONOMY

The internal taxonomy used by ProCredit Bank Georgia is a notable example of the taxonomies that were prevalent in the Georgian financial market before the adoption of the NBG Taxonomy. Developed with the assistance of international experts, the former focuses on energy efficiency, renewable energy, and other environmentally-friendly activities. It is of course tailored to the needs of ProCredit Bank Georgia

and was devised by calculating national baselines in Georgia and setting out criteria, the meeting of which would ensure a 20% reduction in energy use. The taxonomy is divided into the following three parts:

- Energy efficiency (EE) – Savings in energy in many industries and applications ranging from household items to buildings and industrial machinery.
- Renewable energy (RE) – Electricity production from wind, solar, geothermal, and hydro sources.
- Green measures (GR) – Other environmentally-friendly activities such as trade and resale of energy-efficient appliances, energy audits, and organic farming.

The taxonomy includes specific sub-categories concerning energy efficiency in industrial machinery, with tailor-made criteria to simplify analysis. Technical requirements are regularly updated to ensure that the taxonomy remains relevant and effective over time, reflecting improvements in Georgia's baseline standards. As a result, ProCredit Bank Georgia purports to have more green loans in its portfolio compared to those it has reported to the NBG, partly due to the flexibility of the former's internal taxonomy.

GREEN TECHNOLOGY SELECTOR

The Green Technology Selector, developed by the EBRD and the Green Economy Financing Facility (GEFF), is a digital platform showcasing certified green technologies and energy-efficient products. Its primary objective is to assist potential buyers in selecting energy-efficient products, thereby promoting sustainable practices in general. The platform operates by allowing technology manufacturers or resellers to submit the technical characteristics of their products. Qualified technical experts then analyze these submissions, with approved technologies then displayed on the platform's website.

Its website covers a wide range of categories, encompassing various products ranging from windows and water recovery technology to small appliances like washing machines and air conditioning systems. Each product featured on the website meets the necessary criteria to be considered energy-efficient. Meanwhile, potential buyers can search for specific products on the website and contact the respective sellers to make purchases. Upon approval, the website generates a digital certificate for the chosen product(s). On the basis of these certificates, bank representatives can then classify investments therein as green.

Overall, the Green Technology Selector, as well as being very user-friendly, plays a crucial role in promoting sustainable technology options to potential customers, particularly those who may lack expertise in energy efficiency.

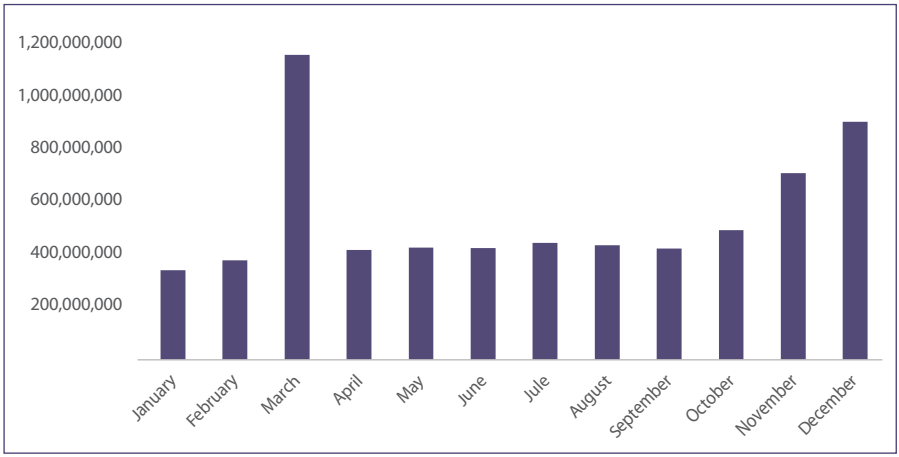
THE NBG'S ADOPTION OF A GREEN TAXONOMY

The adoption of the NBG's Taxonomy in Georgia has enjoyed progress and faced some challenges, as reflected in the reported data on outstanding green loans (Figure 3). The NBG has released data regarding the outstanding amounts of green loans categorized into different sectors and reporting months[25] in the first year since the NBG Taxonomy's implementation. These data provide insights into the extent to which green finance practices are being adopted within the country.

In 2023, green loans were reported in only 28 out of 105 possible categories. This indicates that some sectors may have faced challenges in aligning their loan portfolios with the new taxonomy framework. In addition, it could also suggest that some categories may not have been relevant to the Georgian context.

Despite some difficulties in categorization, the total outstanding amount of green loans increased steadily throughout the year covered in the released data. Specifically, the reported amount reached 880,982,014 GEL by December 2023, with a positive trend indicated throughout the year, albeit with some anomalies which were likely to have been due to reporting errors. For example, March 2023 stood out as a notable outlier.

Figure 3: Amount of green loans outstanding for 2023 (GEL)



Source: National Bank of Georgia

[25] It is important to outline that these are figures reported by banks, which were not checked by the NBG or other third parties. That means loans that do not comply with the NBG Taxonomy's criteria might still have been reported.

Figure 4 illustrates the distribution of the four largest green loan categories reported to the NBG as of December 2023, which are as follows:

1. **Renewable Energy Projects (Hydropower):** The largest category consists of loans financing renewable energy projects, particularly those related to electricity generation from hydropower. These projects play a crucial role in Georgia's energy sector and have been a key focus of sustainable development efforts in the country. Banks have found it relatively easy to report loans under this category, as they were already familiar with classifying such projects separately prior to the implementation of the NBG Taxonomy.

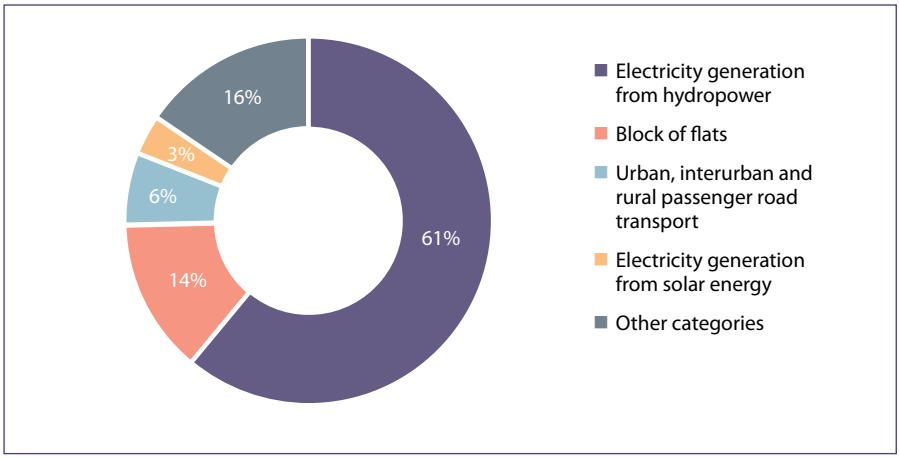
2. **Blocks of Apartments:** Loans for blocks of apartments make up a substantial portion of Georgia's green loan portfolio, indicating a growing interest in sustainable urban development and construction projects. However, accurately categorizing these loans presented some challenges due to technical complexities and a lack of incentives for clients to provide information on energy-efficient construction.

3. **Urban, Interurban, and Rural Passenger Road Transport (Hybrid):** This category encompasses loans for hybrid and other types of passenger road transport, catering to both urban and rural areas. The eligibility criteria for these loans are relatively lenient.

4. **Electricity Generation from Solar Energy:** Loans for electricity generation from solar energy rank fourth in terms of outstanding amount. Despite not being as prevalent as hydropower projects, solar energy projects nevertheless represent a significant segment of Georgia's renewable energy initiatives. Banks have found it relatively straightforward to report loans under this category, given their prior experience in classifying such projects.

Overall, the characteristics of these four leading categories highlight the diversity of green finance activities in Georgia, ranging from renewable energy projects to sustainable urban development and transportation initiatives. While some categories may pose challenges when it comes to classification, in others, particularly those related to renewable energy, banks benefit from an existing familiarity with their separate classification prior to the introduction of the NBG Taxonomy.

Figure 4: Most common categories of green loans as of December 2023



Source: National Bank of Georgia

Figure 5: Least common categories of green loans as of December 2023

Category	Amount (GEL)
Production of bio/organic products	19,901,820
Facilities for re-use of materials	19,200,878
Climate-smart agriculture	17,366,312
Facilities for recycling materials	16,970,282
Freight road transport	11,272,924
Hybrid passenger cars and light commercial vehicles	9,047,622
Production of bio-wine	7,864,545
Production of heating/cooling from solar energy	7,659,613
Manufacturing and trading of energy-efficient equipment, technologies, and products	5,139,822
Electric and hydrogen cars, light commercial vehicles, and electric motorcycles/mopeds/bicycles	4,563,773
Industrial and agricultural vehicles	4,437,489
Upgrading of industrial machinery and technology	3,654,093

Source: National Bank of Georgia

Figure 5 presents an overview of categories of green loans as of December 2023 that make up 1% or more of the total loan portfolio, but are outside the aforementioned top four categories. These include the production of bio/organic products, climate-smart agriculture, and bio-wine production, which together account for over 43 million GEL. While green agriculture shows growth potential, the market remains relatively small, with few companies meeting the NBG's certification criteria.

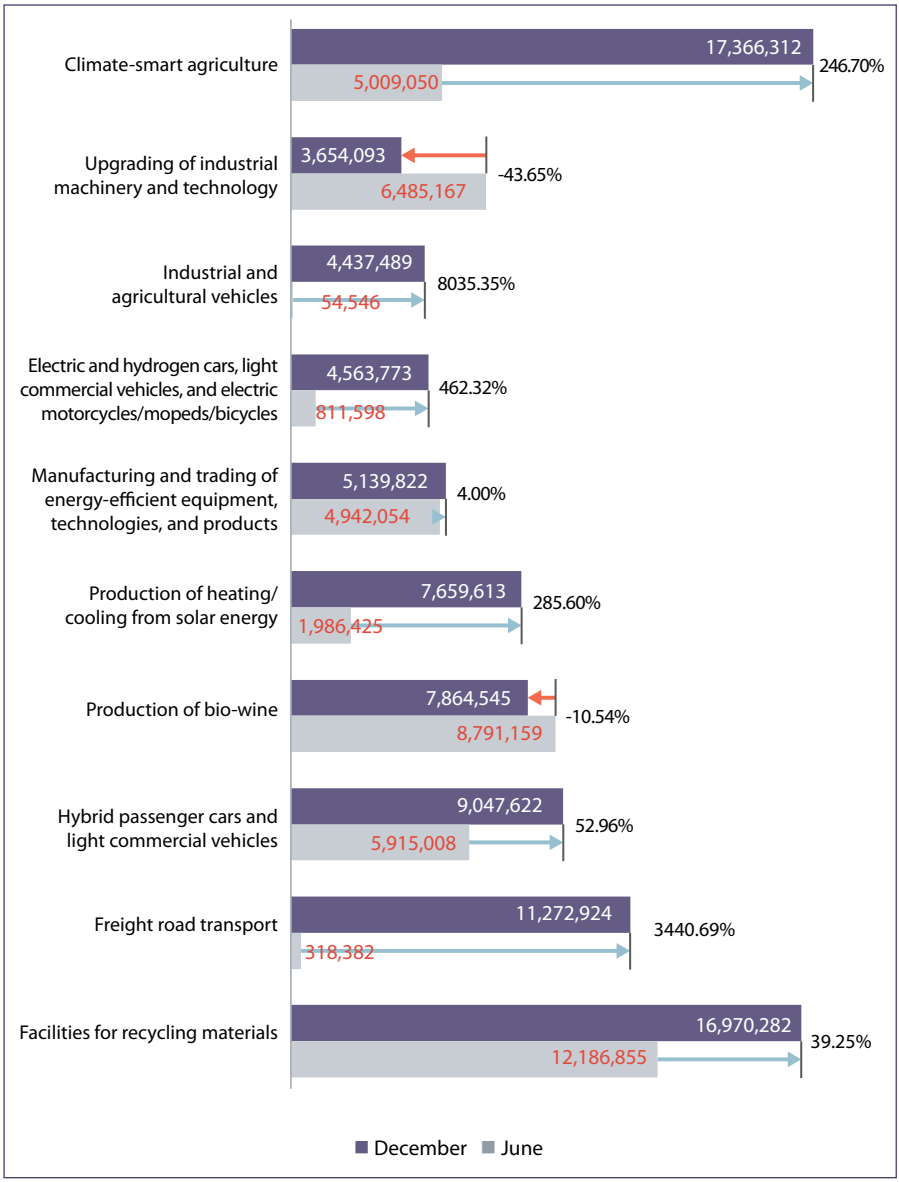
In 2023, light automobiles were Georgia's largest import commodity, yet EVs comprised only 1% of green loans for the year, totaling 4.5 million GEL (National Statistics Office of Georgia, 2024). Despite this, bank representatives anticipate a significant increase in demand for EVs in the coming years. Several banks have partnered with electric car importers to offer special terms and discounts, and ProCredit Bank Georgia has facilitated further adoption by installing free EV chargers throughout Georgia.

As of December 2023, the upgrading of industrial machinery and technology category made up less than 1% of the total loan portfolio. Despite interest reductions being provided by Enterprise Georgia for such loans, designed to encourage businesses to modernize their machinery, uptake remains low. Of note, some bank representatives suggested that the actual volume of green loans disbursed is likely to be higher than reported, as the complex technical criteria leave many loans not classified as green.

Loan reporting under the new NBG Taxonomy commenced in January 2023, but most banks had not completed a full analysis of their portfolios at that time. All parties, including the NBG, anticipated that in 2023 banks would review their portfolios and expand their green loan categories. Some banks initially submitted blank reports to the NBG and only started providing data on green loans by mid-2023. Nevertheless, the total volume of reported green loans increased from 330 million GEL to 880 million GEL over the course of the year. The number of green categories also grew, from 17 in January to 28 in December.

Figure 6 illustrates the changes between June and December 2023in outstanding amounts for some categories of loans reported to the NBG. It could be gleaned from this that banks have been analyzing their portfolios, verifying their compatibility with NBG Taxonomy criteria, and increasing amounts in certain categories accordingly while also adding loans from new categories. For instance, the amount reported in the "Electric and hydrogen cars, light commercial vehicles and electric motorcycles/mopeds/bicycles" category increased by 462% in the reviewed period. However, some categories, like "Production of bio-wine," experienced only slight decreases, which were potentially due to only loan repayments or fluctuations in foreign exchange rates. In addition, the "Upgrading of industrial machinery and technology" category saw a significant decrease, possibly indicating initial overreporting that was corrected by December.

Figure 6: Changes in the amount of green loans outstanding between June and December 2023 (GEL)

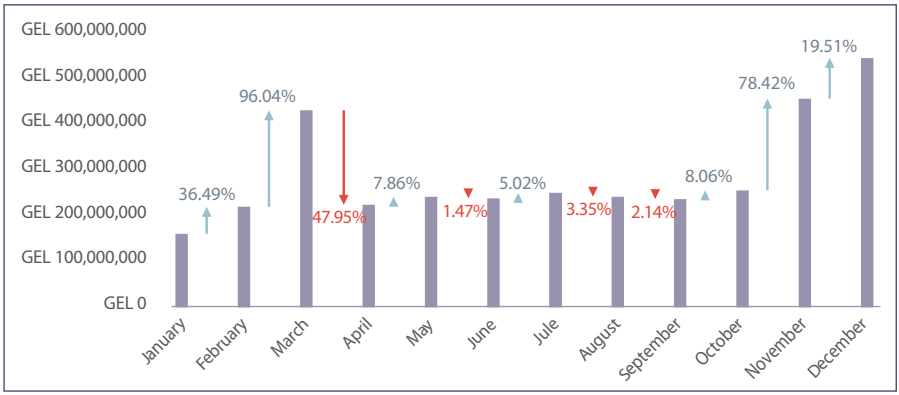


Source: National Bank of Georgia

"Electricity generation from hydropower" stands out as the dominant category within the NBG Taxonomy. As of December 2023, it represented 61% of the total green loan portfolio, with 537.5 million GEL. Figure 7 illustrates the upward trajectory of the outstanding amount reported to the NBG and reveals some noteworthy trends. Excluding data from March, a steady increase is visible during the early months of 2023, followed by a period of stabilization in the middle of the year, and a subsequent resurgence towards the year's end.

Bank representatives unanimously agreed in conducted interviews that identifying loans disbursed for "Electricity generation from hydropower" was straightforward. Such loans had already been internally identified by the banks, and the nature of the category meant that they were fewer in number but higher in outstanding amount. Meanwhile, the rise observed in the later months of the year can be attributed to more banks reporting data to the NBG.

Figure 7: Reported amount of green loans outstanding under the "Electricity generation from hydropower" category in 2023 (GEL)

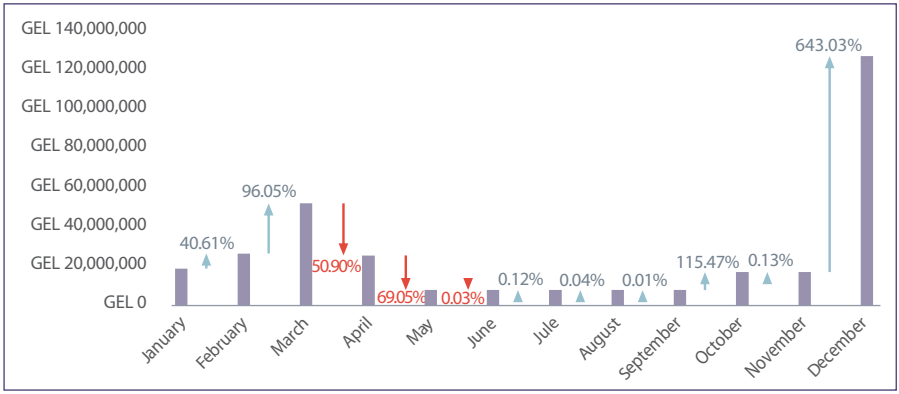


Source: National Bank of Georgia

As of December 2023, the category of "Blocks of apartments" was the second biggest, amounting to 120 million GEL and making up 14%of the overall green loan portfolio. Figure 8 illustrates that the outstanding amount reported in this category was 18 million GEL in January 2023, rising in March to 49 million GEL, after which it decreased and stabilized in the middle of the year at around 7.5 million GEL, before soaring to 120 million GEL in December. The data from the NBG lack specificity as to which banks are responsible for increases or decreases in a particular category. None of the banks whose representatives where interviewed provided any reference to their portfolio of green blocks of apartments dramatically increasing by the end of 2023. The outliers in the data can be attributed to partial re-evaluation of the portfolio by banks, new banks starting to report their green loans in this category, and reporting errors made by commercial banks.

Irrespective of why these fluctuations occurred, the drastic changes from month to month suggest that the banks are still not providing precise and reliable data about green loans. As seen in Figure 8, the reported total outstanding amount doubled twice, halved twice, and increased by 643% from November to December. Upon the introduction of its new taxonomy, the NBG expected that the banks would have trouble reporting their portfolios correctly. Nevertheless, monthly fluctuations of this scale raise questions about the credibility of the overall portfolio.

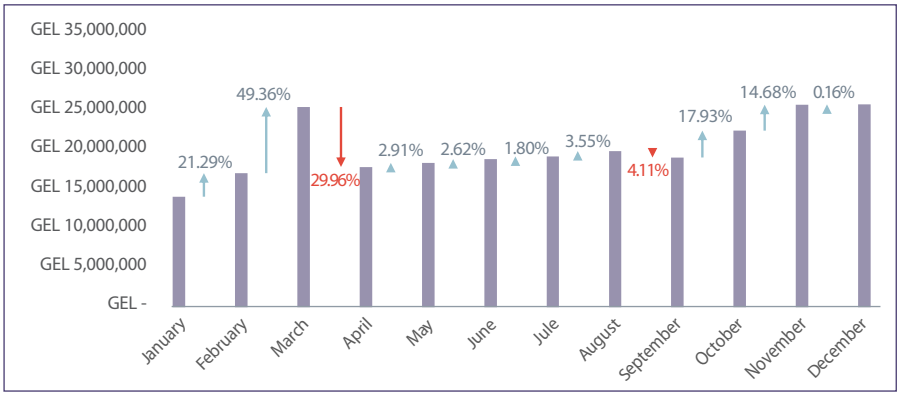
Figure 8: Reported amount of green loans outstanding under the "Blocks of apartments" category in 2023 (GEL)



Source: National Bank of Georgia

Meanwhile, in some categories limited fluctuations were noted from month to month during 2023, and their reported total outstanding amounts were consistent and in accordance with general expectations. Figure 9 shows the outstanding amount reported in the category of "electricity generation from solar energy" in 2023. The total reported amount increased from 17 million GEL to 30 million GEL over the year. If we ignore the data from March, which are inflated in almost every category, this rise was incremental. Interviewed bank representatives stated that reporting loans under this category is not technically challenging for them, and they had started reporting their outstanding amount here from the beginning of the year as the loans were already classified accordingly in their internal systems. The data here reaffirm the assessment made by the bank representatives that the market showed a growing interest in this category.

Figure 9: Reported amount of green loans outstanding under the "Electricity generation from solar energy" category in 2023 (GEL)



Source: National Bank of Georgia

Before the start of the reporting period, the NBG expected that reporting disbursed green loans would pose a substantial challenge for many banks due to technical shortcomings and a lack of dedicated staff. Accordingly, it considered 2023 a trial year, thereby giving the banks time to create their own internal systems and refine their reporting processes. Consequently, the NBG did not check any reported loans and took the data provided by the banks at face value. Overall, the increase in the total green loan portfolio in the country is undoubtedly a positive sign. The data confirm that in the later months of 2023, an increasing number of banks became interested in the NBG Taxonomy, leading to an increase in the reported amount of green loans.

Banks that had already developed internal taxonomies or had extensive experience of working with IFIs began reporting parts of their green loan portfolios from the beginning of 2023. Simultaneously, banks analyzed their existing portfolios and retroactively added older loans to their green portfolio. Moreover, all interviewed banks enhanced their internal processes to better analyze loans at the moment of disbursement. For example, one medium-sized bank amended its process so that every loan had to be analyzed by special staff to determine if it could be considered green. Similarly, a larger bank introduced rewards for their front office staff and credit officers based on the number of green loans they handled. In addition, one bank conducted training for front office staff and is now considering setting key performance indicators (KPIs) specifically for green loans to increase employees' interest in reporting them.

The main issue highlighted in the data analysis is the inconsistency of reporting. As stated above, the anomalous high figures reported in March can only be attributed

to incorrect reporting. Moreover, the reported outstanding amount in many categories varied significantly from month to month, which again is largely due to inaccurate reporting. To address this problem, stricter quality control measures, streamlining of internal reporting processes, and additional staff training within the banks are necessary to improve the quality of reported data. Bank representatives confirmed that they are actively working on these issues, and it is expected that reporting quality will improve in the future as banks tweak their internal processes and staff become more familiar with the NBG Taxonomy regulations and requirements. However, if the quality of reported data remains low, the credibility of the whole green loan portfolio may be called into question. To prevent reporting inaccuracies, the NBG should increase its oversight of reported amounts to incentivize banks to improve their internal processes.

Despite these challenges, the overall picture for green finance adoption in Georgia is positive. As previously noted, the amount of reported green loans has risen significantly already, indicating the growing interest of Georgian banks in sustainable finance. Accurate reporting from the banks and oversight from the NBG is essential to ensure data integrity and maintain the credibility of the country's green loan portfolio.

FUTURE OUTLOOK

Looking ahead, the future of green finance in Georgia appears promising, according to the interviewed stakeholders. There is a consensus among them that such practices are growing in popularity, driven by an increasing interest from financial organizations, new regulations, and heightened client awareness of the benefits of energy-efficient investments. The inaugural year of the NBG Taxonomy can be deemed successful overall, with more banks reporting their green loan portfolios and implementing internal processes to identify and label green investments. Moreover, the growing interest from IFIs bodes well for future projects in the green finance domain, with the emergence and expansion of green bonds offering additional opportunities as well.

The interviewed representatives of major banks anticipate a surge in demand for green investments in specific categories in the coming years. Two particular areas in which growth is anticipated imminently are EVs and energy-efficient construction. The demand for energy-efficient buildings is expected to rise due to new regulations mandating strict energy efficiency standards for new constructions. Similarly, advancements in EV technology are forecast to make them more suitable for the Georgian market, thereby driving up demand. Indeed, some banks have already begun advertising EV products accordingly. In addition, the MoESD's Contract for Difference (CFD) auctions for renewable energy projects are expected to boost demand for financing such products. Key players also foresee rising interest in micro-loans for energy-efficient household appliances as consumers become increasingly aware of the benefits of energy savings.

However, to ensure continued progress in the green finance sector, it is essential to address existing challenges. Accordingly, the listed recommendations aim to navigate and overcome such obstacles and make certain that opportunities for development are properly grasped.

Stakeholder engagement and collaboration

Despite ongoing efforts to facilitate dialogue between different green finance stakeholders in Georgia, including group and individual meetings of the NBG, commercial banks, the Banking Association of Georgia, and IFIs, some challenges persist. Therefore, the continuation of regular dialogue is essential to eliminate challenges, fill gaps, and facilitate the effective implementation of greening initiatives.

Relatedly, a simple mailing list can be used by stakeholders to exchange information about ongoing changes and developments. Moreover, the creation of a green finance group and organizing in-person meetings twice per year to discuss ongoing issues would be helpful for all participants. Such a group can be headed by representatives

from the NBG and composed of bank representatives responsible for green finance[26], as well as IFIs who offer green products on the market. Alternatively, the Banking Association of Georgia can be responsible for continuous collaboration between all relevant stakeholders. In addition, mechanisms could be added to evaluate the effectiveness of the proposed dialogue platforms and collaboration initiatives, as well as to gather feedback from prospective participants. This could include surveys, holding feedback sessions, and/or establishing feedback channels to conduct impact assessments and identify areas requiring improvement.

Capacity building and technical assistance in commercial banks

Efforts should continue and intensify to develop comprehensive training programs and capacity-building initiatives for bank staff. These initiatives ought to enhance their understanding of green finance principles, taxonomy regulations, risk management, and portfolio management. Moreover, the training should cover the topics of energy efficiency, renewable energy, how to identify green investments, the needs of the Georgian market, and challenges in data collection. Such sessions and experience-sharing ought to be facilitated by category experts. Meanwhile, IFIs can assist here as well as they employ experts with extensive experience in their fields.

Monitoring and enforcement of the existing NBG green taxonomy

To maintain the credibility of green financing efforts, it is essential to enhance the monitoring and enforcement mechanisms. This includes conducting regular audits and inspections to validate the accuracy of reporting and to prevent instances of greenwashing within the financial sector. Clear penalties and consequences should be imposed on institutions found to violate green finance regulations or engage in greenwashing practices. These measures may include fines, sanctions, and reputational damage. In the long term, mechanisms to monitor and enforce the existing NBG green taxonomy should consider the "double materiality" approach. This entails reporting on sustainability issues that also consider broader environmental impacts, rather than solely focusing on financial issues. However, for financial institutions and lenders to embrace such practices in the future, comprehensive technical assistance and awareness-raising efforts are necessary. Additionally, the private sector would benefit from external support to enhance its knowledge and documentation of green activities, as this may be challenging to achieve independently due to a lack of awareness regarding the benefits of sustainable approaches and other constraints. Strengthening these oversight measures would help to ensure adherence to green finance regulations and standards, promoting transparency and accountability in sustainable investment practices.

[26] These could include the commercial banks that currently do not offer green products but are planning to introduce such products in the near future.

Creating a regulatory base with a clear definition of greenwashing

It is recommended that the NBG take the initiative to develop a clear and comprehensive definition of greenwashing, tailored to the Georgian context. It should encompass various forms of greenwashing practices, such as misleading advertising, false claims of environmental benefits, and misrepresentation of financial products as green. Guidelines and standards for financial institutions could be created here to ensure transparent and accurate communication about the environmental impacts of their products and services. These guidelines may outline best practices for green marketing, disclosure of environmental performance data, and verification of sustainability claims.

Analyzing reported data

It is recommended that the NBG analyzes the reported amounts of green loans at least once per quarter. Based on that analysis, the NBG must then follow up with banks whose data significantly fluctuates from month to month. During 2023, due to mistakes in reporting, the outstanding amounts reported to the NBG shifted dramatically from month to month. If such high levels of fluctuation continue in 2024, the reported data may be deemed untrustworthy, and the validity of the NBG's Sustainable Finance Status Report will come under question.

Adding a non-standard assessments category

The development of a template for non-standard assessments would improve the flexibility of the NBG Taxonomy. Bank representatives indicated that some loans in their portfolios are assessed by IFIs, but they cannot report them to the NBG since there is no corresponding category. These loans are typically for the purchase of new industrial equipment and are few in number but high in monetary value. Such a template could be basic, serving as a tool for energy efficiency specialists to make calculations. Several banks and IFIs are currently using such assessments and could thus contribute their expertise to the development of the template.

Creating a new tool for the NBG Taxonomy

Given that the tool developed by the NBG for its new taxonomy is not currently being used by anyone in the market, it is recommended that the NBG devise a replacement. Notably, a well-developed tool would greatly assist smaller banks, which may lack the capacity to analyze their disbursements and portfolios. Similar tools and processes already developed by larger banks can serve as guides here regarding what works effectively in the Georgian market. The new tool should focus on technical assessment rather than reporting. Furthermore, it should be user-friendly and ought not to require prior knowledge of energy efficiency. After the user selects the relevant category, the tool should then provide technical requirements, helpful tips, and even examples to assist bank staff to correctly categorize a loan as green.

In addition, a separate tool could be developed specifically to measure the energy efficiency of buildings. A similar tool is already being used by one of the banks and

it has helped to streamline the process of analyzing investments in buildings. With this tool, clients or bank representatives would simply input general data about the given building, such as wall thickness and materials or roof specifications, and the tool would determine whether the building meets the energy efficiency criteria.

Rewarding banks with the greenest portfolios

The banking sector is highly competitive in Georgia and banks in their promotional materials often outline the positive impact of their operations on the environment. It is thus recommended that the NBG establish a symbolic annual award for the bank with the highest percentage of green loans in their overall portfolio, and/or for the bank with the largest green portfolio overall. This initiative would foster healthy competition among banks, as the prestigious status gleaned from winning such an award could be effectively marketed to consumers and IFIs alike, potentially leading to more favorable negotiations for cheaper lines of credit.

Collaboration between Enterprise Georgia and banks

As Enterprise Georgia is in the process of developing a new product for green financing, it is advisable that it engage in meetings with representatives from banks. These discussions should aim to ascertain the current market requirements and identify the most effective mechanisms for facilitating growth in green finance. Moreover, Enterprise Georgia can serve as a catalyst for promoting awareness among businesses about how to integrate green practices into their operations. This could be achieved through various means, including training sessions, consultations, and awareness-raising campaigns conducted within the newly established Growth Hubs.

In conclusion, while green finance in Georgia is gaining momentum, its sustained growth will hinge upon collaborative dialogue, capacity-building initiatives, and robust enforcement mechanisms. Furthermore, strategic partnerships and incentivization will also be vital in driving continued progress towards a sustainable future in this regard.

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