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DEVELOPMENT OF GREEN FINANCE MECHANISMS IN EMERGING ECONOMIES: THE CASE OF UZBEKISTAN

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Abstract. This article provides a systematic analysis of green finance mechanisms emerging in Uzbekistan over 2020–2025. Drawing on data from the Ministry of Economy and Finance, the Central Bank, and multilateral development banks (ADB, EBRD, World Bank Group), as well as OECD and UNDP reports, the study finds that Uzbekistan has institutionalized its green agenda, issued three thematic bonds totaling over USD 1.07 billion (the 2021 sovereign SDG bond, the 2023 sovereign green bond, and the 2024 Agrobank corporate green bond), and mobilized more than USD 18.5 billion of international finance. Installed renewable capacity (solar and wind) rose from near zero in 2019 to 4.7 GW by October 2025, targeting 27 GW by 2030. Nevertheless, the financing gap estimated by the OECD at USD 6 billion per year is met only at ~67%, while the state-dominant structure and shallow domestic capital market remain key constraints. The paper offers policy recommendations on deepening green finance instruments, taxonomy development, the corporate market segment, and regional leadership in Central Asia.

Keywords: green finance, thematic bonds, NDC, green economy transition, multilateral development banks, Uzbekistan, emerging markets, ESG, climate policy.

JEL classification: Q56, G18, O44, P28, F65, H81.

1. Introduction

The climate transition in the emerging economies of Central Asia has become one of the defining themes of economic policy in the 2020s. According to OECD estimates, Uzbekistan requires at least USD 6 billion annually to implement its low-carbon development strategy through 2030, with more than two-thirds of this sum expected to come from private and international sources [3]. This gap between need and the capacity of the state budget makes the development of a national green finance architecture a key factor in implementing the Paris Agreement and the country's Nationally Determined Contributions (NDCs).

Historically oriented toward a resource-extraction model and characterized by one of the highest levels of GDP carbon intensity in the region, Uzbekistan has nonetheless achieved an institutional shift over the past five years. The 2019 Strategy for the Transition to a Green Economy, the 2021 update of the NDC with a threefold increase in climate ambition, the issuance of three thematic bonds on the London Stock Exchange, and the adoption of "Uzbekistan-2030" as a comprehensive strategic framework have together created the basis for the systematic mobilization of capital for sustainable development.

This study provides a comprehensive analysis of the green finance mechanisms forming in Uzbekistan over 2020–2025, assesses their quantitative and qualitative characteristics, identifies barriers, and formulates recommendations for further improvement. Its novelty lies in systematizing empirical data on thematic bond issuances, MDB commitments, and renewable-capacity dynamics, in comparing Uzbekistan with regional peers, and in proposing concrete scaling instruments.

The article is structured as follows: Section 2 reviews the literature and conceptual foundations; Section 3 describes the methodology; Section 4 presents the empirical analysis across six dimensions (institutional base, thematic bonds, renewables, international finance, the banking sector, and regional comparison); Section 5 discusses the findings; and Section 6 concludes with recommendations.

2. Literature Review and Conceptual Framework

The concept of green finance has developed in the international academic literature since the late 2000s and was systematized in the work of Volz [17], where green finance is understood as the financing of investments that deliver environmental benefits in a broad sense — reductions in greenhouse-gas emissions, improved energy efficiency, biodiversity protection, sound water use, and the transition to a low-carbon economy. Institutionally it spans three segments: (1) thematic debt-market instruments (green, social, sustainability, and SDG bonds); (2) credit products (green loans under the 2023 Green Loan Principles); and (3) equity funds and instruments (ESG funds, impact-investing vehicles).

For emerging markets, the Climate Bonds Initiative records sustained growth of the global thematic-debt market: from USD 270 billion in 2020 to USD 870 billion in 2023 — a 3.2-fold increase in three years [16]. However, the share of emerging economies in this segment remains low (about 18–20% by issuance volume), and Central Asia has historically been represented only sporadically, mainly through corporate issuers in Kazakhstan.

The OECD (2023) report on Uzbekistan provides the most complete analytical base: it systematizes institutional preconditions, assesses the risks of a shallow domestic capital market, and offers taxonomy recommendations [3]. The 2025 OECD "Roadmap for Sustainable Investment Policy Reforms in Uzbekistan" updates the assessment of progress [4]. UNDP and national publications (the Allocation and Impact Reports of 2022 and 2025) supply primary data on the allocation of funds and climate impact [5, 6].

In the domestic literature, green finance is examined mainly in regulatory and strategic terms (work by the Institute for Forecasting and Macroeconomic Research and the Center for Economic Research and Reforms). Systematic quantitative studies using primary data on bond issuances and fund allocation for 2021–2024 remain limited, which defines the scholarly and practical novelty of this work.

3. Methodology

The study is based on empirical analysis of secondary and primary data for 2020–2025, using the following methods: collection and systematization of data on thematic bond issuances (issuance prospectuses, allocation reports of the Ministry of Economy and Finance, and Sustainalytics reports); analysis of the annual reports of MDBs (ADB, EBRD, World Bank Group, AIIB, IsDB) for 2020–2024; statistical analysis of installed renewable capacity and commercial-bank loan portfolios (sources: the Ministry of Energy, the Central Bank, Enerdata, and IEA); comparative analysis against regional peers in Central Asia and comparable emerging economies; and qualitative SWOT and gap analysis of financing needs versus actual flows.

All monetary figures are given in US dollars at the exchange rate on the issuance or commitment date. For bonds denominated in national currency (Uzbek soum), the average monthly Central Bank exchange rate for the placement month is used. Bank loan-portfolio volumes are converted to dollar equivalents at the rate on 1 January of the relevant year.

4. Results

The institutionalization of the green agenda in Uzbekistan unfolded in three waves of reform. The first wave (2019–2020) was marked by the adoption of the Strategy for the Transition to a Green Economy for 2019–2030 under Presidential Decree No. UP-5544 of 4 October 2019 [1], which established five priorities: improving economic energy efficiency, diversifying the energy mix toward renewables, the rational use of natural resources, the development of low-carbon sectors, and strengthening climate resilience.

The second wave (2021) is associated with the October 2021 update of the NDC (NDC-2), in which Uzbekistan raised its target for reducing specific greenhouse-gas emissions per unit of GDP from 10% by 2030 (NDC-1, 2017) to 35% relative to the 2010 level — a more than threefold increase in ambition [7]. Targets were also approved for the share of renewables in installed capacity (25% by 2030) and for doubling the energy-efficiency indicator relative to 2018.

The third wave (2023–2025) included the adoption of the "Uzbekistan-2030" strategy, the 2024 revision of the renewables target to 40%, and the drafting of NDC-3, presented at a national validation workshop in Tashkent in July 2025 [8]. NDC-3 broadens coverage to economy-wide targets spanning CO_2, CH_4, N_2O, and HFCs and the five IPCC sectors (Energy; IPPU; Agriculture; LULUCF; and Waste).

Table 1. Key institutional and strategic milestones of Uzbekistan's green agenda, 2019–2025

Year	Document / event	Key provisions
2019	Decree No. UP-5544: Green Economy Strategy to 2030	Five priorities: energy efficiency, renewables, natural resources, low-carbon sectors, climate resilience.
2021	NDC-2	Cut specific GHG emissions per unit of GDP by 35% by 2030 vs. 2010; target renewable share of 25% in generation.
2021	Sovereign SDG bond	USD 235 million (UZS-denominated), 14% coupon, 3 years; first in the CIS, second in the world (SDG label).
2023	"Uzbekistan-2030" strategy	Comprehensive decarbonization and energy-efficiency goals; framework for sectoral programs.
2023	Sovereign green bond	UZS 4.25 trillion (~USD 380 million), 16.25% coupon, 3 years, LSE; first sovereign green bond in the CIS.
2024	Corporate green bond (Agrobank)	USD 455 million (USD 400 M for 5 years + UZS 700 bn for 2 years); 80% to climate-resilient

Year	Document / event	Key provisions
		agriculture.
2024	Revised renewables target	Renewable share of installed capacity raised from 25% to 40% by 2030; up to 27 GW of renewables.
2025	NDC-3 (draft)	Economy-wide targets; five IPCC sectors; integration with the long-term low-carbon strategy to 2055.

Source: compiled by the author from the Ministry of Economy and Finance of Uzbekistan, UNFCCC, and OECD (2023, 2025).

Thematic debt instruments have become the central channel for mobilizing international capital. In July 2021 Uzbekistan became the first country in the CIS and the second in the world to place a sovereign SDG bond: USD 235 million (equivalent, denominated in soum), a 14% coupon, a 3-year tenor, on the London Stock Exchange [5]. Proceeds were allocated across seven SDG areas: Education (SDG 4), Water management (SDG 6), Health (SDG 3), Green transport (SDG 11), Pollution control (SDG 11), Natural-resource management (SDG 15), and Green energy (SDG 7).

In October 2023, on the same exchange, the country made its debut placement of sovereign green eurobonds worth UZS 4.25 trillion (~USD 380 million equivalent) with a 16.25% coupon and a 3-year tenor [9] — the first sovereign green bond in the CIS. The placement attracted more than 30 international investors from the United States, the United Kingdom, the EU, Asia, and MENA; during road-shows in New York, Boston, and London (2–4 October 2023), representatives of the Ministry of Economy and Finance and the Central Bank met with over 50 investors. Conventional eurobonds of USD 660 million were placed in parallel, and part of the soum proceeds (UZS 1.9 trillion) was directed to the early repayment of previously issued eurobonds.

By December 2024 the entire UZS 4.25 trillion had been allocated in line with the SDG Bond Framework [6]; the implementation program is named “Yashil Makon” (“Green Nation”). According to the 2023 allocation and impact report (Part 2), the main 2024 results included the use of 7.6 million m³ of groundwater for water-saving projects (largest shares in Navoi 26%, Samarkand 19%, Kashkadarya 12%); 2,717 ha of afforestation and tree planting; and the modernization of drinking-water and sanitation infrastructure. In March 2025 Sustainalytics issued an independent second-party opinion (SPO) confirming alignment with the Green Bond Principles and the Climate Bonds Standard [18].

The third stage of market development is associated with the entry of corporate issuers. In October 2024 Agrobank, the country’s third-largest bank (11% of sector assets and 12% of the loan portfolio as of 1 July 2024 [15]), placed the first corporate green eurobonds worth USD 455 million in two tranches: USD 400 million for 5 years and UZS 700 billion (~USD 55 million) for 2 years. The placement was oversubscribed at USD 1.1 billion, reflecting strong international investor interest in the Uzbek corporate segment [10]. Agrobank’s Green Finance Framework, developed with technical assistance from the Global Green Growth Institute (GGGI) and rated

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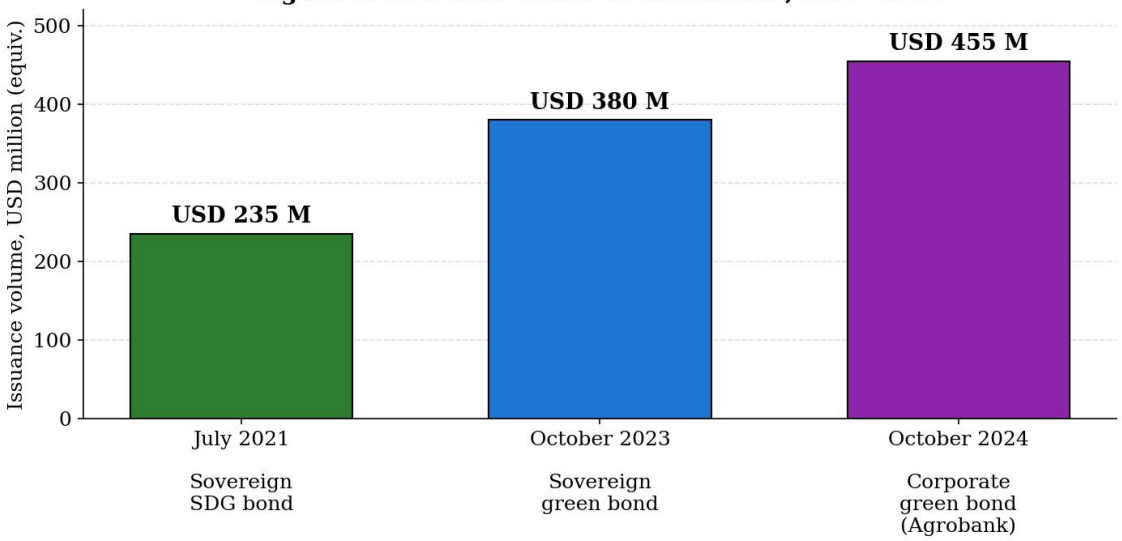
"excellent" by Sustainable Fitch, directs 80% of proceeds to climate-resilient agriculture and the remaining 20% to renewable energy, clean transport, and adaptation.

Figure 1. Thematic bonds of Uzbekistan, 2021-2024



Source: compiled by the author from the Ministry of Economy and Finance of Uzbekistan, LSE, UNDP, GGGI.

As Figure 1 shows, the volumes of thematic debt issuances reflect cumulative growth in investor confidence: each successive issuance exceeds the previous one in size, signaling an emerging issuer "track record" and a deepening market. The total for 2021–2024 reached USD 1,070 million in equivalent, with the corporate segment now comparable in scale to the sovereign one.

Green finance is transformed into tangible assets primarily through the commissioning of renewable capacity. In 2019 Uzbekistan's installed capacity was 12.9 GW, of which 84.7% came from gas-fired thermal plants and 14.3% from hydropower, while solar and wind were near zero. By the end of 2024 total capacity reached 21.9 GW, of which 2.7 GW was provided by nine solar plants and one wind plant across seven regions [19].

By October 2025 installed renewable capacity (solar plus wind) reached 4.7 GW out of total system capacity of about 20 GW. By the end of 2025, according to Uzbek regulators, total capacity reached 25.8 GW (up 17.8% year on year) and the renewable share of installed capacity reached 31% (8 GW) [19]. The 2026 plan envisages commissioning an additional 6.7 GW: 2.8 GW solar, 2.5 GW thermal, 884 MW of energy storage, 470 MW wind, and 68 MW hydro. The 2030 target is a 40% renewable share of installed capacity (about 27 GW) — three times the original NDC-2 target (25%) and 5.7 times the actual 2024 level.

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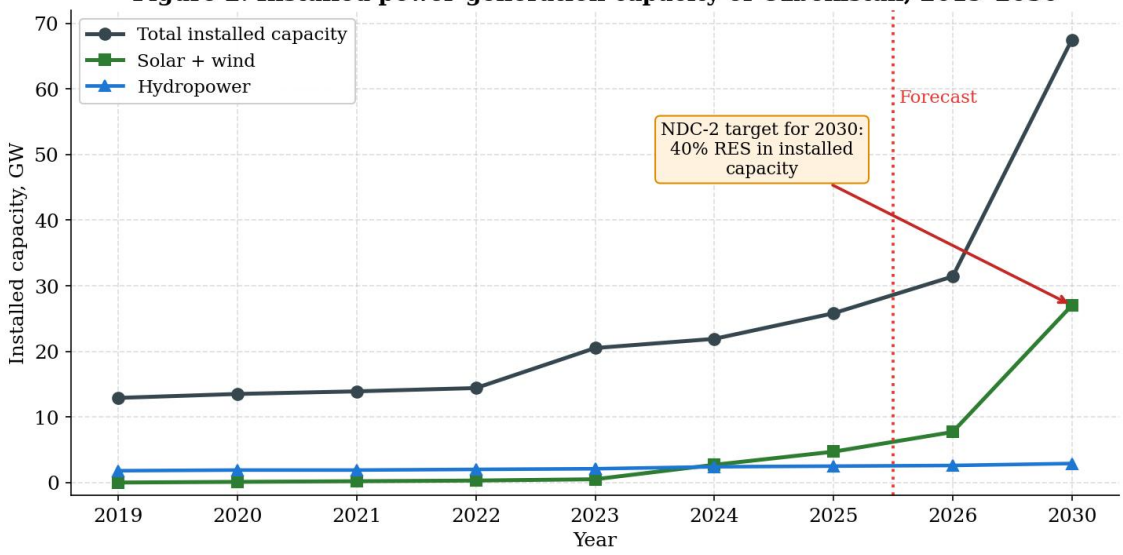
Figure 2. Installed power-generation capacity of Uzbekistan, 2019-2030



Source: compiled by the author from Enerdata (2026), IEA, OECD, Ministry of Energy of Uzbekistan. 2026–2030 — projected values.

Figure 2 illustrates the exponential commissioning of solar and wind capacity since 2023, driven by the simultaneous launch of several large projects: the Karmana solar plant in Navoi (100 MW, August 2021), the Nurabad plant in Samarkand (100 MW, May 2022), the Sherabad plant (457 MW, December 2023), and the Gallaaral (220 MW) and Karaulbazar (200 MW) plants, among others. Reaching 27 GW by 2030 requires commissioning at least 4.5 GW annually in 2026–2030 — an ambitious task requiring systemic solutions for grid infrastructure and storage.

The expansion of generating capacity nonetheless strains the electricity-grid infrastructure. According to independent experts, curtailment in 2025 may have exceeded 3,000 GWh — roughly one-third of useful renewable output for the period. Addressing this requires parallel investment in battery energy storage systems (BESS), expansion of 220/500 kV transmission capacity, and regional integration within the Unified Power System of Central Asia.

MDBs play a structural role in financing Uzbekistan's green transition. On aggregated 2020–2024 data, total commitments from four key institutions (ADB, EBRD, World Bank Group, and others — AIIB, IsDB, KfW, AFD) exceeded USD 18.5 billion, more than half of which has a green or climate component.

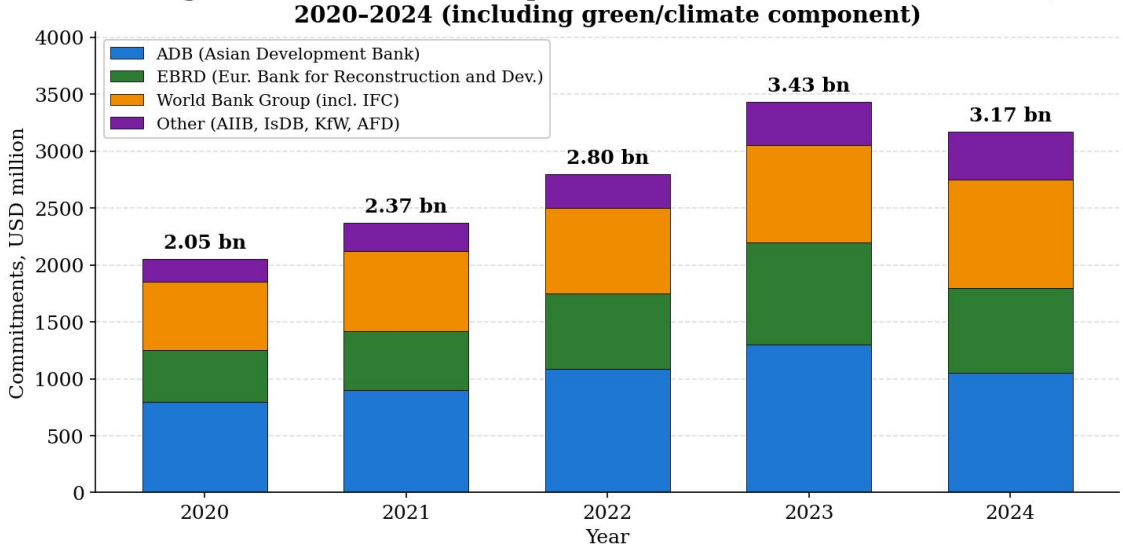
The Asian Development Bank (ADB) provided more than USD 5.41 billion in 2020–2024, including USD 1.05 billion in 2024 alone for five public-sector projects. In November 2024 the ADB Board approved the "Accelerating the Climate Transition Program" with a policy-based loan of USD 250 million [11] — the ADB's first climate program intervention in Central Asia. It supports three areas: strengthening institutional frameworks and public financial management; building climate resilience in water and land resources, agriculture, and social protection; and accelerating the low-carbon transition in transport and energy [12].

The European Bank for Reconstruction and Development (EBRD), fully Paris-aligned since 1 January 2023, invested a record USD 900 million in Uzbekistan in 2023 [13]. Its largest operations include two syndicated loans of USD 520 million for two wind farms totaling 1 GW in Bukhara (the EBRD's largest renewable project worldwide); a USD 74 million package for a 500 MW wind farm in Navoi (the first project in Central Asia with the IdentiFlight bird-protection system); and a USD 205 million package for three solar plants totaling about 900 MW

through investments by Masdar. Since the start of its operations in the country, the EBRD has financed 196 projects worth USD 6.6 billion.

The World Bank Group, together with IFC, actively supports renewables through public-private partnerships. In May 2024 a financing package was signed with the government and Masdar for a 250 MW solar plant with an integrated 63 MW storage system in Bukhara — the first such project in Central Asia [14]. In December 2024 the World Bank approved a USD 3.5 million payment guarantee for a 100 MW solar plant in Khorezm implemented by France's Voltalia. In aggregate, IFC investment in Uzbek renewables reached about 2.5 GW of operating and planned capacity.

Figure 3. Multilateral development bank commitments to Uzbekistan, 2020-2024 (including green/climate component)



Source: compiled by the author from ADB, EBRD, World Bank Group annual reports; see also OECD (2023).

Figure 3 shows that aggregate MDB financing grew from USD 2.05 billion in 2020 to a peak of USD 3.43 billion in 2023 (a 1.67-fold increase in three years), correlating with the adoption of NDC-2 and the active diversification of sources. The decline to USD 3.17 billion in 2024 stems mainly from the completion of large one-off 2023 deals (the EBRD's 1 GW wind project) rather than from waning donor interest. The ADB's leading role reflects its 2024–2028 Country Partnership Strategy, which treats Uzbekistan as a priority recipient of climate finance.

By early 2025 Uzbekistan's banking sector had reached a total loan portfolio of UZS 533.12 trillion (up 13% year on year) [15], of which UZS 355.59 trillion was lent to legal entities and UZS 177.53 trillion to individuals. State banks dominate (UZS 366.73 trillion), with the largest lenders being Uzbekistan National Bank (UZS 108.01 trillion), Uzpromstroybank (UZS 65.50 trillion), and Agrobank (UZS 59.43 trillion). Despite the absence of a unified national green-loan taxonomy, several banks (Agrobank, Uzpromstroybank, Hamkorbank, Ipoteka-Bank) already offer dedicated product lines: financing for energy efficiency, renewable projects, climate-resilient agriculture, and electric transport.

Blended-finance programs play a notable role. Under the High-Impact Partnership on Climate Action (HIPCA), the EBRD together with the Government of Canada extended a USD 20 million loan to Ipoteka-Bank in 2024 to expand green SME lending [23]. In September 2025 KfW IPEX-Bank arranged a EUR 120 million syndicated loan for Agrobank to refinance exports of green technologies from Germany and the EU. Such instruments, using concessional co-financing, lower borrowing costs for SME end-borrowers and create a demonstration effect.

Table 2. Development of green financial products in Uzbekistan's largest commercial banks, 2023–2025

Bank	Sector share (assets, 2024)	Key green product	MDB partner	Volume (USD M, equiv.)
Agrobank	11% assets, 12% loans	Corporate green eurobond; climate-resilient agriculture	GGGI (structuring); KfW IPEX	455 (bond, Oct 2024) + 130 (KfW, Sep 2025)
Uzpromstroybank	≈9% assets	Green corporate loans (energy efficiency, renewables)	EBRD, IFC	~100–150 (annual credit lines)
Ipoteka-Bank	≈4% assets	Green SME lending (solar panels, building insulation)	EBRD, HIPCA (Canada)	20 (EBRD, 2024) + blended co-financing
Hamkorbank	≈4% assets	Micro-lending to SMEs for renewables and efficiency	ADB, IFC	~50–80 (annually)

Source: compiled by the author from Central Bank data and EBRD, ADB, IFC, and GGGI reports; credit-line figures are expert estimates from aggregate reporting.

Despite impressive progress, the gap between the need to finance the green transition and funds actually mobilized remains substantial. The OECD (2023) estimates that Uzbekistan needs at least USD 6 billion annually to implement its low-carbon development strategy [3]. In 2024, by our estimate, about USD 4.0 billion was mobilized (see Figure 4A), equal to 66.7% of the need. The roughly USD 2 billion annual gap concerns mainly private investment in building energy efficiency, municipal infrastructure (water, waste, public transport), and agricultural modernization.

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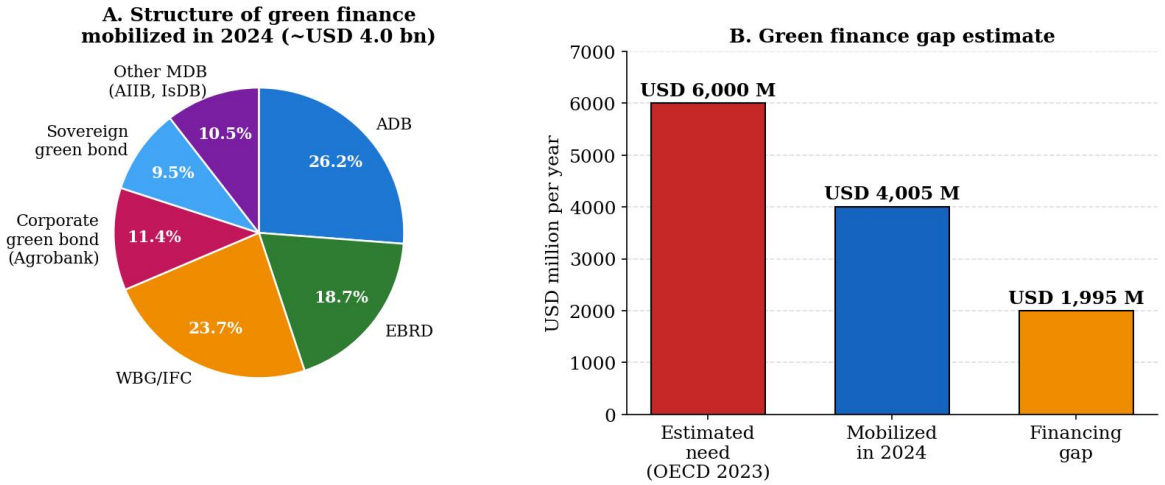
Figure 4. Structure of green finance and the financing gap, Uzbekistan, 2024



Source: compiled by the author; need estimate — OECD (2023); actual figures — MDB annual reports.

Panel A shows that the three leading MDBs (ADB, EBRD, World Bank Group/IFC) provide about 68.7% of total green finance, while thematic bonds (the 2023 sovereign and 2024 corporate issues) together account for about 20.9% — indicating continued dependence on international development banks and the potential to deepen the domestic capital market. Panel B records a fundamental gap of about USD 1.995 billion per year, to be closed mainly by the private sector.

Comparison with regional peers shows Uzbekistan leading Central Asia in the number and volume of thematic bond issuances. Kazakhstan, with a more developed capital market (S&P rating BBB-), has issued mainly corporate green bonds (chiefly by the Development Bank of Kazakhstan and Samruk-Energy). Kyrgyzstan, Tajikistan, and Turkmenistan have not yet entered the international thematic-debt market. Uzbekistan's regional leadership is also confirmed by its participation in OECD and UNDP initiatives (the Integrated National Financing Framework, INFF) and its status as the first CIS country to issue a sovereign SDG bond and a sovereign green bond.

Table 3. Comparative analysis of green finance instruments in Central Asian countries, 2020–2024

Country	Sovereign green / SDG bond	Corporate green bond	RES capacity, GW (2024)	Climate commitments (NDC)
Uzbekistan	Yes: 235 M (2021); 380 M (2023)	Yes: 455 M (Agrobank, 2024)	2.7 (solar + wind)	−35% specific GHG/GDP by 2030 vs. 2010; 40% renewables
Kazakhstan	No (under consideration)	Yes: DBK, Samruk-Energy series (2020–2024)	≈2.9 (solar + wind)	−15% (uncond.) / −25% (cond.) vs. 1990 by 2030
Kyrgyzstan	No	No	0.1	−16% (uncond.) /

Country	Sovereign green / SDG bond	Corporate green bond	RES capacity, GW (2024)	Climate commitments (NDC)
			(mostly hydro, 3+ GW)	−44% (cond.) by 2030
Tajikistan	No	No	0.05 (mostly hydro, 5+ GW)	−30–40% relative to 1990
Turkmenistan	No	No	<0.01	−20% by 2030 (updated NDC-2)

Source: compiled by the author from UNFCCC, OECD, IRENA, and the annual reports of the region's central banks.

5. Discussion

Uzbekistan's experience in 2020–2025 shows that a mature green-finance architecture can be built in a relatively short time, given coordinated state policy, technical support from international partners, and access to global capital markets. Yet several systemic constraints could limit further scaling.

First, the country demonstrates institutional "maturity": from the 2019 strategy document to an operationalized system of allocation and impact reporting for thematic bonds. Full allocation of the 2023 issuance within 14 months, with independent confirmation by Sustainalytics, exceeds the average performance of comparable emerging-market issuers (per CBI 2024, the typical period is 24–36 months). Second, instrument diversification: in five years the country has mastered three distinct formats (SDG bond, sovereign green, corporate green), providing flexibility for future capital raising. Third, the active mobilization of international partners — OECD, UNDP, GGGI, EBRD, ADB, and IFC provide both financial and technical assistance, creating a demonstration effect for private investors.

First, the dominant role of the state in the economy (the public sector accounts for 55–60% of GDP) and the underdevelopment of the domestic capital market (the Tashkent Stock Exchange's capitalization-to-GDP ratio is below 5%, versus 30–40% in emerging economies with comparable structures) limit the ability to mobilize private capital [4]. This creates an asymmetry: international investors are willing to buy sovereign paper but not mid-tier corporate paper. Second, the absence of a national green taxonomy creates greenwashing risk and hampers the scaling of bank green lending; although Agrobank and Uzpromstroybank apply international standards (the 2021 Green Bond Principles, the 2023 Green Loan Principles), the lack of a single national document impedes systematic market development. Third, infrastructure constraints: large-scale renewable expansion outpaces the development of grid infrastructure and storage — the energy crises of January and December 2022 (the nationwide blackout) underscored the need for parallel investment in 220/500 kV transmission and BESS. Fourth, high sensitivity to currency risk: a significant share of green finance is denominated in US dollars (Agrobank's USD 400 million), creating currency risks for issuers whose cash flows are mainly in soum;

expanding the soum-denominated segment (as with the sovereign issues) partly offsets this but requires deepening the domestic investor base.

Geopolitical factors create both opportunities and risks. Sanctions on Russia and the associated reorientation of trade flows (including via the Middle Corridor: China — Central Asia — Caspian — Caucasus — Europe) increase the need for infrastructure investment, strengthening the case for green instruments. At the same time, turbulence in global financial markets (Fed rate hikes in 2022–2024) raised borrowing costs and required higher coupons (16.25% on the 2023 soum green bond versus 14% on the 2021 SDG bond).

6. Conclusions and Recommendations

The analysis supports the following conclusions:

1. Over 2020–2025 Uzbekistan built a relatively mature institutional and instrumental base for green finance. Thematic bond issuances totaled USD 1,070 million, and MDB international financing exceeded USD 18.5 billion over five years.
2. Installed renewable capacity grew from near zero in 2019 to 4.7 GW in October 2025, targeting 27 GW by 2030 (a 40% renewable share), which requires commissioning at least 4.5 GW of renewable capacity annually in 2026–2030.
3. The gap between the need (USD 6 billion per year, OECD estimate) and finance actually mobilized (about USD 4.0 billion in 2024) is 33.3% and must be closed mainly through private capital and an expanded corporate green-bond segment.
4. Uzbekistan is the regional leader of Central Asia: the first CIS country to issue a sovereign SDG bond (2021) and a sovereign green bond (2023), and the first to place a corporate green eurobond by a state commercial bank (Agrobank, 2024).

The following recommendations follow from the analysis:

1. Adopt a national green taxonomy harmonized with the EU Taxonomy and the Climate Bonds Standard to systematize bank green lending and reduce greenwashing risk.
2. Deepen the corporate segment of thematic debt by encouraging major state and private companies (UzAuto Motors, Uzmetkombinat, NMMC, Uzbekneftegaz) to issue sustainability-linked bonds, consistent with the “third generation” of thematic instruments.
3. Develop the domestic capital market by broadening the institutional-investor base (pension funds, insurers), reducing dependence on external markets and currency risk.
4. Integrate blended-finance instruments (HIPCA, the Green Climate Fund, GEF) to scale green lending to SMEs and municipal projects, where the financing gap is most acute.
5. Develop carbon-market mechanisms (an Emissions Trading System) in coordination with regional partners, as envisaged in the NDC-3 draft, creating additional sources of green finance.
6. Strengthen impact monitoring and public reporting by expanding the publication of allocation data along the lines of the “Yashil Makon” program, increasing transparency for international investors and laying the groundwork for future issuances at tighter spreads.

Uzbekistan’s experience may be of interest to other emerging economies of Central Asia and the post-Soviet space as an example of systematically building a green-finance architecture under conditions of a limited domestic capital market, a resource-intensive economy, and active coordination with international development partners.

References

1. Decree of the President of the Republic of Uzbekistan No. UP-5544 of 4 October 2019 "On approval of the Strategy for the transition of the Republic of Uzbekistan to a green economy for 2019–2030." National Database of Legislation of the Republic of Uzbekistan.
2. Strategy "Uzbekistan-2030," approved by Presidential Decree No. UP-158 of 11 September 2023.
3. OECD (2023). Financing Uzbekistan's Green Transition: Capital Market Development and Opportunities for Green Bond Issuance. Green Finance and Investment Series. Paris: OECD Publishing. DOI: 10.1787/27d2489d-en.
4. OECD (2025). Roadmap for Sustainable Investment Policy Reforms in Uzbekistan. Paris: OECD Publishing.
5. UNDP (2022). Uzbekistan's First SDG Bond Allocation and Impact Report. Tashkent: UNDP Uzbekistan.
6. Ministry of Economy and Finance of the Republic of Uzbekistan (2025). 2023 Green Bond Allocation and Impact Report, Part 2. Tashkent.
7. Updated Nationally Determined Contribution of the Republic of Uzbekistan (NDC 2), 2021. Tashkent: Center of Hydrometeorological Service / UNDP.
8. Third Nationally Determined Contribution of the Republic of Uzbekistan (Draft) (2025). Tashkent.
9. UNDP (2023). Uzbekistan Issues First Ever Green Sovereign Eurobonds Worth 4.25 Trillion UZS on the London Stock Exchange. Press release, 5 October 2023.
10. GGGI (2024). Uzbekistan's Agrobank Issues USD 400 Million and UZS 700 Billion Green Eurobond on the London Stock Exchange with GGGI's Support. Seoul: Global Green Growth Institute, October 2024.
11. ADB (2024). ADB Approves $250 Million Loan to Support Uzbekistan's Green, Inclusive, and Resilient Economic Growth. ADB News Release, 19 November 2024.
12. ADB (2024). Uzbekistan: Country Partnership Strategy 2024–2028. Manila: Asian Development Bank.
13. EBRD (2024). EBRD Invests Record US$ 900 Million in Uzbekistan in 2023. Annual Report. London: European Bank for Reconstruction and Development.
14. World Bank Group (2024). Uzbekistan to Build New Solar Plant and First Battery Energy Storage System with World Bank Group Support. Press release, 21 May 2024.
15. Central Bank of the Republic of Uzbekistan (2025). Statistical Bulletin of the Banking System as of 01.01.2025. Tashkent: CBU.
16. Climate Bonds Initiative (2024). Sustainable Debt: Global State of the Market 2023. London: CBI.
17. Volz, U. (2018). Fostering Green Finance for Sustainable Development in Asia. ADBI Working Paper Series No. 814. Tokyo: Asian Development Bank Institute.
18. Sustainalytics (2025). Second-Party Opinion on the Republic of Uzbekistan Sovereign Green Bond Impact and Allocation Review. Toronto: Morningstar Sustainalytics, March 2025.
19. Enerdata (2026). Uzbekistan Plans 6.7 GW of New Capacity, Including 2.5 GW Thermal, by 2026. Daily Energy News, 26 February 2026.
20. IEA (2022). Solar Energy Policy in Uzbekistan: A Roadmap. Paris: International Energy Agency.
21. ICMA (2021). Green Bond Principles: Voluntary Process Guidelines for Issuing Green Bonds. Zurich: International Capital Market Association.
22. ICMA (2023). Green Loan Principles. Zurich: ICMA Group.
23. UNDP (2024). UNDP, with EU and AFD, Helps the Government of Uzbekistan on Green Bonds Impact Monitoring and Reporting. Tashkent: UNDP Uzbekistan.

24. IRENA (2024). Renewable Capacity Statistics 2024. Abu Dhabi: International Renewable Energy Agency.
25. Begmatov, Kh. (2025). Institutional Foundations for the Integration of SMEs and Large Enterprises in the Construction Sector of Uzbekistan. PhD Dissertation. Tashkent: Tashkent University of Architecture and Civil Engineering (forthcoming).