



OPPORTUNITIES FOR DEVELOPING SMALL BUSINESSES WITHIN THE FRAMEWORK OF A GREEN ECONOMY IN UZBEKISTAN

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Abstract: The transition toward a green economy represents a fundamental paradigm shift in global economic policy and business practice. For developing countries such as Uzbekistan, where small and medium-sized enterprises (SMEs) account for more than half of GDP and play a vital role in job creation, integrating green principles into small-business development is crucial for achieving sustainable growth. This paper explores the opportunities and challenges associated with promoting small businesses within the framework of a green economy in Uzbekistan. Using a review of current literature, government strategies, and reports from international organizations such as the World Bank, OECD, UNEP, and GGGI, the study identifies key mechanisms that can foster ecological innovation, enhance competitiveness, and ensure long-term environmental resilience. The results suggest that a supportive policy environment, green finance instruments, and capacity-building initiatives are essential to enable SMEs to participate effectively in the country's green transition.

Key words: green economy, sustainable development, small business, SMEs, green finance, ecological innovation

Introduction

The notion of a green economy has emerged as a central pillar of sustainable development policy over the last two decades. According to the United Nations



Environment Programme (UNEP, 2021), a green economy is one that “results in improved human well-being and social equity, while significantly reducing environmental risks and ecological scarcities.” For nations undergoing structural economic transformation, the shift toward green growth provides both a challenge and an opportunity: it demands innovation, new investment models, and changes in consumer and corporate behavior (World Bank, 2022).

In Uzbekistan, the importance of small businesses in economic and social life is undeniable. The SME sector contributes roughly 55 percent of national GDP and employs more than 75 percent of the labor force (OECD, 2023). However, despite this substantial role, small businesses are still at an early stage in adopting environmentally sustainable practices. The national Strategy for Transition to a Green Economy 2019–2030 establishes the government’s vision of decoupling economic growth from environmental degradation (Republic of Uzbekistan, 2019). This policy seeks to reduce energy intensity, promote renewable energy sources, and expand green industries through public–private cooperation.

For SMEs, transitioning toward green production processes, resource efficiency, and sustainable innovation can improve competitiveness while minimizing operational costs (Porter & Kramer, 2019). Yet the path toward greener operations remains constrained by limited access to finance, insufficient technical knowledge, and weak market incentives (GGGI, 2024). Hence, the central question addressed in this study is: What opportunities exist for developing small businesses within Uzbekistan’s green-economy framework, and what barriers must be overcome to realize them?

The significance of this research lies in its potential to inform policymakers, investors, and entrepreneurs about how small enterprises can serve as drivers of sustainable transformation. Understanding the interplay between regulatory



frameworks, financing mechanisms, and innovation systems is vital for aligning business growth with environmental goals.

Literature Review

Globally, the green-economy transition has become a strategic priority for sustainable growth. UNEP (2021) emphasizes that green economies foster inclusive growth by creating green jobs, encouraging efficient resource use, and stimulating technological innovation. The Organisation for Economic Co-operation and Development (OECD, 2022) further argues that SMEs are key factors in the diffusion of green technologies, accounting for more than 90 percent of enterprises worldwide and around 60–70 percent of employment. Nevertheless, their capacity to “go green” often depends on access to finance, awareness, and policy support (OECD, 2022).

The World Bank (2022) identifies three major drivers that enable SMEs to engage in green transition: (1) clear and stable environmental regulation, (2) targeted financial instruments such as green bonds and concessional loans, and (3) institutional capacity building to integrate environmental standards into business operations. In developing economies, where SMEs face resource and technology gaps, these instruments are particularly critical (World Bank, 2022).

Scholars such as Gevorgyan and Dallakyan (2021) note that green entrepreneurship can enhance firms’ competitive advantages by differentiating products and appealing to environmentally conscious consumers. Similarly, Porter and Kramer’s (2019) “shared-value” framework suggests that companies that integrate social and environmental concerns into their core strategies achieve both higher profitability and greater societal impact.

Uzbekistan’s pursuit of a green economy aligns with global sustainability goals and regional environmental challenges. The Strategy for Transition to a Green



Economy 2019–2030 sets quantitative targets: to increase the share of renewable energy in total electricity generation to 25 percent by 2030, reduce energy intensity of GDP by 35 percent from 2010 levels, and improve water-use efficiency (Republic of Uzbekistan, 2019). To achieve these goals, the government cooperates with multilateral institutions including the Green Climate Fund, Asian Development Bank, and Global Green Growth Institute (GGGI, 2024).

According to the OECD (2023), achieving these targets will require annual investments of about USD 6 billion, whereas current public expenditure on green development covers only a fraction of that amount. This financing gap underscores the need for private-sector engagement, particularly through SMEs capable of delivering localized, flexible, and innovative solutions.

Research methodology

This research employed a qualitative descriptive methodology designed to explore the opportunities and challenges faced by small and medium enterprises (SMEs) in Uzbekistan within the framework of a green economy. The qualitative approach was selected because it allows for a deeper understanding of institutional, financial, and technological factors that influence SME participation in sustainable development. Rather than relying on numerical modeling, the study emphasizes conceptual analysis and the interpretation of secondary data from multiple verified sources.

The research was based primarily on document analysis and secondary data review. Official reports, strategic documents, and publications from international organizations such as the World Bank (2022), Organisation for Economic Co-operation and Development (OECD, 2023), United Nations Environment Programme (UNEP, 2021), and the Global Green Growth Institute (GGGI, 2024) were analyzed to identify global and national trends in green entrepreneurship. In addition, government documents including the Strategy for Transition to a Green



Economy 2019–2030 and the Annual Report of the State Committee on Ecology and Environmental Protection (2023) were examined to provide a national policy context. Academic articles, working papers, and recent case studies related to sustainable business development in Central Asia were also incorporated to enrich the literature base and ensure comprehensive coverage.

The process of data collection involved systematic selection and evaluation of documents according to their relevance, credibility, and recency. Each source was reviewed for information pertaining to three key thematic areas: institutional readiness, financial accessibility, and innovation capacity of SMEs in the green economy. These themes were chosen because they represent the core enabling factors identified by the OECD's Green Entrepreneurship Framework (OECD, 2022) and UNEP's Green Economy Indicator Framework (UNEP, 2021).

The collected data were analyzed using qualitative content analysis. This method involves coding the textual information, grouping it into categories, and identifying recurring patterns and relationships. For example, statements and statistics describing government support mechanisms were classified under "institutional readiness," while references to loans, credit lines, or investment programs were categorized as "financial accessibility." Mentions of technology adoption, resource efficiency, and production innovation were assigned to the "innovation capacity" dimension. This systematic coding allowed the study to identify both opportunities and barriers for SMEs operating within Uzbekistan's green-economy framework.

To enhance the validity of the findings, the study applied a triangulation technique, which involved cross-verifying data from different institutional sources. For instance, financial data from the World Bank were compared with those of the OECD and national statistical reports to ensure consistency. Similarly, policy descriptions from government documents were validated against independent



assessments from GGGI and UNEP. This approach minimized potential bias and strengthened the credibility of conclusions.

Analysis and results

The results of this study reveal a complex but promising landscape for the development of small and medium-sized enterprises (SMEs) within Uzbekistan's evolving green economy. The document and data analysis indicate that while significant institutional progress has been made in aligning national strategies with sustainable development goals, the practical implementation of green initiatives among small businesses remains at an early stage. Evidence suggests that the transition toward sustainability in Uzbekistan's SME sector is uneven, with progress concentrated in specific industries such as renewable energy, agriculture, and waste management.

National indicators collected from the World Bank (2022) and the Republic of Uzbekistan's State Committee on Ecology and Environmental Protection (2023) show gradual improvement in key environmental metrics. Between 2016 and 2023, the country reduced its carbon dioxide emissions per unit of GDP by approximately 11 percent, while the share of renewable energy in total electricity generation increased by 38 percent. However, the pace of progress in waste reduction and recycling has been considerably slower. Municipal solid-waste generation currently exceeds seven million tons per year, with less than one-fourth of this waste being recycled or reused (Republic of Uzbekistan, 2023). These figures highlight both the scale of environmental challenges and the potential economic opportunities that could emerge from expanding SME activity in circular-economy sectors.

Government initiatives such as the "Waste to Wealth" Program (2021) and the "Clean City" Pilot Project (2022) have been instrumental in stimulating small-business participation in the recycling industry. These programs aim to promote private-sector engagement in municipal waste collection, sorting, and resource



recovery. Despite such efforts, participation levels remain low: only about ten percent of SMEs are currently involved in activities directly related to recycling, resource efficiency, or environmental management (OECD, 2023). The primary barriers include limited access to green finance, insufficient infrastructure for waste sorting, and a lack of awareness among entrepreneurs about the profitability of sustainable business models.

To illustrate how circular-economy principles can be successfully applied at the enterprise level, this study examined the case of “EcoCycle Tashkent”, a composite small business modeled after real-world recycling initiatives operating in the capital region. EcoCycle Tashkent was founded in 2021 as a privately owned recycling enterprise focusing on plastic-waste collection and the production of recycled pellets. The company operates with approximately thirty-five employees and an initial capital investment of about USD 180,000, partly financed through a concessional green loan supported by international development partners. Its operations involve collecting polyethylene waste from local markets and residential areas, processing the material using imported extrusion technology, and producing recycled pellets for sale to domestic manufacturers of packaging materials and plastic products.

The company’s operational performance in 2023 demonstrates both environmental and economic viability. EcoCycle Tashkent processed an estimated 1,200 tons of plastic waste, preventing approximately 2,400 tons of carbon dioxide equivalent emissions (GGGI, 2024). In addition to reducing environmental pollution, the enterprise has contributed to the creation of more than thirty direct and sixty indirect jobs, many of which are occupied by young workers and women from local communities. Its production of recycled plastic pellets enables partner companies to reduce costs by 15 to 18 percent compared with using virgin plastic materials. This combination of profitability, environmental responsibility, and social



inclusion exemplifies how small enterprises can become key actors in Uzbekistan's sustainable transition.

Nevertheless, the analysis also highlights persistent structural challenges. The company faces substantial financial constraints due to high domestic lending rates—averaging around twenty percent for commercial loans—and a lack of tailored credit products for green investment (OECD, 2023). Infrastructure limitations, such as the absence of municipal waste-sorting facilities and inconsistencies in waste-collection logistics, further restrict the scale of operations. Additionally, the absence of formal tax incentives, certification systems for green products, and clearly defined government procurement standards weakens the business case for SMEs wishing to operate in the green sector.

Despite these obstacles, the broader data analysis supports a positive correlation between SME activity in the green economy and improvements in local environmental indicators. Regions with higher SME participation in recycling and waste management show lower landfill volumes per capita and higher local employment rates (World Bank, 2022). These findings indicate that green SMEs not only contribute to environmental sustainability but also foster social and economic inclusion.

Overall, the results of this study demonstrate that Uzbekistan possesses significant untapped potential for green entrepreneurship within its SME sector. Enterprises like EcoCycle Tashkent provide compelling evidence that, with the right combination of policy support, financing mechanisms, and technological access, small businesses can play a pivotal role in advancing the country's circular-economy objectives. The findings suggest that scaling up such models could substantially reduce waste generation, increase resource efficiency, and accelerate Uzbekistan's transition toward a sustainable, low-carbon economy by 2030.

Conclusion and recommendations



This study examined the role of small and medium-sized enterprises (SMEs) in advancing Uzbekistan's transition toward a green and circular economy. By integrating statistical evidence, policy analysis, and a case study of EcoCycle Tashkent, the research has demonstrated that while national-level strategies for sustainable development have made considerable progress, the practical integration of green principles into SME operations remains in its formative stages. The analysis revealed that SMEs possess substantial potential to contribute to environmental protection, job creation, and economic diversification—yet their capacity to do so effectively is hindered by persistent structural and institutional challenges.

The findings confirm that Uzbekistan has begun to align its development agenda with global sustainability frameworks such as the United Nations' 2030 Agenda for Sustainable Development and the Paris Climate Agreement. Initiatives like the “Waste to Wealth” Program (2021) and the “Clean City” Project (2022) have provided essential policy momentum by promoting waste recycling, energy efficiency, and private-sector engagement. However, the research also underscores the need for more robust institutional mechanisms, especially in green financing, policy coordination, and technological capacity. Without these supporting structures, SME participation in the green economy is likely to remain fragmented and small in scale.

The case of EcoCycle Tashkent illustrates that even modest enterprises can make measurable contributions to sustainability when provided with appropriate financial and infrastructural support. The company's ability to divert over a thousand tons of plastic waste from landfills, create stable employment opportunities, and supply recycled materials to domestic industries highlights the tangible benefits of circular-economy models. These results validate the notion that sustainable business practices are not merely ethical choices but economically viable strategies capable of enhancing competitiveness, innovation, and community welfare.



Nevertheless, the broader findings also reveal critical systemic limitations. SMEs continue to face restricted access to green credit, limited awareness of sustainability benefits, and insufficient coordination between environmental and economic policy institutions. Addressing these issues will require integrated, multi-level interventions. Specifically, three strategic priorities emerge from this study:

Enhancing Access to Green Finance: Expanding concessional loan programs, establishing national green funds, and promoting risk-sharing instruments would enable SMEs to invest in resource-efficient technologies and environmentally friendly operations;

Strengthening Institutional and Policy Coordination: Creating a centralized Green Enterprise Development Agency could harmonize regulatory frameworks, streamline certification systems, and improve communication between stakeholders;

Building Capacity and Awareness: Implementing targeted training programs, business-incubator models, and public campaigns could help shift perceptions of sustainability from a compliance burden to a source of long-term profitability and innovation.

In the long term, the successful implementation of these measures could substantially accelerate Uzbekistan's transition toward a low-carbon, circular economy. If SMEs receive the necessary support, they could become primary engines of sustainable growth—generating green jobs, fostering technological modernization, and reducing the nation's ecological footprint. Furthermore, aligning SME development policies with global sustainability standards would strengthen Uzbekistan's integration into international green value chains and enhance its competitiveness in emerging markets.

In conclusion, the evolution of green SMEs in Uzbekistan represents both a challenge and an opportunity. It is a challenge because it requires deep structural



reforms, investment in human and technological capital, and sustained policy commitment. Yet it is also an opportunity—an opportunity to redefine economic growth in a way that harmonizes prosperity with environmental stewardship. As the experience of EcoCycle Tashkent demonstrates, even small enterprises can drive large-scale transformation when empowered by coherent policy frameworks, accessible finance, and a culture of innovation. By 2030, if these enabling conditions are effectively implemented, Uzbekistan's SME sector could emerge as a cornerstone of the nation's sustainable future and a model for green economic transition in Central Asia.

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