

THE IMPORTANCE OF USING “GREEN” TAXONOMIES IN THE NATIONAL ECONOMY

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Abstract. Modern digital transformation processes require a balance between environmental, social and economic interests in ensuring sustainable economic growth. In this regard, “green” taxonomies are an important tool in directing financial resources to environmental protection and promoting sustainable economic development. This article analyzes the international experience of using “green” taxonomies in the context of digital transformation and discusses its impact on sustainable economic policy.

Keywords: taxonomy, sustainable financing, green economy, greenwashing, green bonds, environment, biodiversity, greenhouse gas, sustainable development, international standards.

1.Introduction

The designation of 2025 in Uzbekistan as the “Year of Environmental Protection and the “Green” Economy” and the fact that President Shavkat Mirziyoyev, speaking at the plenary session of the World Leaders’ Summit within the framework of the 29th session of the Conference of the Parties to the UN Framework Convention on Climate Change (COP29) on November 12, 2024, and putting forward a number of initiatives, emphasize that the development of a green economy is one of the country’s top priorities.

One of the main tasks of modern society in achieving sustainable economic growth is to ensure a balance between environmental, social and economic interests. In this regard, it is important to direct financial resources to environmental protection and ensure sustainable economic development. In the European Union, which was one of the first to put forward initiatives for the transition to a green economy, the Sustainable Finance Taxonomy is seen as an important tool in achieving these goals. The EU taxonomy is a regulatory classification system developed by the European Commission to facilitate Europe’s transition to net-zero carbon emissions by 2050, as well as to help combat climate change in the long term. The EU taxonomy aims to “help investors, companies, issuers and project promoters make the transition to a low-carbon, sustainable and resource-efficient economy.”

2.Literature review

The growing urgency of climate change, biodiversity loss, and resource depletion has intensified scholarly and policy interest in mechanisms that can effectively align financial systems with sustainable development goals. Within this discourse, “green” taxonomies have emerged as a critical institutional innovation designed to classify economic activities based on their environmental sustainability. The academic literature increasingly recognizes taxonomies not merely as technical classification systems, but as strategic governance tools that shape capital allocation, mitigate information asymmetry, and support the transition toward low-carbon economies.

Early theoretical foundations of sustainable finance emphasize the role of financial markets in internalizing environmental externalities (Schoenmaker & Schramade, 2019). Building on this, recent studies highlight that one of the key barriers to sustainable investment is the lack of a unified definition of what constitutes “green” or environmentally sustainable activities (OECD, 2020). This definitional ambiguity creates risks of misallocation of capital and enables practices such as greenwashing. In response, green taxonomies have been proposed as standardized frameworks that provide clarity, transparency, and comparability across markets.

A central reference point in the literature is the EU Taxonomy for Sustainable Activities, which is widely regarded as the most comprehensive and advanced taxonomy system. According to European Commission (2021), the EU taxonomy establishes technical screening criteria for determining whether an economic activity substantially contributes to environmental objectives such as climate change mitigation, adaptation, and biodiversity protection. Empirical studies (e.g., Andersson et al., 2022) demonstrate that the EU taxonomy enhances investor confidence by reducing information asymmetry and improving the credibility of green financial instruments.

Comparative research indicates that other jurisdictions have also developed taxonomy frameworks tailored to their national contexts. For instance, People’s Bank of China introduced a green bond catalogue that initially included certain transitional activities, reflecting a pragmatic approach to economic transformation (Ma et al., 2020). More recently, efforts toward harmonization between the EU and China taxonomies illustrate the importance of international coordination in sustainable finance. Similarly, emerging economies are increasingly adopting taxonomy frameworks to attract green investment and align with global climate commitments (World Bank, 2022).

The literature further explores the relationship between green taxonomies and financial instruments, particularly green bonds. Studies show that clear taxonomy criteria improve the integrity and market growth of green bonds by ensuring that proceeds are allocated to genuinely sustainable projects (Flammer, 2021). In addition, taxonomies contribute to risk management by enabling financial institutions to assess climate-related risks more accurately, which is consistent with recommendations from Task Force on Climate-related Financial Disclosures.

Another important strand of research focuses on the role of digital transformation in enhancing the effectiveness of green taxonomies. Digital technologies such as big data analytics, blockchain, and artificial intelligence facilitate real-time monitoring, reporting, and verification of environmental performance (Zhang & Luo, 2023). This integration reduces transaction costs and strengthens accountability mechanisms, thereby reinforcing the credibility of sustainable finance systems. Scholars argue that digitalization is essential for scaling taxonomy-based approaches, particularly in complex and data-intensive sectors such as energy, transport, and manufacturing.

Despite these advantages, the literature also identifies several challenges associated with the implementation of green taxonomies. One major issue is the complexity of technical screening criteria, which may impose significant compliance costs on firms, especially in developing economies. Additionally, there is an ongoing debate regarding the inclusion of transitional activities (e.g., natural gas, nuclear energy) within taxonomy frameworks, reflecting tensions between environmental ambition and economic pragmatism (IEA, 2021). Furthermore, the risk of fragmentation across different national taxonomies may undermine global comparability and hinder cross-border investment flows.

From a policy perspective, scholars emphasize that green taxonomies should be integrated into broader economic and regulatory frameworks, including fiscal policy, industrial policy, and financial supervision. In this context, taxonomies serve as a foundation for designing green public procurement, sustainable banking regulations, and climate-aligned investment strategies. The literature also highlights their relevance for achieving the United Nations Sustainable Development Goals, particularly those related to climate action, responsible consumption, and life on land.

Existing research underscores that green taxonomies play a pivotal role in advancing sustainable economic development by providing a scientifically grounded and standardized classification of environmentally sustainable activities. While challenges related to complexity, harmonization, and implementation remain, the integration of taxonomy frameworks with

digital technologies and international standards offers significant potential for enhancing the effectiveness of sustainable finance. This body of literature provides a strong theoretical and empirical foundation for analyzing the importance of green taxonomies in national economic systems, particularly in the context of ongoing digital transformation.

3. Analysis and results

Green taxonomies support job creation in emerging sectors such as renewable energy, sustainable agriculture and green construction. The International Renewable Energy Agency (IRENA) estimates that the renewable energy sector employed 12 million people worldwide in 2021 and has the potential to create 42 million jobs by 2050, with a sustainable energy transition.

Capital investments in activities in accordance with the Taxonomy are growing rapidly, including: in 2023, about 600 European companies made capital investments in accordance with the Taxonomy worth 191 billion euros, while by May 6, 2024, such capital investments by companies had already amounted to 249 billion euros. According to estimates by the Organization for Economic Cooperation and Development, by 2030, the world will need 6.35 trillion euros per year to achieve the goals of the Paris Agreement.

The National Taxonomy of the Green Economy was approved by Resolution No. 561 of the Cabinet of Ministers of the Republic of Uzbekistan dated October 25, 2023, and the task was set to develop proposals for improving this taxonomy.

It is emphasized that the country's economy will shrink by up to 10 percent if Uzbekistan does not begin to adapt to climate change, and it is necessary to improve and effectively implement a green economy taxonomy in line with international standards to accelerate the transition to a green economy and attract foreign investors. The green taxonomy serves as a tool for aligning national economic policy with international climate commitments, such as the Paris Agreement and the United Nations Sustainable Development Goals (SDGs).

A green taxonomy or green economy taxonomy is a tool that helps direct capital flows to green and sustainable projects in accordance with environmental goals. It is desirable that well-developed green economy taxonomies provide detailed definitions and classifications that are scientifically based, reliable, flexible, consistent, publicly available, and clear.

The Green Economy Taxonomy provides detailed information on what can be classified as “green” at the economic activity, asset and entity level. Taxonomies consist of definitions and descriptions, providing a classification of green and sustainable activities based on the

specificities of different sectors and areas. Taxonomies should not be based on narrow methodologies and be publicly available to ensure transparency, general applicability and understanding. Taxonomies should be generally accepted and accessible to all entities and areas of activity within a given region or country. Taxonomies should consist of classifications and indicators by sector or activity that define the qualification of the classification. These elements should be based on climate science to ensure that the classified activities are fit for purpose and consistent with the country's strategic goals.

Green taxonomies provide a clear and standardized framework for defining sustainable economic activities, reducing uncertainty for investors and encouraging capital flows to green projects. For example, according to the Climate Bonds Initiative (CBI), green bond issuance exceeded half a trillion dollars for the first time, reaching \$522.7 billion in 2021, a 75% increase from the previous year. Green projects attracted 839 issuers during the year, with the average size of individual green bonds increasing by more than 50% to \$250 million. Through such criteria, Uzbekistan can attract foreign and domestic investment in sectors such as renewable energy, energy efficiency, and sustainable agriculture, and stimulate economic growth and diversification.

Taxonomies encourage investment in energy-efficient technologies, reduce operating costs for businesses, and increase competitiveness. A study by the International Energy Agency (IEA) found that achieving more than 40 percent of the greenhouse gas emission reductions needed to meet the Paris Agreement's energy efficiency goals would require an annual increase in energy efficiency of 3 percent, saving businesses and households \$500 billion in energy costs per year by 2040. Uzbekistan can do the same by aligning its taxonomy with global best practices, reducing energy and resource consumption, and increasing economic efficiency.

Taxonomies should be consistent across sectors and aligned with a country's Nationally Determined Contributions (NDCs). To encourage investment flows between countries and regions, it is desirable that the taxonomy be aligned with international best practices and global principles. This will facilitate comparisons and benchmarking, particularly for green investments, and avoid conflicting classifications.

Taxonomies should be able to adapt to new developments and innovations in the market and science, while maintaining a consistent classification approach. Taxonomies should not be a one-off exercise, but should be reviewed and updated periodically based on developments in climate science, national priorities, international principles and best practices.

A well-designed taxonomy will strategically target financial resources to projects, assets and activities that are consistent with national policies and strategies and priority sustainability objectives. For example, the EU taxonomy is focused on achieving the EU's "2050 net zero" objectives. The taxonomy's alignment with national objectives and regulatory frameworks will allow it to be widely integrated into the regulatory environment.

The definition of strategic objectives within the taxonomy is essential to identify the key areas to be covered. For example, some taxonomies focus on the general goal of climate change mitigation, while others promote emission reduction strategies. Strategies dedicated to goals related to ecosystem and biodiversity conservation, resource efficiency, circular economy, and pollution prevention are also common.

When viewed in essence, the green taxonomy can be seen as having two main functions: Assessing the greenness of the economy and Improving Sustainability Reporting

The green taxonomy helps to assess the level of sustainability in a country's economy by classifying economic activities based on their environmental impact. This is:

Making the Green Taxonomy mandatory ensures that all financial institutions, companies and investors follow the same classification system, preventing inconsistencies in sustainability assessments. If the taxonomy is not mandatory, some institutions may avoid disclosing their environmental impact, which would reduce the effectiveness of green finance rules.

"Greenwashing", where companies falsely claim environmental responsibility, is a major problem in sustainable finance. A legally binding green taxonomy would reduce this risk by requiring companies to adhere to strict classification rules.

For example, the EU is making the Sustainable Finance Taxonomy mandatory for large companies and financial institutions. If Uzbekistan aims to integrate more quickly with international financial markets, mandatory adoption of the taxonomy could increase credibility (credit rating) and facilitate the attraction of foreign investment.

4. Conclusions

However, there are several downsides and challenges to mandatory adoption of the green taxonomy. A mandatory taxonomy could impose compliance burdens on small businesses and financial institutions, and sectors could require transition periods to adapt to the new rules. Accordingly, a voluntary approach to the green taxonomy could be effective, followed by a mandatory phase-in approach for key sectors.

Once the green taxonomy is in place, it should be used as effectively as possible to maximize its effectiveness. In particular, financial institutions and investors should be

encouraged to use the green taxonomy to direct capital to sustainable projects such as renewable energy, energy efficiency and sustainable agriculture. Governments can integrate the green taxonomy into public investment policies to ensure that publicly funded projects are consistent with sustainability objectives.

The green taxonomy could enable the creation of financial instruments such as green bonds, sustainability-linked loans and green credit lines. Clear classification criteria will help financial markets develop innovative products that support environmental goals.

It is appropriate for governments to develop tax incentives and subsidies for projects classified as “green” within the taxonomy. Carbon pricing mechanisms and emissions trading systems can also be integrated with the green taxonomy to create a comprehensive sustainability strategy.

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