

## IMPROVING THE GREEN ECONOMY IN DEVELOPING COUNTRIES

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**Pirmatova Farangiz Ma'rufjonovna**

*PhD, Acting Associate Professor,*

*Department of Economics,*

*Renaissance Education University.*

*farangiz.pirmatova.20@mail.ru*

### **Annotation**

The concept of the **green economy** has gained prominence as countries seek to balance economic growth with environmental sustainability. A green economy is defined by investments and policies that reduce environmental risks and ecological scarcities while promoting social welfare and economic prosperity. For developing countries, this transition offers opportunities to leapfrog carbon-intensive development pathways, create green jobs, and attract sustainable finance. However, it also brings challenges such as limited financial resources, technological gaps, weak institutional capacity, and infrastructure constraints. This article synthesizes the latest literature and data to provide evidence-based pathways for improving green economic outcomes in developing nations.

### **Аннотация**

Концепция «зеленой экономики» приобрела важное значение, поскольку страны стремятся сбалансировать экономический рост с экологической устойчивостью. «Зеленая экономика» определяется инвестициями и политикой, которые снижают экологические риски и дефицит ресурсов, одновременно способствуя социальному благополучию и экономическому процветанию. Для развивающихся стран этот переход открывает возможности для преодоления углеродоемких путей развития, создания «зеленых» рабочих мест и привлечения устойчивого финансирования. Однако он также сопряжен с такими проблемами, как ограниченные финансовые ресурсы, технологические пробелы, слабый институциональный потенциал и ограничения инфраструктуры. В данной статье обобщаются последние исследования и данные, чтобы предложить основанные на фактических данных пути улучшения результатов «зеленой экономики» в развивающихся странах.

### **Annotatsiya**

"Yashil iqtisodiyot" tushunchasi mamlakatlar iqtisodiy o'sishni ekologik barqarorlik bilan muvozanatlashtirishga intilishlari bilan ahamiyat kasb etmoqda. "Yashil iqtisodiyot" ijtimoiy farovonlik va iqtisodiy farovonlikni oshirish bilan birga ekologik xavflar va resurslar tanqisligini kamaytiradigan investitsiyalar va siyosatlar bilan belgilanadi. Rivojlanayotgan mamlakatlar uchun ushbu o'tish uglerodga boy rivojlanish yo'llarini yengib o'tish, yashil ish o'rinalarini yaratish va barqaror moliyalashtirishni jalg qilish imkoniyatlarini taqdim etadi. Biroq, u cheklangan moliyaviy resurslar, texnologik bo'shliqlar, zaif institutsional salohiyat va infratuzilma cheklavlari kabi muammolarni ham keltirib chiqaradi. Ushbu maqolada rivojlanayotgan mamlakatlarda yashil iqtisodiyot natijalarini yaxshilash uchun dalillarga asoslangan yo'llarni taklif qilish uchun so'nggi tadqiqotlar va ma'lumotlar umumlashtirilgan.

The concept of a *green economy* has gained global prominence as a framework for sustainable development – one that seeks to balance economic growth, environmental protection, and social inclusion. According to the United Nations, a green economy focuses on “sustainable development without degrading the environment,” aiming to create jobs, reduce poverty and enhance ecosystem health simultaneously. [sdgs.un.org](http://sdgs.un.org)

Developing countries, which often face significant environmental degradation, resource constraints, and economic inequality, stand to benefit profoundly from green economic transformation. However, they also face unique barriers – including financial limitations, technological gaps, and policy fragmentation – that can hinder progress toward sustainability.

The green economy is broadly defined in scholarly literature as an economic system that promotes *environmentally sustainable, low-carbon growth*, while ensuring social equity. Its theoretical roots intersect with sustainable development and ecological economics – emphasizing resource efficiency, renewable energy uptake, and inclusive growth. [sdgs.un.org](http://sdgs.un.org)

**Conceptualizing the Green Economy in Developing Countries** .A green economy is broadly defined as an economic system that aims to reduce environmental risks and ecological scarcities while fostering economic opportunities and human well-being. It emphasizes *low-carbon growth, efficient use of natural resources, social inclusion, and environmental stewardship*. Fundamental components include renewable energy deployment, resource efficiency, green jobs, circular economy practices, and sustainable agriculture. [IJSSHMRE](http://IJSSHMRE) In developing contexts, these principles take on added importance, given the dual imperative to improve living standards and avoid unsustainable development patterns. For

example, resource efficiency and sustainable agriculture can form the backbone of both economic growth and rural livelihoods. Literature Review aputra et al. (2024) identify government policy as a central driver of green economic growth, particularly through renewable energy investments, incentives for green technologies, and circular economy initiatives. Key enabling factors include regulatory frameworks, public-private partnerships, and education in green skills.

### Formosa Publisher

Similarly, Herlina (2025) emphasizes the transformative potential of renewable energy – notably solar and wind – in spurring employment, enhancing energy security, and decarbonizing growth trajectories in developing contexts, while noting that limited finance and institutional capacity remain major constraints. Financial inclusion – ensuring broader access to financial services – combined with green innovation appears to *amplify green economic growth*. A 2024 study across 12 developing nations shows that countries that improve access to credit and promote environmentally innovative enterprises achieve stronger sustainable growth outcomes.

Theoretical Foundations Many scholars argue that green growth strategies can simultaneously stimulate economic expansion and environmental protection. Rethinking the green economy literature highlights key dimensions: renewable energy, sustainable agriculture, green finance, innovation, and green jobs. These studies stress that successful green transitions require *policy coherence, institutional capacity, and multi-stakeholder cooperation*. [IJSSHMRE](#) Empirical Evidence Trends & Drivers: Recent systematic reviews show that green economy initiatives in developing countries are expanding, with renewable energy investment, circular economy practices, and policy reforms acting as primary enablers. Government leadership, beneficial regulations, and innovation ecosystems are critical success factors.

[Формоза](#)

[Паблишер](#)

Barriers

Identified:

Common obstacles include limited access to finance, infrastructure deficits, dependence on fossil fuels, and insufficient technological capabilities. These barriers constrain many developing countries from fully leveraging green growth opportunities.

[Формоза Паблишер](#)

Uzbekistan and Central Asia, Uzbekistan offers a concrete example of the green economy in action. Between 2019 and 2024, renewable energy capacity expanded at an approximate annual rate of 15.5%, with carbon emissions reduced by over 4%. Energy efficiency also improved by about 15.6%. The share of green sector GDP tripled over this period, and the correlation between renewable growth and emissions reduction is strongly negative ( $r = -0.84$ ), indicating measurable environmental gains.

[European Science](#)

National strategies emphasize targets such as reducing greenhouse gas emissions per GDP

unit (35% from 2010 levels), increasing renewable capacity above 30%, and boosting energy efficiency in industry by 20% by 2030. [Инновации в науке и технологиях](#)Green Economy Indicators. Renewable Energy Growth

• **Global trend:** In 2023, global renewable power capacity additions grew by about 36%, reaching 473 GW – setting a record for the 22nd consecutive year. Solar PV accounted for around three-quarters of this growth. [REN21](#)

• **Developing countries:** UN data show that renewable energy capacity per capita in developing nations grew at a compound annual rate of about 9.6% over the 2016-21 period, indicating accelerating adoption – but smaller states and least developed countries lag behind. [UNSD](#)

• **Investment gaps:** Developing countries require much larger investment flows: estimates suggest \$1.7 trillion annually is needed for renewable energy investments, yet only about \$544 billion was attracted in 2022. [UN Trade and Development \(UNCTAD\) Energy Investment and Finance](#).According to OECD data, clean energy investment patterns are shifting: foreign direct investment in renewables rose from less than 1% of global greenfield FDI in 2003 to more than 26% by 2023, with emerging economies increasingly part of the transition narrative. [OECD Electricity Generation Trends](#) Renewables are expected to surpass fossil fuel generation sources soon; global projections indicate that renewables could constitute over 43% of electricity generation by 2030. [IEA Opportunities for Developing Economies](#). [Green Jobs and Economic Diversification](#) .Green economic development often yields employment opportunities – especially in renewable energy installation, maintenance, sustainable agriculture, and conservation sectors. Globally, renewable jobs have been rising, with millions employed across clean energy sectors. (*Note: precise job projection data for developing countries should be included if available from databases like ILO.*) [Technology Transfer & Innovation](#) Enhanced technology adoption – through South-South cooperation, public-private partnerships, and international financing – can help developing countries leapfrog traditional carbon-intensive development pathways. To strengthen green economy transitions, developing countries should consider:

1. **Policy Integration:** Align national development plans with climate and sustainability goals, ensuring coherence across energy, industry, and environmental policies.

2. **Green Finance Scaling:** Expand access to green financing mechanisms – such as climate bonds, concessional loans, and blended finance – to overcome investment gaps.

3. **Capacity Building:** Enhance institutional capabilities for project planning, implementation, and monitoring of green initiatives.

4. **Innovation Ecosystems:** Support education, research, and technological innovation tailored to local contexts.

5. **Regional Cooperation:** Facilitate regional green infrastructure, knowledge sharing, and market development **Statistical Trends (2021–2024)**

### 1. Renewable Energy Jobs (Global)

#### Year Jobs in Renewable Energy (million)

2021 12.7 (approx.)†

2022 13.7† [irena.org](https://irena.org)

2023 16.2 (latest ILO/IRENA data)‡  
[un.org](https://un.org)

**Trend** Steady growth year-on-year

*Notes:*

2021 and 2022 figures are from IRENA's annual reviews. † 2023 data shows an **18 % increase** over 2022, reaching **16.2 million jobs worldwide** in renewable energy.

### 2. Renewable Energy Investment (Global)

#### Year Investment in Renewable Energy (USD on)

2022 ~622.5 billion [REN21](#)

2023 ~622.5 billion (same high level) [REN21](#)

2024 ~728 billion [REN21](#)

- Investment showed **moderate growth** between 2023 and 2024 (~8 % increase).

- The figures reflect global flows toward solar, wind, bioenergy, and enabling technologies such as grid and storage solutions.

### 3. Renewable Power Capacity Additions

#### Year Global New Renewable Capacity (GW)

2021 (baseline) ♦

2022 – (pre-record) ♦

2023 ~473 GW added (record year) [REN21](#)

2024 ~585 GW added (record growth) [Reuters](#)

These additions represent the annual new installed capacity of renewable sources (mostly **solar PV and wind**) – a key output measure for green economy expansion.

**Interpreta Growing Employment:** Jobs in renewable energy continued rising sharply – about **up to 16.2 million in 2023**, showing sustained labor market expansion in green sectors like solar, bioenergy, and hydro.

**Investment Uptick:** After strong investment in 2022-23, renewable projects saw rising capital flows in 2024 (~\$728 billion), reflecting increased global funding for energy transition. **Capacity Expansion:** Renewables added record capacities in 2023 and 2024, mostly from **solar PV and wind**, continuing a multi-year upward trend

The green economy presents a promising pathway for sustainable development in developing countries. While barriers remain, recent empirical evidence and statistical trends show robust growth in renewable energy and green investment, highlighting momentum toward greener and more inclusive economic systems. Strategic policies, international cooperation, and targeted financing are essential to realize these opportunities fully. Key Facts Supporting the Importance of a Green Economy

#### 1. It Drives Sustainable Economic Growth

Studies show that aligning economic policies with environmental goals can produce **jobs, income growth, and technological innovation** without degrading the environment. Green investment stimulates economic activity across sectors – from renewable energy to sustainable agriculture. [ijefe.my.id+1](http://ijefe.my.id+1)

#### 2. Renewable Energy and Resource Efficiency Are Central Pillars

Major strategies driving green economy transformation include:

- Renewable energy adoption
- Energy efficiency improvements
- Waste reduction and circular economy practices
- Sustainable agriculture

These strategies directly support lowering emissions and reducing environmental risks.

#### 3. Policy and Institutional Support Are Critical

Government policies such as **green industrial policy**, fiscal incentives, carbon pricing, and regulatory frameworks help overcome market failures and attract green investment. Strategic policy integration is essential for scaling up clean technologies and creating supportive business environments.

#### 4. Green Economy Supports Social Well-Being

Green policies improve quality of life by reducing pollution, enhancing public health, and creating equitable job opportunities. Evidence from various analyses

shows a relationship between green economic measures and enhanced public health outcomes like life expectancy through environmental quality improvements.

### **Innovation and Technology Are Key Drivers**

Green technologies – such as smart grids, renewable systems, and circular manufacturing – help nations decouple economic progress from environmental harm. Research emphasizes the importance of environmental innovation and stakeholder collaboration to boost green growth. **Challenges in Transitioning to a Green Economy**

While the benefits are significant, there are real obstacles:

- *High initial investment costs* for green infrastructure and clean tech
- *Political resistance* from established industries
- *Lack of adequate financing mechanisms*
- *Systemic transformation requirements* in infrastructure and consumption culture

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