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# Green Economy Transition and Sustainable Development: Implication for Developing Countries

Sarah Patrick Wambura \*

*Clinton School of Public Service, University of Arkansas at Little Rock, Little Rock, Arkansas, United States.*

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## Abstract

The green economy has received prominence owing to environmental concerns and the need for sustainable growth. For developing nations in the Global South, shifting to a green economy is crucial to tackling climate change, poverty, and unemployment through renewable energy, sustainable agriculture, and green technology. Effective policy-making, financial assistance, and international collaboration are vital to overcoming hurdles and achieving a successful green economic transition, contributing to global sustainability objectives. This paper investigates the green economic transition, stressing regulatory structures and stakeholder interaction. This study uses secondary data analysis, focused on a literature examination of over 50 sources, including government files and academic journals. It studied case studies, policy frameworks, stakeholder engagement tactics, and the advantages, obstacles, and success of green economy initiatives in developing nations. The study discussed engaging stakeholders in developing nations' green economy transitions involving inclusive policies, multi-stakeholder platforms, public awareness, financial incentives, and capacity building. Despite constraints like limited budgets and inadequate institutions, effective transitions depend on clear, integrated policies, cross-sector coordination, and sustainable financing. Strengthening stakeholder participation and harnessing international assistance can generate effective transformation. In conclusion, the study highlights that transitioning to a green economy in undeveloped nations brings both possibilities and problems that require specific measures. Effective policies must incorporate environmental sustainability into wider economic objectives, address capacity-building and funding restrictions, and foster cross-sector collaboration. By building institutions, motivating green investments, and engaging stakeholders, developing nations may achieve sustainable growth and contribute to global sustainability goals.

**Keywords:** Green Economy; Sustainable Development; Ecological Modernization Theory; Sustainable Development Theory

## 1. Introduction

The concept of green economy has garnered substantial public appeal and interest in the 21st century owing to rising worries and anxieties about the environment, climatic conditions and the demand for sustainable growth (Lorek and Spangenberg, 2014). Essentially, green economy advocates for ecologically sustainable economic growth and development, socially inclusive, and commercially successful. It focuses on preventing environmental hazards, managing climate change, and supporting the optimum use of natural resources (Chomsky and Pollin, 2020). This approach is considered as crucial for rising countries as they struggle with the dual challenges of poverty, unemployment and environmental degradation. As many of these nations are already suffering the repercussions of climate change, such as growing temperatures, extreme meteorological occurrences, and water shortages, the shift to a green economy seems even more crucial (Abbass et al., 2022).

\* Corresponding author: Sarah Patrick Wambura

Global environmental challenges have a grossly unequal impact upon the developing world, particularly in the Global South (Hickel et al., 2022). Such environmental degradation includes deforestation, desertification, and loss of biodiversity, all which these countries are more vulnerable to being that they generally have limited resources and weak infrastructure (Fuhr, 2021). They also carry the burden of climate change that exacerbates food insecurity, poverty and displacement (Ahmad, 2020). For example, the agricultural sectors in many African countries are extremely vulnerable to climate change, making it necessary for these nations to pursue green economy policies that encourage sustainable farming, renewable energy, and low-carbon technology (He et al., 2024 and Nsabiyeze et al., 2024).

The green economic transition offers a chance for disadvantaged nations to leapfrog traditional, ecologically harmful development paths (Lema and Perez, 2024). By concentrating on renewable energy, sustainable agriculture, waste management, and green technology, developing nations may foster inclusive economic growth that increases social fairness and minimises their environmental footprints (Ahmad, 2020). This shift not only confronts climate problems but also presents alternatives for employment creation, poverty reduction, and increased public health. In this scenario, the green economy becomes a formidable weapon for sustainable development, helping these nations meet the United Nations' Sustainable Development Goals (SDGs), especially those relating to clean energy, climate action, and sustainable industry (Udeagha and Ngepah, 2023).

Effective policy-making has a significant role in expediting the green economic transition in emerging nations. Governments must establish an enabling atmosphere that stimulates investment in green technology, supports green entrepreneurship, and integrates environmental challenges into economic planning (Wang et al., 2023). This involves adopting regulations that encourage energy efficiency, renewable energy, sustainable agriculture, and eco-friendly infrastructure (Hao et al., 2024). It also needs overcoming the financial obstacles that hinder many impoverished nations from embracing the green economy, such as access to capital, technological know-how, and human resources. Policy frameworks should be coupled with international climate agreements, such as the Paris Agreement, to ensure that developing nations contribute to global sustainability goals while satisfying their own development aspirations.

The repercussions of the green economic transformation for governments, corporations, and civil society in the Global South are enormous. Governments must take a proactive role in formulating policies and regulations that support sustainability. Businesses, on the other hand, need to embrace green concepts and execute sustainable practices to stay competitive in an increasingly environmentally-conscious global market. Civil society groups play a critical role in spreading awareness, lobbying for legislative change, and supporting grassroots actions that promote environmental stewardship. Stakeholder involvement is vital for the success of the green economy transition, since it necessitates collaboration across sectors and actors to guarantee that the needs and aspirations of all communities are recognised (Ahmed et al., 2023).

The role of emerging nations in reaching global sustainability goals cannot be emphasised. As large contributors to global emissions and environmental degradation, their actions have a direct influence on the health of the planet. However, their potential to promote good change is equally great. Through smart policies, sustainable practices, and active engagement in international climate accords, developing nations may contribute greatly to global efforts to mitigate climate change and promote sustainability. The green economic transition not only tackles the unique issues of the Global South but also links these nations with the global movement towards creating a sustainable future for all. This research, therefore, attempts to evaluate the green economic transition in developing nations, with an emphasis on regulatory frameworks, stakeholder involvement, and the wider implications for sustainable development.

### **1.1. Statement of Problem**

The implementation of a green economy in developing nations is delayed by several important impediments, including inadequate policies, budgetary limits, and capacity issues (Ahmed et al., 2023). Many developing nations lack comprehensive and effective environmental legislation, frequently due to competing objectives such as poverty reduction and infrastructure development (Falcone, 2023). These countries also suffer budgetary limits, making it harder to invest in vital green technologies and sustainable infrastructure. The high expenses of moving to a green economy, coupled with restricted access to foreign financing, intensify this challenge. Furthermore, a lack of technical skills and poor institutional frameworks restrict the potential to adopt and expand green economy plans, as governments and corporations typically lack the people resources and knowledge required to drive change effectively (Nhamo, 2013). The slow pace in green economy adoption underlines the need for more effective stakeholder involvement and collaboration. Resistance to change, entrenched reliance on old sectors, and limited political will contribute to the sluggish rate of transition (Ahmed et al., 2023). To solve these obstacles, governments must enhance policies, incentivise green investments, and increase capacity-building activities. Business sectors must embrace sustainable practices, while civil society plays a critical role in lobbying for change and guaranteeing inclusivity.

Engaging stakeholders at all levels is vital for synchronising goals, overcoming obstacles, and ensuring that the green economy transition is both effective and inclusive, eventually enabling sustainable development in the Global South.

### 1.2. Aim and Research Objectives

The broad aim of the study is to investigate green economic transition in developing nations, with an emphasis on regulatory frameworks, stakeholder participation, and the larger implications for sustainable development. The specific objectives are:

- To identify policy frameworks that can enable green economic transitions in developing nations.
- To examine strategic options for engaging stakeholders in the green economy transformation process in developing countries.
- To explore the benefits and challenges of shifting to a green economy in developing countries.
- To evaluate the efficiency of existing policies and strategies for green economy adoption in developing nations.
- Case studies of effective transition programmes to green economy in developed countries

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## 2. Literature Review

This section reviews literature on concepts of green economy, sustainable development and theoretical review.

### 2.1. Concept of Green Economy

The green economy concept has been characterised in numerous ways, but all highlight the integration of sustainability with economic progress. Loiseau *et al.* (2016), defined it as an economy that increases human well-being while minimising ecological dangers. Zvarych *et al.* (2022), described it as one that protects environmental integrity while fostering social and economic well-being. Merino-Saum *et al.* (2020), focused on splitting up economic growth from environmental harm by minimising degradation and carbon emissions. Georgeson *et al.* (2017), a green economy is one "that fosters sustainable development by reducing carbon emissions, boosting energy efficiency, and assuring the responsible use of natural resources. Pretty (2013), described the green economy as "an economic system that fosters low-carbon, resource-efficient, and socially inclusive growth while tackling global environmental concerns. D'amato and Korhonen (2021), characterised the green economy as "an economy that provides jobs and supports growth via investments in industries notably alternative energy, green infrastructure, and resource-efficient enterprises. Kanianska (2007), stressed the role of low-carbon technology to prevent climate change, whereas the Dhayal *et al.* (2024) and Qamruzzaman and Karim (2024), highlighted the necessity of policies that support green innovation and renewable energy. Lastly, Rastegar *et al.* (2024) recommended investment in natural capital to ensure long-term prosperity and economic resilience. Together, these definitions described a paradigm of economic growth that balances social equality, environmental protection, and economic progress.

### 2.2. Concept of Sustainable Development

Sustainable development as concept has been conceptualised discretely by different scholars each emphasising a different aspect of its applicability. Messerli *et al.* (2019), viewed it as a growth that meets current demands without endangering the capacity of future generations to meet their own. Guerra *et al.* (2021) defined it as the process of achieving social justice, environmental preservation, and economic growth all at the same time, highlighting the interdependence of these three pillars. To Trusina and Jermolajeva (2020), sustainable development attempts to sustain ecological health while insuring social and economic well-being. In addition to social and economic purposes, this notion highlights the necessity of ecological sustainability. In keeping with a more recent focus on inclusion and poverty reduction, Mackie and Allwood (2022), defined it as economic development that is environmentally sustainable and inclusive, assuring that no one is left behind. Furthermore, it is a dynamic process that promotes hu

man well-being while safeguarding the natural systems that support that well-being (Mentes, 2023). Yildirim *et al.* (2022), defined it as development that is able to persist over the long term without degrading the resources on which it depends, this definition underscores the long-term resource management. Hudtohan (2021), regarded it as a sort of development that serves the requirements of the present while guaranteeing that future generations have access to the same possibilities, stressing the availability of resources and opportunities in the future. Ultimately, these definitions revealed how sustainable development is a comprehensive notion that integrates social justice, environmental sustainability, and economic prosperity to fulfil the aspirations of present and future generations.

### 2.3. Theoretical Review

This study is anchored by the ecological modernisation theory and the sustainable development theory.

#### 2.3.1. Ecological Modernisation Theory (EMT)

Ecological Modernisation Theory (EMT), primarily developed by scholars like Joseph Huber and Martin Jänicke in the late 20th century, demonstrates that ecological environmental sustainability and economic growth can be negotiated via the inclusion of ecological considerations into modern industrial practices (Mol and Spaargaren, 2020). Proponents of the theory say that technology innovation, legislative reform, and institutional reforms are crucial to striking this balance (Mol and Jänicke, 2020). EMT claims that environmental conservation does not necessarily inhibit economic growth but can provide new economic opportunities by developing eco-efficient technologies, green industries, and sustainable habits (Murphy, 2010). The theory emphasises that governments, corporations, and community need work collaboratively to foster sustainable development through the adoption of green technologies, market-based systems, and environmental legislation (Warner, 2010). EMT is particularly pertinent in the context of developing countries, as it offers a framework for understanding how they can simultaneously address environmental concerns, like as climate change, while pursuing economic growth and social development.

In the context of the study on the green economy transition in developing countries, Ecological Modernisation Theory (EMT) offers a significant framework for understanding how these nations might pursue sustainable development while simultaneously supporting economic growth. Proponents of EMT, such as Joseph Huber, Rosalind Warner, Mol Arthur and Martin Jänicke, say that technology innovation, legal frameworks, and institutional support may push the integration of environmental sustainability into economic processes. In developing nations, where old sectors may be resource-intensive and environmentally destructive, EMT indicates that a change towards greener technologies and eco-efficient practices might alleviate environmental concerns while offering new chances for prosperity. The theory underlines the relevance of government policies that stimulate green innovation, business strategies that embrace sustainable practices, and cultural reforms that support sustainability goals. Because these countries face unique challenges such as limited financial resources, a lack of infrastructure, and vulnerability to climate change, EMT provides a conceptual framework for incorporating environmental concerns into national development strategies, guaranteeing that the green economy transition is both economically advantageous and environmentally responsible.

#### 2.3.2. Sustainable Development Theory (SDT)

According to the Brundtland Report (1987), sustainable development theory maintains that growth should fill present needs without jeopardising future generations' ability to meet their own (Basiago, 1995). This theory highlights the interdependence of economic growth, social inclusion, and environmental sustainability, stating that all three must be managed simultaneously to achieve actual sustainability (Shi *et al.*, 2019). It advocates for a development plan that blends economic progress with the need to protect natural resources and assure social justice (Dasgupta, 2007). In the context of developing nations, Sustainable Development Theory posits that governments may flourish and enhance living standards while safeguarding the environment for future generations. It argues for integrated policies that foster renewable energy, resource efficiency, social welfare, and poverty reduction, ensuring that sustainable development is inclusive, egalitarian, and resilient. The proposal gives a thorough framework for assessing how green economy policies could help to long-term, sustainable development in the Global South.

In the context of the research on green economy transition in developing countries, Sustainable Development Theory provides a vital framework for understanding how these nations may reconcile economic development, social fairness, and environmental sustainability. The approach, as described in the Brundtland Report, stresses the necessity for development policies that serve urgent needs without jeopardising the future. For developing nations, this theory implies that shifting to a green economy might assist achieve this balance by supporting sustainable development that decreases environmental damage while enhancing economic opportunity and social outcomes. The approach stresses the need of combining green technology, resource-efficient behaviours, and inclusive policies that help both environmental conservation and poverty reduction. In the study's context, the theory illustrates how green economy efforts may contribute to long-term sustainable development objectives, guaranteeing that economic progress in developing countries does not come at the expense of ecological health or social justice.

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## 3. Methodology of Data Collection

With an emphasis on both qualitative and quantitative data acquired explicitly for this purpose, this study applied a secondary data analysis technique to assess the research aims. In order to gather qualitative insights, this research incorporates a detailed analysis of relevant literature in place of primary data collecting procedures like interviews. The

investigation of case studies on successful green economic transition and sustainable development: significance for emerging nations. Furthermore, identify policy frameworks that enable green economic transitions in underdeveloped nations, examine options for engaging stakeholders in the green economy transformation process, explore the benefits and challenges of shifting to a green economy in developing countries and evaluate the efficiency of existing policies and strategies for green economy adoption in developing nations were studied. This was done by a careful analysis of more than 50 sources, including government papers, policy documents, scientific journal articles, and official gazettes on green economy and sustainable development were studied.

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## 4. Results and discussion

### 4.1. Policy Frameworks for Green Economic Transitions in Developing Nations

By means of the required rules, incentives, and institutional support to match economic development with environmental sustainability, policy frameworks significantly help in facilitating green economic transitions in developing countries (Altenburg and Rodrik, 2017). Such systems depend mostly on the inclusion of environmental objectives into national development plans. Governments have to create policies phasing out environmentally damaging subsidies and supporting renewable energy, resource efficiency, and low-carbon technologies (Green and Gambhir, 2020). By means of feed-in tariffs and tax incentives for renewable energy investments, for instance, one can promote private-sector involvement in green businesses, hence stimulating innovation and less dependence on fossil fuels.

Establishing regulatory systems that provide clear environmental criteria and support sustainable behaviours is also rather important (Green and Gambhir, 2020). Policies include pollution levies, emissions caps, and required recycling rules can encourage companies to follow more ecologically friendly policies and lower environmental harm (Buffington, 2024). Long-term ecological stability can also be achieved by land-use planning policies that give sustainable agriculture, conservation, and urban green spaces first priority, therefore addressing urban environmental issues, deforestation, and loss of biodiversity (Briassoulis, 2019).

Green transitions in developing nations, many of which have major resource limitations, depend also on financial systems. Policy frameworks have to develop domestic funding tools to help green projects and enable access to foreign financing including green bonds and climate funds (Ansari and Holz, 2020). Encouragement of public-private alliances will help to distribute the financial load and apply private sector knowledge. Furthermore, governments might establish green banks or specific funds to channel investments into areas like renewable energy, sustainable transport, and climate-resilient infrastructure, ensuring that financial hurdles do not inhibit growth (Winkler *et al.*, 2020).

Finally, effective policy frameworks must prioritise stakeholder involvement and capacity creation. Inclusive policy-making processes that engage governments, industry, civil society, and local communities are crucial to guarantee that green economy initiatives are context-specific and generally adopted (Winkler *et al.*, 2020). Capacity-building activities, such as education and training in green technologies and sustainable practices, are also vital to equip the workforce with the skills required for a green transition. By creating policies that are inclusive, transparent, and suited to local conditions, developing nations may overcome barriers and achieve substantial progress toward sustainable development through green economic transitions.

### 4.2. Benefits and Challenges of Shifting to a Green Economy in Developing Countries

Shifting to a green economy provides numerous substantial advantages for developing nations. One of the primary benefits is the promise for long-term economic development that is both sustainable and egalitarian. By investing in renewable energy, energy efficiency, and green infrastructure, developing countries may lessen their dependency on limited and polluting resources like fossil fuels, therefore boosting energy security and minimising susceptibility to shifting global energy costs (Salifu and Salifu, 2024). Furthermore, a green economy may drive employment development in companies such as renewable energy, waste management, and sustainable agriculture. These firms bring new economic opportunities, especially in places with high unemployment rates, helping to poverty reduction and economic diversification (Nyangchak, 2022).

Another advantage is the favourable environmental effect that a green economy may offer to poor nations. These countries generally confront substantial environmental difficulties, such as deforestation, water shortages, and air pollution, which may limit growth and quality of life (Chandel, 2022). By moving to green practices, such as sustainable land use, conservation, and waste reduction, developing nations may solve these concerns while boosting ecosystem services. This transition helps moderate climate change, maintain biodiversity, and prevent environmental degradation, ensuring that the natural resources on which future generations rely stay intact (Miraz *et al.*, 2024).

However, the move to a green economy also raises significant obstacles for poor nations. One of the most major impediments is the lack of financial resources and investment (Salifu and Salifu, 2024). Developing countries sometimes have difficulty in getting the finance necessary to support the green technology and infrastructure needed for the shift. High initial expenditures, combined with restricted access to green finance or foreign capital, might slow down or even stop growth (Nyangchak, 2022). Moreover, many developing nations still emphasise economic development and poverty reduction above environmental aims, which may cause opposition to green laws and practices (Miraz *et al.*, 2024). Without strong incentives or obvious economic rewards, governments may struggle to develop and maintain green projects.

Another difficulty is the absence of technical skills and institutional capability (Dlamini, 2023). Many developing nations lack the qualified labour and technology infrastructure required to move to a green economy. Capacity-building measures are sometimes insufficient, and local firms may not have the expertise or resources to embrace green technology (Knudsen *et al.*, 2023). Additionally, bad governance, corruption, and fragmented policy frameworks may hamper attempts to execute green economy policies successfully. For the transition to be successful, developing countries will need to invest in education, training, and institutional development, as well as adopt comprehensive and coherent policies that stimulate green innovation and assist companies in their move to sustainable practices.

#### **4.3. Strategic Options for Engaging Stakeholders in the Green Economy Transformation Process in Developing Nations**

Engaging stakeholders in the green economy transformation process is particularly vital in the context of developing nations, where inclusive policies are required to solve unique socio-economic and environmental concerns (Ghorbani *et al.*, 2023). A fundamental method is the formation of multi-stakeholder platforms that bring together governments, corporations, civil society organizations, and local communities to collectively create and implement green programmes (Hariram *et al.*, 2023). In developing nations, these platforms are crucial for integrating multiple perspectives, particularly from disenfranchised communities frequently most affected by environmental deterioration. Participatory initiatives, such as town hall meetings, community forums, and policy dialogues, guarantee that green economy strategies are locally relevant, culturally suitable, and generally accepted, creating shared ownership and long-term commitment (Goutte and Sanin, 2024).

Raising awareness of the green economy's benefits is another key technique for developing nations, where low understanding of sustainability often hinders progress. Public awareness campaigns adapted to local contexts can educate residents, businesses, and governments on the economic opportunities and environmental gains associated with green transitions (Arzo and Hong, 2024). For example, highlighting how renewable energy projects may provide jobs in rural regions or how sustainable farming can boost food security can motivate widespread engagement (Batra, 2023). Outreach efforts through local media, schools, and community organizations are particularly effective in developing nations, ensuring that information reaches even the most isolated and vulnerable communities.

Incentivizing stakeholder participation is also crucial for encouraging engagement in underdeveloped nations, where financial restrictions typically hinder the adoption of green practices (Zhan and Santos-Paulino, 2021). Governments can give financial incentives, such as subsidies for renewable energy installations or grants for sustainable agriculture initiatives, to decrease the upfront costs of green investments. Non-financial incentives, such as access to technical support or public recognition for green efforts, can also inspire involvement. For instance, small-scale farmers adopting eco-friendly techniques could receive government help, while enterprises deploying energy-efficient technologies might benefit from tax benefits. Such incentives not only encourage adoption but also demonstrate the government's commitment to supporting stakeholders through the change.

Capacity building is particularly crucial in underdeveloped nations, where weak skills and institutional frameworks can hamper the green economic transformation (Salifu and Salifu, 2024). Training programmes and educational activities targeted to local needs can equip stakeholders with the skills and information necessary to adopt sustainable practices effectively (Dlamini, 2023). Policymakers can benefit from training on establishing and implementing green policies, while businesses and communities can obtain technical skills to implement eco-friendly technologies and practices. Partnerships with foreign organizations and development agencies can bring extra resources, funds, and expertise to boost these efforts. By adopting inclusive capacity-building methods, developing nations may enable their stakeholders to actively engage in the green economy revolution, assuring progress toward sustainable development goals.

#### **4.4. Evaluation of the Efficiency of Existing Policies and Strategies for Green Economy Adoption in Developing Nations**

Evaluating the efficacy of existing policies and methods for green economy adoption in developing nations reveals both progress and considerable hurdles (Salifu and Salifu, 2024). Khoshnava *et al.* (2019), noted that many developing nations have incorporated components of the green economy into national development plans, climate strategies, and sector-specific policies, frequently with support from international frameworks like the Paris Agreement and the United Nations' Sustainable Development Goals (SDGs). For example, measures boosting renewable energy adoption, such as feed-in tariffs, energy access efforts, and subsidies for solar installations, have helped to increased clean energy penetration in nations like Kenya, Nigeria and India (Kar and Gopakumar, 2015; Umeh *et al.*, 2024 and Rotich *et al.*, 2024). Similarly, sustainable agriculture practices supported by government initiatives have increased food security and reduced environmental impacts in nations such as Rwanda and Ethiopia (Hagumimana *et al.*, 2021 and Gebremaryam, 2021).

Despite these developments, the efficiency of green economy policies and initiatives typically suffers due to inadequate implementation and structural issues (Salifu and Salifu, 2024). A frequent concern is the lack of coherence and integration across sectors, with many initiatives functioning in silos rather than constituting part of a comprehensive green economy strategy (Van Heerden, 2021). For instance, regulations encouraging renewable energy growth may not correspond with those overseeing fossil fuel subsidies, generating competing goals. Additionally, insufficient enforcement mechanisms in many developing nations result in low compliance with environmental legislation, limiting policy efficacy. Limited technical skills and institutional capability further impede the ability of governments to plan, implement, and monitor green projects successfully.

Financial constraints also considerably affect the efficacy of green economy solutions in underdeveloped nations. Many countries confront challenges in securing adequate funds to undertake large-scale green initiatives, such as infrastructure for renewable energy or sustainable transport systems (Hagumimana *et al.*, 2021). Although international financial channels, such as the Green Climate Fund, provide important support, bureaucratic impediments and low local ability sometimes prevent the proper usage of these monies (Umeh *et al.*, 2024). Furthermore, private-sector engagement in green economy efforts remains low in many developing nations, as businesses typically lack incentives or regard green investments as financially hazardous.

The efficiency of existing initiatives can be improved by tackling these systemic weaknesses through greater governance, better policy alignment, and enhanced stakeholder involvement (Gebremaryam, 2021). Developing countries need to integrate green economy goals into broader national development plans, maintaining uniformity across sectors. Strengthening institutions, increasing technical competence, and fostering collaborations with international organizations and the corporate sector can boost implementation capacity. Additionally, expanding access to climate finance and establishing incentives for private-sector participation are vital for growing green economy efforts. By addressing these gaps, developing nations can enhance the efficiency of existing policies and initiatives, expediting their transition to sustainable economic models.

#### **4.5. Case studies of Effective Transitioning Programmes to Green Economy in Developed Countries**

According to the United Nations Conference on Trade and Development, 166 nations are ready to begin implementing cutting-edge green technology are the United States, Sweden, Singapore, Switzerland, and the Netherlands comprise the top five (World Economic Forum, 2023). The activities of these nations provide valuable insights into the strategies that have facilitated sustainable economic growth while addressing environmental challenges. These countries have established a variety of laws, strategies, and projects that encourage green practices across sectors like energy, transportation, and waste management, establishing examples for others to follow.

In the United States, the shift to a green economy has been pushed by both federal and state-level policy (Saha and Jaeger, 2020). The federal government has invested in sustainable energy research and development, particularly through programmes like the sustainable Energy Standard and the Department of Energy's projects promoting wind, solar, and battery storage technology (Kinde, 2019). On the state level, California has been a leader, establishing tight emissions laws, encouraging renewable energy through the California Solar Initiative, and setting ambitious climate targets, including reaching net-zero emissions by 2045 (Mohsenian-Rad and Barth, 2024). These measures have not only helped cut greenhouse gas emissions but have also stimulated innovation and employment growth in the clean energy sector.

Sweden has long been a pioneer in green economy transitions, combining aggressive environmental policies with strong economic growth (Strand, 2024). The Swedish government established a carbon price in 1991, which has proved vital

in decreasing emissions while retaining economic competitiveness. Sweden has also invested extensively in renewable energy, particularly in wind and hydroelectric power, and has set a goal to be carbon neutral by 2045. Additionally, Sweden has championed a circular economy strategy, with significant recycling programmes and a sophisticated waste-to-energy infrastructure, turning garbage into a resource. These measures have positioned Sweden as one of the world's leaders in sustainable development (Siddi, 2023).

Singapore has become a model for green urban development, notably in terms of its policies on sustainable cities and green technologies. The Singapore Green Plan 2030, issued by the government, intends to make Singapore a leading green economy by strengthening sustainability efforts across industries (Rivas Varela, 2024). The country has introduced green building standards, such as the building and development Authority's Green Mark Scheme, which encourages the development of energy-efficient structures (Fujii and Ray, 2021). Furthermore, Singapore has concentrated on green mobility with the construction of electric vehicle infrastructure and sustainable public transport systems (Diao, 2019). By integrating sustainability into its urban planning and industrial policies, Singapore has proved that a dense, urbanised economy can transition effectively to a green economy.

In Switzerland, the green economic transition has been backed by a strong commitment to environmental sustainability and innovation (Barbieri, *et al.*, 2021). The Swiss government has established a range of regulations that encourage energy efficiency, renewable energy, and waste reduction. One significant example is the country's commitment to phasing out nuclear energy and shifting to renewable energy sources through the Energy Strategy 2050 (Buffington, 2024). The Swiss are also noted for their waste management systems, with some of the best recycling rates in the world, and the promotion of sustainable products and services (Newman, 2020). These initiatives have been supported with incentives for firms and individuals to reduce their environmental impact, helping Switzerland remain competitive while minimising its ecological footprint.

The Netherlands has integrated sustainability into its economic strategies, particularly focusing on circular economy concepts and green innovation (Van Buren, *et al.*, 2016). The Dutch government has been actively involved in fostering sustainable agriculture, renewable energy usage, and decreasing emissions (Van Vuuren *et al.*, 2024). One of the most major projects has been the Dutch Green Deal, which fosters partnership between the government, industry, and civil society to reduce energy consumption, boost the use of renewable energy, and minimise CO<sub>2</sub> emissions. Additionally, the Netherlands has been a leader in establishing infrastructure for electric vehicles and sustainable urban mobility (Van Buren, *et al.*, 2016). The country's commitment to sustainable innovation has made it a global leader in green technologies, with businesses and research institutions contributing to innovations in sectors including clean energy, water management, and sustainable urban development.

These cases indicate that effective transition plans to a green economy require a mix of strong regulatory frameworks, technical innovation, and active stakeholder participation. By integrating environmental sustainability into national development plans, leveraging public-private partnerships, and supporting sustainable corporate practices, these countries have been able to generate significant progress in reaching their green economy goals. The success of these countries provides vital lessons for developing nations wanting to implement their own green transition plans.

#### **4.6. Policy Implications: Learning Curve for Developing Nations**

The policy implications for developing countries trying to transition to a green economy are substantial and diverse, needing specific plans that address both the possibilities and constraints particular to these nations. First, it is vital for developing nations to formulate and implement clear, unified green economy policies that incorporate environmental goals into their larger national development frameworks. Policymakers need to emphasise sustainable development by integrating economic growth with environmental stewardship, ensuring that policies encourage resource efficiency, renewable energy adoption, and sustainable agriculture while lowering dependent on fossil fuels. Developing countries may benefit from the experiences of rich nations, but must also adapt policies to their own settings, considering considerations like poverty, inadequate infrastructure, and sensitivity to climate change consequences.

An important policy issue is the requirement for capacity training and institutional improvement. Developing nations frequently confront obstacles in terms of technical competence, governance frameworks, and enforcement capacity. Therefore, establishing institutions and offering training programmes to increase skills in green technology, environmental management, and climate policy is vital. Building the capacity of both government institutions and local communities supports successful policy implementation and creates a supportive environment for the green economy transition. Additionally, cross-sector collaboration should be fostered, integrating stakeholders from government, private firms, civil society, and international organizations to establish synergies that would support sustainable economic growth.



Financial limits are another important barrier for underdeveloped countries, which may struggle to support large-scale green programmes. Policymakers must design financial structures that promote both public and private sector investment in green initiatives. This might entail introducing green bonds, granting tax benefits, or establishing green banks to provide inexpensive finance for renewable energy, sustainable agriculture, and low-carbon infrastructure projects. Furthermore, accessing international climate money, such as the Green Climate Fund, can assist bridge budget shortages, however efficient systems for channeling and utilizing these monies are important to ensure their efficacy. Policy frameworks should prioritise financial mechanisms that reduce risks and provide long-term funding options for green activities.

Lastly, effective stakeholder participation is vital to the success of green economy programmes in poor nations. Governments must include local communities, companies, and civil society in the policy creation and implementation process, ensuring that plans are contextually suitable and supported by those who will be directly impacted. Involving stakeholders in decision-making not only promises better policy results but also enhances public support and lowers opposition to change. Developing nations should also focus on creating public awareness campaigns to highlight the benefits of the green economy and its potential for job creation, poverty reduction, and increased quality of life. By incorporating these factors into policy frameworks, developing nations may build an enabling environment for a successful and inclusive green economic transition.

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## 5. Conclusion

Advancing to a green economy in underdeveloped nations brings both enormous potential and problems that require adapted, context-specific strategies. Effective policy frameworks must incorporate environmental sustainability into larger economic plans, while addressing capacity-building needs, funding restrictions, and the demand for cross-sector collaboration. By building institutions, rewarding green investments, and promoting inclusive stakeholder engagement, developing nations may negotiate the intricacies of this transformation. Drawing lessons from successful green economy programmes in developed countries, and combining them with local innovations and international support, will enable developing countries to achieve sustainable economic growth, tackle environmental challenges, and contribute to global sustainability goals.

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