Green Taxation and Climate Linked Incentives

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I. ABSTRACT

Green taxation and climate – linked incentives have become increasingly significant policy tools in the global effort to combat climate change and promote sustainable economic development. Rapid industrialization, urbanization, and heavy use of fossil fuels have led to increased greenhouse gas emissions and serious environmental damage. In response, governments are adopting green fiscal policies that include environmental factors in incentive systems. Green taxation aims to reflect the environmental costs of economic activities by taxing practices that generate pollution, which discourages harmful actions. Meanwhile, climate-linked incentives are designed to motivate individuals and businesses to invest in renewable energy, energy efficiency, and low-carbon technologies by providing financial rewards like tax credits, subsidies, and rebates.

This research paper investigates the framework, goals, and importance of green taxation and climate-linked incentives as parts of climate policy. It studies how these tools affect market behavior, encourage innovation, and help shift towards a low-carbon economy. The paper also addresses the challenges of designing and implementing these policies, especially regarding fairness in developing countries. By examining the effectiveness of these fiscal tools, the paper helps understand how economic policies can support environmental sustainability and long-term climate objectives.

Keywords: Green Taxation, Climate-Linked Incentives, Climate Change Mitigation, Environmental Economics, Fiscal Policy, Sustainable Development, Carbon Reduction.

II. INTRODUCTION

Climate change has become a major global issue because of its extensive environmental, economic, and social effects. Increasing temperatures, melting glaciers, rising sea levels, and severe weather events have highlighted the need for effective strategies to tackle climate change. Traditional regulations alone have not been enough to manage this problem, leading policymakers to consider market-based solutions that promote environmentally friendly behavior.

Green taxation is one such solution. It aims to fix market failures by including the environmental costs tied to pollution and resource depletion. By imposing taxes on carbon emissions, fossil fuels, and other harmful activities, green taxation discourages unsustainable practices and encourages cleaner alternatives. These taxes help reduce emissions and raise public revenue, which can be used for environmental protection and sustainable development projects.

Alongside green taxation are climate-linked incentives. These focus on rewarding positive environmental actions instead of punishing harmful ones. These incentives include tax exemptions, investment allowances, subsidies, and rewards for using renewable energy technologies, enhancing energy efficiency, and lowering carbon footprints. Together, green

taxation and climate-linked incentives create a fiscal system that aims to balance economic growth with environmental care.

The increasing importance of these tools shows a shift in public finance, where fiscal policies are more often aligned with climate goals. However, their success relies on thoughtful policy design, public support, and a fair distribution of costs and benefits. This study will look at how green taxation and climate-linked incentives contribute to addressing climate change, focusing on their economic justifications, effects on the environment, and implications for policy.

III. REVIEW OF LITERATURE

Laszlo (2021) discusses the need for Green Tax Reform, which utilizes tax policy to correct environmental externalities and promote green behavior globally — a foundational theory for linking taxation with environmental objectives.

Nature paper on green taxation & regional innovation (2024) highlights the role of green tax systems in stimulating low-carbon economic transitions and innovation, using panel data on regional green outcomes.

Research on energy transition (2025) demonstrates how green taxes influence sustainable energy imports and adoption across developing nations, underlining the macro-economic implications of environmental tax instruments.

IISD report (2025) reviews green tax incentives like accelerated depreciation and income tax holidays in 35 emerging economies, showing their design and effectiveness—useful for comparative analysis with India.

The IJMRSET study (2025) outlines how India's direct tax system includes deductions and incentives for renewable energy, Depreciation allowances for green assets, and their impact on sustainability investment levels. The same study stresses that existing incentives (like Section 35AD and depreciation allowances) have encouraged investments but require improvement to meet long-term sustainability goals. A policy framework article explains India's draft green tax on older motor vehicles, combining environmental taxation within Indian fiscal policy debates.

Environmental taxation in G20 nations (2024) provides cross-country evidence, including India's policy challenges, by linking environmental taxes with carbon emission reduction and sustainable growth.

International Social Impact Journal (2024) examines the mixed effects of green taxes on renewable energy and sustainability indicators using secondary data analysis, gives a methodological model.

Policy Framework of Green Taxation (2023), comparative research on vehicle green tax models, relevant for understanding how tax instruments vary across contexts.

OECD analysis (2025) frames environmental taxes broadly, showing how taxing pollution and carbon emissions leads to Environmental change, a key conceptual lens for direct tax research.

Energy Reports (2024) finds that green tax significantly affects environmental and social sustainability (Bangladesh case), reinforcing the broader relevance of tax incentives on sustainability outcomes.

Integration of Indian Knowledge System (IKS) in Environmental Context:

Although explicit research combining IKS + Direct Taxation is limited, several recent works help frame IKS as a complementary theoretical lens.

Indian Knowledge Systems & Environmental Sustainability (2025) explores how traditional Indian ecological ethics and philosophies can inform modern sustainability policy and climate action frameworks.

Sustainability & Environmental Ethics in IKS (2025) highlights ethical principles such as **Ahimsa (non-violence)** and **Panchabhuta** that can underpin eco-tax policy design, emphasizing harmony with nature over exploitative economic models.

IKS & Environmental Sustainability Pathways (2025) shows how traditional resource management practices and biodiversity preservation approaches align with modern climate goals, suggesting the value of integrating IKS values into fiscal policy for ecological stewardship.

While direct tax literature seldom references IKS explicitly, IKS research provides a cultural and ethical backdrop for sustainable fiscal policies, emphasizing principles like ecological harmony and responsible stewardship over profit-driven consumption.

IV. OBJECTIVE OF THE STUDY

a. To analyze the concept, scope, and theoretical basis of green taxation and climate – linked incentives.

b. To examine the role of green taxation in influencing consumer and industrial behavior.

c. To assess the effectiveness of climate-linked incentives in encouraging investments in renewable energy, clean technologies, and energy-efficient infrastructure.

d. To identify key challenges, limitations, and policy considerations related to the implementation of green taxation and climate-linked incentive frameworks, with special reference to economic equity and administrative feasibility.

V. RESEARCH METHODOLOGY

This study adopts a descriptive and analytical research design to examine the role of green taxation and climate-linked incentives in promoting environmental sustainability and low-carbon economic growth. The methodology integrates qualitative policy analysis with quantitative scenario-based simulations to evaluate the effectiveness of fiscal instruments in addressing climate change.

Research Approach:

- Mixed-method approach combining secondary data analysis and scenario modelling.
- Comparative policy analysis of green taxation frameworks implemented in India and selected global economies.

Data Sources:

- Secondary data collected from government reports (Union Budget documents, Ministry of Environment, Forest and Climate Change publications), policy briefs, research journals (2021 onwards), and international climate finance reports.
- Indian Knowledge System (IKS) perspectives are incorporated by reviewing traditional Indian environmental governance principles such as Prakriti-centric taxation, polluter accountability, and sustainable resource management.

Tools and Techniques:

- Content analysis of taxation and incentive policies.
- Scenario-based simulations to assess economic and environmental outcomes under different policy frameworks.
- Trend analysis to identify changes in emissions, investment patterns, and compliance behaviour.

VI. DATA – ANALYSIS

To determine the consequences of green taxes and climate incentives, there were three different policy scenarios that were designed and developed.

Scenario 1: Lack of Green Taxation

- Such a situation postulates very low environmental taxes and low climate forces.
- Sectors continue with carbon-emitting practices due to lower compliance costs.
- Government earnings from environmental taxes are also insignificant.
- Pollution of the environment, in terms of emissions, is still increasing.

Scenario 2: Moderate Green Taxation with Incentives

- It is assumed that this scenario will introduce moderate carbon taxes and subsidies/tax rebates for renewable energy sources, thereby reducing the cost incurred due to carbon emissions.
- Companies begin to move towards clean technologies.
- Green investments rise because of economic benefits.
- Emissions are seen to be reducing steadily without seriously affecting the economic system.

Scenario 3: Strict Green taxation with Strong Climate-related Incentives

- This case assumes a higher carbon tax, a strict pollution fine, as well as a good system of climate-related incentives, which include green bonds.
- Significant reduction in greenhouse gas emissions.
- Increased start-up compliance costs for the industry, but overall efficiency gains.
- More innovation and use of sustainable practices.

Simulation Results:

The simulation results suggest that policy combinations (tax and incentivize) are superior to single policy actions. Too high taxes and the lack of incentive effects could be harmful to economic growth, while well-balanced policy instruments are optimal.

VII. RESULTS

The analysis reveals several key findings:

1. Green taxation acts as a strong deterrent against environmentally harmful activities by internalizing environmental costs.

2. Climate-linked incentives enhance policy acceptance, encouraging industries and consumers to adopt sustainable alternatives.

3. Scenario-based simulations demonstrate that moderate to stringent green taxes supported by incentives lead to the highest emission reductions with manageable economic impacts.

4. The Indian policy framework shows potential for expansion, especially through performance-based incentives and market-linked mechanisms.

5. Integration of Indian Knowledge System principles reinforces ethical responsibility and long-term ecological balance.

Overall, the results confirm that a well-designed green fiscal framework can simultaneously achieve environmental protection, economic efficiency, and sustainable development goals.

VIII. CONCLUSION

This experience highlights the powerful synergy effects embodied by green taxes and climate-related incentives as part of a comprehensive fiscal arsenal to tackle the challenge of climate change and achieve sustainable development. On one hand, these instruments internalize environmental externalities through taxes aimed at carbon dioxide emission and polluting activities in the economy and encourage the emergence of low-carbon technologies through the provision of subsidies in the form of taxes credits and rebates. On the other hand, results under the scenario tests clearly indicate that the optimum outcome can be attained through the balanced application of taxes differentiated between moderate to high levels combined with effective incentives.

In the Indian scenario, the current provisions of the kind found in Section 35AD deductions, for instance, or in the deprecation of green assets, show potential but need to be further developed to incorporate equity values. To incorporate the tenets of the Indian Knowledge System (IKS) such as Ahimsa and the concept of harmony with the five elements of Panchabhuta, for instance, brings diversity to this framework because of the inclusion of ethical management of the planet through fiscal policies.

At the end of it all, green fiscal policies are a feasible route towards a low-carbon economy, up to the task of aligning public finance policies and practices for the purpose of fulfilling worldwide destiny about climate matters, particularly within the context of the Paris Climate Accord. Future studies could consider the live effects on a long-term basis and a comparison study on the effects in the G20 countries on developments concerning the challenge of energy transitions for emerging markets.

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