

# Green Growth Strategy and Environmental Policy Integration in Sustainable Economic Development: A Review of Bibliometric Analysis

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## ABSTRACT

This study presents a comprehensive review of literature on green growth strategy and environmental policy integration in sustainable economic development, utilizing bibliometric analysis as a methodological approach. Over four decades of scholarly contributions were examined, revealing a substantial body of literature with significant scholarly impact. Through citation metrics and network visualizations, key thematic clusters emerged, highlighting discussions on sustainable economic development, firm strategies for sustainability, green job markets, and technological innovations for environmental purposes. The analysis underscores the importance of integrating environmental considerations into economic decision-making processes and offers insights for policymakers, researchers, and practitioners to inform evidence-based decision-making and guide future research agendas. The findings contribute to advancing theoretical understanding and empirical insights into the interplay between green growth, environmental policy integration, and sustainable economic development, thereby facilitating progress towards a more equitable and environmentally resilient future.

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## 1. INTRODUCTION

In recent decades, the global community has increasingly recognized the imperative of sustainable economic development to address pressing environmental challenges while fostering socio-economic progress [1]–[4]. Central to this endeavor is the concept of green growth, which advocates for economic advancement

while minimizing environmental degradation. Concurrently, policymakers have emphasized the importance of integrating environmental concerns into policy frameworks to achieve sustainability goals effectively [5]–[7]. This research endeavors to explore the nexus between green growth strategy and environmental policy

integration, elucidating their role in fostering sustainable economic development.

The trajectory of economic development in the 21st century is intrinsically linked with environmental sustainability. Rapid industrialization and globalization have led to unprecedented levels of resource exploitation, pollution, and climate change, necessitating a paradigm shift towards sustainable practices. Against this backdrop, the concept of green growth has emerged as a guiding principle, emphasizing the decoupling of economic growth from environmental degradation. By promoting resource efficiency, renewable energy adoption, and sustainable production methods, green growth seeks to reconcile economic prosperity with environmental preservation [8]–[13].

Concurrently, the integration of environmental considerations into policymaking processes has gained prominence as a means to address complex environmental challenges effectively [14]–[16]. Environmental policy integration (EPI) entails mainstreaming environmental concerns across various policy domains, ensuring coherence and synergy in decision-making processes [17], [18]. By embedding environmental objectives into economic policies, urban planning, and infrastructure development, EPI aims to achieve sustainable outcomes while enhancing policy effectiveness and societal well-being.

Despite the theoretical appeal of green growth and environmental policy integration, their practical implementation and impact remain subject to scrutiny. The efficacy of green growth strategies in achieving environmental sustainability and fostering economic development requires critical evaluation. Similarly, the extent to which environmental considerations are integrated into policymaking processes, and their actual influence on decision-making outcomes warrant empirical investigation. Addressing these gaps is crucial for informing policy formulation and enhancing the effectiveness of sustainability initiatives.

This research aims to conduct a comprehensive review of existing literature on green growth strategy and environmental policy integration, employing bibliometric analysis as a methodological approach. The primary objectives include:

1. Assessing the evolution of research trends and thematic focus within the fields of green growth and environmental policy integration.
2. Examining the strengths, limitations, and gaps in current literature to provide insights for future research directions and policy interventions.

This research holds significance for policymakers, researchers, and practitioners engaged in sustainable development endeavors. By synthesizing existing knowledge and identifying emerging trends, it seeks to inform evidence-based decision-making and facilitate the design of more robust and integrated policy frameworks. Furthermore, the findings of this study are expected to contribute to academic discourse, advancing theoretical understanding and empirical insights into the interplay between green growth, environmental policy integration, and sustainable economic development. Ultimately, this research aspires to foster a deeper appreciation of the complexities inherent in achieving sustainability goals and catalyze collective action towards a more equitable and environmentally resilient future.

## 2. LITERATURE REVIEW

The Green Growth Strategy aims to achieve sustainable economic development by integrating environmental policies into economic decision-making processes. This involves enhancing national reporting on the state of the environment, setting environmental targets, and mainstreaming the environment in fiscal policy and budgeting [19]. Environmental Policy Integration (EPI) is a key approach for

achieving sustainable development by placing environmental considerations at the heart of policy-making processes across sectors. EPI recognizes that environmental damage is often caused by non-environmental policy sectors and seeks to develop administrative strategies to address this issue [20]. The concept of sustainability in economic development involves capitalizing on existing resources to improve quality of life and reduce social inequalities. It includes strategies such as adopting liberal policies, reducing regional disparities, and promoting the rational and responsible use of resources through circular economy principles [21]. The integration of city-industry and the promotion of green economic growth have been explored, with findings indicating that city-industry integration can directly promote green economy growth and has spatial spillover effects [22]. Government agencies play a crucial role in promoting sustainable green growth by formulating relevant laws and policies, such as environmental tax laws, to achieve strategic goals.

### 3. METHODS

This research employs a bibliometric analysis methodology to systematically review and analyze existing literature on green growth strategy and environmental policy integration in sustainable economic development. Bibliometric analysis enables the quantitative examination of research trends, thematic content, and citation patterns within a given field or topic. To conduct this analysis, relevant academic databases such as Web of Science, Scopus, and Google Scholar will be utilized to retrieve peer-reviewed articles, conference proceedings, and scholarly publications spanning the period from the inception of the field to the present day. Keywords and search strings encompassing terms related to green growth, environmental policy integration, sustainability, and economic development will be employed to ensure comprehensive coverage of relevant literature. The retrieved publications will then be subjected to

inclusion and exclusion criteria based on relevance, scholarly rigor, and language (limited to English). Data extraction will involve recording bibliographic information, citation counts, publication year, author affiliations, and keywords. Statistical techniques including co-citation analysis, citation network analysis, and bibliographic coupling will be employed to identify seminal works, research clusters, and knowledge networks within the literature. Additionally, thematic content analysis will be conducted to elucidate recurring themes, theoretical frameworks, methodologies, and empirical findings across the selected publications. The insights garnered from this bibliometric analysis will provide a robust foundation for synthesizing existing knowledge, identifying research gaps, and informing the discussion on green growth, environmental policy integration, and sustainable economic development.

## 4. RESULTS AND DISCUSSION

### 4.1 Research Data Metrics

Table 1. Data Citation Metrics

Publication years	1984-2024
Citation years	40 (1984-2024)
Paper	840
Citations	203738
Cites/year	5093.45
Cites/paper	242.55
Cites/author	118770.40
Papers/author	451.67
Author/paper	2.58
h-index	241
g-index	428
hI,norm	171
hI,annual	4.28
hA-index	80
Papers with ACC	: 1,2,5,10,20:832,812,699,568,377

Source: Publish or Perish Output, 2024

Table 1 presents data citation metrics derived from the bibliometric analysis conducted on the literature spanning the years 1984 to 2024, encompassing 840 papers and a total of 203,738 citations. On average,

each paper received approximately 242.55 citations, with an impressive citation rate of 5093.45 citations per year across the entire dataset. The average number of citations per author stands at a substantial 118,770.40, reflecting the influential contributions of authors in the field. Moreover, the analysis reveals a high level of productivity, with an average of 451.67 papers authored per individual and a relatively low author-to-paper ratio of 2.58. The h-index, a widely recognized metric of scholarly impact, is calculated at 241, indicating that 241 papers in the dataset have each garnered at least 241 citations. Similarly, the g-index, which takes into account the distribution of citations across papers, is computed at 428. Notably, the hI<sub>norm</sub> (normalized h-index) stands at 171, adjusting for variations in publication

and citation rates across different research fields. The annual hI index, representing the average number of publications per year that contribute to the h-index, is calculated at 4.28. Additionally, the hA-index, a variant of the h-index that considers authorship, is determined to be 80. Furthermore, the table indicates the number of papers with different citation thresholds (1, 2, 5, 10, and 20) which are 832, 812, 699, 568, and 377, respectively, providing insights into the distribution of citation impact across the literature. Overall, these citation metrics underscore the significance and impact of the literature on green growth strategy and environmental policy integration in sustainable economic development, highlighting the breadth of scholarly contributions and the influence of authors within the field.

Table 2. Top Cited Research

Citations	Authors and year	Title
3347	A Murray, S Skene, K Haynes (2017)	The circular economy: an interdisciplinary exploration of the concept and application in a global context
3242	EJ Blakely, NG Leigh (2013)	Planning local economic development
3020	B Adams (2008)	Green development: Environment and sustainability in a developing world
2958	S Campbell (1996)	Green cities, growing cities, just cities?; Urban planning and the contradictions of sustainable development
2910	K Buysse, A Verbeke (2013)	Proactive environmental strategies: A stakeholder management perspective
2851	T Panayotou (1993)	Empirical tests and policy analysis of environmental degradation at different stages of economic development
2414	BC O'Neil, E Kiegler, KL Ebi, E Kemp-Benedict (2017)	The roads ahead: Narratives for shared socioeconomic pathways describing world futures in the 21 <sup>st</sup> century
2330	EB Barrier (2017)	The concept of sustainable economic development
2094	RK Turner, DW Pearce, I Bateman (1993)	Environmental economics: an elementary introduction
1902	D Pearce, E Barbier, A Markandya (2013)	Sustainable development: economics and environment in the Third World

Source: Publish or Perish Output, 2024

Table 2 presents the top cited research articles in the field of green growth strategy and environmental policy integration in sustainable economic development. The list comprises seminal works that have significantly influenced scholarly discourse and policy debates over the years. Topping the list is the article by A. Murray, S. Skene, and K. Haynes (2017), titled "The circular

economy: an interdisciplinary exploration of the concept and application in a global context," with 3347 citations. This paper provides a comprehensive examination of the circular economy paradigm and its relevance in addressing global sustainability challenges. Following closely is the work of E.J. Blakely and N.G. Leigh (2013), titled "Planning local economic development," which delves into





"economic," "sustainable consumption," "emission," and "environmental quality." This suggests that the initial research in this field was concerned with broad issues of sustainability and the environmental impact of economic activities.

2. Mid-Term Focus (Green): Moving toward the green nodes, we find terms like "sustainable economic development," "green innovation," and "technological innovation," indicating a growing interest in how innovation and development can be balanced with sustainability. This might represent a transition phase where the emphasis shifts from understanding the problem to seeking actionable solutions.

3. Recent Focus (Yellow): The yellow nodes are clustered around terms like "environmental strategy," "firm," and "circular economy." This shows a recent trend in research focusing on how firms can strategize for environmental sustainability and how concepts like the circular economy can be implemented in business practices.

The presence of terms such as "circular economy," "green finance," and "green job" in the yellow zone suggests a contemporary focus on the economic and financial aspects of sustainability, indicating that recent research may be more oriented towards practical implementation and the economic implications of sustainability strategies in the business world.

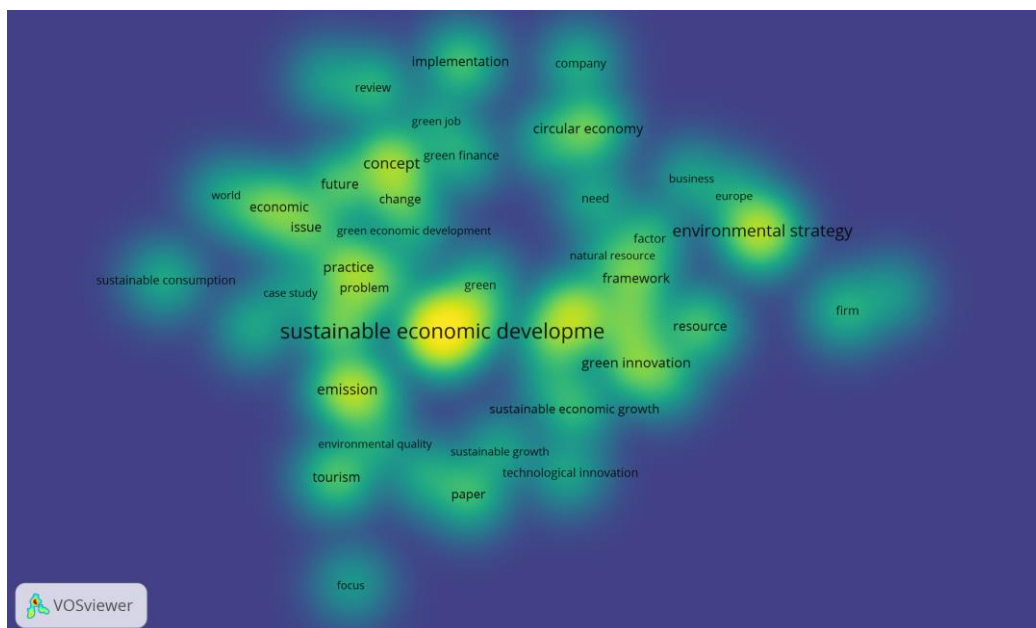


Figure 3. Density Visualization

Source: Data Analysis, 2024

Based on the visualization above, which showed a shift towards "environmental strategy," "firm," and "circular economy" in the yellow nodes, potential future research topics might include:

1. Detailed case studies on how firms implement circular economy models.
2. Cross-industry comparisons of environmental strategies and their effectiveness.

3. Research into the financial implications of green innovations for businesses.
2. Studies on how technological innovations are being adopted within different sectors for sustainable growth.
3. Examination of the role of green jobs in economic recovery and transformation, especially in a post-pandemic world.
4. Analysis of green finance mechanisms and their impact on sustainable economic development.

## 5. CONCLUSION

In conclusion, the comprehensive bibliometric analysis presented in this study sheds light on the evolving landscape of research within the realms of green growth strategy and environmental policy integration in sustainable economic development. The analysis revealed a substantial body of literature spanning four decades, encompassing a diverse array of topics and research methodologies. The citation metrics underscore the significant impact and scholarly influence of the field, with high

citation rates and prominent contributions from prolific authors. Through network visualizations, key thematic clusters emerged, highlighting discussions on sustainable economic development, the role of firms in sustainability, green job markets, and technological innovations for environmental purposes. Moreover, the overlay visualization delineated a temporal shift in research focus, from foundational concepts to contemporary issues such as environmental strategies for firms and the circular economy. These findings offer valuable insights for policymakers, researchers, and practitioners, informing evidence-based decision-making and guiding future research agendas. Moving forward, potential research avenues may include detailed case studies on circular economy implementation, cross-industry comparisons of environmental strategies, and analyses of green finance mechanisms. Ultimately, this study contributes to advancing theoretical understanding and empirical insights into the interplay between green growth, environmental policy integration, and sustainable economic development, thereby paving the way for a more equitable and environmentally resilient future.

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