Global And Local Challenges to Public Acceptance of Renewable Energy in Urban Areas: A Review

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Abstract- ***Public acceptance of renewable energy is a critical factor in the transition to sustainable energy systems, particularly in urban areas. This paper examines the global and local barriers to public acceptance of renewable energy, with a focus on urban regions in Nigeria. Key influencing factors include economic constraints, lack of public engagement, aesthetic concerns, and perceived environmental impacts. In Nigeria, additional challenges such as infrastructural deficiencies and affordability further hinder widespread adoption. To address these barriers, this study recommends policy reforms that prioritize financial incentives, inclusive governance, and active community participation. Educational campaigns tailored to diverse demographics and the promotion of decentralized, community-owned energy systems are proposed as strategies to enhance public awareness and engagement. Lastly, the paper highlights future research directions, emphasizing the need for socio-economic studies and the role of emerging technologies in shaping public perceptions of renewable energy.***

Indexed Terms- ***Policy Reforms, Public Acceptance, Renewable Energy, Socio-Economic Factors, Urban Areas***

I. INTRODUCTION

The global transition to renewable energy is essential for mitigating climate change, reducing greenhouse gas emissions, and ensuring long-term energy sustainability (Gan, Taikan, Gan, Weis, Yamazaki & Schüttrumpf., 2023). Urban areas, which house the majority of the world's population and account for significant energy consumption, play a critical role in this transition (Chen, Gu, Fang & Zeng., 2023). The integration of renewable energy technologies, such as solar, wind, and bioenergy, into cities is vital for achieving global sustainability goals. However, the success of these initiatives depends not only on technological advancements and policy frameworks but also on public acceptance. Public perception significantly influences the adoption, implementation, and long-term viability of renewable energy projects (Al Naimat & Liang., 2023). Understanding the drivers and barriers to public acceptance is crucial for facilitating the smooth integration of renewable energy in urban settings, particularly where energy demand is high.

Public acceptance is a determining factor in the success of renewable energy projects (Ali, Irfan, Ozturk & Rauf., 2023). While technological innovation and policy development are key to building sustainable energy systems, the role of public perception cannot be overlooked. Positive public perceptions can accelerate renewable energy adoption, foster community support, and enhance the effectiveness of policies. In contrast, negative perceptions stemming from misinformation, low awareness, or distrust in government policies can lead to public resistance, project delays, or even cancellations. Factors such as economic incentives, environmental awareness, aesthetic concerns, and trust in utility providers all shape public attitudes (Huang & Cheng., 2023). As cities transition to renewable energy, understanding public perspectives is essential for overcoming resistance and ensuring the long-term success of these initiatives.

The integration of renewable energy in urban areas offers both opportunities and challenges across different regions (Liu, Skandalos, Braslina, Kapsalis & Karamanis., 2023). In developed countries like Germany, Denmark, and the United States, urban centers have made notable progress in adopting renewable energy, driven by strong policy support and public awareness campaigns. These regions provide

valuable insights into the drivers of public acceptance, such as economic benefits, environmental consciousness, and robust policy frameworks. However, even in these countries, public acceptance faces obstacles like aesthetic concerns, misinformation, and fluctuating energy costs. On the other hand, urban areas in developing countries, including Lagos, Nigeria, face unique challenges such as inadequate infrastructure, economic constraints, and lower levels of public awareness, all of which can impede renewable energy adoption. Nevertheless, increasing environmental awareness and local initiatives to promote renewable energy present opportunities for expanding public support in these regions (Liu & Feng., 2023).

While existing research extensively explores the technical and economic feasibility of renewable energy, there is a noticeable gap in studies addressing public perception, particularly in developing urban contexts like Lagos, Nigeria. Most studies primarily focus on policy frameworks and technological advancements without considering the socio-cultural and economic barriers that hinder public acceptance. Public engagement, trust in renewable energy policies, and awareness of environmental benefits play a crucial role in shaping attitudes toward adoption. However, research has not sufficiently addressed how misinformation, economic constraints, and exclusion from decision-making processes impact public acceptance. This gap in understanding limits the development of effective strategies tailored to urban settings in developing countries. This study aims to bridge this gap by providing an in-depth analysis of how these socio-cultural and economic factors influence public attitudes toward renewable energy in Lagos. By examining both global and local perspectives, the study offers insights into best practices that can be adapted to improve acceptance in Nigeria and similar urban regions facing comparable challenges.

II. LITERATURE REVIEW

Public perception plays a crucial role in the success of renewable energy initiatives (Ali et al., 2023). Numerous studies identify key drivers and barriers that shape public acceptance of renewable energy technologies. Drivers include economic incentives, such as reduced energy costs, environmental benefits like decreased carbon emissions, and energy security that renewable sources promise. Additionally, positive public awareness campaigns and educational programs have been shown to improve acceptance. However, barriers include concerns about the reliability and aesthetic impact of renewable energy infrastructure, as well as the potential disruption to local environments. Public resistance often stems from misconceptions about renewable energy's effectiveness and a lack of trust in governmental policies or utility companies (Chikandiwa & Mutambara.,2023). These concerns must be addressed to foster greater acceptance and adoption of renewable energy technologies in urban settings. In addition to economic and environmental drivers, social acceptance of renewable energy is often influenced by community engagement and the perceived fairness of project implementation. When individuals feel included in decision-making processes, they are more likely to support renewable energy projects. Research indicates that renewable energy projects that provide clear, direct benefits to the community, such as job creation or infrastructure improvements, also garner greater public approval (Trandafir, Thomas, Bidwell & Rezendes., 2023). Conversely, projects that are perceived as being imposed without public consultation can face significant opposition. Thus, transparent communication, fairness in resource distribution, and visible community benefits are essential for addressing public concerns and overcoming barriers to acceptance.

The acceptance of renewable energy technologies is also heavily influenced by socio-demographic factors such as age, education, income, and political orientation (Warren., 2023). Studies reveal that younger individuals, those with higher levels of education, and people with higher incomes tend to have more favorable attitudes toward renewable energy. This demographic is often more environmentally conscious and more likely to embrace sustainable practices. Conversely, lower-income groups or individuals with less access to education may express skepticism toward renewable energy, often due to concerns about affordability and long-term reliability (Chandrashekeran, Bruyn, Sullivan & Bryant., 2024). Understanding these socio-demographic trends is crucial for designing targeted

public engagement campaigns and policies that cater to diverse populations within urban areas.

Socio-demographic factors do not only affect public perception of renewable energy at an individual level but also shape broader community attitudes (Kádár, Pilloni & Hamed., 2023). Studies show that rural versus urban residency plays a role, with urban populations generally being more supportive of renewable energy due to increased exposure to environmental campaigns and access to alternative energy solutions (Sherwani Waheed & Gulzar., 2023). Additionally, cultural beliefs and local traditions can influence renewable energy acceptance. For instance, in some regions, renewable energy projects that are seen as interfering with land use or altering landscapes may face resistance. Addressing these socio-demographic nuances requires tailored communication strategies that consider not only economic and environmental factors but also the cultural and social dynamics unique to each community (Sutrisno, Lee, Suhardono & Suryawan., 2024).

Case studies from both developed and developing countries provide valuable insights into public perception and the success of renewable energy projects. In developed countries like Germany and Denmark, public acceptance has been relatively high, driven by robust government support, favorable economic policies, and widespread environmental awareness (Erdogan., 2024). In these contexts, renewable energy projects are often seen as essential for combating climate change and ensuring long-term sustainability. On the other hand, developing countries like India and Brazil face different challenges. Although there is growing interest in renewable energy, public acceptance is often hindered by concerns over the cost, access to technology, and a lack of governmental incentives (Granit., 2023). A comparison between these regions highlights the importance of tailored approaches that address the unique socio-economic conditions of each locality.

Further exploration of global case studies reveals that political stability and the effectiveness of institutional frameworks are critical for public support of renewable energy projects (Omole, Olajiga & Olatunde., 2024). In countries like Sweden and Norway, strong governmental backing, clear regulatory frameworks, and active public participation have resulted in high levels of renewable energy adoption (Inderberg, Palm & Matthiasen., 2024). On the other hand, in countries such as South Africa and Indonesia, public acceptance remains low due to inconsistent energy policies, frequent political changes, and inadequate public infrastructure (Suwari., 2023). This highlights the importance of aligning political institutions with public needs and expectations to ensure the success of renewable energy transitions.

In Nigeria, public perception of renewable energy, especially in urban areas like Lagos, presents both opportunities and challenges (Adelekan, Ilugbusi, Adisa, Obi, Awonuga, Asuzu & Ndubuisi., 2024). While there is growing awareness of the need for alternative energy sources due to the country's frequent power outages and reliance on fossil fuels, several barriers remain. These include a lack of sufficient information on renewable energy benefits, limited access to affordable renewable technologies, and distrust in government-led initiatives. However, local campaigns promoting solar power and the potential for energy independence have started to shift attitudes in favor of renewable energy. In addition, the economic benefits of lower energy costs are beginning to resonate with the public, especially in densely populated urban areas where energy demand is high.
In Nigeria, the intersection of energy poverty and public perception of renewable energy creates a unique challenge (Agbaitoro., 2023). While renewable energy has the potential to alleviate the country’s energy deficits, particularly in urban areas, there is still widespread reliance on diesel generators and other non-renewable energy sources. Public mistrust in government projects, along with limited financial resources, further complicates the situation. However, recent initiatives aimed at decentralizing energy production and increasing the accessibility of solar technologies in cities like Lagos have sparked a growing interest in renewable energy (Akpan & Olanrewaju., 2023). As a result, efforts to promote renewable energy are increasingly focusing on public education, addressing energy costs, and highlighting long-term benefits to increase public acceptance.

The success of renewable energy integration is closely linked to public trust in the policy frameworks governing energy transitions (Zepa & Hoffmann., 2023). Studies indicate that clear, transparent, and well-communicated policies are essential for gaining public trust. In many regions, skepticism arises when policies are perceived as inconsistent, poorly enforced, or misaligned with the public's interests. This lack of trust often leads to public opposition, even if renewable energy offers long-term benefits. Policies that include community participation, economic incentives, and equitable access to energy resources are more likely to garner public support. In countries where governmental corruption or inefficiency is a concern, public trust becomes even more critical for ensuring the successful adoption of renewable energy technologies.

Moreover, the role of policy stability cannot be overstated in ensuring public trust. In regions where policies related to renewable energy are frequently modified or inadequately enforced, public skepticism grows, leading to reduced participation (Grosse & Mark., 2023). Countries with long-term renewable energy strategies that involve stakeholder input and are publicly communicated tend to see higher rates of acceptance. For example, the U.K.'s renewable energy transition benefited from long-term renewable energy targets and subsidies that incentivized both businesses and the public to invest in green technologies (Batra., 2023). In contrast, Nigeria's renewable energy policies have been criticized for being vague or inconsistent, resulting in lower public trust (Akerele., 2024). Therefore, for renewable energy initiatives to succeed, governments must prioritize policy consistency and transparency.

Misinformation and knowledge gaps remain significant barriers to public acceptance of renewable energy. Many people are either unaware of the potential benefits of renewable energy or hold misconceptions about its reliability and affordability. For example, some may believe that renewable energy sources are less effective than traditional fossil fuels or that they are prohibitively expensive to implement (Masri., 2023). These knowledge gaps are often exacerbated by the spread of misinformation through social media and other platforms. Public education campaigns, community engagement initiatives, and clear communication from both government and industry are crucial to correcting these misconceptions and fostering a more informed public. Studies show that when individuals are provided with accurate information about the benefits and feasibility of renewable energy, their support for such technologies increases significantly.

Misinformation also contributes to deep-rooted resistance to renewable energy in some communities. Media portrayal of renewable energy technologies, often influenced by fossil fuel interests, can exacerbate public misconceptions (Westlake, John & Cox., 2023). In the U.S., for example, opposition to wind energy has grown in part due to misinformation campaigns highlighting potential harms, despite evidence of wind energy's safety and benefits. Similarly, in Nigeria, limited public access to accurate information about the benefits of solar and wind technologies has led to a slow uptake. Public awareness programs, driven by governments and non-governmental organizations, have the potential to close these knowledge gaps by providing reliable information and encouraging public debate about the advantages and limitations of renewable energy solutions.

III. METHODOLOGY

This review adopts a qualitative, systematic approach to synthesize existing academic literature and case studies that examine public acceptance of renewable energy integration in urban areas. The research was designed to identify recurring themes, challenges, and opportunities related to public perception across different contexts. It relied on content analysis of secondary data sources, including peer-reviewed journals and reports, to understand the drivers and barriers to renewable energy adoption in urban environments, such as Lagos. The selected studies focused on renewable energy integration in urban settings, both in developed and developing countries, with an emphasis on socio-demographic, environmental, and policy-related factors influencing public acceptance. The studies were chosen based on specific criteria, ensuring relevance, and focusing on empirical data published within the last three years. An analytical framework categorized each study by aim, objectives, methodology, and findings, enabling a structured comparison. The findings helped identify

commonalities in public perceptions of solar, wind, and bioenergy technologies. However, the review faced limitations, such as the reliance on secondary data, lack of region-specific studies, and the challenge of comparing different methodologies. Despite these limitations, the review provides valuable insights into the factors shaping public acceptance of renewable energy in urban areas, particularly in Lagos.

IV. FINDINGS AND DISCUSSION

15 scholarly papers were reviewed for this study providing a breakdown of each, systematically analyzing key findings on public acceptance of renewable energy as shown in Table 1.0. The data were categorized into four critical dimensions: materials used in research, methodologies employed, findings derived, and gaps identified. A comparative analysis was conducted to highlight common themes and discrepancies across studies. These studies contribute valuable insights into the global and local factors shaping public acceptance of renewable energy, highlighting both drivers and barriers to its integration in urban environments.

Table 1.0: Reviewed Papers

Paper	Materials	Methodology	Findings	Gaps
Paper 1: Conflicted Transitions: Exploring the Actors, Tactics, and Outcomes of Social Opposition Against Energy Infrastructure	Case studies from various countries, focusing on renewable energy projects.	Analysis of actors (local communities, NGOs, political entities) and their tactics (litigation, protests, lobbying).	Public opposition stems from concerns over land use, environmental degradation, and lack of community involvement. Success depends on addressing public concerns and including communities in planning.	Lack of clear solutions or frameworks for governments to systematically address opposition concerns.
Paper 2: Renewable Energy as a Solution to Climate Change: Insights from a Comprehensive Study Across Nations	Cross-national data on renewable energy adoption in developed and developing countries.	Comparative analysis of barriers and facilitators, including financial incentives and educational campaigns.	Socio-economic factors shape public attitudes. Developed countries face environmental concerns; developing countries struggle with economic barriers and misinformation.	Limited focus on region-specific tailored policy interventions.

Paper 3: Assessing Elements of Energy Justice in Colombia	Case study of renewable energy transmission projects in La Guajira, Colombia.	Assessment of procedural and distributive justice dimensions in energy projects.	Indigenous communities oppose projects due to exclusion from decision-making and unfair burden distribution.	Lack of detailed governance mechanisms to ensure equitable benefit distribution.
Paper 4: Modelling Renewable Energy Communities	Simulations of different renewable energy community (REC) configurations and technologies.	Modeled scenarios involving solar, wind, and community participant types.	Inclusive, transparent, and financially accessible configurations gain more public support. Local stakeholder involvement boosts acceptance.	Practical challenges of implementing ideal configurations in real-world contexts not fully explored.
Paper 5: Social Acceptance of Renewable Energy Development in Southern Spain	Surveys and focus groups with local communities in Southern Spain.	Analysis of public attitudes toward renewable energy projects based on location, perceived benefits, and community involvement.	Proximity and local economic benefits drive acceptance; aesthetic concerns and environmental impacts lead to opposition.	Limited exploration of long-term strategies for balancing public concerns and project needs.
Paper 6: Energy Crisis and Renewable Energy Potentials in Nigeria	Review of Nigeria's energy crisis and renewable energy potential.	Analysis of challenges (fossil fuel reliance, power outages, inadequate infrastructure) and renewable opportunities (solar, wind, biomass).	Policy reform and public-private partnerships are essential for renewable energy development.	High financial and regulatory barriers remain unresolved.
Paper 7: Trends in Social Acceptance of Renewable Energy Across Europe	Literature review of socio-cultural, political, and economic factors affecting renewable energy acceptance.	Comparative analysis of drivers (environmental awareness, energy independence) and barriers (aesthetic concerns, noise, unreliability).	Public engagement strategies and economic incentives enhance acceptance. Resistance persists due to aesthetic and environmental concerns.	Insufficient exploration of new strategies to overcome persistent barriers.

Paper 8: A Critical Approach to the Social Acceptance of Renewable Energy Infrastructures	Examples from wind and solar projects in Europe and North America.	Critique of traditional acceptance approaches; emphasis on procedural and distributive justice.	Resistance stems from exclusion from decision-making and unequal benefit distribution. Participatory governance can mitigate opposition.	Lack of empirical data to support proposed participatory governance models.
Paper 9: Energy Justice and Social Acceptance of Renewable Energy Projects in the Global South	Case studies from Africa and Latin America.	Analysis of equity, access, and fairness in renewable energy projects.	Renewable projects often exacerbate inequalities, benefiting urban areas while marginalizing rural communities.	Limited focus on actionable frameworks to integrate energy justice into policy.
Paper 10: A Realistic Approach Towards Attaining Sustainable Environment Through Improved Public Participation in Nigeria	Survey data on public perception of renewable energy in Nigeria.	Analysis of awareness and community involvement in urban renewable energy projects.	Education, outreach, and transparent decision-making are essential for public acceptance.	Lack of focus on integrating public participation frameworks into existing policies.
Paper 11: Modeling Public Acceptance of Renewable Energy Deployment	Surveys and computational modeling of socio-economic and environmental factors.	Quantitative analysis of factors influencing public support (income, education, awareness).	Education and environmental consciousness are strong predictors of acceptance. Tailored policy interventions enhance support.	Limited application of the model to diverse global contexts.
Paper 12: Exploring the Contemporary Challenges of Urbanization and the Role of Sustainable Urban Development: A Study of Lagos City, Nigeria	Qualitative data from interviews with urban planners, policymakers, and residents.	Exploration of renewable energy's role in addressing Lagos' urban challenges.	Significant public support exists for solar power, but high costs and policy gaps hinder adoption.	Lack of specific multi-stakeholder implementation strategies.

Paper 13: An Agreement Analysis on the Perception of Property Stakeholders for the Acceptability of Smart Buildings in the Nigerian Built Environment	Surveys of property stakeholders (developers, investors) in urban Nigeria.	Analysis of drivers and barriers to renewable energy integration in smart buildings.	Economic benefits and policy incentives drive acceptance; high costs and limited expertise act as barriers.	Lack of detailed policy frameworks to mitigate financial risks for developers.
Paper 14: An Exploratory Analysis of Public Perspectives Towards Renewable Energy Sources in India	Surveys across Indian cities.	Analysis of public attitudes toward solar and wind energy based on socio-demographic differences.	Environmental concerns and energy security drive support; cost and misinformation hinder acceptance.	Limited region-specific strategies to address socio-demographic barriers.
Paper 15: A Survey on the Understanding and Viewpoints of Renewable Energy Among South African School Students	Surveys of secondary school students across South Africa.	Assessment of students' knowledge and attitudes toward renewable energy.	Supportive attitudes exist, but significant knowledge gaps require educational reform.	Lack of focus on how early education influences long-term renewable energy adoption.

Source: Authors Compilation (2024)

4.1.1 Common Drivers Across Global and Local Contexts

Several common drivers emerged from the literature, underscoring the factors that facilitate public acceptance of renewable energy in both global and local contexts. One prominent driver is environmental awareness and the increasing recognition of the role renewable energy plays in combating climate change. For instance, studies highlight that individuals and communities who are more aware of the environmental benefits of renewable energy are likely to support its deployment (Attanayake, et al., (2024); Segreto, et al., (2020). Another critical driver is the economic benefit, especially in developing regions. Communities that directly benefit from the economic opportunities created by renewable energy projects, such as jobs or reduced energy costs, show higher levels of acceptance (Rodríguez-Segura, et al., (2023). This is also seen in renewable energy communities (RECs), where financial accessibility and local stakeholder involvement significantly boost public support (Belmar, et al., (2023). Education and public engagement were consistently identified as key factors in fostering public acceptance. The introduction of renewable energy into school curriculums, as observed in South Africa (Ewim, et al., (2023), and public educational campaigns in nations like India (Kumar, et al., (2023)), have been instrumental in shaping positive public attitudes towards renewable energy. This trend is consistent across different geographical regions and socio-economic contexts (Somoye, (2023) ; Auwalu, et al., (2023).

4.1.2 Common Barriers and Challenges

Despite these drivers, several challenges hinder the widespread acceptance of renewable energy globally and locally. One recurring barrier is the high upfront cost of renewable energy technologies, which discourages adoption, particularly in developing nations such as Nigeria and India (Somoye, (2023); Kumar, et al., (2023).). These financial constraints,

coupled with inadequate infrastructure, make it difficult for many regions to transition from traditional energy sources to renewable alternatives. Another significant barrier is opposition due to concerns about land use, aesthetic impacts, and environmental degradation. In Southern Spain, for example, proximity to renewable energy installations sometimes leads to public resistance due to aesthetic concerns (Rodríguez-Segura, et al., (2023). Similar resistance has been noted in Europe and North America, where wind and solar projects face opposition due to their impact on the landscape and local ecosystems (Batel, et al., (2021). Public exclusion from the decision-making process also poses a substantial challenge to acceptance. In places like La Guajira, Colombia, indigenous communities opposed renewable energy transmission projects due to the perceived lack of procedural and distributive justice (Vega-Araújo, et al., (2022). This sentiment is echoed in the Global South, where renewable energy projects often exacerbate existing inequalities by benefiting urban areas at the expense of rural or marginalized communities (Horst, et al., (2021).

4.1.3 Impact of Socio-Demographic and Policy Factors on Public Acceptance

Socio-demographic factors, such as income, education, and geographic location, play a critical role in shaping public attitudes toward renewable energy. Studies show that higher levels of education and environmental awareness correlate strongly with public support for renewable energy projects (Ali, et al., (2023). This is evident in both global and local contexts, as seen in urban areas of Nigeria and India (Somoye, (2023); Kumar, et al., (2023). Policy frameworks also have a significant impact on public acceptance. In Europe, countries that have implemented comprehensive public engagement strategies and offered economic incentives for renewable energy adoption tend to have higher levels of public support (Segreto, et al., (2020). In contrast, inconsistent or unclear policies in developing regions like Nigeria hamper the public's willingness to embrace renewable energy solutions (Awhefeada, et al., (2023). The need for transparent communication and inclusive governance mechanisms was frequently mentioned as a way to reduce opposition and foster public trust (Sovacool, et al., (2022); Horst et al., (2021).

CONCLUSION AND RECCOMENDATION

In both global and local contexts, the public acceptance of renewable energy is influenced by a complex interplay of environmental, economic, social, and policy-related factors. Globally, environmental awareness and the growing urgency to combat climate change have been significant drivers for the acceptance of renewable energy, particularly in developed regions. However, these positive trends are often counterbalanced by economic concerns, especially in developing regions like Nigeria, where high upfront costs and infrastructural limitations act as significant barriers. Public resistance also arises from aesthetic and land-use concerns, with individuals and communities expressing opposition when they perceive renewable energy projects to encroach on their space or violate local ecological values. Moreover, across many regions, a lack of public engagement and inclusion in decision-making processes has fostered distrust and led to opposition, particularly in marginalized communities. Addressing these challenges will require concerted efforts from policymakers, developers, and stakeholders, alongside strategic public awareness campaigns and more inclusive governance frameworks.

Policymakers play a critical role in addressing the challenges of renewable energy acceptance. To facilitate greater public acceptance, it is essential to implement clear and transparent policy frameworks that provide incentives for renewable energy adoption. Governments should offer financial subsidies or tax incentives to alleviate the high upfront costs of renewable energy technologies, particularly in low-income regions. Additionally, developing robust regulatory frameworks that ensure fair compensation for land use and address community concerns about the environmental impact of projects is crucial. Policymakers should also prioritize inclusive governance by incorporating local communities into the decision-making process. This approach can help mitigate opposition and foster a sense of ownership among the public. Furthermore, policies should encourage decentralized energy systems that provide local benefits, such as community-owned renewable energy projects, which have been shown to enhance public support through direct economic advantages.

To improve public awareness and engagement, a multi-faceted approach is necessary. First, education campaigns should be implemented to raise awareness of the environmental and economic benefits of renewable energy. These campaigns should be targeted to different demographics, with a particular focus on schools and local communities, where misinformation or a lack of knowledge may be prevalent. Public engagement should go beyond information dissemination and involve active participation from the public in project planning and implementation. This can be achieved through town hall meetings, public consultations, and collaborative decision-making processes that allow for the integration of local knowledge and concerns. Furthermore, creating platforms for knowledge sharing between regions with successful renewable energy projects and those lagging behind can help spread best practices. For example, countries in the Global South could benefit from adopting models of renewable energy communities seen in Europe and North America, where local ownership and community participation have been effective in boosting public support.

Future research on public acceptance of renewable energy should focus on addressing the gaps identified in both global and local contexts. There is a need for more studies that explore the socio-economic dimensions of renewable energy adoption, particularly in developing regions like Nigeria, where economic constraints and inequality play significant roles in shaping public attitudes. Research should also investigate the long-term impacts of renewable energy projects on local communities, including studies that track how public attitudes evolve over time with increased exposure and education. Additionally, the role of policy in shaping public perceptions warrants further exploration, particularly in contexts where inconsistent or weak policies hinder renewable energy adoption. Investigating the effectiveness of various engagement strategies—such as decentralized energy systems or public-private partnerships—can provide valuable insights into how to enhance public participation. Lastly, there is an emerging need for research into the potential of smart technology integration with renewable energy systems, particularly in urban settings, as this could further enhance public acceptance by offering efficiency and cost-saving benefits.

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