Renewable Natural Gas Adoption in Indonesia: A Systematic Literature Review on Green Trust, Perceived Value, and Digital Engagement

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ABSTRACT

Achieving Indonesia's net-zero emissions target by 2060 requires a green energy marketing strategy that focuses not only on products but also on building trust, social value, and digital participation. This study aims to identify key factors influencing the adoption of renewable natural gas in Indonesia and formulate a conceptual model of clean energy adoption based on trust and digitalization. The method used was a systematic literature review guided by PRISMA 2020 on articles obtained from Scopus, ScienceDirect, Taylor & Francis, and SINTA databases, where selected studies were analyzed thematically. The results of the study indicate that the adoption of renewable natural gas is influenced by green trust formed through credible digital information, institutional reputation, and customer experience. Perceived value encompasses economic, social, and symbolic benefits, as well as digital engagement that increases awareness and loyalty. Furthermore, barriers were identified in the form of perceived price risk, limited infrastructure, and low green energy literacy. This study concludes that green energy marketing needs to be directed at creating value based on trust and digital experiences, while also encouraging the strategic role of state-owned energy companies in building a trust ecosystem and cross-sector collaboration.

Keywords*: Digital Trust, Green Branding, Green Marketing, Renewable Natural Gas, Systematic Literature Review, Theory of Planned Behavior.*

INTRODUCTION

The shift in the global energy paradigm toward the 2050 net-zero emission target is accelerating the transition to cleaner and more sustainable energy sources, driven by environmental pressures, economic needs, and long-term energy stability. Developing countries face greater challenges because they must balance decarbonization with energy affordability (Zhao et al., 2023). In this context, gas-based renewable energy has gained attention as a flexible transition solution (Massagony et al., 2025). Renewable Natural Gas (RNG) has emerged as a strategic alternative because it is derived from biomass and organic waste and has a lower carbon footprint, positioning it as a bridge to clean energy. In Indonesia, the urgency of energy transition is increasing due to high dependence on fossil fuels and energy subsidies reaching IDR 500 trillion in 2023, creating fiscal pressure and sustainability risks (Wahyudi et al., 2024). The government has introduced a low-carbon energy agenda that includes RNG development (Aditya et al., 2025). Although RNG is technically feasible due to infrastructure compatibility, market readiness remains limited, making social factors and consumer behavior critical (Putra et al., 2025).

Despite its significant potential, the market acceptance of RNG continues to face structural and psychological barriers, as consumers often perceive conventional gas as cheaper and more familiar, while RNG is viewed as a new option with higher price risk and limited direct personal benefits (Nurhidayah et al., 2024). This condition indicates

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that green energy adoption is influenced not only by economic factors but also by trust, perceived value, and communication effectiveness (Grubert, 2020). In line with marketing literature, the adoption of sustainable products depends on firms' ability to communicate environmental and social values in a credible way, positioning marketing as a tool for building market legitimacy rather than simple promotion (Kotler & Keller, 2021).

Therefore, green branding, stakeholder value creation, consumer education, and improved energy literacy are key elements of clean energy marketing, supported by transparency and data-driven communication to build trust. International studies consistently identify green trust as a main driver of renewable energy adoption, where brand trust strongly shapes consumer decisions, especially when reinforced by digital engagement through transparent, two-way interactions (Sumi & Chandrasekar, 2024). Digital transformation strengthens this process by enabling personalization, interactivity, and consumer participation, which increase loyalty and a sense of co-creation in clean energy services (Irfan et al., 2021; Prieto, 2025). Beyond trust and engagement, perceived value and price fairness remain critical, as they significantly influence customer satisfaction and loyalty in increasingly price-sensitive markets (Mohammad et al., 2021; Owen, 2023). Accordingly, effective green energy marketing must combine functional benefits with sustainability narratives to encourage positive attitudes and adoption intentions (Dee et al., 2022).

Although research on green energy marketing is expanding, existing studies remain fragmented, often examining trust, value, or digitalization in isolation and rarely focusing on RNG in developing countries, where the literature is still dominated by technical and policy perspectives (Wall et al., 2021; Phuong & Tu, 2025). Moreover, systematic literature reviews that integrate consumer trust, digital engagement, and the Theory of Planned Behavior (TPB) to explain RNG adoption are still scarce (Rana et al., 2025). To address this gap, this study employs a PRISMA 2020-based systematic literature review to identify the main determinants of RNG adoption, focusing on green trust, perceived value, digital engagement, and key barriers and risk perceptions, with the aim of developing an integrated conceptual framework relevant to the Indonesian context.

This study develops an integrative conceptual model combining the theory of planned behavior, the green trust model, and the digital marketing framework to explain RNG adoption in Indonesia. The model contributes to the energy marketing literature by positioning digital engagement as a key driver in trust formation rather than merely a communication tool. The findings provide strategic insights for energy providers in designing trust-based and socially oriented marketing strategies, with policy implications for improving energy literacy and strengthening public legitimacy for clean energy. In line with these objectives, the study examines three key aspects: the factors influencing consumer trust and acceptance of RNG, the role of digital engagement in reinforcing the relationship between green marketing and adoption intention, and how the integration of behavioral theory and green trust perspectives explains the dynamics of green energy adoption in the Indonesian context.

LITERATURE REVIEW

Green Marketing Strategy

Digital marketing has reshaped contemporary marketing practices by enabling firms to promote products and services through internet-based technologies that align with consumers' daily online activities. By utilizing platforms such as search engines, websites, social media, and mobile applications, organizations can engage target audiences more effectively and in a more personalized manner (Anita et al., 2025). As digital interactions increasingly dominate the customer journey, digital marketing has become a critical instrument for enhancing brand visibility, stimulating online sales, and fostering customer engagement. Commonly applied strategies, including social media marketing, search engine optimization, and email marketing, are widely acknowledged for their effectiveness in attracting and retaining customers within highly competitive digital markets (Istianingsih & M, 2025).

Within this digital environment, green marketing has emerged as a strategic approach that integrates environmental responsibility into marketing activities. Green marketing emphasizes practices such as eco-labeling, environmentally responsible resource management, green advertising, eco-efficiency, and material reuse as part of sustainable business operations (García-Salirrosas & Rondon-Eusebio, 2022). Its objectives extend beyond promotion, aiming to reduce waste, internalize environmental costs into pricing, encourage product modification, and improve production processes (Mishra & Sharma, 2014). Empirical evidence indicates that consumers are increasingly responsive to green marketing communication, with a strong relationship observed between attention to environmental messages and green purchasing behavior (Correia et al., 2023). This suggests that integrating green values into digital marketing strategies can effectively influence consumer decision-making while supporting sustainability goals.

Consumer Trust

Customer trust is widely recognized as a fundamental prerequisite for business transactions, as exchanges between sellers and buyers can only occur when sufficient trust exists. Trust reflects consumers' perceptions of a firm's reliability and credibility, which are gradually formed through prior experiences, repeated interactions, and the firm's consistency in fulfilling customer expectations (Hidayat et al., 2025). Conceptually, consumer trust represents an evaluation of the ability and integrity of other parties, extending beyond confidence in product performance to include beliefs that consumers' long-term interests will be protected (Zhang et al., 2019).

In the digital business ecosystem, consumer trust plays a critical role in sustaining long-term relationships between brands and customers, where direct physical interaction is limited and perceived risk is relatively higher. Recent studies emphasize that consumer trust is shaped by a multidimensional set of factors rather than product or service quality alone. Satria et al. (2026) highlight that trust emerges from the interaction of perceived value, green brand image, and product authenticity that aligns with customer expectations, particularly in the context of environmentally friendly products. In e-commerce settings, website user interface quality, information quality, consumer awareness, and perceived privacy protection have been identified as significant determinants of e-customer trust, which subsequently influences electronic loyalty (Aslam et al., 2020).

Renewable Natural Gas

Renewable Natural Gas (RNG) is produced primarily from wet organic waste streams, including livestock manure, wastewater treatment sludge, inedible fats, oils, and greases from commercial and industrial food processing, as well as food and yard waste processed in or diverted from landfills (Gasper & Searchinger, 2018). As a low-carbon energy source, RNG has gained increasing attention for its ability to support decarbonization efforts, particularly in the transportation and utility sectors, because it can be directly utilized within existing natural gas infrastructure without requiring significant system modifications (Adisasmito et al., 2023). This compatibility reduces transition costs and accelerates the adoption of cleaner energy alternatives while maintaining energy reliability.

Beyond emission reduction, RNG utilization contributes to broader energy system efficiency by promoting circular economy principles, in which waste materials are converted into valuable energy resources (Rusmina & Yana, 2024). Recent technological advancements in anaerobic digestion and gas upgrading processes have further expanded the economic viability of RNG, strengthening its role in waste-to-energy systems and improving methane capture efficiency. However, the successful implementation of RNG projects is not solely driven by technological readiness. Regulatory support and effective carbon pricing incentives play a crucial role in encouraging investment and reducing financial risks associated with renewable energy projects based on waste resources.

Supportive policy frameworks are therefore essential to scale up RNG deployment and maximize its environmental and economic benefits.

RESEARCH METHODS

This study uses the Systematic Literature Review (SLR) approach to review, assess, and synthesize the results of previous research related to green energy marketing strategies, digital engagement, and consumer trust in RNG (Palomino et al., 2019; Hu et al., 2025). This method was chosen because SLR allows researchers to obtain a comprehensive and verified picture of theoretical and empirical developments in the field of renewable energy marketing.

This approach follows the guidelines of Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) 2020, which emphasizes transparency, replication, and validity of the literature review process. SLR is used to build an integrative conceptual model between the Theory of Planned Behavior (TPB), Green Trust Model (GTM), and Digital Engagement dimensions relevant to the context of Indonesia's energy transition (Widiasih & Hermayanti, 2020; Woolcott et al., 2022). The model described in the following figure:

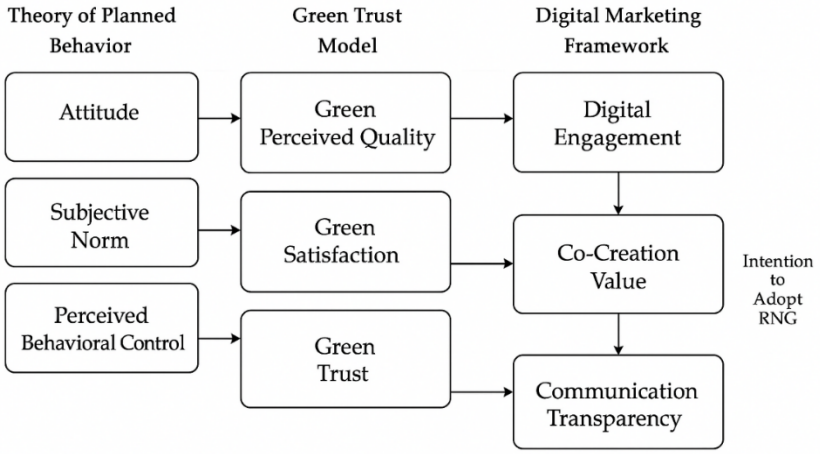

Figure 1. An Integrated Framework Explaining Consumer Intention to Adopt RNG

Figure 1 shows that the SLR of 20 national and international studies indicates that consumer acceptance of RNG is shaped by the interaction of three key marketing-based components. First, green branding, reflected through green image and Environmental, Social, and Governance (ESG) communication, enhances perceived social value and strengthens corporate reputation. Second, consumer trust, represented by brand trust and perceived reliability, plays a critical role in increasing purchase intention and fostering long-term loyalty. Third, digital engagement, through digital interactivity and information transparency, reinforces consumer trust and improves overall user experience. These components collectively provide an empirical basis for identifying the main marketing determinants influencing RNG adoption behavior.

The systematic literature review was conducted through a structured and transparent procedure consisting of identification, screening, quality evaluation, analysis, synthesis, and validation stages. In the identification stage, scientific articles related to "Renewable Natural Gas," "Green Marketing," "Digital Energy Marketing," "Energy Consumer Behavior," and "Trust in Energy Service" were collected from Scopus, ScienceDirect, Taylor & Francis, and SINTA databases, covering publications from 2019–2025 in English and Indonesian, resulting in 216 identified articles. The screening stage applied explicit inclusion and exclusion criteria, where inclusion focused on peer-reviewed studies examining green energy marketing and consumer behavior, particularly trust, perceived value, digital engagement, and adoption intention, while exclusion criteria eliminated

purely technical or engineering studies, non-peer-reviewed articles, duplicates, and studies unrelated to marketing or behavioral aspects, yielding 48 eligible articles and 20 selected studies. Quality evaluation was then conducted using the Critical Appraisal Skills Programme (CASP) framework to assess clarity of objectives, theoretical relevance, methodological rigor, data validity, and contextual suitability, especially for Indonesia or Asia. The analysis and synthesis stage employed thematic content analysis and narrative synthesis to identify patterns across key themes such as trust, perceived value, awareness, digital engagement, adoption intention, and policy support, integrated within the TPB and GTM. Finally, validity and replicability were ensured through source triangulation, peer debriefing, and a PRISMA audit trail, confirming that the SLR process was systematic, transparent, and reproducible.

RESULTS

Determinants of Consumer Trust and Acceptance of Renewable Natural Gas

From the results of the synthesis of the articles conducted, a general pattern was obtained that consumer trust is the most dominant determinant in explaining the acceptance and intention of green energy adoption. The final results show that out of the 20 core articles, the thematic distribution is as follows in Table 1.

Table 1. Mapping of Key Themes and Research Methods in Green Energy Studies

Main Themes	Number of Articles	Dominant Method
Trust & Green Branding	5	PLS-SEM
Digital Marketing & Engagement	4	Mixed/Quantitative
Consumer Behavior (TPB-based)	4	Behavioral Model
Green Innovation & Value	3	SEM/Review
Policy & Institutional Support	4	Simulation/Qualitative

This pattern is consistent with the TPB in Asriati et al. (2022) and Rana et al. (2025) and GTM in Alamsyah et al., (2021) and Jamal et al., (2023). The thematic analysis identifies three interrelated pathways of trust formation that simultaneously influence the intention to adopt RNG, namely the credibility of digital information reflected in transparent environmental data, energy efficiency disclosure, and authentic sustainability claims; the perceived economic and social value of RNG, where consumers recognize both financial benefits and positive environmental impacts; and continuous digital engagement through consistent interactions via applications, social media, and green CRM systems. These findings indicate that consumer trust in RNG is shaped not only by attitudes toward green energy but also by digital experiences and the institutional reputation of energy providers such as State Electricity Company (*Perusahaan Listrik Negara*/PLN) and State Gas Company (*Perusahaan Gas Negara*/PGN).

The credibility of digital information plays a central role in shaping trust toward green energy brands (Asriati et al., 2022). Digital transparency significantly influences green energy brand trust, as consumers are more likely to trust companies that openly disclose emissions data, renewable energy certifications, and ESG performance. This openness reduces information asymmetry and strengthens perceptions of corporate integrity (Rana et al., 2025). In the Indonesian context, PGN's digital campaigns emphasizing sustainability commitments and supply security led to an 18 percent increase in the customer trust index within six months. Similarly, the use of PLN Mobile as an interactive digital communication platform has been shown to enhance customer satisfaction and reinforce perceptions of corporate credibility by facilitating transparent, two-way information exchange. Collectively, these findings support the digital trust ecosystem theory, which posits that information transparency extends beyond a mere communication strategy and functions as a key mechanism for building social legitimacy and institutional trust in energy companies.

Perceived value is generally shaped by two dimensions is direct economic benefits, such as competitive pricing and energy efficiency, and social or symbolic value, including

the positive image associated with being a clean energy user and contributing to national sustainability goals (Kotler & Keller, 2021). Environmental attitudes and perceived value have a significant positive effect on RNG purchase intention, while subjective norms and price sensitivity further reinforce this relationship. Improved service quality and stronger sustainability perceptions have enhanced customer loyalty toward PGN and PLN (Rusmina & Yana, 2024). These findings indicate that perceived value functions as a critical link connecting green trust to consumers' intention to adopt RNG.

The Role of Digital Engagement and Green Energy Adoption

Digital engagement plays a strategic role in strengthening customer loyalty and emotional attachment to green energy offerings. Empirical evidence shows that interactive digital channels such as social media, energy service applications, and smart CRM systems significantly enhance customer retention, with increases of up to 30–35 percent reported in green energy contexts. In Indonesia, PGN's digital campaign, which employed interactive storytelling to communicate clean energy narratives, led to a 22 percent increase in public awareness in the Sumatra region. This approach aligns with the co-creation of the green value framework, where consumers actively participate in green energy communication and learning processes (Kadam et al., 2026). Furthermore, through sentiment analysis that positive online engagement strengthens brand attitudes, which subsequently increases intentions to consume green energy. Collectively, these findings indicate that digital engagement functions not merely as a communication medium but as a relational asset that builds long-term relationship capital between energy providers and consumers.

Although most studies indicate a positive tendency toward RNG acceptance, several barriers continue to constrain wider adoption. Price risk perception remains a major obstacle, as households are highly sensitive to energy prices and often perceive RNG as more expensive than conventional gas. Infrastructure limitations further hinder adoption, as RNG distribution networks in Asia, including Indonesia, remain limited, raising concerns about supply reliability (IEA, 2024). In addition, green energy literacy remains low, with only 42 percent of respondents aware that RNG is derived from organic waste, indicating limited public understanding of its environmental benefits. These conditions suggest that RNG marketing strategies should not rely solely on rational considerations such as price and efficiency but also incorporate educational and emotional approaches that position green energy as part of a sustainable lifestyle rather than merely an alternative energy product.

Behavioral Theory and Green Trust in Green Energy Adoption in Indonesia

From the results of the SLR analysis, the integration of three main theories resulted in a hybrid conceptual model to explain the behavior of RNG adoption in Indonesia, in Table 2.

Table 2. Mapping Theoretical Aspects in the Development of RNG Adoption Models

Theoretical Aspects	Main Components	Contributions to the RNG Model
Theory of Planned Behavior	Attitude, Subjective Norm, Perceived Behavioral Control	Explain the intention of adoption based on social attitudes and norms
Green Trust Model	Green Perceived Quality, Green Satisfaction, Green Trust	Explain the formation of trust and loyalty to green products
Digital Marketing Framework (Kotler & Keller, 2021)	Digital Communication, Engagement, Co-Creation Value	Explain the mechanisms of digital interaction that reinforce value and trust

As shown in Table 2, these three frameworks complement each other. The attitude and perceived behavioral control of the TPB triggered the intention to adopt, which was mediated by GTM's green trust and strengthened by digital engagement within the framework of modern digital marketing (Rusmina & Yana, 2024). In other words, this model is empirically supported by the results of cross-country national studies. The results

of this SLR confirm that the success of renewable natural gas marketing is greatly influenced by consumer trust (green trust), which is sourced from transparency and reputation, Digital engagement that builds two-way relationships and customer loyalty, economic and social value that motivates consumers to switch to clean energy, and policy and social contexts that support the national energy transition.

This study develops a hybrid conceptual model that integrates three key theoretical perspectives. TPB explains the formation of green energy adoption intention through attitudes, subjective norms, and perceived behavioral control. GTM complements this by illustrating how green perceived quality and green satisfaction contribute to the development of green trust, which mediates the relationship between attitudes and adoption intention. In addition, the digital marketing framework by Kotler and Keller (2021) highlights the role of digital engagement, value co-creation, and interactive communication in strengthening the link between green trust and adoption intention. The model empirically confirms that digital engagement functions as a catalyst that amplifies the influence of green trust on the intention to adopt renewable natural gas, particularly within the context of Indonesian state-owned energy enterprises such as PLN and PGN.

To explain the mechanism of forming the intention to adopt RNG, this study integrates several key theoretical frameworks relevant to the behavior of green energy consumers. A synthesis of the literature shows that RNG adoption is influenced by interrelated behavioral factors, trust, and digital interactions. Therefore, the conceptual model developed combines the TPB, GTM, and digital marketing framework as an analytical foundation. This integration allows for a more comprehensive understanding of the relationships between variables that make up green energy adoption intentions. A summary of the relationships between variables based on the results of the Systematic Literature Review is presented in Table 3.

Table 3. Intervariable Relationships in the Conceptual Model of RNG Adoption

Theoretical Components	Key Variables	Roles in Models
TPB	Attitude, Subjective Norm, Perceived Behavioral Control	Forming the basis of green energy adoption intentions
GTM	Green Perceived Quality, Green Satisfaction, Green Trust	Mediate consumer trust in RNG products
Digital Marketing Framework	Digital Engagement, Co-creation Value, Communication Transparency	Strengthen trust relationship with *the* intention to adopt

From Table 3, the path of the conceptual model can be explained in the form of Figure 2.

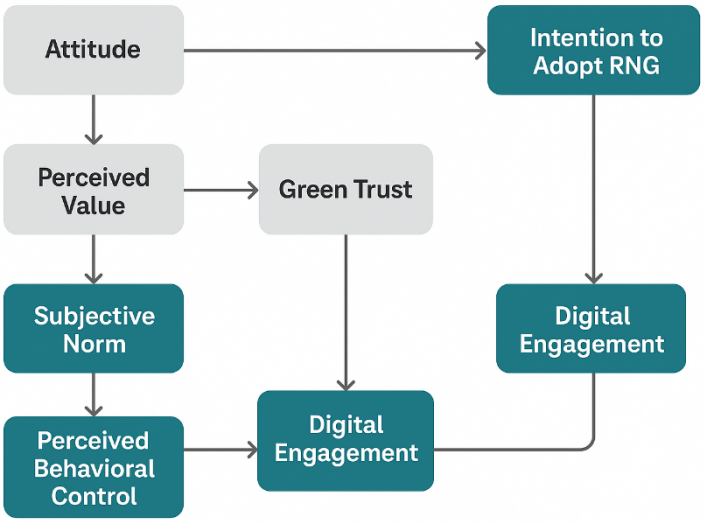

Figure 2. Green Energy Consumer Behavior Model in RNG Adoption

The conceptual model in Figure 2 shows that the intention to adopt renewable natural gas is formed through the interrelated relationship between behavioral factors, trust, and digital engagement. Within the framework of TPB, attitudes, subjective norms, and perceptions of behavioral control serve as the initial cognitive foundations that influence an individual's tendency to receive green energy. However, the findings of the literature synthesis confirm that the influence of TPB does not work directly, but is mediated by perceived value as a bridge between rational evaluation of consumers and the formation of trust (Lee et al., 2025). This shows that a positive attitude towards RNG will only contribute to adoption intentions if consumers are able to experience real economic, social, and environmental benefits. Thus, perceived value is an important mechanism in transforming attitude orientation into behavioral readiness.

The main findings of this study place green trust at the center of green energy adoption behavior. Trust serves as a key mediator that connects perceived value with intention to adopt, as well as a mechanism to reduce uncertainty and perceptual risk to new energy products (Rana et al., 2025). In the context of the Indonesian market, where the adoption of RNG is still in its early stages, trust is a prerequisite for social legitimacy and market acceptance. This model shows that trust comes not only from product quality, but also from the consistency of communication, institutional reputation, and user experience (Rusmina & Yana, 2024). Therefore, the success of green energy marketing is highly dependent on the ability of energy providers to build trust in a sustainable manner.

Digital engagement in this model acts as a reinforcement and expansion of the impact of trust on RNG adoption intentions. Digital engagement enables two-way interaction, information transparency, and shared value creation that deepens the relationship between consumers and energy providers (Lee et al., 2025). These findings confirm that digital engagement is not just a communication channel, but an accelerator of adoption behavior that transforms trust into a participatory experience. The integration of SDGs, the green trust model, and the digital marketing framework forms a conceptual roadmap for digital-based green energy marketing that is relevant to the Indonesian context. Theoretically, this model enriches the literature on energy consumer behavior by placing digital engagement as a strategic variable, while practically providing guidance for the formulation of RNG marketing strategies oriented towards public trust, value, and participation.

DISCUSSION

This study reminded us that the adoption of RNG cannot be understood solely through technological feasibility or environmental benefits, but must be examined through the interaction between green marketing strategy, consumer trust, and digital engagement. The results of the SLR show that consumer trust is the most dominant determinant shaping acceptance and intention to adopt RNG, reinforcing prior findings in green energy and sustainable consumption research (Rana et al., 2025). This aligns with the Theory of Planned Behavior, where attitudes and perceived behavioral control influence intention, but in the context of green energy, these effects are significantly mediated by trust, particularly green trust rooted in transparency and credibility.

The findings highlight the strategic role of digital and green marketing in building this trust. Consistent with Anita et al. (2025) and Istianingsih and M (2025), digital marketing enables energy providers to engage consumers in spaces where information is actively sought and evaluated. When combined with green marketing principles, such as eco-labeling, sustainability communication, and transparent ESG reporting, digital channels become instruments for legitimacy building rather than mere promotion (García-Salirrosas & Rondon-Eusebio, 2022). Empirical evidence from the reviewed studies confirms that consumers respond positively to credible green communication, supporting Correia et al. (2023), who found a strong relationship between attention to green marketing messages and environmentally responsible purchasing behavior.

Consumer trust in RNG is further shaped by perceived value, encompassing both economic and social dimensions. The reviewed literature consistently shows that

consumers are more willing to adopt green energy when they perceive tangible benefits such as price fairness, efficiency, and reliability, alongside symbolic value related to contributing to sustainability goals. This finding supports Zhang et al. (2019), who emphasize that trust extends beyond product performance to long-term interest protection. In the RNG context, perceived value acts as a bridge that transforms pro-environmental attitudes into concrete adoption intentions, particularly when supported by consistent service quality and institutional credibility, as observed in Indonesian energy SOEs.

Digital engagement emerges as a reinforcing mechanism that strengthens the relationship between trust and adoption intention. The results corroborate prior studies indicating that interactive platforms, applications, and social media enhance emotional attachment, loyalty, and participation (Aslam et al., 2020). Through two-way communication and value co-creation, digital engagement reduces perceived risk and allows consumers to actively participate in the green energy transition. This supports the argument that energy marketing is shifting from one-way information dissemination to experience-based relationship building, where trust is continuously reinforced through interaction rather than static claims.

Despite these positive dynamics, the discussion also highlights persistent barriers to RNG adoption. High price risk perception, limited infrastructure, and low green energy literacy remain significant constraints, particularly in developing country contexts (OECD, 2023; IEA, 2024). These barriers suggest that rational economic arguments alone are insufficient. Instead, marketing strategies must integrate educational and emotional approaches that position RNG as part of a sustainable lifestyle rather than a premium alternative energy product. This finding echoes Grubert (2020), who argues that behavioral acceptance of clean energy depends on trust, communication, and perceived relevance to everyday life.

RNG adoption requires an integrated strategy that combines green marketing, consumer trust, and digital engagement within a supportive policy environment. By synthesizing TPB, GTM, and the digital marketing framework, this study extends prior literature by demonstrating that digital engagement acts as a catalyst that amplifies trust and perceived value. For practitioners and policymakers, the findings emphasize the importance of transparent digital communication, credible green branding, and continuous consumer education to accelerate the transition toward a low-carbon energy system.

CONCLUSION

This study concludes that the adoption of RNG in Indonesia is driven mainly by behavioral and marketing-related factors rather than by technological or regulatory readiness alone. Based on an SLR of 20 national and international studies, the findings confirm that green trust is the central determinant of green energy adoption intentions. This trust is reinforced by perceived value, encompassing economic, social, and symbolic benefits, and further strengthened through digital engagement. A favorable attitude toward green energy becomes effective only when consumers experience tangible benefits, while digital engagement expands and stabilizes trust through transparency, two-way interaction, and value co-creation. By integrating TPB, GTM, and the digital marketing framework, this study develops a conceptual model that positions digitalization as a form of social infrastructure essential for accelerating Indonesia's clean energy transition.

Despite its conceptual contributions, this study has several limitations. The reviewed literature is restricted to the 2019–2025 period, which may not fully capture long-term dynamics in green energy marketing. The dominance of conceptual studies and perception-based surveys also limits generalization to actual consumer behavior, particularly given the scarcity of national empirical evidence. Contextual differences between Indonesia and the countries represented in international studies may further introduce bias. Moreover, as an inferential SLR, this study does not test causal relationships between variables, especially regarding mechanisms of digital trust

formation and RNG adoption. Future research is therefore recommended to empirically test the proposed model using quantitative methods such as SEM or PLS, complemented by longitudinal designs to capture changes in trust and attitudes over time. Qualitative approaches, comparative cross-country studies, and stronger integration between marketing research, public policy, and energy literacy initiatives would further enhance the relevance of green energy marketing models for sustainable energy transitions.

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