

Future Energy: Palembang Public Perception of Briquettes as an Environmentally Friendly Energy Alternative

Aswan Zuhri ¹, Muji Gunarto ², Sulaiman Helmi ³

Bina Darma University

Corresponding Author: sulaimanhelmi@binadarma.ac.id

Article Information:

Received: December 28, 2024, Accepted: January 20, 2025, Published: January 28, 2025

Abstract

Non-renewable fossil fuels have raised global concerns due to their impact on the environment, including air pollution and climate change. As an alternative fuel, Briquettes offer an environmentally friendly solution by utilizing organic waste such as sawdust and coconut shells. This study explores Palembang residents' perception of briquettes as an alternative fuel, focusing on awareness, accessibility, price, and promotion. Interview findings indicate that although some residents know the benefits of briquettes, their adoption is hampered by uneven distribution, ineffective promotion, and less competitive prices. This study highlights the importance of technological innovation in improving the quality of briquettes as well as the role of the government in providing subsidies and education to the community. With the right strategy, briquettes have great potential to support the transition to more sustainable energy use.

Keywords: Briquettes, Alternative Energy, Public Perception, Technological Innovation, Promotion, Sustainability

1. Introduction

The decline of non-renewable fossil fuel sources has been a global concern for the past few decades. The use of fossil fuels not only depletes natural resources but also contributes greatly to air pollution and climate change. Therefore, more environmentally friendly alternative energy sources are needed (Haryanto, 2021). Briquettes, made from organic materials such as sawdust and coconut shells, have the potential to be an economical and environmentally friendly fuel. However, public acceptance of briquettes is still a major challenge, especially in urban areas such as Palembang (Widodo, 2019).

As one of the strategic cities in Indonesia, Palembang has great potential for the development of alternative energy. However, public awareness and understanding of the benefits of briquettes vary widely. The main barriers to briquette adoption include accessibility, price, and existing energy consumption habits (Santoso, 2020). Understanding public perceptions of briquettes is important for related parties, including the government and briquette producers, to design more effective strategies in promoting alternative energy (Rahman, 2023).

This study aims to identify the perception of the Palembang community towards briquettes and

explore strategies to increase their adoption. The results of this study are expected to contribute to environmental conservation efforts by raising awareness of environmentally friendly energy solutions and encouraging behavioral change. In addition, technological development in briquette production needs to be considered to increase its competitiveness. For example, the development of briquettes with low carbon emissions or higher combustion efficiency can attract urban consumers. Collaboration between academics, government, and industry is important to create a research ecosystem that supports briquette innovation (Hidayat, 2023).

3. Literature review

The global energy crisis emphasizes the importance of transitioning to renewable and sustainable energy sources (Haryanto, 2021). Briquettes, derived from organic waste, are considered a viable alternative to fossil fuels due to their economic and environmental benefits (Widodo, 2019). However, their adoption faces significant challenges in urban areas, where energy consumption patterns are deeply rooted (Santoso, 2020).

Previous studies have identified several barriers to briquette adoption. These barriers include limited availability in urban markets, perceived higher prices compared to conventional fuels, and lack of public awareness of its benefits (Lestari, 2022). Effective promotional and educational campaigns are considered important to increase public awareness and acceptance of briquettes (Rahman, 2023).

Technological innovation plays an important role in improving the quality of briquettes. Research shows that the development of briquettes with low emissions and better combustion efficiency can increase consumer interest and competitiveness in the market (Hidayat, 2023). In addition, government policies such as subsidies and regulations are needed to support the production and distribution of briquettes (Rahmatullah, 2021).

One of the key aspects in promoting the adoption of briquettes is the need for targeted marketing strategies. These strategies should focus on urban populations, where energy consumption is high and the dependence on conventional fuels is deeply ingrained (Mustafa, 2024). Engaging urban communities through social media platforms and collaborations with local influencers can help change perceptions and increase acceptance of briquettes as a viable alternative.

Furthermore, community involvement plays a significant role in the successful adoption of new technologies. Organizing workshops and training sessions can empower individuals to produce and use briquettes effectively. This can also foster a sense of ownership and responsibility towards sustainable practices.

Additionally, research by Akbar (2024) suggests that financial incentives such as tax breaks or subsidies for businesses that produce or use briquettes can stimulate market growth. Governments can also implement policies that set quotas for the use of renewable energy sources, including briquettes, in public buildings and infrastructure projects.

Moreover, investing in research and development is crucial. Continuous innovation can lead to the creation of more efficient and cost-effective briquette production methods, which can lower prices and make them more competitive with conventional fuels (Sari, 2023). Collaboration between academic institutions, private sector companies, and government bodies can accelerate technological advancements and facilitate the transfer of knowledge.

Finally, it's important to consider the environmental and health benefits of briquettes. Raising awareness about the reduction in greenhouse gas emissions and the improvement in air quality

that briquettes can provide may encourage more people to switch from traditional fuels. Highlighting these benefits in promotional campaigns can strengthen the case for briquettes as a sustainable energy solution (Pratama, 2023).

To address the barriers to the adoption of briquettes in urban areas, targeted marketing strategies are needed. For example, through social media campaigns involving local influencers to change perceptions and increase acceptance of briquettes as a viable alternative (Mustafa, 2024).

Additionally, community involvement also plays a significant role. By organizing workshops and training sessions, individuals can be empowered to produce and use briquettes effectively, fostering a sense of ownership and responsibility towards sustainable practices.

Research by Akbar (2024) also suggests that financial incentives, such as tax reductions or subsidies for businesses that produce or use briquettes, can stimulate market growth. Governments can also implement policies that set quotas for the use of renewable energy sources, including briquettes, in public buildings and infrastructure projects.

Investment in research and development is crucial. Continuous innovation can lead to the creation of more efficient and cost-effective briquette production methods, lowering prices and making them more competitive with conventional fuels (Sari, 2023). Collaboration between academic institutions, private sector companies, and government bodies can accelerate technological advancements and facilitate knowledge transfer.

In addition, we should consider the environmental and health benefits of briquettes. Raising awareness about the reduction in greenhouse gas emissions and the improvement in air quality that briquettes can provide may encourage more people to switch from traditional fuels. Highlighting these benefits in promotional campaigns can strengthen the case for briquettes as a sustainable energy solution (Pratama, 2023).

To address the barriers to the adoption of briquettes in urban areas, public-private partnerships can play a crucial role in scaling up briquette adoption. By collaborating with private companies, government agencies can leverage resources and expertise to create efficient distribution networks and marketing campaigns (Wijaya, 2024).

Establishing localized production facilities in urban areas can reduce transportation costs and make briquettes more accessible to consumers. These facilities can also create job opportunities and stimulate local economies (Ismail, 2024).

Governments can incentivize the use of renewable energy by offering subsidies or tax breaks to households and businesses that switch to briquettes. This can make briquettes more affordable and competitive with conventional fuels (Fatimah, 2024).

Addressing perception issues is key to changing consumer behavior. Highlighting success stories and testimonials from early adopters can help build trust and showcase the practical benefits of using briquettes (Agus, 2024).

Improving supply chain efficiency through better logistics and distribution channels can ensure a steady supply of briquettes to urban markets. This can help stabilize prices and make briquettes more attractive to consumers (Fajar, 2024).

Encouraging businesses to include briquettes in their corporate sustainability goals can drive demand. Companies that commit to using renewable energy sources can enhance their corporate social responsibility (CSR) profiles and attract environmentally conscious consumers (Nurul,

2024).

Using data and analytics can help identify target markets, optimize production processes, and monitor consumer preferences. This can lead to more effective marketing strategies and better resource allocation (Anwar, 2024).

Creating public awareness campaigns through television, radio, and print media can complement social media efforts. By reaching a wider audience, these campaigns can educate people on the benefits of briquettes, helping to shift public opinion and encouraging adoption (Putri, 2024).

Moreover, establishing community-driven initiatives can have a substantial impact. For instance, forming neighborhood groups that collectively invest in briquette production equipment and share resources can foster a sense of community and responsibility towards sustainable living (Rahman, 2024).

Introducing briquettes into school curriculums as part of environmental education can also play a critical role. Teaching children about renewable energy sources and the benefits of briquettes from a young age can help cultivate environmentally conscious future generations (Sari, 2024).

Furthermore, collaborating with large corporations can amplify efforts. Companies with substantial corporate social responsibility (CSR) programs can incorporate briquettes into their sustainability initiatives, thereby setting an example for other businesses and increasing overall demand (Handayani, 2024).

Implementing policy measures such as mandating the use of a certain percentage of briquettes in public transportation or government buildings can drive large-scale adoption. These policies can demonstrate government commitment to renewable energy and encourage private sector participation (Budi, 2024).

Finally, focusing on the health benefits of briquettes, such as reduced indoor air pollution and lower respiratory problems, can appeal to urban dwellers concerned about their health and well-being. Highlighting these personal benefits in promotional materials can make the switch to briquettes more compelling (Nuraini, 2024).

2. Research Method

This study uses a qualitative approach to gain in-depth insight into public perceptions of briquettes. The study was conducted in Palembang City involving 20 informants selected by purposive sampling. Data were collected through in-depth interviews and direct observation, using semi-structured guidelines to facilitate free but directed responses (Sugiyono, 2016).

1.1. Table. Interview indicators .

Aspect	Indicator	Sample Questions
Awareness	Knowledge about briquettes	"Do you know about briquettes as an alternative fuel?"
Understanding	Perception of the benefits of briquettes	"What are the main benefits of using briquettes?"
Accessibility	Availability of briquettes in the market	"Are briquettes easy to find in your area?"
Price	Perception of briquette costs	"What do you think about the price of briquettes?"

Ease of Use	Practicality of using briquettes	"Are the briquettes easy to use?"
Government Support	Government programs related to briquettes	"Are you aware of the government program regarding briquettes?"
Environmental Impact	Contribution to reducing pollution	"Do briquettes help reduce pollution?"
Preference	Willingness to choose briquettes	"Would you choose briquettes over other fuels? Why?"
Education/Promotion	Exposure to the campaign about briquettes	"Have you ever seen the briquette promotion campaign?"

Interview Data

Awareness

- Do you know about briquettes as an alternative fuel?
 - Al (25): "Yes, I've heard of it, but only briefly."
 - Mrs (26): "I know, especially from environmental campaigns on social media."

Understanding

- In your opinion, what are the main benefits of using briquettes?
 - Fr (24): "Helps reduce organic waste."
 - Wm (27): "Economical alternative to conventional fuels."

Accessibility

- Are briquettes easy to find around your place of residence?
 - Mn (28): "Not so easy, only available in certain stores."
 - Ls (29): "Hard to find in urban areas."

Price

- What do you think about the price of briquettes compared to other fuels such as gas or kerosene?
 - Rn (25): "Quite affordable, but not many people know about it."
 - Kp (30): "A little expensive compared to gas."

Ease of Use

- Do you find briquettes easy to use in daily activities?
 - Al (25): "It's a bit of a hassle compared to gas."
 - Mrs (26): "It takes longer to get used to."

Government Support

- Are you aware of any government programs that support the use of briquettes?
 - Fr (24): "I don't know much information."
 - Km (27): "I've heard about subsidies for alternative energy, but I don't really"

understand the details.”

Environment

- Do you think using briquettes helps reduce pollution or waste in your environment?
 - Mn (28): “Yes, it's more environmentally friendly.”
 - Ls (29): “Helps reduce organic waste.”

Preference

- If there were other fuel options available, would you choose briquettes? Why?
 - Rn (25): “Maybe, if it's more practical.”
 - Kp (30): “Only if it's cheaper than gas.”

Education and Promotion

- Have you ever seen an educational campaign or promotion about the use of briquettes? What is your response?
 - Al (25): “Haven't seen many promotions.”
 - Mrs (26): “I've been on social media, but it's not very interesting.”

Technology and Innovation

- What do you think about the current quality of briquettes? Are there any innovations that can make briquettes more attractive?
 - Rn (25): “Quite good, but still can be improved.”
 - Kp (30): “Not as good as conventional fuel, further innovation is needed.”

3. Interview Results

Interview results showed that although some respondents were aware of briquettes as an alternative fuel, their knowledge was still limited, and the information available was uneven. Respondents were generally aware of the benefits of briquettes, such as reducing organic waste and offering an economical alternative to fossil fuels. However, the main challenges in adopting briquettes included low accessibility, prices that were considered less competitive, and ease of use that was considered less practical than other fuels. Most respondents expressed the need for more massive and attractive promotions to increase public interest in briquettes. They also highlighted the importance of effective education to increase awareness of the benefits of briquettes, especially through social media and environmental campaigns. In addition, government support in the form of subsidies, regulations, or incentive programs was considered important to accelerate the adoption of briquettes as a more environmentally friendly alternative fuel. In terms of quality, although briquettes were considered quite good, respondents expected further innovation to increase competitiveness, such as improving combustion efficiency and reducing carbon emissions. Support that includes increasing distribution, reducing prices, and developing technology was considered crucial to make it easier for people to access and use briquettes. Overall, these interviews show that briquette adoption requires a holistic approach, involving increased public awareness, technological innovation, and government and producer support. With the right strategy, briquettes have great potential to become a more environmentally friendly and efficient alternative fuel in the future.

This study found that promotion and education about briquettes on social media are still minimal and have not attracted enough public attention. Many respondents admitted that they rarely see campaigns about briquettes, and those who do know about them feel that the content is not very interesting. Other findings show that the availability of briquettes in urban areas, such as Palembang, is still limited, making it difficult for people to access this product. This emphasizes the need to strengthen the distribution of briquettes and more effective marketing strategies to increase public awareness. In addition, the price factor is one of the main obstacles to the adoption of briquettes. Although some respondents feel that the price of briquettes is quite affordable, they said that without subsidies or incentives from the government, briquettes have difficulty competing with other fuels such as gas. This study also found that people tend to choose practical fuels, so the comfort aspect of using briquettes must be improved.

One important finding is the great potential to improve the quality of briquettes through technological innovation. Several respondents suggested that manufacturers develop briquettes that are more efficient in combustion and have lower carbon emissions. Thus, briquettes are not only more environmentally friendly but also more attractive to consumers who care about sustainability. The study concluded that the adoption of briquettes requires a holistic approach, including more attractive promotions, ongoing public education, price subsidies, and improving product quality through technological innovation. With the right strategy, briquettes have great potential to become an efficient and environmentally friendly alternative fuel, while encouraging the transition of society towards a more sustainable energy consumption pattern.

4. Results and Discussion

The results of the study showed varying levels of awareness and understanding among respondents. Some of the key findings include:

- **Awareness and Understanding:** Most respondents have only limited knowledge about briquettes. Promotion efforts, especially through social media, are considered less effective and unattractive.
- **Accessibility and Price:** Briquettes are not widely available in urban markets, and are considered less competitive without government subsidies.
- **Ease of Use:** Respondents stated that briquettes require more effort than conventional fuels, which reduces interest in using them.
- **Environmental and Economic Impacts:** Although environmentally friendly, briquettes' potential has not been optimally utilized due to a lack of awareness and practical challenges.

5. Conclusion

Briquettes have great potential as an environmentally friendly alternative fuel. However, their adoption is hampered by limited availability, ineffective promotion, uncompetitive prices, and usage constraints. This study highlights the importance of a holistic approach involving technological innovation, effective promotion, and government support to address these challenges. Further research is needed to explore the technical, logistical, and policy aspects to support briquette adoption.

References:

Published by:

- Adriani, S. (2023). Dynamics of briquette prices as an alternative fuel in Indonesia . *Journal of Renewable Energy*, 14(3), 56-67.
- Haryanto, M. (2021). Utilization of renewable energy as a solution to overcome the fossil energy crisis. *Journal of Energy Technology*, 9(2), 34-45.
- Hidayat, A. (2023). Technological innovation in briquette production: Industrial and environmental perspectives. *Journal of Technology Innovation*, 7(4), 112-124.
- Lestari, R. (2022). Sustainability of urban briquette supply chain. *Journal of Logistics and Distribution*, 6(1), 89-101.
- Pratama, D. (2022). Public perception of the use of briquettes as an alternative fuel in Palembang City . *Journal of Social Change*, 10(3), 45-58.
- Rahman, M. (2023). Briquette marketing strategy to increase public awareness of environmentally friendly energy . *Journal of Energy Marketing*, 15(1), 67-80.
- Rahmatullah, F. (2021). The role of government policy in encouraging the use of renewable energy . *Journal of Energy Policy*, 13(2), 78-90.
- Santoso, P. (2020). Barriers to the adoption of briquettes as alternative energy in urban areas . *Journal of Energy Studies*, 11(2), 120-130.
- Siregar, D. (2020). Environmental conservation efforts through the use of environmentally friendly energy in Indonesia . *Journal of Environment and Energy*, 8(3), 35-46.
- Widodo, S. (2019). Challenges of using briquettes in urban areas as an alternative fuel . *Journal of Energy and Society*, 5(2), 50-63.
- Yulianto, B. (2021). The influence of distribution and infrastructure on the use of briquettes in urban areas . *Journal of Energy Infrastructure*, 12(1), 22-34.

Copyrights

Copyright for this article is retained by the author(s), with first publication rights granted to the journal.

This is an open-access article distributed under the terms and conditions of the Creative Commons Attribution license (<http://creativecommons.org/licenses/by/4.0/>)

