



Book Review: Business Model for Economic Development of Pesantren based on Renewable Energy

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This article presents an analytical summary of the book *Business Model for Economic Development of Islamic Boarding Schools Based on Renewable Energy* published by the Department of Sharia Economics and Finance of Bank Indonesia (2022). The book offers a conceptual and practical framework for the economic development of Islamic boarding schools through the use of renewable energy, especially Solar Power Plants (PLTS), in the context of energy transition and sustainable development. By integrating the economic perspective of Islamic boarding schools, national energy policies, and Islamic normative foundations through the Maqashid Syariah approach, this book places pesantren as strategic actors in mainstreaming green and low-carbon economies. This article summarizes the main ideas of the book, including the historical and social role of Islamic boarding schools, the urgency of the energy transition, technical aspects of solar PV, business models of renewable energy-based Islamic boarding schools, as well as future opportunities and challenges. This summary is expected to be an academic reference for researchers, policymakers, and practitioners in the sustainable and inclusive economic development of Islamic boarding schools.

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INTRODUCTION

Pesantren is the oldest Islamic educational institution in Indonesia that has very strong historical, social, and cultural roots. From the pre-independence period to the contemporary era, pesantren not only functioned as a center for the transmission of Islamic knowledge, but also as an agent of social, economic, and political change (Bruinessen, 2012). In the context of national development, pesantren have contributed significantly to the formation of the nation's character, the strengthening of community morale, and the struggle for Indonesian independence.

Pesantren have historically functioned as Islamic educational institutions dedicated to religious learning and moral formation. However, in recent decades, their role has expanded beyond education to include significant participation in local and national economic development. The economic development of pesantren refers to the process by which these institutions build economic capacity, achieve financial sustainability, and contribute to community welfare through productive economic activities grounded in Islamic values.

Economically, pesantren operate as community-based institutions with strong social capital. Their embeddedness within local communities enables pesantren to mobilize resources, labor, and trust more effectively than conventional economic actors. This social embeddedness positions pesantren as strategic agents for inclusive development, particularly in rural and semi-urban areas where access to formal economic institutions is limited. Through cooperatives, micro-enterprises, agricultural ventures, and halal production units, pesantren create employment opportunities and stimulate local economic circulation.

A central pillar of pesantren economic development is entrepreneurship education for santri. By integrating religious instruction with practical business skills, pesantren contribute to the formation of human capital that is both economically productive and ethically grounded. Santri are trained in entrepreneurship, financial management, and Islamic business ethics, enabling them to become independent economic actors after graduation. This dual function strengthens the long-term impact of pesantren on economic development by ensuring continuity beyond institutional boundaries.

Entering the 21st century, Islamic boarding schools are faced with new challenges that are multidimensional, including economic globalization,

technological disruption, environmental crises, and climate change. One of the strategic issues that emerged was the energy transition from fossil energy sources to new and renewable energy. This transition is not only a technical issue, but also concerns economic, social, political, and ethical dimensions. In this context, pesantren have great potential to play a role as well as a role model in the development of a renewable energy-based economy.

The book *Business Model for Economic Development of Renewable Energy-Based Islamic Boarding Schools* was compiled in response to these opportunities and challenges. This book places pesantren within the framework of national energy policy and sustainable development agenda, while linking them to Islamic values through the Maqashid Syariah approach. This article aims to summarize and analyze the main ideas of the book in the format of a scientific article.

Islamic Boarding Schools and Energy Transition

Etymologically, the term pesantren is rooted in the word *santri* which refers to an individual who demands knowledge from a teacher. In its development, pesantren has become a *great tradition* that has been internalized in the lives of Indonesian people for centuries (Bruinessen, 2012). Pesantren are led by scholars who have scientific and moral authority, so that they have a great influence in shaping people's behavior and outlook on life.

In Indonesian history, the role of pesantren is not limited to the field of religious education, but also includes resistance to colonialism and the strengthening of nationalism. The Jihad Resolution of 1945 issued by the Nahdlatul Ulama scholars is a concrete example of how pesantren play a role in the crucial momentum of the nation's history. This historical role is a moral foundation for Islamic boarding schools to continue to contribute to facing the challenges of the times, including challenges in the energy sector.

The energy transition is a long-term process towards a more sustainable, low-carbon, and environmentally friendly energy system. Global dependence on fossil energy has caused various negative impacts, such as global warming, climate change, and environmental degradation (UNDP, 2020). Therefore, many countries, including Indonesia, are committed to increasing the portion of renewable energy in the national energy mix.

Indonesia's National Energy Policy as stated in Government Regulation No. 79 of 2014 targets the

contribution of renewable energy by 23% by 2025 and 31% by 2050. This target requires the involvement of various stakeholders, not only the government and the private sector, but also local communities and socio-religious institutions such as Islamic boarding schools.

One of the main strengths of this book is the integration between renewable energy issues and the principles of Maqashid Sharia. Maqashid Syariah refers to the main purpose of Islamic sharia, namely the protection of religion (hifz al-din), soul (hifz al-nafs), intellect (hifz al-'aql), heredity (hifz al-nasl), and property (hifz al-mal).

In the contemporary context, the overexploitation of natural resources for economic growth has threatened these five goals, especially the protection of lives and the sustainability of property. Environmental damage and climate change are seen as serious threats to the well-being of humanity. Therefore, the development of renewable energy is positioned as a form of actualization of Maqashid Sharia, as it supports environmental conservation, economic sustainability, and intergenerational justice.

Indonesia has a huge potential for solar energy because it is located in the tropics with relatively high intensity of solar radiation throughout the year. This potential makes Solar Power Plants (PLTS) one of the most prospective renewable energy technologies to be developed, including in the pesantren environment.

This book explains in simple terms the working principles of solar PV, ranging from solar panels that convert sunlight energy into electrical energy, inverters that convert direct current into alternating current, to energy storage systems and distribution networks. This technical explanation is important to provide a basic understanding for pesantren managers to be able to operate and maintain solar power plants independently.

The success of the implementation of solar power plants is not only determined by the initial installation, but also by operational and maintenance aspects. This book emphasizes the importance of training human resources in the pesantren environment in order to be able to maintain the sustainability of the function of solar PV throughout its technical life. Thus, solar PV is not only a short-term project, but a long-term productive asset.

Solar PV-Based Islamic Boarding School Economic Business Model

The use of solar power in Islamic boarding schools is not only aimed at meeting internal electricity needs, but also to support various economic business

units of Islamic boarding schools. Cheaper and environmentally friendly electrical energy can increase the efficiency of business operational costs, such as agriculture, livestock, food processing, and other micro businesses.

This book proposes an ideal business model where solar PV becomes an integral part of the Islamic boarding school business value chain. In this model, pesantren not only play the role of energy consumers, but also as energy producers and managers. This model is in line with the concept of a distributed energy system that encourages the decentralization of energy production and the empowerment of local communities (Alanne & Saari, 2006).

The economic development of Islamic boarding schools based on renewable energy has a multiplier impact. Economically, this model increases the independence and financial sustainability of Islamic boarding schools. Socially, this model provides new skills for students and increases environmental awareness. Environmentally, the use of solar power plants contributes to reducing carbon emissions and preserving ecosystems.

Pesantren has a number of strategic advantages in the development of solar PV, including the availability of land, a solid community structure, and moral and social legitimacy in the eyes of the community. In addition, policy support from the government and institutions such as Bank Indonesia opens up funding opportunities and technical assistance.

Despite its great potential, the development of solar power plants in Islamic boarding schools also faces challenges, such as limited initial capital, technical capacity of human resources, and institutional sustainability. This book emphasizes the importance of collaboration between Islamic boarding schools, the government, universities, and the private sector to overcome these challenges.

This book views the development of solar power in Islamic boarding schools as the first step towards a broader role in the energy transition. In the future, Islamic boarding schools have the potential to develop other renewable energy technologies, such as biogas and microhydro, and be involved in the supply chain of the renewable energy industry. Thus, Islamic boarding schools can become pioneers in the development of a green economy based on Islamic values.

CONCLUSION

The book *Business Model for the Economic Development of Islamic Boarding Schools Based on Renewable Energy* offers an important contribution to the discourse on Islamic boarding school economic development and energy transition in Indonesia. By integrating technical, economic, policy, and normative aspects of Islam, this book places pesantren as a strategic actor in sustainable development. This summary shows that the use of solar power in Islamic boarding schools is not only an energy solution, but also an instrument for economic empowerment, education, and environmental conservation. In the future, the development of a business model for renewable energy-based pesantren requires policy support, capacity building, and multi-stakeholder collaboration so that it can be replicated widely and sustainably.

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