

The Influence of Economic Law on a Just Energy Transition

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ABSTRACT

A just energy transition is an essential process in achieving environmental, economic, and social sustainability, by shifting energy use from fossil fuels to renewable energy. In Indonesia, economic law plays a significant role in supporting or hindering this transition process. Its influence includes investment regulations in the renewable energy sector, distribution of energy subsidies, taxation, employment policies, and equitable energy access for the community. Economic law that supports a just energy transition must create a conducive environment for renewable energy investment, reduce dependence on fossil fuels through subsidy reform, and ensure social protection for affected workers. In addition, appropriate taxation policies and environmental law enforcement are needed to encourage widespread adoption of clean energy. With an integrated legal approach, Indonesia can accelerate a just and sustainable energy transition, while ensuring social justice and energy access for all levels of society.

INTRODUCTION

Energy transition is a necessary change to achieve economic and environmental sustainability amidst global challenges related to climate change and natural resource depletion. In Indonesia, the energy transition process has complex challenges considering the still high dependence on fossil fuels, especially coal, as well as the diverse social and economic conditions of society. In this context, the concept of a just energy transition emerged, which not only focuses on the transition of energy sources, but also on how the process is carried out fairly, without leaving behind certain groups of people, especially workers in the fossil fuel sector, the poor, and remote areas.

Economic law is one of the main determinants in supporting or hindering a just energy transition. Regulations governing investment, taxation, energy subsidies, and employment will greatly influence the direction and speed of this transition. On the one hand, regulations that support renewable energy can accelerate the development of new infrastructure and technology. On the other hand, economic policies that still provide large subsidies to fossil fuels or lack protection for affected workers can slow the transition process and create social injustice.

Indonesia as a developing country with large renewable energy potential, such as solar, wind, and hydropower, has a great opportunity to lead the energy transition in Southeast Asia. However, to realize this transition equitably, coordinated economic policies are needed, including energy subsidy reform, strengthening environmental regulations, and social policies that protect vulnerable groups. Challenges in ensuring affordable energy access, infrastructure development, and sustainable investment also need to be managed carefully.

Indonesia's just energy transition faces complex structural and legal challenges. Although Indonesia has great potential to develop renewable energy, its high dependence on fossil fuels, such as coal, and economic policies that do not fully support clean energy, are slowing down the transition process.

This paper will discuss how economic law in Indonesia affects the equitable energy transition, and identify the challenges and opportunities that exist. By reviewing related regulations and policies, we can understand how economic law can be optimized to encourage an energy transition that is not only environmentally sustainable, but also socially just. Because the role of economic law is very important in accelerating the equitable energy transition. Regulatory reform, increasing incentives for renewable energy, and protection for vulnerable groups are steps that must be taken to ensure that this transition is not only environmentally successful, but also creates social and economic justice for all Indonesian people.

LITERATURE REVIEW

In order to understand the influence of economic law on a just energy transition, it is important to examine the basic concepts that underlie it, such as energy transition, justice in transition, and the role of economic law in regulating and driving this change. Previous research and relevant theories provide a strong foundation in examining these issues.

Energy Transition

Energy transition refers to the shift of the energy system from reliance on fossil fuels such as coal, oil, and natural gas, to cleaner renewable energy sources such as solar, wind, and biomass (Smil, 2010). This transition is driven by the need to reduce greenhouse gas emissions and mitigate the impacts of climate change. According to Sovacool (2016), the energy transition includes not only technological shifts, but also significant social, economic, and political transformations, including more sustainable patterns of energy production and consumption.

In Indonesia, the energy transition is becoming increasingly relevant with the country's commitment to achieving the Net Zero Emissions target by 2060 (Ministry of Energy and Mineral Resources, 2021). However, Indonesia still faces major challenges because around 60% of its electricity generation comes from coal (IEA, 2020). The concept of a just energy transition refers to efforts to ensure that the shift to clean energy is carried out fairly and inclusively, without leaving vulnerable groups behind (Heffron & McCauley, 2018). This transition must pay attention to three main dimensions of justice: distributive justice (fair distribution of benefits and costs), procedural justice (participation of all parties in decision-making), and restorative justice (repairing social and economic injustices caused by the transition).

Galgóczi (2014) emphasizes the importance of ensuring that workers in the fossil fuel sector, such as coal mining, receive protection in the form of retraining, new job opportunities, and social protection during the transition process. Justice also means ensuring equal access to clean and affordable energy for all groups in society, including remote areas that are often less attended to in energy policies.

The Role of Economic Law in the Energy Transition

Economic law has a crucial role in creating a framework that supports a just energy transition. Several important aspects that have been discussed in the literature through Regulations governing investment in the energy sector have a major impact on the success of the energy transition. Sovacool et al. (2011) show that countries that are successful in the energy transition, such as Germany, provide strong incentives for renewable energy through feed-in tariff schemes, tax incentives, and ease of licensing. In Indonesia, a study by Murniningtyas et al. (2019) shows that fiscal policies and incentives that support investment in renewable energy are still less than optimal.

There is still a need for adjustments to economic law so that investment in the clean energy sector is more competitive than the fossil energy sector. Fossil energy subsidies, according to Coady et al. (2015), often hinder the transition to renewable energy because they make fossil energy cheaper and more affordable. These subsidies are also often not targeted properly, so they benefit more well-off groups in society. Therefore, legal reforms related to energy subsidies are needed to shift support from fossil energy to renewable energy, while still protecting vulnerable groups. The energy transition also affects the labor market.

Atteridge and Strambo (2020) state that labor laws must ensure that workers in the fossil sector are retrained for jobs in the renewable energy sector.

This is necessary so that the energy transition does not cause increased unemployment in the affected sectors. For example, carbon tax policies implemented in various countries are an important instrument in encouraging the energy transition. Nordhaus (2007) explains that carbon taxes are effective in internalizing the social costs of carbon emissions, thereby creating incentives for companies to switch to cleaner technologies. In Indonesia, the discourse on imposing a carbon tax has begun to be discussed as part of a strategy to reduce emissions and support clean energy (Ministry of Finance, 2021).

Energy Systems and Social Justice

In addition to economic law, the energy system must be designed to meet the principle of social justice. Sovacool et al. (2019) argue that a just energy transition requires special attention to vulnerable groups, such as the poor and those living in remote areas. Economic law can help ensure that renewable energy development covers all areas, not just focusing on urban areas with better infrastructure. Research on the energy transition in Indonesia shows that the main challenges lie in the economic structure that still relies on fossil fuels and regulations that do not fully support renewable energy.

Sovacool et al. (2020) identified that the main challenges in Indonesia's energy transition are inter-agency coordination, inconsistent policies, and lack of infrastructure to support renewable energy deployment. Therefore, an integrated approach involving various sectors is needed to achieve a just and sustainable energy transition. This study shows that a just energy transition requires major changes in economic law, social policy, and energy governance. In Indonesia, the success of a just energy transition depends heavily on regulatory reforms in the areas of investment, subsidies, taxation, and employment, as well as stricter enforcement of environmental laws. The existing literature emphasizes the important role of economic law in creating conditions conducive to a just and sustainable energy transition.

METHODOLOGY

This study uses a descriptive qualitative approach to analyze the influence of economic law on equitable energy transition in Indonesia. This approach was chosen because it aims to understand complex social and economic phenomena, as well as examine the relationship between regulations, policies, and their impacts on the energy transition process and social justice. The following are the stages of the methodology used in this study:

Research Approach

This study uses a descriptive qualitative approach, where the main focus is to explore and analyze qualitative data on economic legal policies, energy regulations, and the social impacts of the energy transition. With this approach, the study can explore in depth the role of economic law in the energy transition process, as well as identify existing obstacles and opportunities.

Data Sources

The data used in this study consists of two types:

- A. **Primary Data:** Primary data was obtained through in-depth interviews with experts in the fields of energy law, economics, as well as representatives from government institutions, non-governmental organizations (NGOs), and companies operating in the renewable energy and fossil fuel sectors. The interviews aimed to gain first-hand perspectives on the legal economic challenges in the energy transition and social justice in Indonesia.
- B. **Secondary Data:** Secondary data comes from scientific literature, policy reports, government regulations, journals, and relevant official documents, including reports from international institutions such as the IEA (International Energy Agency), IRENA (International Renewable Energy Agency), and the Indonesian Ministry of Energy and Mineral Resources (ESDM). These data provide context and a comprehensive picture of the energy situation and policies in Indonesia.

Data Collection Techniques

Semi-Structured Interviews: Semi-structured interviews were conducted with experts and practitioners who have a deep understanding of economic law, energy policy, and energy transition. The questions in the interviews were open-ended so that respondents could provide in-depth answers that were in accordance with their experiences. These questions focused on regulatory issues, legal barriers, social justice, and challenges in developing renewable energy in Indonesia. Therefore, this study also conducted an analysis of policy documents, academic reports, and laws and regulations governing the energy and economic sectors. This document study was conducted to gain an understanding of the ongoing policy context and how these regulations affect the energy transition in Indonesia.

Data Analysis Techniques

Data analysis was conducted through content analysis that focused on understanding the meaning contained in documents, interview transcripts, and relevant literature. Data analysis steps include:

- A. **Coding:** Data from interviews and documents were identified and coded to identify key themes relevant to the research. These codes were grouped by topics such as investment regulation, energy subsidies, employment, and social justice in the energy transition.
- B. **Thematic Analysis:** After coding, thematic analysis was conducted to find dominant patterns, relationships, and themes. These themes were then analyzed to understand the influence of economic law on the equitable energy transition in Indonesia.
- C. **Data Triangulation:** Triangulation is done by comparing information obtained from interviews and official documents to ensure the validity of the data. With triangulation, researchers can validate findings by using multiple data sources.

Research Limitations

This study has several limitations, including:

- A. Limited Respondents: Although interviews were conducted with experts and practitioners, the number of respondents may be limited due to time and access factors. This may affect the variety of perspectives obtained.
- B. Availability of Secondary Data: Some data related to policy or regulatory impact evaluations of the energy transition in Indonesia may not be fully available or openly published, which may affect the completeness of the analysis.

Research Instruments

Interview Guide

The instrument used for the interviews was a semi-structured interview guide containing a list of open questions about energy policy, economic law, and social justice issues in the energy transition.

Data Validation Process

Data validation was carried out through source triangulation (comparing interview results with literature studies and policy documents), as well as validation by experts to ensure the accuracy and relevance of the findings. With this methodology, the research is expected to provide a comprehensive picture of the role of economic law in a just energy transition in Indonesia, as well as provide recommendations for improving existing policies to support a faster and more just transition.

RESEARCH RESULT

Based on the analysis of data obtained through interviews, document studies, and relevant literature, this study identifies several key results that influence the influence of economic law on a just energy transition in Indonesia. The results of this study also explain the existing obstacles, efforts that have been made, and opportunities for improvement in the future.

Renewable Energy Investment Regulation

One of the main findings is that renewable energy investment regulations in Indonesia still need to be strengthened to create a conducive environment for clean energy development. Despite government efforts, such as the launch of *Presidential Regulation No. 112 of 2022* concerning the acceleration of renewable energy development, this regulation still faces several obstacles:

- A. Complicated Bureaucracy : Interviews with energy industry players show that the licensing process for renewable energy projects, especially solar and wind, is still considered slow and requires simplification. Existing regulations are also considered to not provide sufficient legal certainty for investors, which has an impact on investment interest in this sector.
- B. Lack of Fiscal Incentives : Although the government has begun to provide some incentives, many respondents stated that fiscal incentives for renewable energy are still limited. In addition, they emphasized the

importance of more significant tax exemptions or subsidies to encourage private investment.

- C. Infrastructure Limitations : The limitations of supporting infrastructure, such as electricity distribution networks that can support renewable energy in remote areas, are also a major challenge. Without adequate infrastructure support, renewable energy development is difficult to implement evenly.

Energy Subsidy Reform

fossil fuel subsidy is one of the biggest obstacles to a just energy transition in Indonesia. The study found that fossil fuel subsidies still absorb a very large budget, making it difficult to develop renewable energy. Although the government plans to gradually reduce coal use, subsidies for the coal industry remain large, especially in the form of incentives for mining companies. This slows down the pace of the energy transition because renewable energy is still considered more expensive than subsidized fossil energy.

Document studies show that fossil fuel subsidies are often not well-targeted and are enjoyed more by the middle to upper classes who consume more energy. In fact, vulnerable and poor groups who should benefit from subsidies are often not well-reached. Energy subsidy reforms directed at renewable energy still face political and social resistance. Many parties are still concerned about the social impact of eliminating fossil fuel subsidies, especially related to rising energy prices that could trigger social instability.

Social Protection and Employment

Protection for workers in the fossil fuel sector is a key issue in ensuring a just energy transition. Interviews with labor experts found that this transition has not been fully balanced by policies that protect workers in the fossil fuel sector:

- A. Lack of Retraining and Reskilling : Many workers in the coal and oil sectors feel they do not have access to adequate reskilling. To ensure equity in the energy transition, governments should provide programs to help workers transition to renewable energy or other more sustainable sectors.
- B. Unequal Access to Job Opportunities : In addition, there is inequality in job opportunities in the renewable energy sector. Areas that rely on coal mining, such as Kalimantan and Sumatra, face high risks of job losses, while new job opportunities in the renewable energy sector tend to be more concentrated in Java and Bali.
- C. Suboptimal Employment Policy : This study also shows that employment policy in the energy sector has not been fully directed to deal with changes due to the energy transition. Social protection and employment security for workers affected by the transition still need to be strengthened, both through training programs and cash assistance for workers who lose their jobs.

Environmental Law Enforcement

Environmental law enforcement is an important element in ensuring that the energy transition is sustainable. However, the results of this study indicate that there are still many environmental violations by fossil fuel companies in

Indonesia that are not balanced by strict law enforcement. Several respondents noted that although there are quite strong environmental laws, their implementation is often weak, especially in terms of imposing sanctions on violators of environmental regulations. As a result, several fossil fuel projects continue to operate without strict supervision of the environmental impacts they cause. This is contrary to the objectives of the energy transition which aims to reduce the carbon footprint and maintain environmental sustainability.

5. Inclusive Energy Access

Equitable access to renewable energy is a key prerequisite for achieving a just energy transition. The results of this study show that people in rural and remote areas still experience difficulties in accessing clean and affordable energy. Renewable energy projects tend to focus on urban areas that are more easily accessible by infrastructure. Therefore, more inclusive policies are needed to ensure that all areas, including remote areas, have access to renewable energy. The lack of electricity distribution networks in some rural areas hinders the development of renewable energy projects, such as solar power plants in remote areas. Without investment in basic infrastructure, a just energy transition will be difficult to achieve.

Overall, this study shows that economic law in Indonesia has a significant impact on the success of a just energy transition. Existing regulations need to be optimized to encourage investment in renewable energy, strengthen environmental law enforcement, and protect vulnerable groups affected by this transition. In addition, energy subsidy reform and more inclusive policies are needed to ensure access to clean and affordable energy for all people. With the various challenges faced, there is a great opportunity for Indonesia to accelerate a just energy transition, provided that economic law regulations and policies are designed in a more integrated manner and focus on sustainability and social justice.

DISCUSSION

In this study, several important points are discussed regarding the influence of economic law on a just energy transition in Indonesia. This study highlights key aspects such as renewable energy investment regulations, energy subsidy reform, social protection for workers, environmental law enforcement, and inclusive energy access. This discussion will link the research findings to relevant theories and literature, and identify challenges and opportunities in supporting a just and sustainable energy transition.

Renewable Energy Investment Regulation

The discussion of the research results shows that the regulation of renewable energy investment in Indonesia still faces various challenges that hinder the acceleration of the energy transition. In the existing literature, Sovacool et al. (2011) emphasized that the success of the energy transition is greatly influenced by policies that support investment in the renewable energy sector, such as fiscal incentives, ease of licensing, and legal certainty.

However, in Indonesia, even though there are policies that encourage renewable energy, such as through *Presidential Regulation No. 112 of 2022* ,

industry players still complain about the convoluted bureaucracy and lack of incentives. This is in line with the findings of Murniningtyas et al. (2019) which stated that fiscal regulations in Indonesia do not fully support investment in the renewable energy sector. In addition, the lack of supporting infrastructure in several regions is also an obstacle to the development of equitable renewable energy projects.

The government needs to simplify the licensing process and strengthen investment regulations to make it more attractive to investors. In addition, fiscal incentives, such as tax exemptions or subsidies for renewable energy development, should be expanded to increase the attractiveness of this sector compared to fossil fuels.

Energy Subsidy Reform

Fossil fuel subsidies that are still dominant in Indonesia show a major obstacle in the efforts of equitable energy transition. This study found that fossil fuel subsidies not only hinder the development of renewable energy, but also create injustice in the distribution of subsidies. The study by Coady et al. (2015) shows that fossil fuel subsidies more often benefit the better-off community groups, while the poor and vulnerable get less benefit.

The literature on energy subsidies also emphasizes that fossil fuel subsidies often create economic dependence on fossil fuels, making subsidy reform key to shifting support to renewables. IEA (2021) notes that countries that have successfully implemented energy subsidy reforms, such as India and Germany, have shown significant progress in reducing carbon emissions and increasing the use of renewable energy.

Energy subsidy reform in Indonesia needs to focus on shifting subsidies from fossil fuels to renewable energy. The government must also ensure that the social impacts of this reform are minimized, for example through social protection for vulnerable groups and compensation programs for communities affected by rising energy prices.

Social Protection and Employment

One of the main challenges in a just energy transition is the social protection of workers in the fossil fuel sector. The findings of this study show that many workers in the coal and oil sectors have not had adequate access to retraining or opportunities to transition to the renewable energy sector. This is consistent with the findings of Atteridge and Strambo (2020) who showed that the energy transition often leaves workers in the fossil fuel sector without adequate support.

In the literature on just energy transitions, the importance of distributive and procedural justice is often emphasized. Heffron & McCauley (2018) note that a just transition should include programs that protect workers affected by structural changes in the energy sector. This includes reskilling and efforts to create new jobs in the renewable energy sector.

Policy implications: The government needs to expand retraining programs and create new jobs for workers in the fossil fuel sector. In addition, employment

policies should focus on social protection that ensures that workers do not lose their livelihoods during this transition.

Environmental Law Enforcement

Environmental law enforcement is a critical element in ensuring a sustainable energy transition. This study found that environmental law enforcement in Indonesia is still weak, especially in terms of monitoring fossil fuel projects that have negative impacts on the environment. Sovacool et al. (2019) noted that strong law enforcement is needed to ensure that energy companies comply with strict environmental standards.

In Indonesia, although there are laws and regulations governing environmental protection, their implementation still faces many challenges. For example, Sovacool et al. (2020) show that in some areas, environmental violations by the fossil fuel industry are often not followed up with adequate sanctions, thus encouraging unsustainable practices.

Policy implications : The government must strengthen environmental law enforcement by increasing supervision and imposing stricter sanctions on violations. In addition, collaboration between the central and regional governments is needed to ensure that environmental policies are implemented consistently throughout Indonesia.

Inclusive Energy Access

Equitable and inclusive energy access is an essential prerequisite for achieving a just energy transition. This study found that people in remote areas still have difficulty gaining access to clean and affordable energy, while renewable energy projects are more concentrated in urban areas. This is in line with the findings of Sovacool et al. (2020) which show that unfair energy access can deepen social disparities.

The literature on energy transition also emphasizes the importance of distributive justice, where every individual or group of people should get the same benefits from the energy transition. According to Heffron and McCauley (2018), inclusive clean energy access is key to ensuring that the energy transition does not only benefit the elite, but also the poor and remote areas. Therefore, the government needs to expand access to renewable energy to remote areas by building adequate distribution infrastructure. In addition, subsidy programs for renewable energy must include people in remote areas so that they can also enjoy the benefits of the energy transition.

Thus, the results of this study indicate that economic law plays a central role in driving a just and sustainable energy transition in Indonesia. Strong regulations and fiscal incentives that support renewable energy, together with strict environmental law enforcement and social protection for workers, can accelerate this transition. However, major challenges remain, especially in terms of energy subsidy reform, environmental law enforcement, and inclusive energy access. The government needs to formulate more holistic and integrated policies to address these obstacles so that a just energy transition can be achieved.

CONCLUSIONS AND RECOMMENDATIONS

This study examines the influence of economic law on a just energy transition in Indonesia, highlighting the various challenges and opportunities that exist. Based on the data analysis, it can be concluded that:

1. **Renewable Energy Investment Regulation** : Although there are policies that encourage the development of renewable energy, the complicated licensing process and lack of fiscal incentives are still a deterrent for investors.
2. **Energy Subsidy Reform** : Large fossil fuel subsidies create dependence on unsustainable energy sources and hinder the development of renewable energy. In addition, these subsidies are not always well-targeted, often favoring the wealthier groups.
3. **Social Protection and Employment** : The energy transition has not been accompanied by adequate retraining programs for workers in the fossil energy sector, which can lead to social injustice and unemployment.
4. **Environmental Law Enforcement** : Weak law enforcement against environmental violations by fossil fuel companies has the potential to damage the environment and hinder the goal of a sustainable energy transition.
5. **Inclusive Energy Access** : Communities in remote areas still experience difficulties in accessing renewable energy, indicating an inequity in the distribution of benefits from the energy transition.

Recommendation

Based on research findings, several recommendations to encourage a just energy transition in Indonesia are as follows:

1. **Simplifying the Licensing Process** : The government needs to simplify the licensing process for renewable energy projects to make them more efficient and transparent. This will increase the attractiveness for investors.
2. **Increased Fiscal Incentives** : Increased fiscal incentives, such as tax exemptions or subsidies for renewable energy projects, are needed to encourage more investment in the sector.
3. **Energy Subsidy Reform** : Boldly reform fossil fuel subsidies by shifting support to renewables. In addition, the government must ensure that compensation is provided to groups affected by the removal of subsidies.
4. **Training and Reskilling Programs** : Develop training and reskilling programs for workers in the fossil fuel sector to prepare them to transition to the renewable energy sector. Governments, companies, and non-governmental organizations need to collaborate in developing these programs.
5. **Strong Environmental Law Enforcement** : Strengthen environmental law enforcement by increasing monitoring and sanctions for violations. This is important to ensure that energy projects do not damage the environment.
6. **Energy Infrastructure Development in Remote Areas** : Allocate resources to build energy infrastructure that can reach remote areas, ensuring that all communities, especially the vulnerable, have equitable access to renewable energy.

7. Community Involvement in Decision-Making : Involving communities in the planning and decision-making processes related to energy projects in their areas. This will increase procedural fairness and strengthen community support for the energy transition.

ADVANCED RESEARCH

Further research is expected to explore more deeply the specific impacts of policies and regulations that have been implemented in the renewable energy sector, as well as their effectiveness in achieving a just energy transition. In addition, further research is expected to analyze the best models from other countries that have succeeded in the energy transition and can be applied in Indonesia. This research should also involve the perspectives of local communities and vulnerable groups to understand the social impacts of existing policies. Thus, future research can provide more comprehensive and relevant recommendations to support fair and sustainable policies.

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