Journal of International Studies on Energy Affairs
Jisea.universitaspertamina.ac.id | jisea@universitaspertamina.ac.id
ISSN Online 2774-4213
ISSN Print 2774-6380

Analysis on the Factors of Indonesia's Participation in Just Energy Transition Partnership (JETP)

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History

Submission : 16 Oktober 2024
Review Completed : 4 November 2024
Accepted : 25 November 2024
Available Online : 15 December 2024

DOI :
10.51413/jisea.Vol5.Iss2.2024.223-235

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Abstract

Indonesia, as one of the largest contributors of greenhouse gas emissions globally, faces significant challenges due to climate change. Recognizing the urgent need to mitigate these impacts, developed countries have initiated efforts to reduce emissions, particularly through the transition to clean energy from fossil fuels. During the G20 Summit in Bali in 2022, Indonesia secured the Just Energy Transition Partnership (JETP), a collaborative framework aimed at providing financial support to developing countries for clean energy transitions. Given the complexities and resource constraints associated with such transitions, this research aims to identify and explain the factors influencing Indonesia's participation in the JETP. This article uses a qualitative research method and the approach of Holsti's four-dimensional framework, namely economic welfare, efficiency, security threats and reducing losses. The results of this study reveal several key factors in influencing Indonesia to participate in this cooperation. These include the country's pressing need for energy transition, coupled with limited domestic resources. Moreover, the potential for cost reduction through this international cooperation, as well as the security threats posed by climate change and the need to mitigate potential losses from

Cite this article :
Pramadhoni, M.R., Fadhlia, M.N. (2024). Analysis on the Factors of Indonesia's Participation in Just Energt Transition Partnership (JETP). *Journal of International Studies on Energy Affairs*, *5*(2), 221–234. https://doi.org/10.51413/jisea.Vol5.Iss2.2024. 223–235

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individual actions, have significantly influenced Indonesia's decision to participate in the JETP.

Key Words: Energy transition, JETP, climate change, international cooperation

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https://doi.org/10.51413/jisea.Vol5.Iss2.2024. 223–235

INTRODUCTION

International relations have undergone extraordinarily significant developments. In the past, international relations primarily focused on the study of war and peace, but it has since expanded to include the study of changes, continuities, and developments occurring in relationships between countries or nations within the context of the global system, while still emphasizing political relationships often referred to as "high politics." Contemporary international relations, on the other hand, no longer focus solely on political relationships between countries or nations, which essentially encompass interactions that cross national borders, but also include the roles and activities of non-state actors.

Environmental issues will not only be the responsibility of the state as the actor but will also require active participation from other international actors, including individuals, multinational companies, and international organizations, whether governmental or non-governmental. Because this serves as an important reminder that the effects of environmental damage are not only felt by a portion of the population, but this will impact all of humanity if environmental damage occurs. Therefore, international regimes have been established as a platform to create control and prevention programs for environmental damage.
The phenomenon of climate change is a global climate transformation resulting from global warming due to human activities. Environmental damage that brings about climate change affecting the continuity of life and threatening human existence occurring at the local, national, and international levels. The impact caused by climate change has become a concern for the international community, including the increase in warming due to greenhouse gas (GHG) emissions, resulting in rising sea levels, thinning ozone layers, and affecting various aspects of life due to the imbalance of weather on Earth and the threat to the preservation of environmental ecosystems and living beings, which potentially endangers human survival and global economic stability.

Climate change originates from global warming, which is primarily triggered by human activities such as the burning of fossil fuels and massive land use. Indonesia is one of the countries that frequently records global warming events from the forestry, agriculture, and land use sectors. Industrial activities using fossil fuel-based energy systems such as coal, petroleum, and natural gas increase the presence of exhaust gases like CO_2, CH_2, SF_6, N_{20}, PFC, and HFCs that rise to the

atmospheric layer, resulting in the depletion of the ozone layer and causing a rise in global temperatures. Thus, the impact of rising temperatures is the shift in weather patterns that causes unusual rainfall, severe storms leading to natural disasters and many casualties, resulting in negative effects for humans both personally and socially, even extending to the global order as a whole, crossing national borders that are not bound by territorial boundaries between countries. This became a catalyst for the global community to work together to reduce the impact of global warming on climate change. With the hope of cooperation and discussion worldwide, climate change and global warming were considered for the first time at the Earth Summit in Rio de Janeiro, Brazil, in 1992. This summit resulted in the United Nations Framework Convention on Climate Change (UNFCCC) with the aim of establishing a climate change convention. At the 21st meeting of the UNFCCC parties, or COP21, held in Paris from November 30 to December 12, 2015, the UNFCCC parties agreed to make a series of decisions on the adoption of the Paris Climate Agreement as a new instrument after the Kyoto Protocol was deemed to have failed to meet global emission reduction targets.

With Indonesia's ratification of the Paris Agreement, it is hoped that it will enhance effective and efficient bilateral and multilateral cooperation in implementing climate change mitigation and adaptation actions, supported by funding, technology transfer, and capacity building, backed by sustainable development governance.

Energy is one of the largest contributors to carbon emissions in Indonesia. Indonesia has participated in summits such as COP and G20, which have generated extensive discussions on reducing greenhouse gas emissions. Indonesia is one of the countries under international scrutiny for reducing emissions by transitioning to renewable energy. In COP 26, it was stated that developed countries must support developing countries in achieving energy transition in the form of an agreement at the G20, namely Just Energy Transition Partnership (JETP).

JETP was agreed upon on November 22, 2022, and is a program in funding the fair international energy transition partnership. It also received a positive response from the International Energy Agency (IEA) and became an important achievement in the G20 summit regarding the global energy transition. Therefore, research was conducted on the factors that encourage Indonesia to collaborate in the energy transition through JETP (Just Energy Transition Partnership).

Literature Review and statement of art

Indonesia is one of the largest contributors to carbon emissions in the energy sector in the world, and the impact of this refers to the increasingly severe climate change, a threat to international security itself in terms of non-traditional security, one of which is the issue of the environment and climate change. Therefore, Indonesia participates in the energy transition program through the Just Energy Transition Partnership (JETP) based on the driving factors explained by K.J. Holsti, which are 1) Economic welfare 2) Efficiency 3) Security threats 4) Reducing losses. Therefore, the researcher will examine the factors that drive Indonesia to collaborate in the energy transition through JETP with those four factors.

METHOD

In the research, qualitative methods were used in the efforts of data collection, data analysis, and documentation study. The unit of analysis used is the countries involved in the cooperation conducted by Indonesia and the developed countries, namely the G7 countries. The type of qualitative data used is secondary data sourced from books, journals, news, and other materials related to the discussed issues. The data collection technique was conducted qualitatively. The data validity technique used is triangulation. The data analysis techniques used are data reduction, data presentation, and conclusion drawing.

RESULT AND DISCUSSION

Economic welfare

Economic welfare encompasses the welfare of individuals, communities, and the nation. Economic growth will be influenced by appropriate policies as well as significant investment flows, and it includes economic growth, regional development, and job creation.

Enhancing Indonesia's Economic Growth

Energy transition is a key component of Indonesia's long-term economic vision, with low-carbon development targets incorporated into medium- and long-term development plans. According to the economic modeling of the Low Carbon Development Initiative (LCDI), investments to increase the share of renewable energy to 23% by 2030 and subsequently to 30% by 2045, along with policies

promoting energy efficiency, sustainable land use, and forest conservation, can result in greenhouse gas emission reductions and drive sustainable economic growth. This green growth will also provide social benefits, including improved air quality, which is projected to prevent around 40,000 deaths each year. Implementing fair energy transition policies will facilitate progress towards low-carbon development and help achieve net zero targets.

Given the limitations of public resources, green fiscal policies should focus on developing direct private investments in renewable energy projects. This investment is expected to have indirect and secondary economic benefits as funds flow into various industries, services, and infrastructure related to renewable energy. Investments facilitated through the Just Energy Transition Partnership (JETP) will increase renewable energy production and stimulate additional economic activities beyond the electricity sector. Energy transition policies can enhance export competitiveness and help Indonesia move beyond its dependence on mineral exports. In 2021, Indonesia's exports mainly consisted of coal (US$28.4 billion), palm oil (US$27.3 billion), natural gas (US$8.1 billion), ferroalloy (US$7.2 billion), and large flat-rolled stainless steel (US$6.7 billion). The need for economic diversification is evidenced by the economic complexity index, which assesses a country's production capacity. Currently, Indonesia ranks 61st in the Economic Complexity Index (ECI) based on trade geography and export sophistication. The aforementioned investment, combined with research and innovation, will diversify Indonesia's manufacturing sector and enhance its competitiveness. Economic competitiveness will increasingly depend on environmental sustainability, as countries begin to impose carbon taxes on imports and global companies track the carbon intensity of their supply chains.

Overcoming Regional Economic Disparities

Indonesia's vast renewable energy potential across its islands offers many opportunities for direct investment in various regions. Large islands, including the economically underdeveloped eastern part of Indonesia, have significant geothermal and hydropower resources.

Job Creation and Impact on Employment

The construction of transmission networks, the enhancement of electrical grids, and the acceleration of renewable energy power plant development will create job

opportunities both during the construction phase and throughout the operational period of these projects.

Efficiency

Efficiency is closely related to cost reduction; the concept of energy efficiency leads to the ability to achieve the best results in any activity by utilizing energy resources as minimally as possible, which in this concept allows for the reduction of consumption of any type of energy, including the associated environmental impact. This concept applies from production to energy consumption. Investing in steps that improve energy efficiency has various very positive impacts in many ways, starting from energy and cost savings.

Entering into research on efficiency in cost reduction in implementing the energy transition, according to the International Renewable Energy Agency (IRENA), in 2019, the energy produced from renewable sources was comparable in price to fossil fuels. (Inspire Clean Energy, 2021). According to an article written by Domminic Dudley in Forbes, it explains in detail the electricity costs from the development of new fossil fuel power plants ranging from $0.05/kWh to $0.15/kWh. In comparison, hydroelectric power averages $0.05/kWh, onshore wind, solar photovoltaic, biomass, and geothermal energy are below $0.10/kWh, and offshore wind is $0.13/kWh. Importantly, the costs of clean energy sources continue to decrease year by year and will keep decreasing with the development of infrastructure. Solar power will decrease by about 13% year on year and wind power will decrease by about 9% year on year.

Table 1. Average of Renewable Energy Prices

No.	Energy Type	Price
1.	Wind Energy	$20/MWh
2.	Solar Energy	$37/MWh
3.	Hydro Energy	$85/MWh

Source: Inspire Clean Energy: Cost of renewableenergy

The increase in the use of clean energy will only help the economy grow and develop because clean energy will create jobs, reduce energy costs, improve human welfare (thereby reducing social costs), and dollars, with less effort needed to remove CO2 from the environment through fossil fuels.

Security Threat

Climate change, commonly known as global climate change, is a significant issue that will impact human life on a global scale. According to a study by The Royal Society and the US National Academy of Sciences (Wolff, 2014), the impact of climate change has been observable since the 1900s. The main indicators of this phenomenon include a temperature rise of up to 0.8 degrees Celsius (14 degrees Fahrenheit), warmer sea temperatures, significant polar ice melting, and weather events that drastically reduce pollution. Renewable energy will also basically become cheaper for households over time. In a reasonable timeframe, we can see cost savings in the range of billions, all of which indicate the ongoing impact of climate change.

The impact of climate change is very significant and poses a serious threat to water resources, habitats, forests, human health, agriculture, and coastal areas. As temperatures rise, the quality and quantity of water supply can decrease, with reduced chlorine levels potentially leading to an increase in harmful microorganisms. Climate change also causes habitat changes and the risk of species extinction. The rising temperatures, sea levels, floods, and storms disrupt natural habitats, which are crucial for the survival of various species of animals, plants, and other organisms, and the destruction of these habitats threatens the ecosystems and food chains that depend on them.

The impact of climate change that greatly affects Indonesian society, namely:

a. Marine environment
b. Agriculture
c. Health
d. Natural ecosystem

Reducing Losses

The Russia-Ukraine war has triggered a global energy crisis, heightened concerns about energy supply security, caused energy prices to soar, and led to widespread

instability. Most of Europe's imported gas comes from Russia through pipelines that pass through Ukraine, making the region very vulnerable. In addition, Russia's significant role as one of the largest oil producers in the world further exacerbates the global crude oil supply situation. (Mahmuddin & Burhanuddin, 2024). The conflict also impacts the mineral market, as Russia and Ukraine have reserves of lithium, cobalt, and nickel that are very important to the international economy.

Western countries have targeted Russian production and exports, although the G7 price cap offers some relief. The diesel market is very vulnerable because demand is recovering. Russia's influence in the oil and gas sector has diminished, with its share of international gas trade projected to drop from 25% in 2021 to 13% in 2023 (Mahmuddin & Burhanuddin, 2024). The EU's dependence on Russian gas is expected to decrease from 40% to just 10%. Similarly, Russian oil exports to the EU have nearly ceased due to the ban on crude oil and refined petroleum product exports. Moscow's latest production announcement indicates that Russia may face challenges in finding new buyers for its oil.

One of the solutions being implemented by Indonesia is an effort to maintain energy resilience and realize a green economy in Indonesia. In the G20 activities of 2022, the government has also established financing and investment cooperation in the energy sector, which is the Just Energy Transition Partnership (JETP). This energy transition is both an effort and a commitment by the government to anticipate future energy crises, and the government has increased the mix of new renewable energy sources to 23% by 2025, and up to 31% by 2030, as discussed by the Coordinating Minister for Economic Affairs.

CONCLUSIONS

Climate change has become a global issue that is important for every country, especially Indonesia, which is one of the largest carbon emitters in the world. Indonesia is a country that still uses energy sources with fossil fuels such as coal, which is the largest contributor to global carbon emissions, namely coal-fired power plants. Therefore, Indonesia participates in international collaboration by joining the JETP (Just Energy Transition Partnership) program, and in the research, we examine the factors that drive Indonesia to participate in this collaboration. There are several factors influencing Indonesia's participation in the JETP (Just Energy

Transition Partnership), namely economic welfare, efficiency, security threats, and loss reduction.

After the research, it can be seen that there are two main factors for Indonesia's collaboration in the energy transition through JETP, namely efficiency and security threats. Efficiency is based on cost reduction, and the research explains that renewable energy has a lower cost factor than fossil energy. Meanwhile, security threats are the main reason the global community discusses climate change issues that cause global warming, as it has caused global unrest due to impacts that threaten individuals, communities, countries, and the sustainability of the Earth today. Therefore, Indonesia is collaborating in the energy transition through the Just Energy Transition Partnership (JETP) to prevent greater impacts in the future and provide solutions for Indonesia in terms of reducing costs for clean energy.

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