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THE IMPACT OF ENERGY ON GLOBAL GEOPOLITICS POST COVID-19

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ABSTRACT

Understanding the development of low-carbon energy systems and the end of today's fossil fuel-based systems is critical to predicting the future of global energy geopolitics. As renewable energy is a post-COVID-19 goal, geopolitical tensions between fossil fuel producing countries have been exposed. This research examines the impact of the Covid-19 pandemic on the energy sector and how these changes affect global geopolitical dynamics. This research uses a qualitative approach with descriptive methods. The research results show that the COVID-19 pandemic has been a significant trigger in accelerating the energy transition towards renewable energy sources. The impact involves a shift in global dependence on fossil fuels, with producing countries facing declining influence while countries innovative in renewable technologies gain geopolitical advantage. International collaboration on renewable energy is proving crucial in accelerating global adoption, while decreasing global dependence on fossil fuel supplies is changing geopolitical power dynamics. Increasing energy independence, while bringing opportunities, also raises technical challenges that need to be overcome.

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1. INTRODUCTION

For thousands of years, the world has faced various pandemics that have changed the dynamics of global health. According to the definition of the World Health Organization (WHO), a pandemic is the spread of a new disease throughout the world, with a large impact on various communities, especially in densely populated urban areas (Purcell & Charles, 2020). Some pandemics that have been deadly in the past include cholera (1817–1823), which began in the Ganges Delta in India and spread throughout the world with millions of lives lost. HIV and AIDS, which emerged in 1976, continues to be a global threat with a total of 36 million deaths. Furthermore, severe acute respiratory syndrome (SARS), which originated in China in 2003, spread rapidly and infected more than 8000 people worldwide (Wilder-Smith et al, 2020). The Ebola virus, which was first detected in 1976, is still a threat in parts of Africa with a death toll of around 11,325 people (Sun et al, 2020). These pandemics reflect the complexity of global health challenges that have continued to evolve throughout history .

The latest pandemic, COVID-19, which was declared a pandemic by WHO on March 11 2020, has had a serious global impact. The pandemic caused a major health crisis, social chaos, and economic decline. Countries that were unprepared to deal with this outbreak experienced a huge burden on their health care systems and economies (Gautam, 2020). Precautions such as lockdowns, quarantines and border restrictions have flattened the curve of the spread of COVID-19, but have also caused a significant contraction in global energy expenditure, with an estimated 20 percent in 2020. The impact of lockdowns on COVID-19 has also been felt strongly in the energy sector, reducing energy demand and consumption significantly (IEA, 2020). This caused seismic waves across the energy sector, showing how vulnerable the sector is to the impact of the pandemic.

The energy sector is currently facing two serious challenges as the COVID-19 pandemic spreads. First of all, the entire industry must address the health emergency involving worker welfare and operational continuity. Second, the sector is also faced with a scenario of low oil prices and declining demand, necessitating significant financial adjustments to maintain profitability and meet financial obligations (Akrofi & Antwi, 2020).

It is important to note that the impact of the pandemic has been uneven within the energy sector. Sustainable energy and fossil fuel energy experience different impacts. There has been a fundamental

change in energy geopolitical conditions as a result of the decline in oil prices to relatively low levels. This, in turn, contributes significantly to triggering an oil crisis that can harm the economy and market stability (Mastropietro et al, 2020).

OPEC+ countries, which usually play an important role in oil production and exports, face challenges in managing supply to avoid a glut in the market. In this context, there is the potential that other oil producing regions may be forced to leave the market due to competition and significant price declines (OPEC, 2020). On a broader level, the pandemic has also triggered a shift in power dynamics among conventional energy producers. Power plays and debates have emerged in response to the economic disruption caused by COVID-19. Questions arise as to whether the pandemic has the potential to fundamentally restructure power among conventional energy producers and how this impact will shape the future of the global energy sector.

Vakulchuk et al. (2020) have conducted a study on the relationship between renewable energy and geopolitics. They conclude that fossil fuel exporters will likely experience significant negative impacts during the energy transition. In contrast, renewable energy resources as a whole are considered to contribute to global peace and security. Another study by Scholten et al. (2020) also reach similar conclusions, indicating that the energy transition can have a positive impact on international security. In addition, in Scholten & Bosman's (2016) research, it was highlighted that renewable energy sources have crucial technical and geographical characteristics. These include the availability of at least one renewable energy source in every region of the world, the intermittent nature of renewable energy sources, and the need for less material for power generation. Top of Form

This research aims to analyze the impact of the Covid-19 pandemic on the global energy sector, with a focus on changes in energy consumption patterns, dependence on certain energy sources, and the transformation of national and international energy policies after the pandemic. The research objective involves an in-depth understanding of the changing geopolitical dynamics that have emerged in response to post-Covid-19 conditions. The benefits of research include contributing to the development of responsive energy policies, providing information to understand geopolitical relations between energy producing countries, and helping identify opportunities and challenges in post-pandemic sustainable energy development. This research is expected to provide significant contributions to stakeholders, governments and scientists in the fields of energy and international relations.

2. METHOD

The approach used in this research is a qualitative approach. A qualitative approach can be built or constructed as a research strategy that emphasizes words rather than quantification in data collection and analysis, and also emphasizes an inductive approach in the relationship between theory and research which can produce a theory (Sugiyono, 2011). Moleong (2014) revealed that one of the characteristics of a qualitative approach is that it focuses on the processes that occur or results. Qualitative researchers are interested in trying to understand how things emerge. Based on this opinion, the qualitative approach taken by researchers will focus on the reality that is happening, both through observing the research subject and finding out the factors that caused it to happen, then looking for solutions to the problems that are happening. This research chose a qualitative approach for several reasons, apart from describing events or social realities, but also to find and reveal the impact of energy on post-Covid-19 global geopolitics .

3. RESULTS AND DISCUSSION

The term "geopolitics" created challenges in precise definition, initially described as a deterministic cause-and-effect relationship between geography and international relations that emphasized permanent rivalries, territorial expansion, and imperial military strategy. However, as time progressed, the concept of geopolitics came to involve the influence of geography on state power and international affairs more broadly, with less emphasis on determinism and more on the strategic importance of natural resources, geographic locations, transportation routes, and choke points (Overland , 2019).

The 20th and 21st centuries marked the dominance of energy geopolitics, which involves how one country controls or influences other countries through energy supply and demand. Energy geopolitics is increasingly multi-scalar with increasing participation from international, regional and sub-national players. On the conventional energy supply side, OPEC, led by Saudi Arabia, Russia and the United States, remains the dominant powerhouse. Participants in conventional energy geopolitics understand the actions of the main players, while on the other hand, the geopolitics of renewable energy is a major

concern in the context of sustainable development. These developments reflect an important paradigm shift in global geopolitical dynamics, demanding a deep understanding and adaptive response to their complexity (Paltsev, 2016).

Moreover, energy and international politics are closely related: the essence of energy can be influenced by politics, namely the extent to which it is sustainable, but energy also has a big influence on politics. In the global economic and political system , for example, interconnected world oil markets have raised the level of energy geopolitics. The amount of oil/petroleum consumed by each country affects prices for all buyers, and small changes in production capacity or stability in major oil exporting or transit countries affect the global oil market and how this affects all countries. These observations confirm that the COVID-19 pandemic facing all countries is forcing them to take policy steps that also have the power to reshape energy geopolitics. Past energy price falls and demand shocks have caused permanent or far-reaching changes to the global energy economy, and this is no exception to the current crisis (Mahan, 2020).

The dramatic impact that the COVID-19 pandemic has had on the entire energy system is very real, especially given the significant differences in impacts on demand for sustainable energy and fossil fuels. Changes in energy use habits, along with reduced mobility and economic activity, are causing major fluctuations in consumption patterns. One of the most striking impacts is the fall in oil prices, which is a concrete illustration of the instability of the global energy market. This collapse in oil prices creates an urgent need to redirect towards what is known as a "Producer Economy," where energy producers will undergo a transformation towards a more sustainable path. This process highlights the need for restructuring in the energy sector to respond to changing dynamics, as well as to strengthen the resilience and sustainability of the global energy system in the future (Kuzemko, 2019).

More precisely, the COVID-19 pandemic has been identified as a unique opportunity to accelerate the transition to low-carbon energy [35]. The pandemic created a significant impact on the energy sector, with reduced economic activity resulting in a drastic reduction in the use of fossil fuel-based electricity generation throughout the year. In contrast, renewable energy-based electricity generation is experiencing mostly growth worldwide, highlighting the potential to diversify energy sources and reduce dependence on fossil fuels. The fall in oil prices caused by the pandemic is also motivating efforts towards more sustainable energy security and economic transformation. Therefore, the COVID-19 pandemic is not only a challenge, but also provides an impetus to accelerate steps towards a cleaner and more sustainable energy system in the future.

The energy system has undergone continuous transformation, especially in the electricity sector, while geopolitics has been largely linked to fossil fuels in the last century [30]. The COVID-19 pandemic has accelerated changes in energy production and supply, which in turn changed geopolitical dynamics in the 21st century. The restrictions and lockdowns resulting from the pandemic have not only created new social practices and habits, but have also had a significant impact on the energy sector. Despite the pandemic causing a global recession, renewable energy emerged as a growing sector in 2020, signaling its sustainability and flexibility in facing economic challenges. This shift shows that an energy transformation is underway, with the adoption of renewable energy becoming a driver of growth amidst global economic uncertainty.

However, the influence of countries that traditionally play a major role in the fossil fuel economy, such as Russia and countries in the Middle East, could experience a decline in power. While there is strong evidence of the ability to change energy politics during a pandemic, questions remain whether and to what extent the pandemic will permanently reduce the influence of major fossil fuel producing countries. Therefore, the future dynamics of energy geopolitics remains an important area of research.

After the COVID-19 pandemic, the acceleration of the energy transition towards renewable energy sources has had a significant impact on global geopolitics. Following are some of the impacts that can be observed. First, changes in global dependence on fossil fuels as a result of the accelerated energy transition towards renewable energy sources after the COVID-19 pandemic have significant geopolitical implications. In recent decades, many countries dependent on fossil fuel production and exports have played an important role in global politics. However, the growth of renewable energy has shifted this paradigm and has had an impact on the position of these countries. As the adoption of renewable energy increases, countries that were previously major suppliers of fossil fuels may see their influence in geopolitics decrease. More decentralized and diversified energy supplies could reduce global dependence on key fossil fuel producing countries, undermining existing models of power.

It is important to note that policy-related uncertainties and changes in the structure of global energy markets may create new challenges. Countries that depend on fossil fuel exports may experience economic and political pressure as a result of reduced global demand for conventional energy sources. On the other hand, countries that lead in renewable energy innovation and production can increase their power in the geopolitical arena. Competitive advantages in renewable energy technologies and the capacity to meet energy needs in a sustainable manner can increase these countries' global influence. With this shift, international collaboration in the development and implementation of renewable energy technologies has become increasingly important. Countries can achieve greater success by sharing knowledge, resources, and infrastructure in a joint effort to achieve sustainable energy goals.

Second, changes in the global balance of power are an important impact of the energy transition towards renewable energy sources after the COVID-19 pandemic. Traditionally, countries with abundant fossil fuel resources have had a central role in global politics, with the ability to influence policy and exert pressure in international relations. However, with the growth of renewable energy, there is a shift in the balance of power that favors countries that lead in innovation and adoption of renewable technologies. Countries that are able to develop renewable energy production capacity, utilize the latest technologies, and invest in green infrastructure can increase their attractiveness on the geopolitical stage. Success in creating and implementing sustainable solutions can provide a significant competitive advantage. This includes the ability to build new partnerships based on energy sustainability, gain international support, and improve their bargaining position in international climate and energy negotiations . With this shift in balance, countries committed to renewable energy have the potential to become leaders new in global geopolitics. While this process may take time to fully occur, the trend towards renewable energy provides an opportunity for countries that are actively innovating and adapting to redefine their role in a world order that is increasingly focused on sustainability.

Third, international collaboration in renewable energy includes not only the exchange of knowledge and technology, but also joint investment in green energy infrastructure. Countries can come together to address common challenges, such as energy storage and increasing the efficiency of renewable technologies. Such partnerships enable broader access to the resources and knowledge needed to accelerate the adoption of renewable energy worldwide. The importance of international collaboration in renewable energy is also reflected in joint efforts to achieve global climate targets. International climate agreements and treaties, such as the Paris Agreement, encourage countries to commit to reduced emissions and increased use of clean energy. In this context, countries can provide mutual support and encourage joint initiatives focused on sustainable energy transformation. This collaboration can also include technology transfer from more developed countries to developing countries, accelerating the adoption of renewable energy in regions that may not yet have access to the latest technology. As a result, international collaboration in the field of renewable energy is not just about overcoming technical challenges, but also building foundations for sustainability and overall global prosperity.

Fourth, With the increasing adoption of renewable energy, global dependence on fossil fuel supplies from these countries may decrease. This can change power dynamics on the geopolitical stage, reducing strategic interests and control over natural resources. Countries that previously relied on fossil fuel exports as their main source of income could face serious economic challenges, triggering economic diversification efforts to address global energy market uncertainty.

In the face of this shift, fossil fuel supply countries may respond by investing in renewable energy or diversifying their economies. This is not only to safeguard economic interests, but also to remain relevant in a world order that increasingly values and encourages sustainability. These changes may also motivate these countries to seek new opportunities in emerging energy sectors, such as energy storage technologies or innovations in the sustainable use of natural resources.

Fifth, increasing energy independence also creates opportunities to strengthen a country's energy security. By relying on more decentralized and renewable energy sources, countries can reduce the risk of supply instability, especially in situations of crisis or international conflict. Additionally, by relying on locally produced renewable energy, countries can create jobs and stimulate economic growth at home, reducing dependence on energy imports. However, the shift towards renewable energy also raises challenges in terms of efficient energy storage and supporting grid infrastructure. Countries need to invest in advanced energy storage technologies and robust power grids to ensure the stability and reliability of energy supplies. Thus, while increasing energy independence, countries are also faced with the demand to overcome the technical challenges associated with the transition to renewable energy sources.

4. CONCLUSION

The COVID-19 pandemic has accelerated the energy transition towards renewable energy sources, changing global geopolitics with several key impacts. Global dependence on fossil fuels is changing, leading to a decline in the influence of fossil fuel producing countries and an increase in the role of countries leading in the adoption of renewable energy The shift in the global balance of power favors countries innovative in renewable technologies, giving them an edge in international relations and shaping global policy on energy and climate. International collaboration in renewable energy is key, not only in knowledge exchange but also in joint investment in green energy infrastructure, accelerating the adoption of renewable energy globally. A decline in global dependence on fossil fuel supplies could change geopolitical power dynamics, forcing producing countries to adapt through investment in renewable energy or economic diversification. Increasing energy independence provides opportunities to reduce the risk of supply instability and encourage economic growth within the country, but technical challenges such as energy storage and infrastructure need to be addressed. Overall, this pandemic, apart from being a challenge, also provides an opportunity to build a more sustainable energy future and change global geopolitical dynamics through collaboration, innovation and global commitment to clean energy.

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