Communale Journal
Published by: Pusat Unggulan IPTEKS-PUI Universitas Jambi
Volume 01 Issue 03, 2023 (169-178)

LEGAL PERSPECTIVE ON IMPLICATIONS OF THE 'WILLOW PROJECT' RATIFICATION

Adinda Virzilia Dwi Putri[1]
[1] *Faculty of Law, Universitas Jambi, Indonesia. E-mail: adindavirzilia0709@gmail.com (Corresponding Author)*

Abstract: Climate change is a crucial issue that has been questioned year after year, with the entire spectrum of society and countries worldwide trying to find alternatives to combat climate change. In this research, a literature review of journals, articles, and other publications relevant to the topic raised in the study was conducted. The literature review method is used to collect and analyze information from previous research related to The Willow Project, a massive-scale oil drilling project in Alaska by ConocoPhillips that is very controversial. Based on research references, due to the impact it will have, it can cause climate change four times faster amid a critical world because it is experiencing global boiling. Of course, this project needs to be stopped, and the law is the only tool that can be used by utilizing the existence of international environmental law as referred to the principle of international environmental law that a country in using and exploiting natural resources must not harm other countries. Not a few NGOs have succeeded in mobilizing the masses to boycott the project and file a lawsuit so that The Willow Project can be stopped.

Keywords: Climate Change; Global Boiling; Oil Drilling; Willow Project

1. Introduction

The hashtag #StopTheWillowProject went viral as the President of the United States, Joe Biden approved and signed a national strategic project called The Willow Project on March 13, 2023, and 150 million people have seen the hashtag. The Willow Project itself is a mega project that is very profitable from an economic aspect because it can produce around 600 million barrels of oil, one barrel of which is 158.99 liters, meaning 600 million barrels is equivalent to 953. 923. 431. 427.9 liters of oil, so it is hoped that later, the United States can produce its oil without having to depend on other countries. In addition, the Willow Project can create 1.800 jobs during construction and 300 long-term jobs that will produce 180.000 barrels of oil per day, up to 600 million.

But what makes this project a trending topic on social media is not because of the abundant profits that will be obtained but the impact of the Willow Project itself on the earth. The Willow Project is considered selling Alaska to ConocoPhillips for massive oil and gas drilling. This project is also referred to as a carbon bomb project by ConocoPhillips in the North Slope Borough, precisely in the Bear Tooth Unit area or in the National Petroleum Reserve in Alaska on a 23 million acre parcel of public land designated as the largest area in the United States that has a national oil reserve owned by the United States federal government worth 8 Billion USD or the equivalent of Rp. 122.9 Trillion. The North Slope Borough is known as the North Pole of the United States, which has been significantly affected by global warming since 1979;

this ice-covered area has warmed four times faster than the rest of the planet due to arctic amplification, so the Willow project will only make things worse in Alaska.

The presence of the Willow Project will have a tremendous impact not only on Alaska and its surroundings but also on the earth, where when the ice and glaciers in Alaska continue to melt, it can cause megatsunamis and a tiny apocalypse not only that, the Willow Project also destroys the habitat of native species and changes the migration patterns of the animals that live there, threatening the existence of certain species, threatening ecosystems, and accelerating global warming many times over. The Willow Project will produce oil that can release 9.2 million metric tons of carbon pollution that can exacerbate global warming on Earth every year; in other words, the pollution produced is like releasing 2 million cars onto the highway. Quoted from The Center For America Progress, developing and burning oil from the Willow Project will produce 287 million metric tons of CO2 into the atmosphere that will last not only 1 to 2 years but up to 30 years; this is equivalent to using 64 coal-fired power plants so that it will significantly affect climate change which should reduce the use of carbon emissions to minimize world climate change.[1] In addition, environmental analysis revealed that the black carbon released from the Willow Project is not only an air pollutant that can affect climate change but also has adverse respiratory and cardiovascular effects that can cause death as it is toxic to human health.

ConocoPhillips, founded by Isaac .E. Blake and L.E. Phillips, is a multinational energy company, the third largest integrated company in the United States based on market capitalization and proven oil and gas reserves. It is also the second-largest oil refiner in the United States and one of Alaska's largest crude oil producers. The fact that ConocoPhillips had obtained its first Willow lease in 1999 and had calculated the benefits that would be obtained by the state and the United States government of 17 Billion USD or equivalent to Rp. 261.3 Trillion proves that its primary goal is to strengthen the economy without considering the natural conditions. The running of the Willow Project further angered environmental activists and the entire spectrum of society, and an online petition, change.org Stop The Willow Project, was even circulated, which more than 4 million people have signed. Despite the many protests from environmental activists, communities, and countries worldwide, many letters were sent to Joe Biden demanding his campaign promise to suppress world climate change by not approving various activities that can damage nature, such as drilling for oil, gas, coal, and so on. Many people even gathered before the White House to protest against the Willow Project.[2]

Although it has been opposed in such a way, it does not seem to make the Willow Project canceled, as if not heeding all the protests sent to him, Joe Biden still gave the green light to ConocoPhillips to carry out the Willow Project. However, now, the public still needs to learn the bright spot when this carbon bomb project will be implemented because the amount of opposition makes this big project entirely secret. Still, one thing is sure: ConocoPhillips is

[1] Lewlandy Lewlandy et al., "Analisis Perspektif Hukum Internasional Terkait Willow Project Yang Berdampak Bagi Iklim Dunia," *Journal on Education* 5, no. 4 (2023): 16494–500, https://doi.org/10.31004/joe.v5i4.2812.

[2] Asif Raihan, "A Review of the Global Climate Change Impacts, Adaptation Strategies, and Mitigation Options in the Socio-Economic and Environmental Sectors," *Journal of Environmental Science and Economics* 2, no. 3 (2023): 36–58, https://doi.org/10.56556/jescae.v2i3.587.

preparing to start this mega project. However, various parties are certainly not silent, and all efforts are being made to stop the Willow Project; if public protests are ignored, then legal efforts may be able to stop this project. EarthJustice is believed to be filing a complaint against the Willow Project and seeking a court order to try to stop the project from going ahead, and it is rumored that the Natural Resources Defense Council will also be joining the fight

2. Research Method

In this research study, a normative-empirical research method is used, combining a normative legal approach (theory) with the addition of various empirical elements (data). This method aims to examine and analyze the implementation of applicable legal provisions in the context of society and provide insight into the implementation and application of law in practical situations. This research aims to answer legal issues and efforts to solve a problem related to the perspective of international law. Legal research also uses several approaches, namely legislation (Statute Approach), which focuses on analyzing applicable legal regulations, but also uses a conceptual approach where this approach focuses on analyzing legal concepts and principles. The author emphasizes and prioritizes normative law by reviewing concepts, principles, and doctrines as legal sources underlying the research study.

3. Discussion

It can be said that one of the advances of humanity in history is the Industrial Revolution, which makes humans able to produce various types of goods to meet needs on a large scale by utilizing machines and related technology; this also gives the possibility that a small country can defeat a bear country in a military conflict for that oil is a significant energy source for the modern world ranging from industry, transportation to power plants that still depend on petroleum. Therefore, many countries are competing to obtain petroleum either by dredging their country's land, which has the potential for petroleum content to become a producer, or by exporting the petroleum supply. If the country does not have petroleum, then the only way is to import from other countries. Currently, based on data reports from the Energy Institute, the United States occupies the first position to beat Saudi Arabia as the largest petroleum producer in the world with a production volume of 17.7 million barrels per day, then the second position is occupied by Saudi Arabia with a production volume of 12.13 million barrels per day and in the third position is filled by Russia with a production volume of 11.20 million barrels each day.[3]

In the world of petroleum import-export, there is something called 'Petrodollar,' where the United States and oil-producing countries, especially Saudi Arabia, agree to sell oil only in USD in exchange for the government's protective support from the United States. The United States not only needs oil for its consumption but also to control production to control the world order so that the country can benefit as well as to meet domestic needs that cannot be met, limited resources because petroleum reserves in the United States are spread across several states

[3] Bin He et al., "Sustainable Economic Performance and Transition towards Cleaner Energy to Mitigate Climate Change Risk: Evidence from Top Emerging Economies," *Economic Research-Ekonomska Istrazivanja* 36, no. 3 (2023), https://doi.org/10.1080/1331677X.2022.2154240.

and economic strategies and relations with the European Union.[4] Therefore, even though the United States is the largest petroleum producer, its government still imports petroleum from other countries, but recently, the relationship between the three countries that topped as the largest petroleum producer in the world, namely between the United States and Saudi Arabia and Russia.

It started with US President Joe Biden announcing a ban on oil imports from Russia on March 9, 2022, in response to the Kremlin's attack on Ukraine. Not only that, but afterward, the diplomacy between the United States and Saudi Arabia also became increasingly heated due to many factors ranging from differences in human rights, the Arab-Israeli conflict, and OPEC, which is an organization of oil exporting countries, decided to reduce oil production by 2 million barrels per day to stabilize the global energy market so that this decision was strongly condemned by the United States who accused Saudi Arabia of helping Russia because western countries limited Russian oil exports in response to the war in Ukraine.

The breakdown of diplomacy between the United States and petroleum-producing countries is the main factor that prompted Joe Biden to approve the Willow Project so that the United States could stand on its own feet and not depend on other countries. However, in reality, the Willow Project itself was first announced in January 2017 and has been administratively approved under the leadership of the previous president, Donald Trump, which means that the Willow Project is not new to the federal government, and Joe Biden seems only to continue the national strategic project. It's just that this project initially did not run smoothly and took years to reach the project market because, at the beginning of the announcement, the United States was running many projects, so it was not possible to run the Willow Project.

The many protests against the Willow Project did not make the United States government afraid, and it continued this mega project initially; ConocoPhillips itself planned to build 5 drilling sites with dozens of miles of roads, seven bridges, and pipelines, but the many protests by the Joe Biden government were reduced to 3 locations on the North Slope Borough of Alaska so that it only reached 90% of the existing petroleum target, this was considered to reduce the impact and suppress public protests. Despite this reduction, the effects of the Willow Project will remain the same. It turns out that despite being announced and administratively approved in 2017, this mega project went to court in 2021, where a federal judge struck down the Willow Project after an environmental impact assessment. However, in fact, in early 2023, Joe Biden suddenly approved this carbon bomb project, which was somehow approved even though the court had legally canceled the Willow Project so how can this be justified from a legal perspective and with the tremendous impact on climate change that will occur who will be responsible for this and how legal efforts can be relied on to stop this project.

3. 1 Willow Project's Impact on Climate Change

The United Nations describes the earth as no longer experiencing global warming but global boiling. Referring to a note in July 2023 delivered by Antonio Guterres, Secretary-General of

[4] Raihan, "A Review of the Global Climate Change Impacts, Adaptation Strategies, and Mitigation Options in the Socio-Economic and Environmental Sectors."

the United Nations, based on data from the World Meteorological Organization and the European Commission's Copernicus Climate Change Service, the earth's average temperature has reached 14 degrees Celsius but has risen 1.1 degrees Celsius resulting in some parts of the earth's surface temperature reaching 40 and even 56 degrees Celsius. The earth is reaching unprecedented heights of heat due to human activities, and 80% of the greenhouse effect or carbon emissions are produced by G20 countries, including the United States; the countries with the largest GDP and populations are responsible for warming global temperatures.[5]

The greenhouse Effect is an increase in carbon dioxide (CO2), Methane, Nitrous Oxide, Ozone, and some artificial chemicals, such as CFCs, in the atmosphere. CO2 gas is caused by the amount of fuel oil and coal burned, which are fossil fuels used as a source of energy for humans to carry out their activities, ranging from vehicles to energy sources for industrial machines. If humans continuously depend on fossil (non-renewable) energy sources) continuously, global warming and climate change will run faster. For this reason, countries have committed to immediately switch to finding alternatives and stop using fossil energy so that the world can improve the increasingly worrying condition of the earth.[6]

However, with the current climate crisis issue where all countries are competing to find solutions; on the other hand, the United States, which is one of the G20 members that should fully support the handling of climate change, instead signed a significant project that will have a very devastating impact on planet Earth. The Willow Project or carbon bomb project, which is widely condemned by the whole world where Alaska seems to be sold and exploited because the main focus is only looking for profits for the state, and the federal government appears to disregard the impact on the earth. The Willow project is about Alaska, the earth, and its contents, which will worsen the situation and even accelerate climate change. Even now in Alaska, ConocoPhillips needs an industrial chiller, a device used to cool or freeze the ground to protect the company's drilling equipment, because the permafrost has begun to melt. Permafrost itself is soil that has a temperature of 0 degrees Celsius for more than two years (soil that has been frozen for hundreds of years) with a thickness of 3 to 4,900 feet and can store about 1,500 billion tons of carbon, even twice the amount of carbon in the atmosphere today so that when global temperatures increase this ice layer will melt and will affect climate change when its organic carbon is exposed. The leading cause of the melting of the permafrost layer is global warming caused by carbon dioxide (CO2), air pollutants, and greenhouse gases that gather in the atmosphere and absorb sunlight to make solar radiation bounce back to the earth's surface. The large amount of carbon in permafrost accelerates climate change, where when the permafrost thaws, the bacteria in it will convert the carbon in the ice layer into CO2 and methane and accelerate the feedback loop. Suppose the 15 million gallons of mercury frozen in the permafrost is released, contaminates the oceans, and accumulates in the food chain. In that case, it will certainly endanger the survival of creatures on Earth. More thawing in the permafrost can trigger more anthrax outbreaks that have been dormant for a long time

[5] Yuekuan Zhou et al., "Energy and Buildings DOI : Climate Change Adaptation with Energy Resilience in Energy Districts — a State-of- the-Art Review Energy and Buildings DOI :," 2022, 1–40.

[6] Lea Berrang-Ford, James D. Ford, and Jaclyn Paterson, "Are We Adapting to Climate Change?," *Global Environmental Change* 21, no. 1 (2011): 25–33, https://doi.org/10.1016/j.gloenvcha.2010.09.012.

to become active again or trigger other more deadly outbreaks. The permafrost is not supposed to melt, but due to human intervention that somehow caused the permafrost to melt, ConocoPhillips had to freeze the ground again so that the company's equipment would not overheat and be damaged. Apart from the terms of equipment, when this permafrost melts, there will also be dangers lurking in human life where there will be the possibility of spreading new types of pathogens where deadly viruses, microbes, and bacteria trapped in permafrost have the potential to infect other living things with various deadly diseases, it could be that the world will also experience paralysis from multiple aspects as happened when the world was attacked by covid-19 and could even have a worse impact.

Not only the impact on Humans but also the animals there; where many rare species of animals live in Alaska, such as polar bears, and with the Willow Project that will destroy their habitat, they can also become extinct so that future generations may never know what a polar bear is, there will be animals that have their migration processes disrupted such as caribou, humpback whales, northern elephant seals, arctic tern, and others. It is sad when money becomes the main reason for sacrificing many things just because human greed will cause many innocent animals to be endangered.

3. 2 State Responsibility on Climate Change

Since the industrial revolution, humans have released over 1.5 trillion tons of carbon dioxide or CO2 into the earth's atmosphere, not just CO2. We're also pumping out growing volumes of other greenhouse gases such as methane and nitrous oxide; combining all of our greenhouse gases, we're emitting 51 billion tons of carbon dioxide equivalents each year, and emissions keep rising, but they need to get down to zero. In recent years, the consequences have become more severe and visible. Almost every year breaks some horrible record. We've had more heat waves, the most glaciers melting, and the lowest amount of ice recorded at the North Pole.[7] The only way to limit this rapid climate change is to decrease our collective emissions quickly. Still, although all countries agree on this goal in principle, they do not agree on who is responsible or who should bear the heaviest load. The developed countries point to their efforts to reduce emissions and the fact that the large developing countries on the rise, especially China, are currently releasing much more CO2, but on the other hand, developing countries argue that emissions by the West are lifestyle emissions. In contrast, for developing countries, they are survival emissions. Others call rich countries hypocrites that got rich by polluting without restraint and now expect others not to industrialize and stay poor.

In 2017, humans emitted about 36 billion tons of CO2. More than 50% came from Asia, North America, and Europe, followed by 18% and 17%, while Africa, South America, and Oceania contributed only 8%. China is the world's largest emitter, with 10 billion tons of CO2 annually, or 27% of global emissions. The USA follows it with 15% and the European Union with around 10%; this is more than half of the world's CO2 emissions. India at 7%, Russia at 5%, Japan at 3%, and Iran, Saudi Arabia, South Korea, and Canada are all just short of two percent; the top 10 are responsible for 75% of global emissions. The science is dense, and politics get in the way; world leaders are meeting in Madrid to talk about the climate crisis and how to slow it

[7] Michael Goodhart, "Climate Change and the Politics of Responsibility," *Perspectives on Politics* 21, no. 2 (2023): 550–68, https://doi.org/10.1017/S153759272200319X.

down. They're under pressure from millions of people around the world calling for concrete action; back in 2015, world leaders signed the agreement called 'The Paris Agreement' which was adopted by 195 member countries after the 21st Conference of the Parties (COP) in Paris at the end of 2015 brought about renewed enthusiasm towards global co-operative climate change policy and action as well as several new directions in global climate policy negotiations (UNFCCC 2015). Global efforts to deal with the challenges of climate change and global warming began with establishing the Intergovernmental Panel on Climate Change (IPCC) in 1998. It was established jointly by the World Meteorological Organization (WMO) and the United Nations Environmental Programme (UNEP). The IPCC is intended to be an international body that assesses the science of climate change.[8] The significant pledge is to cap temperatures rising by 1.5 degrees or a maximum of 2 before 2100 so countries set their targets on how much CO2 they emit. But here's the thing: three years after the agreement, global CO2 levels are still going up, and there's a possibility it's started to increase again. The USA, one of the world's biggest polluters, has pulled out of the Paris deal, Russia and China are accused of not giving themselves ambitious targets in the first place, Turkey and Poland want to build more power plants that use coal, and there are the skeptics, it's a political decision that it's artificial global warming.

The expert says what's needed now is an even bigger push to change everything about how we run our world. Business as usual has to change, and politics as usual has to change to combat that. We have to change the system that has allowed it to happen because you can't have infinite growth on a finite planet, and everyone can do that by shifting to renewable energy.[9]

3.3 Willow Project According to Legal Perspective

The United States, which is often known as a superpower, a country with a dominant position characterized by its influence and ability to project power on a global scale, is seen to have made a significant decision without good long-term consideration; this is justified by the signing of The Willow Project on March 13, 2023. The Willow Project, with all its controversies, was allowed to get away with it even though, based on environmental analysis, the federal court had canceled this project as if nothing could stop it. Although the federal court had succeeded in halting the Willow Project, the Willow Project was legalized, which means that national law does not work for the Willow Project. However, international law still plays a crucial role in stopping this carbon bomb project. International law is a series of juridical rules and values that limit states in their behavior by considering an analysis of global impacts that emphasizes the welfare of all countries in the world. Indeed, The Willow Project can be classified as an international affair because of the effect it will have not only on Alaska and its surroundings but also on accelerating global warming and climate change.

In international law, many branches of law in other functional fields aim to stabilize world life, one of which is international environmental law. The UN itself also has a global authority that

[8] S Niggol Seo, "Beyond the Paris Agreement : Climate Change Policy Negotiations and Future Directions" 9, no. 2 (2017), https://doi.org/10.1111/rsp3.12090.

[9] J S Bigman et al., "Predicting Pacific Cod Thermal Spawning Habitat in a Changing Climate," *ICES Journal of Marine Science*, no. January (2023): 1–14, https://doi.org/10.1093/icesjms/fsad096.

sets an environmental agenda involving government entities in climate resilience efforts on an international scale and according to the Register of International Treaties and Other Agreements in the Field of the Environment issued by the United Nations Environment Programme (UNEP) in 2005 there were 272 international agreements (treaties, conventions, agreements or protocols) in the field of environmental law. In addition to referring to these international treaties, many ecological law organizations exist worldwide. In the case of the Willow Project, where many spectrums of society reject this project, one of them is Earthjustice, quoted from Earthjustice.org, which is an organization founded in 1971; in the concept of environmental politics itself, Earthjustice is classified as a non-governmental organization (NGO) engaged in environmental law by prioritizing non-profit public interests. The organization focuses on protecting public health, conserving nature and wildlife, supporting clean energy alternatives, and combating climate change by leveraging the power of law and partnerships with Earthjustice's more than 200 attorneys of integrity and environmental legal strategists. Coinciding with the Willow Project, Earthjustice has had a regional office in Anchorage, Alaska, since 1978, or 7 years after its founding. Earthjustice has successfully mobilized the masses to boycott the Willow Project even in 2021; when the federal court canceled it, it was none other than Earthjustice's efforts to file a lawsuit in 2020. Not only Earthjustice is rumored to be filing another lawsuit to stop the Willow Project, but many other non-governmental organizations (NGOs) are also moving to oppose the Willow Project, including the Natural Resources Defense Council and other wildlife and conservation groups.

One of the international agreements that discusses the international environment is The Paris Agreement, but this cannot be used to stop the Willow Project because on June 1, 2017, the President of the United States who served in that period, Donald Trump, stated verbally and unilaterally that the United States had withdrawn from the Paris Agreement. Still, this withdrawal cannot be considered valid because it does not follow the mechanism listed in Article 28 of the Paris Agreement. The United States withdrew because it believed the Paris Agreement binds them. After all, they are members of it and can weaken the economy with the provisions limiting the use of energy that can produce carbon emissions.[10] However, based on the parent international treaty, the 1969 Vienna Convention, the United States' reasons for withdrawing from the Paris Agreement cannot be justified. The United States cannot simply leave because it is a developed country responsible for controlling its activities that produce carbon emissions, including the Willow Project, as the principle in international environmental law that when a country exploits natural resources, it must not harm other countries.

4. Conclusion

The decision to sign The Willow Project was not solely made. Still, there were other factors, such as the political and legal situation justified when Joe Biden stated that the Willow Project would open up jobs for the community, increase local income, and increase petroleum production. If examined further, the Willow Project is again sticking out due to the domino effect of Saudi Arabia joining BRICS (Brazil, Russia, India, China, and South Africa). Still, the

[10] Yesica Berliana Sarah Amanda, Gladys Azalia, "Willow Project Dan Potensi Dampaknya Dalam Lingkup Internasional," *Jurnal Panorama Hukum* 8, no. 1 (2023): 24–37, https://doi.org/https://doi.org/10.21067/jph.v8i1.8794.

approval of the Willow Project proves the low commitment of the United States to the joint achievement targets listed in the Paris Agreement and the Sustainable Development Goals (SDGs). This decision could result in a terrible precedent for the world, especially in environmental aspects, and threaten the strategic position of the United States as one of the superpowers.

The Willow Project is a controversial mega-project with all the environmental impacts that can cause global warming and climate change. Human involvement in overcoming climate change is needed because human existence depends on the earth. Humans must strive to suspend massive damage and protect and preserve environmental ecosystems that directly impact the climate internationally. The Paris Agreement regulates the international environment. Still, since the United States declared that the United States had withdrawn from the Paris Agreement, which means that the United States has gone against international law because the agreement is binding and has legal force regardless of international geopolitics, it will affect the ecosystem and the living environment of the world community.

References

Berrang-Ford, Lea, James D. Ford, and Jaclyn Paterson. "Are We Adapting to Climate Change?" *Global Environmental Change* 21, no. 1 (2011): 25–33. https://doi.org/10.1016/j.gloenvcha.2010.09.012.

Bigman, J S, B J Laurel, K Kearney, A J Hermann, W Cheng, K K Holsman, and L A Rogers. "Predicting Pacific Cod Thermal Spawning Habitat in a Changing Climate." *ICES Journal of Marine Science*, no. January (2023): 1–14. https://doi.org/10.1093/icesjms/fsad096.

Goodhart, Michael. "Climate Change and the Politics of Responsibility." *Perspectives on Politics* 21, no. 2 (2023): 550–68. https://doi.org/10.1017/S153759272200319X.

He, Bin, Xiang Ma, Muhammad Nasir Malik, Riazullah Shinwari, Yaode Wang, Lingli Qing, Abd Alwahed Dagestani, and Mohammed Moosa Ageli. "Sustainable Economic Performance and Transition towards Cleaner Energy to Mitigate Climate Change Risk: Evidence from Top Emerging Economies." *Economic Research-Ekonomska Istrazivanja* 36, no. 3 (2023). https://doi.org/10.1080/1331677X.2022.2154240.

Lewlandy, Lewlandy, Ibra Fulenzi Amri, Nadya Christina, and Josua Bona Pangaribuan. "Analisis Perspektif Hukum Internasional Terkait Willow Project Yang Berdampak Bagi Iklim Dunia." *Journal on Education* 5, no. 4 (2023): 16494–500. https://doi.org/10.31004/joe.v5i4.2812.

Raihan, Asif. "A Review of the Global Climate Change Impacts, Adaptation Strategies, and Mitigation Options in the Socio-Economic and Environmental Sectors." *Journal of Environmental Science and Economics* 2, no. 3 (2023): 36–58. https://doi.org/10.56556/jescae.v2i3.587.

Sarah Amanda, Gladys Azalia, Yesica Berliana. "Willow Project Dan Potensi Dampaknya Dalam Lingkup Internasional." *Jurnal Panorama Hukum* 8, no. 1 (2023): 24–37. https://doi.org/https://doi.org/10.21067/jph.v8i1.8794.

Seo, S Niggol. "Beyond the Paris Agreement : Climate Change Policy Negotiations and Future

Directions" 9, no. 2 (2017). https://doi.org/10.1111/rsp3.12090.

Zhou, Yuekuan, Sustainable Energy, Environment Thrust, Function Hub, Clear Water Bay, and Clear Water Bay. "Energy and Buildings DOI Climate Change Adaptation with Energy Resilience in Energy Districts — a State-of-the-Art Review Energy and Buildings DOI :" 2022, 1–40.