

The Political Economy of the Willow Project, Oil Extraction and Oil Policy Decisions

Grace Wu

E-mail: gracewu2005@outlook.com

Accepted for Publication: 2023

Published Date: October 2023

Abstract

As the climate problem worsens and the cost of renewable energy decreases, there is a contradiction between the current scientific environment and policy decisions, particularly concerning oil projects. The paper posits the importance of considering wider political economy factors involved in oil policy decisions. These include: the political and economic advantages of possessing the “oil weapon”; international dependence on the commodity and growing concerns surrounding energy security; the political power of lobbying and vested interests; the structure of international agreements and governance; and the contradiction between the current capitalist order and climate mitigation. A case study on the Willow Project, following the Biden Administration’s approval of the project in March 2023, is conducted, highlighting the complexities and multi-faceted nature behind policy decisions, as well as the interdependence of political economy factors, particularly drawing attention to the legal constraints faced by governments.

Keywords: Oil weapon, energy security, oil dependence, renewable, energy transition, lobbying, vested interests

1. Introduction

A wealth of empirical evidence and research warrants climate change and the climate problem undeniable, and those actors who deny it to be anomalous (The Climate Reality Project, 2022). Despite international climate agreements, from the Montreal Protocol of 1987 and the Paris Agreement of 2015 (Maizland, 2023), global temperatures have continued to rise, where “ten warmest years in the 143-year record have all occurred since 2010” (NOAA National Centers For Environmental Information, 2023) with the summer of 2023 being the hottest on record (Watts, et al., 2023). This is a direct consequence of slow international mitigation efforts, particularly including the energy transition, where the IPCC concluded that 60% of oil and gas and 90% of coal reserves would need to stay in the ground for temperature to remain below 1.5C above pre-industrial levels (Carrington, 2023). Despite the political consequences of negative public opinion, governments continue to renege on promises, evidenced most recently by “Sunak’s green retreat” which had an immense impact on swing voters (Ambrose, 2023). And, despite the decreasing cost of renewable energy, empirical evidence suggests “789 oil and gas upstream projects are expected to commence operations during 2023 to 2027” (Global Data, 2023).

Oil dominance is a dire and widespread problem. Oil remains the world’s most dominant energy source and accounted for about a third of total energy consumption in 2022 (Ritchie, Roser, & Rosado, 2022). This paper seeks to highlight and explain the political economy of the oil industry and motivations behind the “green light” that is continuing to be given to oil projects around the world despite the growing magnitude of the climate problem. Firstly, the growing international dependence on oil, especially in developing countries as the commodity acts as a substitute for coal, gives to the “oil weapon”, or the benefits and powers of possessing oil control. Furthermore, recent events, such as the Russian invasion of Ukraine in 2022 and the restriction of supply by the Organisation of the Petroleum Exporting Countries (OPEC) nations Saudi Arabia and Russia, have increased oil prices and exacerbated energy insecurity. Lobbying and vested interests, including oil companies and oil-exporting nations, have stalled both domestic and international mitigation efforts, of which the nature of international agreements is also incompatible with the imminent need for climate action. Finally, the capitalist order itself poses contradictions to climate mitigation given that features of capitalism, such as mass production and consumption, are ultimately derived from the efficiency of fossil fuels. A case study on the Willow Project and the

Biden Administration's approval in March 2023 will be conducted through a political economy lens. Currently, the project is the largest proposed oil project on US public land and is expected to produce up to 186,000 barrels of oil per day at peak production (Evans, 2023). The Biden Administration's approval of the project was a disappointing one for most of the electorate, and a surprising one, given the President's promise of "no more drilling on federal lands" (Teirstein, 2022). This paper posits that the motivations behind the project and its decision are various and intrinsically combined.

2. Methodology

This research paper takes the form of a critical secondary literature review, from which compiling and analysing arguments of key literature surrounding the politics of the oil industry allowed the forming of a research direction. Papers were compiled over time with increasing relevance to the question at hand from online bases and recommendations. In particular, (Healy & Barry, 2017) highlighted the significance of the social and political aspects of the renewable energy transition, which must be acknowledged alongside technological developments. This guided the political economy direction of the paper. The review was largely narrative, defined by (Bryman, 2012) as "suitable for qualitative researchers whose strategy is based on an interpretive epistemology". However, systematic elements were also incorporated, such as being guided by a specific research question (Bryman, 2012). Furthermore, the review involved secondary analysis, "the analysis of data by researchers who will probably not have been involved in the collection of those data, for purposes that in all likelihood were not envisaged by those responsible for the data collection" (Bryman, 2012). This included secondary analysis of documents, sources which can be read and are not produced at the request of the researcher (Bryman, 2012).

Furthermore, the paper involves a case study of the Willow Project, where a case study is defined to be "concerned with the complexity and particular nature of the case in question" (Bryman, 2012). The Willow Project takes the form of a critical case, "chosen on the grounds that it will allow a better understanding of the circumstances in which the hypothesis will and will not hold" (Bryman, 2012). This paper posited the significance of several key factors including the power of vested interests and lobbying, and the energy security argument. The Willow Project served as a practical application of the factors, either strengthening or weakening the hypothesis of their involvement in oil policy decisions.

Limitations of secondary research are outlined as lack of familiarity with data, complexity of data, no control over data quality, and the absence of key variables (Bryman,

2012). These factors may reduce the reliability and accuracy of secondary analysis and data used in the research. Particularly, the case of the Willow Project, due to its novelty, lacked accompanying and existing literature. Therefore, the use of current affairs articles triumphed over journal articles and literature.

3. The Political Economy Motivations For Oil Extraction

3.1 The oil weapon

Oil is described by (Hinnebusch, 2022) to be "a strategic commodity no state can do without". Possessing oil control, also known as the "oil weapon", has both political and economic benefits for the controller. Oil remains the dominant source of energy consumption globally, accounting for nearly 30% of total energy consumption in 2022 (Ritchie, Roser, & Rosado, 2022). Its prominent role in the manufacturing and transport industries, as well as the production of plastic, influence the strong positive correlation of 0.71 between oil prices and the Producer Price Index (PPI) (The FRED Blog, 2018). This allows the nations possessing the "oil weapon" to control key global industries and hence execute political motives.

The economic and political power of the possession of the oil weapon in the 1970s is illustrated by the 1973 oil embargo placed on the United States (U.S.) and other Western nations by the Organisation of the Petroleum Exporting Countries (OPEC). Responding to Western provision of aid for Israel in the Yom Kippur War of 1973, the embargo reduced oil supply by 15% (Hinnebusch, 2022), causing prices to rise "from \$2.90 a barrel before the embargo to \$11.65 a barrel in January 1974" (Corbett, 2013). This resulted in inflation and economic contraction in the U.S., worsened by full capacity domestic production, which occurred in 1970, and increasing reliance on oil imports as a result. From 1970 to 1973, oil imports had "more than doubled" (Ryssdal, 2016), with around 83% of imports coming from Middle East and North Africa (MENA) countries (Lacey, 1981). The embargo successfully influenced American foreign policy, with the U.S. agreeing to "a cease-fire and withdrawal of Israeli forces" (Council on Foreign Relations, 2023). However, the U.S. was the main beneficiary of the oil industry during this period. Petrodollar recycling strengthened the U.S. hegemony significantly, where the U.S. received \$8.5bn from Saudi Arabia through recycling while paying out \$1.7bn of Saudi oil (Hinnebusch, 2022).

Global oil consumption continues to rise, especially in developing countries in the continents of South America and Asia (Aizarani, 2023), and is projected to increase by 2.2m barrels per day to 102m in 2023 according to the IEA (IEA,

2023). Hence, the power of the “oil weapon” remains undiminished. Today’s starkest image is the effect of the Russian invasion of Ukraine on oil prices, after which prices rose to \$100 per barrel in February 2022 (Meredith, Tan, & Ng, 2022) due to Europe’s dependence on Russian gas (Corbeau, 2022). This has thrown “energy security and affordability...back on the agenda”, reducing incentives for the renewable energy transition (Kolaczowski, 2022).

3.2 International dependence and energy security

Global dependence on oil remains a complex issue. It can be illustrated as a vicious cycle between demand from consumer nations, particularly the developing Asian nations, and supply from producer nations, dominated by OPEC, the U.S. and Russia (Rahman, Dargusch, & Wadley, 2021). Energy security is defined by the IEA as “the uninterrupted availability of energy sources at an affordable price” (IEA, 2023). Given that oil remains the dominant global energy source, ideas of oil dependence and energy security are closely linked.

According to empirical analysis (Wang, Li, & Li, 2018), China, the largest importer and second largest consumer of oil globally, will see an increase in foreign oil dependency from 65% in 2016 to over 80% in 2040. Though China’s foreign oil dependency decreased from 73.6% in 2020 to 72% in 2021, this was attributed to increasing domestic production and exploration investment from the nation’s largest oil companies (Xin, 2022). For example, China National Offshore Oil Corp is planning to “introduce 13 new oil and gas fields...drill 227 offshore exploration wells and 132 onshore unconventional exploration wells” (Xin, 2022). This suggests a persistent inclination towards oil discovery over mass conversion to renewables, though the economic cost of renewable energy sources continues to decrease (IRENA, 2019)(IRENA, 2021).

Rahman’s portrait of Indonesia (Rahman, Dargusch, & Wadley, 2021) mirrors that of China. Foreign oil dependency is over half and oil constituted 38.8% of total energy use in 2018 whereas renewables constituted just 8.6% (Rahman, Dargusch, & Wadley, 2021). Continued oil dependency, and foreign oil dependency, can largely be attributed to the government (Rahman, Dargusch, & Wadley, 2021) (discussed further in 3.3 *Lobbying, vested interests and international climate governance*). On a global level, the demand for oil in developing Asian nations, such as Indonesia, fuels incentives for continued oil extraction in producer nations. Given that current proven oil reserves are estimated to last another 50 years, Indonesia’s oil dependency is not a short-term security concern. On the contrary, abundant supply in recent years has resulted in competitive oil prices (Rahman, Dargusch, & Wadley, 2021). However, continued oil dependency limits the potential maturity of renewable energy industries, such as geothermal

energy and biofuels, in the long run and enhances long run energy insecurity (Rahman, Dargusch, & Wadley, 2021). Susceptibility to international market fluctuations will remain high. Furthermore, the government oil subsidy further reduces energy security by reiterating foreign oil dependency and reducing potential investment in the renewable sector (Rahman, Dargusch, & Wadley, 2021).

3.3 Lobbying and vested interests

The Grantham Institute defines climate change lobbying as “efforts of companies and of their agents to directly or indirectly influence decision-making related to climate change by political or bureaucratic actors” (Sullivan, Black, & Kyriacou, 2023). As the effects of climate change become increasingly dire and widespread, with 2023 on track to become the warmest year on record (Hausfather, 2023), high-carbon industries have shifted their survival strategies from denial to delay. Influence Map’s report (Influence Map, 2019) showed that from 2016 to 2019 the five largest oil and gas companies spent around \$1bn combined on lobbying, as well as \$195m each on misleading advertising (McCarthy, 2019) “promoting gas a transition fuel” (Annual Reviews, 2021) and emphasising low-carbon projects. More recently, the impact of Russia’s invasion of Ukraine, which saw the banning of Russian oil imports, prompted oil industry lobbying in the U.S. to increase by \$1m compared to the previous year, to \$12.4m in the first quarter of 2022 (Cloutier, 2022). This included pressuring President Biden to reopen the Keystone XL pipeline (Cloutier, 2022). Most significantly, high-carbon industries aim to weaken negative perceptions of continued fossil fuel use by emphasising the need for energy security through lobbying.

The danger of lobbying mirrors that of the climate problem. Lobbying has weakened international agreements and delayed negotiations. For example, “the Paris Agreement makes no specific mention of decarbonisation or the reduction of fossil fuel use” (Annual Reviews, 2021), directly increasing dependence on non-renewables. This may increase the length and cost of the green transition, further inducing carbon lock-in (Healy & Barry, 2017). Furthermore, company targets are consistently misaligned with those of the Paris agreement. To date, only Shell’s new Sky 2050 scenario, developed after numerous unambitious alternatives, has recognised the imminent need to end oil production growth (Gabbatiss, 2023). The adverse effect of policy delay on investment portfolio risk (Sullivan, Black, Perkins, & Richards, 2022) has led financiers to have a “more constructive role in climate projects” (Paterson & P-Laberge, 2018). Financiers have hence funded disclosure projects, such as the Carbon Disclosure Project, privately.

According to (Rahman, Dargusch, & Wadley, 2021), the government of Indonesia plays a large role in limiting mitigation. Though Indonesia has “massive geothermal

potential” (Rahman, Dargusch, & Wadley, 2021) of “about 40% of the world’s reserve” (Rahman, Dargusch, & Wadley, 2021), “utilisation is presently lower than 5%” (Rahman, Dargusch, & Wadley, 2021). Other viable renewable sources include solar power and biofuels. Renewable energy constituted only 8.6% of the energy mix in 2018 (Rahman, Dargusch, & Wadley, 2021). Government efforts favouring oil, such as the passing of the Omnibus Law, have restricted the expansion of this figure (Rahman, Dargusch, & Wadley, 2021). Furthermore, the national energy plan, Rencana Umum Energi Nasional (RUEN), lacks ambition, projecting a majority 69% of non-renewable sources in the energy mix by 2050 (Rahman, Dargusch, & Wadley, 2021). The government continues to support an oil subsidy which costs 5% of the national budget (Rahman, Dargusch, & Wadley, 2021). This directly increases demand for oil over other energy sources while incurring an increasing opportunity cost as the cost of renewable energy decreases.

3.4 International agreements and governance

According to public choice theory, international climate policies should have strong incentives to comply which outweigh incentives to free ride. The failure of international agreements, such as the Kyoto Protocol, have been partially attributed towards lack of incentives (Paterson & P-Laberge, 2018). (Annual Reviews, 2021) highlights criticisms on institutional design, in particular the differentiation of countries into Annex I and non-Annex I in the Kyoto Protocol, where Annex I comprised of 43 developed nations. This varied responsibilities between developed nations and developing nations. Differentiation was criticised for being undynamic and laggard, as developing countries assumed fewer responsibilities (Annual Reviews, 2021). Furthermore, consensus decision-making further reduces the pace of mitigation, making international governance incapable of effectively combatting the imminent climate problem (Annual Reviews, 2021).

Vested interests not only affect mitigation on a domestic level, but also on an international level with oil exporters participating in obstructionism during international agreements (Annual Reviews, 2021). Given that the world’s largest economies generally demand more energy (Sharma, 2019), and hence are involved in the oil industry as either producers or consumers, climate governance has yet to name a clear leader. Lack of leadership and action from developed countries has influenced developing countries, reducing the potential for low-carbon development (Annual Reviews, 2021).

3.5 The capitalist order

Capitalism is defined by the IMF as “an economic system in which private actors own and control property in accord with their interests, and demand and supply freely set prices

in markets in a way that can serve the best interests of society” (Jahan & Mahmud, 2015). Contradictions arise between the current capitalist order and climate mitigation. (Paterson & P-Laberge, 2018) emphasises the positive correlation between greenhouse gas (GHG) emissions and economic growth over time since “the emergence of capitalism itself from the 17th century onwards” (Paterson & P-Laberge, 2018). This displays the catalytic effect of capitalism’s growth dynamic on GHG emissions, given that climate change, in the simplest sense, is the result of excess GHG emissions (United Nations, 2023). Features of capitalism, such as mass production and consumption, and limiting “the burden of external costs on market prices” (Paterson & P-Laberge, 2018), have relied and will continue to rely on the efficiency of fossil fuels, such as oil, to persist. As the system continues to execute economic growth, especially in developing countries, governments aim to “prioritise the acceleration of energy use” (Paterson & P-Laberge, 2018). Furthermore, high-carbon lifestyles, habitual practices and social imaginaries stemming from capitalism have become embedded into society (Annual Reviews, 2021), passing from developed nations to developing nations. This accelerates the current and projected pace of energy use, making decarbonisation more difficult.

4. The Willow Project: A Case Study

4.1 The History and Context of the Willow Project

The Willow Project is an oil drilling project in the National Petroleum Reserve in Alaska (NPR) (Nilsen, 2023). A reduced version (U.S. Department of the Interior, 2023) of the initial proposal by fossil fuel company ConocoPhillips was approved by the Biden Administration on March 13, 2023. This sheer size of the project has sparked widespread opposition from environmental activists, some native Alaskans, and ordinary people online (Stallard & Conley, 2023) to this decision, but has been supported by Alaska’s Congressional Delegation and many native communities.

The National Petroleum Reserve in Alaska (NPR) was initially established as a naval petroleum reserve in 1923 (BLM). By 1976, the Naval Petroleum Reserves Production Act legalised oil and gas leasing in the area (BLM). Four “Special Areas” – the Teshekpuk Lake, Colville River, Utukok River Uplands, and the Kasegaluk Lagoon – were created by the Bureau of Land Management to protect the surrounding area (Audubon). Oil exploration in these areas were to be “conducted in a manner which will assure the maximum protection of such surface values” according to the Naval Petroleum Production Act of 1976 (Pew, 2021).

The company ConocoPhillips received its first lease to extract oil in the area in 1999 and began to apply for permits in 2018 after discovering massive oil deposits (ConocoPhillips, 2019). The first version of the Willow Project, consisting of 5 drilling pads, was initially approved by the Trump Administration in 2020 (Nilsen, 2023). However, this decision was vacated by the District Court of Alaska because “its environmental impact analysis was flawed” (Mindock & Gardner, 2023).

The revised project approved by the Biden Administration has reduced the size of the project (U.S. Department of the Interior, 2023) and would involve offsetting half of the emissions through carbon capture and reforestation. It includes 199 oil wells and 3 of the 5 proposed drilling pads (U.S. Department of the Interior, 2023). Furthermore, the Department of the Interior has also “relinquish[ed] [the] rights [of ConocoPhillips] to approximately 68,000 acres of its existing leases in the NPRA including approximately 60,000 acres in the Teshekpuk Lake Special Area” (U.S. Department of the Interior, 2023). However, it is estimated to produce nearly 600 million barrels of oil over the next 30 years (Montgomery & L., 2023) (up to 186,000 barrels of oil per day at peak production) and 9.2 million metric tons of CO₂e annually, equivalent to adding 2.2 million petrol cars onto the road (Evans, 2023). On the other hand, the project is expected to “generate between \$8bn and \$17bn in tax revenue for federal and state governments” (Revell, 2023), and the local community of Alaska while in addition to creating around 2500 construction jobs and 300 permanent jobs (Revell, 2023).

ConocoPhillips is one of the largest oil and gas companies internationally and the largest crude oil producer in Alaska (ConocoPhillips, 2022). The company has shown unwavering pride in the decision by the Biden Administration (ConocoPhillips, 2023). Chairman and CEO Ryan Lance declared that “this was the right decision for Alaska and our nation” (ConocoPhillips, 2023). Spokesman Denis Nuss supported this, saying that “we believe this project fits with the Biden administration’s priorities on environmental and social justice, facilitating the energy transition, and enhancing our energy security” (Stallard & Conley, 2023). The company also attempts to mitigate the effects of the project by “using materials primarily made and sourced in the US” (ConocoPhillips, 2023) and claiming that “many mitigation measures” (ConocoPhillips, 2023) will be taken to ensure subsistence activities will not be disturbed.

For economic reasons, many Alaskans support the Willow Project. This includes Alaska’s Senators Lisa Murkowski and Dan Sullivan and Representative Mary Peltola. “We can almost literally feel Alaska’s future brightening,” Murkowski said (Murkowski, 2023), “I thank the administration for listening to Alaskans, rejecting false claims meant to sink

this project, and having the courage to make the right decision on Willow.” Some local Alaskan leaders, including Asisaun Toovak, mayor of Utqiagvik, and Nagruk Harcharek, president of Voice of the Arctic Inupiat, have both publicised their support for the project (Stallard & Conley, 2023). Toovak notes that tax revenue from the project could contribute to much needed affordable housing (Stallard & Conley, 2023).

Support for the Willow Project is largely due to economic advantages. This includes “decreasing American dependence on foreign energy supplies” (ConocoPhillips, 2023), hence combating the rising cost of fuel, while creating jobs and revenue for the local area. Revenue will also be prioritised towards communities who are affected most by the development (ConocoPhillips, 2019). It is estimated that the project will generate between \$8bn and \$17bn in tax revenue for federal and state governments, and the local community of Alaska (Revell, 2023) in addition to creating around 2500 construction jobs and 300 permanent jobs (ConocoPhillips, 2023).

Public opposition in the U.S. and globally against the Willow Project has been huge. Over 1 million letters of protest (Cabral, 2023), including from sustainable company Patagonia (Patagonia, 2022), have been written to the White House. The tag “Stop Willow” has garnered millions of views on TikTok (Stallard & Conley, 2023). Climate activists were involved in protests before the decision to move forward with the project, such as the protest in front of the White House on January 10 (Nilsen, 2023). They have also criticised the Biden Administration’s inconsistency towards the climate issue (Cabral, 2023), breaking the promise to reduce emissions by half of 2005 levels by 2030 and make the U.S. a net zero contributor to climate change by 2050 (Evans, 2023). Furthermore, one day prior to the approval of the project, the Biden Administration imposed limits on oil and gas drilling in 16 million acres of Alaska and the Arctic Ocean (Evans, 2023). However, “protecting one area of the Arctic so you can destroy another doesn’t make sense,” said lawyer Kristen Monsell (Evans, 2023), given that the effect of such a project has no real borders.

Furthermore, the Nuiqsut community of native Alaskans are hugely concerned about the effect of the project on their subsistence lifestyle. Dr Rosemary Ahtuanguak, Mayor of Nuiqsut, has stressed that “there is nothing in the new document that gives us assurances that we will not be put at risk” (Stallard & Conley, 2023). Crucially, the Project will be in the closest proximity to the Nuiqsut community compared to other native Alaskan communities. Inupiat activist, Sonny Ahk, says that the project would “lock in Arctic oil and gas extraction for another 30 years and catalyse future oil expansion in the Arctic” (Cabral, 2023). Michaela Stith, Climate Justice Director at Native Movement, argued that

local support for the project stems from the fact that Alaska is “a state monopolised by oil and gas” (Evans, 2023). Given that more than 80% of Alaska’s revenue comes from the oil and gas industry (State of Alaska), opportunities to strengthen the Alaskan economy outside this industry have been scarce.

Opposition for the Willow Project is due to the environmental, social, and economic consequences for local communities, for the U.S., and for the world. The development will likely harm local wildlife and local community lifestyles (Cabral, 2023). Emissions derived from production will increase reliance on oil and ensure carbon lock-in, slowing down the green energy transition, while directly contributing to climate change (Cabral, 2023).

The local and widespread environmental implication and impact of the Willow project is obvious and severe. The project is the largest in the region for decades compared with Prudhoe Bay, the largest oil field in North America which produces 281,800 barrels of oil daily (Stallard & Conley, 2023). It is estimated that production would produce up to 278 million metric tons of CO₂e over 30 years (Cabral, 2023). Furthermore, its location on the NPRA will likely impact local wildlife. Despite laws passed authorising oil and gas exploration in the NPRA, the area has remained largely undisturbed, home to birds, caribou and more (Audubon). The impact on the project on wildlife will reduce the ability for locals to rely on subsistence hunting. As this becomes unviable, communities will be forced to purchase goods from stores which they may not be able to afford.

As argued by Healy and Barry (Healy & Barry, 2017), new oil projects such as the Willow Project will only increase reliance on oil and slow down the green energy transition. The Willow Project represents only a fraction of new oil and gas drilling sites approved globally in 2023 (Bearak, 2023). The argument for the approval of new sites in developing countries is that revenue will be essential to contribute towards industrialisation while responsibility for climate change mitigation should lie with wealthy nations who have contributed more towards the problem. Nana Akufo-Addo, the president of Ghana, stated that his government “is seeking to use [fossil fuels] as the basis to transform its economy” (Bearak, 2023). This would further diminish Ghana’s reliance on foreign aid. This influx in approvals of new projects has also been caused by the aftermath of the pandemic (Bearak, 2023) and Russia’s war on Ukraine (Montgomery, 2023), where demand for oil and gas globally has exploded. Therefore, we have seen many fossil fuel companies making record profits and renege on pledges towards a green transition (Bearak, 2023). For example, BP decreased production reduction targets from 40% to 25% by 2030, while Shell has stopped expansion into biofuels and renewables altogether (Bearak, 2023).

5. The Motivations behind the Willow Project and the Explanation of its Approval

5.1 Energy security and international dependence

One argument made by ConocoPhillips and policy makers favouring the approval of Willow is energy security, where ConocoPhillips notes “decreasing American dependence on foreign energy supplies” (ConocoPhillips, 2023). Alaskan Senators wrote that “there is a major gap between our capability to generate [cleaner energy] and our daily needs” (Murkowski, Sullivan, & Peltola, 2023). Though the U.S. still imports around 8.32 billion barrels of oil daily, it “became a total petroleum net exporter in 2020” (EIA, 2023). This suggests production can fulfil domestic needs despite continuing reliance on imports.

Due to the decreasing cost of renewable energy implementation and its increase in the energy mix, it is likely that scenarios without new oil drilling can succeed (Marris, 2023). Willow oil will take at least six years to be drilled, weakening the argument that it will fulfil immediate energy needs (Murkowski, Sullivan, & Peltola, 2023). By 2029, domestic and international energy mixes must change and are projected to change drastically to achieve climate change mitigation (Marris, 2023). The IEA’s projection for a net zero scenario by 2050 “recommends an immediate end to new oil and gas fields” (Marris, 2023) where energy supply is reduced by 7 percent and compensated by an increase in efficiency (Marris, 2023). (Marris, 2023) therefore, argues the energy security argument is unsupported by projections for the energy industry, predicting that Willow will “be obsolete before the ribbon is cut” (Marris, 2023).

However, Russia’s invasion of Ukraine on 24 February 2022 revives the international energy security argument, especially that of Europe. Before the invasion, the EU bought “around 50% of Russia’s oil exports and over 60% of its gas exports” (Birol, 2023). Bans on Russian oil into the EU member states were effective from 5 December for seaborne crude oil, excluding states that “due to their geographic situation, suffer from a specific dependence on Russian supplies and have no viable alternative options” (European Council, 2023). This created an oil shortage, which was partially filled by U.S. oil exports (Wightman, 2023), decreasing Europe’s dependence on Russian oil and gas. In 2022, “U.S. companies provided 50 percent of Europe’s liquefied natural gas supplies” (Lefebvre, 2023) and “12 percent of its oil” (Lefebvre, 2023). Europe’s decreasing dependence on Russian oil is likely to become a permanent policy, as argued by Andrew Lipow (Lefebvre, 2023), increasing global demand for U.S. oil exports. Europe’s experience has also highlighted continuing international dependence on oil in global energy mixes.

5.2 Lobbying and vested interests

ConocoPhillips doubled annual lobbying spending from 2021 to 2022 from \$4.4m to \$8.7m (Cloutier, 2023) to aid Willow's approval. The company's own representatives have shown a biased perspective on the project, with Ryan Lance claiming that "Willow fits within the Biden Administration's priorities on environmental and social justice, facilitating the energy transition and enhancing our energy security" (ConocoPhillips, 2023). ConocoPhillips (as discussed in 3.3 *Lobbying and vested interests*) presents oil as a transition fuel and emphasises the energy security argument discounted in 5.1 *Energy Security*. The company's detailed overview of the project on their website, (ConocoPhillips, 2019), further shows its portrayal of the project as socially and environmentally aware. There is a wealth of evidence suggesting the company has taken an active role in past and present projects to communicate with the local communities. For example, (Tysiachniouk, 2020) noted the company contributed \$6m to 400 NGOs in 2014 and funded the Kuukpik Subsistence Oversight Panel "designed to prevent oil development impacts on subsistence" (Tysiachniouk, 2020). It would be an oversight, however, to include information gaps on the environmental impacts of the project. The company lacks emissions data in all articles related to the project, including (ConocoPhillips, 2023) and (ConocoPhillips, 2019).

The role of Alaskan senators behind the approval of the project is also substantial. ConocoPhillips has proven ties with Alaskan Senator Lisa Murkowski, where Andrew Lundquist and Kjersten Drager of the company were former assistants to L. Murkowski's father, Senator F. Murkowski (Cloutier, 2023). Furthermore, the opinion piece by (Murkowski, Sullivan, & Peltola, 2023) also admits exaggeration, where Alaskan senators describe the project as "small" with a "small footprint". This contradicts the Bureau of Land Management's own estimations for greenhouse gas emissions, where production would produce up to 278 million metric tons of CO₂e over 30 years (Cabral, 2023). (Tysiachniouk, 2020)'s study on the benefit-sharing of the oil industry in Alaska also highlights the low participatory equity experienced through the paternalistic mode of benefit-sharing. For example, many locals argued distribution was insufficient and larger cities such as Utqiagvik "accumulate most of the resources while villages receive much less" (Tysiachniouk, 2020). This shows a dominance of decision-making carried out by larger organisations such as the North Slope Borough, whose views may have misaligned with some residents.

5.3 Legal constraints

"No more drilling on federal lands" (Teirstein, 2022) This was Biden's promise to the voters during his run for presidency. This promise has since been broken. The Biden Administration's approval of the Willow Project directly

opposes Biden's campaign promise to stop oil and gas drilling on federal lands (Teirstein, 2022) and reduces the likelihood of abiding to the net zero target by 2050 (Webb, 2023). Clearly, this decision will affect the long-term sincerity and popularity of the Administration and may reduce the support of climate activists and green Democrats. Therefore, it is important to acknowledge the likely reluctance of the Biden Administration in approving the proposal along with the problem of legal constraints. The Bureau of Land Management has granted leases in the NPRA since 1999 giving companies "the exclusive right to drill for, mine, extract, remove and dispose of all the oil and gas...in the land" (Webb, 2023). ConocoPhillips has the legal right to commence Willow Project drilling and to challenge the decline of the project by the administration.

However, leases also face legal constraints whereby blocking or adjustment is necessary when projects do not abide by the Reserves Act, stating "BLM can impose conditions restrictions, and prohibitions on oil and gas development...to mitigate reasonable foreseeable and significant adverse effects on...surface resources" (Webb, 2023) or other "applicable laws" (Webb, 2023). Furthermore, companies are subject to Bureau of Land Management regulations where an application for a permit to drill must be approved before drilling. Before the Biden Administration's approval of the revised project, the Willow Project was blocked in August 2021 by the Federal District Court of Alaska due to inadequate environmental awareness. Similarly, the Bureau of Land Management could have argued that the Willow Project would prevent its fulfilling of the Reserves Act, due to the vast impact of oil drilling on "surface resources" (Webb, 2023).

5.4 Economic benefits and local support

(Healy & Barry, 2017) recognise the historical motivation for union workers to "defend fossil fuel jobs against environmental arguments" (Healy & Barry, 2017) due to their existing roles in the industry and economic benefits stemming from job stability. Similarly, local Alaskan support can be partially derived from employment opportunities and economic benefits which outweigh environmental degradation affecting subsistence lifestyles. Stated previously, the Willow Project is expected to "generate between \$8bn and \$17bn in tax revenue for federal and state governments" (Revell, 2023), and the local community of Alaska while in addition to creating around 2500 construction jobs and 300 permanent jobs (Revell, 2023). Though the oil industry dominates the state's revenues with "nearly 85 percent of the state budget supplied by oil revenues" (State of Alaska) and "contributing more than \$180bn in revenue and \$3.1bn to state and local governments" (Singh, 2021), Alaska's oil production has decreased significantly in the past decades. Peak production

occurred in the 1980s, where Alaska accounted for one quarter of total production of petroleum in the U.S.; around 2m barrels were produced every day (Nong, Countryman, & Warziniack, 2018). Current production has waned to around 0.5m barrels (Nong, Countryman, & Warziniack, 2018). This has decreased employment and tax revenue for the State (Nong, Countryman, & Warziniack, 2018) in recent times.

However, (Nong, Countryman, & Warziniack, 2018) found the macroeconomic benefits for increasing extraction in Alaska to be minimal, with GDP growth increasing by just 0.28 in Scenario 1, where cost of production in Alaska is projected to be equal to that of other states. This explains the existence of both local support and opposition. For the community of Nuiqsut who are the most affected by oil drilling in the NPRA due to proximity (Tysiachniouk, 2020), the environmental impacts outweigh economic compensation (Stallard & Conley, 2023). For other communities such as Utqiagvik, they do not (Stallard & Conley, 2023). Therefore, local support is derived from economic benefits only if they outweigh environmental costs, given that macroeconomic benefits are small.

6. Discussion and Analysis

The motivations behind case study of the Willow Project and explanations for its approval remain complex and varied, especially given the detrimental public response to the Biden Administration's decision. Therefore, it is likely that legal constraints on the Administration's side contributed greatly to the approval. Since ConocoPhillips had been granted legal leases by the Bureau of Land Management for drilling, a legal battle may have ensued over an unfavourable decision for ConocoPhillips, an unwise use of taxpayer's money given that U.S. national debt reached over \$33 trillion for the first time in 2023 (Rappeport, 2023). However, this explanation is weakened by the Bureau of Land Management's option to declare the Willow Project a violation of the Reserves Act which gives the branch a legal right to prohibit development which may have "significant adverse effects on...surface resources" (Webb, 2023). Beyond legal constraints, the motivations behind and approval of the Willow Project were ultimately derived from the role of lobbying and vested interests, with the energy security problem, international dependence, economic benefits, and local support further enhancing the power of the above two factors. The role of Alaskan senators Lisa Murkowski and Dan Sullivan in the approval of the project was notable. The two, along with Mary Peltola, argued for the Willow Project in an largely exaggerated opinion piece on the grounds that the U.S. was too dependent on imports of oil (Murkowski, Sullivan, & Peltola, 2023) despite the U.S. reaching net oil exporter status in 2020 (EIA, 2023). It is ironic, here, that the danger of non-renewable dependency is not acknowledged. Senator

Murkowski is also directly tied with ConocoPhillips (Cloutier, 2023). The support of the Alaskan senators may partially be derived from the huge economic benefits the project is expected to incur, especially for the Alaskan government, with estimates of "between \$8bn and \$17bn in tax revenue for federal and state governments" (Revell, 2023). These expectations likely swayed the support of the locals in Alaska, with an exception to the community of Nuiqsut who are adversely affected by the project. The role of oil company ConocoPhillips is equally significant. The company increased lobbying spending prior to Willow's approval (Cloutier, 2023) while portraying the project on its website as socially and environmentally aware. ConocoPhillips makes a similar argument to Murkowski and Sullivan surrounding domestic energy security, highlighting the project would decrease dependence on imports of oil (ConocoPhillips, 2023). Combined with the energy security problem in Europe, this makes the decision a calculated one given that the U.S. increases foreign dependence on its oil exports while reducing dependence on oil imports and hence enhances its "oil weapon". However, the argument for national energy security by the Alaskan government and ConocoPhillips' lobbying is weak. Willow cannot fulfil immediate energy demands given that oil extraction will occur from 2029 or later. It is likely that the fast pace of renewable development and reduction in its costs will reduce the necessity of new oil, including Willow oil (Marris, 2023). This weakens the energy security argument pushed forward by both vested interests.

7. Conclusion

It is predicted that global drilling excluding the U.S. will increase by 9% in 2023 (Fischer & Kabell, 2023) while global upstream investment is predicted to increase from \$521bn (2015-2022 average) to \$579bn in 2023 (Nickel & Williams, 2023). Clearly, the short-term future of oil is strong and certain. As the climate disaster causes disaster for many and looms on the doorstep for others, it is crucial that a focus on the renewable energy transition along with the detransition of oil is acknowledged and understood. The political economy perspective highlights key motivations behind continuing green lights made on oil drilling projects. Global dependence on oil has created a powerful "oil weapon" for producers and exporters while lobbying and vested interests, such as oil companies and governments associated with the oil industry, ensure this dependence is extended. Vested interests have also slowed mitigation on an international level through the disruption of international climate agreements. For developing countries, oil demand is huge and continues to rise as the commodity becomes intertwined with energy security despite the decreasing cost of renewable energy. This has further increased the political

power of oil exporting nations. Finally, the principles of the capitalist order are derived from the efficiency of fossil fuels, which have allowed for mass production and consumption.

In September 2023, the Biden Administration cancelled oil and gas leases in the Arctic National Wildlife Refuge (Matza, 2023), much to the dismay of Alaska Governor Mike Dunleavy (Alaska, 2023). The Willow Project, however, is still planned to go ahead. The case study of the Willow Project highlights the legal constraints governments may face in restricting oil drilling projects globally, especially the lack of clarity in the law regarding the rights of the government involvement in oil drilling projects. Furthermore, the practical applications to vested interests, in the case of oil company ConocoPhillips and Alaskan Senators Lisa Murkowski and Dan Sullivan, as well as the energy security argument show oil policy motivations to be complex and multi-faceted.

References

- [1] Aizarani 2023 *Oil consumption worldwide from 1970 to 2022*. [Online] Available at: <https://www.statista.com/statistics/265261/global-oil-consumption-in-million-metric-tons/#:~:text=As%20of%202021%2C%20the%20United%20States%20and%20China,where%20figures%20went%20up%20by%20some%2010.2%20perc>
- [2] [ent](#).
- [3] Alaska 2023 *Biden Administration Disregards Congress, Attempts to Cancel ANWR Leases*. [Online] Available at: <https://gov.alaska.gov/biden-administration-disregards-congress-attempts-to-cancel-anwr-leases/>
- [4] Ambrose 2023 *Tory swing voters switch to Labour after Sunak's green retreat, poll finds*. [Online] Available at: <https://www.theguardian.com/environment/2023/oct/01/tory-swing-voters-switch-to-labour-after-sunaks-green-retreat-poll-finds>
- [5] Annual Reviews, 2021. Three Decades of Climate Mitigation; Why Haven't We Bent the Global Emissions Curve?. *Annual Review of Environment and Resources*, pp. 653-689.
- [6] Audubon, n.d. *Arctic Slope*. [Online] Available at: <https://www.audubon.org/conservation/project/arctic-slope-0#:~:text=To%20date%20the%20Bureau%20of,Lagoon%2C%20and%20the%20Colville%20River>
- [7] Audubon, n.d. *National Petroleum Reserve-Alaska*. [Online] Available at: <https://ak.audubon.org/conservation/national-petroleum-reserve-alaska>
- [8] Bearak, M., 2023. *It's Not Just Willow: Oil and Gas Projects Are Back In A Big Way*. [Online] Available at: <https://www.nytimes.com/2023/04/06/climate/oil-gas-drilling-in-vestment-worldwide-willow.html>
- [9] Birol, F., 2023. *Where things stand in the global energy crisis one year on*. [Online] Available at: <https://www.iea.org/commentaries/where-things-stand-in-the-global-energy-crisis-one-year-on>
- [10] BLM, n.d. *National Petroleum Reserve in Alaska*. [Online] Available at: <https://www.blm.gov/programs/energy-and-minerals/oil-and-gas/about/alaska/NPR-A#:~:text=4%2C%20the%20National%20Petroleum%20Reserve,supply%20for%20the%20U.S.%20Navy>
- [11] Bryman, A., 2012. *Social Research Methods 4th Edition*. Oxford: Oxford University Press.
- [12] Cabral, S., 2023. *Willow Project: US government approves Alaska oil and gas development*. [Online] Available at: <https://www.bbc.co.uk/news/world-us-canada-64943603>
- [13] Carrington, D., 2023. *Slow route to net zero will worsen global climate crisis, IPCC chief warns*. [Online] Available at: <https://www.theguardian.com/environment/2023/oct/02/slow-route-to-net-zero-will-worsen-global-climate-crisis-ipcc-chief-warns>
- [14] Cloutier, J., 2022. *Top oil and gas companies increase lobbying spending amid global energy crisis*. [Online] Available at: <https://www.opensecrets.org/news/2022/04/top-oil-gas-companies-increase-lobbying-spending-amid-global-energy-crisis/>
- [15] Cloutier, J., 2023. *ConocoPhillips increased lobbying spending in 2022 ahead of Biden-approved oil project*. [Online] Available at: <https://www.opensecrets.org/news/2023/03/conocophillips-lobbying-2022-willow/>
- [16] ConocoPhillips, 2019. *Responsibly Developing Alaska's Willow Project*. [Online] Available at: <https://www.conocophillips.com/sustainability/sustainability-news/story/responsibly-developing-alaska-s-willow-project/>
- [17] ConocoPhillips, 2022. *Alaska*. [Online] Available at: <https://www.conocophillips.com/operations/alaska/#:~:text=ConocoPhillips%20is%20Alaska%27s%20largest%20crude,acres%20at%20year%20end%202022>
- [18] ConocoPhillips, 2023. *ConocoPhillips Welcomes Record of Decision on the Willow Project*. [Online] Available at: <https://www.conocophillips.com/news-media/story/conocophillips-welcomes-record-of-decision-on-the-willow-project/>
- [19] ConocoPhillips, 2023. *Willow Project*. [Online] Available at: <https://powerincooperation.com/willow-info-center/>
- [20] Corbeau, A.-S., 2022. *How Deep Is Europe's Dependence on Russian Oil?*. [Online] Available at: <https://news.climate.columbia.edu/2022/03/14/qa-how-deep-is-europes-dependence-on-russian-oil/>
- [21] Corbett, M., 2013. *Oil Shock of 1963-74*. [Online] Available at: <https://www.federalreservehistory.org/essays/oil-shock-of-1973-74>
- [22] Council on Foreign Relations, 2023. *Timeline: Oil Dependence and U.S. Foreign Policy*. [Online] Available at:

- <https://www.cfr.org/timeline/oil-dependence-and-us-foreign-policy>
- [23] EIA, 2023. *Oil and petroleum products explained*. [Online]
Available at: <https://www.eia.gov/energyexplained/oil-and-petroleum-products/imports-and-exports.php>
- [24] European Council, 2023. *EU sanctions against Russia explained*. [Online]
Available at: <https://www.consilium.europa.eu/en/policies/sanctions/restrictive-measures-against-russia-over-ukraine/sanctions-against-russia-explained/#oilban>
- [25] Evans, G., 2023. *Willow project: Biden curbs drilling ahead of decision on Alaska oil project*. [Online]
Available at: <https://www.bbc.co.uk/news/world-us-canada-64939021>
- [26] Fischer, B. & Kabell, O., 2023. *International drilling and production: Growth outside the U.S. continues at measured pace*. [Online]
Available at: <https://www.worldoil.com/magazine/2023/february-2023/special-focus-2023-forecast-review/international-drilling-and-production-growth-outside-the-u-s-continues-at-measured-pace/>
- [27] Gabbatiss, J., 2023. *Analysis: Shell admits 1.5C climate goal means immediate end to fossil fuel growth*. [Online]
Available at: <https://www.carbonbrief.org/analysis-shell-admits-1-5c-climate-goal-means-immediate-end-to-fossil-fuel-growth/>
- [28] Global Data, 2023. *Oil and Gas Upstream New Build and Expansion Projects Analytics and Forecast by Resource Type, Regions, Countries and Development Stage*, s.l.: s.n.
- [29] Hausfather, Z., 2023. *State of the climate: 2023 now likely hottest year on record after extreme summer*. [Online]
Available at: [https://www.carbonbrief.org/state-of-the-climate-2023-now-likely-hottest-year-on-record-after-extreme-summer/#:~:text=Both%20June%20and%20\(v%20very%20likely,C%20since%20the%20mid%20D1800s](https://www.carbonbrief.org/state-of-the-climate-2023-now-likely-hottest-year-on-record-after-extreme-summer/#:~:text=Both%20June%20and%20(v%20very%20likely,C%20since%20the%20mid%20D1800s)
- [30] Healy, N. & Barry, J., 2017. Politicising energy justice and energy system transitions: Fossil fuel divestment and a "just transition". *Energy Policy*, pp. 451-459.
- [31] Hinnebusch, R., 2022. Middle East: oil and political order. *Handbook on Oil and International Relations*, pp. 142-159.
- [32] IEA, 2023. *Energy security*. [Online]
Available at: <https://www.iea.org/topics/energy-security>
- [33] IEA, 2023. *Oil Market Report - July 2023*, Paris: s.n.
- [34] Influence Map, 2019. *Big Oil's Real Agenda on Climate Change*. [Online]
Available at: <https://influencemap.org/report/How-Big-Oil-Continues-to-Oppose-the-Paris-Agreement-38212275958aa21196dae3b76220bddc>
- [35] IRENA, 2019. *Renewable Power Generation Costs in 2018*, Abu Dhabi: International Renewable Energy Agency.
- [36] IRENA, 2021. *Majority of New Renewables Undercut Cheapest Fossil Fuel on Cost*. [Online]
Available at: <https://www.irena.org/news/pressreleases/2021/Jun/Majority-of-New-Renewables-Undercut-Cheapest-Fossil-Fuel-on-Cost>
- [37] Jahan, S. & Mahmud, A. S., 2015. What is Capitalism?. *Finance & Development*.
- [38] Kolaczowski, M., 2022. *How does the war in Ukraine affect oil prices?*. [Online]
Available at: <https://www.weforum.org/agenda/2022/03/how-does-the-war-in-ukraine-affect-oil-prices/>
- [39] Lacey, R., 1981. *The Kingdom*. New York: Harcourt Brace Jovanovich.
- [40] Lefebvre, B., 2023. *How American energy helped Europe best Putin*. [Online]
Available at: <https://www.politico.com/news/2023/02/23/american-energy-europe-putin-00083750#:~:text=Instead%2C%20a%20flow%20of%20American,12%20percent%20of%20its%20oil>
- [41] Maizland, L., 2023. *Global Climate Agreements: Successes and Failures*. [Online]
Available at: <https://www.cfr.org/backgrounder/paris-global-climate-change-agreements>
- [42] Marris, E., 2023. *The Alaska Oil Project Will Be Obsolete Before It's Finished*. [Online]
Available at: <https://web.archive.org/web/20230313195458/https://www.theatlantic.com/science/archive/2023/03/biden-willow-alaska-arctic-oil-drilling/673382/>
- [43] Matza, M., 2023. *Biden cancels Trump drilling leases in Alaska's largest wildlife refuge*. [Online]
Available at: <https://www.bbc.co.uk/news/world-us-canada-66736453>
- [44] McCarthy, N., 2019. *Oil and Gas Giants Spend Millions Lobbying To Block Climate Change Policies [Infographic]*. [Online]
Available at: <https://www.forbes.com/sites/niallmccarthy/2019/03/25/oil-and-gas-giants-spend-millions-lobbying-to-block-climate-change-policies-infographic/?sh=66491d717c4f>
- [45] Meredith, S., Tan, J. & Ng, A., 2022. *Oil surges above \$100 for the first time since 2014, before paring gains*. [Online]
Available at: <https://www.cnn.com/2022/02/24/oil-prices-jump-as-russia-launches-attack-on-ukraine.html>
- [46] Mindock, C. & Gardner, T., 2023. *Analysis - Legal challenges could delay Alaska's Willow oil project*. [Online]
Available at: <https://www.reuters.com/article/conocophillips-biden-alaska-legal-idAFL1N35L326>
- [47] Montgomery & L., S., 2023. *3 reasons the Willow Project Arctic oil drilling project was approved*. [Online]
Available at: <https://www.greenpeace.org/aotearoa/story/willow-project-arctic-oil-drilling/>
- [48] Montgomery, S. L., 2023. *3 reasons the Willow Project Arctic oil drilling project was approved*. [Online]
Available at: <https://www.greenpeace.org/aotearoa/story/willow-project-arctic-oil-drilling/>

- [49] Murkowski, L., 2023. *Delegation: Willow Preapproval is Monumental for Alaska*. [Online]
Available at:
<https://www.murkowski.senate.gov/press/release/delegation-willow-reapproval-is-monumental-for-alaska>
- [50] Murkowski, L., Sullivan, D. & Peltola, M., 2023. *Opinion: President Biden should reapprove the Willow Project*. [Online]
Available at:
<https://edition.cnn.com/2023/03/08/opinions/willow-project-alaska-murkowski-sullivan-peltola/index.html#:~:text=There%20is%20no%20greater%20example.boost%20our%20nation%27s%20energy%20security>
- [51] Nickel, R. & Williams, N., 2023. *Oil companies cautious about drilling as energy transition looms*. [Online]
Available at:
<https://www.reuters.com/business/energy/oil-companies-cautious-about-drilling-energy-transition-looms-2023-09-20/>
- [52] Nilsen, E., 2023. *#StopWillow is taking TikTok by storm. Can it actually work?*. [Online]
Available at:
<https://edition.cnn.com/2023/03/05/us/willow-project-tiktok-petition-movement-climate/index.html#:~:text=Climate%20advocates%20gather%20to%20protest.White%20House%20on%20January%2010.&text=TikTok%20creators%20and%20climate%20groups.issue%20on%20the%20app%20>
- [53] Nilsen, E., 2023. *The Willow Project has been approved. Here's what to know about the controversial oil-drilling venture*. [Online]
Available at:
<https://edition.cnn.com/2023/03/14/politics/willow-project-oil-alaska-explained-climate/index.html>
- [54] NOAA National Centers For Environmental Information, 2023. *Monthly Global Climate Report for Annual 2022*, s.l.: s.n.
- [55] Nong, D., Countryman, A. & Warziniack, T., 2018. Potential impacts of expanded Arctic Alaska energy resource extraction on US energy sectors. *Energy Policy*, pp. 574-583.
- [56] Patagonia, 2022. *LETTER TO SEC. DEB HAALAND REGARDING WILLOW PROJECT*. [Online]
Available at:
<https://www.patagoniaworks.com/press/2022/6/30/letter-to-sec-deb-haaland-regarding-willow-project>
- [57] Paterson, M. & P-Laberge, X., 2018. Political economies of climate change. *WIREs Climate Change*, 31 January.
- [58] Pew, 2021. *BLM plan opens 18.6 million acres to potential drilling, other industry activities*. [Online]
Available at:
<https://www.pewtrusts.org/en/research-and-analysis/issue-briefs/2021/01/national-petroleum-reserve-alaska-at-risk-from-oil-and-gas-development>
- [59] Rahman, A., Dargusch, P. & Wadley, D., 2021. The political economy of oil supply in Indonesia and the implications for renewable energy development. *Renewable and Sustainable Energy Reviews*, pp. 1-14.
- [60] Rappeport, 2023. *U.S. National Debt Tops \$33 Trillion for First Time*. [Online]
Available at:
<https://www.nytimes.com/2023/09/18/us/politics/us-national-debt.html>
- [61] Revell, E., 2023. *Willow Project to deliver jobs, billions in government revenue*. [Online]
Available at:
<https://www.foxbusiness.com/economy/willow-project-deliver-jobs-billions-revenue-government>
- [62] Ritchie, H., Roser, M. & Rosado, P., 2022. *Energy*. [Online]
Available at: <https://ourworldindata.org/energy-mix>
- [63] Ryssdal, K., 2016. *How an oil shortage in the 1970s shaped today's economic policy*. [Online]
Available at:
<https://www.marketplace.org/2016/05/31/how-oil-shortage-1970s-shaped-todays-economic-policy/>
- [64] Sharma, N. S. B. T. C., 2019. *The decoupling of GDP and energy growth: A CEO guide*. [Online]
Available at:
<https://www.mckinsey.com/industries/electric-power-and-natural-gas/our-insights/the-decoupling-of-gdp-and-energy-growth-a-CEO-guide>
- [65] Singh, N., 2021. *What Are The Biggest Industries In Alaska?*. [Online]
Available at:
<https://icetonline.com/what-are-the-biggest-industries-in-alaska/>
- [66] Stallard, E. & Conley, G., 2023. *TikTokers target controversial Willow oil project*. [Online]
Available at:
<https://www.bbc.co.uk/news/science-environment-64906323>
- [67] State of Alaska, n.d. *Economy*. [Online]
Available at:
<https://alaska.gov/kids/learn/economy.htm#:~:text=The%20oil%20and%20gas%20industry.dependent%20upon%20world%20oil%20prices>
- [68] Sullivan, R., Black, R. & Kyriacou, G., 2023. *What is climate change lobbying*. [Online]
Available at:
<https://www.lse.ac.uk/granthaminstitute/explainers/what-is-climate-change-lobbying/>
- [69] Sullivan, R., Black, R., Perkins, R. & Richards, C., 2022. *What role should institutional investors be taking in the governance of corporate climate change lobbying?*. [Online]
Available at:
<https://www.lse.ac.uk/granthaminstitute/news/what-role-should-institutional-investors-be-taking-in-the-governance-of-corporate-climate-change-lobbying/>
- [70] Teirstein, Z., 2022. *Biden promised no new drilling on public lands. Here's why he broke that promise.*. [Online]
Available at:
<https://grist.org/politics/biden-promised-no-new-drilling-on-public-lands-heres-why-he-broke-that-promise/>
- [71] The Climate Reality Project, 2022. *Climate Denial: Why It Happens and What To Do About It*. [Online]
Available at:
<https://www.climateRealityProject.org/blog/climate-science-denial-why-and-what-to-do-about-it>
- [72] The FRED Blog, 2018. *Does oil drive inflation?*. [Online]
Available at:
<https://fredblog.stlouisfed.org/2018/11/does-oil-drive-inflation/>

- [73] Tysiachniouk, M., 2020. Disentangling Benefit-Sharing Complexities of Oil Extraction on the North Slope of Alaska. *Sustainability*, pp. 1-31.
- [74] U.S. Department of the Interior, 2023. *Interior Department Substantially Reduces Scope of Willow Project*. [Online]
Available at:
<https://www.doi.gov/pressreleases/interior-department-substantially-reduces-scope-willow-project>
- [75] United Nations, 2023. *Causes and Effects of Climate Change*. [Online]
Available at:
<https://www.un.org/en/climatechange/science/causes-effects-climate-change>
- [76] Wang, Q., Li, S. & Li, R., 2018. China's dependency on foreign oil will exceed 80% by 2030: Developing a novel NMG-ARIMA to forecast China's foreign oil dependence from two dimensions. *Energy*, Volume 163, pp. 151-167.
- [77] Watts, J. et al., 2023. *The hottest summer in human history - a visual timeline*. [Online]
Available at:
<https://www.theguardian.com/environment/ng-interactive/2023/sep/29/the-hottest-summer-in-human-history-a-visual-timeline>
- [78] Webb, R., 2023. *Rethinking the Willow Project: Did BLM Have Other Options?*. [Online]
Available at:
<https://blogs.law.columbia.edu/climatechange/2023/05/10/rethinking-the-willow-project-did-blm-have-other-options/>
- [79] Wightman, P., 2023. *U.S. Crude Oil Exports to EU Support WTI as Global Benchmark*. [Online]
Available at:
<https://www.cmegroup.com/openmarkets/energy/2023/u-s--crude-oil-exports-to-eu-support-wti-as-global-benchmark.html>
- [80] Xin, Z., 2022. *China's oil dependence on imports sees drop*. [Online]
Available at:
<https://www.chinadaily.com.cn/a/202202/24/WS6216e135a310cdd39bc889be.html>