ACADEMIC RESEARCH PAPER

On Economic impact of renewable energy on global oil lobbies

Research Paper by
Dev Chheda

Executive Summary’’

The paper delves into the economic impact of the transition of the energy landscape from conventional fossil fuel-derived energy to renewable energy sources mainly due to concerns over environmental damage and the finite nature of fossil fuels. The shift poses a significant challenge to oil lobbies which have a significant geo-political strength along with large market value. The global Oil and Gas Market was valued at USD 6,585.54 billion in 2022. Government policies play the most crucial role in this shift with tax incentives and subsidies facilitating the growth of renewable energy whereas trade protectionism and regulatory barriers impede its growth, Despite resistance from oil lobbies the decreased cost and increased efficiency of renewable energy make it an attractive choice for most non-oil producing nations which are largely dependant on producing nations.

Fossil fuels such as oil, coal and gas ever, since first used in the first and second centuries (100-200 AD) have been a paramount part of human evolution and have shaped the world we live in today. Ever since these energy sources were first accessed and used they have exponentially grown in use to meet the never-ending needs and demands of humankind. From the first coal locomotive to jet fuels used in aircraft, fossil fuels have never been more in demand as energy needs around the globe increase. This may have made the world more connected and technologically advanced, but it has also led to significant environmental and geopolitical challenges. Human reliance and dependence on fossil fuels, particularly oil, has not only contributed to environmental degradation but has also played a pivotal role in shaping global power dynamics.

In recent decades, new generations have increasingly recognized the detrimental consequences of fossil fuel overconsumption, as well as the finite nature of these resources. This acknowledgement reflects the tragedy of the commons and negative externality phenomena, where the individual pursuit of self-interest leads to a societal welfare loss. Fossil fuel usage not only depletes a shared resource but also imposes significant social and environmental costs, such as air pollution, climate change, and health hazards. These costs are often not fully borne by those responsible, resulting in a disparity between private and social costs. This disparity exacerbates societal inequalities and undermines overall welfare.

This detrimental impact of carbon emissions on climate change, coupled with the finite nature of fossil fuels, has prompted a global push towards sustainable and renewable energy sources. The rise of new energy sources such as solar, wind, hydro and geothermal power has brought humankind into a new era of the energy landscape.

This research paper explores the economic implications of the transition from conventional fossil fuels to renewable energy sources, mainly focusing on the global oil lobbies.
Oil lobbies, composed of powerful conglomerates and influential entities within the oil industry, have historically held considerable sway over energy policies and economic agendas and are also regarded to be one of the most potent and influential lobbies. Understanding the financial dynamics and potential disruptions caused by these powerful lobbies becomes imperative as the world shifts towards renewable energy. Having considered the resources we sought to be one of the most valuable, control over fossil fuels such as oil, often referred to as liquid gold, has caused devastating wars in the past.

Fossil fuels, mainly crude oil, have propelled some countries and their respective companies to gain an upper hand in world geopolitics and economic trading benefits. These countries, such as The United States Of America, the Middle Eastern countries, mainly The Kingdom Of Saudi Arabia and The Russian Federation, hold some of the top positions in the world today. Considering these countries have attained dependency on other countries to provide for their energy needs, they hold a powerful position as energy providers and strengthen their position as world dominators.
Organizations such as OPEC (Organisation of Petroleum Exporting Countries) regulate the oil supply to influence the commodity's price on the world market. The group can achieve this by coordinating supply cuts when the price is deemed too low, and supply increases when its members believe prices are too high.
Thus, the economic impact of renewable energy on global oil lobbies is a complex subject encompassing various dimensions such as market dynamics, investment patterns, geopolitical considerations, and policy frameworks. This paper aims to unravel the intricate interplay between renewable energy adoption and the economic interests of oil lobbies, shedding light on the challenges and opportunities that emerge in this transition.

Renewable energies in the recent decades have had remarkable advancements leading to significant decreases in cost and increase in efficiency, for example, the price of solar modules decreased 99.6% since 1976 and the price of electricity from solar modules decreased 89% in the last 10 years. While solar got 89% cheaper and wind 70%, the price of electricity from coal declined by merely 2%. This results in a greater competitive advantage as compared to traditional fossil fuels. This shift in power dynamics and the independence gained by a nation when switching to renewable energy poses a direct threat to the entrenched interests of global oil lobbies.

Oil prices have since risen sharply to nearly $100 per barrel following strong economic recovery post-lockdowns. As the economy grows so does the demand for oil. Moreover, rising geopolitical tensions between Russia and Ukraine and in the Middle East are stoking supply fears. This is contributing to rising inflation and concerns about economic recovery.

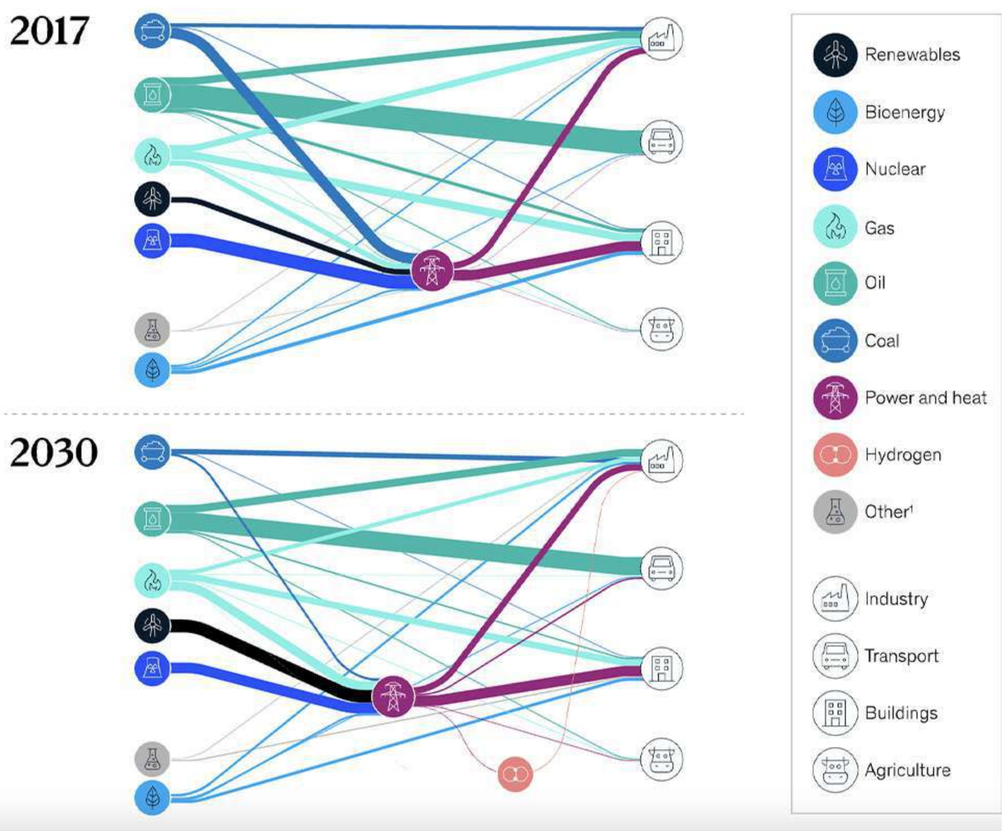
One of the primary and major economic impacts of renewable energy on oil lobbies is the potential disruption of established market structures. The traditional energy market, dominated by oil giants, could face substantial challenges as renewable energy sources gain prominence. The increasing affordability and accessibility of renewable technologies may shift the balance of power, providing consumers and nations with viable alternatives to fossil fuels. Hence this shift in the energy landscape could view resistance from oil lobbies in the future due to factors such as a substantial decrease in revenue and loss of maintaining dependency on other countries to fulfil energy needs ie. The European Union was dependent on The Russian Federation's oil and gas exports preceding the sanctions imposed due to the conflict with Ukraine.

Shifting toward net-zero emissions requires replacing fossil-based electricity and heat with renewable energy and hydrogen power while balancing the demand for affordable energy as the world transitions (Table 1). Projections to 2030 and 2050 illustrate how this shift could also further the electrification of industry, transportation, and construction while adding new sustainable fuel and hydrogen to industrial processes and transport.(Humayun Tai, and Fransje van der Marel, 2023I world economic forum)

Table 1

The path to net-zero emissions requires a fundamental and global shift in how energy is produced and used.

Net-zero Europe decarbonization pathway, renewables and hydrogen, total primary energy demand



One of the key ways renewable energy could affect oil lobbies is through decreased reliance on fossil fuels. As more renewable energy sources such as wind, solar, and hydropower are integrated into the energy mix, there will be less demand for oil and gas. This could weaken the position of oil lobbies, which have historically held significant sway over energy policies due to the country's dependence on fossil fuel

Furthermore, oil lobbies also invest in projects that create the appearance of environmental responsibility while not committing to renewable energy, fund research or studies that question the viability or effectiveness of renewable energy, and initiate legal challenges against government policies that promote renewable energy. Governments have also been involved in actions that impede renewable energy, such as imposing regulations on the construction and operation of wind turbines or cancelling renewable energy projects.ls.

Geopolitically, the economic impact of renewable energy on oil lobbies could alter the dynamics of international relations. Historically, oil-rich regions have been pivotal players in global politics, often holding substantial influence over energy-dependent nations. The transition to renewable energy sources, however, may lessen the strategic importance of these regions, redistributing geopolitical power and altering alliances.

Policy frameworks play a crucial role in shaping the economic impact of renewable energy on oil lobbies. Governments around the world are implementing policies that incentivize and promote the transition to cleaner energy sources while some countries choose policies that favor fossil fuels. These policies ranging from tax barriers such as subsidies along with tax intensives to strict environmental regulations can either facilitate or impede the growth of renewable energy. The response and actions taken by oil lobbies thus become a critical aspect of understanding their economic resilience in the renewable energy advancements energy market can be significantly influenced by government policies, which can either facilitate or hinder the transition to sustainable energy. Policies such as subsidies, tax incentives, and feed-in tariffs can increase the attractiveness of sustainable energy, potentially altering the preferences of both individuals and businesses.

For instance, subsidies can reduce the costs of sustainable energy technologies, thereby making them more competitive against conventional energy sources. These subsidies can come in different forms, such as cash grants, tax reductions, or low-interest loans, and can target various stages of the technology life cycle, from research and development to implementation and operation.

Tax incentives are another effective policy tool that can ease the tax burden on entities investing in sustainable energy. In the United States, the Investment Tax Credit (ITC) has significantly contributed to the growth of the solar industry. The ITC allows businesses to deduct a portion of the cost of installing a solar energy system from their federal taxes, reducing the overall installation cost. ion.(Achkar,24)

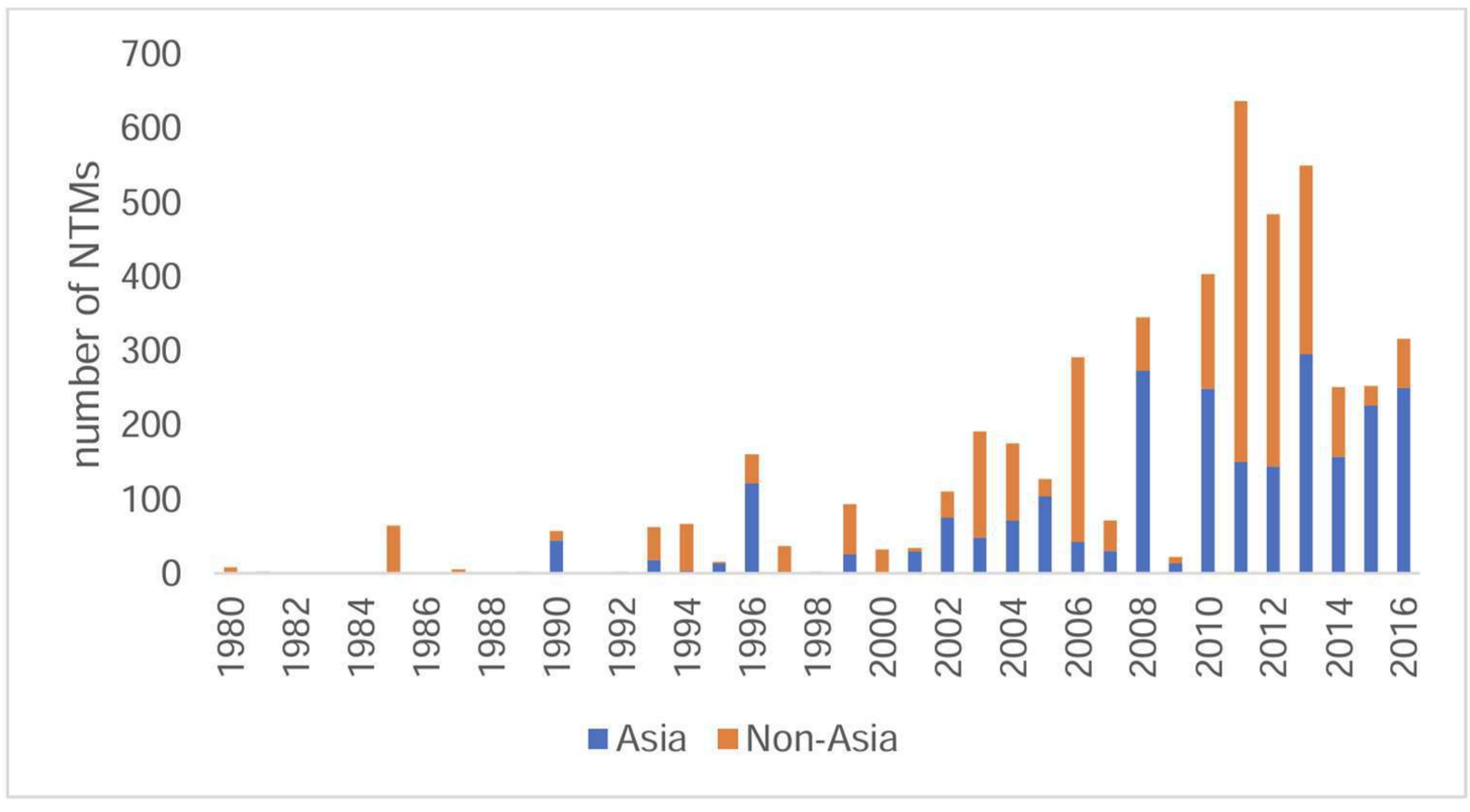
In contrast, ***feed-in tariffs*** provide a fixed rate for energy derived from sustainable sources, which encourages the production of sustainable energy by ensuring that producers receive compensation that covers their expenses and enables them to earn a fair profit. When implemented correctly, these policies can encourage companies and individuals to invest in sustainable technologies, accelerating the transition towards a more eco-friendly future.

Nevertheless, it's worth noting that the effectiveness of these policies hinges on various factors, such as the technology's maturity, the energy market's structure, and the overall policy climate. So though policies are important, their effectiveness depends on meticulous planning and execution.

Another important aspect of renewable energy is trade protectionism. The development of renewable energy holds significant importance for countries to achieve their developmental and environmental goals. These goals include the commitments made under the 2015 Paris Agreement to limit global warming and the United Nations' Sustainable Development Goals (SDGs) aimed at ending poverty, protecting the planet, and ensuring peace and prosperity for all by 2030. The emphasis on both accelerating economic growth and preserving the environment highlights the essential balance countries strive to achieve through renewable energy investments.

Renewable energy plants and technologies have become a significant part of global trade in environmentally related goods (EGs), with renewables representing about 35% of some USD 1.26 trillion of such exports in 2016. The rapid growth of renewable energy trade, at an average annual rate of 8.9% from 2003 to 2016, indicates an increasing global shift towards renewable energy, particularly in electricity generation. This trend reflects the growing demand for clean energy solutions worldwide.

Figure 1: Number of Non-tariff Measures on Imports of Renewable Energy Goods



In response to the growing demand for renewable energy, countries have implemented various measures to develop domestic capabilities in RE infrastructure. These measures include local content requirements (LCRs), which mandate a certain percentage of components to be sourced locally, subsidies to reduce the cost of renewable energy production, and favourable access to financing for renewable energy projects.
Many countries have implemented measures to support the development of renewable energy industries and capabilities within their borders. However, some of these measures also have elements of protectionism, aimed at shielding domestic industries from foreign competition. Protectionist policies can take various forms, such as restricting imports or providing subsidies to domestic producers.

In addition to protectionist policies, countries have also established regulations on the import of renewable energy goods. These regulations are intended to ensure that imported renewable energy technologies meet specific safety and environmental standards, protecting consumers and the environment. However, such regulations can also act as barriers to trade, affecting the global exchange of renewable energy technologies and goods. While the rationale behind these regulations is sound, it is important to balance environmental protection with the need for free and fair trade.

In conclusion transition from conventional fossil fuels to renewable energy sources poses a significant shift in the global energy landscape with widespread economic implications. The main purpose that drives this shift is negative environmental externalities coupled with the fact that fossil fuels are finite. Thus considering the finite nature and growing energy needs of the world there will always be a shift in the demand and supply of fossil fuels. As renewable technologies become increasingly affordable and efficient, they pose a direct challenge to the entrenched interests of powerful oil lobbies.
As renewable technologies become increasingly affordable and efficient, they pose a direct challenge to the interests of powerful oil lobbies.

The economic impact of renewable energy on oil lobbies is rather complex, including political realignments and market disruptions. Renewable energy adoption reduces dependence on fossil fuels, thereby weakening the influence of oil lobbies over energy policies and international relations. Moreover, government policies play a crucial role in shaping the trajectory of renewable energy growth, with subsidies, tax incentives, and regulatory frameworks either facilitating or adding hurdles to the cause.

Trade protectionism and regulatory barriers can impede the global trade of renewable energy technologies thus hindering the economy from having a sustainable future.
The switch to renewable energy would also see a large resistance from conventional oil lobbies which would put forth massive resources to prevent the entry of renewable energy. Considering the fact that the renewable energy sector is largely still a sunrise industry that is maturing in most countries around the globe, it would not be capable of competing with the resources oil lobbies hold.

Nevertheless, the momentum towards renewable energy is undeniable, driven by both environmental imperatives and economic opportunities. Most non-fossil fuel-producing economies would facilitate the shift to reap economic benefits such a reduced current account deficit, increased current account surplus and reduced inflation. ie. In the fiscal year 2023, petroleum, oil, and petroleum products constituted around 30 per cent of the major imports in India. The path forward requires concerted efforts from governments, businesses, and civil society to overcome obstacles and accelerate the transition towards a cleaner, more sustainable energy future.

Bibliography

Fortune. (2023, November 28). Big Oil's climate lobby spends big at COP28. Fortune Global Forum. https://fortune.com/2023/11/28/oil-gas-lobby-climate-renewable-energy-solar-cop28-fortune-global-forum/

Cooper, F. (2023, September). Draining every last drop of oil and gas won't ease the cost-of-living crisis. New Economics Foundation. https://neweconomics.org/2023/09/draining-every-last-drop-of-oil-and-gas-wont-ease-the-cost-of-living-crisis

United Nations Framework Convention on Climate Change. (n.d.). Climate Action Now: Regional weekly updates – 16 June 2021. https://seors.unfccc.int/applications/seors/attachments/get_attachment?code=CY4M3EURGJTMO3AXBQS4QVT9A8JGJ8XF

Schor, J. (2019). The economics of renewable energy. Boston University Institute for Sustainable Energy. https://www.bu.edu/eci/files/2019/06/RenewableEnergyEcon.pdf

Carrington, D. (2021, July 19). Big Oil climate lobbying impacts EU policy, says report. The Guardian. https://www.theguardian.com/environment/2021/jul/19/big-oil-climate-crisis-lobby-group-api

McGlade, C., & Ekins, P. (2017). The geographical distribution of fossil fuels unused when limiting global warming to 2°C. Environmental Research Letters, 12(1), Article 014008. https://iopscience.iop.org/article/10.1088/1748-9326/aa51da/meta

Labatt, S., & White, R. (2021). How oil and gas companies can be successful in renewable power. McKinsey & Company. https://www.mckinsey.com/industries/electric-power-and-natural-gas/our-insights/how-oil-and-gas-companies-can-be-successful-in-renewable-power

Achkar, J. E. (n.d.). Policy puzzle: Understanding its role in sustainable energy. LinkedIn. https://www.linkedin.com/pulse/policy-puzzle-understanding-its-role-sustainable-energy-achkar-ewenf/

Jin, Z., & Acharya, S. (2020, February). Protectionism and trade in renewable energy infrastructure. Asian Infrastructure Investment Bank. https://www.aiib.org/en/news-events/media-center/working-papers/pdf/Protectionism-and-Trade-in-Renewable-Energy-Infrastructure_February-2020.pdf