Do investments in oil and gas industry hamper climate change goals in UAE?

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Introduction:

With crude oil reserves amounting to 107.7 billion barrels in 2020, UAE is a one of the leading economies that keeps up with the ever-increasing global demand for energy. However, as the exploitation of the oil and gas industry increases, the fatal crisis of climate change is simultaneously rising to the surface. To address these changes, UAE has begun diversifying to maintain its robust economy. The root of these recent efforts can be traced back to UAE's participation in global conventions and discourses pertaining to climate change. In 1995, UAE joined the United Nations Framework Convention on Climate Change (UNFCCC). Further, since 2009, it is also a permanent host country of the International Renewable Energy Agency (IRENA) as well as a signatory of the Paris Agreement. In 2021, the country finally established their primary program to ratify climate change with the aim of achieving net-zero carbon emissions by 2050. In addition, to actively contribute to the global discourse, they also organized the UAE Regional Climate Dialogue and announced a bid to host Conference of the Parties (COP28) in 2023. By tracing the seemingly contradictory relationship between the oil and gas industry and UAE's efforts to mitigate climate change, this essay analyses the nature of climate relief efforts undertaken by the country while continuing to invest in the oil and gas industry.

UAE's Role in the Fossil Fuel Industry and Climate Change:

UAE is one of the countries that has managed to simultaneously invest in the oil and gas industry whilst making an effort to curb climate change. With the 7th largest oil and gas reserves globally, the country produces an average of 3 million barrels of liquids and petroleum every day. Thus, around 30% of their GDP rises from the oil and gas industry, with 13% being the value of the industry's total exports. With the discovery of 80 trillion cubic feet of gas resources in Jebel Ali in 2020, the country aims to become self-sufficient in gas supply by 2030. Their leading subsector ADNOC's 2030 Integrated Strategy aims to enhance profitability while meeting the global energy demands. Curious about unconventional sources of oil and gas in the country, the oil and gas conglomerate established the Ruwais Derivatives Park, (…). ADNOC has also invited U.S. derivatives and petrochemical manufacturers to participate in the Park (..). In addition to these goals, UAE has also formed a Hydrogen Alliance to offer opportunities for transportation, production and storage of technologies.

Simultaneously, the UAE government has also developed strategic policies and initiatives to meet their primary goal of achieving a net-zero economy by 2050. This initiative aligns with the mandates of the Paris Agreement and involves collaboration between stakeholders in other sectors like energy, economy, transportation, agriculture, and environment and federal and local governments developing the measures required. The measures encompass factors like creating an energy equation of 44% clean, 38% gas, 12% clean coal and 6% nuclear energy, reducing carbon footprint in power generation by 70% and increasing contributions to clean energy from 25% to 50%. Further, UAE has invested $16.8 billion in renewable energy initiatives and provided $400 million in aid and loans to clean energy ventures. The country has also streamlined $15 billion to renewable energy programmes through the Masdar Initiative, (…). Masdar also assists in developing 11 solar energy projects

(in UAE), including Ghantoot Desalination Power Plant-Solar Powered, Abu Dhabi PV Solar Rooftop Programme and Omran Hospital Rooftop PV.

Climate Change and Fossil Fuel Industry:

The relationship between the oil and gas industry with climate change follows a non-traditional approach. They are negatively correlated because as the fossil fuel industry grows, climate conditions worsen with time. This is because the industry is notorious for its ability to cause, sometimes irreversible, transformations. When fossil fuels like coal, gas and petroleum are burnt, they result in the production of large amounts of carbon dioxide along with other greenhouse gas emissions (GHG). As GHG emissions heat the Earth, they lead to rising atmospheric temperatures which in turn causes climate change. Additionally, the abundant release of toxic chemicals into the air, water, and land from burning fossil fuels decrease the quality of life and increase chances of medical risks such as neurological damage. Air pollutants like BTEX compounds, particulate matter, nitrogen oxide and sulphur oxide are cancer-causing agents and are responsible for causing developmental, reproductive and respiratory conditions (Proleau, 2003).

Further, drill cuttings and operational discharges of produced water from offshore oil and gas industries remain the consistent source of contaminants in shelf ecosystems which affect several chemical, biochemical and genetic biomarkers (Bakke, et al., 2013). PW or produced water contains Policycyclic aromatic hydrocarbons (PAHs) aromatic hydrocarbons, alkylphenols and metals like zinc and mercury which cause bioaccumulation and toxicity (Neff, et al., 2011). As 91% of produced water from offshore wells is expelled into the oceans, the damage to marine ecosystem is severe in nature (Veil, Clark, 2010). Thus, it is contradictory that the oil and gas industry can also help mitigate the effects of climate change.

Inevitable Growth:

Being an industry that provides an immense commercial opportunity to nations for developing their economy and consequentially its standard of living, it will be disadvantageous for capitalist nations to completely halt the extraction and usage of fossil fuels. Abu Dhabi and Dubai, two cities in the UAE, are fairly recently populated cities that emerged only 50 years ago. The discovery of oil reserves, which at one point accounted for over half of their GDP, led to a rise in their economy and standard of living, making the gulf countries one of the most luxurious and well-developed places globally. Coupled with the reliability of their usage and the extreme global dependence on them, the growth of the oil and gas industry is inevitable. Therefore, investments in this industry are foreseeable and unavoidable.

However, to become a climate-friendly industry, they can conduct or fund research on renewable energy that could reduce the intensity with which greenhouse gases are emitted. As these industries comprise of large stakeholders with immense knowledge, expertise, and capital, they need to invest in companies that align with sustainable development goals and conduct research on the availability and extraction of clean, renewable energy and fuels. Only if the oil and gas industry participates in the global transformation of the energy sector can there be fruitful impact on climate change.

Conclusion:

In conclusion, it is overly simplistic to state that UAE contravenes its commitment to climate change because they are reliant on the oil and gas industry for economic growth. The conversation and discourse around this are much more nuanced, as the country continues to seek and promote sustainable energy solutions. However, in order to reach this eventual goal, the country must also facilitate the transformation of the energy sector; and the oil and gas

industry plays a crucial role in this. Possible solutions include using offsets to achieve carbon-neutrality for produced and sold oil and gas, which help to finance clean-energy efforts that would not otherwise be possible. The government of UAE has made efforts to offset climate change effects for decades, and these initiatives have become more aggressive- and can possibly coexist alongside the energy needs of the country and the world in the future. Alternatively, they could turn to carbon-capture technology which, despite their high cost and operational difficulties, better offset climate impact by physically capturing and removing carbon dioxide emissions from the open air. In either scenario, the country will need to commit to investing in sustainable solutions, in order to uphold their sustainable development mandates, while simultaneously diversifying their economic output for a more secure future.

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