

OPEC AND CLIMATE ACTION: ADAPTATIONS FOR DEVELOPMENT IN THE GLOBAL SOUTH

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Abstract: The Organisation of Petroleum Exporting Countries (OPEC) has committed to combating climate change. However, this commitment has confronted its members with two contradictory imperatives. They are sustaining hydrocarbon dependent development and adapting to the global agenda for decarbonisation. As international climate discourse intensifies, OPEC's traditional rentier models of statecraft face unprecedented strain. This study examines how climate change discourse is reshaping the material and economic environment of OPEC states in the Global South dependent on oil and natural gas rents. Using qualitative data and a political economy approach, the study analyses how OPEC states collectively and individually negotiates the pressures of climate change commitments and national development imperatives. Employing the case studies of Saudi Arabia, Nigeria, and the United Arab Emirate, the article highlights the adaptive strategies of these states. The study finds that these strategies range from economic diversification and renewable energy investments to symbolic green branding and resistance within international climate negotiations. The study concludes that while OPEC members rhetorically embrace aspects of the energy transition agenda, their developmental dependence on hydrocarbons creates a double-bind of climate vulnerability and economic inertia.

Keywords: *OPEC. Decarbonisation. Global South. Development. International Climate Politics. Climate Action. Rentier States. Net zero emissions.*

Introduction

OPEC accounts for nearly 80% of proven global crude oil reserves and around one-third of global oil production (OPEC, 2025a). For its members encompassing large producers such as Saudi Arabia to more fragile economies such as Nigeria and Venezuela, crude oil and natural gas revenues constitute the backbone of state budgets, export earnings, and national development agendas (Asheim et al., 2019). Often lacking diversified economic base, revenue from the exploitation of hydrocarbons finance infrastructure, welfare systems, political legitimacy (Beblawi & Luciani, 2016a; Ross, 2012), and even corruption in these state (David et al., 2024).

Yet OPEC's strategic position is increasingly threatened by the rise of global climate change discourse. Since the Paris Agreement in 2015, international pressure



has intensified toward a decarbonised future (Erickson & Brase, 2019). Pledges of “net-zero” by 2050 from major economies, regulatory measures such as the European Union’s Carbon Border Adjustment Mechanism (CBAM), and financial divestment campaigns targeting fossil fuels (IEA, 2023; Zhao & Lin, 2025), collectively signal a declining space for hydrocarbons in the global energy mix. Moreover, scientific assessments by the Intergovernmental Panel on Climate Change (Freund et al., 2018), emphasise the urgency of leaving a significant portion of fossil fuel reserves unexploited to avoid catastrophic warming. These pressures place OPEC economies in a paradox where their primary source of wealth is simultaneously the central driver of the climate crisis which global governance seeks to mitigate.

This paradox is particularly acute because most OPEC members belong to the Global South, where oil rents underpin not just fiscal revenues but also broader development frameworks and pathways. Unlike industrialised economies in the Global North, OPEC states despite significant oil revenue, face significant severe, economic, technological, and financial vulnerabilities (Karl, 1997; Stevens, 2007). These vulnerabilities severely limit their capacity to pursue a rapid energy transition. Thus, climate discourse, though framed as universal, intersects asymmetrically with OPEC, deepening existing inequalities between Global North and South. For OPEC, the challenge is not merely technical decarbonisation as it is often framed by the industrialised West, but balancing climate commitments with national development imperatives (Depledge, 2013).

The literature often frames OPEC in dichotomous terms either as a “climate laggard” obstructing international negotiations (Depledge, 2008), or as a cartel defending oil rents (Almoguera et al., 2011). However, this binary overlooks the complexity of how OPEC members are engaging with the discourse of climate change. Some members, like the United Arab Emirates (UAE), position themselves as pioneers of renewable energy investment, hosting global climate summits while simultaneously expanding hydrocarbons production. Others like Nigeria, struggle to reconcile oil dependency with chronic underinvestment in renewable infrastructure. These dynamics suggest a spectrum of adaptive strategies shaped by domestic political economy, developmental needs, and geopolitical positioning.

This article investigates two interrelated questions. Firstly, how is global climate change discourse affecting OPEC’s collective and national strategies? Secondly, how do OPEC countries balance the demands of climate change mitigation with the imperatives of national development? By answering these questions, the article contributes to scholarship on energy transitions, Global South political economy, and international climate politics. The article employs a comparative political economy approach analysing secondary literature, OPEC documents, national policy documents, and international climate reports. Three case studies; Saudi Arabia, Nigeria, and the UAE, are used to illustrate divergent yet interconnected strategies of adaptation. The analysis highlights a recurring pattern of OPEC members rhetorically aligning with aspects of global climate discourse while pragmatically defending oil rents as central to their developmental survival.

Theoretical Framework

Understanding the paradox confronting OPEC countries in the age of climate change benefits greatly from a theoretical framework that moves from broader structural dynamics of resource dependence and international climate action to critical perspectives on power, justice, and inequality. This section provides an overview of the general theories that explain the political economy of oil dependence, the debates on climate governance and Global South Development, and the discourse around critical political economy and climate justice perspectives on which the study is anchored.

Rentier State Theory and Resource Dependence

A central starting point for analysing OPEC members is rentier state theory. The theory highlights how states that derive a large share of revenue from external rents especially hydrocarbons, develop distinct political and economic structures (Beblawi & Luciani, 2016a). In rentier economies, governments are insulated from taxation, creating a weak social contract between state and citizens while distribution of rents from mineral resources like crude oil, becomes a key mechanism of political legitimacy (Ross, 2012). OPEC countries exemplify this logic observable in Saudi Arabia's oil-financed welfare state (Gonand et al., 2019; Haque & Khan, 2019), to Nigeria's dependency on crude oil exports for the maintenance of predatory state structures (David et al., 2024; Emediegwu & Okeke, 2017). Therefore, hydrocarbons are the backbone of state-building, patronage, and development (Karl, 1997).

This dependence generates structural vulnerabilities. International crude oil price volatility, the "resource curse," and "Dutch Disease," have long constrained diversification efforts in oil-dependent states (Auty, 2015). Climate change pressures intensify these vulnerabilities by insisting that up to 80% of proven reserves must remain unexploited according to decarbonisation targets put forward by the Paris Agreement and IPCC, creating the critical concern of "stranded resources" while existing and ongoing investments in the oil industry become "stranded assets (Auty, 2012; Bos & Gupta, 2018; Kemitare et al., 2025; McGlade & Ekins, 2015; Van Der Ploeg & Rezai, 2020). Thus, rentier theory provides a useful entry point into understanding the political economy of OPEC where the persistence of oil rents underpins both state resilience and fragility in the face of external pressures for decarbonisation.

Climate Change Discourse and Global Governance

Alongside resource dependence, OPEC states are embedded in the global discourse of climate change, shaped by international institutions such as the United Nations Framework Convention on Climate Change (UNFCCC), and milestone agreements like the Kyoto Protocol and Paris Agreement. Climate governance is not simply a technical or scientific matter but also a deeply normative project that establishes expectations about how states should behave (Falkner, 2016). Discourses of "net zero", "energy transition", and "just transition" have become global benchmarks against which states are evaluated (Bos & Gupta, 2018; Depledge *, 2005).

For OPEC, this discourse introduces contradictions. On the one hand, participation in climate negotiations is essential to maintain legitimacy within the international community. On the other hand, the material basis of OPEC economies i.e., the exploitation of hydrocarbons, sits in direct contradiction with the decarbonisation agenda. Thus, climate discourse acts both as a constraint - limiting the long-term space

for fossil fuels, and as an arena of contestation, where OPEC states seek to reshape narratives in ways that highlight development and equity concerns

Development and the Global South Context

The developmental dimension is critical because most OPEC members are part of the Global South, where hydrocarbons finance not only state budgets but also broader aspirations for industrialisation, poverty reduction, and welfare provision (Ross, 2012). Unlike advanced industrial economies that can pivot toward renewables with relative financial and technological ease, oil-dependent states in Africa, the Middle East, and Latin America face sharp trade-offs (Almeida et al., 2024; Blicharska et al., 2017; Kamal Uddin, 2017; Koch, 2021). Climate-induced demands for rapid decarbonisation risk undermining not just the fiscal, but also the broader economic and political base of these states before they can secure and institute alternative pathways to development in the face of the rising risk of global warming.

This tension connects to broader historical debates in development studies about structural dependency and global inequality (Ake, 1981; Amin, 1972; Kay, 2018; Mamdani, 1990; Rodney, 1972). For many OPEC members, hydrocarbons remain the only competitive advantage they have in the global economy. Consequently, the discourse of climate change while presented as universal, intersects with Global South states asymmetrically, deepening developmental constraints rather than alleviating them.

Critical Political Economy

To move beyond descriptive accounts, this article adopts a critical political economy perspective, which foregrounds issues of power, hierarchy, and inequality in global energy transitions. From this perspective, climate change discourse is not neutral but embedded in relations of dominance between Global North and Global South (Newell & Paterson, 2010). International calls for decarbonisation often obscure historical responsibility for emissions, while placing disproportionate adjustment costs on petroleum-dependent states. For OPEC members, critical political economy underscores two points. First, climate change discourse is a site of struggle, where Global South producers contest the rules of the game by invoking specific principles such as “common but differentiated responsibilities.” Second, OPEC’s adaptive strategies must be understood not only in terms of domestic economic policy but also as responses to shifting configuration of global power, whether through carbon border taxes, investor activism, or the geopolitics of renewable technologies.

Climate Justice as a Normative Lens

The last leg of this study’s theoretical framework, climate justice, emphasises fairness in both the distribution of burdens and benefits of climate action and the recognition of the historical responsibility for emissions (Baer, 2011; Okereke, 2010; Timmons Roberts & Parks, 2007). From this perspective, the demand that OPEC states rapidly decarbonise while still grappling with development deficits raises profound ethical dilemmas. For example, Nigeria’s dependence on oil rents to fund poverty alleviation collides with global expectations to leave reserves untapped (Bos & Gupta, 2018; Kemitare et al., 2025). Similarly, calls for a global transition often lack concrete mechanisms to ensure financial and technological transfers to the Global South (De Lucia, 2014). This dilemma becomes more poignant when it is considered that the bulk of the crisis with which the world struggles was triggered by the centuries of sustained

and rapid industrialisation using fossil fuel by the same countries seeking to extract commitment to international agreements by industrialising (or even agrarian) countries in the Global South who have often negligible carbon footprints (Hadzix, 2024; Okereke, 2010).

By applying climate justice, the study highlights the “double bind” facing OPEC members, where they are simultaneously vulnerable to the physical impacts of climate change including desertification, flooding, heat stress, and drought (Abdul-Razak et al., 2025; Brock, 2012; Raj et al., 2022), and marginalised within the governance structures that dictate the pace and terms of decarbonisation (Okereke, 2010). This lens reframes OPEC not as a monolithic obstacle but as comprising diverse actors seeking to reconcile survival, justice, and development within an inequitable global order.

Climate Change Discourse and Pressures on OPEC

The global discourse on climate change is not only about technicalities focusing on the science and technologies of the process and solutions, but also about language, narratives, and norms that shape expectations of state behaviour (Hajer, 2012). Discourse in this sense functions as both a form of governance and a site of contestation, defining what constitutes legitimate action and what is deemed irresponsible or obstructive behaviour (A. Hajer & Oomen, 2025). For OPEC, the international climate discourse has emerged as a powerful external pressure, challenging the legitimacy of hydrocarbon-based development models and forcing adaptation in rhetoric, strategy, and policy.

The Global Climate Narrative Shift from Mitigation to Net Zero

Since the early 1990s, climate change has been framed as a universal crisis requiring urgent collective action. Milestone agreements such as the Kyoto Protocol (1997) and the Paris Agreement (2015), institutionalised this narrative, embedding expectations that all states should commit to reducing greenhouse gas emissions. While the Kyoto Protocol differentiates between Annex I (developed) and non-Annex I (developing) countries, the Paris Agreement shifted towards a more universalist framework, requiring all parties to submit Nationally Determined Contributions (NDCs) towards the reduction of Greenhouse gases by 2050 (Schroders, 2023). This universalist turn marked a critical discursive shift which liberalised the burden of mitigation, lifting it from the Global North and spreading it to all states including oil-dependent economies of the Global South (Falkner, 2016).

The concept of “net zero,” popularised after the Paris Agreement, further restructured global discourse. Net zero is framed as a moral and scientific imperative to limit global warming to 1.5^oC and that global emissions must attain balance by mid-century (IPCC, 2022). Major powers including the European Union (EU), the United States (U.S.), and China, have adopted net-zero pledges (Andresen & Agrawala, 2002; He, 2021), while financial institutions and multinational oil corporations have followed suit (Bach, 2019; Berkouwer & Peppelenbos, 2025). In this discourse, fossil fuels are cast as incompatible with planetary survival, while renewable energy is framed as the inevitable future. The result is the delegitimization of hydrocarbon dependence and the creation of reputational and political risks for countries that hold contrary opinions or refuse to sign or ratify global pacts (Depledge *, 2005).

OPEC in the Climate Discourse

OPEC occupies an ambivalent position in this discursive field. On one hand, its identity is closely tied to fossil fuels, making it a target of criticism from climate activists, policymakers, and scholars who portray it as an obstacle to global climate progress (Almoguera et al., 2011; Depledge, 2008). On the other hand, OPEC like many developing countries with development pathways mostly reliant on fossil fuels has actively sought to shape the discourse emphasising narratives of equity, development, and technological solutions (Johnson, 2017). In climate negotiations, OPEC countries frequently invoke the principle of “common but differentiated responsibilities” (CBDR), arguing that developed countries bear historical responsibility for emissions and therefore should bear a greater share of mitigation burden (Okereke, 2010). This rhetorical strategy reframes the climate challenge not as a universal obligation but as a matter of justice and fairness. By so doing, OPEC positions itself as a defender of Global South interests, even as it seeks to preserve space for continued hydrocarbon production (Depledge, 2008).

OPEC has also resisted the portrayal of oil as incompatible with climate action. Instead, it promotes discourses of “energy security”, “economic diversification”, and “technological neutrality”. For instance, the organisation emphasises carbon capture, utilisation, and storage (CCUS) as a pathway to reconcile fossil fuel use with emissions reduction (OPEC, 2025b). This reframing challenges the simplistic logic of fossil fuel versus renewable fuel by asserting that hydrocarbons can remain part of the global energy mix under the right technological conditions.

Discursive Instruments of Pressure on OPEC

The power of climate discourses is reinforced through material instruments that translate narratives into practice. One such mechanism is the financial divestment movement, which frames investment in fossil fuels as both economically risky and morally unacceptable (Ansar et al., 2013). As major institutional investors withdraw from hydrocarbons, OPEC producers face not only shrinking markets but also reputational stigma, even though the literature remain inconclusive about the effectiveness of divestment (Schwartz et al., 2024). The discourse of stranded resources and assets highlights this risk, suggesting that much of OPEC’s reserves may never be monetised if global climate goals are met (Bos & Gupta, 2018; Kemitare et al., 2025; McGlade & Ekins, 2015; Van Der Ploeg & Rezai, 2020).

Another discursive instrument is trade policy. The EU’s Carbon Border Adjustment Mechanism (CBAM), for example, is justified in the language of climate responsibility but functions as an economic pressure on carbon-intensive exporters, many of which are in the Global South (Farag, 2025). By framing carbon-intensive trade as environmentally illegitimate, CBAM implicitly challenges the development models of OPEC states that rely on energy-intensive exports. Finally, the legitimacy of OPEC is increasingly challenged in global public opinion. With the increasing popularity and reach through social media, youth-led climate movements such as “Fridays for Future”, frame oil-producing states and corporate entities as moral villains who only care for profit at the expense of the earth’s survival (Mkono et al., 2020). This discursive environment reduces the political space for OPEC to justify hydrocarbons dependence, compelling members to adopt at least rhetorical alignment with climate goals.

OPEC's Discursive Adaptation: Balancing Development and Transition

Despite these pressures, OPEC has demonstrated considerable discursive agility. Collectively, the organisation has sought to position itself as a constructive participant in climate governance, highlighting its commitment to the Paris Agreement while emphasising the need for a balanced approach that considers energy security, economic growth, and environmental protection (UNFCCC, 2017). This narrative allows OPEC to resist being cast as a spoiler, laggard, or climate villain while maintaining rhetorical room for continued fossil fuel production.

The climate discourse thus functions as a double-edged sword for OPEC. On one side, it delegitimises hydrocarbons and creates pressures that undermine the rentier model of development. On the other, it provides normative resources such as justice, equity, and technological pathways that OPEC can appropriate to defend its interests. This discursive contestation is central to understanding OPEC's adoptive responses. By situating OPEC within the global discourse of climate change, it becomes clear that the organisation is not simply resisting material pressures but actively engaging in a struggle over meaning (Hajer, 2012; Johnson, 2017). Climate governance is as much about framing and legitimacy as it is about emissions and technology. OPEC's future, therefore, hinges not only on how fast the world transitions away from fossil fuels but also on how it successfully navigates the discursive terrain of climate politics.

OPEC's Adaptive Responses

The global discourse of climate change exerts intense pressure on OPEC states however, the organisation and its members have not responded passively. Instead, OPEC has developed a range of adaptive strategies that operate on both the collective and national/individual levels. Collectively, OPEC emphasises stability, energy security, and technological solutions as central to the climate transition. Individually, member states pursue varied paths of adaptation, shaped by domestic political economy, development imperatives, and geopolitical positioning. This section first examines OPEC's collective strategies and then turns to case studies of Saudi Arabia, Nigeria, and the UAE, concluding with an assessment of commonalities and divergences across these responses;

OPEC'S Collective Strategies

One of OPEC's most visible adaptation to the changing global energy landscape has been its collaboration with other organisations to reinforce its position and bolster its collective bargaining power. Prominent among these collaborations is the OPEC+ which since 2016 has allowed OPEC to cooperate with non-member producers most notably Russia, to coordinate output levels and stabilise oil prices (Kozhanov, 2023; Montant, 2025). By consolidating its role in price management, OPEC+ secures the revenue base that underpins members' ability to pursue adaptation strategies (Fattouh & Sen, 2016; Montant, 2024). Other organisations with which OPEC collaborates in a world being redefined by the urgency of climate action and the associated challenges of energy security is the Gas Exporting Countries Forum (GECF) (OPEC, 2024).

These inter-organisational platforms reflect OPEC's recognition that the traditional market dominance of OPEC has weakened, requiring new forms of coalition-building to sustain not only influence but take on an active role in meeting climate action goals

and securing the earth (Economou & Fattouh, 2021). Discursively, OPEC presents itself as a responsible stakeholder in global energy governance. Official communiqués emphasise a “balanced approach” to the energy transition, foregrounding three interrelated objectives; energy security, economic development, and environmental sustainability (OPEC, 2025a). This tripartite framing allows OPEC to rhetorically align with international climate goals while defending continued investment in hydrocarbons.

Another collective adaptive measure adopted by OPEC is the creation of the OPEC Fund to support climate action (OPEC Fund, 2024). Accordingly the fund which adopted its first Climate Action Plan in 2022 has ambitious targets of increasing climate financing by 30% by year 2030 as well as other goals that include synchronising its objectives with those of the Paris Agreement. To secure the future the OPEC Fund emphasises three core areas namely (i) climate finance and energy mitigation (ii) food security and climate adaptation, and (iii) nature-based solution or protection of ecosystems and biodiversity. OPEC adaptation also promotes technological neutrality, arguing that climate objectives can be achieved not only through renewable energy but also through innovations in carbon management such as carbon capture, utilisation, and storage (CCUS)(OPEC, 2025a, 2025b) . By highlighting CCUS, OPEC contests the framing of fossil fuels as inherently unsustainable. Instead, constructing a narrative in which hydrocarbons remain part of the long-term energy mix. This narrative is reinforced through OPEC’s annual ‘World Oil Outlook’ which consistently projects oil demand remaining strong for decades, even under aggressive climate scenarios (OPEC, 2025a).

OPEC has also mobilised the discourse of justice and equity. In negotiations, its members stress the principle of “common but differentiated responsibilities,” pointing out the fact that the highly industrialised North have contributed the most to the current climate change crisis and the accumulation of green gases in the earth’s atmosphere (Baer, 2011; Okereke, 2010; Timmons Roberts & Parks, 2007). Consequently, not only do these discourses highlight that the Global North bears historical responsibility for emissions, they are also the leading source of ongoing emissions. This strategy reframes climate action as an issue of fairness rather than purely environmental necessity, legitimising demands for financial and technological transfers to support the transition efforts of OPEC’s member states.

Adaptation in Saudi Arabia

Saudi Arabia, OPEC’s largest producer, epitomises the tension between hydrocarbon dependence and climate adaptation. Oil accounts for roughly 70% of government revenue and 80% of export earnings (International Monetary Fund. Middle East and Central Asia Dept., 2022). Recognising the risks of long-term demand decline, the country initiated its Vision 2030 agenda, which aims to reduce dependence on oil rents. Key pillars of this diversification strategy include development of its tourism, financial services, and manufacturing sectors, alongside major infrastructure projects.

Concurrently, Saudi Arabia has promoted the concept of a Circular Carbon Economy (CCE), unveiled at the G20 Summit in the year 2020. The CCE framework emphasises reducing, reusing, recycling, and removing carbon emissions, integrating fossil fuels into a sustainable energy future rather than displacing them (Shehri et al.,

2023). Through this discourse, Saudi Arabia positions itself as an innovator in climate solutions while preserving hydrocarbons as central to the global energy system.

Saudi Arabia has demonstrated commitment to developing an energy mix also incorporating renewable/green energy sources such as the Sakaka Solar Plant and other proposed hydrogen projects. These pragmatic actions bolster its claims to energy transition. Paradoxically, Aramco, the state-owned oil company further demonstrates a policy of expanding oil production physical manifesting Saudi Arabia's position that renewable energy and fossil fuel can co-exist under the right conditions. This dual strategy represents a rhetorical alignment with climate discourse but also creates room for the material defence of hydrocarbon use and exploitation.

Adaptation in Nigeria

Nigeria illustrates the vulnerability of rentier states in the Global South to the demands of climate change. Oil accounts for around 90% of export earnings and half of government revenue (World Bank, 2022). Despite repeated diversification plans, the economy remains deeply mono-product being dependent on hydrocarbons particularly petroleum. Infrastructural deficits, governance challenges, and fiscal instability limit adaptive capacity. Endemic state corruption has played a significant role in the failure of its diversification efforts and the severely limited conditions of adaptive capacity in the country (David et al., 2024).

In climate negotiations, Nigeria emphasises the discourse of equity and vulnerability. The country highlights its relatively low per capita emissions compared to developed economies. Nigerian officials argue that the country cannot be expected to rapidly abandon hydrocarbons while poverty levels remain high and renewable energy infrastructure is underdeveloped. Domestically, Nigeria has adopted a Climate Change Act (2021) committing to net-zero emissions by 2060. However, implementation capacity is weak, and the government simultaneously pursues oil exploration in frontier basins to expand reserves (Lar et al., 2023; State House, 2023). Renewable energy projects, such as off-grid solar for rural electrification, remain marginal relative to oil and gas. Nigeria thus reflects the double bind of OPEC states where rhetorical commitment to climate discourse is strong but structural dependence on hydrocarbons for development is stronger.

Adaptation in UAE

UAE has crafted a distinctive adaptation strategy centred on green branding and international leadership (Dargin, 2021). As the first Middle Eastern country to announce net-zero target by 2050, and the host of COP28 in 2023, the UAE presents itself as a pioneer of climate action in the region. Through initiatives like Masdar City, a planned sustainable urban development, and large-scale solar investments like the Mohammed bin Rashid Al Maktoun Solar Park, the UAE positions itself at the forefront of renewable energy. It has also invested heavily in hydrogen and carbon capture projects, diversifying its energy portfolio.

Yet the UAE remains deeply committed to hydrocarbons. The Abu Dhabi National Oil Company (ADNOC) is investing billions to expand oil production capacity with output targets projected to exceed 5 million barrels per day by 2030. This dual approach, expanding of oil alongside aggressive renewable investments, reflects a strategy of hedging i.e. maintaining oil rents while constructing a reputation as a global hub of green energy

Commonalities and Divergence in the Adaptive Strategies of Case Studies

The climate adaptation strategies of Saudi Arabia, Nigeria, and UAE exhibit commonalities and significant differences which serves as a broad view of the state of climate adaptation in OPEC. Commonalities seem to converge around three key themes;

- i. All three countries rhetorically commit to net-zero or sustainable transitions even if the practicality, timeline and credibility of such commitments vary. This highlights a discursive alignment with global climate goals.

- ii. All three countries advocate and consistently promote narratives that justify continued petroleum production. Their advocacy at least in relation to Saudi Arabia and the UAE rely heavily on defence of hydrocarbons through innovative and technological optimism

- iii. All three countries seek to maintain hydrocarbon revenues as the fiscal foundation for development while cautiously pursuing diversification. This highlights the balancing of rents and reform

The divergences in their adaptive strategies are informed by domestic political economies;

- i. Saudi Arabia pursues a state-led diversification strategy backed by massive financial reserves, enabling ambitious but centralised adaptation projects

- ii. Nigeria struggles with weak institutions, fiscal instability, limited investment in capacity building, and endemic corruption which constrain its ability to move beyond oil dependence.

- iii. UAE leverages its small population, significant financial wealth, and global connectivity to brand itself as both a hydrocarbon power and a renewable energy pioneer.

These divergences highlight the unevenness of OPEC's adaptation. While wealthier members with more responsible governance can afford to experiment with dual strategies of expansion and transition, poorer members with histories of endemic corruption are trapped in the hydrocarbon dependency cycle. Collectively, however, OPEC continues to present a united front in international discourse, emphasising equity, technological neutrality, and the need for a balanced energy transition.

The Development vs. Decarbonisation Double Bind

Drawing from the above it can be argued that OPEC states are confronted with a predicament of structural contradiction between the developmental model underpinning rentier economies and the global push for decarbonisation. Rentier theory emphasises that states reliant on external rents, particularly oil and gas, structure their political economies around distributive rather than productive logics (Beblawi & Luciani, 2016b). Government legitimacy and social contracts in OPEC states are intimately tied to revenues from hydrocarbons, which fund subsidies, public sector employment, and infrastructural development.

Decarbonisation as packaged and being marketed by Global North actors as essentially exclusive of fossil fuel, represents not merely an environmental challenge but an existential disruption of the political economy but more importantly the survival of state regimes in OPEC. Indeed, if global oil demands decline in line with ambitious

climate scenarios, the fiscal foundation of rentier governance of many OPEC states may like erode. For many of these states, particularly those in the Global South with limited economic diversification like Nigeria, Iraq, Venezuela, Angola, the stakes are high with profound implications for economic stability, regime resilience, and social welfare systems all of which will be likely disrupted or even collapse if pipelines for oil rents are cut off.

Additionally, global financial flows increasingly discriminate against hydrocarbons. Major banks and investment funds have adopted Environmental, Social, and Governance (ESG) criteria that restrict fossil fuel financing (IEA, 2023; Zhao & Lin, 2025). This dynamic accelerates the marginalisation of OPEC economies by constraining their ability to secure external capital for oil and gas projects, even as domestic fiscal space narrows due to price volatility. The simultaneous need to invest in renewable alternatives further strains already fragile budgets. This aligns with underdevelopment paradigms that the climate change action agenda as framed by the Global North has become a tool for the control and subordination of Global South nations.

Energy Poverty and Development Imperatives

While OPEC states are often portrayed as obstacles to climate action, they highlight a legitimate concern. This concern revolves around the persistence of energy poverty and developmental deficits in the Global South. According to the International Energy Agency over 600 million people in Sub-Saharan Africa lack access to electricity (IEA, 2022). For oil producers like Nigeria and Angola, the export of hydrocarbons generates the revenue needed to expand domestic energy infrastructure, even as global discourse calls for phasing them out. This creates a paradox where hydrocarbons are at once the problem and solution. They are the principal source of emissions driving climate change, yet they remain the only viable fiscal foundation for developmental investments in much of the Global South. Unlike wealthier OPEC members such as Saudi Arabia and the UAE, poorer producers cannot rely on sovereign wealth funds or financial reserves to cushion the transition. Instead, they confront a development-decarbonisation double bind manifest as international pressure to transition to renewable energy colliding with immediate development imperatives including poverty alleviation, improving healthcare, and facilitating education.

Normative Dimensions: Climate Justice and Equity

This structural bind opens onto the normative terrain of climate justice. OPEC states often invoke the principle of “Common but differentiated responsibilities” (CBDR), enshrined in the United Nations FCCC (UNFCCC), to argue that the Global North has contributed disproportionately to emissions released into the earth’s atmosphere meaning they bear more responsibility for historical emissions (Baer, 2011; Bos & Gupta, 2018; Sultana, 2022). From this perspective, demands for rapid decarbonisation are viewed as unjust impositions that constrain the development of countries that contributed least to the problem. This has brought to the fore the issue of climate justice which in its simplest sense is the recognition and acknowledgment by international stakeholders that the effects of climate change are not felt equally across the globe rather, vulnerable and often marginalised communities bear the brunt of the burden despite contributing the least to the problem (UNDP, 2023). Consequently, at the heart of climate justice are concerns of fairness and equity in the recognition of

historical responsibility and in the distribution of burdens for climate action (Sultana, 2022).

Consequently, demands for rapid decarbonisation as a universal goal of climate action constitutes distributive injustice. This distributive injustice is further compounded by the asymmetry in adaptive capacity. Wealthy nations and often industrialised nations have the material resources and knowledge necessary to cushion the effects of rapid decarbonisation. In contrast, many OPEC countries do not have the material resources or technical knowledge and technology to cope with rapid transition. Therefore, requiring them to decarbonise at the same pace as developed, post-industrial and wealthy countries risks exacerbating global inequality.

Critical to the issue of climate justice is the notion of ‘intergenerational equity’ which argues that both the actions and inactions of present generations regarding resource use and environmental quality, will have effects on the rights and well-being of future generations (Chandler, 2023; Newell et al., 2021). While OPEC has not issued an official position on intergenerational equity, it has been a vocal advocate and supporter of environmental quality, sustainable economic growth, and human capital development through oil funding (Ayomitunde Aderemi et al., 2025). From this stand can be inferred, that hydrocarbon revenue, applying the study’s political economy approach, is central to financing investments in education, healthcare, transportation and other forms of infrastructure as well as diversification (Morteza et al., 2021), that will drive sustainable development that will benefit future generations. Therefore, prematurely cutting hydrocarbon sale is tantamount to denying developing societies the funding source to convert finite natural resources into long-term human development.

Balancing the Logic of Development and Decarbonisation

The double bind of development and decarbonisation thus crystallizes two diametrically opposed logics. On one hand, the logic of survival compels OPEC members to defend hydrocarbons as the fiscal basis of national development. On the other hand, concerns that they do not lose legitimacy and become isolated in international negotiations mean they must align, even rhetorically at least with global climate discourse, as packaged in the logic of decarbonisation. This explains why OPEC states simultaneously expand oil production while adopting net-zero pledges and investing in renewable energy.

From a normative standpoint, resolving this bind requires reimagining climate governance frameworks to incorporate justice-based considerations. This might involve substantial climate finance, technology transfers, or differentiated timelines that allow OPEC members to pursue gradual transitions without undermining developmental imperatives. Without such measures, the risk is a fragmented global order in which OPEC states resist decarbonisation, undermining collective climate goals.

Conclusion

The global discourse on climate change has placed OPEC at a critical juncture. The intensifying pressures for decarbonisation challenges both the organisation’s external legitimacy and the internal stability of its member states. This article has argued that OPEC’s responses can be understood through the double bind of development versus decarbonisation. Structurally, rentier political economies remain dependent on hydrocarbons for fiscal stability, making abrupt transitions politically and

economically unfeasible. Normatively, OPEC invokes principles of climate justice and equity, contending that the Global North bears historical responsibility and the Global South producers should not be forced to sacrifice development for a crisis they did not create.

The empirical analysis using the OPEC states of Saudi Arabia, Nigeria and UAE revealed variance in adaptive strategies by OPEC member states. Collectively, OPEC frames itself as a responsible stakeholder, advancing discourses of balance, technological neutrality, and equity. At the national level, the diverging adoptive pathways are largely influenced by political economy, domestic development, and political imperatives. While wealthier states like Saudi Arabia and UAE can pursue proactive adaptation, poorer nations like Nigeria are trapped in cycles of oil dependency. The common thread to all their strategies is that they seek to preserve hydrocarbon rents while rhetorically embracing climate discourse. The broader implication is that climate governance will struggle or even fail if the development dilemmas of OPEC states is not addressed. Accordingly, without financial and technological support, they are unlikely to pursue deep decarbonisation thus threatening global efforts to limit global warming. Conversely, if OPEC fails to adapt, members risk fiscal collapse and political instability outcomes with global security and humanitarian consequences. The following policy recommendations are put forward towards addressing the paradox of development versus decarbonisation facing OPEC states;

Policy Recommendations for OPEC

1. Reframe the organisational narrative beyond hydrocarbons to reduce the risk of alienating climate allies. OPEC should broaden its identity from a petroleum cartel to an energy transition stakeholder emphasising expertise in energy markets, investment mobilisation and, carbon management.

2. OPEC should deepen South-South cooperation with other developing countries in climate negotiations. They should coordinate advocacy for climate finance, technology transfer, and differentiated timelines to amplify its bargaining power beyond oil markets.

Policy Recommendations for OPEC Member States

3. Rentier states like Nigeria must invest in sectors that reduce fiscal dependence on hydrocarbons. Saudi Arabia's Vision 2030 and the UAE's green industrial policies illustrate viable models, though context-specific tailoring is essential.

4. Invest in human capital and institutional capacity because successful transitions rely heavily not just on economic diversification but also on strengthening governance institutions. OPEC states must prioritise investment in education, vocational training, anti-corruption and public sector reforms that prepare citizens for employment in non-oil sectors.

5. OPEC member states should hedge their chances by pursuing dual strategies built around maintenance of hydrocarbon revenue in the short-term while gradually scaling renewable energy sources in the long-term.

Policy Recommendations for International Actors

6. Support just transition partnerships by pursuing climate and transition agreements tailored specifically to different OPEC members

7. Facilitate technology transfers such as carbon capture, hydrogen production, and energy storage to empower OPEC states to integrate hydrocarbons into low-carbon pathways

8. Redesign climate finance mechanisms for hydrocarbon dependent economies to support and facilitate decarbonisation while supporting fiscal stability

9. Shift away from universal decarbonisation timetables to recognition of developmental equity in negotiations to reduce resistance to climate action by OPEC countries.

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Conflict of Interests

The authors declare no ethical issues or conflicts of interest in this research.

Ethics Statement

The author confirms that this study was conducted in accordance with the Journal’s Research Ethics and Integrity Statement and that all ethical requirements applicable to the study have been fulfilled.