

## RESEARCH ARTICLE

# Theorising the climate change accountability of Persian Gulf petrostates

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## Abstract

For states with political economies largely dependent on oil and natural gas rents, there seems to be little scope for accountability practices that answer for, and curb, fossil fuel production contributing to anthropogenic climate change. Critically engaging with rentier state theory, I examine the climate change accountability of Persian Gulf petrostates according to state responsibility norms under the United Nations Framework Convention on Climate Change (UNFCCC). For both domestic and international actions undertaken by these countries, there is no meaningful climate answerability for responsible actions—that they recognise and/or commit to the phasing down of their oil and natural gas production. There are differences in their emission reduction goals, under the Paris Agreement, that map onto variations in the stability and structure of their political economies, notably between the ‘super-rentier’ states (UAE, Kuwait and Qatar) and their rentier neighbours (Saudi Arabia and Oman). However, all make ritualistic, long-term commitments to ‘clean-carbon’ (net zero-emission) futures with no plans to reduce hydrocarbon exports. I argue that international climate change obligations should include a responsibility on states to reduce GHG emissions (at source) arising from their domestic- and foreign ownership of operational oil and gas fields. State energy companies in the Persian Gulf and elsewhere are key actors in fossil fuel extraction, yet remain insulated, through their corporate identities, from state responsibility norms. Treating state ownership of fossil fuels as a legitimate target of international climate regulation would broaden state accountability for climate change harm.

## KEYWORDS

accountability, climate change, fossil fuel production, Persian Gulf, petrostates

## 1 | INTRODUCTION

The resource curse literature suggests that oil rents may impede structures of public accountability in states, because minimal tax revenues weaken social pressure for democratic representation, while state-directed economic transfers promote the allegiance or political

quiescence of the population (Beblawi, 1987; Ross, 2001). These states are unlikely to constrain rent-generating economic actors responsible for domestic environmental degradation (Omeje, 2018), with even less incentive to regulate rent-generating activities contributing to global ecological harm, notably unchecked greenhouse gas (GHG) emissions. For Persian Gulf petrostates—with political

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**TABLE 1** Nationally determined contributions (NDCs) of Gulf petrostates.

	UNFCCC Paris Agreement and NDC status	NDC GHG emissions reduction target
Saudi Arabia	Ratified 3 November 2016 <ul style="list-style-type: none"> <li>updated NDC 23 October 2021</li> </ul>	GHG emissions reduction of 278 million tons of CO <sub>2</sub> equivalent annually by 2030 relative to BAU base year of 2019
Iraq	Ratified 1 November 2021 <ul style="list-style-type: none"> <li>first NDC 15 October 2021</li> </ul>	1%–2% reduction in GHG emissions from 2021 to 2030 BAU (separate 15% reduction goal conditional on international financial and technical support)
United Arab Emirates	Acceptance 21 September 2016 <ul style="list-style-type: none"> <li>second NDC 29 December 2020 (third update 11 July 2023)</li> </ul>	19% reduction in absolute GHG emissions by 2030 relative to 2019
Iran	Signed 22 April 2016 <ul style="list-style-type: none"> <li>not ratified</li> </ul>	n/a
Kuwait	Ratified 23 April 2018 <ul style="list-style-type: none"> <li>updated NDC 15 October 2021</li> </ul>	7.4% reduction in GHG emissions from 2015 to 2035
Qatar	Ratified 23 June 2017 <ul style="list-style-type: none"> <li>updated NDC 24 August 2021</li> </ul>	25% reduction in GHG emissions by 2030 relative to BAU scenario from 2019
Oman	Ratified 22 May 2019 <ul style="list-style-type: none"> <li>second NDC 29 July 2021</li> </ul>	7% reduction in GHG emissions by 2030 relative to BAU (3% of this reduction is conditional on international financial and technical support)

Source: UN Treaty Collection, UNFCCC, US Energy Information Administration.

economies largely dependent on hydrocarbon rents, taxes and royalties paid by transnational companies and other foreign entities<sup>1</sup>—there seems to be little scope for accountability practices that answer for, and curb, rent-driven behaviours contributing to anthropogenic climate change. However, globally these countries are disproportionate producers and exporters of fossil fuels: in 2020, the major petrostates in the region—Saudi Arabia, Iran, Iraq, United Arab Emirates (UAE), Kuwait, Qatar and Oman<sup>2</sup>—accounted for 31% of global oil production and 17% of global natural gas production, with 48% of proven world oil reserves and 40% of proven natural gas reserves (BP, 2021). Domestically, they face a double challenge of high GHG emissions per capita and emissions growth—a climate change liability compounded if GHG emissions are included from exported hydrocarbons that are combusted elsewhere (King & van den Bergh, 2019; Krane, 2020, pp. 124–25).<sup>3</sup>

At the same time, these petrostates are all (non-Annex I) Parties to the United Nations Framework Convention on Climate Change (UNFCCC) and have all, except Iran, ratified the Paris Agreement.<sup>4</sup> Each is committed therefore to the ‘stabilization of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system’ (UNFCCC Article

2), which following the 2015 Paris Agreement, treats this overall objective as holding the global average temperature increase to well below 2°C above pre-industrial levels, with the goal of no more than 1.5°C. To be sure, the first round of nationally determined contributions (NDCs) by these states under the Paris Agreement generally lacked quantitative emissions targets, although Saudi Arabia, the UAE and Qatar all committed to invest in major renewable energy capacity (Al-Sulayman, 2021). For the second round of new or updated NDCs, Saudi Arabia, Iraq, UAE, Kuwait, Qatar and Oman all committed to modest reductions in absolute GHG emissions by 2030 (Table 1).

In this paper I use state accountability for climate change mitigation actions as an entry-point for examining the climate change accountability of the Persian Gulf petrostates. The carbon-based reporting of the UNFCCC treaty regime aims at increasing system-wide transparency and accountability for a key domain of anthropogenic environmental change; but states dependent on hydrocarbon revenues have historically resisted accountability claim-making directed at their fossil fuel production. I examine whether the climate change mitigation commitments of petrostates serve as ritualistic or meaningful forms of answerability for carbon-led political-economic choices. I posit, first, that states dependent on hydrocarbon rents will, as UNFCCC Parties, tend to make ritualistic (‘low consequence’) claims on climate mitigation rather than meaningful (‘high consequence’) ones. Second, as evidence that hydrocarbon rents have a significant bearing on the climate change answerability of Gulf petrostates, I posit that differences in climate mitigation ambition will reflect variations in the stability and structure of their political economies.

In the next section I categorise the Gulf petrostates according to their rentier political economies, identifying systemic barriers to the evolution of public accountability. I then justify the focus on state accountability for climate change. The UNFCCC architecture for climate change accountability is state-centred, expressed as international legal

<sup>1</sup>For the countries discussed in this paper, the share of oil and gas revenues as a percentage of total government revenue (2015–2018 average) is, from greatest to least fiscal dependence: Iraq (89%), Oman (76%), Saudi Arabia (69%), Kuwait (67%), UAE (52%), Iran (37%) and Qatar (34%). Data from Coffin et al. (2021, pp. 49–50).

<sup>2</sup>I define ‘major’ petrostates as those Persian Gulf countries producing at least one million barrels per day of oil and/or at least 35 billion cubic metres per year of natural gas (BP, 2021, pp. 18, 35).

<sup>3</sup>There is also a question of historic emissions that can be attributed to the national oil companies owned by these seven petrostates. Heede, for example, estimates that the cumulative emissions of their national oil companies account for 7.48% of global CO<sub>2</sub>-equivalent industrial emissions between 1854 and 2010 (Heede, 2014, Supplementary Material, pp. 6–7).

<sup>4</sup>Given that it remains outside Paris Agreement norms designed to deepen the climate change accountability of states, I exclude Iran from the rest of the discussion.

obligations, and this governance framing significantly affects how responsibility is attached to other actors.<sup>5</sup> The substantive discussion in the paper focuses on answerability practices by the Gulf petrostates, covering domestic and international aspects of UNFCCC accountability. I then extend state accountability for climate change to include public ownership of operational oil and gas fields, both within and outside national borders. Attaching state responsibility to material sites of hydrocarbon production highlights a significant gap in UNFCCC climate mitigation obligations, which do not cover the responsibility of state actors extracting fossil fuels. A global rescaling of state responsibility to include emissions at source from the oil and gas fields (domestic or foreign) that they own is one example, I argue, of the switch in conceptual lens necessary to capture more precisely the dynamics of climate change accountability within ‘Anthropocene’ conditions of socio-ecological change (Arnold & Wolf, 2023). It also has wider policy relevance in contributing to discussions on the institutional structures necessary to realise effective international governance of fossil fuel supplies, such as the call by Newell and Simms (2020) for a Fossil Fuel Non-Proliferation Treaty. The concluding commentary considers these wider implications for climate change accountability.

## 2 | PUBLIC ACCOUNTABILITY IN RENTIER STATES

Rentier state theory seeks to explain the political economy and societal structure of states reliant for their national income on resource rents—defined here as externally derived, unproductively earned payments. In rentier states, the generation of wealth is typically controlled by a small number of actors: the primary recipient is the government, which distributes payments to favoured client groups and citizens to maintain popular support in the absence of democratic governance (Bebawi & Luciani, 1987; Gray, 2011). However, the rentier theory assumption that low public (governmental) accountability reflects low rates of taxation is challenged by recent energy subsidy reforms and tax rises in several Gulf petrostates, such as VAT increases in Saudi Arabia and UAE designed to preserve fossil fuel exports in international markets by lessening domestic demand for oil and gas (Krane, 2019b). There are variations in the stability and structure of petrostate political economies that impact how governments are held accountable to their citizens. Informed by rentier state literature, I therefore distinguish firstly between conflict-affected and stable rentier states, and then make a further distinction within the stable Gulf petrostates between super-rentier and rentier political economies.

Conflict-affected rentier states have arguably the least favourable conditions for governments being held accountable for environmental harm arising from the extraction of hydrocarbons, because controlling elites, under conditions of systemic instability and violence, are

incentivised to extract resource rents quickly regardless of socio-ecological costs. Iraq may be considered a conflict-affected rentier state in which dominant elites struggle to maintain order in the face of internal and external violence (Hamilton, 2020). Indeed, even in ‘post-conflict’ Iraq the dominant coalition of ethno-sectarian elites has rendered the state an unstable nexus of hydrocarbon rent-seeking, patronage and violence. Assisted by international actors, Iraq has created institutional structures for state accountability (e.g., the 2005 constitution), but the dispersal of coercive power amongst multiple militias undermines the rule of law and the development of an independent civil society that can make effective accountability claims against wielders of power (Dodge & Mansour, 2020).

In contrast, while the stable Gulf petrostates—Kuwait, Oman, Qatar, Saudi Arabia, UAE—share with Iraq a history of British-American imperial domination or control, they have more established political systems, monopoly control of the means of violence, and personalised (monarchical) systems of state rule with close control over economic activity (Kamrava, 2012; Krane, 2019a; Vitalis, 2007). The King (Sultan in Oman) stands at the centre of a regime coalition of dynastic domination, with key political offices distributed to family members (Herb, 1999). The ruling monarch has unchecked constitutional power and the last word on all state matters, leaving little room for manoeuvre for other political actors. In these Arab rentier states, regime legitimacy is largely secured through extensive welfare systems and public sector employment funded by resource rents, rather than democratic mechanisms of public accountability. These different standards of political legitimacy, which appeal to the stability and material security delivered by ruling families, are tested by adverse climate change impacts; and it is possible that, facing serious threats to habitability, authoritarian governance may facilitate rapid and effective responses to safeguard affected populations (Mittiga, 2022). Core rentier state institutions (national oil companies, ministries of energy and sovereign wealth funds) currently face greater claim-making over carbon accountability from foreign state and non-state actors than domestic civil society actors but, as the life-changing local effects of climate change (e.g., extreme temperature events and sea-level rise) are increasingly felt, the response of their political systems will likely affect their continuing legitimacy.

Rentier state scholars make a further distinction amongst the stable Gulf countries between the wealthier super-rentiers of Kuwait, Qatar and the UAE, and the comparatively less wealthy (but still high income) rentier economies of Saudi Arabia and Oman (Freer, 2018; Herb, 2009). In the former states, the distribution of resource rents has supported extensive welfare systems and public sector employment, employing large expatriate populations in private sector development and the service industry. Within the UAE, for example, the emirate of Abu Dhabi (under its ruling al-Nahyan family) has promoted itself as being at the forefront of a transition from an oil-based economy to a diverse green economy, channelling part of its sovereign wealth to clean energy projects, including the four-reactor Barakah nuclear power plant and the Mohammed bin Rashid Al Maktoum Solar Park (Günel, 2019; United Arab Emirates, 2020, 2023). In the other states, there have also been significant but largely symbolic commitments to reduce domestic carbon emissions, tempered by

<sup>5</sup>The focus on state accountability, as articulated through UNFCCC norms, does not imply that states are the only actors accountable for GHG emissions. However, state obligations under UNFCCC are the principal international framing for climate change accountability, with far-reaching consequences for Parties economically dependent on the export of fossil fuels, justifying an analytical focus on this level of social organisation.

uneven capacity and an unwillingness to abandon hydrocarbons (Al-Sulayman, 2020). For example, Oman's first major investment in renewable energy, the Miraah solar thermal facility, used for enhanced oil recovery, is nevertheless presented as a climate mitigation gain on account of its energy substitution for natural gas in oil extraction (Al-Sarhi & Mason, 2020, p. 12; Al-Sulayman, 2021, p. 99). Similarly, Saudi Arabia's adoption since 2020 of the circular economy idea supports a claim that continued fossil fuel production can be decoupled from 'fugitive' GHG emissions (Al Shehri et al., 2023).<sup>6</sup>

### 3 | STATE ACCOUNTABILITY FOR CLIMATE CHANGE

Accountability denotes the condition of holding an actor responsible for their behaviour, with the expectation that they will be answerable for their (in)actions and subject to some form of consequence based on an external assessment of these (in)actions. In global environmental governance, accountability applies not only to modalities of oversight and constraint on the exercise of state power (domestically and internationally), but also other, often hybrid, forms of public, private and voluntary authority having impacts on biophysical and geochemical systems. The multiplicity of actors and their divergent goals, across different scales of interaction, create governance systems with varied accountability logics. Kramarz and Park (2019, p. 5) argue that an overriding characteristic of accountability in global governance is that the norms and standards which constitute answerability for environmental harm—what they label 'first-tier' (constitutive) accountability—are constrained by pre-existing social logics and interests. Without inclusive and effective political interrogation of this design tier of global environmental governance, the global institutional focus of 'second-tier' (regulative) accountability has been on information exchanges and soft compliance mechanisms. The paradoxical consequence of this process-fixation is, they claim, the 'accountability trap' of more and more procedures (e.g., monitoring, reporting and verification systems) and outputs (e.g., treaty-based legal obligations, private certification standards) not matched by desired environmental outcomes: 'the problem is not the absence of accountability initiatives, but the continued deterioration of the environment despite their growth' (Kramarz & Park, 2019, p. 8).

This critical analysis of accountability, informed by an understanding of the social structures and settings that generate governance norms, resonates with the argument of Arnold and Wolf (2023) that we need to analyse accountability practices across multiple organisational levels and epistemologies. Arnold and Wolf (2023) stress that the interrogation of accountability institutions must gauge how effectively (and justly) they regulate socioecological relations in the face of the drastic transformations in conditions of life under the Anthropocene, including of course global warming. Both the changing composition of the atmosphere caused by anthropogenic GHG emissions, and the extensive

physical impacts wrought by climate change, are world-transforming. Anthropogenic climate change exposes the heightened challenges for global environmental governance in realising the accountability of state (and non-state) actors for climate-related harms (Widerberg & Pattberg, 2016). Under public international law, the regulation of transboundary and global environmental damage is centred on those legal norms of responsibility obliging states to ensure that activities under their jurisdiction or control do not cause damage to other states or to areas beyond state jurisdiction (Mason, 2008; Verheyen, 2005). There are substantial informational obstacles entailed in attributing state responsibility for the diverse and widespread effects of climate change—the causes of which rely heavily on expert-mediated assessments of historic and current anthropogenic GHGs, and the negative consequences of which are shaped by differentiated pathways of exposure and vulnerability (IPCC, 2022). UNFCCC-mandated norms of state responsibility for aggregate territorial emissions are therefore implemented in relation to global risk assessments—above all, the prospects for avoiding 'dangerous climate change'—and equity-framed treaty norms, notably the principle of 'common but differentiated responsibilities and respective capabilities'.

Under the UNFCCC climate regime, the development of state-to-state accountability is principally associated with growing levels of transparency on the current and intended climate actions of countries. This architecture of answerability was first expanded—for Annex I Parties—under the Kyoto Protocol, then extended to other Parties under the Copenhagen Accord and Cancún Agreements, introducing reporting and review obligations for the first time to developing countries (Gupta et al., 2021; Gupta & van Asselt, 2019). Below I discuss the Cancun Agreement transparency provisions applicable to the Gulf petrostates, which feature an international consultation and analysis (ICA) process subject to a nonintrusive review process. The Enhanced Transparency Framework of 'pledge and review' under the Paris Agreement continues the move towards a common transparency system for UNFCCC climate actions, though still with greater flexibility for developing countries. To gauge the level of climate mitigation ambition of Gulf petrostates I consider their public commitments at the domestic and international levels, including account-giving practices within UNFCCC climate reporting processes. In interpreting levels of answerability for climate mitigation actions, ritualistic answerability denotes very general and/or long-term commitments lacking implementation plans with negligible consequences for current fossil fuel production levels (labelled 'low consequence' actions). In contrast, meaningful answerability denotes specific and/or short-term commitments with evident implementation plans and significant negative consequences for current fossil fuel production levels (labelled 'high consequence' actions).

A critical analysis of accountability also questions whether GHG emissions and removals (standardised as tonnes of carbon dioxide equivalent) serve as a sufficient calculus of state accountability for climate change within UNFCCC multilateralism and beyond (Bellassen & Stephan, 2015; Green & Kuch, 2022; Lövbrand & Strippel, 2011). This opens up the 'first-tier' of how climate accountability is constituted by shifting the governance object to fossil fuel reserves, production

<sup>6</sup>Saudi Arabia has major research and development investments in carbon capture, storage and utilisation, including blue carbon sequestration (personal communication from member of UNFCCC delegation for Saudi Arabia, 24 June 2022).

and/or infrastructure, thereby interrogating the political economy of hydrocarbon supplies (Green & Kuch, 2022; Newell & Simms, 2020; Rayner, 2021). Thus, Green and Kuch (2022) propose a fossil fuel-based accountability framework of infrastructure operations and production volumes amenable to open-source mapping. This, they argue, would allow greater democratic oversight over the supply-side of climate change mitigation efforts, harnessing the informational capabilities of civil society actors. In the next section, following this suggestion, I discuss one aspect of fossil fuel supply that could expand our understanding of state accountability for climate change—the domestic and foreign ownership by state entities of oil and gas fields.

#### 4 | CLIMATE ACCOUNTABILITY IN RENTIER PETROSTATES

Returning to our conceptual distinction amongst Gulf petrostates between conflict-affected and stable states, we can question whether the relative stability of the latter, with more settled public institutions, admits at least greater answerability to claims regarding accountability for climate change despite a shared dependence on hydrocarbon rents. And within the group of stable states, we can also ask whether there is any significant difference in climate change accountability between the super-rentier countries (Kuwait, Qatar and the UAE), and their rentier neighbours (Saudi Arabia and Oman), all members of the Gulf Cooperation Council (GCC). The discussion below is designed to identify salient accountability relations of the Paris Agreement petrostates rather than offer a comprehensive analysis. In doing so, I distinguish climate actions determined: (i) domestically by rentier state regimes and; (ii) internationally by the institutional arrangements of the Cancun and Paris Agreements. Following the Kramarz and Park (2019) accountability framework, this is an analytical focus on regulative (second-tier) accountability—the processes by which these states demonstrate climate change accountability. I then outline in a preliminary way how (iii) adding information on fossil fuel extraction could expand our conception of the climate change accountability by addressing constitutive (first-tier) responsibility for climate harm.

(i) Domestically, political instability within Iraq has delayed its climate policy planning, reliant on capacity building support from the United Nations Development Programme. The submission of its first NDC in October 2021 followed consultations with civil society organisations and the private sector, although the mass anti-governmental protests since October 2019 demonstrate that the basic legitimacy of the political system remains under challenge. Climate change stresses amplify system-wide failings, such as the fragility of water supply infrastructure and the rainfall-sensitive precarity of agricultural livelihoods (Mason, 2022; Norwegian Refugee Council, 2021), yet do not significantly feature in the political claim-making of an opposition movement articulating grievances over the failings of the Iraqi state.

Recent years have seen record-breaking temperatures in the Gulf petrostates and their NDCs note serious threats from regional

warming and sea-level rise (e.g., Kingdom of Saudi Arabia, 2021, p. 3; State of Qatar, 2021, pp. 3–4; Sultanate of Oman, 2021, p. 4). Climate change impacts on health and habitability are projected to cause significant economic losses (Krane, 2020, p. 129). However, the public (democratic) accountability of ruling elites to citizen concerns about climate change is non-existent to minimal in Saudi Arabia and Oman, which remain absolute monarchies. Public pronouncements on climate change by these states are heavily conditioned by strategic economic priorities for ruling families, and only non-state actors closely aligned to these interests are consulted (Alam & Luomi, 2018). The super-rentier states of Kuwait, Qatar and UAE have institutionalised quasi-parliamentary accountability for governing actors. While political parties are banned, they have consultative assemblies with some elected representatives—50 deputies in the fully elected Kuwaiti National Assembly, 30 elected members (of 45) in the Qatari Consultative Assembly, and 20 elected deputies (of 40) in the UAE Federal National Council. Despite this greater scope for answerability of state actors, there is little evidence that climate change has been a significant issue in parliamentary elections or debates, even during the recent period of extreme heat events. An analysis of the 2020 parliamentary elections in Kuwait, for example, reveals that climate change was not a political priority or salient topic of discussion (Sharp et al., 2021, pp. 13–16).

Less out of answerability to citizens than political-economic choices made by their ruling families and aligned capital interests, the Gulf petrostates have assumed a responsibility for climate policy development that allows them to signal climate mitigation commitments to the international community whilst maintaining major rental streams from hydrocarbon exports, which suggests ritualistic rather than meaningful moves to low-carbon economies (Al-Sarhi & Cherni, 2022; Koch, 2022; Zumbraegel, 2022). The shared domestic imperative, articulated across a series of vision statements (e.g., Abu Dhabi Vision 2030, Bahrain 2030, Kuwait Vision 2035, Saudi Vision 2030, Oman Vision 2040, Qatar National Vision 2030), focuses on economic diversification, public sector development and investment in human capital. While the scaling up of clean energy was initially designed to reduce dependence on oil and gas for domestic (subsidised) energy use, with more ambitious climate mitigation expectations and goals generated by the UNFCCC process, these visions have been recast as green growth, such as the Saudi circular carbon economy and the Kuwaiti 'low carbon equivalent emissions economy'. In 2019 UAE had by far the highest level of installed renewable energy capacity in the region—at 1885 MW, followed by 397 MW for Saudi Arabia and 105 MW for Kuwait—although all six GCC states are committed to an accelerated increase in installed capacity by 2030 (Al-Sulayman, 2021, pp. 99–100), so there is no significant variance in clean energy uptake between rentier and super-rentier petrostates.

(ii) Internationally, within the multilateral governance system of the UNFCCC, state-to-state accountability varies between Parties according to the principle of common but differentiated responsibilities and respective capabilities (Gupta & van Asselt, 2019, p. 48). It is within this politically contested domain that the Gulf Arab states, and Saudi Arabia in particular, have sought special treatment and served as a drag on mitigation ambitions during UNFCCC negotiations. Under





clauses designed to minimise the adverse effects of climate change on developing and least developed countries, Saudi Arabia successfully pushed to embed, in the UNFCCC (Article 4.8(h)) and Kyoto Protocol (Article 3.14), articles requiring consideration of the needs and concerns of countries whose economies are highly dependent on production, processing and export, and/or consumption of fossil fuels (Barnett & Dessai, 2002; Depledge, 2008). This position, supported by the other Gulf petrostates, has justified calls for recognition that lost oil revenues be considered a legitimate source of compensation. Nevertheless, there is variation in the NDC climate mitigation ambitions between the rentier and super-rentier states (Table 1). Lack of a quantified baseline position and official data on recent CO<sub>2</sub> levels makes the Saudi Arabia commitment largely indeterminate, while Oman commits to a 7% reduction in GHG emissions by 2030 relative to business as usual (BAU). The super-rentiers have greater ambition for GHG emission reductions—a 7.4% reduction relative to BAU for Kuwait, (2105–2035), a 25% reduction emissions goal relative to BAU for Qatar (2019–2030)—and in UAE a 19% absolute reduction of GHG emissions (2019–2030).

Given that NDCs under the Paris Agreement are not legally binding, the state-to-state accountability burden rests on the mandatory nature of its reporting and technical review process, supported by a facilitative, multilateral consideration of progress on climate financing and NDCs (Article 13). The Enhanced Transparency Framework of the Paris Agreement builds on the measurement, reporting and verification system under the UNFCCC, which had already developed novel account-giving between states over their climate mitigation actions. For developing country Parties, this entails a ‘facilitative sharing of views’ (FSV) under an International Consultation and Analysis (ICA) that, in deference to national sovereignty, rules out discussion on the appropriateness of their domestic policies and measures. From their analysis of the first round of FSV sessions in 2016–2017, Gupta et al. (2021) observe a truncated answerability with one-off questions and answers rather than a dialogic exploration of climate actions. As of January 2022, from the Middle Eastern oil states, Kuwait, Saudi Arabia and Oman had completed a full ICA process, including an FSV record. All were commended by the UNFCCC Secretariat for completing an ICA cycle, with FSV questions seeking only technical clarifications (UNFCCC Secretariat, 2020, 2021, 2022). During its FSV session, Saudi Arabia stressed the important role of carbon capture, storage and utilisation in generating climate mitigation co-benefits (UNFCCC Secretariat, 2020, p. 3), reflecting its long-term position that this technology offsets continuing domestic carbon emissions.

While ICA reporting cycles continue until 2024–2026, the Enhanced Transparency Framework introduces a collective implementation review (the first global stocktake of the Paris Agreement, 2021–2023) that will likely ask more searching questions on response measures. This check on climate policy ambition will not be targeted at countries or groups of countries, maintaining the ‘soft compliance’ philosophy of the UNFCCC process; that is, an operationalisation of state-to-state accountability as non-intrusive and non-punitive answerability, which may lead to incomplete and heterogeneous information that inhibits comparative assessments of NDCs (Weikmans et al., 2020). Such soft compliance is necessitated by the consensus-based

decision-making architecture of UNFCCC negotiations: since early (pre-COP 1) negotiations on rules of procedure, Saudi Arabia has, alongside other oil producing and exporting countries, successfully defended a strong (unanimity) version of the consensus rule, which boosts the blocking power of individual states (Depledge, 2008, p. 12). To be sure, the Paris Agreement global stocktake anticipates a multilateral account-giving on climate change actions that can collectively ratchet up NDC ambitions to limit the global average temperature rise to 1.5°C above pre-industrial levels; and the international climate negotiations have generated net-zero carbon emission pledges by UAE (by 2050), Bahrain (by 2060) and Saudi Arabia (by 2060). Yet none of these pledges featured detailed plans of action and all exclude GHGs generated by the burning of hydrocarbon exports.

For both domestically-driven and UNFCCC actions undertaken by the Gulf petrostates, there is little evidence of meaningful answerability for actions—major oil and natural gas production—likely contributing to dangerous climate change. While there are differences in NDC commitments between the super-rentiers (Kuwait, Qatar and the UAE), and their rentier neighbours (Saudi Arabia and Oman), all share largely ritualistic, long-term commitments to low-carbon development. UNFCCC-oriented climate mitigation actions therefore represent low-consequence appeals to international legitimacy rather than meaningful (high-consequence) moves away from carbon-led economic growth.

(iii) Addressing constitutive (first-tier) responsibility for climate harm by the Gulf petrostates would include their domestic and foreign ownership of operational oil and gas fields. As this pertains to the supply of fossil fuels, it falls outside the emissions obligations placed on governments by the UNFCCC but would be a necessary element of a critical accountability approach that interrogates the political economy of hydrocarbon supplies alongside the global effects of their use. This focus on the materiality of oil serves to correct the rentier theory preoccupation with revenue streams when addressing the behaviour of states (Mitchell, 2011). Furthermore, state enterprises (those with full or majority state ownership) tend to be neglected by climate accountability assessments of corporate actors, which typically focus on publicly listed companies with greater legal transparency (e.g., InfluenceMap, 2018). However, with the exception of Iraq, operational oil and gas fields in the Gulf petrostates are principally owned and controlled by state corporations, notably Saudi Aramco, Abu Dhabi National Oil Company (ADNOC), National Iranian Oil Company, Kuwait Petroleum Company, Qatar Energy (formerly Qatar Petroleum) and Petroleum Development Oman.

Table 2 shows ownership of operational oil and gas fields in the Gulf petrostates. It is compiled from open-source data available through wiki software—the Global Oil and Gas Extraction Tracker (as of January 2022) developed by the NGO Global Energy Monitor (GEM)—with additional ownership information gathered from the business website [www.offshore-technology.com](http://www.offshore-technology.com). Ownership of operational fields is denoted by corporate entity—domestic state, foreign state, foreign private, other (no majority ownership by a single entity type). Overall, domestic state enterprises dominate the production ownership of oil and gas, with full domestic state ownership of all operational fields in Saudi Arabia and the great majority in Iran: only

**TABLE 2** Ownership of operational oil and gas fields in Gulf petrostates.

Country [data range]	Number of operational oil and gas fields	Ownership over 50% by domestic state enterprises [n] = 100% state owned	Ownership over 50% by foreign state enterprises	Ownership over 50% by foreign private enterprises	Other ownership
Saudi Arabia [2015–19]	11	11 [11]	-	-	-
Iraq [2012–21]	38	14 [12]	9	11	4
UAE [2018–21]	11	9 [2]	-	2	-
Iran [2013–21]	83	78 [77]	2	3	-
Kuwait [2016–21]	9	5 [5]	-	-	4
Qatar [2019]	17	15 [8]	-	1	1
Oman [2017–21]	13	9 [3]	-	3	1

Source: Global Energy Monitor (2022), [www.offshore-technology.com](http://www.offshore-technology.com).

Iraq has state-owned enterprises controlling hydrocarbon production in less than half of its operational fields. The economic control over the bulk of oil and gas fields by Gulf petrostates reinforces their supply-side responsibility for avoiding dangerous climate change. However, the corporate legal identity of their state enterprises shields these entities from the direct application of UNFCCC obligations on states.

At the same time, the table reveals a significant but largely unexplored aspect of state accountability for climate change—majority ownership of oil and gas fields by foreign state enterprises. In Iraq, nine active fields have majority ownership (sole or shared) by foreign state enterprises, including four oil fields controlled by Chinese state-owned companies (notably the China National Offshore Oil Corporation) and two oil fields controlled by a state-owned Angolan company (Sonangol Group). In Iran, one gas field in the very large South Pars complex is controlled by the Norwegian state-owned corporation Statoil, while Gazprom (Russia) and Petronas (Malaysia) have a 60% share in another gas field. Furthermore, the extra-territorial reach by foreign state enterprises also features a wide range of smaller ownership stakes in oil and gas fields by state enterprises, including Gulf petrostate companies developing hydrocarbons in neighbouring countries, e.g. the Abu Dhabi National Energy Company and Qatar Energy in Iraq, or Mubadala (UAE sovereign wealth fund) in Qatar and Oman. In this respect at least, as foreign state investors in fossil fuel extraction, the super-rentier states of UAE and Qatar have unaddressed answerability for climate change actions, contradicting the claim that they are more open and responsive to international climate mitigation norms. To be sure, UNFCCC climate mitigation obligations do not cover the extra-territorial responsibility of state actors extracting fossil fuels: indeed, the upstream GHG emissions from their oil and gas operations—notably methane—fall under the mitigation responsibilities of the host state. Nevertheless, such behaviour would be covered by supply-side norms prohibiting the proliferation of fossil fuels (Newell & Simms, 2020; Rayner, 2021).

Of course, oil and gas fields vary greatly in size: the region includes the largest two onshore oil fields in the world according to estimated

ultimate recovery (EUR) of oil—the state-owned Ghawar field in Saudi Arabia with 106,041 MMBOE (million barrels of oil equivalent) and the state-owned Greater Burgan field in Kuwait with 67,729 MMBOE—and also the largest offshore oil field in the world, the state-owned Safaniyah field in Saudi Arabia with an EUR of 56,285 MMBOE (Cust et al., 2021). However, the majority of operational (and other discovered) oil and gas fields across the seven petrostates have estimated EUR values below 5000 MMBOE (Cust et al., 2021). A comprehensive regional mapping of fossil fuel extraction could analyse EUR totals and shares by ownership entity to differentiate hydrocarbon assets between state and private enterprises (e.g., Heede & Oreskes, 2016). Again, this would move beyond, or enlarge, UNFCCC norms of aggregate state responsibility within territorial borders. We could conceptualise instead supply-side commitments that constrain the behaviour of domestic and foreign state entities owning the production of fossil fuels—a state responsibility that could be differentiated from, but supplement, the governmental regulation of (state and private) corporations producing fossil fuel within their territories.

These are only preliminary comments on supply-side aspects of climate accountability as applied to Gulf petrostates, yet there is a wider relevance from identifying operational oil and gas fields as objects of state responsibility concerning the prevention of dangerous climate change. In the first place, this highlights a governance object that is becoming more significant as more countries commit to the phasing down of fossil fuels, which can also be applied to hydrocarbon reserves (EUR values) alongside current production totals. Second, such moves to address emissions at source invite accountability demands of owners of hydrocarbon assets: where state enterprises have direct ownership and control of hydrocarbon production (in a domestic or foreign capacity) these UNFCCC obligations are more direct than those exercised through the regulation of other fossil fuel owners. Of course, none of this absolves private oil and gas corporations from action; yet their ability to commodify hydrocarbons rests on property and licensing rights granted by states. The question of the full scope of state responsibility for emissions is central to effective climate change governance.



## 5 | CONCLUSION

As Parties to the UNFCCC, the Persian Gulf petrostates are an integral part of its multilateral regime of accountability, which is focused on state obligations to prevent dangerous climate change. Since the Paris Agreement this collective goal has become more precisely framed by science and mapped, with creeping ambition, on the mitigation and adaptation commitments of states. Yet the Gulf states are afforded differential treatment within the UNFCCC process, both as non-Annex I Parties with non-intrusive reporting and peer review procedures and, more specifically, provisions under UNFCCC agreements prescribing consideration of their needs and concerns as countries economically dependent on fossil fuel exports. Saudi Arabia has, with support from other Gulf petrostates, used UNFCCC negotiations to dilute GHG emission reduction ambitions and to defend continued fossil fuel production. At the same time, while the soft compliance of the UNFCCC is directed at trust-building rather than sanctioning—suggesting a weak system of state-to-state accountability for climate actions—the comprehensive system of answerability furthered by the Paris Agreement is committing these states to norms of transparency that are a condition for meaningful climate accountability. ICA processes may be deferential to state sovereignty, but state-supplied data also invites civil society scrutiny. Even framed as ‘technical’ information, this is likely to have positive spillover effects on political answerability in these states.

The responses of Gulf petrostates to UNFCCC norms of state responsibility are consistent with our first thesis that states dependent on hydrocarbon rents will tend to make ritualistic claims on climate change mitigation rather than meaningful ones. For both domestic and international actions undertaken by the Gulf petrostates according to UNFCCC norms, there is little evidence of meaningful answerability for actions; in other words, that they recognise and/or commit to the high consequence choice that their oil and natural gas production must be phased down drastically in order to help prevent dangerous climate change. However, there is insufficient evidence fully to support our second rentier thesis that differences in the climate mitigation ambition of the Gulf petrostates reflect variations in the stability and structure of their political economies. The instability of Iraq, hampered by a dysfunctional system of sectarian governance, is likely to account in part for its marginal climate mitigation commitments under the Paris Agreement compared to the more stable petrostates; and there is higher stated NDC ambition by the super-rentiers of UAE, Kuwait and Qatar, compared to the rentier regimes of Saudi Arabia and Oman. However, all these states make ritualistic, long-term commitments to ‘clean-carbon’ (net zero-emission) futures with no plans to reduce hydrocarbon exports. Indeed, UAE, Kuwait and Saudi Arabia are significant increasing oil production capacity. Their UNFCCC-oriented climate mitigation actions therefore represent more symbolic (low consequence) appeals to international legitimacy than meaningful moves away from carbon-led export growth.

Drawing on the accountability theory of Kramarz and Park (2019), I also move beyond the regulative (second-tier) focus of UNFCCC responsibility norms on GHG emissions to a constitutive (first-tier) reframing of climate responsibility to include ownership of operational

oil and gas fields. For state responsibility, this means political answerability for domestic- and foreign public ownership over fossil fuel extraction. Such ownership, as shown above, is high across the Gulf petrostates. Understanding the production of hydrocarbons by state enterprises in other countries is empirically salient in the Persian Gulf region: it reveals, for example, that the super-rentier Gulf states have unacknowledged accountability both for domestic and extra-territorial extractive practices causing climate harm. Theoretically, a constitutive re-alignment of state climate accountability towards extractive practices questions, or at least qualifies, the focus of rentier theory on revenue streams when explaining the behaviour of states.

In wider policy terms, the findings justify treating operational oil and gas fields as legitimate objects of international regulation to prevent dangerous climate change. Whether developed through UNFCCC obligations or other instruments of international law, states should have a direct responsibility to reduce GHG emissions at source arising from their domestic- and foreign ownership of operational oil and gas fields. This would rescale the climate accountability of states to include state-owned enterprises both in territorial and extra-territorial spaces. At the moment, state corporations in the Persian Gulf and elsewhere are key actors in fossil fuel extraction, yet remain shielded, by their corporate legal identities, from UNFCCC obligations. Treating state ownership of fossil fuels as a legitimate target of international climate governance would recast accountability for climate harm, inviting also questions about the effective climate regulation of privately owned oil and gas fields.

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## SUPPORTING INFORMATION

Additional supporting information can be found online in the Supporting Information section at the end of this article.

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