

Challenges and Opportunities for Climate Policy Integration in Oil-Producing Countries: The Case of the UAE and Oman

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Abstract

In the context of international climate change obligations, Gulf Arab states have introduced policies to integrate climate policies into economic development and planning, seeking to maximise clean development opportunities yet at the same time to minimise the threats to their rentier economies caused by sudden shifts away from fossil fuels. This paper assesses the challenges and opportunities for climate policy integration in the Gulf states of the United Arab Emirates (UAE) and Oman, examining the interaction between their climate policy and their political–economic regimes. It adopts a novel analytical framework that integrates insights from climate policy integration and the political–economic theory of rentier states. Drawing on semi-structured interviews with key stakeholders and relevant policy documents, it reveals modest progress in integrating climate policy into economic development plans in the UAE but major impediments to climate policy integration in Oman. Both countries face significant shortfalls in climate-related financial and human resource capacities. Climate policy integration efforts have focused on the energy sector with the purpose of protecting rents from oil exports rather than advancing a low-carbon transformation of their economies. This has created structural ambiguity in the climate policy integration advanced in the UAE and Oman.

Key policy insights

- The availability, quality and accessibility of climate-related data are serious challenges for policy makers in the UAE and Oman.
- Both countries have evolving institutional architectures conducive to climate policy integration. However, these are more symbolic than substantive, lacking clear policy integration strategies across the governments.
- The UAE and Oman both face significant shortfalls in climate-related financial and human resource capacities.
- Support for climate policy integration by the ruling elites in the UAE and Oman is significantly shaped by rentier interests: most climate-related initiatives have addressed the energy sector, aiming to protect rents from oil exports by reducing the domestic dependence on fossil fuels.

Keywords: Oil-producing countries; climate change; climate policy integration; energy; UAE, Oman

1. Introduction

For countries that are highly reliant on fossil fuel export revenues, like the Gulf Arab states, economic growth is vulnerable not only to the physical impacts of climate change (Tolba and Saab, 2009) but also to the outcomes of global climate change mitigation measures aiming to keep climate change at a (relatively) safe level (Al-Sarihi, 2017). Global action to cut greenhouse gas (GHG) emissions through policies aiming to reduce fossil fuel consumption could impose direct economic losses on the Gulf Arab states (Manley, Cust and Cecchinato, 2017; IEA, 2018), which are already vulnerable to oil price shocks.

One way to minimise the harm caused by climate change while maximising economic development opportunities is to integrate climate policies into economic planning and development (IPCC, 2014; England *et al.*, 2018). The concept of climate policy integration (CPI) has come to the fore in the last decade in academic and policy-making circles (Adelle and Russel, 2013; Ayers *et al.*, 2014; Vincent and Colenbrander, 2018). The Fifth Assessment Report of the Intergovernmental Panel on Climate Change (IPCC) calls for a form of sustainable development that combines adaptation and mitigation (Denton *et al.*, 2014). CPI scholarship, which is informed by the environmental policy integration literature (Ahmad, 2009; Jordan and Lenschow, 2010; Adelle and Russel, 2013; Runhaar, Driessen and Uittenbroek, 2014; Gregorio *et al.*, 2017), has generated various definitions of CPI and the related concepts of 'climate mainstreaming' and 'climate proofing'. The definition of CPI adopted here is the 'integration of policies and measures to address climate change in ongoing sectoral and development planning and decision-making' (Klein, Schipper and Dessai, 2005, p.584) to 'minimize the harm caused by climate impacts, while maximizing the many human development opportunities presented by a low emission, more resilient future' (Mitchell and Maxwell, 2010, p.1).

To a greater or lesser extent, all the Gulf Arab states are undertaking economic diversification efforts to reduce their fiscal reliance on oil export revenues. These efforts, given the increased momentum since the 2014 drop in crude oil prices, seek to reduce dependence on fossil fuels for domestic energy needs, favouring various reforms of long-standing fossil fuel subsidies. The ensuing increases in the prices of fuel, electricity and water (resulting from the energy costs for desalination) have created windows of opportunity for enhanced domestic climate action, such as increased uptake and integration of renewables in the energy sector. In their nationally determined contributions (NDCs) under the 2015 Paris Agreement, the Gulf countries, except Oman and Kuwait, have communicated their intent to align their climate change policies with their economic diversification strategies, but little is known about the scope of CPI in these states.

There is a growing body of literature examining the factors facilitating or hindering the incorporation of climate policies into economic development strategies (see, for example, Adelle and Russel, 2013; Brouwer, Rayner and Huitema, 2013; Alhassan and Hadwen, 2017), but there is no academic study of CPI in the oil-producing Gulf Arab states. Therefore, with a focus on the United Arab Emirates (UAE) and Oman, this paper examines the extent to which climate change has factored in economic planning and development, assessing the challenges and opportunities for CPI. We argue that reductions in the domestic consumption of fossil fuels, achieved by increased renewable energy generation, are designed to free hydrocarbons for export, cancelling out their climate mitigation value. Conceptually, we claim that the institutionalist lens of CPI scholarship – addressing questions of climate change information, governance and resources – is not sufficient to account for the structural influence of the distinctive political economy of the Gulf Arab states. The paper thus contributes to the literature by developing an analytical framework that integrates insights from CPI with the political–economic theory of rentier states.

This paper is organised as follows: Section 2 presents the theoretical framework used to assess the challenges and opportunities for CPI in Arab oil-producing states; Section 3 presents the methodology; Section 4 offers a comparative analysis of the challenges and opportunities for CPI in the UAE and Oman, the findings of which are explained through rentier state theory in Section 5; and, finally, Section 6 sets out the conclusions of the study.

2. Theoretical framework for understanding climate policy integration in oil-producing states

In assessing the challenges and opportunities for a potential alignment of climate policy with economic diversification strategies in oil-producing states, two strands of literature are particularly relevant: climate policy integration (CPI) and rentier state theory.

2.1 Climate policy integration (CPI)

2.1.1 CPI as a policy principle

CPI as a ‘policy principle’ seeks to incorporate climate change mitigation and adaptation actions across all policy sectors, which, at its most far-reaching, would embed ambitious mitigation and adaptation goals within other policy areas (see for example: CPI in the energy sector (Lüpke and Well, 2019), and CPI in the land use sector (Di Gregorio et al, 2017). A ‘weaker’ interpretation of CPI tends to view climate objectives as an ‘add-on’ component to other sectoral activities, seeking obvious co-benefits between climate

objectives and other policy sectors/activities (Adelle and Russel, 2013). This is problematic as, while synergies between climate and sectoral objectives can sometimes be pursued, there can also be trade-offs between climate and non-climate objectives, with the former losing out unless climate change is prioritised. Therefore, the 'policy principle' benchmark adopted in this paper, following Lafferty and Hovden (2003, p.9), is that 'CPI entails giving "principled priority" to climate objectives over those of other policies': for the application to the Gulf states, this means assessing the extent to which CPI policy objectives significantly shape economic development, notably for the energy sector. To what extent do commitments to CPI in policy documents remain a priority when there are substantive trade-offs between climate change activities and economic development?

According to Lafferty and Hovden (2003), such integration can be achieved through two main axes of governance: vertical integration, referring to the assimilation of environmental or climate goals at vertical tiers of governance within a policy sector; and horizontal integration, which is achieved when climate mitigation and adaptation actions are undertaken across policy sectors. While this paper addresses mainly the latter, we find some evidence of vertical CPI in the UAE (Section 4.2.2).

2.1.2 CPI as a policy process

CPI is also a policy process by which administrative structures and mechanisms are used to integrate climate objectives (Kooiman, 2000; Adelle and Russel, 2013). Scholars and practitioners have attempted to identify the different factors that influence 'effective' CPI (see, for example, Adger *et al.*, 2007; Biesbroek, Klostermann, Termeer and Kabat, 2011; Persson and Runhaar, 2018). The following sub-sections synthesise the salient *internal* factors influencing CPI processes based on a review of the literature on climate adaptation and mitigation governance, environmental policy integration and climate change mainstreaming. These governance properties, significantly shaping the uptake of CPI, can be categorised as follows: data, information and awareness; institutional architecture; and the availability of financial and human resources.

Data, information and awareness

The process of CPI adoption is related to climate change information, including the extent of relevant data, knowledge and awareness of climate-related issues and the availability, accessibility, credibility and reliability of information. Furthermore, the manner by which information is communicated and translated by climate change experts and the way in which this information is received by users (i.e. planners and decision makers) are vital. Science-based climate knowledge needs to be applicable and relevant to be

integrated into appropriate policy areas. This requires translating scientific data on climate change into policy-relevant information (Ayers *et al.*, 2014; Cuevas and Peterson, 2015; Oliveira *et al.*, 2015). The level of awareness of climate change and its predicted impacts can shape the attitudes, behaviour, priorities and actions of governments towards climate change (Biesbroek *et al.*, 2011).

Institutional architecture

CPI requires supportive 'leadership, co-ordination, and collective action', that is, a conducive institutional architecture (Evans and Steven, 2009, p.2). The institutional challenges to CPI can be classified as rule-based institutional, social structure-based institutional and organisational (Eisenack *et al.*, 2014; Cuevas and Peterson, 2015). First, rule-based institutional challenges relate to how formal policy and regulatory support affect the commitment of governments to addressing climate change, the political prioritisation of climate change and the autonomy of governments to make decisions on climate change. The absence of formal legislation mandating actors to incorporate climate mitigation or adaptation into their activities is a serious barrier to CPI. Second, social structures that affect CPI processes include attitudes, values, norms, practices and beliefs that influence why and how actors engage in climate change across diverse policy sectors. Third, organisational challenges deal primarily with the institutional arrangements within and between organisations that encourage either cohesion or fragmentation (Cuevas and Peterson, 2015).

Availability of financial and human resources

Resource constraints play a crucial role in climate change planning and integrational capacity (Biesbroek and Klostermann, 2011). In many cases, a lack of funding is among the primary reasons for delays in the implementation of CPI (Cuevas, 2016). Funding can be a great barrier to integration when it is lacking and a significant enabler when it is available. In the integration of climate change within and across policy sectors, the need for adequate resources extends beyond finance. As climate change is a long-term challenge, the availability and longevity of the human resources dedicated to CPI are critical. This issue becomes more complex because workers across diverse policy domains must be trained, skilled and knowledgeable about climate change (Cuevas, 2016).

To analyse the uptake of CPI as a policy principle and process in real-world contexts, empirical attention to the aforementioned governance factors – information and awareness, institutional architecture and the availability of financial and human resources – must, we argue, be supplemented by consideration of the structural political-economic conditions under which CPI takes place. Oil-producing states, the principal income of which is generated from hydrocarbon exports, would be expected to have political economies

that are unfavourable to CPI. However, the role of political conditions in influencing CPI is largely neglected in the climate and environmental policy integration literature (Schmidt and Fleig, 2018), which typically assumes democratic governance contexts. The following section introduces rentier state theory to provide a necessary account of the political–economic context likely to affect CPI initiatives and outcomes in the UAE and Oman.

2.2 Introducing the political economy of rentier Gulf states

Rentier state theory seeks to explain state–society relations and decision-making processes in states that are over-reliant on resource rents, defined as externally derived, unproductively earned payments (Gray, 2011). In such states, large proportions of the national income come from these external rents: the generation of this wealth is controlled by a small number of actors, with the government as the primary recipient, which then distributes payments to favoured client groups and citizens to maintain popular support in the absence of meaningful democracy (Beblawi, 1987). The Gulf Arab rentier states are all monarchical, and the King (or Sultan) stands at the centre of a regime coalition. In each state, with the exception of Oman, the ruler distributed key offices to family members at the beginning of the oil era, creating a dynastic monopoly over political office holdings (Herb, 1999). The ruling monarch has unchecked constitutional power and the last word on all state matters, leaving very little room for manoeuvre for other political actors (Lucas, 2004).

Scholars have made a further distinction among the Gulf rentier states between the wealthier ‘super-rentiers’ of Kuwait, Qatar and the UAE, and the comparatively less wealthy (but still high income) rentier economies of Bahrain, Oman and Saudi Arabia (Herb, 2009; Freer, 2018). 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, 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, low-carbon economy, channelling part of its sovereign wealth to renewable energy and clean technology projects, notably Masdar City (Günel, 2019). Under the absolute, centralised rule of Sultan Qaboos and, since January 2020, Sultan Haitham bin Tariq, Oman has similarly sought to move away from its economic dependence on oil resources, although its sovereign wealth fund is considerably smaller than that of the UAE emirates of Abu Dhabi and Dubai. As noted below, Oman’s major investment in renewable energy, the Miraah solar thermal facility, is used for enhanced oil recovery, but nevertheless is presented as a climate mitigation gain on account of its energy substitution for natural gas in oil extraction.

By selecting one wealthy (UAE) and one less wealthy (Oman) rentier state as case studies, we hold the Gulf Arab state form constant to investigate whether, within the structural constraints of its political–economic system, the super-rentier status of the UAE allows greater fiscal scope for CPI policies and measures.

2.3 A conceptual framework for the analysis of CPI in oil-producing states

To illustrate how rentier state theory relates to CPI, Figure 1 presents a conceptual matrix that links the principal actors in the climate policy regime with those driving the political–economic (rentier) regime. By regime we mean an institutionalised cluster of governance rules and norms. From scoping research, the ministries of energy, national oil companies and financial institutions are identified as the principal oil-related actors dominating political–economic rule-making in the UAE and Oman. A space of interaction, represented by a dotted circle, posits how climate policy actors and political–economic actors interact through lobbying, patronage and the alignment of political interests. Such governance interaction may create recursive path dependency as the controlling actors of the political–economic regime use their structural power, patronage networks and other political means when engaging with climate policy actors.

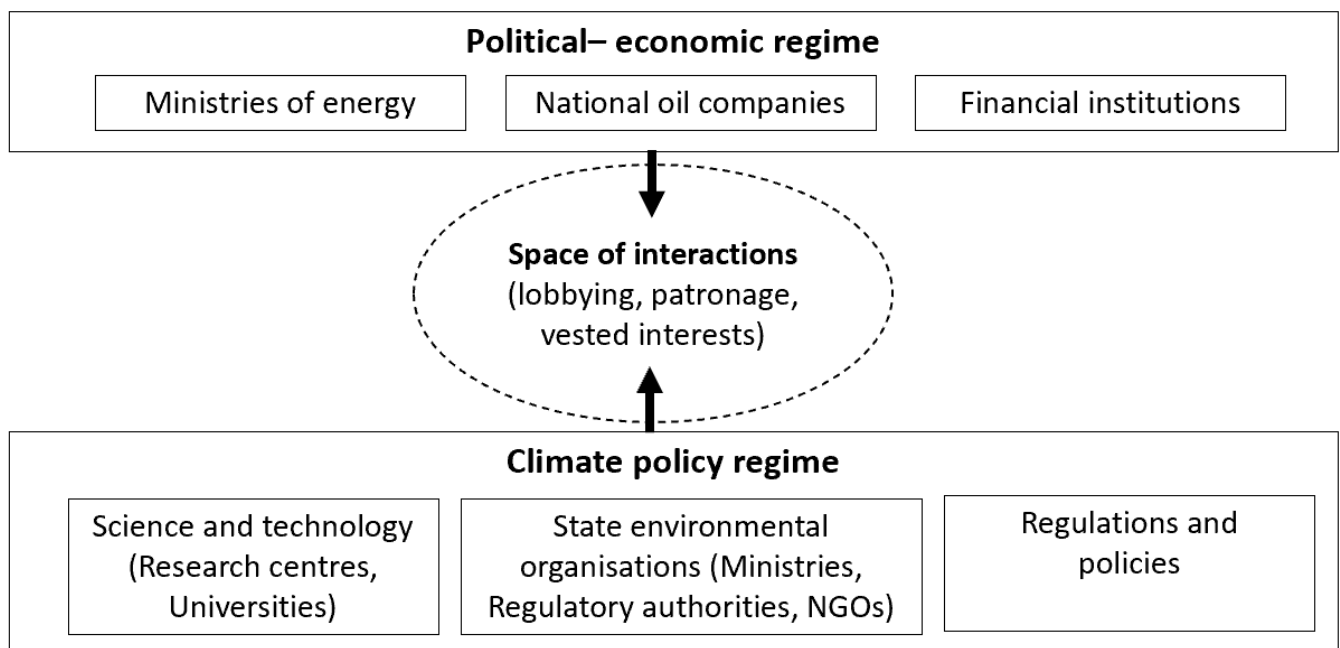


Figure 1: A conceptual framework illustrating the interaction between the climate policy regime and the political–economic regime

Rentier state theory suggests that the core actors controlling the generation of resource rents exert high levels of influence on their domestic political systems, so we would expect them to play strategic roles in

steering climate change policies in oil-producing states. In other words, the nature and scope of CPI are likely to be shaped significantly by its compatibility or otherwise with the maintenance of rents from fossil fuel exports, whilst efforts are made to develop other forms of economic wealth creation. We also posit that top-down rentier interests will tend to steer CPI measures in a more direct, less deliberative form of climate governance than is typically found in democratic states. The empirical research informing the paper addresses this proposition for the rentier states of the UAE and Oman.

3. Research methods

Despite the economic challenges associated with oil price fluctuations and the potential impacts of global climate change mitigation measures there is little public information on the alignment of domestic climate policies with economic diversification strategies in the Gulf Arab states. To address this data deficiency, primary data were collected through interviews with stakeholders who have been involved in economic decision making and/or climate change policy making. In particular, we conducted semi-structured interviews with economic policy and climate change policy stakeholders from the public, business, academic and NGO sectors both in the UAE and in Oman to reveal different perspectives on the challenges facing CPI within the space of interactions depicted in Figure 1. A total of 19 face-to-face interviews took place during a 5-week visit to the UAE and Oman between January and February 2017 (Appendix 1).

The semi-structured interviews aimed to identify the key challenges and opportunities for CPI in the UAE and Oman from the perspectives of local experts and to gather views on the appropriate measures for the future enhancement of CPI in both countries. Interview questions were formulated to capture the three dimensions of CPI identified in Section 2 of this paper – data, information and awareness; institutional architecture; and the availability of financial and human resources – as applied to the UAE and Oman.

Of the ten semi-structured interviews that were conducted in the UAE, three were with local government economic and climate experts, three were with federal government climate change experts from the Ministry of Energy and Ministry of Climate Change and Environment and one was with a climate change expert in the academic sector (Appendix, Table 1). Of the nine semi-structured interviews conducted in Oman, five were with climate change and energy policy experts in the governmental sector, two were with climate change and renewable energy experts from academia, one was with an NGO environmental expert and one was with an energy policy expert in a state-owned oil company (Appendix, Table 2).

Along with the semi-structured interviews, secondary data sources informed the analysis of the challenges and opportunities for CPI in the UAE and Oman. These included government documents on medium- to long-term national economic development plans, such as Vision 2020 for Oman's Economy and the UAE's Vision 2021, NDC reports, recently established national economic diversification programmes – such as Oman's National Programme for Enhancing Economic Diversification (the so-called Tanfeedh Programme) – and other documents on national climate change actions.

The data collected through the interviews were coded into broad themes, from which relationships were identified (Denscombe, 2010). For each CPI indicator (information, institutions and resources), challenges to, and opportunities for, policy integration were identified and analysed at different levels. The data analysis involved, firstly, identifying relevant CPI categories at the initial level of abstracting (open coding), secondly, identifying the relationships between these categories (axial coding) and thirdly, accounting for the significance of these relationships (barriers and opportunities) at a higher level of abstraction (selective coding). The coding process was also applied to primary and secondary data to analyse the influence of political–economic structures on CPI outcomes and to investigate the proposition, consistent with rentier state theory, that the political–economic regime actors play strategic roles in steering the scope of the integration of climate mitigation and adaptation in economic development policy.

4. Challenges and opportunities for CPI in the UAE and Oman

4.1 CPI as a principled priority in the UAE and Oman

CPI, as a 'principled priority', is not articulated in the UAE's and Oman's long-term economic development visions, even though these visions set out ambitious targets and objectives for diversifying economies and expanding the productive base to ease the countries towards a post-oil economy (Al-Sarihi, 2018). In both the UAE and Oman, climate action is certainly articulated discursively as a national commitment in other key policy documents. These include NDC reports prepared and communicated to the UNFCCC, and, by the end of 2019, both countries had established national climate action plans outlining their climate mitigation and adaptation objectives (Al-Sarihi, 2019). While these plans are presented as strategic visions, climate-related objectives are largely discussed separately from economic policy in day-to-day policy-making processes, and, as will be shown in Section 4.2, when trade-offs between climate change and economic development occur, priority is always given to the latter: climate action is still viewed as the sole responsibility of the ministries of environment.

This, however, does not mean that CPI as a principled priority is not evolving. The UAE, for instance, prepared its intended NDC (United Arab Emirates, 2015) in line with its Vision 2021, aiming to increase the use of clean energy to 24% in the total energy mix by 2021, and, in 2017, the UAE released the National Climate Action Plan of the United Arab Emirates (2017–2050) for the implementation of its climate mitigation and adaptation goals (MOCCA, 2017). Furthermore, the UAE's Vision 2021 mentions climate change within its Sustainable Environment and Infrastructure national priority, and a separate UAE Green Growth Strategy policy document elevates climate action to the same level as other policy objectives, including a competitive knowledge economy, social development and quality of life, a sustainable environment and natural resources, and clean energy (The UAE Governmental Portal, 2015b). These climate objectives, listed in the UAE National Climate Action Plan and the Green Growth Strategy, are incorporated into the UAE Green Agenda 2015–2030. The UAE Council on Climate Change and Environment – established in 2016 – is the committee responsible for overseeing the implementation of the Green Agenda and advancing partnerships across ministries and local authorities with the private sector and academia.

In Oman, the earliest evidence of CPI policy commitment is the ambition, articulated in its NDC, to reduce expected GHG emission growth by 2% from 2020 to 2030, principally by increasing both energy efficiency and the share of renewable energy (MECA, 2015). A ministerial decision in 2016, promulgating regulations for the management of climate affairs, required 'greenhouse gas emitting projects' to obtain a climate affairs permit: this includes obligations for the annual reporting of GHG emissions and the use of energy-efficient technologies (LSE Grantham Institute, 2020). At a higher political level, in 2019, Oman established its own national climate strategy. Championed by the Ministry of Environment and Climate Affairs, the National Committee for Climate Change – composed of representatives from different ministries – was established to oversee the preparation and implementation of this national climate strategy. As we note below, though, even at this cross-ministerial level, CPI has not significantly shaped economic development policy.

4.2 CPI processes in the UAE and Oman

4.2.1 Limited but evolving capacities in climate-related data, information and awareness

The main challenges concerning climate-related data, information and awareness that are slowing CPI in the UAE and Oman are: (i) the inadequacy of the available climate-related data and information (e.g. GHG emissions, and quantification of climate risks and co-benefits on the GCC economic sectors) and (ii) the limited awareness of climate change knowledge among stakeholders.

In the UAE, representatives from the Ministry of Climate Change and Environment (MOCCAE) (Interview 4, UAE, 2017) noted the need to strengthen the climate information capacity across the government. This point is recognised by the Abu Dhabi Environment Agency (EAD), which was given a key role in generating climate and environment-related information in the UAE's five-year Environment Strategic Plan 2015–2020, stating “EAD will focus on improving data collection, data availability and information services related to GHG and CO₂ emissions.” (EAD, 2016)

The available climate-related data and information are inadequate, and what is available is perceived to have limited credibility and consistency (Interview 1, UAE, 2017; Interview 8, UAE, 2017). Many state-owned and private companies keep environmental data confidential, especially those related to GHG emissions.

In Oman, outdated climate-related information is also an issue. For instance, the GHG inventory data used in the country's Initial National Communication under the United Nations Framework Convention on Climate Change, submitted in 2013, dates back to 1994 (MECA, 2013). Even in the country's Second National Communication report, submitted in 2019, the GHG inventory data dates back to 2000, with estimates made through to 2015 while meteorological data dates back to 2013 (MECA, 2019).

In both countries, limited awareness of climate change among policy stakeholders is a barrier to CPI, although the UAE has undertaken initiatives addressing these climate information deficits, including knowledge sharing between governmental departments. For instance, raising awareness and communication of climate-related issues are a main element of the UAE's National Climate Change Plan 2017–2050. There are already established links through which the environment agencies share information with development departments, such as cooperation between the EAD and the Abu Dhabi Economic Department through workshops and training programmes. Nevertheless, difficulties in communicating climate-related information between climate change experts and experts in other policy sectors present a serious challenge for CPI in Oman (Interviews 4 and 5, Oman, 2017). This is why, although it does not directly target policy stakeholders, one aim of the proposed National Strategy for Climate Change Mitigation and Adaptation is to raise public awareness about the causes and impacts of climate change via such channels as brochures, periodicals, lectures and radio and TV programmes (MECA, 2016).

4.2.2 Evolving institutional architectures enabling the vertical and horizontal integration of climate policy

While institutional arrangements offer opportunities for CPI in the UAE, they represent serious challenges in Oman.

The UAE's existing organisational arrangements are shaped by its confederate governance system, which operates with a two-tier federal and local (emirate) structure. This creates formal spaces for vertical and horizontal CPI, including opportunities to engage with non-state environmental organisations such as Emirates Wildlife Society in association with the World Wild Fund for Nature (EWS-WWF), Emirates Marine Environmental Group, and Emirates Environmental Group (Figure 2). Vertical integration of climate policy takes place through coordination between MOCCA, which undertakes the governance of climate-related issues at the federal level, and the emirates, which have their own organisations overseeing environmental and climate-related issues. As noted by the interviewees, the existing level of coordination between economic and climate governance entities also has the potential to advance the horizontal integration of climate policy into economic planning for the UAE and individual emirates (Interviews 1, 5 and 7, UAE, 2017). For instance, there is routine interaction between the Abu Dhabi Environment Agency and the Abu Dhabi Economic Department. At the federal level, the interviewees pointed to regular meetings between MOCCA and the Ministry of Energy to discuss climate-related matters. Led by MOCCA, coordination between federal-level and local governments, as well as engagement with the private sector, is maintained through different committees with representatives from ministries, local governments, industry and some NGOs. The most significant of these is the UAE Council on Climate Change and Environment, which was established in 2016, as part of the UAE Green Agenda 2030, to advance partnerships across ministries and local authorities as well with as the private sector and academia (MOCCA, 2017). Such vertical and horizontal coordination has largely eliminated the fragmentation of climate policies across the Emirates (Figure 2).

In comparison, Oman follows a top-down organisational approach, which, without formal enabling legislation, creates limited or no incentives for the policy actors responsible for economic development to incorporate climate change mitigation or adaptation into their activities. Unlike the situation in the UAE, Oman's top-down approach has reduced the diversity of climate-related organisations (there are only two environmental NGOs: Environment Society Oman and Clean Up Oman), the autonomy of climate governance entities and therefore also the scope for horizontal integration of climate actions and initiatives across sectors (Figure 3). The leadership of the Ministry of Environment and Climate Affairs (MECA) – which has the overall responsibility for the governance of climate-related issues in the country – and the National Committee for Climate Change (NCCC), comprised of representatives from different

ministries, authorities, councils and universities, has the potential to advance the vertical integration of climate policy. Nevertheless, the interviewees emphasised the lack of clear leadership in coordinating climate-related efforts, which has, in their view, led to fragmented climate-related efforts and initiatives.

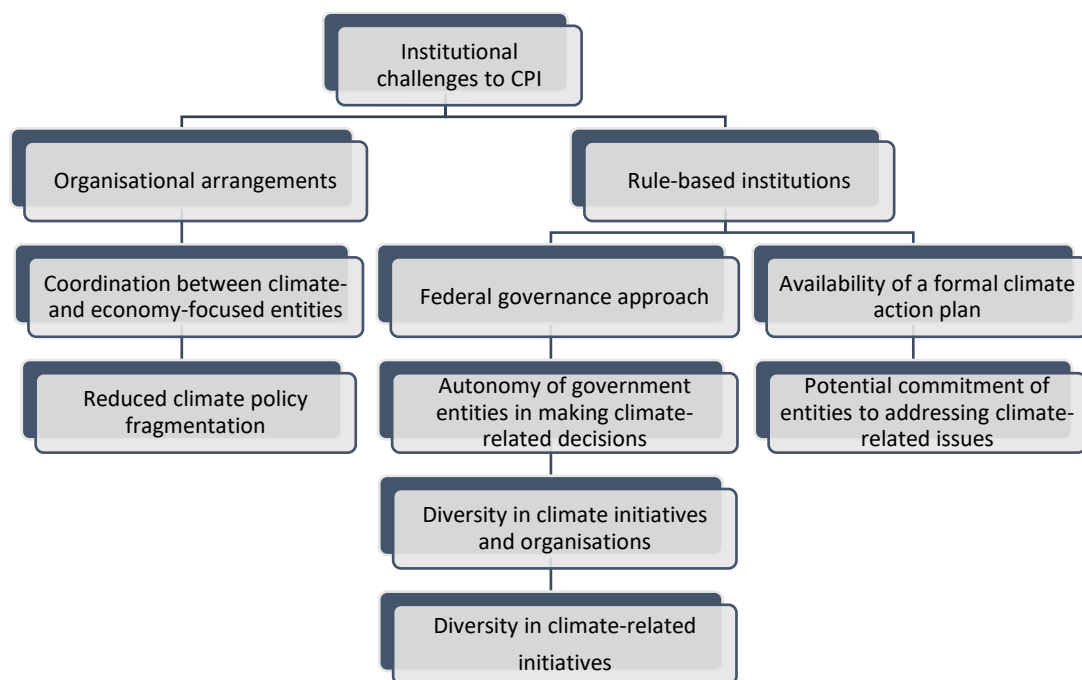


Figure 2: Institutional opportunities for CPI in the UAE

Formal policy and regulatory frameworks, and the autonomy of governmental entities to make climate-related decisions, are significant institutional properties facilitating CPI in the UAE while hindering it in Oman. The UAE's adoption of different climate-related visions and initiatives at different governmental levels, under the leadership of MOCCA, offered an opportunity to realise CPI in economic and energy planning. At the federal level, the UAE established a National Climate Change Plan (2017–2050) to facilitate the implementation of its NDC under the Paris Agreement (MOCCA, 2017). At the Emirates level, Dubai and Abu Dhabi, the wealthiest and politically most powerful emirates, have both established major climate initiatives tied to economic diversification visions. In November 2015, Dubai launched its Dubai Clean Energy Strategy 2050, aiming to source 75% of its energy from clean sources (UAE Government Portal, 2015a). In Abu Dhabi, Masdar City and Institute were established by the emirate-owned Mubadala Development Company to attract investment in renewable energy and environmental sustainability (Günel, 2019). At the time of the interviews (February 2017), Oman did not have a National Climate Action Plan, nor had climate change been incorporated into the country's 9th Five-Year Development Plan (2016–2020), but, with support from Sultan Qaboos University and the United Nations Environment Programme (UNEP), MECA was in the process of preparing a National Strategy for Climate Change Mitigation and Adaptation in Oman (Conrad, 2019), which was adopted in October 2019 (MECA, 2019) (Figure 3).

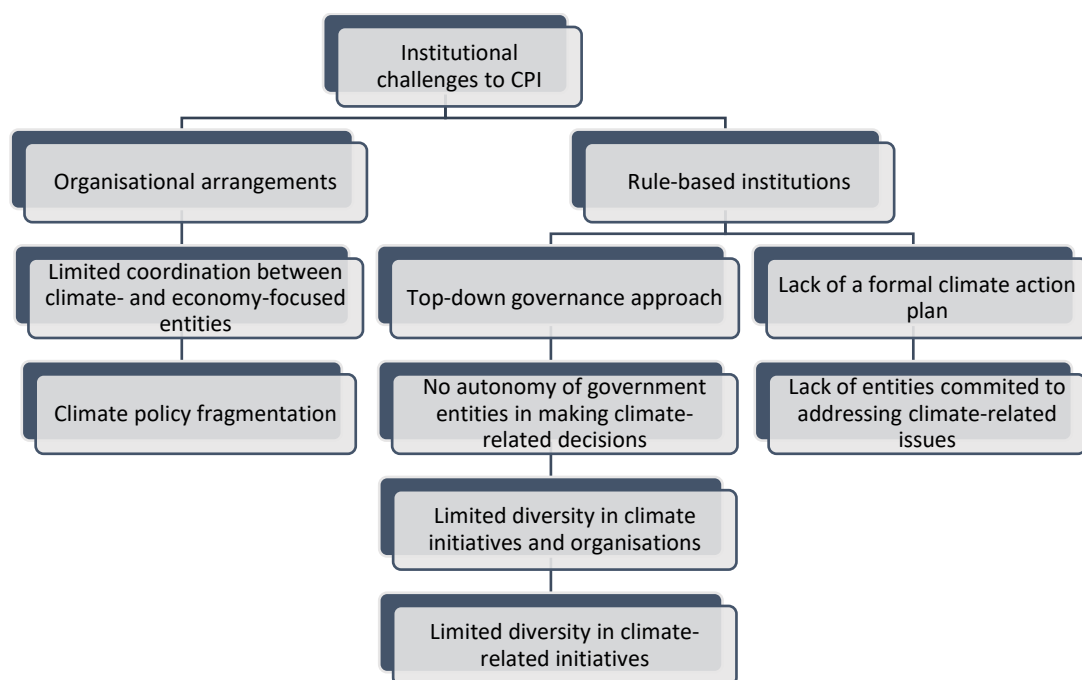


Figure 3: Institutional challenges for CPI in Oman

4.2.3 Climate finance and human capacity building: a contrast between the UAE and Oman

The UAE Government has put in place an enabling environment promoting climate-friendly finance and human capacity building (Figure 4). In 2015, the Green Finance and Investment Support Scheme was established as part of the UAE Green Agenda 2015–2030 implementation programme. Led by MOCCA, the scheme aims to raise awareness and promote sustainable finance among UAE financial institutions (MOCCA, 2015). Among the publicly announced clean energy financial commitments are USD 163 billion investment to achieve the UAE’s 44% clean energy target by 2050 (Ryan, 2017) and USD 13 billion for the Dubai Solar Park (DEWA, 2017). In 2016, more than 30 UAE-based financial institutions signed the Dubai Declaration on Sustainable Finance to promote sustainable financial practices in line with the UAE Government’s commitment to the Paris Agreement and the Sustainable Development Goals as well as the UAE Green Agenda 2030. In 2015, UAE national banks contributed to ten sustainable finance initiatives, including the National Bank of Abu Dhabi targeting USD 10 billion over ten years to lend and invest in environmentally sound activities; HSBC Bank Middle East funding the Emirate’s first water research and learning centre; sustainable integration frameworks for national banks that incorporate environmental and social risk assessment into new project finance; and green loans to incentivise customers’ climate action, such as promoting the driving of electric cars (MOCCA, 2015).

The UAE Government also recognises the need to build human capacity, which is a key element of the UAE National Climate Change Plan 2017–2050. Significant activities include various educational programmes, such as “Our Generation”, a joint programme of MOCCA and the Ministry of Education to develop school curricula on environmental sustainability; the EAD’s Sustainable Campus Initiative; the Dubai Electricity and Water Authority and Dubai Carbon’s Ambassador Program; the Young Future Energy Leaders Program; various training programmes organised by the Global Green Growth Institute; and nearly 20 sustainability-related undergraduate and postgraduate courses offered by higher education institutions (MOCCA, 2017).

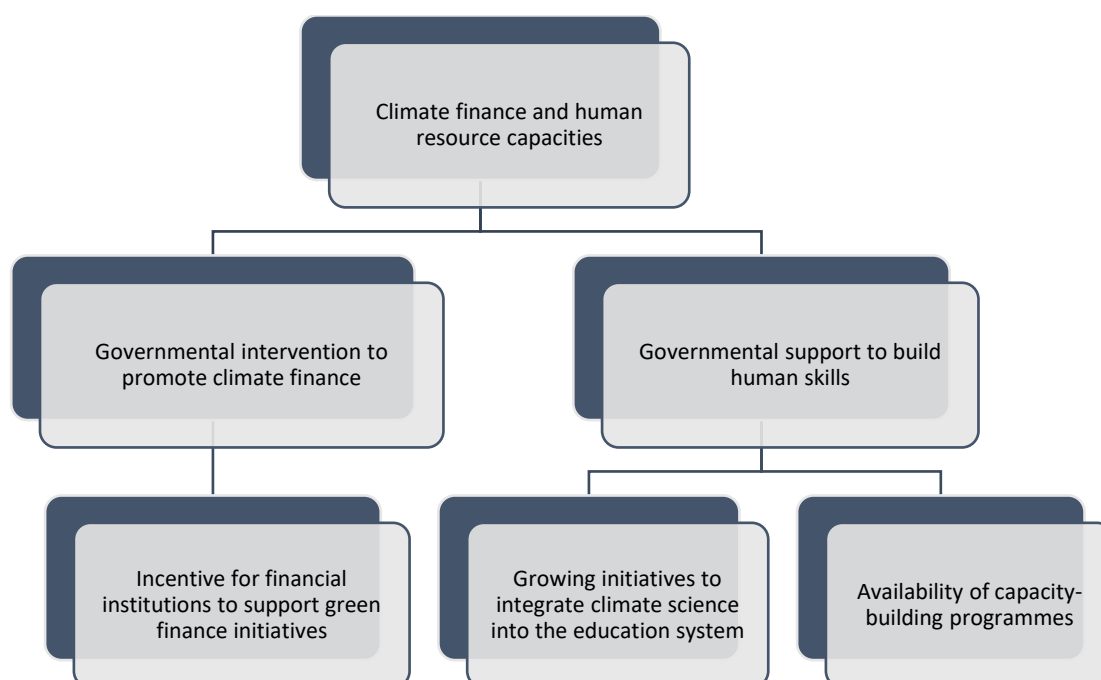


Figure 4: Climate finance and human resource opportunities for CPI in the UAE

In contrast, at the time of interviews, climate finance was yet to receive policy makers’ attention in Oman and the absence of governmental intervention and a national climate strategy made no incentives for financial institutions to establish any green finance schemes (Figure 5). Yet, Oman’s financial institutions’ interest in climate has evolved only recently. For instance, in 2019, Oman’s core financial services provider, Bank Muscat, established the country’s first green finance scheme with a scope to support rooftop solar panels installations (Oman Observer, 2019). Additionally, there are modest commitments to supporting human resource capacity building in MECA’s National Strategy for Adaptation and Mitigation of Climate Change (MECA, 2016, p.30), as well as per recommendations suggested in Oman’s second National Communication under UNFCCC (MECA, 2019). The interviewees expressed a particular need for training programmes to enhance staff capacities in understanding and applying climate models (Interviews 4 and 5, Oman, 2017). The small number of national climate change experts in Oman was attributed to the lack of integration of

climate change education in Oman’s higher education system: ‘there are no graduates specialised in climate change related matters’ (Interview 2, Oman, 2017) (Figure 5).

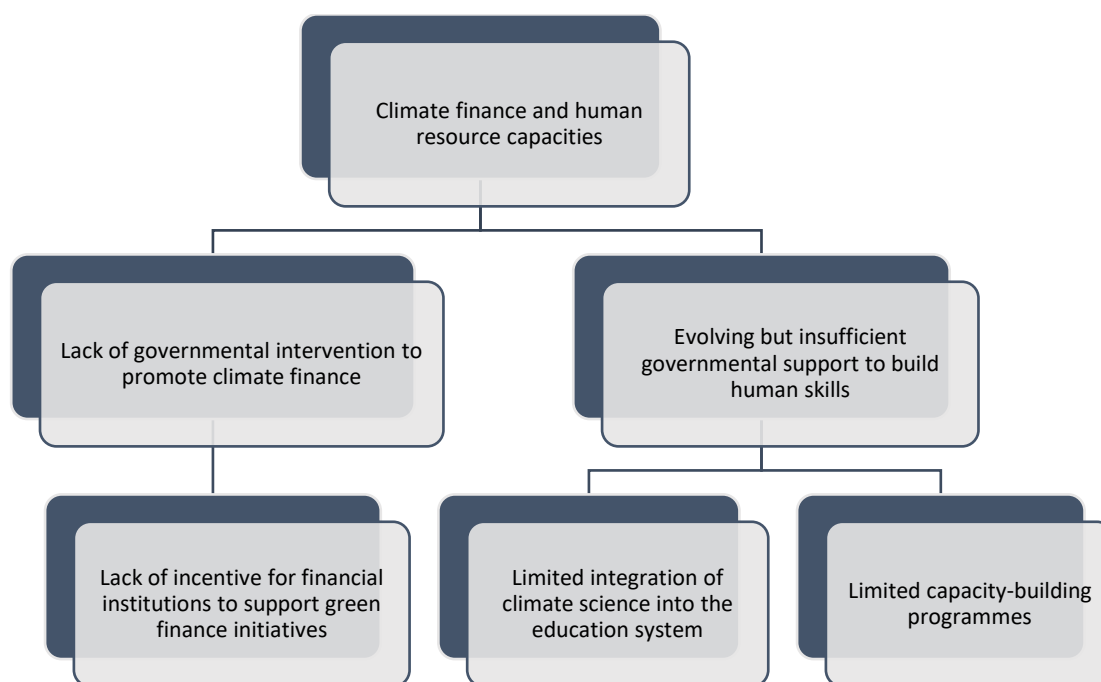


Figure 5: Climate finance and human resources challenges to CPI in Oman

4.2.4 Summary of CPI processes in the UAE and Oman

Both the UAE and Oman have nascent climate policy regimes and have developed modest governance capacities in CPI associated with climate change information, institutional innovations and the promotion of relevant financial and/or human resource instruments. They have made international commitments to climate change, while their respective environment ministries are charged with leading the governance of climate-related issues. However, to what extent is there significant implementation of CPI policy priorities and processes within economic and energy planning? The political currency of climate change as a principled priority across the governments is gauged by the extent to which the climate policy regimes that they lead serve to realign the development priorities of the core political–economic regime dominated by the ministries of energy, national oil companies and associated financial institutions (Figure 1).

The clearest *CPI policy principle* in both countries is the broad commitment, expressed as a climate mitigation goal, to increasing the uptake of clean (renewable and nuclear) energy, although neither state has economy-wide *emission reduction* targets under its Paris Agreement NDC. For the UAE, the only quantifiable mitigation target, under its NDC, was to have 24% of the 2021 energy mix served by clean

energy (United Arab Emirates, 2015, p.2). Under the Green Growth Strategy (2015–2030) and the National Climate Action Plan (2017–2050), the target is now for clean energy to deliver 44% of primary energy production by 2050 (FGCCC, 2016). The UAE has made the most progress among the six Gulf Cooperation Council countries in terms of renewable energy uptake (Atalay, 2017): its renewable energy capacity expanded threefold between 2014 and 2018 to become 5% of the primary energy production (Al-Sarihi, 2018).

Under its NDC, Oman committed to cutting its GHG emission growth by 2% between 2020 and 2030 compared with the business-as-usual scenario and to increase the share of renewable energy within its total power production to 30% by 2030 (Sultanate of Oman, 2015). While it is too early to evaluate the achievement of this emission reduction target, Oman lags behind in achieving its renewable energy target, with renewable energy achieving only 0.3% of its total energy production in 2017 (Al-Sarihi, 2018).

From the research findings on *CPI policy processes* reported above, there is evidence of greater, albeit modest, integration of climate change into economic development and planning in the UAE than in Oman, with interviewees attesting to coordination between the environment ministry and the other governmental actors in the oil-centred political economy. There are also more efforts to promote climate finance and build environmental human resource skills. In Oman, the institutional architecture for CPI is at best fragmentary, with the National Committee on Climate Change devoid of political or legislative authority. The UAE's relative progress in delivering modest growth in CPI governance structures, as supported by the ruling elite, can be explained by its strategic commitments to green growth and finance, although the climate policy regime has not tempered the continuing hydrocarbon production. Oman's particularly limited progress in institutionalising CPI can be explained by the persistence of a centralised political–economic regime in which the ruling elite has so far treated climate change largely as a symbolic vehicle directed at the international UNFCCC policy audience, with Omani NDC measures conditional on international finance, capacity building and technology transfer.

5. CPI in the UAE and Oman: climate ambition or instrument for further fossil fuel growth?

To what extent does CPI in the UAE and Oman realign the political–economic regime of both rentier states? It is clear from the research findings that the energy-related ministries and national oil companies are not fundamentally altering their hydrocarbon-led model of economic development and wealth creation. Despite their international declarations regarding climate mitigation, the main climate-related initiatives and investments in domestic energy generation are principally being used to release more fossil

fuel production for export purposes. There remains a high-level political commitment in the UAE and Oman to maintaining a high level of oil rents for at least the next 20–30 years. Thus, in the UAE, the expansion of renewable energy projects from 137 megawatts installed renewable energy capacity in 2014 to 589 megawatts in 2018 (IRENA, 2016, 2019), with the full support of the ruling family, was mainly driven by energy security concerns associated with meeting the increasing domestic demand for natural gas used to fuel power plants, water desalination plants and enhanced oil recovery. The growing use of renewables reduces the need to import natural gas while freeing up more oil and gas reserves for exporting. At the same time, however, the UAE has framed this shift internationally as a climate change mitigation strategy; indeed, Abu Dhabi has lobbied the UNFCCC to treat the use of carbon dioxide for enhanced oil recovery as an eligible carbon capture and storage technology, even though it may perversely increase the lifetime of the UAE's oil fields by up to 30% (Günel, 2019, p.163).

Similarly, in Oman, a major renewable energy investment, the 100 MW Miraah solar thermal plant, established as a joint venture between the national oil company (Petroleum Development Oman) and its international partner, GlassPoint, is designed to facilitate enhanced oil recovery in the Amal oilfield. The Omani Government was directly involved in the financing of the project through its largest sovereign wealth fund, administered by the Ministry of Finance, which in 2014 pledged USD 53 million to support the construction of the project. The project has also involved other oil companies, including Royal Dutch Shell, which has a 34% interest in Petroleum Development Oman. The Miraah solar thermal plant is represented as a climate mitigation gain by substituting solar power for gas burning in enhanced oil recovery and is expected when complete to reduce carbon dioxide emissions by more than 300,000 tons a year (GlassPoint, 2019).

In this context, CPI is only weakly operationalised, and, rather than furthering climate ambitions, it is actually instrumentalised to justify further economic development based on the continuing exporting of fossil fuels. NGOs have limited scope for lobbying and influencing policy development due to their small numbers and low engagement with governmental actors (Al Mubarak and Alam, 2012; Alam and Luomi, 2018). Indeed non-state actors promoting climate change initiatives that challenge rentier economic structures are obstructed by ruling political–economic interests (Ryan, 2017). Those rentier actors steering climate change policies ensure that any climate mitigation commitments do not affect the stability of state–society relations. This is particularly notable when it comes to fossil fuel subsidy reforms, which are expressed in NDCs as climate mitigation and/or energy efficiency measures. Abu Dhabi and Dubai have undertaken limited moves to reduce subsidised hydrocarbon use, having the greatest impact on the large

expatriate community and recognising, in their social selectivity, the rentier social contract to maintain economic benefits for UAE nationals (Boersma and Griffiths, 2016). The UAE reduced its fossil fuel subsidies in 2015, then removed them in 2018; indeed, in that year, a 5% VAT rate was applied to petrol and diesel prices, with crude oil and natural gas exempt. As set out in its first NDC, the UAE seeks cost recovery of generation costs by 2021 for commercial and industrial customers but not households (United Arab Emirates, 2015, pp.2–3). In Oman, petrol and diesel subsidies have also been reduced, although with price caps for low-income groups (Al-Saqlawi, MacDowell and Madani, 2019, p.215). Despite their inclusion in global climate mitigation declarations as CPI commitments, the reforms of fossil fuel subsidies in both the UAE and Oman are informed more by fiscal considerations – freeing up more oil for exports – although their effect may limit the growth in GHG emissions. In summary, climate integration in the energy policy sector, as expressed in international climate policy declarations, is domestically constrained by state imperatives to maintain high oil rents and the associated social contract of subsidised domestic energy use for citizens.

6. Conclusions

Global climate change mitigation measures targeting reduced dependence on fossil fuels, the major source of GHG emissions, represent a major threat to the rentier structure of Gulf Arab states. For decades, oil has played a pivotal role in building the political and economic capacity of these states and, through rent distribution to client populations, securing regime stability and legitimacy. The mounting global efforts to address climate change have put the UAE and Oman under pressure to sign up to meaningful climate mitigation goals.

This article assessed the challenges and opportunities for CPI in the UAE and Oman, examining the commitments made by those states to integrating climate considerations into their energy governance and economic planning. Conceptually, it combined the institutionalist scope of the CPI literature – addressing questions of climate information, governance and (financial and human) resources – with the structural insights of rentier state theory as applied to the Gulf Arab states. We argued that, in the interaction of the political–economic (rentier) regime and the climate policy regime, the nature and scope of CPI is significantly constrained by the systemic imperative in the UAE and Oman to maintain oil rents. We found evidence that the ‘super-rentier’ status of the UAE, with greater national income and sovereign wealth than Oman, is facilitating larger renewable energy investments than Oman and more ambitious clean development commitments but that in neither country is there mainstreaming of climate change

mitigation (or adaptation) in the core rentier state institutions (ministries of energy, national oil companies and financial institutions).

In the UAE, there is some integration of climate policy considerations in short- and medium-term planning of economic development, notably by Abu Dhabi and Dubai. Climate-related governance structures and financial resource capacities for green investment, as supported by the ruling elite, have created significant synergies between renewable energy investments and climate mitigation commitments. However, reductions in fossil fuel subsidies are driven more by fiscal constraints than climate change goals: under the UNFCCC, the UAE has not made a commitment to reducing GHG emissions. CPI initiatives have not yet challenged the core rentier structures, and, in some instances (e.g. enhanced oil recovery), so-called climate change actions are reinforcing the dependence on rentier economic structures. This is also the case in Oman, in which CPI has even less purchase in economic development planning. Despite some symbolic leadership by the Ministry of Environment and Climate Affairs, Oman is challenged by systemic limitations in climate-related information and shortfalls in financial and human resource capacities. Oman lacks meaningful collaboration between climate change experts and actors in economic development and other sectors: the National Committee of Climate Change is politically detached from economic decision making.

Theoretically, this paper introduced a conceptual framework for analysing the relationships between a rentier political–economic regime – the lead institutions and actors steering governmental decision making in rentier states – and a climate policy regime. The *space of interactions* between these governance regimes is where CPI processes encounter structural constraints, which, in the case of the UAE and Oman, have permitted only those climate-related initiatives deemed to be compatible with the maintenance of oil exports and oil rents, notably the development of renewable energy as a substitute for domestic hydrocarbon consumption. These structural propensities against CPI are not predetermined as internal political events, and external influences, such as international climate change negotiations, can change political economic (dis)incentives for low-carbon development. Moreover, this framework of regime interaction could in principle be applied to other oil-producing countries for the analysis of CPI measures: more pluralistic political systems involved in hydrocarbon production would be likely to feature a less centralised apex of governing elites and a more expansive space of interactions over climate policy. The methodological attention to political–economic conditions and governance would, we argue, facilitate a greater understanding of the barriers to and opportunities for CPI in such states.

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Appendix 1

Table 1: Details of climate change and economy experts who were interviewed in January 2017, Abu Dhabi, UAE

Interview reference	Interview date	Institution	Category
1	23.01.2017	formerly worked for the Department of Economic Development	Local government
2	17.01. 2017	Abu Dhabi Water and Electricity Authority	Local government
3	25 .01.2017	Ministry of Energy	Federal government
4	25.01.2017	Ministry of Climate Change and Environment	Federal government
5	25.01. 2017	Corporate Support Sector, Department of Economic Development	Local government
6	26.01.2017	NYU Abu Dhabi	Academic
7	26.01.2017	Environment Agency Abu Dhabi	Independent entity
8	26.01.2017	Environment Agency Abu Dhabi	Independent entity
9	26.01.2017	Environment Agency Abu Dhabi	Independent entity
10	25.01.2017	Ministry of Energy	Federal government

To maintain the confidentiality of the interviewees, their positions have not been included in the Table.

Table 2: Details of climate change and economy experts who were interviewed in February 2017, Oman

Interview reference	Interview date	Institution	Category
1	06.022017	Environment Society Oman	NGO
2	07.02.2017	Sultan Qaboos University	Academia
3	12.02.2017	Ministry of Environment and Climate Affairs	Government
4	12.02.2017	Ministry of Environment and Climate Affairs	Government
5	12.02.2017	Ministry of Environment and Climate Affairs	Government
6	12.02.2017	Public Authority for Water and Electricity	Government
7	13.02.2017	The Research Council	Research
8	16.02.2017	Petroleum Development Oman	State-own company
9	22.02.2017	Ministry of Oil and Gas	Government

To maintain the confidentiality of the interviewees, their positions have not been included in the Table.