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The Environmental Policy Transfer in the GCC: Setting the Agenda for Climate Change and Energy Security

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The Environmental Policy Transfer in the GCC:

Setting the Agenda for Climate Change and Energy Security[1]

Abstract

Diversification efforts of the Arabian Gulf States, which are also members of Gulf Cooperation Council (GCC), have manifested policy learning and transfer given the institutional, historical, political, social and economic similarities. The interdependency of the GCC states in economy reveal that one would expect a great deal of convergence when it comes to policy behaviors pertaining to the economies. Given the geo-political conjuncture during June 2017, a closer investigation of convergence amongst these countries reveals unconventional dynamics. This study scrutinizes a specific area of policy learning and transfer, by analyzing patterns of policy parameters in the areas of energy security and climate change in the context of environmental policy learning in the GCC.

An examination of the policy transfer in climate change and energy security within the GCC could be considered as case of non-traditional and South-South diffusion pattern in the Middle East region, across the Muslim states of the Arabian Gulf. The findings of this study inform the direction of the policy efforts, as well as the practices of energy security and environmental performance that are in place to meet the climate targets, which in turn will affect the overall success of global efforts officially declared in the Paris Agreement.

Keywords: Gulf Cooperation Council; Energy Security; Climate Change; Policy Learning, Environmental Policy Transfer

Introduction

The Gulf Cooperation Countries (GCC) are among the key players in the global energy field with their resources making up 29.3% and 22.3% of the world's total oil and gas reserves, respectively (BP, 2016). The fact that their economies are dependent on their fossil fuels production and exports raise important questions first with regards to their potential vulnerabilities given the global efforts to diversify away from the oil and gas towards low-

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carbon resources and second concerning their own emissions. The climate change poses a serious deadlock to these countries. While the negative impacts of climate change risk hindering the region's water, food and human security trough potential waves of migration, the remedy to this significant challenge demanding a fundamental change in the fossil fuel consumption further threatens their economies unless the revenues are diversified away from oil and gas exports. With this challenge, it is crucial to understand the position of the GCC countries in the global efforts to govern the fight with climate change through concrete emission reduction targets and policies.

In this framework, a relatively understudied aspect of the intensive diversification efforts of the Gulf States, is the nature and scope of policy learning and transfer. Especially given the economic interdependency of the GCC states, one would expect a great deal of convergence when it comes to policy behaviors pertaining to the economies. For instance, a 1% point increase in Saudi Arabia's growth leads to an increase of almost 8% points in GCC economic growth (al-Mawali, 2015: 544). It was also found that both the United Arab Emirates (UAE) and Bahrain also have statistically positive impact on regional growth (al-Mawali, 2015: 546).

By using existing statistics and analyzing patterns of policy parameters in the areas of energy security and climate change, the study will qualitatively examine environmental policy learning in the GCC. The paper, after describing the performance of the GCC in terms of energy security and climate change, will firstly investigate whether these countries have a coordinated policy as a group in the global environmental governance mechanisms. Secondly, the analysis will reveal whether there is a national policy convergence among the GCC countries in terms of climate change. The research will be an effort to contribute to the literature with its examination of the policy transfer in climate change and energy security within the GCC, which is a case of a non-traditional, South-South diffusion pattern in the

Middle East region, across the Muslim states of the Arabian Gulf. The findings will be critical in diagnosing and prescribing the direction of the policy efforts as well as the practices of energy security and environmental performance that are in place to meet the climate targets, which in turn will affect the overall success of global efforts officially declared in the Paris Agreement.

Regional and National Contexts for Policy Learning in the Arabian Gulf

This study aims to contribute the literature by exploring the role of collaboration, policy transfer and cross-national learning, as well as the role of country-specific factors in explaining the policy choices and the rationale behind these choices.

Policy transfer could be defined as "a process by which knowledge about policies, administrative arrangements, institutions and ideas in one political system (past or present) is used in the development of policies, administrative arrangements, institutions and ideas in another political system" (Dolowitz & Marsh, 2000: 5). The rise of policy transfer as an important component in policy development is typically attributed to processes of globalization (Dolowitz & Marsh, 2000) as well as neoliberal dynamics that have been pushing for similar policies across different geographies. Those adopting the approach seek to understand the micro-level processes and dynamics by which policies move from one jurisdiction to another by virtue of imitation or lesson-drawing (Rose, 1993).

As Khodr and Reiche (2012) argued, in the case of GCC states, policy innovation is the result of geographical proximity. It is positively related to the number of bordering countries that had already adopted that policy, as these proximate states tend to usually have similar economic aspects (such as the finiteness of fossil fuels in the GCC countries) and common social problems (the dependence on foreign workforce, health and education related issues), which lead to similar policy action effects. To illustrate, the smart cities built by the GCC were designed to be models for diffusion and some of them have the potential to solve

difficult problems (e.g., role of women, educational challenges, and renewable energy), and thus might be models for others in an informational and problem-solving account of the diffusion.

An important question is: given insurmountable vested interests and historical attempts to collectivize efforts in the GCC region, what are the reasons and factors that shape and determine policy choices regarding environment and climate change? Taking into account the importance of diversification and shifting away from hydrocarbon-based economies, policy choices of GCC countries regarding climate change and environment need to be scrutinized. This analysis, however, has to be conducted by highlighting the fundamental trends and dynamics of the Gulf political economy.

Tok et al (2017) suggested that low oil prices, regional dependence on hydrocarbons, and weak economic diversification efforts signal GCC states' preferences to reinforce the rentier system with alternative state revenue streams. At first glance, one seeks a significant deal of convergence among the GCC member states given that, despite the recent political turmoil, adoption of a policy innovation and its diffusion are mainly the results of commonality of concerns and similar policy traditions.

The paper warrants the need to better understand what counts as innovation, diffusion, transfer, adoption or borrowing in the case of the GCC. Furthermore, given the relatively lower levels of institutional legacy and public policy memories compared to Western countries and taking into account the specific character of resource-rich countries governed by ruling elites, such as the GCC countries, as well as the culture-specific variables in these Muslim majority societies, the nature of policy learning among GCC members is not an easy task.

Militarization is an important factor for economic development and collective security in the region. Societies face similar issues, from food and water insecurity to high carbon

footprints and increased demands for energy. Economic diversification and productive employment are needed through an expanded private sector. Global competition remains fierce and existing policies across the GCC maintain the status quo, which appears to be unsustainable. Regionalism is a key lens because the GCC states have not been actively engaged in conflicts to the extent that they are now. The United States has been leading and running wars in the region, while GCC states have contributed with material support in a limited way. Now Saudi Arabia and the UAE are expressing military power in the region and there is a broader battle for regional Gulf hegemony between Saudi Arabia and Iran, which affects all GCC states and others in the broader Gulf region. More needs to be done to enhance the private sector and develop a regional comparative advantage equal to that of the hydrocarbon expertise, otherwise there will be many ramifications and regime security is not guaranteed. Individual GCC state markets are limited in size, but GCC integration could help them grow and subsequently become more collectively secure.

The Economy in the GCC: Coordination or Competition?

Diversification of the economy is a stated priority of all GCC states. State-sponsored capitalism has been transforming the GCC states as the states follow a similar developmental state model, which built up the East Asian Tigers (Hvidt, 2009: 2011; Ulrichsen, 2012). Individual state efforts to diversify their economies have produced national vision plans that outline the development paths that each plans to follow into the post-hydrocarbon future. A common theme in these plans is the diversification of their economies away from reliance on hydrocarbon extractive industries. Past diversification plans in the GCC region have not produced significant change because structural barriers have hindered those plans. Constraints hindering economic diversification in the Gulf include growth scenarios for the world

economy, duplication of economic activities among the GCC states, and barriers to interregional trade (Hvidt, 2013).

The GCC states are diversifying into similar sectors — aviation, deep water ports and logistics, renewable energy, financial services, real estate, and tourism — and such diversification creates loci for conflict, or in other words, micro-competitions. The slow pace of development in terms of intra-GCC economic interdependencies underscores the importance of these micro-competitions. The fierce competition among GCC states is primarily economic and related to hydrocarbons. The low price of oil appears to be linked to micro-competitions in these sectors, which could gain importance given emerging realities facing the region. Many studies consider diversification as a substitute for hydrocarbon-based development, yet the share of hydrocarbons in the GDP has not been decreasing as planned in the GCC region (MDPS, 2014).

The structural economic features of GCC states are similar in many respects, with one example being the lack of arable land, which has led to policy diffusion and similar strategies being pursued within the region. The small sizes of the states, the regional market forces and State Owned Enterprises (SOEs) compete with one another internationally. The most prominent example of international micro-competitions is the aviation sector, where SOEs are a high-profile element of national branding campaigns. The GCC states have been promoting their respective national brands through the establishment and promotion of prestigious national airline carriers.

Notably, Qatar Airways has a jersey sponsorship deal with FC Barcelona, one of the best football clubs in the world with a substantial global following; while Arsenal and Manchester City, major English football clubs, have renamed their stadiums “the Emirates” and “the Etihad,” respectively, under sponsorship agreements. Dubai-based, state-owned Emirates Airlines has increased the number African capital cities that it services and has

expanded into air cargo transport as part of the plan to make the UAE a trade hub for the Middle East and North Africa region and beyond. Kuwait's National Assembly approved the privatization of the state-owned Kuwait Airways in 2008, which had been losing market share to Qatar Airways and Emirates. Kuwait's Jazeera Airways, a private company, bid for 35% stake in the airline (Reuters, 2014).

The geographical position of the GCC states makes it a good location for an interregional trading hub, an opportunity that has not escaped the regimes of the GCC. Ports and logistics are part of more than one diversification plan. Dubai's Jebel Ali Port, the world's largest human-built harbor, gave way to the Jebel Ali Free Zone. Jebel Ali represents the model for today's UAE's cluster-driven development projects, such as DuBiotech and Knowledge Village, since imitated throughout the region (Davidson, 2005). Notably, the GCC states' natural gas efforts are linked to transport and logistics-based diversification. For instance, Ras Laffan in Qatar is now one of the top global centers for the export of LNG and gas-to-liquid, which it ships on its own Q-Max vessels — among the world's largest carriers. Qatar's LNG is also being delivered by pipelines through the Dolphin Project, which connects the island state to the UAE and Oman (Ulrichsen, 2011). Micro-competitions in this area can therefore be linked back to the IPE of hydrocarbons. The rentier system is being threatened by not only the lack of diversification, but also micro-competitions in which states compete among themselves.

The primary consequences are a renewed focus on wealth accumulation as the core capability of GCC regimes and a rentier system that is reinforced with alternative state revenue streams. The focus on service sectors abroad reflects an interest in prestige in the case of aviation, large profits in the case of banking and finance, and supporting the international political economy (IPE) of hydrocarbons in the case of ports and logistics. Another consequence is that the issue of small markets persists regionally. The individual GCC state

markets are limited in size and, as a result, GCC states look toward new markets and SOEs expand internationally.

GCC states are benefitting regimes at the expense of the realization of real economic benefits for their populations. The economic effect of diversification is, then, effectively economic stagnation. Micro-competitions also have political effects, specifically the fraying of commitments to regional integration and suspicion of other regimes in getting the upper hand in hegemony in the region. Domestic demands combine to create an impetus for alternative developmental trajectories, but the political status quo and international economic competitiveness, both of which help maintain regime security, are hampering progress. The ultimate outcome, the perpetuation of regime security, presupposes a future that is much like the present.

Areas for Policy Learning and Transfer

a. Increasing Smart Cities

A particular vehicle for Gulf States to cut down emissions and attain more sustainable economies has been the increasing reliance on smart cities. The concept of smart cities in the GCC Region, particularly in Qatar and the UAE is gaining increasingly high importance as a means of making available all the services and applications enabled by ICT to citizens, companies and authorities that are part of a city's system. It aims to increase citizens' quality of life and improve the efficiency and quality of the services provided by governing entities and businesses (Arab Future Cities, 2012). Governments of many countries are taking the lead in developing the next generation of cities driven by technological solutions. For example, Masdar City is the first carbon-neutral, zero-waste city in the world.

b. Aviation

Gulf States have been successfully diversifying their economies and furthering their national brand through the establishment and efficient running of a national airline carriers.

Etihad, Emirates and Qatar Airways have been pioneering the industry. For instance, Qatar Airways is a state-owned and operated airline and provides services across all continents (Brannagan et al, 2014: 124). Qatar Airways has gained world status and is known for its high quality of services and tastefully showcasing Qatari culture and values (Brannagan et al, 2014: 125). The Airline in turn serves to represent the Qatari state and has become another way in which the Qatari government can promote the country to potential business partners and other countries by sending a message of commitment to excellence, while also generating significant revenues (Brannagan et al, 2014: 125). Again, it becomes clear how the Qatari government is effectively using a soft power tool in order to create an image of the country that will in turn ensure the survival of the country and increase its legitimacy and agency as a regional and international actor.

c. Sports Branding

Qatar's sports diplomacy aims to increase the prestige of the country, by creating a unique brand that assures its legitimacy in international relations. In the case of the FIFA games, Qatar aims to create a positive impression and attract tourism and foreign investment, however the negative implications arising indicate the fine line states have to navigate in international relations in order to remain powerful and influential.

d. Development Aid

Over the past decade, the regional preferences of targeted recipient countries of Gulf donors have shifted. As globalization has deepened links between Gulf States and the international system, with high oil prices and increased demand for energy resources from emerging economies, Gulf donors have begun to broaden the scope of their development cooperation to include deepening ties with new Southern allies. As the financial and economic crisis unfolded during the course of 2008-2010, Gulf financial institutions increased their attention and activities especially regarding infrastructure sectors such as transportation,

energy, and water (Ulrichsen, 2015). More recently, there have been efforts to devote more resources to agriculture and social sectors. Gulf assistance is also diversifying: in 2012, the UAE disbursed AED 5.83 bn (USD 1.43 bn) through 43 donor entities, the private sector and individuals in support of development, and humanitarian and charitable projects in 137 countries and territories.

Gulf States have demonstrated a greater willingness in the 21st century to take proactive steps in reshaping their position in the international system. They have made concerted efforts to influence the institutional design of global governance frameworks, produced nuanced strategies to manage the impact of globalization processes, enhanced their visibility and voice in the international stage, and started processes of normative divorce away from their hard and soft power as being discursively tied to hydrocarbon stockpiles. Gulf States are equally working to transition themselves towards knowledge-based economies, a holistic transformation once again designed to reposition and re-subtitle their position in the global system as not simply sources of raw and processed hydrocarbon resources, but as genuine, dynamic, and adaptable partners in international affairs, including development (Ulrichsen, 2015).

Setting the Scene: Energy, Climate and Environment Nexus for the GCC

Building on the IPE background and on sectors which are already open for policy transfer and learning in the GCC region, it is of crucial importance to reveal specific energy and environment dynamics for the Gulf countries which are under the pressure of climate change, labelled as “an existential crisis for the human species” (Klein, 2014). For determining patterns and actors of environmental policy transfer, this study suggests that common threats, common weaknesses, as well as individual strengths of Gulf countries and their position in the overall climate mitigation efforts are instrumental to see any collective

action, coordinated solutions or transferred policies. Accordingly, this section firstly discusses what are the common threats of climate change for the GCC, why the issue is further complicated for this group of countries and what is the GCC's position in global environmental governance. Second, the article focuses on the actual national energy and environment profiles of the GCC members to distinguish between actual performances and suggested policies. We suggest that the mismatch between the actual environmental situation and the policies offer room for progress through the transfer of better practices.

The Climate Change Challenge for the GCC: Why Is It so Important?

Our world is under heavy pressure coming from the human-made destructions which risk the future of climate, water, food and resource security. In its last Living Planet Report, the WWF stated: "the Earth has already exceeded the Planetary Boundary for climate change. There is a clear challenge for humanity to alter our course so that we operate within the environmental limits of our planet and maintain or restore resilience of ecosystems" (WWF, 2016: 13, 64). Experts focus on a variety of underlying forces, which cause climate change, including overexploitation of natural resources, population growth, demographic shifts, economic and technological developments, consumption culture, institutions or lack of governance structures (Nelson, et. al., 2006; Spies 2008). All these interlinked factors result in physical, social and economic threats (Luomi ,2010).

The increase in the average world temperature inherits enormous spillover risks endangering water, food and overall human security, for which the GCC countries are already vulnerable. The loss of habitat and biological diversity, declining productivity, irreversible ecosystem degradation, groundwater depletion in both quantity and quality, soil and water salinization (Spies, 2008; 245), the loss of snow and ice in the Arctic region (Stocker et al., 2013; Miller et al., 2013; Stranne et al., 2014), rising sea levels (Callaghan et al., 2011), and

saltwater intrusion (Luomi 2010) are projected to be combined with severe water shortages, decrease in freshwater environments and desertification (Schellnhuber, 2006). Unless climate change is under control, scientific studies reveal that the Gulf countries will be suffering heatwaves beyond the human survival limit (Schwartz, 2015) especially effecting Abu Dhabi, Dubai, Doha and other coastal cities in the region with 45°C in the usual summer temperature and 60°C in occasional instances (Carrington, 2015).

Another very critical risk for the GCC countries, which is highly neglected in most of the climate change discussions, is the increasing tension in the region, which is already very turbulent. There is an expanding literature questioning the linkages between the climate and conflict. Unusual climate events as well as rising temperatures increase the risk of violence and conflict in affected regions. Burke, Hsiang and Miguel (2015) find that the average impact of each 1-unit rise in temperature increases interpersonal conflict by 2.4% and intergroup conflict by 11.3%. In this context, as a very timely example, some studies link the war in Syria to the effects of the drought, crop failures, mass migration of farming families to city centers (Kelly et. al., 2015; Welch, 2015).

The instability, which will be caused by the climate change, will further increase the tension in the region. As Brown and Crawford (2009) argue, in the Middle East, immediate dangers for security are in focus while the security threats of climate change are rarely discussed. Nevertheless, climate change can seriously increase competition for scarce water resources and thus complicate peace agreements, while the perceptions of shrinking resources can cause the militarization of strategic natural resources. Only one meter sea level increase is expected to result in six million migrants currently living in the Nile delta region (Reiche, 2010: 2397). Intensified food insecurity, increased poverty and social instability will cause climate induced forced migration and will have the risk to increase tensions over existing refugee populations.

When they will materialize, all of these threats will surpass national boundaries and will require collective action as response mechanisms. On the other hand, the implementation of preventive policies to curb CO_2 emissions and achieve sustainable green economies before it is too late is still under the discretion of national governments. In this context, the positioning of the Gulf countries in the global climate change governance is highly relevant.

The GCC and the Global Climate Mitigation Efforts

The GCC countries are among the Non-Annex I countries in the UN Climate Convention meaning that these developing countries do not have binding emission reduction targets (Luomi, 2010: 4). Still, as of June 2017, the Paris Agreement, the most significant milestone in the fight against climate change, is signed by all the GCC members, and entered into force in Bahrain, Saudi Arabia and UAE. Saudi Arabia has been chronologically the last country to sign in November 2016, but it has ratified and approved it in a month and the agreement entered into force in the country in December 2016, while Kuwait, Qatar, and Oman have only signed it (about six months earlier than Saudi Arabia), but not ratified it yet. Prior to the signing of the agreement all six members have also submitted their Intended Nationally Determined Contributions (INDC) in late 2015 (Table 1).

Table 1: The GCC and The Paris Agreement

Country	Signature Date	Ratification Acceptance (A) Approval (AA)	Entry into Force	INDC Submission Dates
Bahrain	22 April 2016	23 December 2016	22 January 2017	24 November 2015
Kuwait	22 April 2016	X	X	25 November 2015
Oman	22 April 2016	X	X	19 October 2015
Qatar	22 April 2016	X	X	20 November 2015
Saudi Arabia	3 November 2016	3 November 2016	3 December 2016	10 November 2015
United Arab Emirates	22 April 2016	21September 2016 (A)	4 November 2016	22 October 2015

Source: Compiled by the authors using UNFCCC (2017b)

Although, the ratification and entry into force of Paris Agreement is still pending for some of the members, in line with their INDCs, new dynamics are taking place within the GCC,

aiming economic transitions beyond the fossil fuels. Based on the principles of "common but differentiated responsibilities" and "special national circumstances", the GCC members offer ambitious national policies evolving around common themes of: economic diversification away from hydrocarbons, energy efficiency, carbon capture, clean and renewable energy resources, water and waste management, risks emanating from sea level rise, research and development and increasing public awareness (UNFCCC, 2017a).

While the INDCs are in line with the global discourse on climate change remedies, in the process until the Paris Agreements, the GCC has been considered as impeding international climate change negotiations. The claims addressed especially Saudi Arabia for playing a key role in influencing groups such as the Organization of Petroleum Exporting Countries (OPEC) or G-77 (Reiche, 2010: 2399). The arguments referred to the GCC as "well-disciplined with a policy united behind Saudi statements" (Depledge, 2008). This perspective argued that oil-exporting countries unofficially led by Saudi Arabia have been developing strategies of obstructionism since the early 1990s regarding the UN Climate Regime, under the rhetoric of South-South Cause. Accordingly, climate talks were slowed down (Russell, 2015), for safeguarding the status of fossil fuels in the energy markets with suggestions such as compensation demands for the loss of oil revenues (Luomi, 2010: 7). One of the most striking discussions during the climate negotiations, concerned the acceptable temperature limit for global warming when Saudi Arabia had refused to back the limit to 1.5 degree (Piotrowski, 2015). Saudi Arabia and Kuwait diplomats were alleged to work with lobby groups from Washington leading the negotiators to insert clauses linking "climate aid for small island countries that could disappear entirely under rising seas to compensation packages for oil producers facing declining revenues" (Goldenberg, 2015).

In addition to these criticisms to the GCC position in climate negotiations, others addressed the internal dynamics of the GCC countries. Wael Hmaidan, the director of the

Climate Action Network, declared that although some of the GCC members such as Qatar and the UAE "are genuinely there to find a solution", the issue remains as a low priority on the agenda, with political alliances or confrontations on other problems far more pressing (Russell, 2015). Especially, under recent developments both in the region and among the GCC countries, climate change does not appear as an immediate threat to destabilize the economic and political stability.

Despite renewable energy policies and INDCs, experts suggest that the policy implementation process is weakened by the lack of financial resource allocations, reliance on cheap fossil fuels, lack of political will (Luomi, 2010: 5) or lack of civil society asking for strict ecological measures (Reiche, 2010). Some scholars further question to what extent ecological modernization is possible in the GCC countries, suggesting that redistributive schemes for environmental costs or ecological taxation are unlikely in the GCC countries due the rentier state lying at the hearth of the obstacles for environmental transformation (Reiche, 2010: 2395, 2397). Moreover, this strand of view declares that these countries do nothing to address ecological problems such as severe water stress, desertification and environmental insecurity, unless solutions manifest themselves as fast financial opportunities (Spies, 2008: 250). However, is it really the case?

It is true that climate change is not only about challenges: it also presents new business opportunities especially in the energy sector, where the demand for alternative resources is increasing. Therefore, the GCC governments have to get prepared to the new dynamics of the energy sector by investing in renewables and devoting more resources to develop cleaner energy technologies (The Economist Intelligent Unit, 2010: 4). In doing so, some consider the GCC ready to take more active role in the transition towards environmental friendly technologies. Contrary to the criticisms, they suggest that the GCC region is under an environmental awakening meaning that these countries have become aware of climate change

issues, which have to be always considered in today's list of priorities concerning economic and social development (Doukas, 2006). Indeed, the GCC climate portfolios do include positive steps. For instance, since the mid-seventies, Saudi Arabia has been at the forefront of research and development in the region regarding renewable resources especially the solar energy or Kuwait was the first country in the Arab Gulf to implement energy conservation measures in air-conditioned buildings (Doukas, 2006).

As Murthy (2016) highlights, the GCC has recently realized shifting dynamics in the global energy-climate interplay and noticed that they will be isolated in the global talks unless they are actively involved with the global community in its fight against climate change. According to this perspective, Saudi Arabia, for which criticism are already stated, attended the COP22 as a nation in transformation for diversifying its economy away from a heavy overreliance on hydrocarbons together with concrete governmental plans to reduce energy use, to generate electricity by renewables and nuclear, to reduce emissions by 2030, to develop human capital and a sustainable economy. This new image also included an emphasis on international technology transfer and capacity building, instead of funds.

The GCC and Global Environmental Governance: Climate Change as a Façade to Hide Diverging and Competing Interests behind Common Declarations?

The Charter of the GCC, signed in 1981 and being the foundation document of this regional economic community, does not mention any environmental or climate concern, but this absence must be understood within the nature and scope of the Charter, serving to state the structure and functioning of this regional body, willing to strengthen coordination, cooperation, and integration between member countries in all fields.

Among the regional declarations and conventions on environmental and climate change related issues applying to GCC countries, two steps have to be mentioned as

important. The General Regulations of Environment in the GCC States (GREGCC), adopted in 1997, is the outcome of a process going back to 1985, when the sixth session of the Supreme Council of the GCC expressed a first call for unified policies and measures for environmental protection, fostering sustainable development in the region. The accent is explicitly put in this document on the need to balance economic development and the protection of natural and environmental sources for economic activities: the conservation of energy is explicitly mentioned in the document as a primary goal. General environmental regulations came into force at that time, after the completion of a review of national legal and institutional arrangements.

The need for a comprehensive approach across GCC countries progressively increased since the GREGCC was passed and the GCC Summit held in December 2007 launched the Gulf Green Initiative (GGI) (Kannan, 2012:134-135). It includes the creation of a pioneer regional environmental agency and the task to harmonize national environmental laws in the GCC and the establishment of a common regional legal framework: the Unified Guiding Regulation for the Control of Substances that Deplete the Ozone Layer in the GCC (2007: 1428). Interestingly and differently from the GREGCC, there is no reference to energy in this document: instead of focusing on oil and gas extraction as a long-term perspective, the GCC countries have progressively shifted to a vision focusing on economic diversification and renewable energy sources. The implementation of the GGI has to be started yet in 2017 and the proposed Arab Regional Centre for Environmental Law should be created in Kuwait as part of this initiative. Nevertheless, it is critical to notice that in only a decade not only a change of terminology but also of paradigm has happened: if the GREGCC was about "environmental protection", the GGI and its Regulation explicitly refer to climate change mitigation, recognizing the importance for the GCC to act in line with international climate change regulations.

Beyond the national implementation of these regional treaties (that suffers from institutional capacity gaps that will be examined in the next section), one may wonder if these regional documents are only a *façade* to showcase to the international community that the GCC countries are aligned with international regulations and policies.

In fact, after the approval of these two regional official documents, GCC countries have officially entered the international scene in relation to climate change issues. They have all signed the 2015 Paris Agreement on Climate Change, showing a common environmental sensitivity, but different timing and speed for its consequent ratification and entry into force. The UAE has been proactive taking the lead as the first GCC country to ratify its acceptance in September 2016. It has become an example in the region, urging countries in the Middle East to follow, because the government is taking the issue of climate change seriously (Hanif, 2016). Commentators emphasize nevertheless that the UAE move is driven by real opportunity following a recent mindset change: UAE together with Saudi Arabia have seen in renewable energy (especially solar for instance) as an investment and a pathway for the future (Harrison, 2016). GCC countries are "rapidly expanding solar energy as part of the national energy mix. This is a major shift and entails massive levels of investment; a totally new development trajectory that is being attempted at this scale for the first time in the Gulf (Murthy, 2016).

During the COP22 held in Marrakesh, Morocco in November 2016, divergences between for instance UAE, expressing a strong desire for mobilization against climate change, and a more reluctant Saudi Arabia have been evident. Divergent national responses make regional coordination more difficult (Lemaizi, 2016). Fearing recently more than earlier the risk to be isolated in the global climate change talks, especially because of Saudi Arabia's leadership in representing the Arab world in these negotiations, GCC countries appear to

become more actively engaged within the global community in their fight against climate change (Murthy, 2016).

Although climate change has been largely and openly recognized as a game changer in the GCC region, and despite the growing regional awareness in relation to climate change in the region (Al-Maamary et al., 2017), the action of GCC countries against climate change at the international level appears to be recent, diversified, and with an evident lack of regional coordination. This trend is corroborated by the analysis of the number of signatures, ratifications, and entries into forces of international environmental agreements by GCC countries. Bahrain, Kuwait, and Qatar appear less active than UAE and Saudi Arabia. Nevertheless, when one compares these best performers with Arab countries like Egypt, Tunisia and Morocco, their performance looks modest. According to Djoundourian (2010), this difference between Maghreb and Gulf countries is mainly due to the numerous regional agreements that African countries participate to (such as the African Convention on the Conservation of Nature and Natural Resources and the African Mining Vision). The figures do not give any indication about the chronology of the engagement towards these issues. While the UAE has been engaged in various international treaties regarding environmental concerns and protection for decades (Djoundourian, 2010), the active role of Saudi Arabia, as also explained above, is nowadays important, but significant since about 2005.

Table 2: Total number of international environmental agreements in GCC countries compared to some North African countries[2]

Country	Signature	Ratification and accession	Entry into forces
Bahrain	19	57	60
Kuwait	25	58	63
Oman	16	67	73
Qatar	18	59	63
Saudi Arabia	17	69	72
UAE	23	68	72
Egypt	61	93	100
Morocco	65	111	117
Tunisia	56	95	102

Source: compiled by authors using the International Environmental Agreements (IEA) Database Project (https://iea.uoregon.edu/).

A study on the media coverage of climate change in the GCC countries from 2009 to 2013 indicated that, despite specific differences between countries, there is a gradually increasing importance given to climate change and that in newspapers articles international treaties and national policies are given more importance than oil and gas companies' policies or individual call-to-actions. The political, social, and educational perspectives on climate change are considered more important in the GCC media than their purely economic and business dimensions, although there is a strong emphasis on economic diversification and renewable energy in these newspapers (Freeman and Geraghty, 2016). Given that the research only considered English-speaking media, one could wonder if these sources are good indicators or if they only convey the image that these Arab-speaking countries want to transmit to an international audience. However, this could be also interpreted as an attempt to raise public opinion awareness on the matter to make them endorse policymaking and leadership efforts.

[2] Lower scores are in red, higher scores are in green and North African countries are in blue.

The analysis of the national level serves to highlight if behind this façade of opportunistic interest in climate change issues there is any sound policy convergence and cooperation between GCC countries or eventually differences between leading and copying countries.

This controversial position of the GCC in the fight with the climate change is predictable given that there is a concrete clash of interest between their survival and economies: low-carbon, green energy systems are vital for the ecological survival, yet this remedy signals end of an era for the fossil fuels which are vital too for their economic survival. In such a complicated framework, shedding light on the political economy of energy in general is a crucial task to provide the context for policy learning in the Gulf.

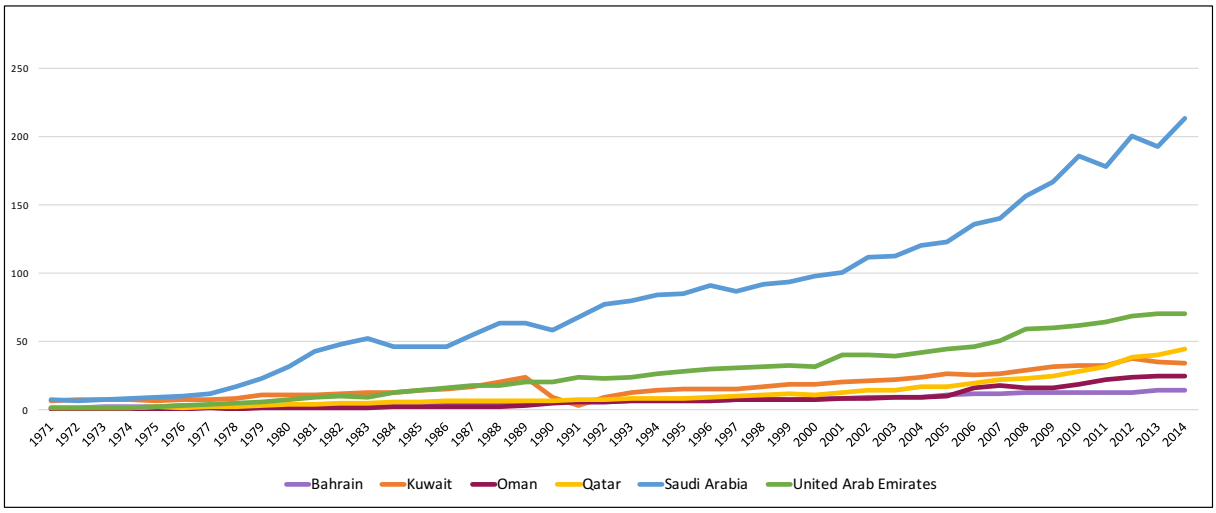
The Energy Dimension

The transfer of climate and environmental concerns into actual state policies comes with the dynamic changes in the global energy markets. The projections for 2040 foresee a 30% increase in the global energy demand. However, except in China and India, net oil exports in the United States and the European Union are expected to significantly decrease due to efficiency improvement, renewables and switch to electric and natural gas vehicles. While the global oil demand slows down, natural gas consumption is rising by 50%, with a 30% increase in LNG in the global gas market. Overall, the real jump comes from renewables, which are projected to count for 60% of all new power generation capacity by 2040 (IEA, 2016). With their significant natural reserves and fuel exports, how the GCC will be affected from this scenario is critical.

In terms of domestic energy consumption, throughout the years, there has been an increase in the total primary energy supply in the GCC (Figure 1). By 2020, the population in the GCC countries is expected to reach 53.5m, a 30% increase over the level in 2000. Over

the same period, the region's real GDP is expected to grow by 56% (The Economist Intelligence Unit, 2010). This means that the domestic demand for energy will also be increasing, requiring further energy supplies unless demand side measures are undertaken.

Figure 1: Total Primary Energy Supply (Mtoe)



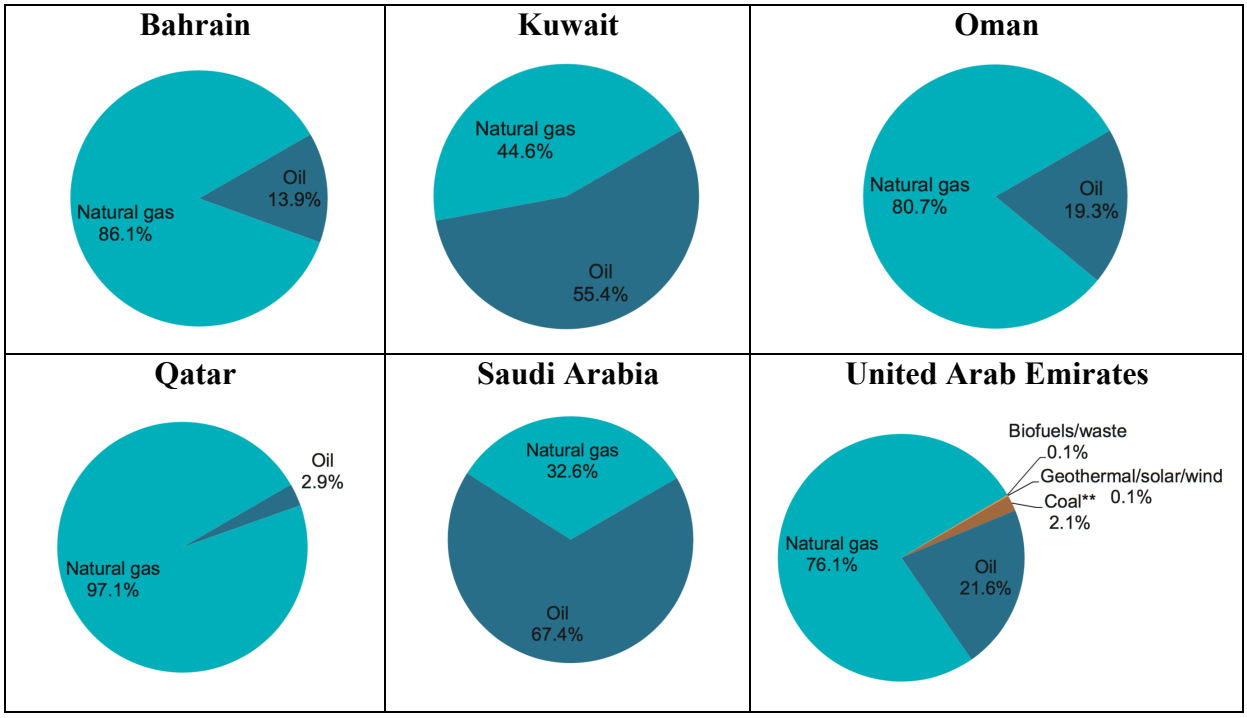
Source: Prepared by the authors using International Energy Agency, 2016

The GCC has considerable potential for renewables, solar energy being the most promising one for desalination, cooling and refrigeration (Doukas, 2006). It has to be noted that a regional renewable energy industry has been emerging in the region. Qatar, Saudi Arabia, and the UAE have begun to explore renewable energy technologies, particularly solar power. Abu Dhabi hosts one of the world's largest concentrated solar plants, Shams-1. Dubai's Al Maktoum Solar Park in 2015 achieved photovoltaic costs below U.S. six cents per kilowatt hour — a record low achieved through world-class resources and a competitive bidding process, which invited private technology producers to vie over cost (el-Katiri, 2016). GCC states' combined investments in solar power projects are worth approximately US$155 billion and could generate more than 84 gigawatts of power when complete in 2017. The majority of these projects are led by Saudi Arabia and the UAE (Meltzer, Hultman, & Langley, 2014:47). Lower cost solar energy is significant because across the region regimes

have been gradually reducing energy subsidies, specifically in the UAE (Boersma & Griffiths, 2016), Saudi Arabia (MEES, 2016b), Oman, Bahrain, and Qatar (MEES, 2016a), which implies incremental changes in the welfare state system. Throughout the region, other renewable energy sources, such as biofuels and nuclear power, are being investigated. Plans for renewable energy development have been publicized in Bahrain, Kuwait, and Oman.

Despite these efforts, the members' energy portfolios are still heavily dependent on oil and natural gas. For their energy supplies, these countries either rely on oil or on natural gas as their dominant energy resource. On the other hand, only in UAE alternative resources such as biofuels, geothermal, solar, wind or coal are significant enough, though with really small percentages. The GCC countries are in need of further resource diversification for their energy supplies.

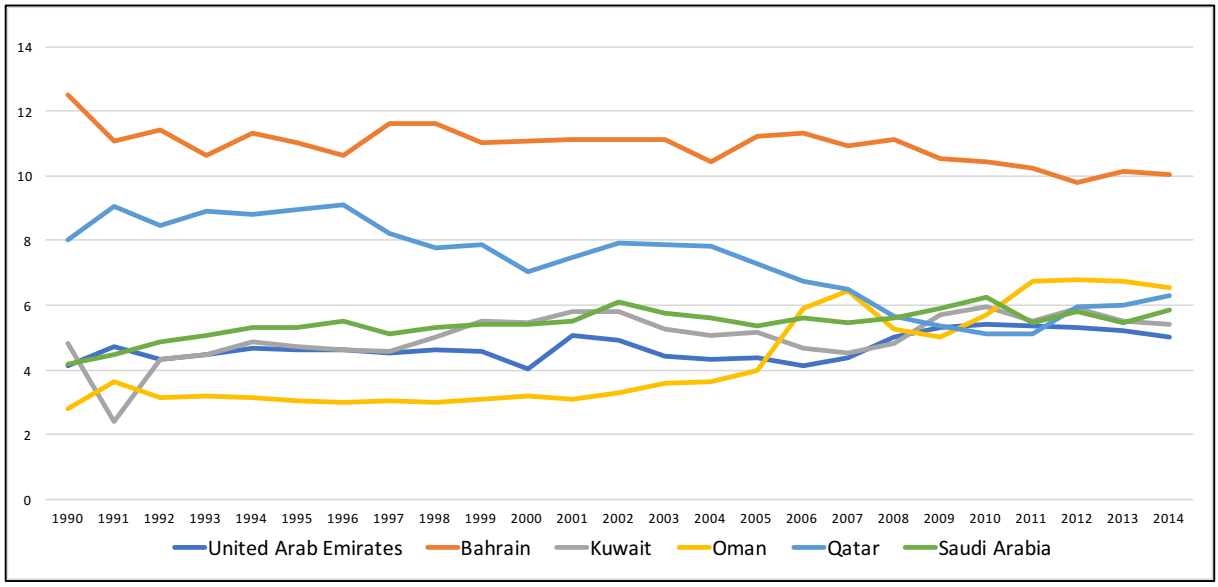
Figure 2: Shares of total primary energy supply in the GCC, 2014



Source: Table compiled by the authors using graphs by IEA, 2016

Energy efficiency, the "hidden fuel", is a reoccurring common theme in the INDCs, yet, the GCC countries have diverging intensity[3] scores (Figure 3). While Bahrain has the highest energy intensity, it demonstrates a decreasing trend indicating that its economy is becoming more efficient throughout the years. Kuwait, Oman and UAE are also curbing their energy intensity levels since 2012. While Saudi Arabia's fluctuating trend shows an increase for the last years, Qatar's significant decrease of intensity between 2004 and 2011 rewinds in the last 5 years. These figures indicate that the GCC has room for progress regarding energy efficiency, which can decrease the pressure on their fossil fuel consumptions to a certain extent.

Figure 3: Energy intensity level of primary energy (MJ/$2011 PPP GDP)

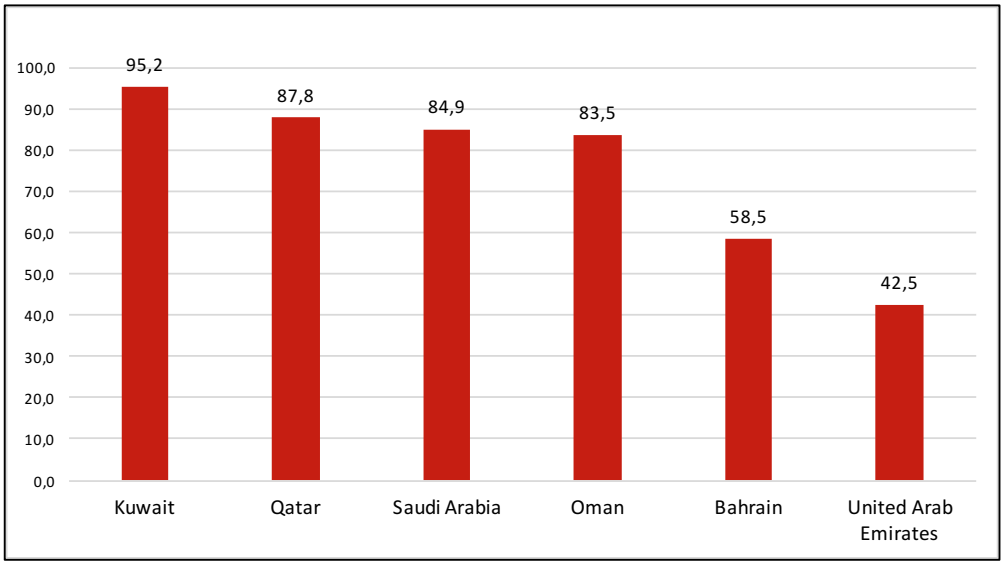


Source: Prepared by the authors using World Development Indicators 2017

[3] Energy intensity is a way to measure how much energy is consumed for producing one unit of economic output. The World Bank calculates it as the ratio between energy supply and gross domestic product measured at purchasing power parity. High scores of energy intensity represent that high amounts of energy is used to produce one unit of economic output. Accordingly, low energy intensity scores signal better energy efficiency records.

On the international dimension of energy security, the GCC's role and position in the global energy market is critical. In 2015, 44% of the total world crude oil exports was from the Middle East (BP, 2016). In 2015, Qatar, on its own, counted for 31% of total LNG exports in the world. In all the GCC countries, except the UAE, more than 50% of the exports consist of the fuel exports.

Figure 4: Share of Fuel Exports in the GCC Members (%), 2014



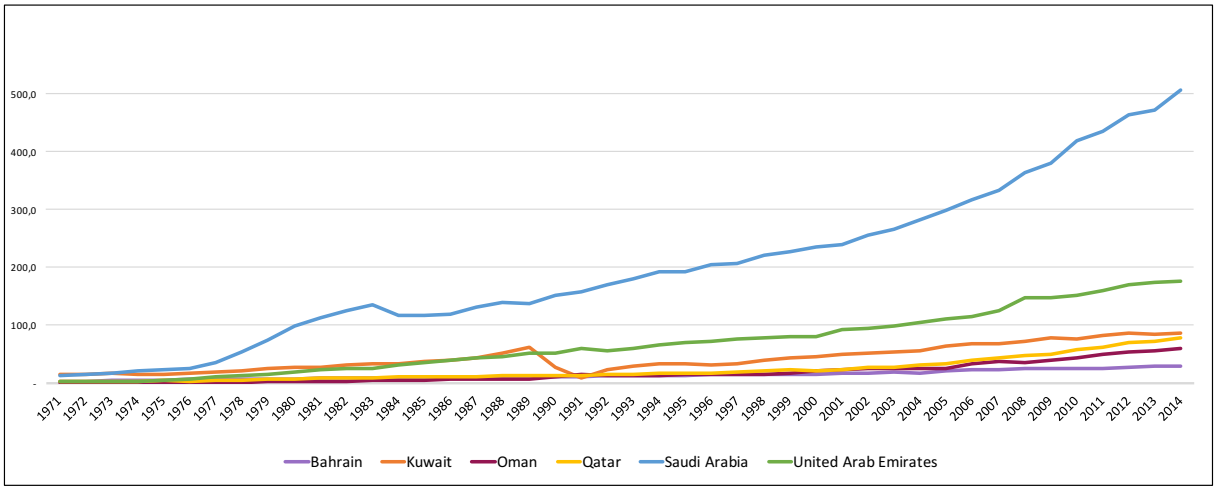
Source: Prepared by the authors using BP, 2016

The climate dilemma for the GCC occurs when this picture confronts with the fact that around 78% of the total greenhouse gas emissions increase from 1970 to 2010 comes from emissions of CO_2 from fossil fuel combustion and industrial processes (IPCC, 2014: 2,5) and that "75 % of known fossil reserves must be kept in the ground if we are to have any chance of stopping dangerous levels of climate change" (Vaughan, 2015). Since the geopolitical power of these oil exporters and survival of existing elites are based on oil revenues and thus on the continuous global demand for oil, their position towards the international climate mitigation measures and initiatives is affected by their self-preserving attitudes (Luomi, 2010: 6). Russell (2015) even claims that telling these countries to leave their oil in ground is almost

like supporting a "revolution" in their countries. Yet, this does not change the fact that under the climate change scenarios, "energy" and "food" are highlighted as the two main spheres where our current path of consumptions can be replaced by fundamental changes and sustainable solutions (WWF, 2016). This leaves the GCC "caught between a rock and a hard place, between economic catastrophe and climate catastrophe" (Murthy, 2016).

The global efforts to diversify away from fossil fuels is not the only challenge for the GCC since they have to curb their own CO_2 emissions which have been increasing since 1970s (Figure 5).

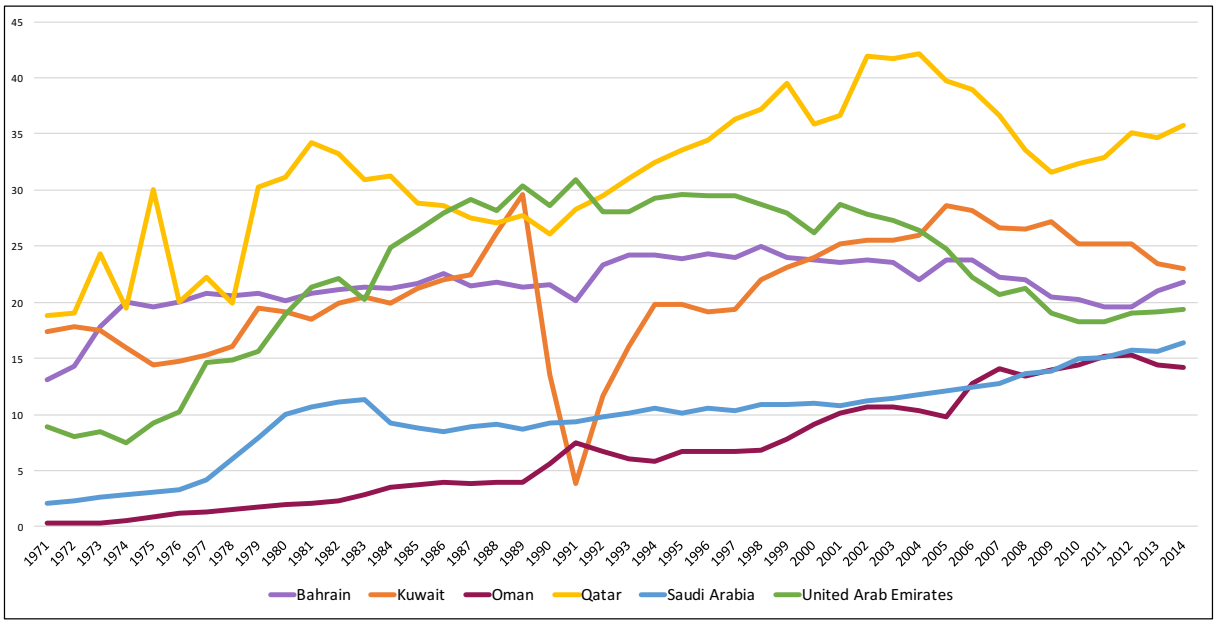
Figure 5: The GCC's CO_2 Emissions from Fuel Combustion (million tonnes)



Source: Prepared by the authors using International Energy Agency, 2016

As a group, although the total CO_2 emissions of the GCC remains relatively minor compared to China and India (Luomi 2010, 4), their CO_2 emissions per capita signal a lack of sustainability with very high scores: Qatar 35,73 tonnes, Kuwait 22,94 tonnes, Bahrain 21,8 tonnes, United Arab Emirates 19,31 tonnes, Saudi Arabia 16,40 tonnes, Oman 14,14 tonnes, for 2014.

Figure 6: CO_2 Emissions per Capita (tonnes)



Source: Prepared by the authors using International Energy Agency, 2016

The Environmental Performance of the GCC

According to Global Footprint Network, to live within the means of our planet's resources, the World's Ecological Footprint[4] would have to equal 1.7 global hectares. In the latest calculations in 2013 for 162 countries, high scores are reported for the GCC[5] with Kuwait ranking 7th (8.2 global hectares), Bahrain 16th (6.4 global hectares), Oman 27th (5.7 global hectares), Saudi Arabia 28th (5,6 global hectares). The most striking result came from Qatar which scored the world's 2nd highest ecological footprint (after Luxemburg) with 12.6 global hectares. This means that Qatar citizens are demanding seven times the resources and wastes that our planet can regenerate and absorb in the atmosphere (Global Footprint Network, 2017).

[4] The Ecological Footprint per capita is described as a nation's total Ecological Footprint divided by the total population of the nation.

[5] The Ecological Footprint for the United Arab Emirates is not reported in the 2013 study. However, in 2006 the UAE was the first country in the list with highest score of 12 global hectares. Since then, UAE incresingly focused on ecological transformation.

When it comes to the environmental performance of the GCC, *Environmental Performance Index (EPI)*[6] reveals that the six Gulf countries perform in the range between 65 to 70, representing average/low performance in the overall global rankings (Table 3). Even the best performer of the GCC, Bahrain, ranks 86th in the global scale with a score of 70,07.

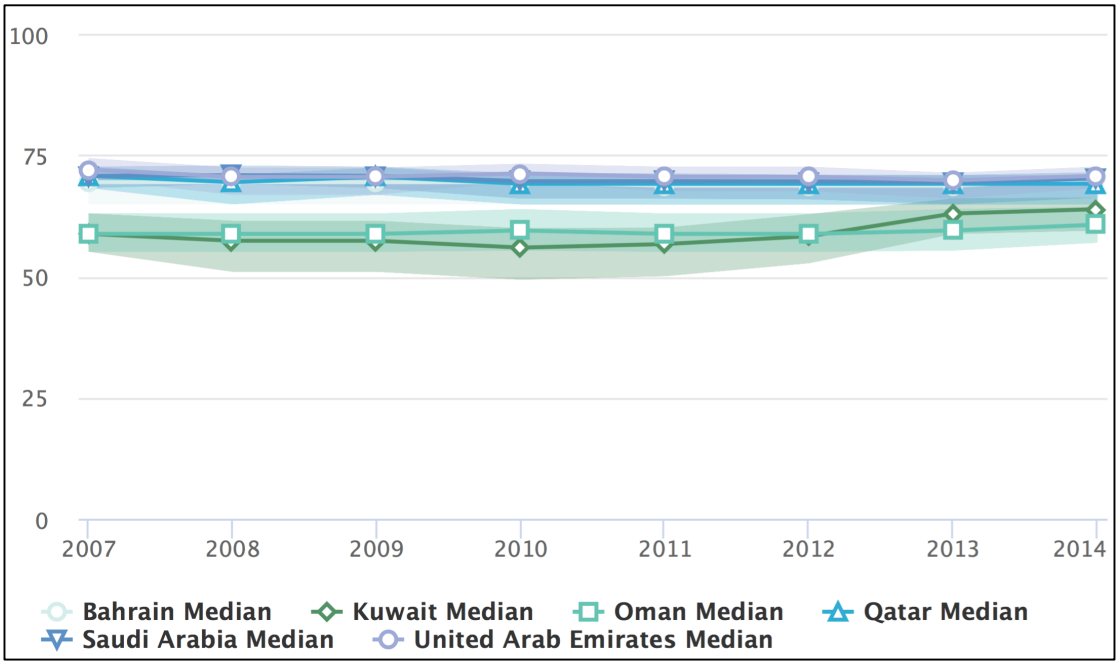
Table 3: The Environmental Performance Scores of the GCC, 2016

COUNTRY NAME	OVERALL RANK (OUT OF 180)	OVERALL SCORE (OUT OF 100)	10 YEAR TREND (OUT OF +/- 100%)
BAHRAIN	86	70,07	1,07%
QATAR	87	69,94	-1,04%
UNITED ARAB EMIRATES	92	69,35	-3,07%
SAUDI ARABIA	95	68,63	-2,96%
KUWAIT	113	64,41	9,35%
OMAN	126	60,13	2,43%

Source: Compiled by the authors using Environmental Performance Index, 2016

[6] The Environmental Performance Index is prepared by the Yale Center for Environmental Law & Policy (YCELP) and Yale Data-Driven Environmental Solutions Group at Yale University (Data-Driven Yale), the Center for International Earth Science Information Network (CIESIN) at Columbia University. EPI consists of the country rankings based on the national performances regarding nine issue areas (Health Impacts, Air Quality, Water and Sanitation, Water Resources, Agriculture, Forests, Fisheries, Biodiversity and Habitat, Climate and Energy) which consist of 19 indicators, addressing different aspects of the protection of ecosystems and human health. The evaluation of the country scores are made in reference to meeting internationally agreed targets or cross-country comparisons. With regards to the "Climate and Energy", EPI report acknowledges the fact that the assessment of the policy implementation targeting measurable climate mitigation is an urgent, yet difficult challenge. Accordingly, the indicators represent how the states are decarbonizing their economic growth by looking at the trends in carbon intensity, rather than the tangible effects of their climate policies Higher scores in EPI indicators represent better performance, 100 being the highest possible performance score. According to the latest EPI report, the best performer among 180 countries for the year 2016 is Finland with a score of 90.68 and the last country on the ranking is Somalia with 27,66. These two scores are instrumental in revealing the standards for the sake of comparison.

Figure 7: EPI Scores of The GCC, by Years



Source: Environmental Performance Index, 2016

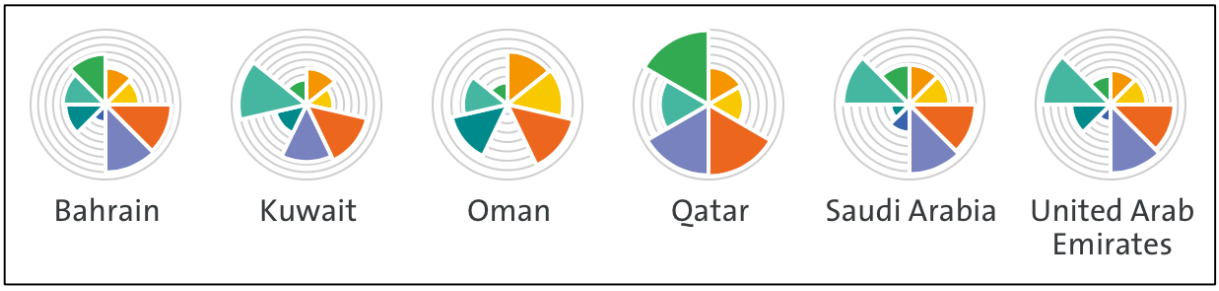
The EPI trends for the last ten years reveal that Kuwait and Oman distinguish themselves with relatively lower scores compared to the remaining four Gulf countries (Figure 7). The initial question provoked by this distinction is whether Kuwait and Oman are the "late comers" among the GCC with regards to the environmental protection, including sustainable energy policies and climate change mitigation measures. If that is the case, Kuwait and Oman can be expected to be policy "learners" within the GCC. On the other hand, another striking trend in the 10-year scores of the GCC is the fact that, despite their lower performance, Kuwait and Oman have an upward trend in their performances with 9,35% and 2,43% respectively. Compared to the performance of Qatar, UAE and Saudi Arabia, which have better scores, but a negative trend in their performance throughout the years, the case of especially Kuwait signals a puzzle: can we classify some members of the GCC as "good learners" or new policy entrepreneurs?

In the issue of Climate and Energy (which is an aggregate indicator of trend in carbon intensity, access to electricity and trend in CO2 emissions per Kwh) Qatar performs

significantly better among the GCC. Given this relatively high performance, whether Qatar has exclusive climate policies resulting in better practices remains to be further studied in the context of its national energy and climate policy. If it is the case, does Qatar have a leadership role in the environmental policy transfer within the GCC in the sphere of climate change?

Table 4: EPI Scores of the GCC for 2016, by Issue Areas

COUNTRY NAME	Health Impacts	Air Quality	Water and Sanitation	Water Resources	Agriculture	Forests	Fisheries	Biodiversity and Habitat	Climate and Energy
BAHRAIN	59,06	71,1	91,91	91,66	31,85	NA	57,17	56,54	67,71
QATAR	54,02	56,54	89,8	90,14	NA	NA	33,71	58,37	89,35
UNITED ARAB EMIRATES	54,5	69,47	90,3	94,63	27,17	NA	56,27	89,41	38,49
SAUDI ARABIA	55,46	73,64	86,99	85,8	38,21	NA	33,9	81,69	48,3
KUWAIT	56,39	48,86	89,92	81,63	NA	NA	45,47	87,12	33,57
OMAN	64	84,25	78,09	61,48	NA	NA	57,64	48,68	23,83



Source: Table compiled by the authors, figures from EPI, 2016

As Table 3 and its illustration reveals, each GCC member has strong and weak policy areas in their environmental performances. While in some issue areas such as health impacts, they all together possess low scores, some countries stand out with better scores in other issues, as in the case of Kuwait and Bahrain in terms of biodiversity and habitat. Do these divergent profiles transform into collective policies in common weaknesses? Is there an interaction between the Gulf countries, so as to transfer or learn policies from each other with regards to their strong vs. weak environmental policy areas? The following section aims to offer answers to these questions.

The National Level: Very Limited National Policy Convergence among the GCC Countries in Terms of Environment

Environmental governance, in the GCC countries like elsewhere, is mainly performed by the environmental administration. Even within the contemporary context of global environmental governance, states are the only institutions with the requisite political authority to address environmental concerns through multilateral environmental agreements and natural resource management regulations and laws. Although environmental governance is a complex and multi-level issue, requiring collaborative arrangements, including a variety of state and non-state actors (comprising the critical role plaid by international organizations), governments remain central stakeholders in environmental policy and henceforth governance. "Most of the substantive content of international environmental law-whether in the form of treaties or soft power instruments such as codes of conducts or guidelines-are developed through a process of inter-state negotiation, even if other actors may play significant roles in that process. And implementation of these norms depends primarily on national action: enactment of international standards into domestic law, establishment of domestic permitting procedures, monitoring and reporting on regulated activities, punishment of violations, and judicial application. It may be argued that states are a necessary intermediate level for the implementation of international environmental standards. Only states have the sufficient legislative means at hand and it can provide the indispensable administrative infrastructure (Kannan, 2012: 113).

This centrality of the state is even more accurate and sizeable in the GCC countries. In fact, historically, the model of governance in the GCC countries is state-led and state-centered: this applies also to environmental governance and climate change. In the second half of the 20th century, even before the oil boom, GCC countries, regardless of their size and of their political, economic, social, and institutional history, undertook comprehensive central

plans of development, including policies and programs, formulated by governments and in line with the national leadership and elites. These plans required policies and programs, but also the creation of numerous organizational structures and resulted in the expansion of the state's role, with an inflated public sector and public budget and a centralized bureaucratic administration (Kannan, 2012: 114-115). Public sector reform is then critical and has been given special emphasis since the beginning of the new millennium, when economic diversification has progressively become a crucial and vital priority for the GCC states, emphasizing even more capacity gaps and lack of effectiveness of public administration in the region.

All this institutional background is important to accurately evaluate environmental governance in the GCC region. Every Gulf country has in fact institutional mechanisms dealing with environmental and climate change issues, recently set in place, but the question of their real impact and performance has to be raised and investigated.

In order to do this, the most appropriate starting point is to analyze the place given to climate change in the national development visions of the GCC countries, as they are guiding frameworks, inspiring implementation strategies, projects, and policies. By setting strategic economic priorities and sectors, these visions affect the extent to which climate change is included in economic development planning. As indicated in Table YY, Qatar and UAE are notable exceptions: despite the fact that their national visions are relatively older, they are regional leaders in terms of the significant role that they give to climate change in their national planning strategy. Saudi Arabia Vision 2030 and Oman's Tanfeedh do not pay enough attention to the incorporation of climate change.

Table 5: National development visions of GCC states

Vision in chronological order (launch year)	Key aims	Explicit role given to climate change
Qatar National Vision (2008)	Sound economic management; economic diversification; knowledge-based society	Proactive and significant relevant regional role in assessing the impact of climate change and mitigating its negative impact in the Gulf
Bahrain Economic Vision 2030 (2008)	Double real household income and establish itself as a regional financial services center	Reference only to environmental protection and energy-efficiency regulations
UAE Vision 2021 (2010)	Becoming one of the best places in the world for business; diversifying the economy by expanding into new strategic sectors, such as financial services, trade and commerce	Balanced growth fuelled by a sustainable range of energy resources, with an important role for alternative and renewable energy sources, new energy-efficient technologies reduction of carbon and ecological footprints, mitigation of the effects of climate change
Oman's Tanfeedh (2016) (National Vision 2020)	Enhancing economic diversification through key sectors like manufacturing, tourism, logistics and finance	No reference
Saudi Arabia Vision 2030 (2016)	Create productive employment, improve the quality of life, double per capita income, and diversify the economy	No reference
New **Kuwait** (2017)	To transform the country into a financial and trade center, attractive to investors, where the private sector leads the economy, to achieves human resource development as well as balanced development, providing adequate infrastructure, advanced legislation, and an inspiring business environment	Only reference to environmentally sound resources and tactics for living environments

Sources: compiled by authors using Luomi (2014) and official websites of the national visions of GCC countries.

Nevertheless, Al-Sarihi (2017) highlights that various aspects of climate change are being incorporated into development planning in the GCC through "sustainability" or "green growth". The author mentions the inclusion of environmental sustainability in waste management, recycling projects, natural reserves, and water resource management in the Saudi's Vision. "On the other hand, Oman's Tanfeedh programme […] has no explicit mention of climate change but includes three national goals: environmental protection, crisis risk management and science, technology and innovation, which can be the main gateways for climate policy incorporation" (Al-Sarigh, 2017). It has however to be pointed out that the absence of a reference to climate change, or the marginal role given to these issues in the national vision is an indicator of the real importance given to this phenomenon in the process

of economic transformation of the country. If it certainly does not mean that it will be absent from other measures and projects, it reveals that climate change is not considered as a critical priority.

UAE is, at the opposite, the best example to showcase the explicit and strong presence of climate change, not only in the Vision 2021, but also in the Green Growth Strategy, in the Dubai Integrated Energy Strategy 2030, in the Abu Dhabi Urban Planning Vision 2030, and in the Abu Dhabi Economic Vision 2030, in addition to incorporating climate action into the UAE's education sector and in numerous projects and concrete realizations (like Masdar City).

Another important and complementary indicator of the importance and role of climate change and environmental governance for GCC countries is the establishment of environmental laws and the entities in charge of climate change related issues. This information is briefly summarized in Table WW for GCC countries.

Table 6: Entities in charge of environmental governance and the year of establishment of the environmental law in GCC countries

Countries	Entities in charge of the environment	Year
Bahrain	Ministry of housing, municipalities and environment Public Commission for the Protection of Marine Resources, Environment & Wildlife National Committee on Environment and wildlife	1996
Kuwait	Environment Public Authority	2001
Oman	Ministry of environment and climate affairs	2001
Qatar	Ministry of environment Permanent Commission for Environmental Protection at the Council of Ministers Supreme Council for the Environment and Natural Resources	2002
Saudi Arabia	Presidency of meteorology and environment Ministerial Committee on Environment National Commission for Wildlife Conservation and Development	1992
UAE	Ministry of environment and water Federal National Council	1999

Sources: compiled by authors, using Djoundourian (2010), Al-Saqri and Sulaiman (2014), and Kannan (2012).

Djoundourian (2010) considers the year of establishment of the environmental law as an indicator of environmental engagement: older is the law and longer has been the commitment and regulation of this domain. To this extent, Saudi Arabia has been the first GCC and Arab country to establish an environmental law in 1992. The UAE has developed a comprehensive set of environmental regulations, including monitoring and enforcement mechanisms, remediation options, and penalties. Very differently, the enforcement of environmental laws and regulations is weak in Kuwait: capacity gaps of implementing authorities and in the judiciary system handicap are the main implementation gaps. This is certainly also related to the fact that Kuwait is the only GCC country in which the same institution, the Environment Public Authority, handles environmental policymaking and the implementation of environmental policy and programs (Kannan, 2012).

Stand-alone ministries or joint ministries responsible for the environment or environmental agencies or authorities have been in fact established or restructured in every GCC country in the 1990s, but this new setting for environmental governance was still inadequate to address larger and more complex multi-sectoral environmental issues, including climate change. Furthermore, with the only exception of Bahrain and Kuwait, most GCC countries have established institutional sections on climate change related issues, also in charge of renewable energy sources. Lack of human and technical resources, fragmentation and duplication of responsibilities, and obstacles of coordination are the most common gaps, explaining the weak implementation of the legislation and enforcement of standards. Although environmental institutions are still mostly centrally governed, some GCC countries are starting to decentralize them. It is the case for the UAE, Oman, Qatar, and Saudi Arabia (Al-Saqri and Sulaiman, 2014).

Concluding Remarks

Corroborating the international level, climate change is not among the most pressing national issues for GCC: economic diversification is certainly the common and most pressing concern for Gulf countries. However, the economic and financial consequences and opportunities that climate change opens are what really matter. If any policy convergence may be identified among GCC countries, it is the shift toward renewable (and especially solar) energy. For the rest, the role, strategies, and the capacity to implement environmental policies, laws, and regulations greatly vary among the GCC countries, as well as the institutional settings in charge of these processes.

The only clear leading state in environmental and climate change governance in the GCC is the UAE: it is the only country that has given with conviction and for a longer time a central role to environmental protection and more recently to climate change. Qatar has also recently made sizeable efforts to put sustainable development and climate change at the core of national priorities. Policy transfer has been documented not among GCC countries, but instead from Western countries to GCC states. "Most of the environmental strategic plans are adopted from developed countries, the fact is that the environmental conditions of these countries are different and has to take in to account GCC's requirements and also this has to be considered into account during enhancement and implementation of environmental management in GCC countries" (Al-Saqri and Sulaiman, 2014).

As such, GCC countries do not cooperate with each other in climate change policies. The regional economic community has been considered, until the 2017 crisis between Qatar and other member countries, as the most successful experience of regional cooperation in the Arab world, ensuring also a *rapprochement* between the GCC and surrounding Arab countries (Al-Maamary et al., 2017). Gulf state authorities have understood the need to develop partnerships among them focusing on the sustainability and wellbeing of their nations, but

they have not translated these intents into concrete actions and the needed policy convergence. Regional integration is still lacking and it handicaps coordination and policy coherence for tackling climate change and environmental governance.

REFERENCES:

Al-Maamary H.M.S., Kazem H.A., and Chaichan M.T. (2017), "Climate change: The game changer in the Gulf Cooperation Council Region", *Renewable and Sustainable Energy Reviews*, 76: pp.555-576.

Al-Mawali, N. (2015), "Intra-Gulf Cooperation Council: Saudi Arabia effect", *Journal of Economic Integration*, 30, pp. 532–552.

Al-Saqri S. and Sulaiman H. (2014), "Comparative Study of Environmental Institutional Framework and Setup in the GCC States", *Journal of Environmental Protection*, 5(9), (http://file.scirp.org/Html/1-6702305_46976.htm).

Al-Sarihi A. (2017), "Can climate change speed up economic diversification in the GCC?", *London School of Economics Middle East Centre Blog* (http://blogs.lse.ac.uk/mec/2016/10/24/can-climate-change-speed-up-economic-diversification-in-the-gcc/).

BP (2016), Statistical Review of World Energy.

Brannagan, P. M., and Guilianotti, R. (2014), "Soft power and soft dis-empowerment: Qatar, global sport and football's 2020 World Cup Finals". *Leisure Studies*, 34, pp. 703–719.

Brown, Oli and Alec Crawford (2009), *Rising Temperatures, Rising Tensions: Climate change and the risk of violent conflict in the Middle East*, International Institute for Sustainable Development.

Burke, Marshall, Solomon M. Hsiang and Edward Miguel (2015), "Climate and Conflict", *The Annual Review of Economics*, 7, pp. 577–617.

Carrington, Damian (2015, October 26), "Extreme heatwaves could push Gulf climate beyond human endurance, study shows", The Guardian, https://www.theguardian.com/environment/2015/oct/26/extreme-heatwaves-could-push-gulf-climate-beyond-human-endurance-study-shows

Djoundourian S. (2010), "Environmental movement in the Arab world", *Environment, Development and Sustainability*, 13(4): pp. 743-758.

Doukas, Haris, et. al. (2006), "Renewable energy sources and rationale use of energy development in the countries of GCC: Myth or reality?", *Renewable Energy*, 31, pp. 755-770.

Environmental Performance Index (2016). Hsu, A. and e. al. New Haven, CT: Yale University, Yale University.

Freeman B.C. and Geraghty L. (2016), "Protecting the Gulf: Climate change coverage in GCC print media", *Gogent Arts & Humanities*, 3(1) (http://www.tandfonline.com/doi/full/10.1080/23311983.2016.1212690).

Global Footprint Network (2017), *Ecological Footprint Per Capita*. http://www.footprintnetwork.org/content/documents/ecological_footprint_nations/ecological_per_capita.html

Goldenberg, Susan (2015, November 26) "Paris climate summit: the climate circus comes to town". The Guardian, https://www.theguardian.com/environment/2015/nov/26/paris-climate-change-conference-circus-comes-to-town .

Hanif N. (2016), "UAE ratification of Paris climate deal wins plaudits", *The National*, September 6th (http://www.thenational.ae/uae/environment/uae-ratification-of-paris-climate-deal-wins-plaudits).

Harrison P. (2016), "Gulf nations lead way in climate change as temperatures soar", Al Arabiya English, September 2nd (https://english.alarabiya.net/en/2016/09/02/US-climate-change-envoy-confident-of-Paris-Agreement-ratification.html).

Hvidt, M. (2009), "The Dubai model: An outline of key development-process elements in Dubai", *International Journal of Middle East Studies*, 41(3), pp. 397–418.

Hvidt, M. (2011), Economic and institutional reforms in the Arab Gulf countries. *Middle East Journal*, 65, pp. 85–102.

Hvidt, M. (2013), *Economic diversification in the GCC countries: Past record and future trends*. Research Paper no. 27, Kuwait Programme on Development, Governance and Globalisation in the Gulf States. London, UK: London School of Economics and Political Science.

IPCC-Intergovernmental Panel on Climate Change- (2014), Climate Change Synthesis Report.

International Energy Agency (2016), *Statistics*. http://www.iea.org/statistics/

Jammazi, Rania and Chaker Aloui (2015), "On the interplay between energy consumption, economic growth and CO2 emission nexus in the GCC countries: A comparative analysis through wavelet approaches", *Renewable and Sustainable Energy Reviews*, 51, pp. 1737-1751.

Kannan A. (2012), Global environmental governance and desertification. A Study of Gulf Cooperation Council Countries. New Delhi: Concept Publishing.

Kelly, Colin P., Shahrzad Mohtadi, Mark A. Cane, Richard Seager, and Yochanan Kushnir (2015, March 17), *PNAS*,112 (11), pp. 3241-3246.

Khodr, H. & Reiche, D. (2012), "The specialized cities of the Gulf Cooperation Council: A case study of a distinct type of policy innovation and diffusion", *Digest of Middle East Studies*, 21, pp. 149–171.

Klein, Naomi (2014), *This Changes Everything: Capitalism vs. the Climate*. Simon and Schuster: New York.

Lemaizi S. (2016), "Divisions among Arab states on climate change", The New Arab, December 26th (https://www.alaraby.co.uk/english/comment/2016/12/26/divisions-among-arab-states-on-climate-change).

Luomi, Mari (2010), *Oil or Climate Politics? Avoiding Destabilizing Resource Split in the Arab Middle East*. Briefing Paper 58, April 22. The Finnish Institute of International Affairs.

Luomi M. (2014). "Mainstreaming Climate Policy in the Gulf Cooperation Council States", *Oxford Institute for Energy Studies Paper MEP 7*, University of Oxford, February (https://www.oxfordenergy.org/wpcms/wp-content/uploads/2014/02/MEP-7.pdf).

Mansfield, E. D., & Milner, H. V. (1997), *The political economy of regionalism: An overview*. In E. D. Mansfield & H. V. Milner (Eds.), The political economy of regionalism (pp. 1–19). New York, NY: Columbia University Press.

MDPS. (2014), *Annual bulletin on foreign merchandise trade 2013*, Doha, QA: Ministry of Development Planning and Statistics.

MEES. (2016a), *Oman, Bahrain, Qatar follow Saudi in hiking fuel prices*, Retrieved from http:// archives.mees.com/issues/1619/articles/53494.

MEES. (2016b), *Saudis slash subsidies as oil revenue collapses*. Retrieved from http://archives. mees.com/issues/1618/articles/53486.

Meltzer, J., Hultman, N., & Langley, C. (2014), *Low-carbon energy transitions in Qatar and the Gulf Cooperation Council region*. Washington, DC: The Brookings Institution.

Miller, G.H., Brigham-Grette, J., Alley, R.B., Anderson, L., Bauch, H.A., Douglas, M.S.V., Edwards, M.E., Elias, S.A., Finney, B.P., Fitzpatrick, J.J. et al. (2013) "Paleoclimate, Paleoclimate history of the Arctic", *Encyclopedia of Quaternary Science*. Elsevier, pp. 113-125. Doi: 10.1016/B978-0-444-53643-3.00030-3.

Murthy, Ayswarya (2016), "GCC's place in climate negotiations", *Earth Journalism Network*. http://earthjournalism.net/stories/gcc2019s-place-in-climate-negotiations

Nelson, G.C., Bennett, E., Berhe, A.A., Cassman, K., DeFries, R., Dietz, T., Dobermann, A., Dobson, A., Janetos, A., Levy, M., Marco, D., Nakicenovic, N., O'Neill, B., Norgaard, R., Petschel-Held, G., Ojima, D., Pingali, P., Watson, R., Zurek, M., (2006). "Anthropogenic drivers of ecosystem change: an overview", *Ecology and Society*, 11(29).

Piotrowski, Jan. (2015, June 16), "Saudi Arabia blocks drive to tighten global warming cap". SciDevNet, http://www.scidev.net/global/climate-change/news/saudi-arabia-global-warming-cap.html#

Reuters. (2014, October 26). *As oil price slides, private cusinesses in the GCC may benefit*. Retrieved January 1, 2015, from http://gulfbusiness.com/2014/10/as-oil-price-slides-privatebusinesses- in-the-gcc-may-benefit/#.Vieca_mrTIV

Russell, Ruby (2015, September 3) "Led by Saudi Arabia, Persian Gulf oil countries resist tough climate agreement". *Deutsche Welle*, http://www.dw.com/en/led-by-saudi-arabia-persian-gulf-oil-countries-resist-tough-climate-agreement/a-18691721

Schellnhuber, H.J.ed., (2006) *Avoiding Dangerous Climate Change*. Cambridge University Press, Cambridge.

Schwartz, John (2015, October 26), "Deadly Heat Is Forecast in Persian Gulf by 2100" *The New York Times*, https://nyti.ms/1S6xUwI.

Spies, Andy (2008), "Developing adaptive capacity for responding to environmental change in the Arab Gulf States: Uncertainties to linking ecosystem conservation, sustainable development and society in authoritarian rentier economies", *Global and Planetary Change*, 64, pp. 244-252.

Stocker, T.F., Qin, D., Plattner, G.-K., Alexander, L.V., Allen, S.K,. Bindo , N.L., Bréon, F.-M., Church, J.A,. Cubasch, U., Emori,S. et al. 2013. Technical Sum¬mary. In: Stocker, T.F., Qin, D., Plattner, G.-K., Tignor, S.K. Allen, J. Boschung, A. Nauels, Y. Xia, V. Bex and P.M. Midgley (eds.). *Climate Change 2013: The Physical Science Basis. Contribution of Working Group I to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change*. Cambridge University Press, Cambridge, UK and New York, NY, USA.

Stranne C, Jakobsson M. and G. Björk G. (2014), "Arctic Ocean perennial sea ice breakdown during the Early Holocene Insolation Maximum", *Quaternary Science Reviews,* 92, pp. 123-132.

The Economist Intelligent Unit (2010), *The GCC in 2020: Resources for the future*.

Tok, M., McSparren, J., & Olender, M. (2017). The Perpetuation of Regime Security in Gulf Cooperation Council States: A Multi-Lens Approach. *Digest Of Middle East Studies*, 26(1), 150-169. http://dx.doi.org/10.1111/dome.12105

Uddin, Noim and Ros Taplin (2015), "Regional cooperation in widening energy access and also mitigating climate change: Current programs and future potential", *Global Environmental Change*, 35, pp. 497-504.

Ulrichsen, K. C. (2012), "South-South cooperation and the changing role of the Gulf states", *Brazilian Journal of Strategy and International Relations*, 1, pp. 103–123.

Ulrichsen, K. C. (2015). The Gulf states and the rebalancing of regional and global power. Houston, TX: James A. Baker III Institute for Public Policy.

UNFCCC (2017a), *INDCs as communicated by Parties.* http://www4.unfccc.int/submissions/indc/Submission%20Pages/submissions.aspx.

UNFCCC (2017b). *Paris Agreement - Status of Ratification.* http://unfccc.int/paris_agreement/items/9444.php

Vaughan, Adam (2015, April 22), "Earth Day: scientists say 75% of known fossil fuel reserves must stay in ground", The Guardian,

https://www.theguardian.com/environment/2015/apr/22/earth-day-scientists-warning-fossil-fuels-

Welch, Craig (2015, March 2), "Climate Change Helped Spark Syrian War, Study Says". National Geographic. http://news.nationalgeographic.com/news/2015/03/150302-syria-war-climate-change-drought/

World Development Indicators (2017), http://data.worldbank.org/data-catalog/world-development-indicators.

WWF (2016), *Living Planet Report*.