From Opposition to Adaptation

Energy Security and Economic Change as Drivers of a New Climate Policy in the Gulf?

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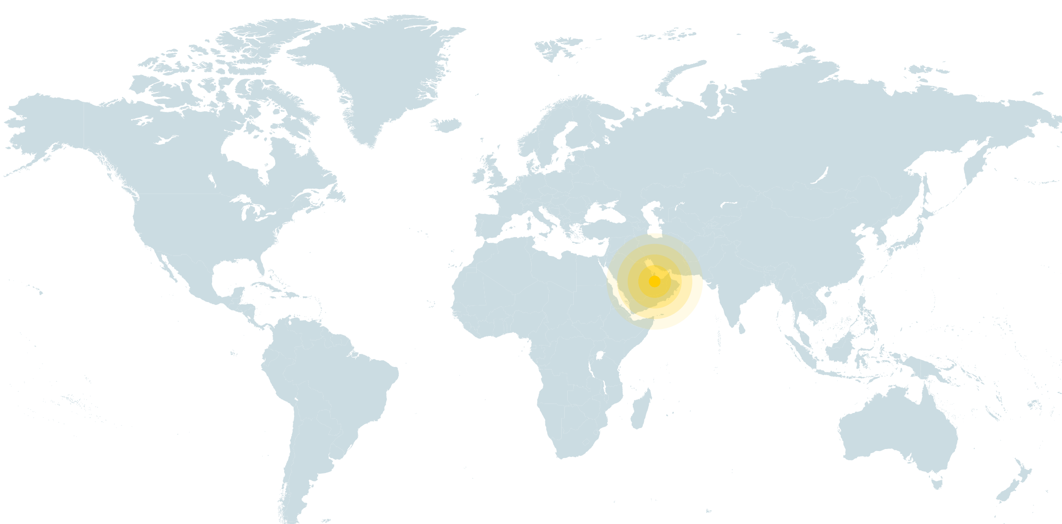

For a long time, the conservative position of the Gulf States in international climate diplomacy was considered an obstacle to climate protection, as the profits from the lucrative trade in oil and gas ensured economic prosperity and political stability. The breakthrough of the COP21 negotiations in Paris, however, has provided indications of cautious change, driven above all by increasing concerns about the countries' own energy security and falling returns from oil.

Introduction

Higher, larger, more expensive – for a long time, this has been the maxim driving development in the Gulf States. Funded by the vast revenues from oil and gas, the monarchies underwent transformation from nomadic tribal societies to states with sophisticated infrastructures in just a few decades. They can consequently offer their populations living standards unmatched in the rest of the Arab world (and beyond). They also appeared to compete with each other with increasingly spectacular mega projects in order to firmly establish themselves as global players. Be it a skiing facility in the desert, luxury residences on artificial designer islands or vast airports and shopping malls – there were hardly any limits to the rulers' imagination.

It therefore comes as no surprise that the Gulf States have not exactly been regarded as pioneers in matters of environmental protection and climate policy. On the contrary: the air-conditioned glass palaces in Dubai, Doha and Riyadh have become the epitome of a wasteful lifestyle, which is considered to be one of the main causes of global climate change. While the emissions of Bahrain, Qatar, Kuwait, Oman, Saudi Arabia and the United Arab Emirates (UAE) may historically be marginal compared to Western industrialised nations, all six Gulf States figure among the largest climate transgressors today. Besides the highest per capita CO_2 emissions worldwide, amounting to ten times the global average, they also account for the largest per capita energy and water consumption.[1] However, there has been very little public debate on environmental protection to date, and its added value has not been considered. However, inexorably progressing climate change, water and soil contamination, the reduction in biodiversity as well as air pollution from construction and traffic are demonstrating the limits of sustainability to the monarchies.

Also, due to their virtually total economic dependence on revenues from the sale of crude oil and gas, which has continued unabated until today, the Gulf States have a vital interest in the continued existence of a global energy order based on fossil fuels. The six countries of the Gulf Cooperation Council (GCC) jointly control close to 30 per cent of global oil reserves and a quarter of all gas reserves.[2] With an average share of close to 50 per cent of the countries' total GDP, these natural resources not only represent the dominant industry sector by far, but also account for almost 90 per cent of state revenues.[3] But more than that, the export revenues also provide the foundation for political stability in the Gulf. They fund the large handouts to the local population, thus guaranteeing the ruling dynasties their hold on power. Generous social benefits and salaries for public employees as well as highly subsidised energy and water rates prop up this "social contract". To date, environmental

Aiming high: Oil and gas revenue transformed the Golf States from tribal societies into developed states with a super-modern infrastructure within a few decades only. →
Source: © Jamal Saidi, Reuters.

and climate protection therefore almost always had to take a back seat despite the fatal long-term consequences.

The Gulf States in the International Climate Regime

The priority given to political and economic stability has also affected the role the Gulf States play in international efforts to combat climate change. Although the monarchies have taken an active part in international negotiations since the establishment of the global climate regime in the early 1990s, they have not figured prominently as active players in connection with the "United Nations Framework Convention on Climate Change" (UNFCCC). On the contrary: The monarchies have always perceived efforts to establish an internationally binding climate protection agreement as more of a threat than worsening climate change itself, due to the reduction in oil and gas use this would entail.[4] The long-standing former Saudi oil minister Ali Al-Naimi, who was also responsible for climate policy, commented only briefly on the historic agreement made in the Kyoto Protocol of 1997, pointing to its costs of at least 19 billion U.S. dollars in lost revenues per year.[5]

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This focus on the potential economic losses is also reflected in repeated demands for financial compensation from the Western industrialised nations. The oil states feel unjustly exposed as climate sinners as their share in the total historical volume of emissions since the beginning of industrialisation is negligibly small.[6] From their point of view, in public discourse, the negative influence of oil and gas is exaggerated compared to coal, which produces considerably higher emissions and is still in part highly subsidised in the West. They maintain that using clean combustion methods and technological innovations such as Carbon Capture and Storage (CCS), oil and gas could, in fact, be part of a sustainable climate solution and should therefore replace coal as fuel to a large extent.[7]

What was even more important to the Gulf delegations gathering behind Saudi Arabia than having their own demands incorporated into the agreement was to delay a binding agreement for as long as possible and to water down the reduction targets it would contain. The Saudi negotiators in particular became notorious for repeatedly blocking the negotiations, thus slowing down the efforts to find a global solution to the climate issue.[8] The Gulf States also publicly questioned the reliability of the scientific data supporting the theory of anthropogenic climate change on many occasions, which gained them powerful allies not only in the other OPEC countries but also in Western lobby groups affiliated to industry.[9] By engaging in these clever tactics, they were able to exert considerable influence over the architecture of the global climate regime.

From Climate Transgressor to Climate Pioneer?

It was thus all the more significant when the Gulf monarchies finally showed themselves willing to consider a binding global climate change agreement for the first time at the Paris Climate Conference in December 2015 (COP21), even submitting reduction targets of their own. After all, in the run-up to COP21, there had still been indications that the wrangling about a binding follow-up agreement to the Kyoto Protocol may well fail due to opposition from Saudi Arabia.[10]

This apparent departure of the Gulf States from blockade policies reflects a slow change in awareness that had been developing for some time on the level of pragmatic, national policy. While the smaller Gulf States handed over the lead to Saudi Arabia in the climate negotiations of the 1990s and did not display much interest

Desert penguins: Skiing in shopping malls, where outside temperatures easily register beyond 40 degrees Celsius, has become part and parcel of a lifestyle long acknowledged to be the root cause for climate change. Source: © Mohamed Al-Sayaghi, Reuters.

otherwise, they underwent a cautious rethink in the mid-2000s. The subsequent revaluation of climate policy and renewable energies is not least due to the fact that the Gulf States have come to recognise their own vulnerability to uncontrolled climate change. They are already suffering from severe heat and drought in the summer, and climate change is exacerbating the extreme conditions in the region even more. Life-giving rainfall will become even rarer, groundwater levels will fall steeply and the salt content of the remaining water tables will rise. There will be further desertification in already arid areas and rising sea levels will threaten the densely populated coastal regions.[11] Scientists are warning that if greenhouse gas emissions continue unabated, temperatures will regularly rise to between 60 and 70 degrees Celsius in the summer by 2100, rendering most of the region unsuitable for human habitation.[12]

With the threatened loss of local biodiversity, the negative implications for food security, health problems due to heat and more frequent sandstorms as well as the potentially politically destabilising effects of unmitigated climate change, the Gulf States are therefore put to the test, making a sustainable and diversified climate policy crucial to their future survival.[13] The UAE and Qatar in particular are making pioneering efforts in the right direction. They have discovered green technologies and climate policy as clever tactics to step out of the shadow of their overly powerful neighbour Saudi Arabia in the international arena and to position themselves as green pioneers in the Gulf. Due to their small populations and a relatively diversified economy (UAE) and, respectively, large gas reserves (Qatar), these two states are finding it relatively easy to strike a more progressive note in matters of climate policy. The UAE was thus the first Gulf

Progress: The monarchies of the Gulf have realised by now that the rapid technological developments of the region have their own downsides as well. Source: © Fadi Al-Assaad, Reuters.

State to sign up to the Kyoto Protocol as well as the informal, progressive Cartagena Dialogue.[14]

To communicate this reorientation effectively to the public and to make the subject part of their nation branding, the two countries are using a number of highly symbolic lighthouse projects, such as Masdar City in Abu Dhabi, which is the first to achieve zero-carbon and zero-waste results. In 2009, the UAE landed a coup when Abu Dhabi won the competition to host the global headquarters of the International Renewable Energy Agency (IRENA), generous funding promises having benefitted it in preempting Bonn, which had been the agency's indisputable favourite.[15] Similarly, catching the media's interest, Quatar declared its intention to make the 2022 World Cup the first climate-neutral world cup and announced its application to host COP18, which it succeeded in despite international criticism.[16] During the climate conference in Doha in 2012, the Qatari government further announced that it intended to establish a new climate research institute as well as a dialogue forum on climate protection in Doha.[17] Since the mid-2000s, interest in the funds available under the Clean Development Mechanism (CDM) has also grown massively in the UAE, Qatar as well as Saudi-Arabia, and between 2006 and 2009, all three states set up dedicated authorities for approving CDM projects.[18]

Following on from these developments, there were first indications of a rethink in Saudi Arabia in 2012. Oil minister Al-Naimi, who had expressed doubts about the verifiability of climate change for years, suddenly declared it to be among "humanity's most pressing concerns".[19] Roughly at the same time, the long-time head negotiator of the Saudi delegation was replaced. Mohammed Al-Sabban, who had represented the kingdom in every single round of negotiations since 1991, had in fact been a main contributor to the success of the Saudi strategy.[20] Saudi-Arabia also slowly departed from its demands for financial compensation for potential eco-

nomic losses and has been concentrating more strongly on knowledge and technology transfer instead.[21] The big surprise then came three years later, when all six Gulf States submitted so-called Intended Nationally Determined Contributions for COP21. While these are still rather vague in an international comparisons and subject to the important proviso that the targets could only be realised if solid economic growth as well as robust revenues from the sale of crude oil could be maintained, the political symbolism made an impact.[22] At the same time, the promises also uncovered the true driving force behind this diplomatic about-face.

Climate Policy Overshadowed by Energy Security

The slow but steady softening of the blockade policies is driven primarily by concerns about each country's own energy security and economic viablity. The rapid modernisation has led to a fast increase in energy consumption in the Gulf States over recent years. Per capita consumption today is already twice that of significantly more industrialised Germany and it is growing by seven per cent each year on average, which means that it is set to virtually double within the next decade.[23] This development is driven by rapid population growth in the Gulf States, particularly since the early 2000s. In the decade to 2015, population figures in the Gulf monarchies grew roughly ten times as fast as those in the eurozone. This is consequently one of the fastest growing regions in the world. Experts expect this trend to continue. The Saudi population alone could double to close to 50 million people by 2050.[24]

This population surge is not only the cause of an exponentially rising demand for electricity, it also places greater strain on the water supply, which is already under pressure. Due to falling groundwater levels and fresh water sources running dry, almost the entire water demand is now covered by seawater desalination, a very energy-intensive process. Furthermore, the region's governments followed the policy of offering low energy prices as a locational advantage to attract international companies with the aim of diversifying their economy. However, the establishment of energy-intensive industries such as metal processing and the petrochemical industry has only driven consumption up further.[25] Due to the extremely low energy prices compared to international standards, industry and private consumers were hardly given any incentives to strive for efficient use of energy either, which has meant that energy-saving technologies – and behaviour patterns – have hardly been cost-efficient in the past. On the contrary: cheap or even free energy is seen by many in the Gulf States as an inviolable birth right.[26]

For a long time, the Gulf States were able to fulfil the growing demand for energy by expanding their gas production capacities. However, for some time now all of them (except Qatar) have had to import gas to cover their energy demand, at least during the summer.[27] This development has led to the paradoxical situation that they are increasingly forced to use parts of the valuable export commodity of oil to generate electricity, thus diminishing their main source of revenue. A quarter of the entire Saudi oil production thus never reaches the lucrative world market, but is burnt directly in the kingdom.[28]

Domestic demands thus represent a double financial burden. For one, the Gulf States are losing vital export revenues. In addition, energy prices are still highly subsidised and only cover a fraction of production costs. Due to rising energy consumption, the costs involved are considerable even for the formally rich Gulf States. In Bahrain, for instance, they accounted for 4.6 per cent of GDP and 19 per cent of state expenditure in 2015.[29] The expansion of renewable energies and measures to increase energy efficiency therefore represents an attractive means for the Gulf States to combat the rising energy insecurity and to increase the revenues from oil exports (and gas exports). The fact that these investments will improve their carbon footprint and international reputation is a welcome side effect.

The Gulf States have indeed invested large amounts of money in expanding alternative sources of energy and in measures to increase efficiency. By establishing the King Abdullah City for Atomic and Renewable Energy (KACARE) in 2010, Saudi Arabia has created an independent institutional hub for the intended energy transition; the Saudi government has plans to install plants with a total output of 54 gigawatts by 2040, predominantly using photovoltaics and solar thermal.[30] In the UAE, the largest solar plant worldwide, SHAMS-1, with an output of 800 megawatts was connected to the grid in 2013, and the government is planning to increase the proportion of zero-emission energies in the electricity mix to 24 per cent by 2021.[31]

Aside from ambitious plans to expand and conduct research on renewable energies and put in place measures to increase energy efficiency, Saudi Arabia and the UAE are also pursuing civilian nuclear programs to safeguard their energy security and maintain the oil and gas export volumes. Both states have made a number of cooperation and research agreements with leading exporters of nuclear technology in recent years.[32] Saudi Arabia is planning the construction of 16 nuclear power stations by 2040 with a total output of 17 gigawatts, intended to cover some 15 per cent of its entire energy demand. In the UAE, a total of four reactors with a joint output of 5.6 gigawatts have been planned and are already under construction.[33] On the other hand, Bahrain, Qatar, Kuwait and Oman have shelved their nuclear ambitions for the time being, especially after the reactor disaster of Fukushima in 2011 and due to rising doubts about the capability to fund the high investment costs. Due to the considerably larger energy demand in the UAE and Saudi Arabia, nuclear energy may well be a financially viable proposition for these states, even though some studies have concluded that nuclear power will not be competitive in the Gulf in the end due to the falling costs of solar technology.[34] That said, maintaining the nuclear power option is not purely an energy policy consideration, but also a strategic one, as the civilian nuclear programs could also serve as a deterrent against the archenemy Iran.[35]

> **The Gulf States' financial dependence on fossil fuels makes them extremely vulnerable to fluctuations in demand and therefore to developments in the global economy.**

In the long term, the Gulf States are hoping that their investments in green technologies and alternative energies, which go into the billions, will not only ameliorate the tense energy security situation, but also provide impulses for the diversification of their economies. Despite all the efforts made to open up new industry sectors, the majority of GDP is still derived from the revenues from trade in fossil fuels. This dependence makes the states extremely vulnerable to fluctuations in demand and therefore to developments in the global economy, as the slump in oil prices since 2014 has illustrated so impressively.

The Slump in Oil Prices as an Opportunity?

In February 2016, the price for a barrel of crude oil fell to under 30 U.S. dollars, which corresponded to a 70 per cent decline in price since the summer of 2014. For a national budget based on revenues at a price level of around 100 U.S. dollars a barrel, this has meant huge losses for the Gulf States. In Saudi Arabia, for instance, 90 per cent of exports and 40 per cent of GDP are still derived from crude oil and oil-based products, as are close to 80 per cent of state revenues. In addition, 80 per cent of the workforce are employed by the state. State expenditure has quadrupled since 2003, not least due to the rise in population and the associated energy demand.[36]

After the breakthrough in Paris, there remains the question as to the extent to which the Gulf States will adhere to their planned policy of energy diversification in light of the fact that oil prices are set to remain low in the long term. The current budget problems and the low oil prices could mean that further investment in green technologies will become unattractive, at least in the short term, as alternative energy no longer has much of a price advantage over fossil fuels. This could cause major green energy projects to stall.[37] The expansion of renewable energy sources and nuclear energy planned by Saudi Arabia has thus already been postponed by eight years.[38] At the same time, the costs for solar and wind energy have declined drastically over the last few years, and alternative energy is becoming an attractive option for domestic consumption in order to boost export volumes, particularly in view of rapidly declining state revenues and steadily increasing domestic demand. In addition, the UAE, for instance, envisage their Green Growth Strategy producing 160,000 new jobs as well as an increase in GDP of five per cent from investments in green technologies.[39]

While the slump in prices is ultimately due to a decline in global demand because of a slowdown in economic growth in the newly industrialised countries and increased supply from the fracking industry, the Gulf States' recent conduct is helping to keep prices low. Under the leadership of Saudi Arabia, OPEC decided in December 2015 to reject the proposals by the smaller states to scale back production.[40] As an exporter with relatively low production costs, the kingdom is attempting to thereby undercut more cost-intensive methods such as shale oil production.[41] Moreover, Iran has been able to increase its oil and gas exports considerably since the beginning of the year after the lifting of the international sanctions. The Iranian government has made it clear that it has no intention to adhere to a production freeze that had been negotiated between the OPEC states and Russia in Doha in February.[42] This led to Saudi Arabia also ruling out export cuts again. After the Qatar agreement, oil minister Al-Naimi spoke out again, stressing that no market shares would be yielded to Iran.[43] One of the important issues critics take into consideration as regards this strategy is the conflict in Syria, where Iran and Russia support the Assad regime, which Saudi Arabia regards as an enemy.[44]

Even though the low energy prices are boosting consumption globally, private households in the Gulf have not been benefiting from the

Energy transition: Dubai's ruler Sheikh Mohammed bin Rashid al-Maktoum lays foundation stone for a solar plant for generating clean energy in Dubai. Source: © Ashraf M. M. Alamra, Reuters.

plummeting prices because of the high subsidies granted in the past. This is precisely where an opportunity has opened up for the monarchies through a revision of their pricing policy. The subsidies, which had been taken for granted for many years, have been reduced gradually since the autumn of 2015, which has in practice meant price rises for consumers. Petrol prices in Saudi Arabia have thus increased from 16 to 24 U.S. dollar cents a liter, corresponding to a price increase of 40 per cent. There have been similar increases for electricity, water and gas.[45] As people have to bear a greater proportion of the costs for running their household for the first time, it is quite possible that the population will develop an increasing awareness of awareness of economic responsibility and frugality in budget in the medium term.[46] Consumers are now also asked to pay elsewhere. In mid-February, the Gulf States agreed on the introduction of VAT of up to five per cent; the UAE have scheduled the introduction for January 2018. The state hopes to receive additional annual revenues of approximately 3.2 billion U.S. dollars from this measure.[47]

However, the size of the budget gaps is on a much larger scale and these measures are hardly adequate to provide serious compensation. In 2015, Saudi Arabia found itself forced to make up for budget deficits by using 115 billion U.S. dollars from its international currency reserves.[48] The seriousness of the situation was illustrated very clearly when international financial institutions downgraded the credit rating of some Gulf States.[49] At the same time, Saudi experts are not concered the situation. They maintain that the oil price had also dropped below 30 U.S. dollars a barrel in the 1990s and that the kingdom had to battle large budget deficits then as well. The difference now is, however, that expenditure has gone up, not least because of the war in Yemen. Consequently, budget cuts of 14 per cent have been announced for 2016.[50]

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However, of the greatest challenges lies in the growing, predominantly young population of the Gulf States, particularly in Saudi Arabia. Over 60 per cent of the 21 million Saudis are under 30.[51] They are used to the benefits of generous subsidies, exemption from taxes as well as enjoying free education and well-paid government jobs. In March 2015 alone, King Salman authorised bonuses totalling 16 billion U.S. dollars to be paid to government employees when he came to office.[52] Young people take cheap energy for granted, which is why the government had not dared to touch the subsidies in the past. After all, financial benefits for the population represented an essential component of the unwritten social contract: "No taxation. No representation." Similarly, the state's response to demands for economic reforms and greater co-determination during the 2011 protests was supported financially. King Abdullah disbursed 128 billion U.S. dollars to his citizens in direct and indirect payments.[53] Such generosity will, however, become largely unfeasible due to dwindling reserves, as has already manifested in the subsidy cuts. The younger generation will have to pay to maintain its living standards, earn less than its parents' generation and no longer be able to rely on virtually unconditional job security in the public sector. Youth unemployment has already risen to approximately 29 per cent.[54] The governments in the Gulf consider the "nationalisation" of the labour market to be an important part of the solution, as over 90 per cent of the workforce in private industry in most Gulf States consists of foreign workers. However, a large proportion of these are unskilled workers, whose jobs are not acceptable to young Gulf State citizens.[55]

In Saudi Arabia, there are plans for large-scale economic reform to turn the country's fortunes around. Deputy Crown Prince Mohammed bin Salman announced the plans to the world on 25 April 2016 in an interview with *Al Arabiya*.[56] Under this "Vision 2030", millions of new jobs are to be created by 2030 in sectors such as mining, the petrochemical industry, tourism and production engineering. The goal is to double GDP and to increase the proportion of non-oil products in exports from 16 to 50 per cent. This transformation is to be driven by the partial privatisation of the national oil producer Saudi Aramco, which will be restructured to become an industry holding. The state enterprise is the largest oil company in the world, estimated to be worth over two trillion U.S. dollars.[57] The planned sale of five per cent of the state-owned shares would therefore represent the largest IPO ever.[58] There are also plans to privatise the large airports of Jeddah and Dammam and the national airline as well as several healthcare providers and telecommunication companies within just a few years.[59] The revenues will be combined in the worldwide largest sovereign wealth fund of two trillion U.S. dollars, intended to secure the future prosperity of Saudi Arabia through well-placed foreign investments. There are further plans to bolster the budget by cutting expensive subsidies, imposing new taxes as well as introducing stricter efficiency standards in public administration.

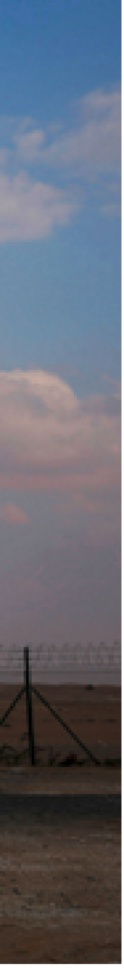
At the same time as reforms were announced, the cabinet was reshuffled. Presumably, the reshuffle's purpose was to assign assigning key

Solar future: In 2013, the world's largest solar power station went on grid in the UAE, as the government aims to reach its ambitious goal of 24 percent renewable generation by 2021. Source: © Ashraf M. M. Alamra, Reuters.

positions to reform-oriented associates of the Deputy Crown Prince. As a result, the influential and long-term oil minister Ali Al Naimi has been superseded by Aramco's long-standing CEO Khalid al Falih. Furthermore, the ministry's authorities were enhanced by the sectors "Energy" (before now oil alone) and "Industry". Likewise, up to now Minister of Water and Electricity Abdullah Al Hussayen lost his position after he was heavily criticised for the way new, increased tariffs were introduced. Equally, the Ministry of Trade and Investment is now led by former social minister Majed Al Qasabi, who immediately drew attention to himself by means of a company law reform.[60]

But the vision of society underlying the plans of the King's son is probably even more significant than the economic reforms. To survive in the future, the kingdom will need to reinvent itself and address issues that had previously been viewed as taboo. This includes not least measures to make the country more welcoming to foreigners, a renegotiation of the social role of Saudi women, and restrictions to the privileges of the thousands of members of the royal family.[61]

"The whole mentality of our people will have to change, and I think in the upcoming ten years we will see a major shift in the whole region," said Thani Ahmed Al Zeyoudi, Director of Energy and Climate Change at the UAE foreign ministry, summarising the situation of the Gulf States.[62] As Saudi Arabia's recent plans indicate, this will definitely not be limited to fundamental changes in climate and labour market policies. Social change is also on the cards, moving away from privileges and the inherent right to state welfare



and towards personal economic responsibility. "Vision 2030" could lay the foundation for this social change, offering future prospects to young Saudis, which have not not been present so far.

Outlook

While the Gulf monarchies used to be seen as the epitome of stability based on maintaining the status quo, the challenges in the economic and energy sectors are putting this strategy into question. As the Paris negotiations have shown, climate protection and green energy will without doubt come in to play in the future. It is however striking that the urgency of energy policy reform is driven less by the threatening impacts of climate change and more by the desire for energy security and economic stability. The political future of the Gulf States depends precisely on that stability. The end to the generous system of subsidies has initiated a gradual disintegration of the "social contract". The intended change in mentality is not limited to greater environmental awareness and the willingness to consider less lucrative jobs, but in the end, structural change will also have to be accepted in the political and social spheres. Under these circumstances, more citizen rights giving a voice to young Saudis in shaping their future will not be long. The new strategy will inevitably have to be "stability through change".

The oil price crisis could thus be the trigger for developments that the "Arab Spring" was not able to bring about: long-lasting reforms not just in the energy sector, but also in education, the labour market and society. After all, the successful diversification of the economy and of the electricity supply, beyond the state-managed oil trade, will require innovative ideas and initiatives independent from the government. This will in turn require people to take more personal responsibility as well as greater environmental awareness and "social diversification". A development that the Gulf States were able to largely evade in the past through handouts and grandiose mega projects. However, such reforms no longer represent luxuries, but will be crucial to economic survival in the medium term. It appears that it was the price slump that projected the spectre of a post-oil age, thereby heralding the long-overdue change. Should this change not materialise, the words of Sheikh Rashid Al Maktoum, former ruler of Dubai, could turn into reality: "My grandfather rode a camel, my father rode a camel, I drive a Mercedes, my son drives a Land Rover, his son will drive a Land Rover, but his son will ride a camel." [63]

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This article was translated from German into English.

1 Cf. Hanley, Mike 2015: Which countries emit the most greenhouse gas?, World Economic Forum, 21 Jul 2015, in: http://weforum.org/agenda/2015/07/countries-emitting-most-greenhouse-gas [23 Feb 2016].
2 Cf. BP 2015: BP Statistical Review of World Energy, 1 Jun 2015, in: http://bp.com/content/dam/bp/pdf/energy-economics/statistical-review-2015/bp-statistical-review-of-world-energy-2015-full-report.pdf [9 Feb 2016].
3 Cf. The World Bank 2015: Who Gains and Who Loses from Plunging Oil Prices in the Middle East and North Africa Region?, 29 Jan 2015, in: http://goo.gl/Eh46zC [26 Feb 2016].
4 Cf. Russell, James 2009: Environmental security and regional stability in the Persian Gulf, Middle East Policy Council, Vol. XVI, No. 4, in: http://mepc.org/journal/middle-east-policy-archives/environmental-security-and-regional-stability-persian-gulf [14 Feb 2015].
5 Cf. Depledge, Joanna 2008: Striving for no: Saudi Arabia in the climate change regime, in: O'Neill, Kate / VanDeveer, Stacy D. (eds.): Global Environmental Politics, Cambridge, 8(4), pp. 1–164, here: p. 13.
6 Cf. Sarant, Louise 2015: Changing CO_2 emission patterns in the Middle East, Nature Middle East, 7 Dec 2015, in: http://www.natureasia.com/en/nmiddleeast/article/10.1038/nmiddleeast.2015.233 [13 Feb 2016].
7 Cf. Yeo, Sophie 2015: Saudi Arabia: Oil and gas "will be part of climate solution", Climate Home, 12 Jan 2015, in: http://climatechangenews.com/2015/01/12/saudi-arabia-oil-and-gas-will-be-part-of-climate-solution [14 Feb 2015].
8 Cf. Depledge, n. 5, pp. 14 f.
9 Cf. Barnett, Jon 2008: The worst of friends: OPEC and G-77 in the climate regime, in: O'Neill / VanDeveer (eds.), n. 5, pp. 2 ff.
10 Cf. Goldenberg, Suzanne 2015: Saudi Arabia accused of trying to wreck Paris climate deal, The Guardian, 8 Dec 2015, in: http://gu.com/p/4eqet/stw [28 Feb 2016].
11 Cf. Pal, Jeremy S. / Eltahir, Elfatih A.B. 2015: Future temperature in southwest Asia projected to exceed a threshold for human adaptability, Nature Climate Change Letters, 26 Oct 2015, in: http://dx.doi.org/10.1038/nclimate2833 [16 Feb 2016].
12 Ibid.
13 Cf. DuBois King, Marcus / Gulledge, Jay 2013: The Climate Change and Energy Security Nexus, in: The Fletcher Forum of World Affairs, 37:2, pp. 25 f., in: http://fletcherforum.org/wp-content/uploads/2013/05/King-Gulledge-37-2.pdf [24 Feb 2016].
14 Cf. Embassy of the United Arab Emirates in Washington D.C. 2015: Energy in the UAE, in: http://uae-embassy.org/about-uae/energy-uae [24 Feb 2016].
15 Cf. Leech, Nick 2015: Abu Dhabi opens Irena to world, The National, 2 Jun 2015, in: http://thenational.ae/uae/abu-dhabi-opens-irena-to-world [18 Feb 2016].
16 Cf. Al Jazeera 2012: Qatar hosts 'critical' climate talks, 26 Nov 2012, in: http://aljazeera.com/news/middleeast/2012/11/2012112653846518562.html [10 Feb 2016].
17 Ibid.
18 Cf. Michaelowa, Axel / Luomi, Mari 2012: From climate antagonists to low-carbon protagonists? The changing role of the Gulf OPEC States in the UNFCCC, FNI Climate Policy Perspective, 1 Oct 2012, p. 6., in: http://fni.no/pdf/FNI-Climate-Policy-Perspectives-6.pdf [18 Feb 2016].
19 Cf. Al-Naimi, Ali I. 2012: Investing for the Future in Turbulent Times, Chatham House, Speech held at the Middle East and North Africa Energy 2012 Conference, 30 Jan 2012, in: https://chathamhouse.org/sites/files/chathamhouse/public/Meetings/Meeting%20Transcripts/300112alnaimi.pdf [19 Feb 2016].
20 Ibid.
21 Cf. Yeo, n. 7.
22 Cf. Climate Action Tracker 2015: Saudi Arabia, 24 Nov 2015, in: http://climateactiontracker.org/countries/saudiarabia.html [21 Feb 2015].
23 Cf. Internationaler Währungsfonds 2015: Energy Price Reforms in the GCC – What Can Be Learned From International Experiences?, Annual Meeting of Ministers of Finance and Central Bank Governors, 10 Nov 2015, in: http://imf.org/external/np/pp/eng/2015/111015b.pdf [20 Feb 2016].
24 Cf. Gulf Labour Markets and Migration 2015: GCC: Total population and percentage of nationals and non-nationals in GCC countries, in: http://gulfmigration.eu/total-population-and-percentage-of-nationals-and-non-nationals-in-gcc-countries-latest-national-statistics-2010-2015 [21 Feb 2016].
25 Cf. El-Katiri, Laura 2013: Energy sustainability in the Gulf States: The why and how, The Oxford Institute for Energy Studies, p. 4, in: https://oxfordenergy.org/wpcms/wp-content/uploads/2013/03/MEP_4.pdf [22 Feb 2016].
26 Cf. The Economist 2010: The GCC in 2020: Resources for the future, The Economist Intelligence Unit, p. 7, in: http://graphics.eiu.com/upload/eb/GCC_in_2020_Resources_WEB.pdf [21 Feb 2016].
27 Cf. El-Katiri, n. 25, pp. 13 f.
28 Cf. Michaelowa / Luomi, n. 18, p. 6.
29 Cf. Deutsche Bank Research 2015: Subsidy cuts in the UAE, 3 Aug 2015, in: https://dbresearch.com/PROD/DBR_INTERNET_EN-PROD/PROD0000000000359704/Subsidy+cuts+in+the+UAE+-+A+model+for+the+GCC%3F.PDF [19 Feb 2016].

30 Cf. Nachmany, Michal et al. 2015: Climate Change Legislation in Saudi Arabia, The London School of Economics and Political Science, The 2015 Global Climate Legislation Study, 14 Nov 2015, in: http://lse.ac.uk/GranthamInstitute/legislation/countries/saudi-arabia [23 Feb 2016].
31 Similar, albeit less ambitious plans are on the drawing board in Kuwait (15 per cent by 2030), Bahrain (five per cent by 2020), Qatar (20 per cent by 2030) and Oman (ten per cent by 2020). See: Ferroukhi, Rabia et al. 2016: Renewable Energy Market Analysis: The GCC Region, International Renewable Energy Agency (IRENA), p. 12, in: http://irena.org/DocumentDownloads/Publications/IRENA_Market_GCC_2016.pdf [22 Feb 2016].
32 Cf. Windecker, Gidon / Pfülb, Sebastian 2015: Das Nuklearabkommen mit Iran: Hoffnungsschimmer oder Fata Morgana?, Konrad-Adenauer-Stiftung, Regional Programme Gulf States, Country Report, pp. 8 ff., 30 Jul 2015, in: http://kas.de/wf/doc/kas_42155-544-1-30.pdf [25 Feb 2016].
33 Cf. World Nuclear Association 2015: Nuclear Power in the United Arab Emirates, in: http://world-nuclear.org/information-library/country-profiles/countries-t-z/united-arab-emirates.aspx [18 Feb 2016].
34 Cf. Nakhle, Carole 2016: Nuclear energy's future in the Middle East and North Africa, Carnegie Middle East Center, 28 Jan 2016, in: http://ceip.org/29h3wzl [23 Feb 2016].
35 Cf. Zeino-Mahmalat, Ellinor 2009: Saudi-Arabiens und Irans Regionalpolitik zwischen Ideologie und Pragmatismus, GIGA Focus Nahost, No. 1, 1/2009, pp. 3 f., in: https://giga.hamburg/de/system/files/publications/gf_nahost_0901.pdf [17 Feb 2016].
36 Cf. Nazer, Fahad 2015: Down, But Not Out: How Saudi Arabia will avert an oil economy collapse, Foreign Affairs, 1 Dec 2015, in: http://foreignaffairs.com/articles/saudi-arabia/2015-12-01/down-not-out [9 Feb 2016].
37 Cf. Evans, Simon 2016: Oil below $30: what does it mean for action on climate change?, Carbon Brief, 18 Jan 2016, in: http://carbonbrief.org/oil-below-30-what-does-it-mean-for-action-on-climate-change [11 Feb 2016].
38 Cf. Reuters 2015: Saudi Arabia's nuclear, renewable energy plans pushed back, 19 Jan 2015, in: http://reut.rs/1BtTdmG [22 Feb 2016].
39 Cf. The Climate Group 2015: UAE Analysis 2015, in: http://theclimategroup.org/_assets/files/RE100-UAE-brief.pdf [15 Feb 2016].
40 Cf. Schram, Bauke 2015: Opec meeting: Oil leaders' decision against output ceiling threatens Fed confidence, International Business Times, 7 Dec 2015, in: http://ibt.uk/A6QZK [21 Feb 2016].
41 Cf. Nazer, n. 36.
42 Cf. Brinded, Lianna 2016: Iran vows revenge: it will not join the 'illogical' oil freeze, Business Insider UK, 17 Feb 2016, in: http://uk.businessinsider.com/irans-mehdi-asali-on-oil-production-freeze-2016-2 [20 Feb 2016].
43 Krauss, Clifford 2016: Plan to prop up oil prices won't have support from Saudis, The New York Times, 23 Feb 2016, in: http://nyti.ms/20TGL7W [25 Feb 2016].
44 Cf. Nazer, n. 36.
45 Cf. Al Jazeera 2015: Saudi Arabia hikes petrol prices by 40% at the pump, 28 Dec 2015, in: http://aljazeera.com/news/2015/12/saudi-arabia-hikes-petrol-prices-40-pump-151228154350415.html [18 Feb 2016].
46 Cf. Evans, n. 37.
47 Cf. Augustine, Babu Das 2016: UAE to implement 5 per cent VAT from January 2018, Gulf News, 12 Feb 2016, in: http://bit.ly/29jdJOi [21 Feb 2016].
48 Cf. Nereim, Vivian 2016: Saudi december net foreign assets drop more than $19 billion, Bloomberg, 28 Jan 2016, in: http://bloom.bg/1Slh7aY [22 Feb 2016].
49 Cf. Reuters 2016: Moody's cuts Saudi, Oman, Bahrain debt ratings, 15 May 2016, in: http://gulfbusiness.com/moodys-cuts-saudi-oman-bahrain-debt-ratings/#.V4N-DEoeYy8 [14 Jul 2016].
50 Cf. Al Omran, Ahmed 2015: Saud-Arabia cuts spending, Raises Domestic Fuel Prices, 28 Dec 2015, The Wall Street Journal, in: http://on.wsj.com/1mm6OXU [11 Feb 2016].
51 Cf. Abu-Nasr, Donna 2016: Saudi life with $30 oil, Bloomberg, 15 Jan 2016, in: http://bloom.bg/1USzWBp [13 Feb 2016]; Glum, Julia 2015: Saudi Arabia's Youth Unemployment Problem Among King Salman's Many New Challenges After Abdullah's Death, 23 Jan 2015, in: http://ibtimes.com/saudi-arabias-youth-unemployment-problem-among-king-salmans-many-new-challenges-after-1793346 [16 Feb 2016].
52 Cf. Kerr, Simeon 2015: Saudi Arabia burns through foreign reserves, The Financial Times, 30 Apr 2015, in: http://on.ft.com/1DPqbeb [16 Feb 2016].
53 Cf. Kenawi, Hany 2011: King Abdullah Spending US$ 128 Billion on Benefits for the Saudi Citizens, Lex Arabiae, 8 Apr 2011, in: http://bit.ly/29ljjhR [12 Feb 2016].
54 Cf. Hubbard, Ben 2016: Young Saudis see cushy jobs vanish along with Nation's oil wealth, The New York Times, 16 Feb 2016, in: http://nyti.ms/20C38hU [19 Feb 2016].
55 Cf. De Bel-Air, Françoise 2014: Demography, Migration and Labour Market in Saudi Arabia, Gulf Labour Markets and Migration, in: http://gulfmigration.eu/media/pubs/exno/GLMM_EN_2014_01.pdf [20 Feb 2016].
56 Cf. Prince Mohammed bin Salman, 2016: Saudi Vision 2030 (interview), Al Arabiya, in: http://ara.tv/pmewy [27 Apr 2016].
57 Cf. The Economist 2016: Saudi Aramco: Sale of the century?, 9 Jan 2016, in: http://econ.st/1OCjqVY [10 Feb 2016]; Nooan, Laura / Massoudi, Arash 2016: Banks Scamble for a Piece of Aramco IPO, The Financial Times, 11 Jan 2016, in: http://on.ft.com/29frI9r [10 Feb 2016].

58 Cf. Brüggmann, Matthias 2016: Wenn Reformen das Öl ersetzen, Handelsblatt, 25 Apr 2016, in: http://handelsblatt.com/13500418.html [27 Apr 2016].
59 Cf. The National 2016: Saudi Arabia to privatise Jeddah, Dammam airports in 2017, 5 Jan 2016, in: http://thenational.ae/business/aviation/saudi-arabia-to-privatise-jeddah-dammam-airports-in-2017 [8 Feb 2016]; bin Salman, n.56.
60 Kerr, Simeon 2016: The Saudi Reshuffle: five key reforms in Riyadh, The Financial Times, in: http://on.ft.com/29mkHBh [9 May 2016].
61 Krüger, Paul-Anton 2016: Wie Saudi-Arabien den Öl-Entzug plant, 26 Apr 2016, Süddeutsche Zeitung, in: http://sueddeutsche.de/wirtschaft/1.2965677 [27 Apr 2016].
62 Goldenberg, Suzanne 2016: Slum in oil prices drives green energy takeup in top exporting nations, The Guardian, 20 Jan 2016, in: http://gu.com/p/4gxcf/stw [22 Feb 2016].
63 Chilcoat, Colin 2015: The Middle East could face a historic crisis by century's end, Oil Price, 9 Nov 2015, in: http://oilprice.com/Energy/Energy-General/The-Middle-East-Could-Face-A-Historic-Crisis-By-Centurys-End.html [24 Feb 2016].