
Executive Summary

Saving Oil and Gas in the Gulf

A Chatham House Report

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The systemic waste of natural resources in the Gulf is eroding economic resilience to shocks and increasing security risks. The six Gulf Cooperation Council (GCC) countries now consume more primary energy than the whole of Africa. Yet they have just one-twentieth of that continent's population. Almost 100% of energy is produced from oil and gas without carbon dioxide abatement. If the region's fuel demand were to continue rising as it has over the last decade, it would double by 2024. This is a deeply undesirable prospect for both the national security of each state and the global environment. Output generated is not commensurate with energy used. Energy intensity regionally (units of energy per unit of GDP) is high and rising in contrast to other industrialized regions, and this is driven by systemic inefficiencies. The situation threatens sustainability on several levels, and is exacerbated by groundwater depletion and an increasing reliance on oil- or gas-fuelled desalination.

Between 2011 and 2013, Chatham House worked with partner institutions, policy-makers and technical experts in Saudi Arabia, the United Arab Emirates (UAE), Oman, Qatar and Kuwait to support practical strategies to reduce energy intensity. This report is based on the discussions at six workshops which included representatives of over 60 local institutions with a critical interest in and influence over domestic energy. To our knowledge, this is the first report to offer practical recommendations that address the key challenges of governance, political commitment and market incentives from a GCC-wide perspective.

Remarkable progress is evident in the clean energy targets and efficiency strategies that have sprung up across the region since 2009. Recognizing the risks in

the current system and the economic potential from new sectors, GCC governments have dramatically scaled up plans that emphasize 'sustainable energy' transition. For Saudi Arabia securing future hydrocarbons export capacity is a priority. Across the region, remaining ahead in the energy industry and preparing for multiple resource stresses and price volatility are common drivers. The ballooning costs of subsidies – and in the case of the UAE and Kuwait, gas imports – make a clear business case for government-led efficiency interventions. Estimates by the International Monetary Fund of the energy subsidy burden on individual governments ranged between 9% and 28% of government revenue in 2011. This is more than is being spent on either health or education, and highlights a missed opportunity to improve the living standards of those who need it most.

All GCC countries now have clean energy plans or targets and there are several impressive steps towards conservation. These include Saudi Arabia's emerging efficiency master plan, Abu Dhabi's comprehensive cooling plan, the integration of energy strategy in Dubai, innovation in green buildings standards in the UAE and Qatar, and Oman's and Dubai's work towards cost-reflective utilities pricing. Comprehensive development strategies that aim at a 'low carbon pathway' or 'green growth' are also emerging (in Qatar and the UAE).

But in all GCC countries the effectiveness of plans hangs in the balance, chiefly owing to governance challenges, lack of market incentives and unpredictable political support. The GCC countries as a whole have an advantage over many other countries in their potential for financing efficiency and introducing renewable energy, the relevant infrastructure and communications technology. However, achieving this requires significant shifts in the way governments intervene in and regulate the energy sector. The GCC countries are in a position to benefit from the experiences of other countries, but their unique features – climate, political economy and administrative legacies – demand special attention to governance design.

A central challenge is that authority over the energy sector in all GCC member states is fragmented. The responsibility and the capacity to act effectively within the sector are scattered between different ministries and regional

authorities. Government leaders are beginning to delegate authority to new or existing institutions to carry out studies and formulate plans for the sector. Often spurred by power crises, coordination in the electricity supply side is more advanced. Abu Dhabi, Saudi Arabia, Oman and Dubai have introduced an independent regulator for the power sector. The regulator has been instrumental in galvanizing the drive for greater energy conservation. New governance arrangements are also attempting to overcome sectoral barriers. Saudi Arabia has pioneered a coordinating body for energy efficiency and an agency for making policy on renewable and atomic energy. Qatar has evolved high-level inter-ministry coordination on climate policy, and Dubai was the first government to establish an entity for integrated energy policy.

Efficiency savings are urgent and practical and will build a bridge to renewables deployment. Ambitious green growth and clean energy strategies will take time to implement. In the meantime, power and water use is a challenge across the region that should be addressed as a priority. In fact, demand rationalization in these areas is vital if the vast renewable energy potential of the GCC countries is to be realized. Without it, power demand growth of more than 7% per year will swamp the effect of solar deployment over the next decade.

The size of the prize is significant. Our calculations show that planned clean energy introduction in Saudi Arabia, together with basic efficiency measures, could slow oil and gas demand growth from a conservatively projected 4% to an average of 2.8% per year between now and 2025. This would result in savings of between 1.5 and 2 million barrels of oil equivalent per day – a volume which roughly matches what the country needs to maintain the spare crude capacity so critical to global oil markets.

Changes to national building codes and air-conditioning standards represent the biggest proven savings potential for electricity. Pilot schemes and practice show that savings of up to 60% of energy demand can result from changes made to existing buildings, and 70% in new builds, against the existing average. In addition, urgent attention needs to be paid to transportation planning and addressing the ‘leakage’ of the fuel subsidy through smuggling.

Success or failure in meeting sustainable energy goals in the GCC will have global impact. It will affect not only local economies and therefore politics, but also the availability of oil and gas for export and the position of GCC countries in international climate change negotiations. It could also influence the policies of other countries in the region or with similar resource and climatic conditions. For example, in its latest report, the International Energy Agency underscores the dramatic rise in demand for air conditioning that will occur across Africa and the Asia-Pacific region as both incomes and temperatures rise. In the Gulf, where air-conditioning equipment frequently uses twice as much energy as the best available technology, standards and innovation to cool down using less energy will have global relevance.

Likewise, many countries are grappling with the challenge of pricing energy and water efficiently or creating renewables and energy service markets where fossil fuel prices do not reflect costs. If countries in which a tank of petrol costs the same as coffee for two and electricity bills are negligible can make these things work, it will serve as a powerful model.

Given their common aspirations and shared climatic, energy and market conditions, GCC countries could achieve more through cooperation. Alignment and support at the regional level could facilitate standard-setting for buildings, vehicles and appliances, as well as fuel price reform. Such measures could prevent cross-border trade undermining national efficiency regulations, and reduce the costs of materials and capacity-building by creating economies of scale. There is rich potential for collaboration over the best ways to introduce new sources of energy and technology in the region, especially given the common climate, employment challenges and the rapid urban and industrial development expected in all countries over the next decade. The GCC countries could foster regional integration and raise their international status and impact via the platform of energy cooperation. Through coordination of existing and scaled-up initiatives and targets, the GCC countries could then punch above their weight with joint CO₂ emissions reduction commitments.

Recommendations

Key recommendations for cooperation at the regional level or between GCC countries are as follows.

Establish a central resource for country planners

- Request a detailed sustainable energy strategy for each country to be submitted at the GCC Secretariat level to enable appropriate regional approaches.
- Centralize available country energy data on an open source website – this could be maintained by a GCC Secretariat team drawn from each of the countries.
- Share studies and methodologies to reveal total energy use in the water life-cycle, the costs of energy resources and the costs to the economy of wasted energy, the environment and human health.
- Share details of financial models that allow the commercial deployment of renewable energy under current low fuel price conditions.

Develop common standards and support their effective enforcement

- Develop and set common appliance efficiency standards – with air conditioning as a priority area.
- Establish a common progressive average vehicle fuel efficiency standard.

- Establish a common buildings code and buildings materials standards that will bring step changes in energy and water efficiency.
- Host an ongoing benchmarking programme for industrial efficiency for energy-intensive industries in the region.
- Organize joint training programmes for regulation and implementation of energy services.

Put in place the infrastructure and price mechanisms to overcome cross-border trade barriers

- Ensure the GCC-wide grid is flexible to allow inter-country and potentially inter-regional trading.
- Evaluate the potential to work towards common fuel prices.
- Develop the formula for a common trading price for electricity.

Increase cooperation on research and development and on technical planning to build national capacities faster

- Ramp up joint work on developing, piloting and evaluating low carbon forms of desalination.
- Develop common approaches to modelling and energy planning.



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