



# A CASE FOR RENEWABLE ENERGY IN THE GULF STATES

BY CONNOR TOBIN



*Ice caps melting in the Arctic due to climate change pose threat of rising sea levels.*

***“Transcending politics, climate change is a universal problem that all governments share an equal onus to combat”***

To counter and prevent the disastrous effects of global warming, rising sea levels, and erratic weather patterns, governments must act swiftly and decisively in order to provide a clean energy path towards a sustainable future. Transcending politics, climate change is a universal problem that all governments share an equal onus to combat. The Gulf States, for instance, though varying in political, economic, and social conditions, face similar problems relating to climate change and should work in concert to mitigate them.

The Gulf Cooperation Council (GCC), which consists of Saudi Arabia, Kuwait, Qatar, Oman, the United Arab Emirates (UAE), and Bahrain, has four major incentives to invest in renewable energy and combat climate change: the region’s vulnerability to rising sea levels and dependence on imported goods, a potential reduction in the Gulf States’ hegemony over oil supplies, the region’s need for water desalination, and the positive economic and cultural effects of investments in renewable energy. The states in the GCC must meet their renewable goals, increase subsidization of green technology, and promote a culture which favors long-term, sustainable policies over mercurial, market driven decisions.

Climate change could cause increased temperatures and rising sea levels worldwide. By 2050, Qatar, Bahrain,

Kuwait, and the UAE are projected to have some of the highest percentages of populations at risk from rising sea levels. Qatar has the highest risk, with an estimated 35.1% of its population predicted to be directly impacted by the increase in sea levels.<sup>1</sup> The UAE is also particularly vulnerable due to its man-made islands and buildings along the coast.<sup>2</sup> The GCC nations’ inland regions are less susceptible to the effects of rising sea levels, but they are the most affected by rising temperatures. Over the next several decades, rainfall is expected to decrease while temperatures rise, creating drier and more desertous conditions in these countries.<sup>3</sup> This will inevitably reduce agriculture, resulting in a shortage of food and potential unrest.

The Gulf States lack significant water resources, causing insufficient agricultural capabilities, and must therefore invest in agricultural farmland abroad; this creates a substantial weakness with regard to food security.<sup>4</sup> The states in which the GCC has invested are more susceptible to the effects of climate change than the Gulf States and rank very low on the Food Security Index.<sup>5</sup> Additionally, international law offers no recourse for compensation in the event that the land in which the GCC invests cannot sustain agriculture due to extenuating circumstances, such as drought.<sup>6</sup> The GCC has effectively created a contractual system that exposes

the region to the effects of climate change in even more vulnerable areas, such as Africa and Southeast Asia. The Gulf States' food security is additionally threatened because their imports pass through the Arabian Sea and the Persian Gulf, both of which may become unviable for commercial shipping due to global warming.<sup>7</sup> If their import model is rendered inoperable, then the Gulf States could face further food shortages and instability. Due to their dependence on foreign markets for food, and to the vulnerability of those markets to the effects of climate change, the best policy for these governments to adopt would be to work towards mitigating the effects of climate change in order to keep these foreign markets accessible.

One of the largest threats to the Gulf States' dominance over the oil market is the melting of the Arctic ice caps. A 2008 study by the U.S. Geological Survey estimated that the region held a bounty of 90 billion barrels of oil, 1,669 trillion cubic feet of natural gas, and 44 billion barrels of natural gas in liquid form; the Gulf States contain known reserves of 495 billion barrels of oil and 1,497 trillion cubic feet of natural gas.<sup>8,9</sup> As polar ice caps melt, this expansive energy resource will become more accessible to international oil companies and to Russian state-owned enterprises, which would reduce the Organization of the Petroleum Exporting Countries' (OPEC) clout.<sup>10</sup> Paradoxically, it is in the Gulf States' best interests to diminish the harmful impact of the fossil fuels on which their economies depend in order to prevent the extraction of more fossil fuels that would

minimize the need for their own reserves.

An increase in the demand for oil is a critical issue in the region, with the Gulf States having experienced a near doubling of oil consumption in the first decade of the millennium due to the need to desalinate water and an inaccessibility to natural gas reserves, which forces the Gulf States to use oil to generate domestic electricity.<sup>11</sup> Oil is a fossil fuel and is therefore less efficient than natural gas at electricity production. Renewable energy offers a solution that can keep up with the increasing electricity demand. For example, wind speeds and energy demands in Kuwait are highest during the summer. Additionally, Kuwait's peak electricity demand hours during the summer months coincide with its peak hourly solar radiation.<sup>12</sup> Due to these circumstances, solar panels and wind turbines are ideal sources of energy for Kuwait and allow the state to save oil for exportation and can provide power for water desalination to combat agricultural dependence. Solar power will also be affordable, once the opportunity cost of domestic consumption in lieu of exportation is considered.<sup>13</sup> The same benefits can be conferred to all members of the GCC.

The nations in the GCC face a lack of economic diversification, unemployment, underemployment, low education levels in the sciences and engineering, and a weak private sector.<sup>14</sup> Domestic investment in creating renewable technology can help to solve these problems. Investing heavily in education and funding programs aimed at developing new renewable technology or improving existing energy sources



*An aerial view of Dubai, exemplifying the desertous conditions and proximity to the coastline and its rising waters*

would contribute to building a stronger work force that could supply better labor to industries that do not rely on resource extraction. Investment in just one field is obviously not sufficient to cause a total economic turnaround, but green technology could be a lucrative part of a larger initiative to diversify the economy.

In addition to implementing new initiatives to fight climate change, the GCC must maintain established efforts. In July 2013, Saudi Arabia set out an impressive goal in its National Energy Plan to become the world leader in renewable energy by 2032, aiming at satisfying a third of its energy demand with renewable energy.<sup>15</sup> In January 2015, however, the country pushed its goal back by eight years to 2040.<sup>16</sup> Keisuke Sadamori, a director at the International Energy Agency (IEA), said, “One of the key messages from the Medium Term Renewable Energy Market Report 2013 by the IEA is that policy uncertainty is the largest risk for renewable investment.”<sup>17</sup> If Saudi Arabia and other Gulf States are to effectively combat global warming, they must maintain their commitment to their policy objectives.

***“Each state should analyze the extreme risk that they are in and how climate change threatens their sovereignty”***

AWCA Power, a Saudi Arabian company that develops power and water projects, represents the contradictory nature of plans for renewable development in the Gulf. AWCA Power is owned by the Saudi Arabian government.<sup>18</sup> Currently, the company has plans to invest \$7.4 billion in solar and wind energy projects in Saudi Arabia and in other countries as part of a \$15 billion investment package.<sup>19</sup> AWCA Power, however, also invests heavily in coal power plants in Mozambique, Indonesia, and Vietnam and has plans to expand these investments. If Saudi Arabia is truly committed to combating global warming then it must terminate these ‘dirty energy’ projects or at the very least alter its policy to provide incentives for state-owned companies to create renewable energy projects.

Reducing subsidies for groups that produce electricity generated by fossil fuels is just as important as investing in renewable technology and ensures that these new technologies are economically viable. Higher subsidies for fossil fuels mean lower subsidies for renewable energy sources, which makes it harder for renewable energy to compete with electricity generated by fossil fuels. It is



*Solar fields act as an alternative energy solution*

important to note that energy-efficient devices become less likely to be used when electricity is produced by subsidized oil and gas, because the true cost of usage is not realized.<sup>20</sup> This means that all actions toward energy efficiency, investment in renewables, and cutting carbon emissions must be coupled with reductions in subsidies towards the fossil fuel industries.

Each state in the GCC should analyze how climate change threatens their sovereignty, and then propose decreases in the subsidization of electricity generated by oil, commitments to cutting emissions, and increases in research and development of renewable sources of energy. If the GCC is successful, it could act as a model to other large-scale energy exporting nations, amplifying the Gulf States’ efficacy in combating climate change.

*Connor Tobin is an Economics and Political Science double major, Class of 2017*

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Image 2: <http://cache1.asset-cache.net/xc/824008-workers-make-speakers-in-a-maquila-in-ciudad-juarez-mexico.jpg?v=2&c=IWSAsset&k=2&d=OCUJ5gVf7YdJQI2Xhkc2QH12hY0e-IYzZZTWm5T2Z2ReDXopmBfkKH-2vOEI-Nbi0&b=O-DU2>

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Image 1: <http://i.kinja-img.com/gawker-media/image/upload/s--NUwxJPbw--/18lqyyv5cfmdzjpg.jpg>

Image 3: <http://toptendiary.com/wp-content/uploads/2014/08/Dubai-aerial-view.jpg>

Image 3: [http://www.aljazeera.com/mritems/imagecache/mbdxxlarge/mritems/Images/2012/11/30/20121130125021786734\\_20.jpg](http://www.aljazeera.com/mritems/imagecache/mbdxxlarge/mritems/Images/2012/11/30/20121130125021786734_20.jpg)

## **The Modern American Divorce Law and Its Roman Roots**

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