

# RENEWABLE ENERGY: NON-ENVIRONMENTAL REASONS TO MAKE THE TRANSITION

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Environmentalists continuously push for us, as a country, to decrease our fossil fuel usage and transition to a society powered by renewable energy. The money of oil companies and other corporations persuade our government to continue investing in fossil fuels as opposed to renewable energy. There are, however, other reasons which should convince us as a nation to invest in alternative energy sources. Eliminating our dependence on fossil fuels will benefit the nation economically and prepare us for a rapidly changing future. We, as Americans, should increasingly pursue renewable sources of alternative energy not only for the documented environmental reasons but also because investing in renewable energy technologies will provide jobs for Americans, decrease our dependence on other nations, and benefit the health of all Americans while decreasing our dependence on fossil fuels.

Despite the increased push to transition from fossil fuels to renewable energy, America remains almost completely dependent on fossil fuels. Eighty three percent of total U.S. energy comes from fossil fuel sources.<sup>1</sup> Oil powers the majority of vehicles and non-electric machines whereas coal and natural gas provides around two-thirds of electricity.<sup>2</sup> To put it in perspective, electricity generated through solar only accounts for .4 percent of total electricity production. Solar panels have been installed on 645,000 households and businesses, a mere fraction of the total number of

houses and businesses.<sup>3</sup> The sources of oil are often foreign countries, as is evident by the 4.5 million barrels of oil imported *daily*.<sup>4</sup> The net importation of oil, imports minus exports, reaches well over a million barrels per day, though that number is on the decline.<sup>5</sup>

America's reliance on fossil fuels contributes to the American debt problem due to expensive campaigns to protect oil interests. In the late 1970's, during the height of the first oil shock caused by the Organization of Petroleum Exporting Countries (OPEC), President Jimmy Carter proclaimed America would seek to protect its oil interests in the Persian Gulf.<sup>6</sup> Carter specifically declared that any attempt by another country to gain control of the Persian Gulf would be a direct threat to America and would prompt America to expel the offending nation by any means necessary, including war. From the late 80's to the early 90's, America sent military forces to various regions of the Persian Gulf due to conflicts over oil. Iraq invaded Kuwait in 1990 because Kuwait had ignored OPEC's cartel pricing and sold oil for prices lower than the prices set by Iraq and the rest of OPEC.<sup>7</sup> America responded and launched an attack, commonly known as Operation Desert Storm, on the Iraqi forces occupying Kuwait. The Department of Defense estimated the cost of the six month fight around \$61 billion.<sup>8</sup> It was the dependence on oil, not on any country (or countries) in particular, which caused these conflicts.

The fight over oil wasn't a temporary move; the government made it permanent with the establishment of United States Central Command (CENTCOM) to oversee the large oil deposits in the Middle East.<sup>9</sup> CENTCOM works with other foreign powers to ensure that the Middle East and specifically the Persian Gulf is stable in order to protect and stabilize the region.<sup>10</sup> America now has a continual military presence in the Middle East due to the Carter Doctrine and CENTCOM. When factoring in the recent conflicts in Afghanistan and Iraq, the cost of the wars is over \$6 *trillion*, nearly a third of current U.S. debt.<sup>11</sup> Not all of the 6 trillion was spent directly protecting oil interests but at least some of the six trillion would not have existed if the dependency on foreign oil was not as severe.

One of the main reasons America is so dependent on foreign oil is because the domestic cache of oil pales in comparison to foreign oil. America has an estimated 36 billion barrels of oil reserves, an insignificant amount compared to the 268 billion barrels in Saudi Arabia alone. Economically it makes sense to purchase oil from the source with the lowest price and, for most of recent history, the lowest price has been in Middle Eastern countries. OPEC publically declares their desire to strategically limit and monitor the supply of oil to other nations.<sup>12</sup> Because OPEC has over 80 percent of proven crude oil reserves, OPEC is able to create artificially high demand and fluctuate prices as desired.<sup>13</sup> To

limit the amount of fluctuation, America has sought to intervene and establish steady regimes as opposed to turbulent forms of government. The dependence we have on fossil fuels causes economic problems felt by corporations and individuals alike. For instance, corporations which depend heavily on ground transportation see prices rise when the cost of oil rises.<sup>14</sup> Moving away from such a dependence on fossil fuels will re-establish America as a global leader and independent powerhouse.

A transition of energy from fossil fuels to renewable sources will eliminate the dependence we have on fossil fuels, thereby cutting down the dependence we have on foreign countries. We relieve our addiction to fossil fuels by importing billions of barrels of oil every year, most of it from the Persian Gulf. This dependence has prompted us to be militarily aggressive in order to defend the oil sources we rely on so heavily. Our defense of critical oil sources doesn't just include military action during times of conflict; the peaceful patrol of countries with oil costs taxpayers billions. A peer-reviewed study from Princeton estimated the cost of operating aircraft carriers and other naval ships in the Persian Gulf from 1976 to 2006 to be over seven *trillion*.<sup>15</sup> And that only includes peaceful escorts and patrols, not included are the additional trillions of dollars spent during active conflicts in the region. It is evident that eliminating the need to defend our interests in the Middle East would save billions of dollars every year. If America was able to power with renewable energy what oil currently powers, we would save billions of dollars every year due to decreased spending on the military. Another estimate projects that military spending would be

reduced by over 10 billion per year if there was no oil in the Middle East or, in this case, if we no longer needed the oil in the Middle East.<sup>16</sup>

Dependence on oil is an issue because of price fluctuations which hurt the growth of our economy. Oil exporting nations could cut off all oil to the rest of the world and immediately the economy would feel a shock. The increase of fuel prices would increase the cost of goods because input costs for shipping companies would increase. A modern example of how dependence on another country can devastate the economy and the people is the recent multi-lateral embargo on Russia. When Russia invaded Ukraine many global leaders, including President Obama, declared economic sanctions on Russia by refusing to export certain oil technologies as well as finance major oil firms.<sup>17</sup> The sanctions contributed to a Russian recession where the strength of the ruble weakened and GDP growth slowed to a crawl. Granted, Russia is very dependent on oil for revenues. In fact, over half of total government revenue came from the oil and gas industry.<sup>18</sup> As the example of Russia illustrates, economic dependence on fossil fuels is risky and is something we should avoid. This is not, however, a call for isolationism; it is rather an encouragement to cautiously choose what we trade and who we trade with. It is a call, though, to look to energies other than fossil fuels to power our nation.

While we are externally dependent on oil, we are simultaneously internally dependent on coal and natural gas. Regardless of where the fossil fuels originate from, we are still dependent on fossil fuels and that is the issue. In discussing oil the dependence was on an outside nation but when discussing coal and natural gas

the dependence is on the limited supply. As previously mentioned, coal is projected to be completely exhausted in the next 40 years. Unless we plan a smooth transition the future will be economically devastating. The beauty of renewable energy is the lack of dependence. While the country may be dependent on the renewable energy sources (solar, wind) and close to renewable energy (nuclear) there is very little threat of the energy running out. Dependence on renewable energy is a dependence on something stable, a source which will not run out.

More known in the environmental activist community are the physical reasons America should transition from fossil fuels to renewable energy. The word "non-renewable" itself should cause concern because it directly declares that these sources will run out. Many economists and scientists agree a *complete exhaustion* of the global supply of oil and natural gas will occur within the next 40 years.<sup>19</sup> This date is in the majority of our lives, not, as many often claim, in the distant future. It is imperative we figure out a solution to the problem and collectively combat our addiction to oil.

Renewable energy will create more, longer lasting jobs than will the fossil fuel industry. There are currently around one million oil and coal related jobs in America.<sup>20</sup> The majority of these jobs focus on the drilling, refinement, and selling of oil. The government plays no small role in ensuring oil continues to thrive, a fact evident by the \$30 billion in subsidies annually given to oil companies.<sup>21</sup> In a different vein, over 40 percent of the trade deficit from 2000 to 2012 came from the importation of fossil fuels.<sup>22</sup> While some may argue it is necessary to increase domestic drilling, the fact

still remains that, eventually there will be nothing left to drill if our dependence on fossil fuels continues.

With the recent recession still fresh in our minds we look to the future and focus on what will create stable jobs. The research declares renewable energy (“green” jobs) will give people more jobs than fossil fuels currently employ. As cited earlier, the fossil fuel industry provides around a million jobs while green jobs employ over three million Americans.<sup>23</sup> Some may object and proclaim that the fossil fuel industry is more efficient because it uses less labor. While this claim does have some truth, it is a natural phenomenon that industries become more efficient over time.

The jobs don’t disappear, they just transition to different industries as the world changes. Since renewable energy only comprises ten percent of total energy consumption yet still employs three million Americans, there is massive potential for an increase in green sector jobs.<sup>24</sup> Critics claim that while

renewable energy may create jobs it will eliminate an equal or greater number of jobs in the fossil fuel industry. While a valid concern, the statistics and research don’t uphold the claim of the critics. Green energy will create more jobs than will be lost in fossil fuels.<sup>25</sup> Individuals employed by the fossil fuel industries may be out of a job temporarily but millions of other Americans will gain jobs.

Job creation will be only a small part of the greater benefit to the economy brought by switching to renewable energy. The dollar will strengthen, the public deficit will decrease, and price levels will stabilize. If America begins to domestically manufacture renewable energy

technology instead of importing the net trade deficit will decrease due to the decrease in the importation of oil. Over 40 percent of the net trade deficit from 2000 and 2012 was from importing petroleum.<sup>26</sup> Reducing the trade deficit will strengthen the dollar relative to other currencies, allowing American consumers to purchase foreign goods at a cheaper price. If we became the standard for renewable energy other countries would begin to import the goods we produce, further benefitting the economy.

Not defending oil interests both militarily and financially would save taxpayers billions every year. The government subsidizes the oil

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industry by providing nearly 30 billion dollars each year and currently subsidizes almost 40 billion dollars of the solar industry.<sup>27</sup> If we used the 30 billion given towards oil for renewable technologies, the green sector would be in an even better place. Eliminating subsidies to fossil fuel corporations would allow money to be reinvested where the return on investment is greater.<sup>28</sup> Money invested into fossil fuels by the government doesn’t go as far as do investments into renewable energy. If the government ceased to provide subsidies to oil corporations and instead gave the money to renewable energy companies, the transition to renewable energy would happen much faster. We could real-

locate spending from the military to investing even further in renewable technologies. The approximate number, cited earlier, could reach well over hundreds of billions every year. Not spending these billions would allow for increased spending in other areas.

Price levels are tied to the price of oil and other fossil fuels because fossil fuels are a large component of supply costs. Rising oil, and therefore gas, costs cause trucking and freight companies to charge a higher transport cost. Higher transport costs force manufacturers and producers to raise prices which in turn increase the prices of the final goods. Consumers aren’t able to purchase as many

goods with their stable income so fewer goods are purchased, leading to a general decline in GDP. This effect is known as a supply shock because the supply side of the economy is affected. In a supply shock price levels increase while GDP growth slows.<sup>29</sup> Without oil, however, the risk of a supply shock decreases because com-

panies are dependent not on a fluctuating price of energy but one which is stable. Renewable energy promises to stabilize the price of energy which will stabilize prices in the macroeconomy.

Toxic pollutants from fossil fuel usage cause diseases, illnesses, days off from work, and chronic pains. Every year in the U.S. over 5 million work days are lost due to pollutants emitted from fossil-fuel plants.<sup>30</sup> Aside from the billions of dollars of productivity lost, fossil fuel plants cause significant negative health effects. There are 30,000 premature deaths in the U.S. per year attributed to fossil-fuel toxins.<sup>31</sup> Denmark, in the process of transitioning to be entirely powered by renewable energy, projects the savings

in healthcare to surpass the cost of the transition.<sup>32</sup> The same can work in America, not only benefitting Americans but also benefitting the health care system. A study from Harvard found eliminating coal production alone could decrease healthcare costs by nearly half a trillion annually.<sup>33</sup> Without forward progress towards moving America to renewable energy we risk jeopardizing our economy, our health, and our quality of life.

An economy powered with renewable energy will also be stronger due to the increased health of the population. As previously cited, over 5 million work days every year are lost due to fossil-fuel related illnesses or injuries.<sup>34</sup> A renewable energy powered economy would not cause 5 million lost workdays and those workers would create real value in the economy, a value not attainable with fossil fuel illnesses. Healthcare costs in America already comprise a large portion of the federal budget but we could minimize some of those costs by not having to pay for fossil fuel related illnesses. A study from Harvard, previously cited, found the cost of coal alone on healthcare costs to reach nearly 500 billion per year. With renewable energy powering the economy the costs on healthcare would not exist in the form they do today, and costs would decrease.

#### Future Actions

What exactly do we need to do to ensure a smooth and timely transition to renewable energy? We need to offer tax breaks to renewable energy companies focused on green technologies, charge a tax on all fossil fuels to create a price signal, stop subsidizing the oil industry and increase current subsidies to the renewable

energy industry, and increase regulations on where energy comes from to ensure the usage of clean energy versus fossil fuels.

Many companies focused on renewable energy struggle to compete in the same market as established fossil fuel industries due to the massive amount of capital needed to penetrate the market. Additionally, these renewable energy companies struggle to compete with established fossil fuel industries because the green companies often are not rewarded for the public good they provide and fossil

**[G]reen companies often are not rewarded for the public good they provide and fossil fuels aren't punished enough for the negative externalities they create.**

fuels aren't punished enough for the negative externalities they create. If the federal government, or even state governments, provided tax breaks for newly formed green companies we would see a lot more of these businesses sprouting up. A tax break for a new company which wouldn't have otherwise existed costs the government very little but jobs and GDP increase. A simple promise not to tax a new business for five years would likely persuade businesses to form who wouldn't have otherwise.

In a similar vein, we need to increase the price of fossil fuels to create a price signal. A price signal is an indirect method of persuading businesses and investors to change direction based on the price of a certain good. In this case, a price signal

would convince investors and businessmen to move away from fossil fuels and focus on renewable energy. This transition would occur because consumers at the pump and in the store would think twice about paying a higher price for the same good and instead may be swayed to consider purchasing energy efficient appliances and vehicles. The government, the instigator of this price signal, would increase taxes on all fossil fuels and nonrenewable energies. The higher the price the stronger the price signal and the faster the transition to renewable energy. There would likely be backlash against the rising of prices but if we are to progress as a nation we must make short-term sacrifices for long-term benefits.

The federal government provides nearly \$30 billion in funding to oil companies but this subsidy needs to stop. Instead, we should fund companies focused on developing efficient and clean technology which will power the future. Providing these funds directly to private companies will allow the innovation to occur while reducing government red-tape and stagnation. Tesla, for example, received a 465 million dollar loan from the Department of Energy to research electrical plug-in vehicles.<sup>35</sup> They put the money to good use and Tesla paid off the loan ahead of time while simultaneously advancing the electric car concept. Investing and subsidizing renewable energy companies will help us no longer use fossil fuels to power our nation but rather rely on energy which we can use repeatedly.

Lastly, to protect domestic producers and manufactures, we must strictly regulate where we buy our solar panels, wind turbines, and electric

motors. Instead of purchasing the necessary technology from Asia we must produce it domestically to reap the economic benefits. Additionally, it is necessary we continue to accept only the best of renewable technologies, a policy which will ensure the panels, turbines, and motors have a usage life for many years.

Together, as a nation working together for a common goal, we can transition America from relying on fossil fuels to a nation operating entirely on renewable energy. We will not only be healthier and happier, we will have more jobs and a better economic situation. Regardless of environmental concerns it is an economically sound decision to invest in renewable energy as the technology which powers the future.

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