

REWARD: A certificate of appreciation in a handsome plastic frame.

Being practical people, engineers evaluate this balance of risks and rewards and decide that risk is not a good thing. The best way to avoid risk is by advising that any activity is technically impossible for reasons that are far too complicated to explain. If that approach is not sufficient to halt the project, then the engineer will fall back to a second line of defense. Many say, "It's technically possible but it will cost too much."

"ALTERNATIVE FUTURES"

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The United States government has placed all of our futures in jeopardy through its dependence on, and support of, fossil fuels as the country's primary energy source. These fuels, mainly oil and coal, have been extensively studied, and their negative effects on the environment are well documented. The burning, mining, and refinement of fossil fuels contributes to global warming, air pollution, deforestation, and deadly diseases that afflict humans. Despite the destruction that fossil fuels create, our government has not dedicated itself to the search for safer, cleaner, alternative energy sources. Why have efforts not been made to invest in replacements for the current suppliers of power? Unfortunately, the research that needs to be completed on alternative fuels, and their implementation as the country's main source of energy would require large amounts of money (Knott 32). In addition, individuals and businesses whose wealth and prosperity depend on the consumption of fossil fuels form an extremely powerful political lobby (Alternative). As a result, government funding for alternative fuel research has been inadequate.

Many citizens are led to believe that alternative energy sources are science fiction, or at least, that they will only be available in the distant future. In fact, technologies that utilize alternative fuels in order to generate electricity have been in existence for several decades. A substantial number of scientists and engineers have centered their careers

on the development of safer and cleaner fuels (Ellis 18). Their work has produced solar cells, wind-driven turbines, hydroelectric dams, and geothermal energy collectors. These inventions have only been experimented with on a limited basis, but they have shown the potential to be able to supply the nation's energy (Kozloff 6).

Besides being environmentally sound, alternative energy sources have another advantage over fossil fuels. The majority of these alternative fuels are completely renewable. While the earth's fossil fuel reserves are expected to be depleted within 50 to 60 years, alternative fuels will continue to supply the world with energy for an indefinite period of time (Knott 32). As long as the sun shines and the wind blows, there will be means by which we can gather energy. Therefore it would be prudent to invest in alternative fuels in the present in order to avoid energy shortages once the fossil fuels are totally drained from the earth.

Despite the clear warnings, the United States government has demonstrated a reluctance to provide federal funding for alternative energy source research. The majority of this country's representatives do not perceive the rapid consumption of fossil fuels or the environmental hazards they pose as immediate concerns (Knott 32). As of 1992, 9% of the U.S. energy supplies could be directly linked to alternative fuels. This percentage is not expected to increase by more than 2% in the next decade (Kozloff 4).

The cost of creating, operating, and maintaining renewable energy technologies has caused many government officials to pass over these projects when it comes to providing funds (Weisman 1524). Converting the entire country from a fossil fuel based to an alternative fuel based energy distribution system would cost an enormous amount of money. Also, the energy that alternative methods provide currently costs more than energy supplied by traditional fuels (Ellis 18).

The relatively high price of alternative energy is due to the state of the technology's development. It is just too expensive to generate electricity solely with alternative fuels. Often, devices such as solar cells and wind turbines only collect a modest amount of energy due to present design limitations (Ellis 17). It takes a longer period of time for these devices to gather energy than for a fossil fuel energy system to produce it. As a result, the alternative fuel distributors must charge more to make up for the extra money that goes into running the energy gatherer and generator (Kozloff 9).

In order to lower the price and increase the net energy output, more funds are needed for further research into alternative energy technologies.

Advances in current renewable fuel systems will increase energy efficiency and decrease the cost of supplying energy to the nation (Romm 59). However, politicians seem to be hesitant to spend money in the present in order to save a great deal in the near future. They do not take the dwindling supply of fossil fuels into account when they compare their prices to the currently high-priced alternative fuels. As fossil fuels become scarce, their price will increase rapidly. Alternative fuel prices can only decrease due to their unlimited supply and technological advancements that will allow them to be easily gathered (Romm 61). Research into alternative energy sources will therefore save the country money in the long term.

In this era of budget cuts, research into alternative fuels has become an easy target for politicians. Since the late 1970s, solar energy research has been reduced by 80% and funding for the promising field of geothermal energy research is almost non-existent. Funds allocated to wind turbine generated energy have remained constant for several years due to the relatively low cost of conducting the research. The project with tremendous potential, an international effort to build a fusion reactor with a positive energy output, is in jeopardy of losing over one-half of its U.S. funding (Alternative). These types of budget reductions are often heralded as great steps towards improving the economy and slashing unnecessary government expenditures. In the short term, these policies will save a great deal of money, but the price we pay in the future will be immense.

Fossil fuel lobbyists also play a significant role in our government's alternative energy source policies. Their only purpose is to convince our representatives that the United States should remain exclusively dedicated to the consumption of fossil fuels. They point out all of the flaws of alternative fuels, as well as conceal the hazards of their products. They promote their low prices and proven technologies. These companies do not want to loosen the noose they have tied around our nation's neck when it comes to supplying energy. Therefore they must eliminate competition (Alternative).

Businesses that sell oil and coal have a virtual monopoly on delivering the world's energy. The demand for their products continues to increase with the earth's population and the rate at which Third World countries are developing industrially. The money the fossil fuel companies take in is almost unimaginable, and they are not shy about donating portions of it to campaign funds when it serves their interests (Alternative). Representatives from states where these companies have a strong influence over the economy are known to be fiercely loyal to the idea of continued U.S. dependence on fossil fuels. They are the first ones

to speak out against increasing funds for alternative fuel research. In doing so, they may guarantee their re-election (Alternative).

Eventually, these giant companies will run out of their products, however. Most likely, they will then turn to alternative fuels in order to avoid bankruptcy (Kozloff 16). The fossil fuel companies could take a step towards the future and end their stance against alternative energy sources. They should encourage the government to support the research, and begin running their own alternative fuel experiments in order to prepare for the future. Politicians would take the proposed renewable fuel projects seriously if large businesses were willing to back the efforts (Ellis 21). The nation's employment rate would increase a great deal if the government and energy-supplying businesses would cooperate in such a way. According to one estimate, approximately 400,000 new jobs would be created if the alternative fuel market was fully exploited. This increase in workers would lessen the short term affects of additional research funding on the economy (Kozloff 16).

Alternative fuels will eventually earn the right to supply the world with energy. Despite efforts to the contrary, the U.S. and the rest of the world will be forced to abandon fossil fuels out of necessity. Their environmental damage will become too great to tolerate, or they will simply run out. It is the ideal time to commit the country to a future energy supply based on alternative fuels. The U.S. has made progress in this area recently. Car and factory emission standards as well as mandates to further study alternative fuels have been established. Businesses have been encouraged to invest in renewable fuels through small government incentives (Ellis 17). These changes are steps in the right direction, but they are simply too slow. The pace of researching, developing, and implementing viable alternative energy supplying devices must be hastened. Many raise the point that a conversion to alternative fuels cannot be forced on the businesses and people of this nation (Knott 32). However, the people should not be forced to bring damaging pollutants into their lungs with every breath, either.

Policy makers must recognize the dangers that fossil fuels create and work to eliminate them. Their current refusal to provide significant funding and promotion for alternative energy sources has tightened the grip fossil fuels have on the nation's energy reserves. An organized effort must be made to initiate various alternative fuel projects before the U.S. is faced with an irreparable environment and an energy crisis several orders of magnitude greater than the oil shortage of the 1970s.

Works Cited

- "Alternative Energy Sources." Internet. Jan. 1997. Available:
<http://sunsite.unc.edu/horizon/pastissues/vol1no2/tech2.html>
- Ellis, Jane. "Why Promote Renewable Energy?" *OECD Observer*.
Aug. 1996: 17-21.
- Knott, David. "Smugness Threatens Sustainable Energy." *The Oil and Gas Journal*. 9 Dec. 1996:32.
- Kozloff, Keith Lee. "Renewable Energy Technology: An Urgent Need, a Hard Sell." *Environment*. Nov. 1994: 4-17.
- Romm, Joseph and Charles Curtis. "Mideast Oil Forever?" *The Atlantic Monthly*. April 1996: 57-71.
- Weisman, Jonathan. "Grumbling Over Energy Cuts Elicits a Response." *Congressional Quarterly Weekly Report*. 1 June 1996: 1524-1526.

ANOREXIA AS A HARMFUL EFFECT OF WOMEN SUCCUMBING TO SOCIETAL PRESSURES

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My friend Vicky Vassallo had it all. She was a co-captain of the soccer team, Homecoming Queen, achieved near-perfect grades and was well-liked by her peers. But Vicky never saw herself the same way that everyone else viewed her: Vicky saw herself as being ugly, stupid, and fat. Although I knew that Vicky did not see herself as being "thin enough," I was completely surprised to receive a call from her mother one day informing me that Vicky was in the hospital for anorexia nervosa. Because of the traditional link created for women between physical appearance and personal worth, between self-confidence and self-image, women who feel unattractive and thus unhappy, oftentimes assume they are not thin enough.