

Energy Report Assignment
Ethical Analysis of Renewable Energy and Conservation
By Paul Quirk

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The purpose of this assignment is to examine the issues of energy faced by individuals and society as a result of scientific discoveries and technological advances as it pertains to the various aspects of energy, including energy conservation, energy efficiency, renewable energy sources, and otherwise.

Most people would agree that energy conservation and renewable energy are both noble causes that need to be embraced by all. However, when we dig a little deeper, we discover some very challenging ethical issues. The biggest ethical issue that stands out is the impact these initiatives have on those living at or around the poverty line.

Before I proceed, a working definition of poverty needs to be established. Classical economist Adam Smith (1776) eloquently established that poverty is the lack of the essentials of life, or as he calls them, the necessities:

By necessities I understand not only the commodities which are indispensably necessary for the support of life, but whatever the custom of the country renders it indecent for creditable people, even of the lowest order, to be without. A linen shirt, for example, is, strictly speaking, not a necessary of life. The Greeks and Romans lived, I suppose, very comfortably though they had no linen. But in the present times, through the greater part of Europe, a creditable day-labourer would be ashamed to appear in public without a linen shirt. . . . Custom, in the same manner, has rendered leather shoes a necessary of life in England. The poorest creditable person of either sex would be ashamed to appear in public without them. (Book Five: Chapter II, Article IV)

Based on this widely accepted definition, energy is considered a commodity which is indispensably necessary for the support of life. While Canada has no official measure of poverty (Fellegi, 1997), it clearly exists. It is not the purpose of this essay to define how many Canadians live at or below some poverty line; however, for the purpose of this essay, it is essential for the reader to acknowledge that poverty exists in Canada. For the sake of this essay, I will assume a poverty line exists at the point where a person can afford to feed, shod, and clothe themselves appropriately, as well as afford shelter complete with heat, some means of cooking their food, and light, with no money left over after paying for these necessities. I will assume that such a person can afford to take whatever public transportation is available to transport between their home and their work, as well as to and from places where they can buy their necessities. Such a person living at this line will not be able to afford anything beyond their necessities, and any additional expense will serve to push them below the poverty line, as well as bring more people to that line.

Each new technology brings with it a cost. The increase in cost is necessary to offset the development of the infrastructure necessary for the new technology. A good example of this is the compact fluorescent light bulb. Today, the mass produced compact fluorescent, well past the point where the cost to build and tool factories to manufacture it has been recaptured, is at a price where people can realize an energy savings in the long term to offset the higher price of the compact fluorescent. Still costing anywhere from between 3 to 10 times the cost of a comparable incandescent light bulb (Minu, 2010), the cost advantage of the compact fluorescent is only realized over an extended period of time, measured in years. A person living at or near the poverty line does not have years to wait; they need to realize the savings much sooner than that in order to survive.

The problem becomes bigger when we explore home heating. Consider a modern high efficiency gas furnace, or even a ground source heat pump. These solutions cost thousands, if not tens of thousands, to implement. The payback period can take many years. We recognize the importance of moving to more efficient heating solutions now, to save money later when energy costs go up. However, to the poor, such solutions are not even remotely viable. Quite often, those at or near the poverty line will adopt whatever source of heating costs the least to implement, and today, that source is, more often than not, electric heaters. Consider a \$40 electric baseboard heater versus the thousands in cost of a high efficiency gas furnace or the tens of thousands for a geothermal system, and it's obvious that the most expensive source of heating to operate is likely the only type of heat within price range of those living near or at the poverty line. While some families living at the poverty line would be financially better off investing in a modern high efficiency form of heat, their inability to come up with the investment capital ensures they will be stuck with high heating bills to keep them at the poverty line.

As we move towards a future that includes renewable energy, we recognize the fact that there is a certain expense that comes with implementing renewable energy sources. It is necessary for the infrastructure of solar photovoltaic and wind turbines that electricity rates will go up. While we tend to agree that it's necessary for the cost of energy to go up in order to encourage conservation and to give people the push they need to move towards more energy efficient solutions, we do so without regard for those living at or near the poverty line. What we push for in the name of the environment will serve to push those at the poverty line deeper into poverty, and introduce more Canadians to the poverty line. As the poverty rate goes up, so does the crime rate (Ellen, 2008). Overall, we could then expect our quality of life to go down due to this effect. Clearly, the greater good dictates that we must address this issue before proceeding with current conservation and renewable energy measures.

This issue isn't a new one. For example, in 1994, the National Housing Institute recognized that Energy Costs were one major, if not the major, operating cost to many low-income households, and recognized that promoting affordable energy bills was a necessary component of any strategy to address the sustainability of overall shelter affordability. They pointed out that, in 1992, 5.3 million households had utility service disconnected for non-payment. It was suggested

that, while energy efficiency helps address the inability to pay, it had its limits. They then recommended energy efficiency improvements, discounted rates, and regulatory protections. (Colton, 1994)

As recent as March 23, 2010, a study from the American Coalition for Clean Coal Electricity (ACCCE) found that poorer Americans were spending a disproportionate part of their income on energy; as much as 69% for families earning less than \$10,000 per year. For those earning just under \$50,000 per year, the percentage is 19% (Bedard, 2010). While the source of this report would seem to make this study appear entirely self-serving, there is no denying the truth that increased energy costs directly impacts the poor.

In March of 2010, the National Association for the Advancement of Coloured People (NAACP) along with the Florida Power & Light company (FPL) announced that the conservation goals of the state of Florida help the wealthy at the expense of the poor. According to the NAACP and the FPL, wealthier people are using rebates for energy-saving products that the poor simply cannot afford, and since all utility customers ultimately pay for the rebates, it's forcing the poor to subsidize the wealthy. According to FPL consultant Jim Dean, "Electric rates tend to be regressive. By this I mean that lower income users who are less likely to participate in [energy saving] programs will pay more for their utility bills as a percentage of their disposable income than higher income users." (Patel, 2010)

The city of Austin, Texas passed an ambitious Climate Protection Plan in 2007, but advocates are now concerned about how those energy plans will affect the poor and elderly; in particular, negatively impacting those who are now living on a limited fixed income. Austin Energy planned to add a new fee to pay for transmission lines for wind energy generated in West Texas, starting at 60 cents a month and rising over the years. There are also concerns about how much the rates will rise on top of this. According to Ron Walker, chancellor for the Catholic Diocese of Austin, there are a lot of people who can barely afford their electricity bills now, and estimates their bills could go up by fifty percent over the next 5 years. Currently, Austin Energy has several programs to help low income families, including up to \$1500 for energy efficiency improvements and fee reductions for those on government aid programs. (Toohey, 2009)

Energy conservation doesn't need to be out of reach of those living near the poverty line. In the economically depressed South Bronx of New York, the nonprofit Women's Housing and Economic Development Corporation (WHEDCo) opened the Intervale Green housing development last year. This is a 128 unit apartment building for low-income families. By incorporating low cost conservation measures with the construction of this building, they have ensured that residents will be paying 30% less for their utilities. According to Nancy Biberman, founder and president of WHEDCo, going green is a survivability issue for low income families. Other similar initiatives by organizations such as the nonprofit Carrfour Supportive Housing in Miami and the Resurrection Homes project in Chicago have undertaken similar projects, demonstrating that going green isn't just for the wealthy (Walsh, 2009).

Clearly, a multi-pronged approach to the implementation of conservation technology along with the implementation of renewable energy technology is required in order to address the needs of those living at or near the poverty line, and avoid the ethical issues with negative and possibly irreparable effects on society.

Up until recently, Ontario has enjoyed an EcoEnergy retrofit program, with the federal and provincial government issuing rebates for energy upgrades performed in a home. Such a program could be designed to help those near or at the poverty line conserve energy, but it would have to be set up so as to not require an initial investment from the poor. Such a program will cost the government in the short run, but ultimately will serve the greater good by possibly helping some families rise further above the poverty line. The expense of retrofitting an efficient heating source combined with air sealing and insulation upgrades in place of old baseboard heaters in a drafty, poorly insulated home would mean dramatically lower energy bills in the short term, and some of those savings could go back into the program if implemented correctly, which could make the program self-perpetuating.

Renewable energy solutions need to be implemented at a rate as to not cause energy rates to rise substantially, and when rates do rise, those at or near the poverty line need to be insulated from those rates, at least until they have an opportunity to reduce their consumption with modern technology. Such a system could be tied into a modified EcoEnergy retrofit program.

Ultimately, as we progress into the future, we need to make sure that we all can benefit from conservation and clean energy if we expect to maintain or improve everyone's overall quality of life. We can all benefit, including the poor, which is the kind of future I want to see.

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