

“Kilowatt Ours”:

Presenting Viable Solutions for Sustainable Living

Barbara Rassi

Hialeah Miami Lakes High

Topic B: Film Review

Mercilessly plundered and looted, the earth has been condemned by mankind to merely stand back and witness her own degradation. As large industries and individuals alike strip away at the remnants of her natural capital for the purpose of creating electricity to run our daily lives, it is questionable whether there will be any left for succeeding generations to enjoy. Jeffrey Barrie, in his film, “Kilowatt Ours” proposes simple solutions to this problem, which could be exercised by everyone. He emphasizes that everyone can play a part in the solution by simply taking the first step to change his or her light bulbs. The film is exceedingly convincing, and reminds me of the fact that while many of my peers believe themselves to be fully aware of the present plight of the environment, they find themselves at a loss as to how they could possibly help ease such a crisis, which this film could invariably help them do. I would propose the individuals implement the simple household changes “Kilowatt Ours” has proposed, while on a larger scale, learn to, and begin to rely on cleaner sources of energy, such as geothermal, wind, solar, and nuclear power to slowly phase out unclean carbon power to make the future an environmentally sustainable one.

“Kilowatt Ours” is an enlightening documentary created to inform the public about the truth behind electricity usage. It was filmed during an 18-month trip around the Southeastern United States, a region that uses more electricity than any other part of the nation, with 61% of it coming from coal (Kilowatt Ours). Barrie makes a point of explaining how the electricity is produced, the reasons why Americans must reduce their use of it, and offers realistic solutions individuals and groups can implement in order to help diminish electricity usage.

The documentary begins with the startling images of exploding mountaintops- reduced to shattered rubble. Barrie explains that this is where the coal from electricity comes from, a practice which has ravaged the beauty of the mountains of the Southeast (Kilowatt Ours).

Besides the aesthetic consequences of electricity production, the film emphasizes the adverse effects it has on people directly. Because burning coal sends sulphate particles in the air, asthma is now the most prevalent chronic illness in children, as well as the number one cause of school absences (Kneidel). He thus paints a convincing picture of the imminence of addressing this problem.

The solutions provided are remarkably simple, advocating switching incandescent light bulbs with compact fluorescents, using energy star appliances, making use of a proper amount of insulation, as well as identifying and sealing leaks in air duct systems. To show the value of this, replacing only one incandescent bulb with a compact fluorescent bulb will can save up to \$75 plus hundreds of pounds of coal over the lifetime of the bulb (Kilowatt Ours). Also provided are examples of homes, businesses, and schools that have adopted energy-saving methods such as day lighting, geothermal heating and cooling, and wind and solar power.

Barrie's interviews throughout the documentary prove that the American public is misinformed about how to conserve energy. This is especially true for teenagers. Although most of my peers are conscious of the current environmental problems going on, growing up in an age of mass consumerism, demanding instant gratification, their energies are so occupied with acquiring the new game console or stereo system that they overlook the adverse effects their activities are having on the environment. They tend to see environmental degradation and concepts such as Global Warming as being consequences of some huge evil industry- a matter too far removed from the scope of their own lives. Hence their view is that it is not a problem caused by them, nor one in their power to solve.

By being exposed to "Kilowatt Ours", teenagers will be forced to reevaluate their role in the environment, as they will become informed about how they can do their part to decrease

electricity usage, starting with installing incandescent bulbs. This will remove the common excuse that “saving the environment” is a much too overwhelming task for one person to accomplish, leading to the mindset that one person cannot make a difference. This film should be a rite of passage into adolescence, or perhaps earlier, because, as the future leaders of America, they should be taught early how to contribute to keeping the earth alive and well to provide for generations to come.

This documentary further reminds Americans of the variety of options the United States has available to provide for sustainability. For one, Barrie condemns further usage of coal to power America. The advantages for using coal are sizeable: an ample amount being available, a high net energy yield, a low cost to produce (with large subsidies), and a well-developed mining and combustion technology. Yet it has a very high environmental impact and causes severe land disturbance, air pollution, and water pollution; thus posing a severe threat to human health (Miller). While improved technology has been developed the pollution it produces, it is simply too costly to be considered a viable solution, thus upholding Barrie’s contention that relying on coal for electricity is detrimental to the environment.

When it comes to nuclear energy, however, the film may be too hasty in dismissing it. This alternative boasts of having an ample supply of uranium available, while producing low air pollution. It also causes much lower land disruption than the mining required to extract coal. Moreover, because of multiple built-in safety features, the risk of exposure to radioactivity from nuclear power plants in the United States is extremely low (Miller). On the other hand, it has a high cost even with large subsidies (Mufson), a low net energy yield, high environmental impact with major accidents, and lacks a widely acceptable solution for long-term storage. Barrie further dismisses this form of energy by showing a scene in which Dick Cheney states that energy use in

the U.S. is so high, and our population growing at such a high rate, that we will need one new power plant every week for the next 20 years to keep up (Kilowatt Ours). That is certainly true if the only alternative the U.S. chooses to make use of is nuclear energy. Instead, the more viable solution of using this type of energy coupled with other alternative forms of energy could help ease environmental degradation, since as compared with the devastating effects of extracting coal, nuclear energy is a better alternative.

Another practical alternative is solar power. Simple in-home solutions include having the proper insulation. This means keeping the house nearly airtight, using insulated glass or superwindows, while taking care to have small or no north-facing windows. Actual solar heating is free, with net energy yields being moderate for active systems and high for passive ones. Additionally, installation of such systems is quick, they produce no greenhouse gas emissions, cause minimal land disturbance (built into roof or window), and have a moderate cost (passive). As for the disadvantages, it cannot function without access to the sun 60% of the time (Miller), blockage of sun access can be caused by other structures, and it needs a heat storage system, while an active system can be costly (Revkin), requiring maintenance and repair. On a larger scale, solar cells have a fairly high net energy, work on cloudy days, have a quick installation, are easily expanded or moved, emit no carbon dioxide, have a low environmental impact, last 20-40 years (Miller), have a low land use if built on roofs, and reduce dependence on fossil fuels. They do, however, require access to the sun, have low efficiency, need a storage system, have high land use if part of a solar cell power plant, come at high costs (but should be competitive within 5-15 years), and DC currents must be converted to AC (Miller). Thus solar cell plants, while being a clean and desirable source of energy, can very well not be expected to function as the sole alternative to coal energy, being at the mercy of the whims of the sun.

As for wind power, it has a moderate to high net energy yield, high efficiency, moderate cost, low electricity cost, very low environmental impact, allows for quick construction, is easily expanded, can be located at sea, and the land below turbines can be used to grow crops or graze livestock (Miller). Nevertheless, steady winds are needed and a backup system for when winds are low, it requires high land use for wind farm, and causes aesthetic pollution, as well as noise when located near populated areas.

Finally, geothermal energy has a very high efficiency, moderate net energy at accessible sites, lower carbon dioxide emissions than fossil fuels (National Geographic), a low cost at favorable sites, low land use, low land disturbance, and a moderate environmental impact. There is however, a scarcity of suitable sites, which could be depleted if used too quickly, and may cause air pollution if it is not extracted from highly concentrated sites (Miller).

Hence with so many options, each with its respective flaws, I cannot pretend to marry the United States to any one form of alternative energy. Instead, the nation must pursue a combination of nuclear, wind, solar, and geothermal energy in order to reach the challenge of being environmentally sustainable in the face of a rapidly increasing population. Likewise, with its focus on informing individuals on what they can do to reduce their electricity consumption, “Kilowatt Ours” should be a required film for not only my peers, but the American public at large, who being the culprits behind much of the earth’s degradation, should be given the tools necessary to clean up their own mess.

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