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Living Deficiently or Energy-Efficiently: Which Should We Choose?

To live deficiently or energy-efficiently: that is the question. Although the majority of us are aware of the pressing environmental problems we face daily, we are not very aware of the urgency to find a solution to them. Life on earth is built up like a wagon wheel; we can remove a few of those spokes and we might still be able to travel safely, but eventually the wheel will weaken and collapse. At that point, no amount of human ingenuity will allow us to reconstruct the wagon wheel so we can keep traveling on to the future. This fact is obvious, given our inability to completely clean up any damage our pollution has done to the environment—how can we expect to rebuild or repair a collapsed *planetary* ecosystem? We cannot keep consuming resources and damaging the environment at our current exponential rate. Exponential growth implies infinite expansion, but our Earth is finite, and its resources are finite. If something is not done about our wasteful use of the planet's energy and resources, our lives will be made miserable and desperate as the natural processes which support human life collapse like a flimsy wagon wheel made of sludge and decaying tree stumps. We will be living deficiently, if at all, according to our current standards of living. Pollution cleanup is no good; continuing to use the current rates of energy that we use without change is no good. We must concentrate on preventing environmental problems in the first place, and what's more, we must figure out a simple, economical, and practical way that each of us can do it. This solution is energy-efficiency.

Series of Topic Sentences to Follow Outline:

It is necessary to find a practical resolution to environmental problems. Examples of these environmental problems include:

These environmental problems pose a serious threat to humans because the planetary ecosystem is being slowly destroyed. We often like to use the less-impacting terms “degraded” or “injured,” but we shouldn’t use diction to hide the truth. By flagrantly using unnecessary quantities of energy, we are gradually destroying our environment—not “degrading” or “injuring” it, but destroying it.

Our environmental problems are caused by pollution release, resource overuse and destruction, and carelessness towards the environment. The source of all these problems is the lack of human energy-efficiency in manufacturing products and, with greater contribution to the problem, the lack of energy-efficient lifestyles.

Practicing energy-efficiency at home is a simple, economical, and practical solution to the problem. Anyone can do it—from kids to adults, individuals and extended families, practically anyone who lives in a home.

The best way that people can help improve their level of energy-efficiency is to determine the areas of their lives that use the most energy. Targeting these areas for improvement will make a stronger contribution toward being more energy-efficient than not having any direction at all for improvement. Since more than half of the nation's energy is used in the home, the home is the best starting point for us to put energy-efficiency to practice.

Most of us remain unaware of the immense impact an energy-efficient home can have in reducing energy and resource use in the United States. People want to come up with new ways to live comfortably at home while maintaining an energy-efficient, eco-conscious lifestyle. Although we know about environmental problems and have taken a few steps to minimize these problems, one important area often overlooked when trying to minimize large-scale environmental problems are our homes. One specific aspect of our homes we overlook is not what we put into them or what we do in them, although these aspects combined are responsible for a great part of the total U.S. household energy usage--it is how we build our homes in the first place. Most of us don't realize that much of the country's resources goes into the production of products and energy to maintain homes, and to supply them with heat and electricity. From this, it follows that the design and energy efficiency of a home is something that needs a second look if we want to try to conserve our nation's energy and natural resources.

The home is an integral part of American life. Because of our nation's insatiable interest in home life, there is a thriving home and garden industry devoted to supplying consumers with appliances, kitchen accessories, furniture, air fresheners, cookbooks, and gardening materials. This shows that we like our homes, and we like to make them look and feel nicer.

. Home is also where the fundamental building blocks of human society are forged and put together; children learn from their parents the shared values and ideals needed to be productive, knowledgeable individuals. Because of this, the home is the best place to teach our children about energy-efficient ways of life.

People feel less pressured to practice energy-efficiency at home than at work. For most, the home is a place where one can relax and think more freely than at work.

There are better chances at home for energy-efficient habits to be integrated into a family's lifestyle, since the home also serves as a classroom for energy-efficiency.

Practicing energy-efficiency at home is an economic solution to our environmental problems, contrary to popular belief that it will cost more to implement. Opponents of the transition to an energy-efficient lifestyle claim that it will cost more and will stifle business. However, energy-efficiency actually creates new jobs in technology research and development, in the manufacturing of energy-efficient products, and in the remodeling and construction of more energy-efficient homes. This includes items like passive solar heating, by which a home's heat comes from the sun; thick insulation, as exemplified by earth-sheltered homes, to reduce or virtually eliminate energy wastage due to heat loss; and efficient fluorescent bulbs, which use no more than a fourth of the energy that common incandescent bulbs use.

Yes, it is true that being more energy-efficient might have a greater initial cost. However, the cost is very little in comparison to the benefits we will receive. For example, earth-sheltered

homes are very energy-efficient houses partially or completely recessed in the ground, not completely covered by earth, with windows, doors, and all the standard utilities found in other homes. An architect of earth-sheltered homes tells us, "A properly built underground house...would probably cost 10 percent more. But the energy savings should be more than 50 percent--possibly 75 percent. The extra construction costs would be paid back very quickly" (Campbell 7). Earth-sheltered homes are great ways for individuals to live a more energy-efficient lifestyle. An owner of one writes, "I think all the world's people and critters should attempt to live together in a synergistic partnership in which everyone and everything co-exists in harmony with nature and the environment. I think earth sheltered houses and their lack of heating and cooling costs, both monetary and environmental, are one, very important way to accommodate this process" (Clair qtd. in Eco-Home Network 7). An earth-sheltered home is not the only way to achieve the goal of reducing both the economic and environmental costs of energy wastage.

Any individual can choose to become more energy-efficient; this is highly fortunate, since there is no party better able to "control and manage" an energy-efficient lifestyle than the individual. Just as it is more efficient for homeowners to sort their recyclables before recycling than to have a group of people sort everyone's recyclables, "self-sufficiency in energy is more likely to be possible if it is attempted at the individual and community level" (Allaby and Bunyard 169). People who will argue against the economic benefits of practicing energy-efficiency might say. "Project financing involves many risks—commercial risks, market risks and governance risks. Responsibility for each must be assigned to the party best able to control and manage them—developers, lenders and/or the government" (Chaturvedi 15). This is not the

viewpoint toward energy-efficiency projects that we should maintain. While it may be true that many risks are associated with embarking on a new project, these risks are minimized when a large body of individuals shares them instead of having all the risks fall on a controlling body such as a developing agency or the government. Sharing the risks of making energy-efficient lifestyle changes means that less monetary and personal risk will be taken per person. When a person feels that he or she is not under heavy risks, the person feels more security and confidence in completing the project. This is exactly what individuals need to feel when confronted with the need to make energy-efficient lifestyle changes; since there is little risk per individual, people feel that energy-efficient changes in personal living are easier to make. “Easier to make” translates into “more likely to be successful.”

Examples of energy-conserving practices and methods:

- a. Passive solar heating (reduces heating and cooling costs)
- b. Active solar energy (reduces or eliminates electricity and hot water costs)
- c. Earth-sheltered homes (reduces or eliminates heating and cooling costs)
- d. Turning off lights when not using them (saves electricity and reduces fossil fuel pollution)
- e. Remodeling existing homes with more insulation (substantially reduces heating and cooling costs)

Conclusion:

We need to make the move toward energy-efficient living now, and the good news is that it will not be a difficult process to start. *Anyone* can do it. There are many ways to become more

energy-efficient, such as using energy-efficient products like fluorescent light bulbs, buying earth-sheltered homes instead of traditional, non-insulated above-ground homes, and using forms of energy alternative to coal, oil, and nuclear power, such as passive and active solar energy for heating, and geothermal, hydropower, and wind energy—all of which will be explained in the next paper. There is little need to wait before deciding to adopt an energy-efficient lifestyle, especially in light of its benefits to society and the environment. “We should not underestimate the rate at which changes can be made provided the incentive to make them is large enough. In 1939, for example, every building in Britain was equipped with efficient black-out materials, every person was issued with a gas mask, identity card, and ration book, thousands of children were evacuated from cities into rural areas, and air-raid shelters were built or improvised to accommodate urban populations, all in a matter of weeks” (Allaby and Bunyard 192). All of this was done in preparation of an anticipated attack during World War II, and demonstrates exactly how much one country can do on *very* short notice when the welfare of its inhabitants was threatened. Because of the damage that energy wastage has inflicted on the environment, the welfare of all humankind is now threatened. We know what to do; now, let us just do it.

Adopting an Energy-Efficient Lifestyle: What the Average American Should Do

“Energy is critical for economic growth, social development and human welfare,” said the Honorable Shri Dilip Ray at the 1999 International Conference on Financing of Energy Sector in Developing Countries (Chaturvedi 29). However, it can also be detrimental to these necessary

features of human life by affecting the environment we live in. The environment, comprising “both social/economic and physical/environmental elements,” is currently being damaged by the side effects of energy wastage (Cloke and Park 35). This damage to the environment, including biodiversity loss, ozone depletion, health problems, and decreasing abundance or degradation of natural resources, is primarily due to the immense requirement of energy needed to fuel electric power plants which supply home appliances such as electric lights and heating and air conditioning systems with energy. “The total electric energy consumed in the United States annually is more than 20 trillion kilowatt-hours. Electric motors consume about 58 percent of that, or 13 trillion kwh” (Qayoumi 1). If we did not require as much energy to sustain our lifestyles, or in other words, if we lived in more energy-efficient homes and used more energy-efficient products, environmental damage could be substantially reduced. We could then derive the added benefit of having a reduced monetary cost for energy usage. Not much is required to reduce both monetary cost and environmental damage. “If the efficiency of every [electric] motor were improved by only 2 percent, and with an average electric cost of 6 cents per kwh, it would translate into annual savings of more than \$1 billion” (Qayoumi 1). However, we cannot expect to help heal the wounds we have caused to the environment if only a few people venture to adopt energy-efficient lifestyles. We must all learn why energy-efficiency is the simplest, most economically feasible way of preventing further damage to our environment, because if we do not, our environmental problems will only continue to mount.

This paper will focus on the advantages of owning earth sheltered homes over traditional, above-ground homes. These advantages will provide the primary reasons why most prospective

homeowners should consider owning an earth sheltered home. An earth sheltered home is defined here as a house partially or completely recessed in the ground, not completely covered by earth. It has windows and doors just like other homes. It also has utilities like electricity, running water, and sewage disposal that other homes have. However, earth sheltered homes also have other features that make them superior in energy savings, maintenance costs, design flexibility, temperature comfort, and aesthetic appeal than most traditional homes. My claim: People should become more aware of what earth sheltered homes are, and eventually, to gain enough information to decide constructing an earth sheltered home over building or moving into a traditional on-the-ground home. This is because earth sheltered homes have proven themselves to be superior in energy efficiency and comfort, and to be cheaper to maintain in the long run, than traditional homes of the same size.

Allaby and Bunyard describe a far-reaching reason for why humans have an innate sense to exploit and consume environmental resources, or being “opportunistic,” as they call it. “The abandonment of the arboreal niche and adaptation to life on the ground had been accomplished by man’s ancestors so that man was an opportunist from the start, and descended from opportunists. He never had an ecological niche of his own but lived by invading ecosystems and making the best of whatever he found in them” (11). There is nothing wrong with being opportunistic; indeed, organisms with the most successful adaptations and population numbers such as weeds, bacteria, insects, and many small mammals are opportunistic. By being opportunists, humans have been successful in conquering every landmass on earth except for Antarctica, have been able to survive in inhospitable frigid and arid regions, and have even spent months in the lethal conditions of space. We have harnessed more energy than is available to us through using biomass first, then animal labor, then electricity production, and most recently, the

immense energy locked within atoms. However, by doing this, we have consumed more resources and emitted more waste and pollution than any other form of life on earth.

In all of our opportunistic technological achievements, we have not learned to break the Second Law of Thermodynamics. This fundamental and inviolable law simply states that no physical system can be 100% energy-efficient. Most physical systems, such as gasoline motors and electric power plants, do not even come close. The ordinary incandescent light bulb, to give a simple example, is only 5% efficient in converting electricity to light. The rest of the energy is wasted as heat, and the higher the bulb's wattage, the more wastage of energy. Imagine how many light bulbs there are in your home, and multiply that number by the 109,800 households in the US as of 1996, but we know house construction has not stopped during the last three years and therefore there are more light bulbs today than ever (US Bureau of the Census). Then, imagine that all those light bulbs waste 95% of the energy coming to them. We might pay for the number of kilowatt-hours you use at the end of the month, but what we do not pay is the environmental cost of that energy wastage. Environmental cost, as Ehrlich puts it, are the "undesirable side effects of production or consumption that are not borne exclusively by the producer and consumer." These costs include health-endangering air pollution and contributions to global warming by the electric power plants we use whenever we keep our light bulbs turned on. We also use these plants whenever our homes require heating or air conditioning; "more electricity is consumed in the United States through the use of air conditioners than more than 800 million Chinese use for everything" (Allaby and Bunyard 170).

It is not difficult to practice energy-efficiency. Opponents of the transition to an energy-efficient lifestyle claim that it will cost more and will stifle business. However, energy-efficiency will create new jobs in technology research and development, manufacturing of

energy-efficient products, and remodeling and constructing more energy-efficient homes. This includes items like passive solar heating, by which a home's heat comes from the sun; thick insulation, as exemplified by earth-sheltered homes, to reduce or virtually eliminate energy wastage due to heat loss; and efficient fluorescent bulbs, which use no more than a fourth of the energy that common incandescent bulbs use. It is true that being more energy-efficient might have a greater initial cost, but the cost is very little in comparison to the benefits people will receive. For example, earth-sheltered homes are very energy-efficient houses partially or completely recessed in the ground, not completely covered by earth, with windows, doors, and all the standard utilities found in other homes. An architect of earth-sheltered homes tells us, "A properly built underground house...would probably cost 10 percent more. But the energy savings should be more than 50 percent--possibly 75 percent. The extra construction costs would be paid back very quickly" (Campbell 7). Earth-sheltered homes are great ways for individuals to live a more energy-efficient lifestyle. An owner of one writes, "I think all the world's people and critters should attempt to live together in a synergistic partnership in which everyone and everything co-exists in harmony with nature and the environment. I think earth sheltered houses and their lack of heating and cooling costs, both monetary and environmental, are one, very important way to accommodate this process" (Clair qtd. in Eco-Home Network 7). An earth-sheltered home is not the only way to achieve the goal of reducing both the economic and environmental costs of energy wastage.

There are those who will also argue, "Project financing involves many risks—commercial risks, market risks and governance risks. Responsibility for each must be assigned to the party best able to control and manage them—developers, lenders and/or the government" (Chaturvedi 15). This is not the viewpoint toward energy-efficiency projects that we should maintain. *Any*

individual can choose to become more energy-efficient. There is no party better able to “control and manage” an energy-efficient lifestyle than the individual. Just as it is more efficient for homeowners to sort their recyclables before recycling than to have a group of people sort everyone’s recyclables, “self-sufficiency in energy is more likely to be possible if it is attempted at the individual and community level” (Allaby and Bunyard 169).

We need to make the move toward energy-efficient living now, and the good news is that it will not be a difficult process to start. *Anyone* can do it. There are many ways to become more energy-efficient, such as using energy-efficient products like fluorescent light bulbs, buying earth-sheltered homes instead of traditional, non-insulated above-ground homes, and using forms of energy alternative to coal, oil, and nuclear power, such as passive and active solar energy for heating, and geothermal, hydropower, and wind energy—all of which will be explained in the next paper. There is little need to wait before deciding to adopt an energy-efficient lifestyle, especially in light of its benefits to society and the environment. “We should not underestimate the rate at which changes can be made provided the incentive to make them is large enough. In 1939, for example, every building in Britain was equipped with efficient black-out materials, every person was issued with a gas mask, identity card, and ration book, thousands of children were evacuated from cities into rural areas, and air-raid shelters were built or improvised to accommodate urban populations, all in a matter of weeks” (Allaby and Bunyard 192). All of this was done in preparation of an anticipated attack during World War II, and demonstrates exactly how much one country can do on *very* short notice when the welfare of its inhabitants was threatened. Because of the damage that energy wastage has inflicted on the environment, the welfare of all humankind is now threatened. We know what to do; now, let us just do it.

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lifestyle are easier to make.

- I. Introduction
- III. Why it is necessary to find a practical resolution to environmental problems
 - a. Examples of environmental problems
 - b. Growing problems pose a danger to humans because the planetary ecosystem is being destroyed
 - c. Causes of environmental problems
 - d. Because people are the primary cause, we are responsible for finding a solution to the problem
- IV. Why practicing energy efficiency at home is a simple solution to the problem
 - a. More than half of the nation's energy is used for household purposes.
 - b. We are intimately connected with our homes and would naturally try to make it a better place to live in
 - c. People will feel less pressured to practice energy-efficiency at home than at work
 - d. There are better chances at home for energy-efficient habits to be integrated into a family's lifestyle, since the home also serves as a classroom for energy-efficiency

V. Why practicing energy efficiency at home is an economical and practical solution to the problem

a. Anyone can do it

- i. simple forms of energy-efficient lifestyle changes do not require much monetary investment
- ii. Kids and adults can have equal contributions
- iii. A person living alone at home can practice energy-efficiency just as well as a large family can
- iv. It is more efficient for each household to conserve energy than for large, expensive programs funded by city, state, or federal governments to have to regulate energy use for the population.

VI. Examples of energy-conserving practices and methods

- a. Passive solar heating (reduces heating and cooling costs)
- b. Active solar energy (reduces or eliminates electricity and hot water costs)
- c. Earth-sheltered homes (reduces or eliminates heating and cooling costs)
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VII. Conclusion

Sub-claim: Propose to show this with other examples of energy efficiency (passive solar heating, insulating homes, active solar heating, geothermal energy, hydropower, wind energy)

Living an energy efficient lifestyle is a good thing because people are consuming less environmental resources and because of that, people can spend less to buy such resources.

Nature prizes simplicity. This is why energy efficiency is best; it uses the smallest number of resources.

However,

Claim: Buying an earth-sheltered home is a major step most people can take to reduce the environmental problems caused by inefficient energy use. Because an earth-sheltered home uses resources and energy more efficiently throughout its lifetime than any other residential structure, allowing its owners to save substantially on maintenance and utility costs, it is an ideal way for new homeowners to adopt a cleaner, more energy efficient lifestyle without having to pay more in the long run. Since the health of the environment is intricately linked to the health of humankind, solving our environmental problems is undoubtedly important; a good first step to take in solving these problems would be one that is accessible to everyone. The more people

there are participating to help solve our environmental problems, the shorter the amount of time until solutions to the problems are found.? There is no better place to exercise our ingenuity in solving environmental problems than at home, since homes are the most numerous point sources of pollution and energy loss in the United States, according to (). If every household in America could practice

(Define environmental problems.)

Evidence:

Warrant:

If you've ever lived on a farm or know anything about what farm life is like, you know how difficult it is for a family to approach or maintain a self-sufficient, sustainable lifestyle. It takes a lot of resources to clear land and build a home, and it takes even more resources to plant and harvest crops, feed animals, and to maintain the home. Most middle-class Americans are far removed from this kind of lifestyle; Middle-class Americans make up the majority of our nation's population, and consume much more energy and resources through

Yes, earth sheltered homes cost a little more than a traditional home to build. However, an earth sheltered home can easily pay back its construction cost within a decade in terms of energy savings. Also, because of their passive solar design, earth sheltered homes eliminate heating/cooling costs. The earth sheltered homeowner thereby helps to conserve resources such as firewood, natural gas, and fossil fuels used to make electricity for electric heaters.