Project Green Challenge Day5

> #Energy Youxuan Wei @ChrisCat



The United States currently relies heavily on coal, oil, and natural gas for its energy. Fossil fuels are nonrenewable, that is, they draw on finite resources that will eventually dwindle, becoming too expensive or too environmentally damaging to retrieve. In contrast, **renewable energy resources are constantly replenished and will never run out**.

Types of Renewable Energy





Opt For Renewables!

In the US, we rely heavily on renewable resources, and 50% of our energy comes from coal. Only 25% of our energy is generated from "clean" energy sources such as nuclear and Hydroelectric, and even nuclear can't escape the criticism of its highly radioactive wastes with no viable longterm containers. And that leaves us with just 6.5% of energy generated by a renewable source.

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Option #1... BULDING INSULATION

Building insulation is one of the best way to address our heating in the winter and air conditioning in the summers. The technique itself has been used by the arctic people for thousands of years. Insolation works by cutting off the contact, or transfer of heat, between the air inside and out of the house. The roofs, bottom floors, as well as all of the walls can be insulated with various materials such as foam, concrete blocks, and blanket batts. Building Insolation reduces our heating energy by 50%!!

> Note: the R-value measures the performance of the insolation. For example, a house in maine would need a R49-60. Check it out! https://modernize.com/home-ideas/33860/insulationtypes-pros-and-cons

Cons... Fracture in the insulation envelope is a big problem -Because insolation requires that the entire outer layer of a building to be insulated in one single peace, without any opening for the contact of air, one little sim can cause a leakage that destroy the whole system. Furthermore, materials more efficient than the regular fiberglass/foam is needed -for example, blanket batts have a R value of -3.9 per inch thickness, so you'll need layer and layers of it to make it work.

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Solution #2... **E-BIKES**

Electronic bikes are a common sight in my hometown, **China**. Not only does It **preserve the eco-friendly nature of original bikes**, the attached battery also gives it the convenience of **faster transit**, making it favorable to many populations.

E-bikes spurred a wave of a greener living style. In many cities, people completely opt for E-Bikes as their primary mode of transit instead of driving. Projected by Drawdown, E-bike implementation would bring 0.92 tons of CO2 reduction, and more than \$226.07 Billion in net savings by the year 2050. However, the upfront investment for E-Bikes is high, with the price ranging anywhere from \$1,000 to \$10,000. E-Bikes are unlikely to be kept as a downtime recreation tool.

Moreover, incorrect charging method for E-bike batteries are like to cause fire, with its cords stretching out through an window to the parking spaces in many instances in China.

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Solution 3...

BIOCHAR

Terra Preta is the soil in the picture above, concentrated with the presence of biochar. Biochar is an extremely Carbon-rich substance obtained from burning organic waste materials such as rice straws, peanut shells, and wood scraps underneath the soil, without the presence o Oxygen.

Biochar is especially beneficial in that it retains large amount of Carbon. This not only reduces the amount of CO2 in the atmosphere, but the fertility of the soil also makes it a highly viable energy source and growing ground for food that sees many future implications. However, the use of Biochar in the near future is still ambiguous. It lacks adequate studies done on the properties of the soil and its impacts on crops.

It has been found that Biochar can be a source of contaminant for heavy metals, and that Its high PH can have a negative effect on plant growth. Overall, the technique is not proven to be mature enough to be put into practical use.

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BUILDINGS AND CITIES INSULATION



45 秒前

xristywei 和 chriscat_gogreen 赞了 chriscat_gogreen #PGC2017 #DAY5 ♥GREENER♥

Insulated water bottles keep your water warm in the winter, right? And that requires ZERO ENERGY. Same thing with buildings --A building's exterior walls, roofs and floors can be insulated in the same way to keep the inside air from contacting the outside. It's a technique that has been used for a thousand years by the arctic people. Insolation not only keeps our houses cool in the summer and warm in the winter - it saves SIXTY PERCENT OF ENERGY used to cool our homes, energy that is SIMPLY WASTED. @turninggreenorg

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Conclusion...

To me, all three solutions are eye-opening and very interesting. They promise us a better future with a greener environment at no cost of our ways of life.

In lieu of practicality and sustainbility, I chose **building insulation -Not** only is the technique mature and already used, improve materials had already been researched on as well. Moreover, I think that the problem of home&buildings is one that is most prominent to my everyday life, and is something that I can improve upon in my power. Therefore, I decided to adopt insulation.