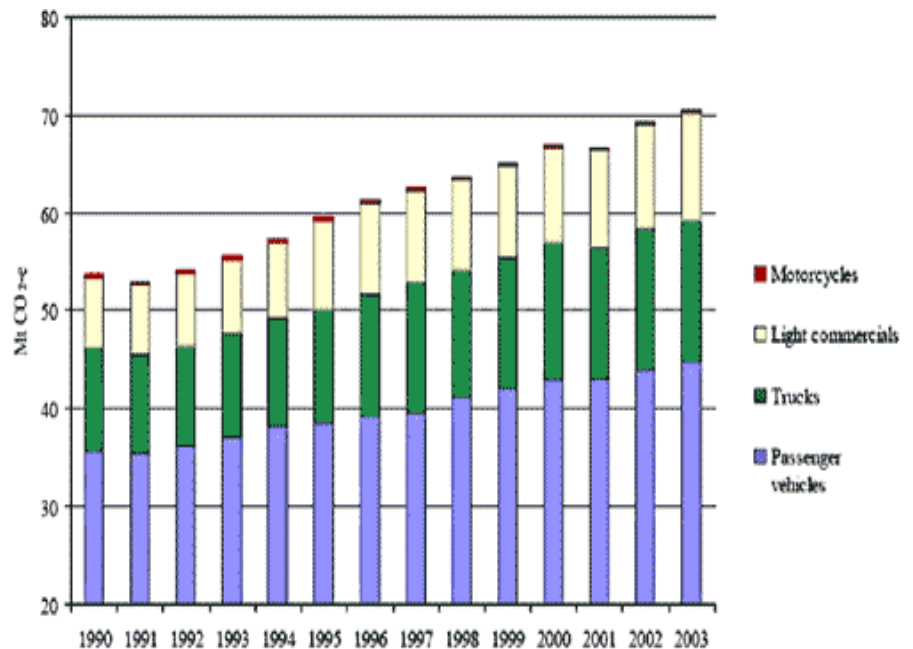


### Intro

The world we live in is slowly being stripped of its resources. The combination of human pollution and our need for fossil fuels is causing major stresses on the environment and us as a species. Something must be done if we are to keep living on this planet. There are, however,

alternate sources of energy that are much more environmentally friendly and virtually no pollutions. The technologies are here but we need to enable them to be part of our everyday lives in order to have any hope of change. These exciting new



(Fig 1 US Vehicle CO2 Emissions)

technologies, such as Hydrogen and Geothermal energy can help us to progress while leaving the environment intact and healthy.

### Transportation

Private transportation is one of the most devastating pollutants, and we contribute to it by driving to work every day. This includes busses, trains, planes, boats, and of course your car. The average 2001 SUV produces 12.2 tons of CO2 gas per year, that's

just one car! (Fig 1) These statistics get worse as cars age they get less miles to the gallon and produce more toxic gases as filters and converters get old. One technology that is already in effect is the Hybrid technology. Hybrid cars have a normal gasoline motor but in addition have an electric motor with several batteries that recharge while the car is running on gas. The electric motor kicks into gear when needed, such as driving up a steep hill. A normal car would have to use a lot of extra gas to get up the hill, but because of the electric motor it doesn't have to (eartheasy.com). Even though this technology reduces the need for gas, it doesn't get rid of it.

### **Fuel Cells**

This is where Fuel Cells play into the game. Also known as hydrogen fuel, Fuel cells are very fuel-efficient and produce no pollution what so ever! Fuels cells are electrochemical energy conversion devices. They produce electricity through the combination of one Hydrogen atom and two Oxygen atoms. The only emission a hydrogen engine would give off is water. The car would be driven by electric motors and would run much more quietly than conventional methods (auto.howstuffworks.com). This technology can be employed into any form of transportation possibilities are endless. These technologies produce amazing efficiency and will help our species restore the environment and keep it in a state of balanced equilibrium.

### **Heating and Cooling**

Aside from Transportation there is also a lot of energy that goes into the heating and cooling of our homes. In the city of Boston it costs an average of \$1,635.94 per season (therealestatebloggers.com). The rise in cost is because natural gasses and fossil fuels are getting more and more scarce. Even if a home has electric heat, that electricity is

most likely produced in a coal power plant. This is not good from the environment. However, there is an alternate energy that you can use to heat you home in the winter. You can make your House solar. Photovoltaic Cells use the sun and convert the light into electricity. This is accomplished by placing solar panels on the roof of your house. Now this can be an expensive initial investment, but in a few years it will pay for itself time and time again. However you don't need photovoltaic cells to have a solar house. You can simply build a house so it's more energy efficient. This is done by first off positioning your house "True" south. Secondly, you would want to place a majority of your windows on the south facing side of the house, this allows for maximum absorption of the sun's heat. Since a majority of the wind in the u.s. comes from north and west you would want to plant small trees on the northern and southern side of your houses property. This helps maintain the temperature in your house. This is by far one of the most efficient ways to heat your house without using fossil fuels ([builditsolar.com](http://builditsolar.com))

### **“Going Green”**

One couple that built their house under these conditions added another feature. Under their foundation they placed a concrete box filled with small stones. In the stones, they laid down corrugated pipes attached in a rib pattern with one large pipe going down the center. Then they have a massive chimney like column running up the center of their house 'to the attic. In every room on the ceiling on the second floor there are intake vents with electric fans. The sunlight comes in through their south facing windows and radiates the room and rises to the second floor. The intakes on the second floor suck the air in and push it down the column into the sand and pebbles below their house. This heats the underside of the house using the sun's energy. Last year they spent just \$100 heating their

home, This helps maintain a stable environment while allowing us to go about our daily lives (real life).

### New Frontiers

Aside from heating your home, you need to keep it lit and running through the means of electricity. Without electricity we would have trouble communicating and doing something as simple as cooking dinner. Coal power plants are a big environmental threat, 59 percent of all electricity produced in the U.S. is produced by coal power plants. 14 percent is produce by nuclear energy, through initially more environmentally friendly, nuclear plants are potentially dangerous and their nuclear waste is not good for the environment. It takes

years for the waste to decompose. There are many other forms of energy that we can derive electricity from that are much more environmentally friendly.

One being water turbine.



These turbines are placed in a dam (Fig 2 Offshore wind farm)

and use the force of the water to produce electricity. Though controversial, this is a very efficient source of energy. Another very environmentally friendly form of energy is wind. 'Windmills have zero pollution'. They are cheap and can be placed in any field with strong wind. Some wind farms are event built out on the ocean where they can receive

maximum amounts of wind. Lastly one of the most efficient new age power plants is one that uses heat from the earth to heat up water to spin turbines. Geothermal energy is very environmentally friend and is totally self-sufficient. It only uses water and the earth's natural heat (en.wikipedia.org).

### **Conclusion**

Something must be done to either slow down or stop green house gas emissions all together. There are many alternate energy sources in our world that we can use that are much more environmentally friendly than the ones currently in use. These new sources of energy can help with public and private transportation, heating and production of electricity. We need to start making a major change so we can preserve and protect our environment. If we don't, we might disappear along with its ability to sustain life.

# Reference

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