IPRO 331

Who are we?

We are a team of undergraduate students from the Illinois Institute of Technology. We come from different backgrounds and majors, providing different views and ideas. The Interprofessional Project Program is a way for students to learn as a team while brainstorming to solve a real world problem. Students are also able to learn project management skills and communication skills.

Our Purpose

We intend to spread the facts about global warming to raise awareness as this issue becomes increasingly more important.

How can you contact us?

If you would like to learn more about our presentation or schedule a presentation at your site please contact us at:
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Illinois Institute of Technology

IPRO 331 SPRING 2009

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Global Warming and Community Outreach

Educating people about the scientific facts concerning global warming

What Is Global Warming

The average surface temperature of earth has increased more than 1 degree Fahrenheit since 1900, and the rate of warming has been nearly three times the century-long average since 1970. Experts agree that human activities, mainly the release of heat-trapping gases from smokestacks, tailpipes, and burning forests, are probably the dominant force driving the trend.

CO_2, Fossil and Bio Fuels

Fossil fuels (coal, gas and petroleum) are of great importance because they can be burned to produce heat. In the U.S., more than 85% of greenhouse gas emissions, primarily CO_2, come from fossil fuel combustion. Fossil fuel deposits are finite and not being replenished. Biofuels are derived from plants which recycle CO_2 by consuming CO_2 to make carbohydrates and then regenerate CO_2 when combusted.

The continued use of fossil fuels (until depleted) will inevitably lead to environmental destruction, which in turn, would cause failed economies, political instability, and global conflicts. Alternative technological advances must be pursued. Some studies have found that not all biofuels are actually green. Second generation bio-fuels may be a viable renewable energy source.

Polar Regions

The Polar Regions often serve as a barometer for global warming. The consequences of global warming are the decrease in the Earth's snow and ice cover, which would increase the global absorption of solar radiation. This event will significantly melt the land ice and increase sea levels. Average temperatures in the Arctic are rising twice as fast as they are elsewhere in the world. In Alaska (USA) temperatures have increased on average 3.0°C (5.4° F) between 1970 and 2000. These raising temperatures are affecting the ecosystem in the Polar Regions. Sea level rise will displace a large fraction of the world's population from coasts as well as inundate low lying agricultural areas.

Solar Energy

Solar power plants for sources based in high solar energy impacted areas with power distributed via grids where local sources are not cost effective, plus local sources where more cost effective, will come to dominate. Space satellite solar energy harvesters may ultimately come into play. Solar power plants may soon begin replacing coal-powered electricity plants and solar technologies will become more widely available for the general public. Implementing solar technology is costly in the short term but in the long run it is a cheaper and much cleaner alternative to fossil fuels.

Wind Energy

Wind power is one of the most abundant and free energy sources available. The technology to take advantage of this power is already in place, and all it needs is more people to become aware of its potential. Wind energy produces no greenhouse gas emissions, and there is little to no impact on wildlife or terrain. Wind energy will be important in limited areas as a near term intermediate and supplemental source of electrical power but is unlikely to satisfy a significant fraction of the world's needs into the indefinite future.

Nuclear Energy

Before renewable sources of energy can be fully developed into affordable energy, we should introduce a transitional method that will help limit the emission of green house gases. The most promising is nuclear energy, which uses nuclear fission to produce power. It has no emission of CO2, SO2, and NOx. Chernobel and Three Mile Island have dampened enthusiasm in the US putting us far behind France, for example, and further aggravating the gap in part because of the long lead time and capitalization needed to build safe nuclear reactors. The safety procedures and design for nuclear reactors have vastly improved, periodic inspections are conducted, and reactors are strictly secured by federal agencies. Nuclear energy is affordable as well as efficient.