



# **I PRO 331**

# **Global Warming and Community Outreach**

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**Advisor and Literature Consultant: Carol DiBiak**

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**<http://www.iit.edu/~iitgreen>**

# Why is our project important?

- Global warming affects everyone
- Awareness leads to solutions and everyone can do their part
- There are many misconceptions about global warming
- Offers a foundation for people to form opinions

# What were our obstacles?

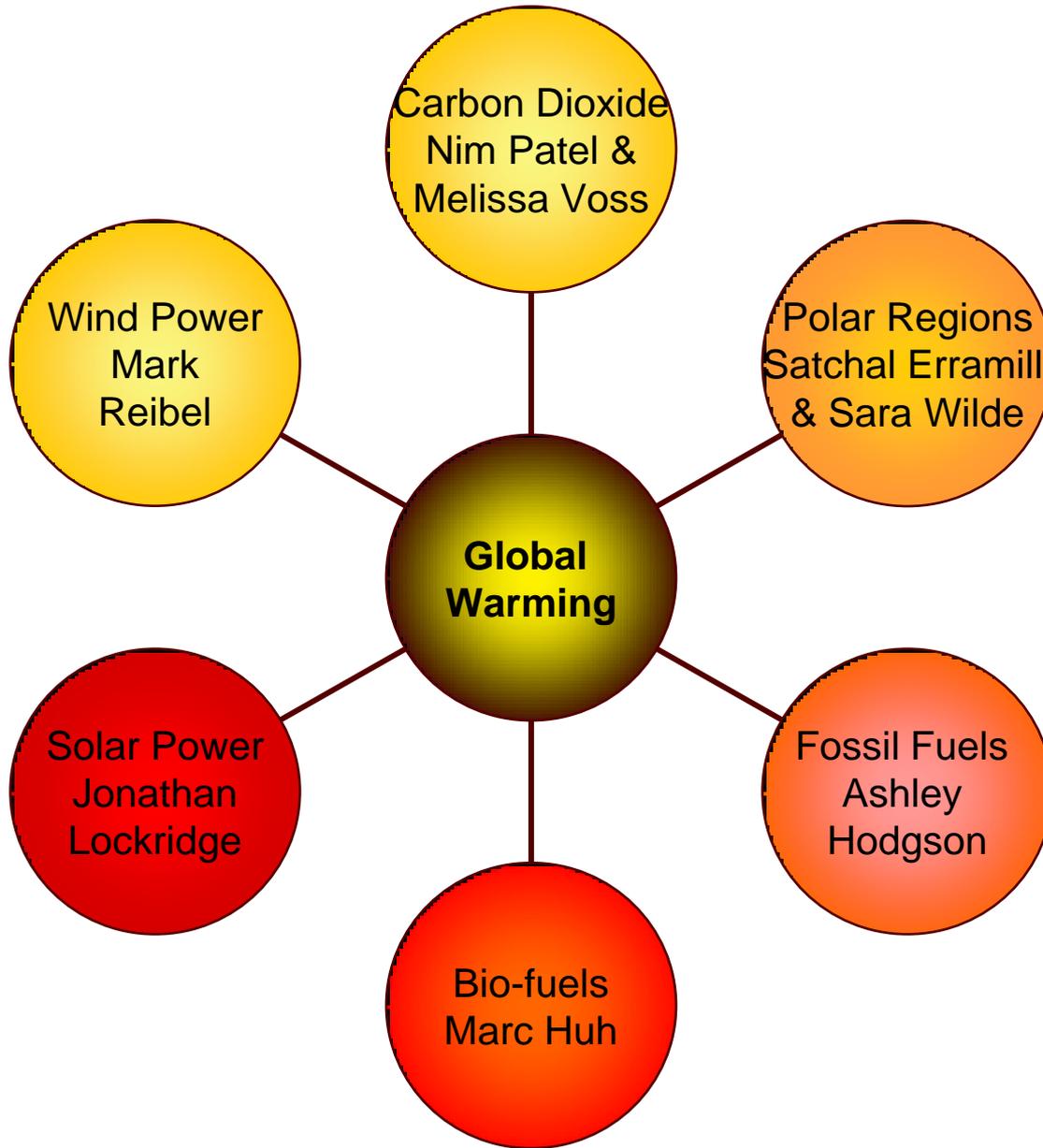
- Finding information
- Compiling our information
- Finding audiences
- Presentation time constraints
- Presenting to various age groups
- Traveling and scheduling



# Our Approach



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# Previous work done in IPRO 331

- Presentation from previous IPRO provided a foundation
- Focused on the four of the same topics: Carbon dioxide, polar regions, fossil fuels, and solar power
- Added wind power and bio-fuels to presentation



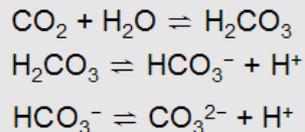
# Creating our Presentations

- Adjusting our presentations for different age groups

## Carbon in the oceans



- Carbon dioxide dissolved in water increases hydrogen ion concentration
- This results in ocean acidification



## *What are the consequences?*

- As carbon dioxide is absorbed into the ocean, the water becomes more acidic.



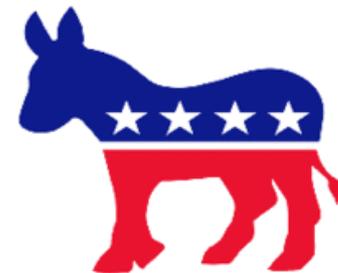
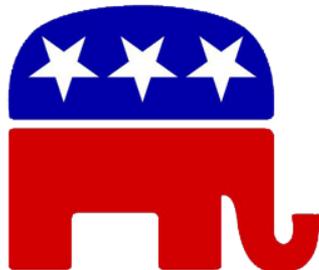
# Benefits of Community Outreach



- Increasing audiences' knowledge about global warming
- We are able to directly communicate with people such as high school students
- We can answer questions and discuss the issues of global warming
- Motivate audience to learn more about global warming issues

# Risks, Challenges, and Ethical Issues

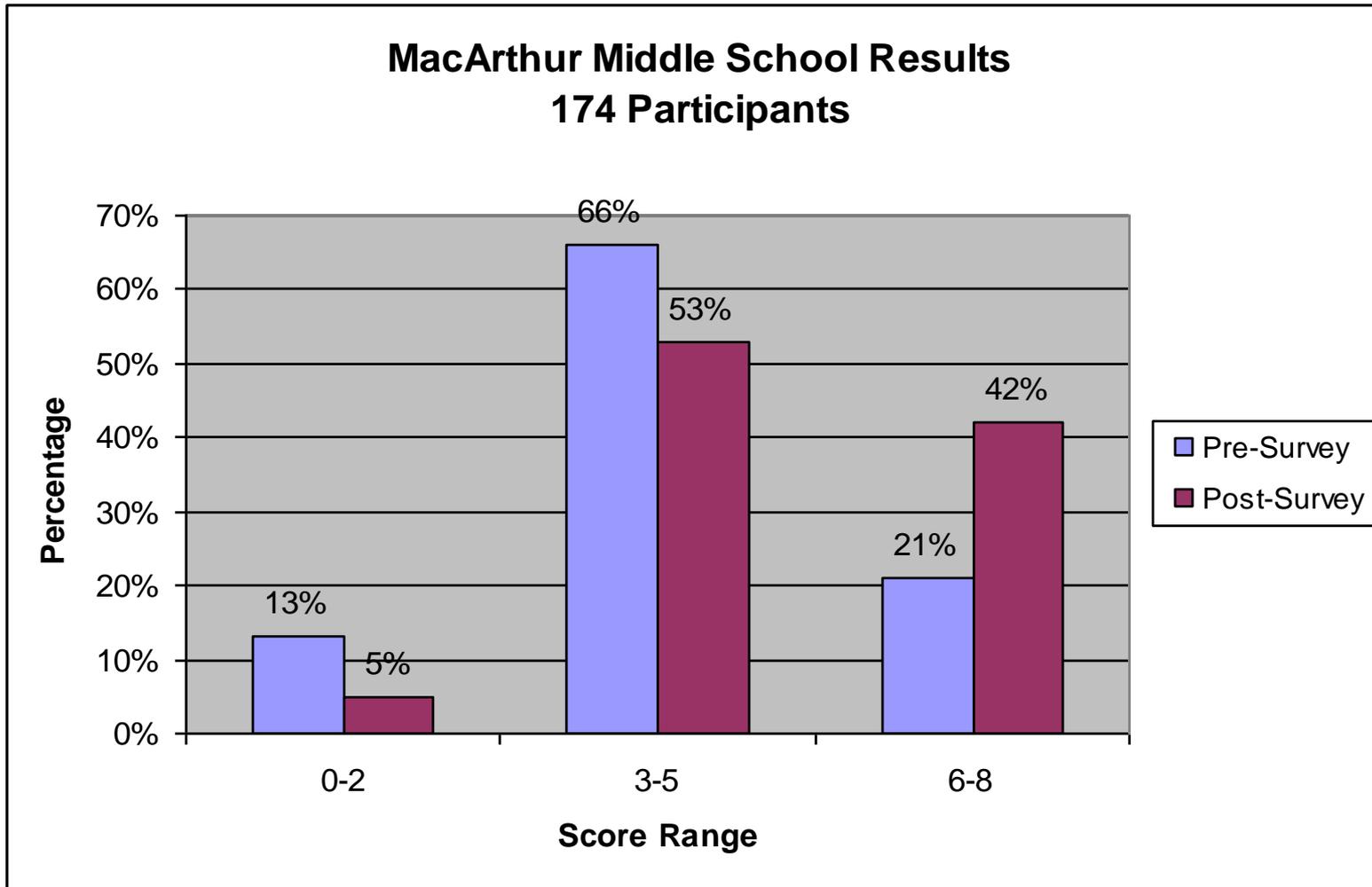
- Including politics
- Presenting biased information
- Not following Institutional Review Board requirements
- Providing material that is too technical



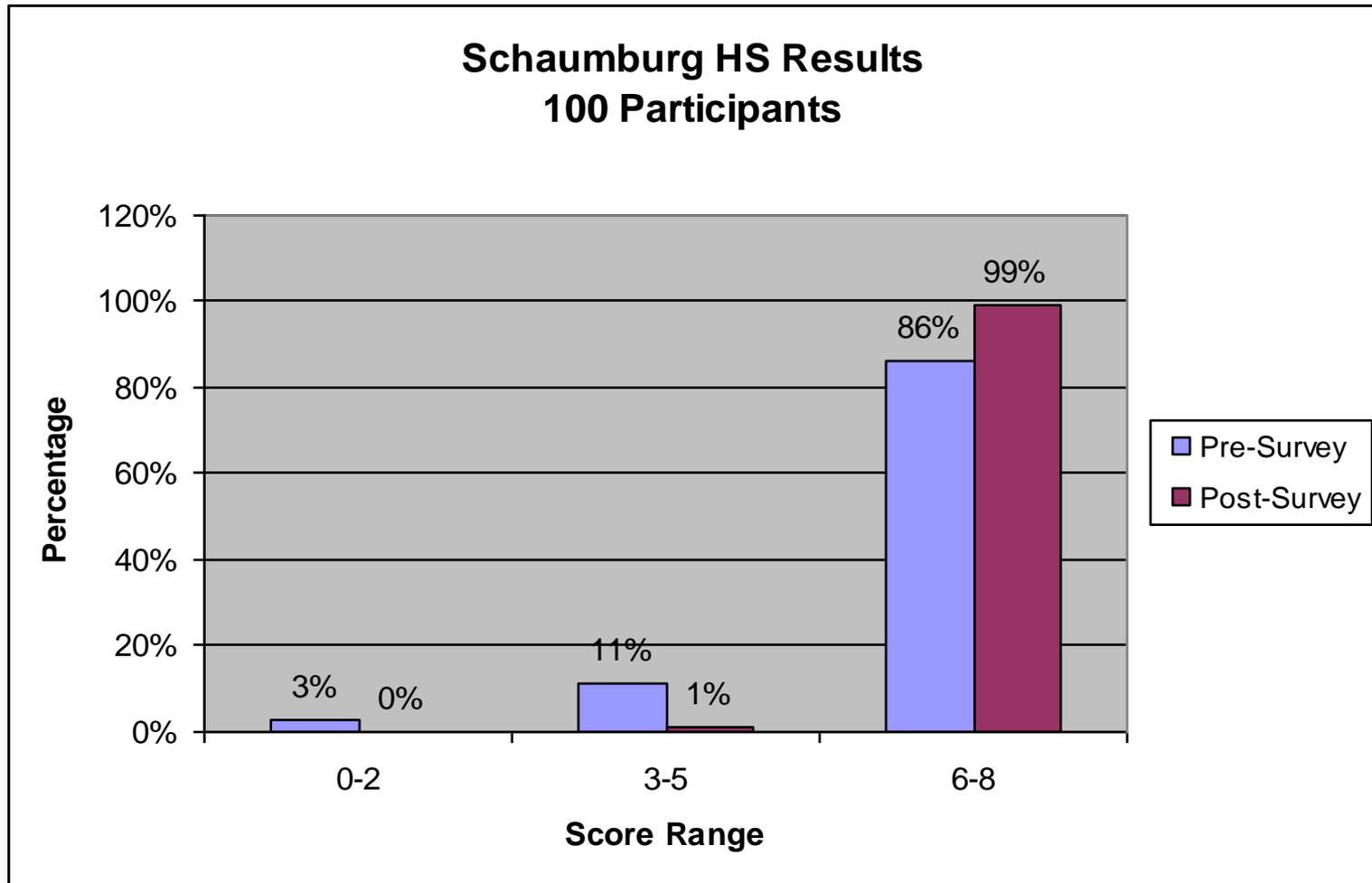
# Quantitative Analysis

- Pre-presentation survey and post presentation survey
- 1 point per correct answer
- 3 scoring ranges: 0-2, 3-5, and 6-8
- Allowed us to determine what percentage of people scored in each range
- Trends

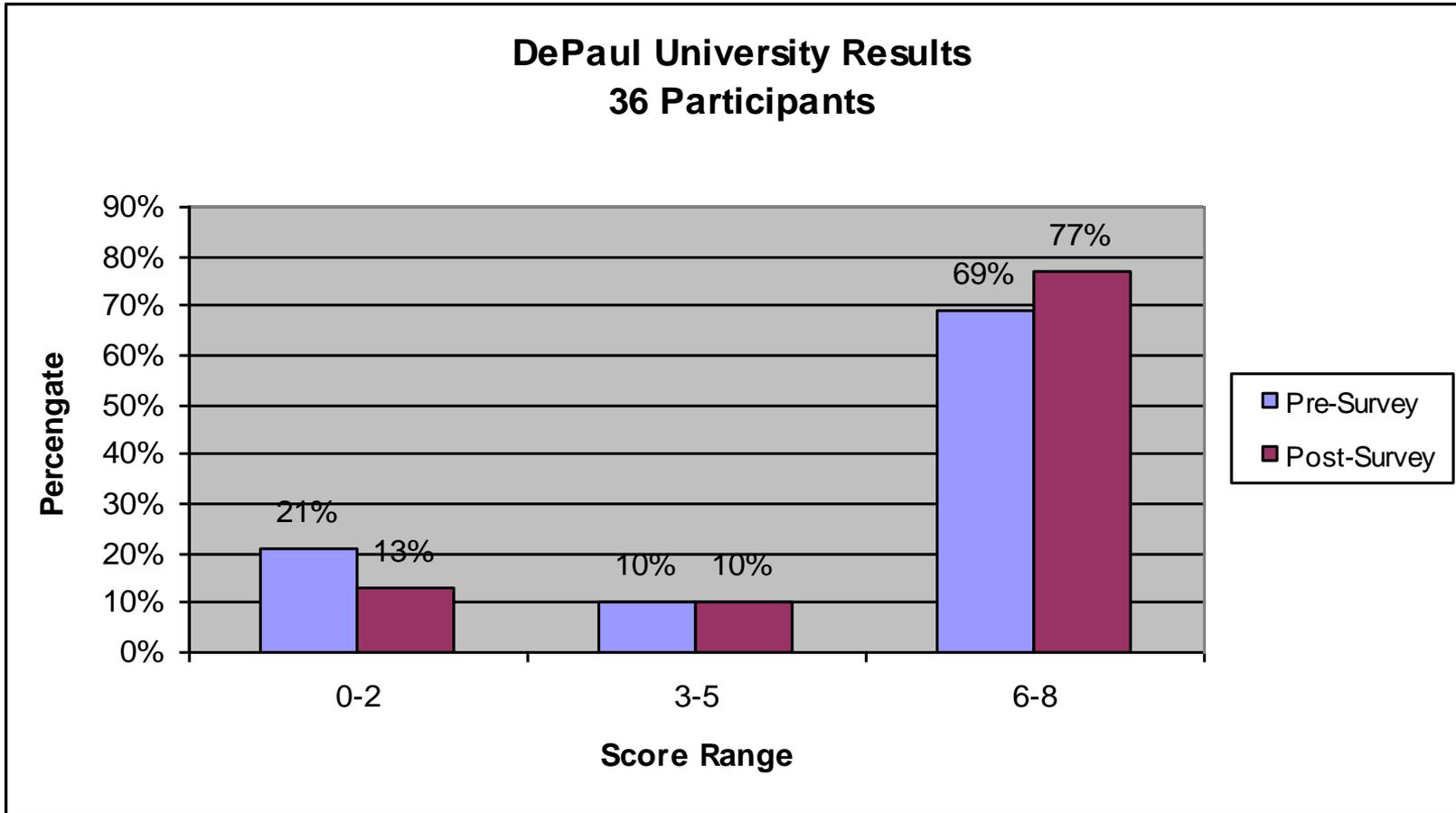
# Survey Results



# Survey Results



# Survey Results

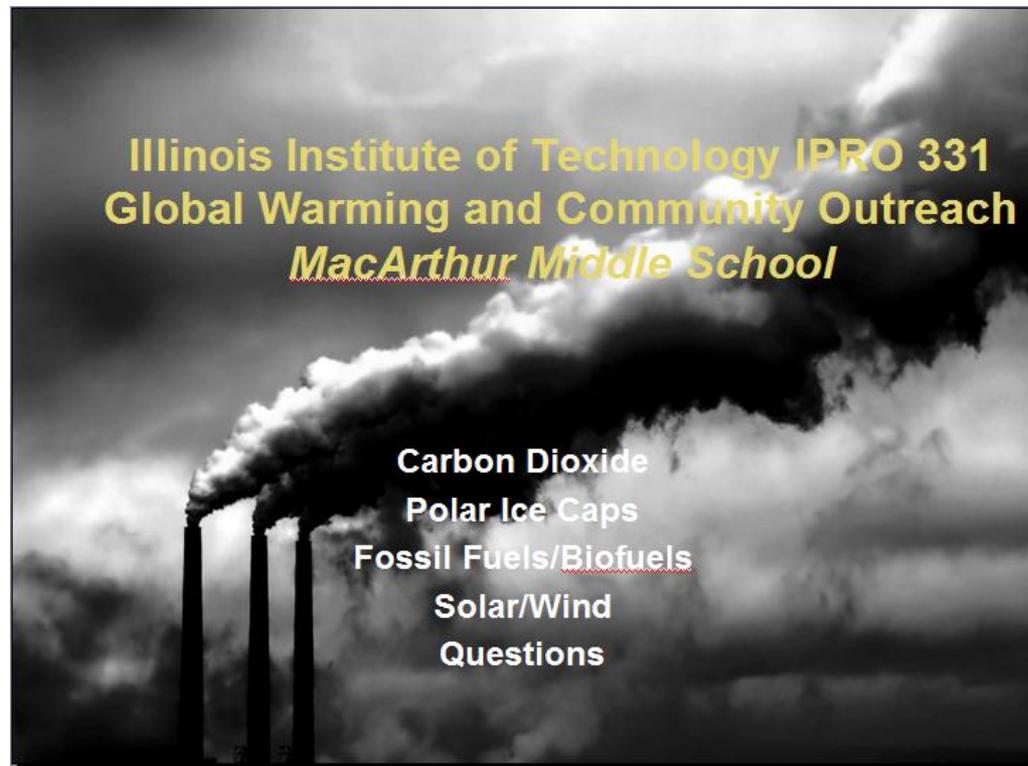


# Our Methods

- Creating a presentation containing all subgroups
- Constructive feedback on projects
- Brainstorming about potential audiences and contacting people
- Analyzing survey results to obtain feedback

# Accomplishments

- Updated presentations
- Subgroups presentations were combined



# Accomplishments

- New brochure

IPRO 331 FALL 2008

## Global Warming and Community Outreach

Educating people about the scientific facts concerning global warming



### Global Warming

#### Carbon Dioxide

Greenhouse gases consist of gases in the atmosphere that trap the infrared emissions that the earth tries to reflect back into space. Carbon Dioxide is the biggest contributor to this effect. While carbon dioxide is a naturally occurring gas, its concentration in the atmosphere is increased due to the burning of fossil fuels and the manufacturing of cement. The carbon dioxide produced from such productions not only adds to the atmospheric concentration but also becomes trapped in the oceans. Its effects have a vast spread from the inability of sea life to make shells to an increase in extreme weather conditions like hurricanes.



#### Fossil Fuels and Bio-fuels

The global demand for oil is rapidly increasing in the midst of expansion of such developing countries such as India and China. Currently, fossil fuels account for 85% of global consumption of natural resources and it is well known that they are the greatest contributors to global warming due to high carbon emissions.



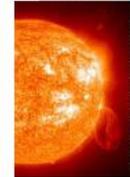
Continued use of fossil fuels will inevitably lead to environmental destruction, which in turn, could cause massive economic downfall, political instability, and global conflicts. An alternative is to actively pursue technological advancements in the production and use of bio-fuels. Bio-fuels, however, hold inherent flaws when considering their effects on the global economy and their potential inefficiencies. Thus, it is essential that we look at both sides of the bio-fuels debate. With efficient conversion of a new generation of bio-fuels, is it a viable alternative that can supply the global energy needs?

#### Polar Regions

The polar regions often serve as a barometer for Global Warming. It has been observed that these regions have melted significantly due to rising global temperatures. This has contributed to sea levels rising at a rapid rate. Rising sea levels could wipe out low lying lands, and destroy the habitats of the naturally occurring flora and fauna of those areas. The decline of glacial regions is also wiping out critical sources for water supply in several regions around the world, most notably the Himalayan polar caps. Recent estimates suggest these sources could dry up within 25 years. Additionally, as glaciers melt, the natural habitats for animals such as polar bears, walrus, foxes, and many others will be wiped out, endangering those species.



### Solar Power



The Sun is the single greatest source of physical energy at the disposal of mankind. Solar power can be used to produce electricity and heat. This presentation outlines a few of the ways that solar energy is being captured, converted, and put to use in housing applications. Solar power plants may soon begin replacing coal-powered electricity plants and solar technologies will become more widely available for everyday people. Our goal is for the audience to walk away with a basic understanding of how solar energy can be captured and used, the benefits of using solar technology, and the challenges of implementing solar technologies.

### Wind Energy

Wind energy, along with solar power, is the most abundant and free power source known to man. It is a renewable, environmentally friendly power source that is available in every region of the globe. 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. The cost to build is cheap compared to current energy methods and there are no greenhouse gas emissions. There is little to no impact on wildlife, terrain, or our wallets. Once the price of wind is known, there is no chance of fuel price inflation, as the price of wind is fixed. In the long run, wind has the power to be one of the key constituents that will meet our energy needs without forcing us to change our way of life.



## IPRO 331

### Who are we?

We are a team of undergraduate students from the Illinois Institute of Technology. We each 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: [globalwarming@iit.edu](mailto:globalwarming@iit.edu)

# Accomplishments

- New website:  
[www.iit.edu/~iitgreen](http://www.iit.edu/~iitgreen)

## [IPRO-331's Home Page](#) [Global Warming Study and Community Outreach](#)

For abstract and ppt slides contact: [iitglobalwarming@gmail.com](mailto:iitglobalwarming@gmail.com)



Our IPRO-331 Team is working at [Illinois Institute of Technology](#).  
Our Team Consist of 10 students from different Majors under advising of Prof. Peter Lykos(CHEM DEPT.) and Carol DeBiak(Galvin LIB.)

**Content of this Website:**

There are Four Sub-Groups in this IPRO, to go on each Sub-Topic click below:

- 1) [Bio-Fuels and Fossil Fuels](#)
- 2) [Solar Groups based on Architectural Point of View](#)
- 3) [Carbon Dioxide](#)
- 4) [Polar ICE Caps](#)

- > To Watch our video click on [Community Outreach Clip 1 and Clip 2](#)
- > To Watch our midterm review video click on [Midterm Video](#)

1) [Biofuels and Fossil Fuels](#)

The burning of fossil fuels produces CO2 and other green house gases, which are the driving forces behind the Global Warming debate. Over 85% of the World's energy is derived from the burning of the fossil fuels: coal, oil and natural gas. We know these sources

Spring 2008

Fall 2008

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- Facilitators
- Related Links

### Global Warming & Community Outreach

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## The Global Warming Debate Continues

For years, global warming has been at the top of the list for discussion and debate. You see it in the newspapers and hear politicians talk about it. But do you really know what's going on? More importantly, do you know what's being done to stop it? Now's your chance to become informed and educated.

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**Recent Headlines:**

**The Wall Street Journal (Dec 3, 2008):** We Need a Global Carbon Tax  
[Click here to read more](#)

**LATimes (Dec 3, 2008):** Solar thermal projects gather steam -- and opposition  
[Click here to read more](#)

**FPN (Dec 2, 2008):** Global warming could harm Pacific food security: UN  
[Click here to read more](#)

**NYTimes (Dec 1, 2008):** Carbon Detectives Are Tracking Gases in Colorado  
[Click here to read more](#)

**NYTimes (Dec 1, 2008):** A New Understanding of Iceberg Formation May Aid Climate Studies  
[Click here to read more](#)

**Seattle PI (Nov. 30, 2008):** Biodiesel sold overseas still gets U.S. tax credit  
[Click here to read more](#)

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# Accomplishments

- Created a unified email address:  
globalwarming@iit.edu

iPlanet™ Messenger Express    Welcome Global Warming

Folders **Inbox** Sent Trash Drafts Addresses Options

globalwarming@iit.edu: **Inbox**

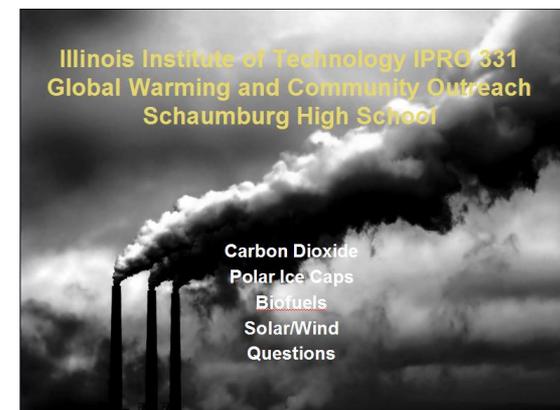
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<input type="checkbox"/>					Leah Radinsky	<a href="#">presentation request</a>
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<input type="checkbox"/>					Marvin Bowen	<a href="#">RE: global warming presentation</a>
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<input type="checkbox"/>					Leah Radinsky	<a href="#">Re: presentation request</a>
<input type="checkbox"/>			📎		Francisco Aguilar	<a href="#">GLOBAL WARMING PRESENTATION</a>
<input type="checkbox"/>					John Kwame	<a href="#">HELLO</a>



# Accomplishments

- Increased outreach from last semester
- 13 Presentations
  - MacArthur Middle School
  - DePaul Chemistry Club
  - DePaul General Chemistry Course
  - Schaumburg High School
  - Chicago Bee Library
  - Whitney Young High School
  - Science Chicago



# Plans for Spring 2009

- Increase community outreach
- Update and increase content on website
- Collaboration with Chemistry 410 “Science of Climate Change” is an option
- Looking at other potential causes of global warming
- Create multiple power points suitable to audience interest
- Incorporate videos and animations into presentations

# 2009 Outreach

- Outreach contacts have already been established for next semester
  - Oak Park Arm Retirement Home
  - Naperville Nequa High School
  - Naperville Public Library
  - FermiLab Open House
  - Schaumburg High School

# Global Warming and Community Outreach

