

# *Climate Change*

Ethics: The Environment  
Summer 2012, Laura Guidry-Grimes

# More on the Debate

- ◎ “The Truth about Global Warming: Science & Distortion”
- ◎ Is global warming that is outside the scope of natural cycles a real phenomenon?
- ◎ Do humans have a role in climate change, or could we?
- ◎ What is an ethically appropriate way to respond to the risk of global warming and catastrophe?

# State of Scientific Data

- ⊙ Earth's temperature: relationship between energy absorbed and energy emitted back
- ⊙ Greenhouse gases absorb infrared radiation
  - > Carbon dioxide, methane, perfluorinated compounds
  - > Stay in atmosphere for very long time (“as far as climate policy is concerned, we can think of them as permanent” (14))
- ⊙ Gases mix in atmosphere → global repercussions

# State of Scientific Data

- ◎ Pre-industrial CO<sub>2</sub> levels: 280 ppm
  - > Current: 380 ppm
  - > Concentrations increasing 2 ppm/yr
  
- ◎ Annual global greenhouse gas emissions:
  - > 60% from fossil fuels
  - > 18% from forestry
  - > 13.5% agriculture

# State of Scientific Data

## ○ Uncertainties:

- > Which nations contribute most to climate change (depends on measures used)
- > Some temperature data
- > Which models best represent complex factors at play
- > Extent of emissions of non-CO<sub>2</sub> gases
- > Climate sensitivity (how much global avg surface temperature will increase with the doubling of CO<sub>2</sub>)
- > Expected effects of climate sensitivity (technology? population? lifestyles?)

# Anthropogenic?

- ◎ Onus of proof on those who deny it
  - > How can the temperature record be explained, given natural climate variability does not track what has been occurring?
  - > Why is increased CO<sub>2</sub> in the atmosphere *not* trapping heat?

# Implications

- ◎ Poor countries will suffer most
  - > In warm regions, near equator
  - > Least able to respond
- ◎ If business continues as usual, future generations will suffer more than we will
- ◎ “if the climate is very sensitive to carbon concentrations, wealthy nations may have the most to gain from reducing emissions” (12)
- ◎ Climate change can threaten “global welfare”
  - > Markets, migration, national security

# Policy Options

- ◎ “global emissions reductions at a fairly stringent level likely pass a cost-benefit test” (20)
  - > Should promote global welfare
- ◎ Take steps to help the most vulnerable countries
  - > “Some countries are extremely likely to be hurt regardless of climate sensitivity” (25)
- ◎ Precautionary principle?
  - > “nations might be willing to enter into a climate treaty as an insurance policy in the event of a catastrophe”
  - > 1% chance of catastrophe (+7° temperature w/ doubling of CO<sub>2</sub>)...
  - > Is it unfair to resource-poor nations *not* to take action now?

# Debate!

- © How should we prioritize environmental problems? What ethical obligations take precedence in today's world?

# Discussion Questions

- ⦿ What do you think justice and fairness require re: climate change?
- ⦿ What do you think is the most prudent policy option?
- ⦿ What responsibilities do scientists have to the public?
- ⦿ Do you think the precautionary principle is ethically appropriate?
- ⦿ Should low development countries have a recognized right to industrialize? If so, should they be allowed to industrialize in the same way as (say) the US has?

*Questions? Comments?*