

Two Topics:

- Ethics, Energy Technology and Climate Change Policy
- Values, Uncertain Science and Climate Change Policy

Two Objectives:

You will...

- Better understand some ethical considerations in making energy policies
- Better understand the relationship between values, science and climate change policy

Ethics, Energy Technology and Climate Change Policy

- Intergenerational Justice
- Carbon cycle
- GHG Concentration Targets
- Stabilization
- Date of Technological Transition
- Climate Change Policy and Energy Policy
- The Judgment of Future Generations

Shue's Thesis

We have strong moral reasons involving responsibilities to future generations for an aggressive search for alternative sources of energy—sources other than coal, oil, and gas.

Henry Shue, "Responsibility to Future Generations and the Technological Transition"

Article 3, 1992 U.N. Framework Convention on Climate Change

- “The Parties should protect the climate system for the benefit of present and future generations of humankind, on the basis of equity and in accordance with their common but differentiated responsibilities and respective capabilities. Accordingly, the developed country Parties should take the lead in combating climate change and the adverse effect thereof.”

Intergenerational Justice

- “Given our limited knowledge of people who will live in the future, how should we relate to them under conditions of risk and uncertainty?”
- “In what ways should the interests of subsequent generations guide present decisions?”

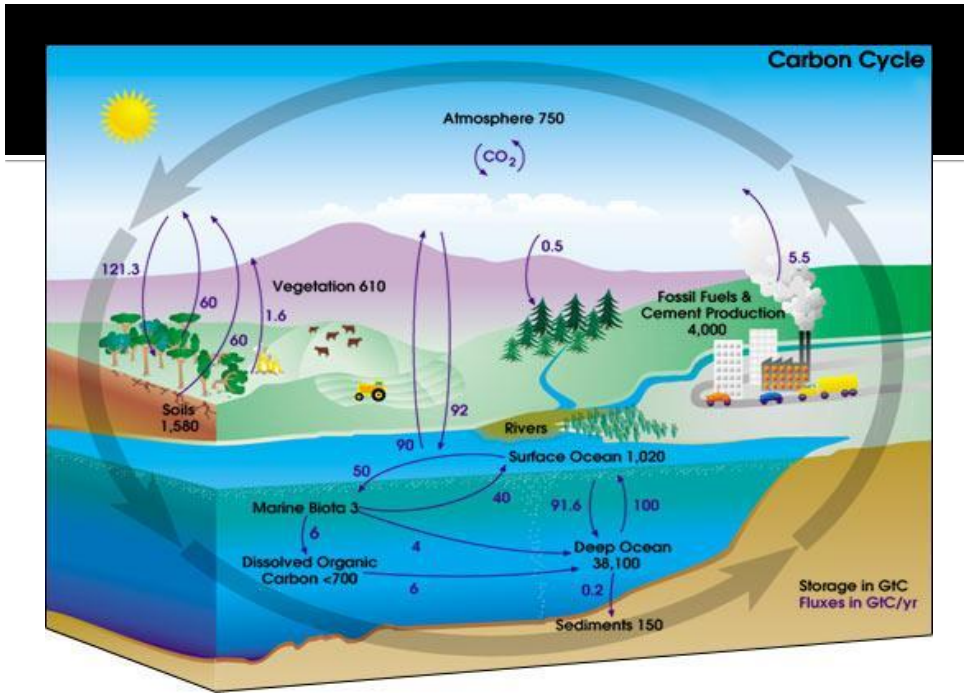
John Broome, *Counting the Costs of Global Warming*

“It is people who are now children and people who are not yet born who will reap most of the benefits of any project that mitigates the effects of global warming.”

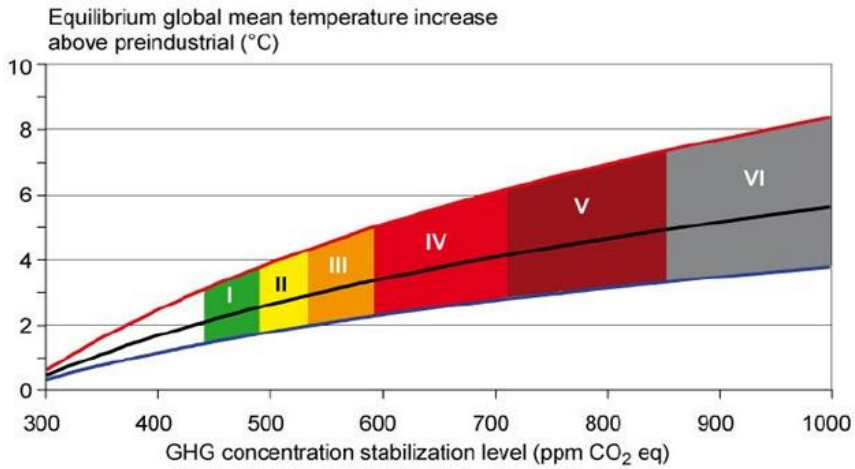
Goal



To achieve a *fair and effective* global response to climate change.



Stabilization



“There is a general consensus among scientists that the level of CO₂ in the atmosphere is on pace to exceed 450 ppm, a level that could result in unpredictable catastrophic events. Therefore, an effective global climate strategy must aim to limit CO₂ emissions to a level 450 ppm or less (Athanasίου and Baer).”



**Avoiding Dangerous
Climate Change**

2005 international conference that examined the link between atmospheric greenhouse gas concentration

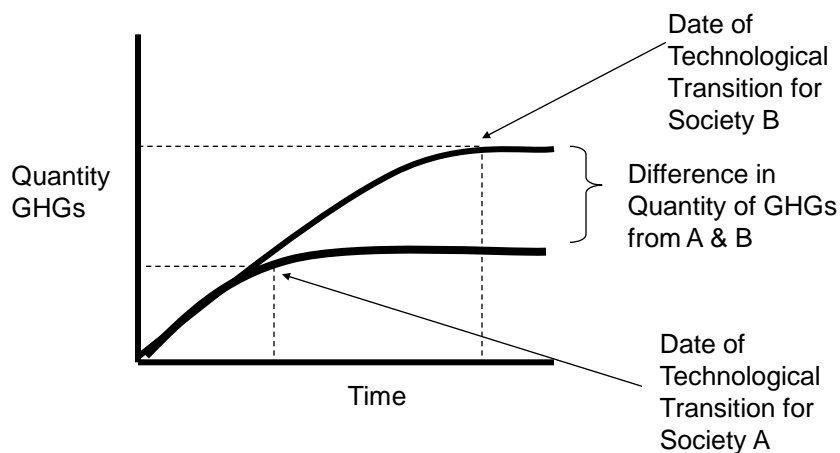
The most serious effects of global warming might be avoided if global average temperatures rose by no more than 2 °C (3.6 °F) above pre-industrial levels (1.4 °C above present levels). To achieve this greenhouse gas concentrations must be kept below 550 ppm carbon dioxide equivalent.

“Climate change policy is energy policy”

The date of technological transition is the year in human history in which the accumulated totals of GHGs ceases to grow. “Achieving technological transition will require utilizing current sustainable systems, phasing out fossil fuel systems, retrofitting and investing in alternative technologies wherever possible.”

Henry Shue, “Responsibility to Future Generations and the Technological Transition”

The Date of Technological Transition



McCain versus Obama

- McCain
 - %60 of 1990 levels by 2050
 - 45 new nuclear power plant
 - Tax credits for clean energy
 - \$2 billion/yr to help utilities reduce carbon
- Obama
 - %80 of 1990 levels by 2050
 - \$150 billion on promoting clean energy
 - Public transportation

Consequences of Inaction

- "Consuming what remains of fossil fuels could well lead to a four- to eight-fold increase in CO₂."
- At some future point in time it may be impossible to take mitigating efforts.

"There may be harms that will occur only if we do nothing because only if we do nothing will climate change become severe enough to cause those harms (Shue)."

Conclusions

- The current generation has a moral responsibility to future generations not to let GHG concentrations exceed critical limits. The research and development required for technological transition is a time consuming process. Delays in starting the process may not leave enough time for future generation to accomplish the task and avoid severe consequences.

The moral judgment of future generation on the present generations may be harsh:

“They were not for the most part evil people... but they were simply preoccupied with their own comfort and convenience, not very imaginative about human history over the long run, and not particularly sensitive to the plight of strangers distant in time (Shue, 279).”

Values, Uncertain Science and Climate Change Policy

“The really vital issue does not concern the presence of scientific uncertainty, but rather how we decide what to do under such circumstances (Gardiner).”

Values, Uncertain Science and Climate Change Policy

Uncertainty and Sound Science

Climate Skeptic, Three Claims:

1. The Earth is not warming
2. The Earth may be warming, but human activities are not responsible
3. Future climate warming will almost certainly be small

Fourth Skeptical Approach

The science of climate change is highly uncertain, so incurring potentially large costs to protect against climate change is imprudent and wasteful.

Republican political strategy memo for the 2004 election that was leaked to the press

Talking points:

“The response to climate change must be based on sound science, not on speculation or theory. We must not rush to judgment before all the facts are in. There is too much uncertainty and too much that we do not know about climate change. It would be irresponsible to undertake measures to reduce emissions, which could carry high economic costs until we know these are warranted.”

**Chris Mooney, *The Republican War on Science*
(New York, Basic Books, 2005)**

“When George W. Bush and members of his administration talk about environmental policy, the phrase “sound science” rarely goes unuttered.”

“We've got some regulatory policy in place that makes sense. But it says we're going to make decisions based upon **sound science**, not some environmental fad or what may sound good -- that we're going to rely on the best of evidence before we decide.” --President Bush, Remarks to Environmental Youth Award Winners

“Sound Science”

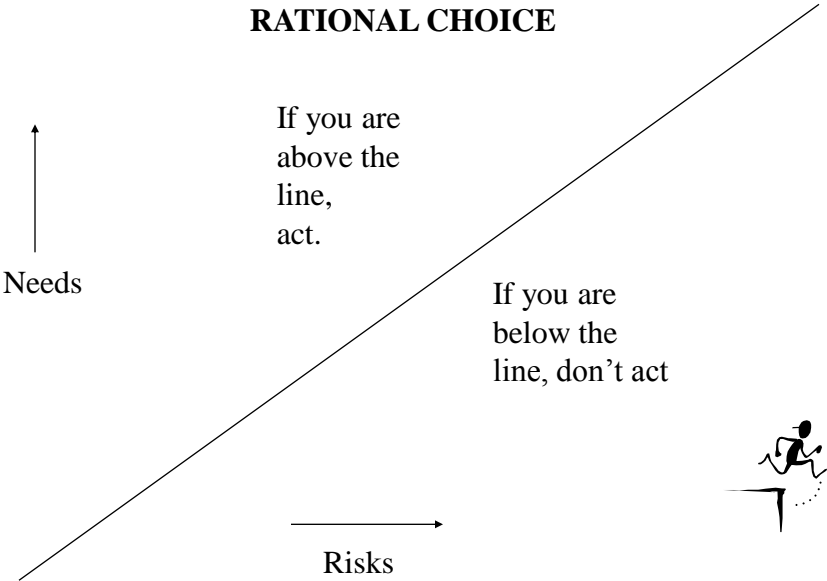
“‘Sound science’ is shorthand for the notion that anti-pollution laws have gone to extremes, spending huge amounts of money to protect people from minuscule risks.”

In the 1990's conservative politicians used the phrase to attack, what they felt were excessive and stifling regulations. The move was to raise the bar for scientific evidence that could be used to support regulations of potentially harmful activities or products.

"Sound Science"

“‘Sound science’ means requiring a higher burden of proof before action can be taken to protect public health and the environment. In other words, “sound science” isn’t really a scientific proposition at all.”

COMMON SENSE AND THE MYTHICAL LINE OF RATIONAL CHOICE



Rio Declaration of 1992

“In order to protect the environment, the precautionary approach shall be widely applied by States according to their capabilities. When there are threats of serious or irreversible damage, *lack of full scientific certainty* shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation.”

- Key Words: “serious,” “irreversible”
“damage” “cost-effective”

Precaution and Burden of Proof

- ❖ It is better to let a guilty person go free than to send an innocent person to jail. Hence, the burden of proof is on the prosecution.
- ❖ The PP says: It is better to lose certain economic benefits than to risk possible consequences of unmitigated climate change. “Better safe than sorry.”

Junk Science



David Michaels, *DOUBT Is Their Product, Scientific America, 2005*

- “The vilification of threatening research as “junk science” and corresponding sanctification of industry-commissioned research as “sound science” has become nothing less than standard operating procedure in some parts of corporate America.”

Why does sound science—junk science rhetoric work?

- Regulations stifle innovation and development.
- Regulations should only be made when needed.
- The need for regulations should be based on the best science possible.

Steven Gardiner's summary of the ethical issues

- Many of the predicted outcomes from climate change seem severe, and some are catastrophic
- For gradual change, either the probabilities of significant danger from climate change are high or we do not know the probabilities; and for abrupt change the probabilities are unknown.
- There is widespread endorsement of the view that stabilizing emission would impose a cost of "only" 2 percent of world production
Stephen Gardiner, "Ethics and Climate Change" Ethics 114 (April 2004): 555-600