

An aerial photograph of a large, circular impact crater in a desert region. The crater features a prominent, concentric ring structure with a central peak. The surrounding terrain is arid and shows signs of erosion. The sky is clear and blue.

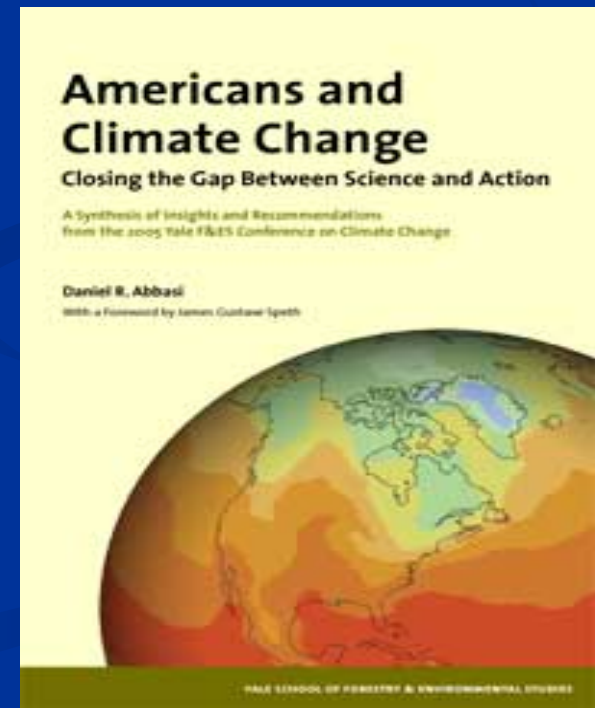
*The Perfect*  
*Problem*

# Americans and Climate Change

Why climate change is the “perfect problem”

- “complex and inaccessible scientific content;

- a substantial (and uncertain) time lag between cause and effect;



# Americans and Climate Change

- inertia in all the key drivers of the problem, from demographic growth to long-lived energy infrastructure to ingrained daily habits at the household level;
- psychological barriers that complicate apprehension and processing of the issue, due in part to its perceived remoteness in time and place;

# Americans and Climate Change

- partisan, cultural, and other filters that cause social discounting or obfuscation of the threat;
- motivational obstacles, especially the futility associated with what is perhaps the quintessential “collective action problem” of our time;

# Americans and Climate Change

- mismatches between the global, cross-sectoral scope of the climate change issue and the jurisdiction, focus, and capacity of existing institutions;
- a set of hard-wired incentives, career and otherwise, that inhibit focused attention and action on the issue.”

# Goal



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

What constitutes an effective response?

# Ethics and Risk

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



What constitutes  
a fair response?

# Questions of Justice

“The core ethical issue concerning global warming is that of how to allocate the costs and benefits of greenhouse gas emissions and abatement (Gardiner).”

# Varieties of Justice and Climate Global Change

- Distributive Justice
  - Mitigation
  - Adaptation
- Procedural Justice
- Intergenerational Justice
- Environmental Justice

“Despite grim warming outlook,  
scientists say there is still hope”  
-- Missoulian

“I am not about to give up, Hansen wrote.  
He has hope, he says, because he has  
grandchildren.”

quoting James Hansen, NASA



# Intergenerational Justice (Fairness)

“How and to what extent can the present generation harm future generations?”

“In what ways should the interests of subsequent generations guide present decisions?”



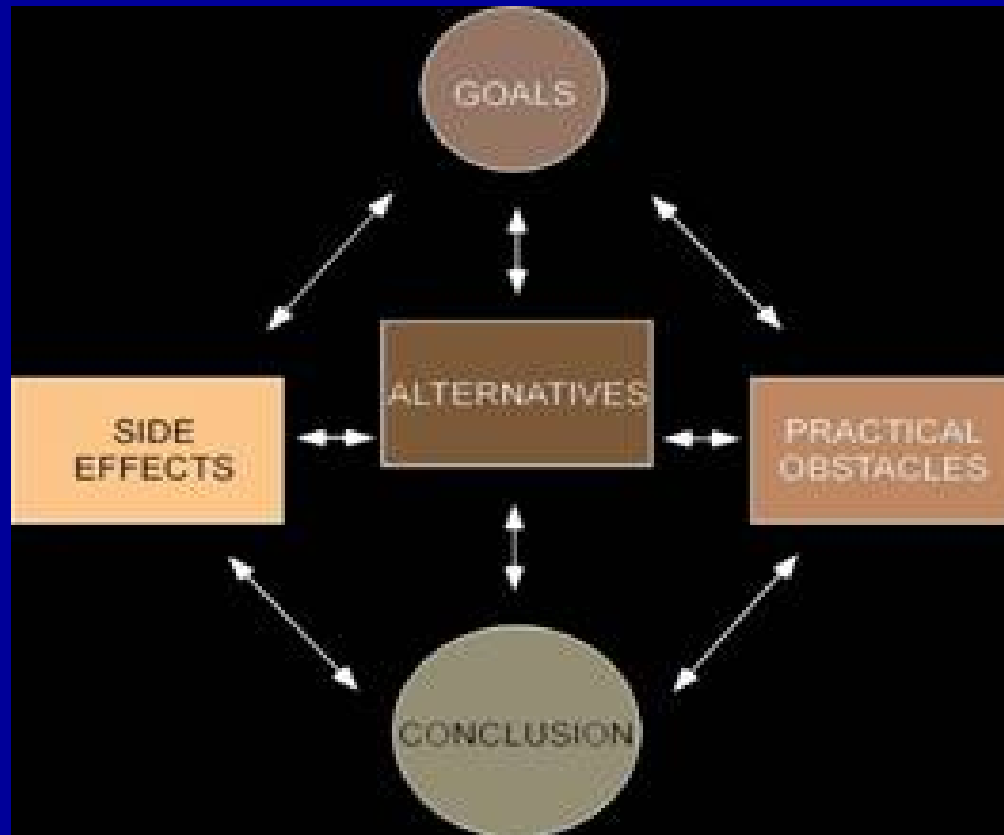
The Vision Problem:  
Imagining Alternative Futures

“I have a dream!”

versus

“I have a nightmare!”

# Online Deliberation Center



# Deliberation

“Deliberation is a type of dialogue where a group of concerned citizens get together to discuss and attempt to solve a practical problem...The [goal] is to come to agreement on a line of action or policy they can implement together (Ibid. 151).”



The ODC provides an online environment where students will discuss issues with their instructors and other students from a variety of disciplines and interests. The ODC is tooled with features to assist participants in the deliberative process.



### Efficiency

1. Double fuel efficiency of 2 billion cars from 30 to 60 mpg
2. Decrease the number of car miles traveled by half
3. Use best efficiency practices in all residential and commercial buildings
4. Produce current coal-based electricity with twice today's efficiency



### Wind

10. Increase wind electricity capacity by 50 times relative to today, for a total of 2 million large windmills



### Fuel Switching

5. Replace 1400 coal electric plants with natural gas-powered facilities



### Solar

11. Install 700 times the current capacity of solar electricity
12. Use 40,000 square kilometers of solar panels (or 4 million windmills) to produce hydrogen for fuel cell cars

## Carbon Mitigation Initiative

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Phone: 609-258-7523



## Carbon Capture and Storage

- 6. Capture AND store emissions from 800 coal electric plants
- 7. Produce hydrogen from coal at six times today's rate AND store the captured CO<sub>2</sub>
- 8. Capture carbon from 180 coal-to-synfuels plants AND store the CO<sub>2</sub>



## Nuclear

- 9. Add double the current global nuclear capacity to replace coal-based electricity

*Photos courtesy of USFWS (Carbon Capture and Storage), US DOE, US NRC*



## Biomass Fuels

- 13. Increase ethanol production 50 times by creating biomass plantations with area equal to 1/6<sup>th</sup> of world cropland

Credit: Warren Gretz



## Natural Sinks

- 14. Eliminate tropical deforestation AND double the current rate of new forest planting
- 15. Adopt conservation tillage in all agricultural soils worldwide

Credit: David Parsons

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