Climate Policy 101

Evaluating Climate Policy Options

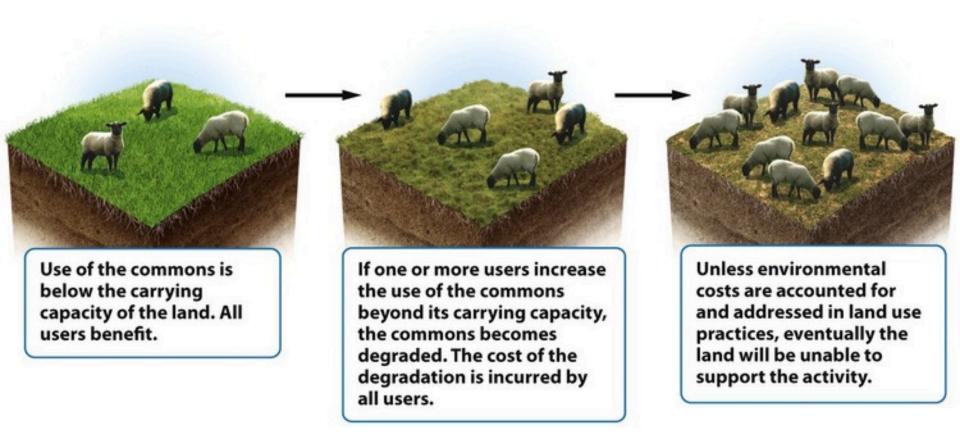


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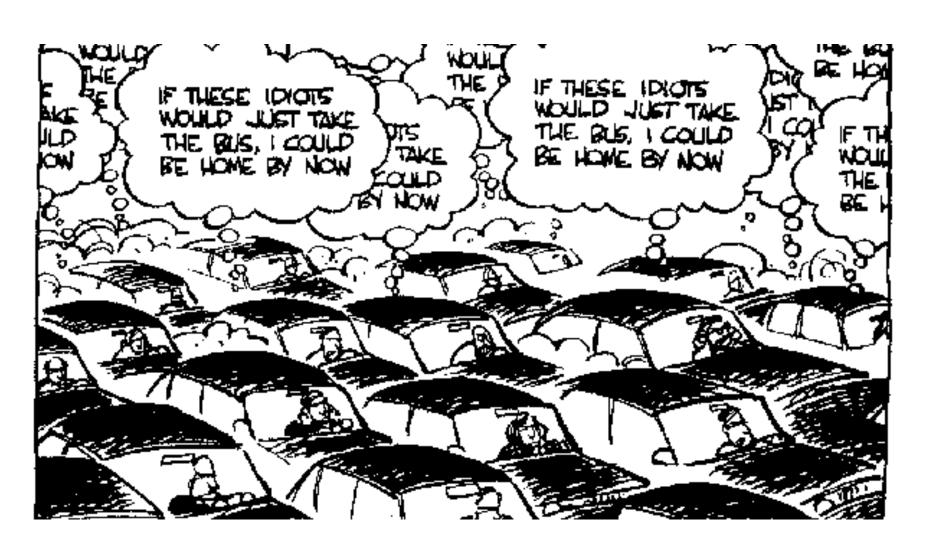
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Ground Rules & Caveats

Tragedy of the commons



Tragedy of the commons



Social Costs of Carbon

= <u>Direct</u> + <u>Indirect</u> + <u>Counterfactuals</u>

Hurricane destroyed my house, killed my family.

Glacier melt and rainwater decrease, I have no way to irrigate my crops.

I am now using aquifer water at the expense of the urban drinking water supply.

I would pay \$\$ to have prevented this issue.

Social Costs of Carbon

Difficult to calculate! Why?

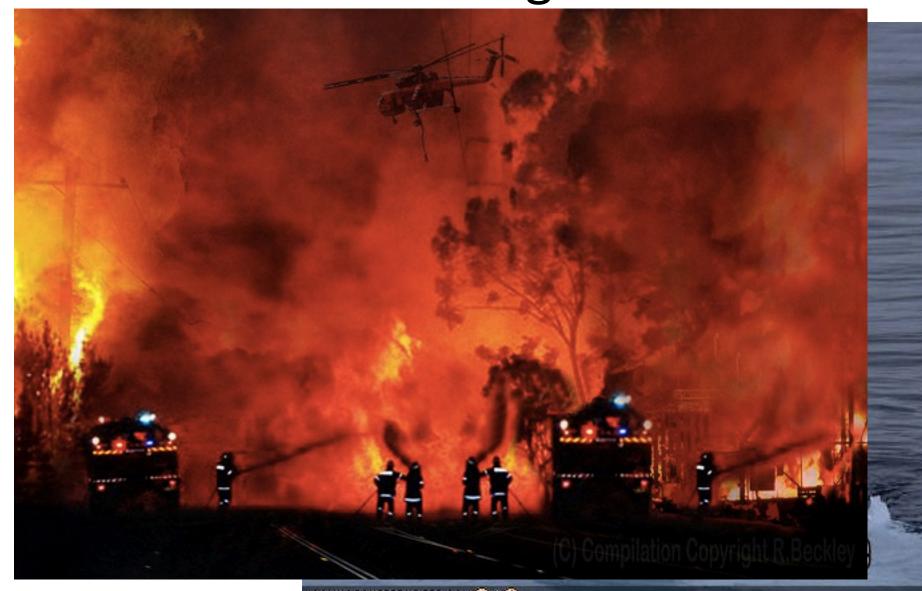
General Policy Options

- 1. Mitigate
- 2. Adapt
- 3. Geoengineer
- 4. Suffer

Suffering



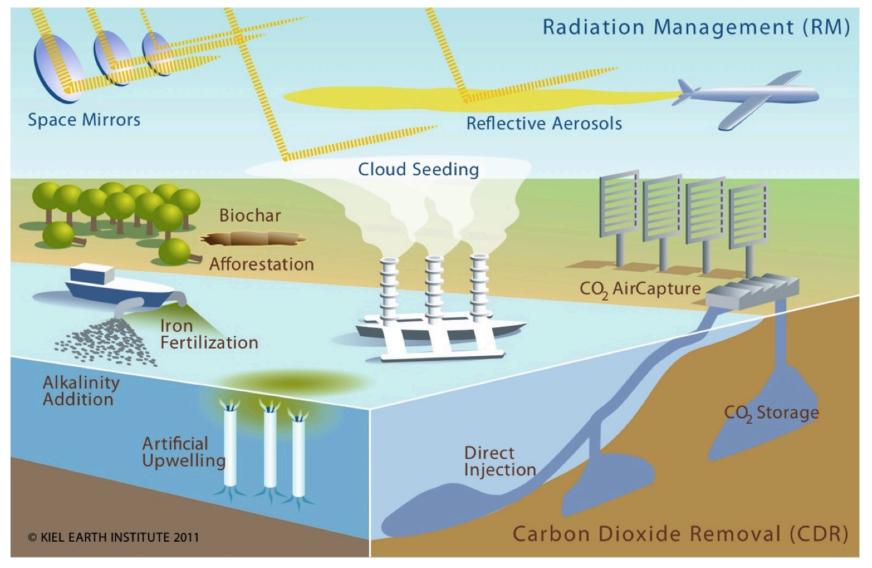
Suffering



Suffering



Geoengineering



Adaptation

to the effects of Climate Change

63% of Northwest in moderate to extreme drought at end of winter. Improvement later in year

July heatwave in

parts of West

Parade of Pacific winter

storms. Second wettest water year for Los Angeles

Much below average winter snowpack in Northwest.

Record area burned for 2005 - around 8.5 million acres - much in Alaska

Much above average winter snowpack for Southwest

No state cooler than average (Jan-Nov)

Major snow and ice storm across upper Midwest (Nov).

Severe summer drought from Southern Plains to **Great Lakes**

Hurricane Katrina (Aug) most destructive hurricane in US category 4 at landfall (Aug)

Hurricane Rita (Sep) category 3 at landfall.

"Blizzard of 2005" (Jan) Boston's snowiest month on record.

Wettest October on record for 9 northeastern states. 3 separate storm systems.

Heavy snow from New England to Southern Appalachian Mountains (Oct)

Hurricane Ophelia (Sep), brushes coast of NC

Humcane Wilma (Oct) - most intense Atlantic storm on record at one point, category 3 at landfall in FL

history. More than 1,300 deaths. Hurricane Dennis (Jul) - category 3 at landfall. Intense rainfall and widespread power outages

HURRICANES

6 tropical systems landfall along U.S. Gulf coast including 4 major hurricanes. Costliest hurricane season on record. 3 cat. 5 storms for Atlantic Basin.

3rd warmest summer on record

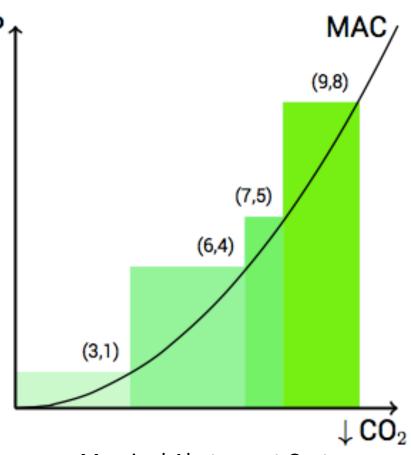
3rd greatest area burned from wildfires for AK - nearly 4.5 million acres

Mitigation



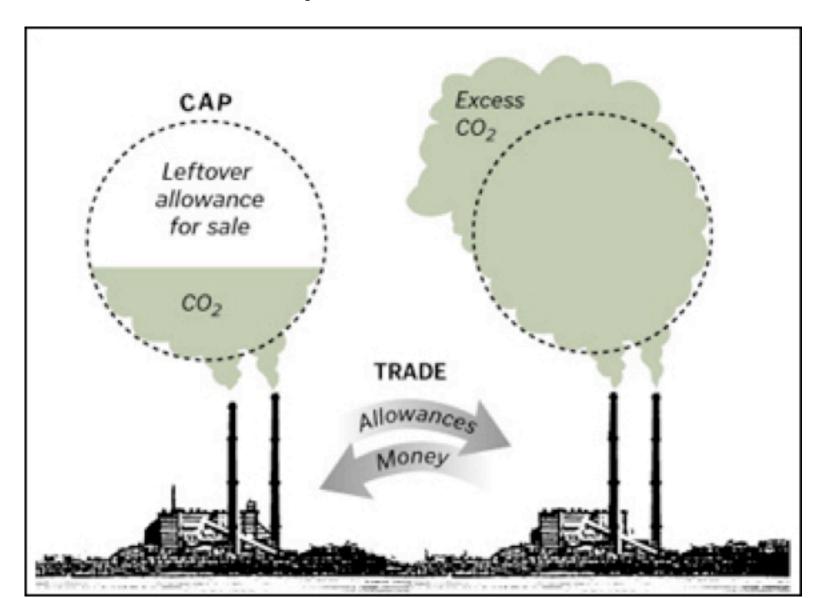
Mitigation: Market Solutions

- Carbon tax
 - fixed cost per unit
 - uncertainty in emissions
- Cap and trade
 - Fixed emissions amount
 - Uncertain cost



Marginal Abatement Cost
(aka cost of reducing each
successive unit of GHG emissions)

Cap and Trade



Mitigation: Command and Control

Command & Control through standards and regulations



Mitigation: R&D

Incentivize technology research and development with subsidies



Question for Discussion

- Which instruments are efficient? Equitable?
- Which instruments are politically feasible?
- What if aspirational regulations fail?