



Implications of Carbon Offsets for Development

Katherine Riley

Colorado College/Colorado State University/Center for Multi-Scale Modeling and Processes

Research Question

Can offsets be used as a climate policy tool to promote sustainable development?

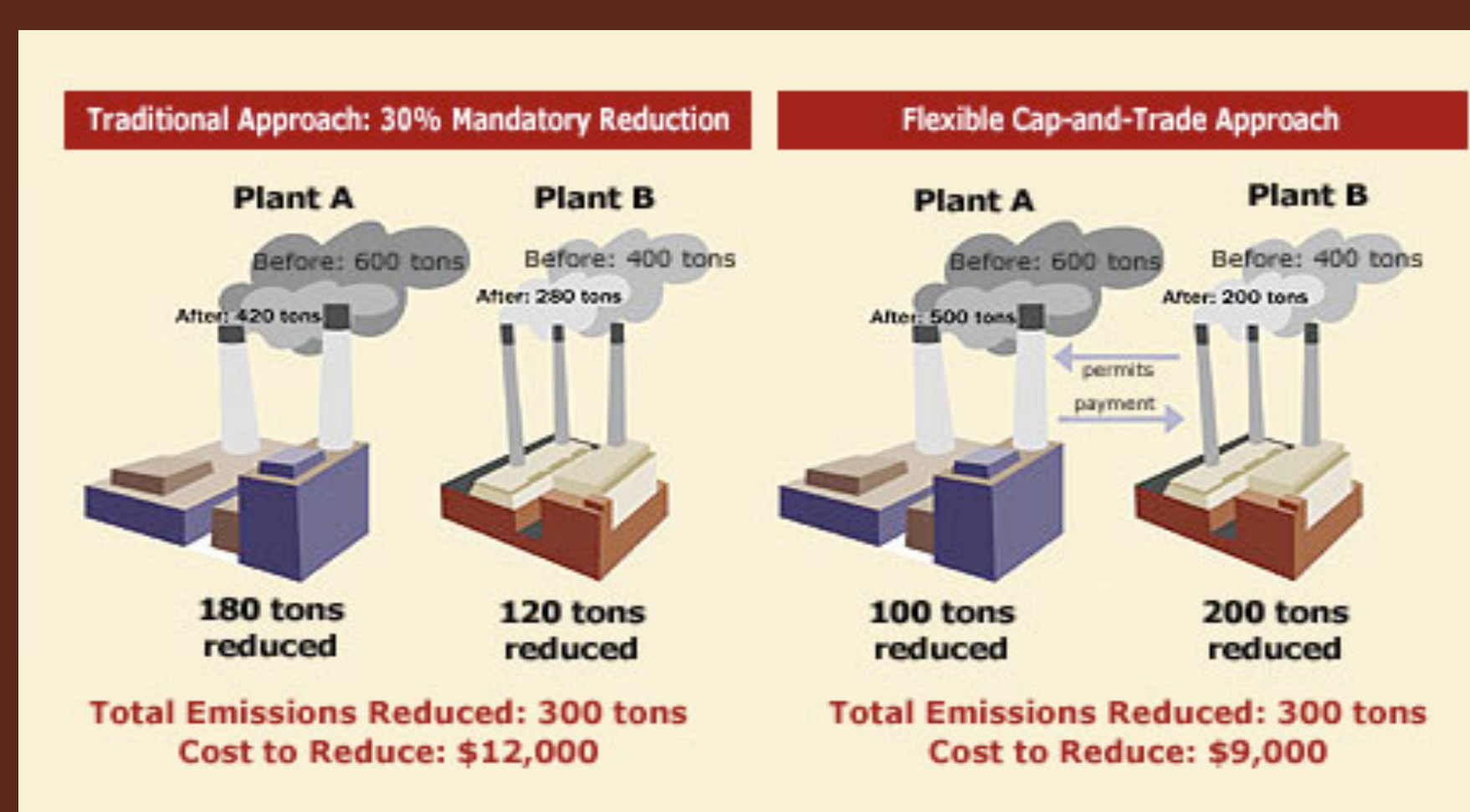
- Analyze the use of offsets in 34 cap and trade policy venues
- Examine the relationship between climate change and development

What Are Offsets?

- Offset: an emissions reduction, removal, or avoidance of CO₂ equivalent (greenhouse gas- GHG)
- Common offset project types:
 - Carbon sequestration: afforestation, reforestation, avoided deforestation, forest/grazing land management, conservation tillage
 - Methane capture and destruction: capture CH₄ (byproduct of anaerobic breakdown of waste) in landfills, coalmines, and farms
 - Renewable energy: solar, wind, hydroelectric, bioenergy, hydrogen, geothermal, ocean/tidal
 - Energy efficiency: energy use reduction

Offsets within Cap and Trade

- Offsets are frequently used in cap and trade systems
 - Cap and trade is a market approach (versus command and control) to decrease emissions and cost
 - Authority establishes cap on total emissions, then issues right-to-pollute permits (amount of permits issued declines annually) to be traded as private property



(Climate Lab, 2009)

- Offsets used as compliance mechanism for many cap and trade systems

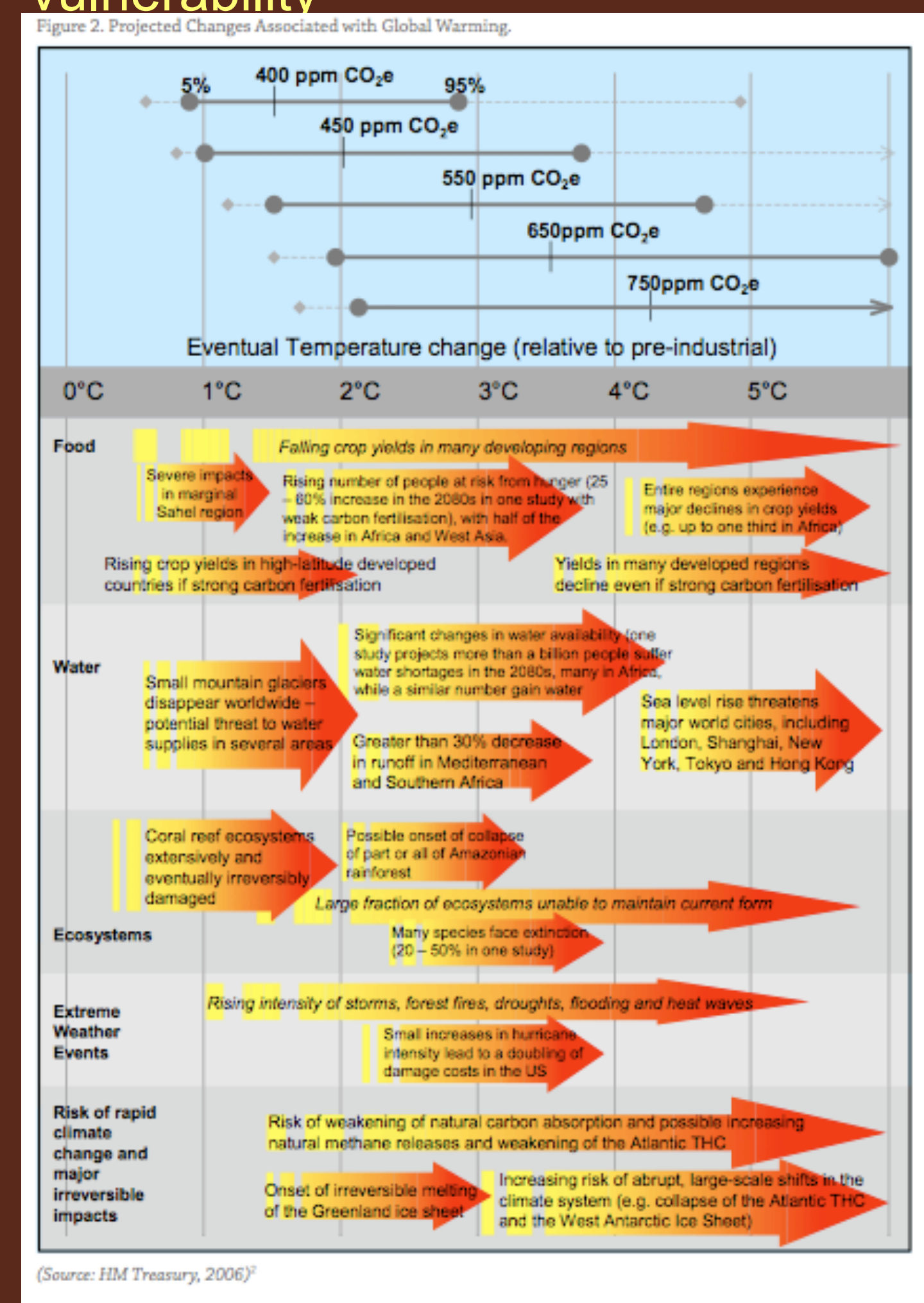
Offsets within Cap and Trade

Current Trends

- Offset use justified for economic, environmental and social purposes
- Increasing importance of rigorous third party verification standards
- Quantitative limit on use of offsets (10-50% of total emissions)
- Priority on projects within systems' jurisdiction
- Project types with strict methodology and that promote environmental and social issues
- Increasing importance of the voluntary carbon market

Climate Change and Development: Vulnerability

- Climate change disproportionately affects poor, due to increased vulnerability



(Source: ICM Treasury, 2006)

(The World Bank, "Social Dimensions of Climate Change," 2008)

- Vulnerability = Exposure + Sensitivity + Adaptive Capacity

- Exposure: probability of extreme event
- Sensitivity: resilience to impacts of climate change
- Adaptive Capacity: ability to adapt to climate change (depends on effectiveness of community and government)
- Adaptive capacity: component of vulnerability most readily improved through policy
- Capacity Building: programs to enhance communities' capabilities, and increase resilience of vulnerable groups

Climate Change and Development: Equity

Climate Policies for Sustainable Development Must Also Consider Equity

- Current climate policies are inequitable
 - Does not take into consideration the correlation between per capita emissions and wealth
 - Developing countries also have a "right to pollute"
- Politically, growing economies (China, Brazil, India) will not cooperate with inequitable policy
- To integrate equity into climate change policy, rich must pay
 - Environmental debt: emitted into atmosphere freely (preventing developing countries from doing so), led to human-induced climate change
 - Only ones with ability to fund mitigation/adaptation
- Funding should go towards capacity building through offsets
 - Addresses vulnerability and equity issues

Conclusions and Policy Recommendations

Offsets Can Be Used as a Climate Policy Tool to Promote Sustainable Development *If*:

- Offsets are regulated
 - Within a cap and trade system
- Offset use is limited
 - To 50% of total emissions (forces universal reductions)
- Regulations do not place geographic limits to where offsets are produced
 - (if limits are applied) 25% of offset projects located in low-income communities within jurisdiction, 25% in developing countries
- Credible verification standards are used
 - Use CarbonFix Standard Sustainability Assessment which includes specific requirements for land eligibility, nature conservation, and social benefits
- No Clean Development Mechanism (CDM) projects are allowed unless CDM protocol is improved:
- There are specific qualifications on project types:
 - Carbon sequestration: ownership evaluations
 - Methane projects: landfill gas only if compost/recycling not feasible
 - Renewable Energy: only solar, wind, geothermal, tidal
 - Energy Efficiency: standardize methods

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