Climate Change: Economic and Policy Implications

Robert B. Richardson, PhD
Department of Community, Agriculture, Recreation and Resource Studies
Michigan State University

Climate Change in the Great Lakes Region
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Outline

- Introduction
- Economics and Climate Change
- Student Presentations
  1. Global Agreements – Implications for Michigan
  2. Developing Alternative Sources of Energy
- Policy Discussion
Economic Impacts of Climate Change

- Lower agricultural productivity
- Changes in growing seasons
- Increased drought incidence
- Widespread coral reef mortality
- Flooding, erosion, inundation, salinization
- Increased frequency and intensity of tropical cyclones
- Increased rates of infectious and tropical diseases
Economics and Climate Change

- **Mitigation**
  - Reduce emissions of greenhouse gases
  - Slow the rate of climate change

- **Adaptation**
  - Reduce risk
  - Increase resilience
  - Find opportunities
Economics of Climate Change

- The Stern Review (UK)
  - Global cost estimates of losses from a “business as usual” scenario
  - “Costs of inaction” estimated at 5% of global GDP based on market impacts only
    - Non-market impacts (health, environment): 11%
    - Climate sensitivity uncertainty: 14%
    - Distributional effects (poor countries): 20%
Criticisms of Stern

- Discount rate
- Treatment of risk and uncertainty
- Estimation of economic damages

- Avoiding damages may be costly
  - But waiting to address the impacts of climate change may cost MORE
Policy Implications

- Economics research highlights need for greater understanding of policy mechanisms that call for swift and deep cuts in emissions
  - Promote energy efficiency
  - Promote investment in clean technology
  - Promote conservation