



Climate Change Economics
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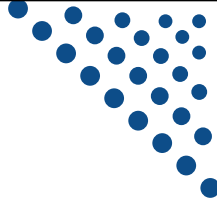
Citizens Climate Lobby Boston Metrowest
 March 18, 2021



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National Economic Education Delegation

- **Vision**
 - One day, the public discussion of policy issues will be grounded in an accurate perception of the underlying economic principles and data.
- **Mission**
 - NEED unites the skills and knowledge of a vast network of professional economists to promote understanding of the economics of policy issues in the United States.
- **NEED Presentations**
 - Are **nonpartisan** and intended to reflect the consensus of the economics profession.

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Who Are We?

- **Honorary Board: 48 members**

- 2 Fed Chairs: Janet Yellen, Ben Bernanke
- 6 Chairs Council of Economic Advisers
 - o Furman (D), Rosen (R), Bernanke (R), Yellen (D), Tyson (D), Goolsbee (D)
- 3 Nobel Prize Winners
 - o Akerlof, Smith, Maskin

- **Delegates: 500+ members**

- At all levels of academia and some in government service
- All have a Ph.D. in economics
- Crowdsource slide decks
- Give presentations

- **Global Partners: 45 Ph.D. Economists**

- Aid in slide deck development



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Available NEED Topics Include:

- **US Economy**
- **Economic Inequality**
- **Climate Change**
- **US Social Safety Net**
- **Trade and Globalization**
- **Economic Mobility**
- **Immigration**
- **COVID-19**
- **Housing Policy**
- **Federal Budgets**
- **Federal Debt**
- **2017 Tax Law**
- **Autonomous Vehicles**
- **Black-White Wealth Gap**



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Credits and Disclaimer

- **This slide deck was authored by:**
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- **Disclaimer**
 - NEED presentations are designed to be nonpartisan.
 - It is, however, inevitable that the presenter will be asked for and will provide their own views.
 - Such views are those of the presenter and not necessarily those of the National Economic Education Delegation (NEED).



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Outline

- **Economics of fighting climate change**
- **Economics of carbon pricing**
- **How does climate policy affect justice and equity?**



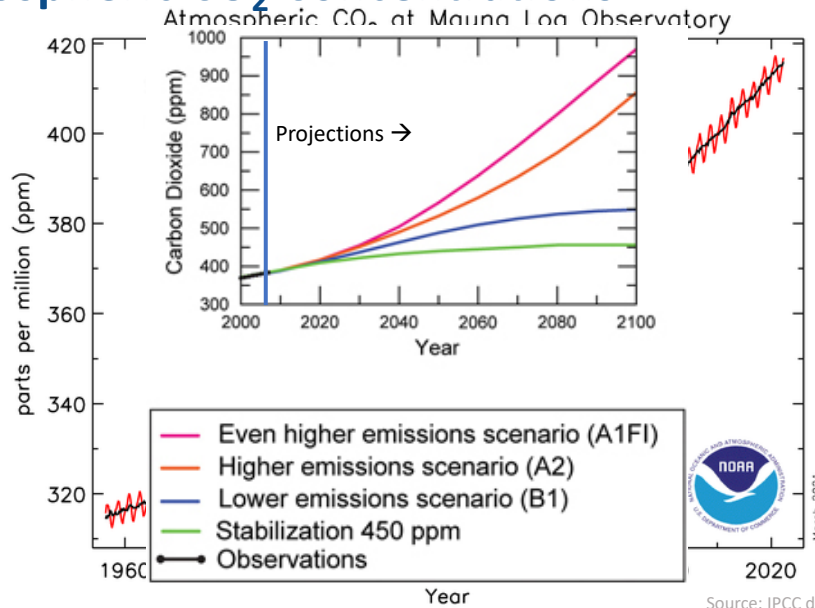
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Economics of Fighting Climate Change



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Atmospheric CO₂ Concentrations



Source: IPCC data distribution center and climate.gov

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A Climate Change Ladder

- Emissions
- Mitigation (a.k.a. Abatement)
- Adaptation
- Damages

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Emissions Reductions (Abatement)

- Seek global least cost ways to reduce net emissions
- Reduce sources
- Increase sinks
- Balance abatement costs with damage costs

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Adaptation

- **Costly actions to reduce the costs of climate damages**
- **Many types: “hard” or grey, green, social, behavioral**
- **People will take some actions on their own to reduce their own damages**
- **Communities and states may be best suited to take some other actions**



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Damages

- **Range from crop losses to reduced productivity to damaged structures to illness and death**
- **Largest in equatorial, low-income, low-elevation, and island locations**
- **Already vulnerable populations hurt most**



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Policies are Needed to:

- **Directly reduce emissions**
- **Complementary efforts related to emissions: research, land use, grid/infrastructure, public transit**
- **Implement community-level adaptation**
- **Support for vulnerable people affected by damages, adaptation, or rising energy costs**



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Economics of Carbon Pricing



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Incentive-based policies encourage low-cost reductions in emissions

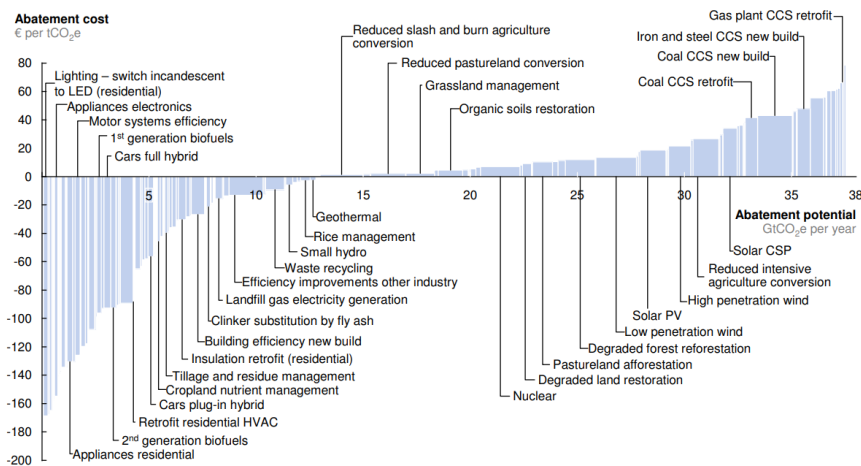
- Tax, cap & trade, and subsidizing green alternatives all “level the playing field” (internalize the climate externality)
- Leverage polluters’ knowledge of their own costs
- Can get least-cost reduction in emissions
 - May require use of offsets
- If set correctly, can achieve any target emissions reduction
- Tax and cap & trade generate revenue
 - Subsidies, obviously, use revenue



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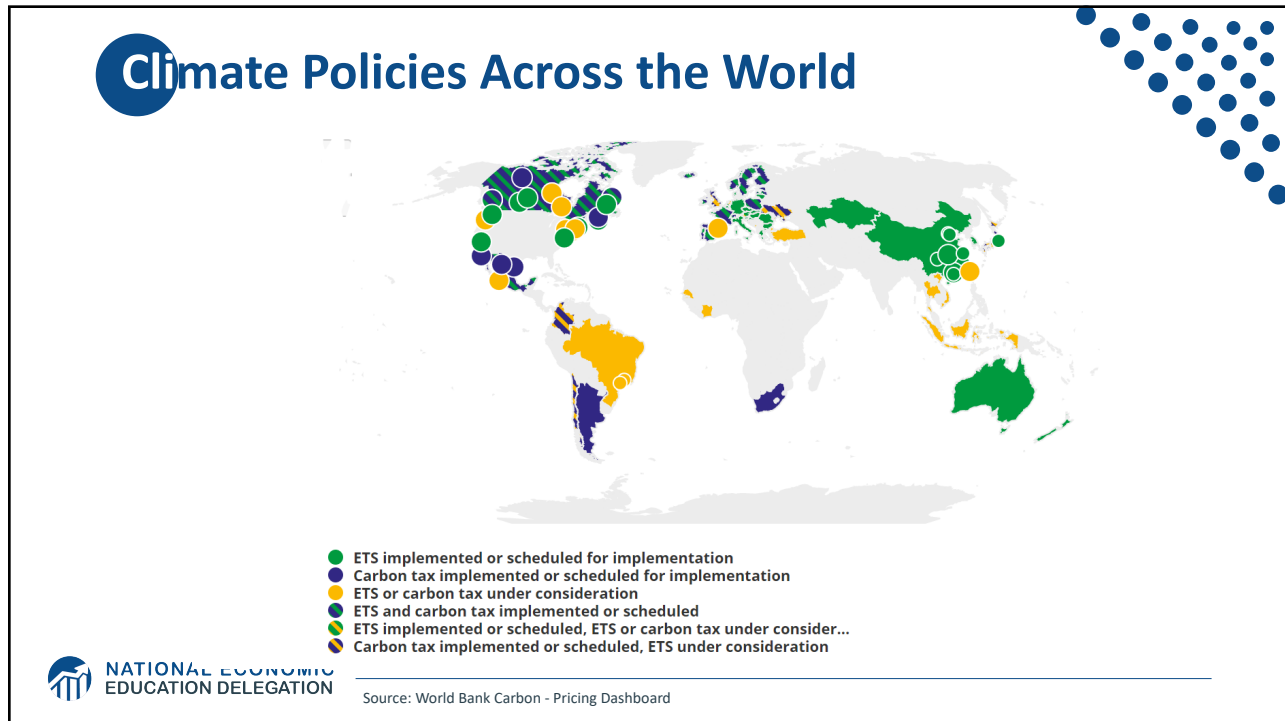
Example Global Abatement Cost Curve

V2.1 Global GHG abatement cost curve beyond BAU – 2030



Note: The curve presents an estimate of the maximum potential of all technical GHG abatement measures below €80 per tCO_{2e} if each lever was pursued aggressively. It is not a forecast of what role different abatement measures and technologies will play.
Source: Global GHG Abatement Cost Curve v2.1

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How does climate policy affect justice and equity?

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epa.gov/environmentaljustice

 United States Environmental Protection Agency

Environmental Topics **Laws & Regulations** **About EPA**

Environmental justice is the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income, with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies. This goal will be achieved when everyone enjoys:



- The same degree of protection from environmental and health hazards, and
- Equal access to the decision-making process to have a healthy environment in which to live, learn, and work.

Still have questions? [Contact your Regional Staff.](#)

[Read the Factsheet about the EPA's Office of Environmental Justice.](#)

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Justice and equity goals

- **Equitable protection from environmental and health hazards**
- **Equal access to decision-making processes**
- **But also: equity in the distribution of the costs of climate policy**

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Equity issues that can arise in climate policy

- **Abatement cost burdens are typically regressive (affecting low-income families the most)**
 - Revenues must be “recycled” to help low-income families
- **Policies targeting *global* greenhouse gas emission reductions can cause *local* pollution “hotspots”**
- **Special concerns about offsets acting as “carbon colonialism”**
- **Net job loss from fighting climate change is probably near zero, but some sectors lose out**
 - Need policies focused on employment



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Thank you!

Let's Discuss!

www.NEEDelegation.org

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