

Building the Case for Climate Action: The Role of Economics

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Economics for Equity and the Environment Network convened a meeting of economists January 13-15, 2011 at the Pocantico Center of the Rockefeller Brothers Fund to discuss the role of economics in building support for climate action in the U.S.¹

The economists who convened view climate change as a civilizational challenge that demands immediate action to protect the quality of human life today and in the future. They recognize that conventional economic thinking has failed to envision a way through the climate crisis, but believe firmly that economics can and must provide critical skills and insights. These economists take as their starting points:

- The role of economics is not to determine the optimal level of emissions reduction. Emissions goals should be informed by the best and latest scientific information and motivated by our moral obligations to future generations.
- The tools and insights of economics are most appropriate to the complex and intellectually challenging tasks of determining least-cost strategies for achieving those targets, designing policies that effectively and with confidence meet those targets, identifying the potential economic impacts of failing to meet those targets and sharing responsibility fairly for the costs and implementation of that strategy.
- Economic analysis of climate change and solutions necessarily intertwines scientific fact and values. Economists should be open and explicit about the viewpoints and values underlying their analysis.

The meeting identified areas where better research and outreach by economists can provide the new ideas, analyses, and compelling arguments to mobilize support for climate protection measures in the U.S. Below we present a broad research and communications agenda for E3 Network economists to pursue.

I. Rebutting anti-climate, anti-regulatory economics

The debate about climate change and climate policy has not ended; it has just moved out of the legislature and into the broader policy arena. In these new arenas, emissions reduction efforts will continue to confront narrow, out-of-date economic models that encourage fears about losing jobs, incomes, and competitiveness.

¹This report was written by Kristen Sheeran for E3 Network based on materials prepared for this meeting and the discussions that took place there. It reflects the views of the author and not necessarily those of other conference participants or of the Rockefeller Brothers Fund.

These models, based on ad-hoc assumptions about climate change damages, high discount rates that disregard impacts on future generations, and pessimistic forecasts of technological progress, purport to show that the benefits of emissions reductions at the scales recommended by climate scientists are not sufficient to warrant the costs. This disconnect between climate science and economics is not purely academic; these models dominate public policy decisions about climate change, including recent efforts by the Environmental Protection Agency and other agencies. Engaging the details of the anti-regulatory arguments and climate models central to these debates and exposing the fallacies embedded in them is critically important. Decision makers and the media need to understand that the technical and normative aspects of these models are debated by economists. Different models based on different underlying assumptions have reached very different conclusions about the benefits and costs of climate action.

At the same time, it is important to communicate the limitations of using economics to address climate change. Stabilizing the earth's climate system is as much a scientific and moral issue as it is an economic issue. There are limits to applying cost-benefit analysis to climate change when the damages accrue to future generations and involve consequences for human lives and ecosystems that are virtually incalculable. Moreover, the most significant damages from climate change are likely to be associated with extreme events. Risk assessment and risk management are more appropriate frames for evaluating climate policy for these reasons.

II. Improving Economic Modeling and Communication of Climate Change Impacts at All Scales

Persuading the public and decision makers that climate change warrants immediate, aggressive mitigation actions will require improvements in how economists model the economic damages from climate change. We need updated economic models that better reflect recent scientific understanding and advancements in how economists treat risk and uncertainty. The economics literature and policy discussions are still dominated by earlier modeling efforts and relatively few voices within the profession. We need to widen the participation of economists in modeling climate change impacts and more effectively communicate those findings.

Improved economic modeling of climate change demands that more attention be given to disaggregating the impacts of climate change at regional and local scales. Describing climate change in terms of an average temperature increase disguises some of the more serious impacts that will be observed in regions of the U.S. Building that heterogeneity into climate models increases estimates of economic damages of climate change significantly. Though it may be impossible to downscale the analysis for all of the U.S., some very detailed local case studies can shed important light on the magnitude of potential damages nationwide.

The economic impacts of climate change for the U.S. are still not well understood, especially by the public. While it is most accurate to describe climate change as a global externality with diverse impacts and action to mitigate climate change as a global public good, it is difficult to

motivate and coordinate action on this scale. Mitigation may be global, but impacts and adaptation are local. Successful adaptation to climate change requires more detailed knowledge about how climate change will affect local communities and regions.

Stakeholders need to be aroused; stories about potential local impacts can motivate better than projections of temperature and precipitation changes. There is a real need for economists to translate global climate model projections into the things that people relate to and care about: health, energy, water supplies, food systems, storms, floods, and ecosystems. Economists can begin by translating well-accepted scientific facts (e.g. diminished snow pack) into local resource effects (e.g. reduced stream flow) and economic impacts (e.g. percentage change in crop yields).

III. Building the Clean Energy Economy

Proponents of the clean energy economy promise new jobs and efficiency gains; yet there is an apparent lack of traction for such claims. A major challenge to building support for the green energy economy is persuading politicians and their constituents that smart regulations are not job killers; effective regulation and public policy inducements can stimulate employment and income growth. In the case of clean energy, net employment gains can be attributed to replacing imported fossil fuels with domestically produced efficiency or renewables; and expenditures on labor intensive activities such as weatherization and building green energy infrastructure. Building the clean energy economy is also an effective platform for supporting a broad-based economic growth and development strategy. The engines of potential green growth include export promotion (rewiring the world with clean energy), natural amenity based growth, counter-cyclical investment spending, and the multiplier effects from expenditures on labor intensive green initiatives.

To satisfy employment and equity concerns and build support for the clean energy economy, we need more detailed economic analyses of how to transition the economy from fossil fuels and how policy mechanisms can address the real costs of that transition. It also involves in-depth case studies of successful policy interventions to develop new industries, such as wind, solar thermal, and solid waste recycling; and of clean energy transitions underway in states like California or Oregon. Lessons can also be drawn from examples where businesses are moving ahead of state and federal emissions regulations to improve their energy efficiency, lessen their dependence on fossil fuels, and reduce their vulnerability to climate change impacts. Given that this may be a more feasible path to emissions reduction in the immediate political climate, economists can prioritize research that provides the information businesses need to carry this momentum forward. Demonstrating how the federal lag on policy is actually slowing the growth of green industries and new markets should help build support for a federal clean energy policy.

Economists also have to address a deeply ingrained suspicion amongst decision-makers, media, and the public that higher fossil fuel prices are necessarily bad for the economy. Economists can better communicate how higher prices for fossil fuels can improve economic outcomes over

time, by encouraging efficiency improvements, energy conservation, and the transition to fuels with lower attendant social and environmental costs. Economists can also explain that the impact of higher fuel prices on households depends crucially on the fate of the money: if carbon revenues are recycled as dividends to individuals or public goods to communities, the impact is radically different than that of price hikes that go to oil-exporters or energy corporations. The demise of cap-and-trade legislation has unfortunately encouraged many to believe that the transition from fossil fuels can be achieved through research and development alone without a carbon price; yet almost all economists recommend a combined approach, in which a carbon price and other market building strategies (e.g. portfolio standards, subsidies) play a central role.

IV. Engaging the U.S. in Global Climate Efforts

The unwillingness of the U.S. to accept binding emissions limits as part of a global climate change treaty signifies the lack of domestic support for building a clean energy economy, the complacency of the U.S. populace in the face of an emerging global crisis, and the unwillingness of the U.S. to accept responsibility for global emissions reduction. As emphasis and resources shift inward toward building support for domestic climate action, the importance of linking our domestic actions to our global responsibilities should not be forgotten. We need detailed analyses that can demonstrate how to better integrate the following components into U.S. energy and climate policies: international investments; climate aid; technology transfers; realistically achievable international agreements on emissions reductions; and global cooperation.

International negotiations on climate change have historically favored the distribution of global emissions rights as the mechanism for addressing equity in global climate control. That framework, however, assumes a global agreement that creates, limits, and distributes emissions rights. The absence of clearly defined emissions rights post-2012 has elevated the importance of adaptation and technology assistance as vehicles for addressing climate justice. More research will facilitate the design of programs that can affect these transfers. Economists can compare the transfers involved in these forms of assistance to transfers implicit in proposed emissions allocation schemes (e.g. Kyoto targets, Greenhouse Development Rights Framework, etc.)

Whether the issue is U.S. emissions reduction, technology transfer, or adaptation assistance, the important question still remains: what will induce the U.S. to act? The climate crisis begs the issue of our moral obligations to future generations and the global community. Many will argue that, at its core, the climate crisis is about ethics, rights, and responsibilities. But the drivers of, and solutions to, climate change are economic and political. Economics is often ill-suited to dealing with ethical issues; the positive aspirations of the science and the belief in rational self-interested behavior bias almost all economic analysis. An overly economic approach to climate action – one that emphasizes U.S. gains and avoided damages – may fail to motivate the behavioral and policy changes we seek. On the other hand, it is in the long-run interest of the United States, and indeed of all the nations of the world, to avoid the disasters that may occur if

climate change continues unabated. Economics can serve us all by emphasizing this underlying truth.

Much can be learned by examining past examples of effective U.S. responses to global public goods. The Montreal Protocol is an instructive case-study, as it was also premised on the notion of differentiated responsibilities for rich and poor nations, but induced participation by major emitters. Economics interprets the public goods dilemma as one of free-riding. Implicit in this view, however, is the assumption that no country finds it in its own self-interest to reduce emissions. But this view of the rewards to climate action is increasingly at odds with climate science and the perceived threat to national and economic security posed by climate change. As countries come to view climate change as an existential threat, the incentives to cooperate with other countries to forge a solution increase.

Economists, therefore, can contribute to the global effort to mitigate climate change by: translating the climate science into economic impacts; designing policies to stimulate the transition to greater energy efficiency and clean energy; demonstrating the benefits of building a clean energy economy; documenting the costs of alternative paths in the transition to clean energy; and informing equitable public policy interventions to distribute transition costs fairly. These actions can move the U.S. toward domestic emissions reduction, a necessary component of any effective global response to climate change. More research on how to successfully transfer new technologies and invest in adaptation abroad can fulfill some (but not all) of our responsibilities to poor nations, and can provide a sound intellectual foundation for meaningful U.S. participation in a global climate agreement.

V. Conclusion

Economics can play an important role in building support for climate action, especially if more economists are willing to engage the issues directly; in language that is clear, accessible, and compelling; and in collaboration with stakeholders, NGOs, and others. To participate most successfully in climate change solutions, economists must be willing to acknowledge the limits of conventional economic analysis as applied to climate change and embrace the normative dimensions of the climate crisis. With greater humility and a willingness to think beyond the traditional confines of the discipline, economists can help forge equitable and effective climate solutions.