

# THE OTHER SIDE OF THE COIN:

## *The Economic Benefits of Climate Legislation*

Congress is poised to make a sound investment in climate legislation: the economic benefits generated by H.R. 2454 (the American Clean Energy and Security Act of 2009) will dwarf the costs. Those are the results of a new study by the Institute for Policy Integrity at New York University's School of Law (IPI).

The costs of greenhouse gas reductions have been well documented. But the many recent estimates of what Americans will pay for climate legislation only show half the picture. Missing from the calculation is what Americans receive in return. In fact, the benefits may exceed costs by as much as 9-to-1 or more according to the findings of *The Other Side of the Coin: The Economic Benefits of Climate Legislation*. This study finds that controlling heat-trapping gases could generate trillions of dollars in net economic benefits.

The Environmental Protection Agency, the Energy Information Administration, and the Congressional Budget Office have each done analyses of H.R. 2454, but each is fundamentally flawed: they look only at the costs of this bill and ignore the costs of inaction. Using data and methodology created, peer reviewed and approved by federal agencies, IPI's analysis shows that failure to slow global warming will inflict huge losses on the U.S. economy.

### COST-BENEFIT ANALYSIS OF CLIMATE CHANGE LEGISLATION

The economic benefits of taking action on climate change can be determined based on a monetized estimate of the damages that will result from each ton of heat-trapping emissions. This calculation is known as the "social cost of carbon." Calculating this figure is a difficult task because climate change influences the entire global economy, including agricultural productivity, human health, property values from sea level rise, and the viability of natural systems that are necessary to support human life, such as freshwater stored in mountain snow-packs.

In prior years, some federal agencies made inconsistent and wide-ranging estimates of the economic benefits of carbon controls; others ignored the question completely. But in late August, a federal interagency taskforce including the Department of Energy, the Environmental Protection Agency, and the Department of Transportation proposed a more consistent methodology for estimating the damages avoided by controlling carbon emissions. Based on sophisticated models of the impacts of climate change on a number of economic sectors, the interagency taskforce proposed a narrower range for this calculation, from \$5 to \$55 per ton of carbon dioxide released into the atmosphere. The range of numbers mostly depends on the rate at which future benefits are discounted into present dollars.

These new figures enable a rough calculation of the benefits of H.R. 2454's cap on carbon emissions. Comparing those benefits with earlier costs estimates of H.R. 2454, IPI estimated a "breakeven price" of roughly \$7 to \$9 in benefits per each ton of pollution prevented by the bill. So long as the price of emitting a ton of heat-trapping gases is not at the absolute bottom of the spectrum developed by the taskforce, H.R. 2454 is a good investment. Estimates in the middle of the range showed that H.R. 2454 would generate \$1.5 trillion in economic benefits, for a benefit-to-cost ratio of 2-1. At the high end of the interagency range (\$55 per ton), benefits exceed costs by 7-1.

OUT OF CONTEXT,  
H.R. 2454 LOOKS PRICEY.

**Total Costs:**  
**\$550-750**  
**Billion**

BUT FOR THE BENEFITS,  
IT'S A SMALL PRICE TO PAY.

**9-to-1**  
**Benefit to Cost Ratio**

**Total Costs:**  
**\$550-750**  
**Billion**

Using discounting assumptions from other reasonable EPA models, benefits will exceed costs by as much as 9-1.

IPI concludes that, “from almost any perspective and under almost any assumption, H.R. 2454 is a good investment for the United States to make in our own economic future and in the future of the planet.” However, even these numbers underestimate the gains from regulation because many of the benefits of avoiding climate change are real but cannot be easily calculated.

## A MORE COMPLETE ANALYSIS MEANS EVEN BIGGER BENEFITS

IPI’s analysis relied on conservative numbers used by federal agencies, which did not take a large number of factors into consideration, including:

**ADDITIONAL BENEFITS:** As power plants become more efficient or install controls to capture and sequester carbon emissions, Americans will experience immediate health benefits from reducing the pollutants responsible for smog (primarily NOX) and acid rain (SO2). Controls will also mean less particulate matter and heavy metals, helping to improve water and soil quality and to reduce severe respiratory disorders. Other indirect and uncounted benefits include reduced ocean acidification (which is causing harm to ocean sources of food) and geopolitical benefits (for example, reduced stress in already unstable and poorly governed countries, reducing the risk of open conflict) from reductions in energy usage; these should be counted in a fair benefits analysis.

**AVOIDING CLIMATE CATASTROPHE:** Reducing heat-trapping gases not only stops the incremental harms associated with climate change—like rising sea levels—but also reduces the risk of rapid catastrophic climate change. Many scientists believe that these threats are the most important reason to control carbon emissions as soon as possible. Just as people purchase insurance to protect against extreme losses, acting now to reduce emissions will reduce the likelihood of a low-probability but high-impact climate change scenario.

**DIFFICULT-TO-QUANTIFY IMPACTS:** The models used to estimate the damage avoided by climate controls do not consider many likely impacts including: changes in growing seasons; agricultural impacts from precipitation and weather variability; water supply disruptions; increased social and political unrest; effects on algae, fish migration, and coral reefs; longer fire seasons, longer burning fires, and increased burn areas; insurance costs associated with changes in extreme weather, flooding, and sea level rise; increased infrastructure costs (rebuilding roads, bridges, and airports located at sea level); increased deaths, injuries, infectious diseases, and stress-related disorders from more frequent extreme weather (droughts, floods, fires, and heavy winds); increases in malnutrition and water-borne illnesses; impacts on tourism revenues due to ecosystem changes and weather events; and dying tropical forest in the Amazon. A complete analysis would look into these and other non-quantified impacts and ensure that they were included in estimating the benefits of addressing global warming.

## CONCLUSION

Taken out of context, the modest costs of H.R. 2454 might seem like an unnecessary expense. But when compared with the economic benefits, this outlay begins to look like a very wise investment. It is important for decisionmakers to look at both sides of this debate.

To aid in congressional and public understanding of how benefits of this bill outweigh its modest costs, IPI urgently calls on the EPA to prepare a complete analysis, including a robust evaluation of the full range of benefits. A complete analysis of both the costs and benefits of climate legislation is likely to find that even more stringent legislative provisions are a sound investment for America.

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The Institute for Policy Integrity at New York University School of Law is a non-partisan advocacy organization and think-tank dedicated to improving the quality of governmental decisionmaking. IPI promotes sound cost-benefit analysis of environmental, health and safety policy at the state, national, and global levels. Founded by the coauthors of *Retaking Rationality: How Cost-Benefit Analysis Can Better Protect the Environment and Our Health*—Richard L. Revesz and Michael A. Livermore—IPI strives for smarter policy through balanced economic analysis.

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