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## Climate Policy and Jobs: An Update on What Economists Know Eban Goodstein, Kristen Sheeran, Peter Dorman, John Laitner, Jonathan Isham

*for Economics for Equity and the Environment Network  
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### ***Addressing Climate Change Can Lead to Net Job Growth in the United States***

Many economists believe that due to the global downturn, the US will experience high rates of unemployment (>6%) for a number of years to come. However, a steady shift toward climate protection will likely boost net job growth in the US:

- **Reduced oil imports would create jobs.** Reducing oil imports can save hundreds of billions of dollars each year on imported oil. Rather than send this money abroad, it can be spent at home, creating jobs. We have the potential to create 900,000 new jobs in the US for every \$100 billion decrease in oil imports<sup>1</sup>.
- **Carbon solutions invest in labor intensive domestic jobs and domestic resources.** The solutions to climate change—ranging from renewable energy, to high-speed rail, to smart-grid investments, to sustainable biofuels—depend more on domestic resources, and also use more labor per dollar invested, than do fossil fuel alternatives. One recent study suggested that a switch towards carbon-reducing investment could create 1.7 million near term jobs (Pollin et al. 2009).
- **The United States can create jobs by re-assuming technology leadership.** China is moving aggressively to capture leadership in solar, wind, high-speed rail, and other key clean energy solutions. But as recently as 1995, the US was the technology leader in wind and ‘baseload solar’—solar thermal. US utilities today are purchasing these technologies from China, Denmark and Spain. By re-assuming technology leadership, and adopting a policy framework to support clean, homegrown energy industries, the US can create new jobs by selling into an emerging, massive global market.
- **Investment in clean energy can mobilize capital to end the recession.** The current downturn, resulting from the collapse of an asset bubble, is the hardest type from which to recover. In these types of recessions, self-corrective mechanisms are weak. Concerned about lack of future demand, businesses scale back investment, which has a multiplier effect, holding back recovery. A sustained national effort to rewire the country with clean energy, including a cap and trade system as a central driver, could mobilize large-scale private sector investment and initiate a positive feedback process: investment → jobs → income → investment → jobs → sustained growth.

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<sup>1</sup> This estimate is based on the following. We assume that a \$100 billion decrease in imports raises US GDP by \$100 billion. We then multiply the \$100 billion increase in GDP by the current ratio of US jobs per dollar of GDP.



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### ***Addressing Climate Change Will Not Result in Significant Job Loss***

In spite of heated rhetoric claiming that past episodes of environmental regulation have been ‘job-killers’, numerous independent studies show:

- **Plant closings and layoffs as a result of environmental regulation are very rare.** Repeated studies show that layoffs attributable to environmental regulations account for only 1/10<sup>th</sup> of 1% of all layoffs nationwide: around 1,000-3,000 jobs per year across the entire United States. For example, less than 7000 jobs were lost between 1990-1997 as a direct result of the Clean Air Act Amendments taking effect. Over that same period, 10 million US workers were laid off for non-environmental reasons (Goodstein 1999).
- **Proposed climate legislation will not be costly and will have little overall negative impact on employment through 2030.** In sharp contrast to the ‘sky-will-fall’ claims of industry trade groups, independent academic and government studies of US climate legislation, from MIT; Harvard’s Dale Jorgensen; the Energy Information Administration; The Research Triangle Institute; and the Department of Energy’s Pacific Northwest National Lab, see very low short-term costs and negligible impacts on long-run job growth.
- **Environmental spending creates jobs that offset losses.** Compared to overall spending in the economy, on a per dollar basis, spending on environmental protection and clean-up employs twice as many workers in construction (11% versus 4%) and 25% more in manufacturing (20% versus 16%) (Pollin et al. 2009). A study by Resources For the Future’s Morgenstern et al. (2002) of the heavily regulated steel, petroleum, plastics, and pulp and paper industries concluded: “While environmental spending clearly has consequences for business and labor, the hypothesis that such spending significantly reduces employment in heavily polluting industries is not supported by the data.”
- **Few firms flee the United States to ‘pollution havens’ in poor countries.** Environmental costs are generally below 2% of total business costs. Firms that do leave the US generally do so in pursuit of lower labor and health costs, expenditures forming a much higher percentage of their total costs. Economists searching for evidence supporting widespread flight of polluting industries have not found significant effects. In the climate-change case, the handful of energy intensive industries that might be subject to competitive pressure from abroad can be shielded with WTO-sanctioned import tariffs.
- **Climate action will heavily impact one group of workers: coal miners.** With or without greenhouse gas controls, coal industry employment is predicted to fall significantly by 2025 as a result of mechanization. If carbon emissions are restricted, we are likely to see a further decline of jobs of about 1,500 per year (Goodstein 2009). The nation has a clear obligation to invest heavily in adjustment assistance to help miners who lose from climate stabilization efforts. However, as Senator Byrd from West Virginia has stated, “To be part of any solution, one must first acknowledge a problem. To deny the mounting science of climate change is to stick our heads in the sand and say ‘deal me out.’”



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**For more Detailed Information:**

A more detailed discussion of the issues explored here can be found in *The Trade-off Myth: Fact and Fiction About Jobs and the Environment*, Eban Goodstein (Island Press 1999). The four industry study is "Jobs Versus the Environment: An Industry-Level Perspective", Richard Morgenstern et al., *Journal of Environmental Economics and Management*, May 2002 43(2). For a review of the MIT, EIA, Research Triangle, DOE, and Jorgenson analyses of the costs of proposed US climate policy, see "The Economics of 350" Frank Ackerman et al. (E3 Network 2009). The estimate of 1.7 million jobs is from "How the economic stimulus program and new legislation can boost US economic growth and employment", Robert Pollin et al. (Political Economy Research Institute 2009). See also "Climate Change Policy as an Economic Redevelopment Opportunity: The Role of Productive Investments in Mitigating Greenhouse Gas Emissions", John Laitner (ACEEE 2009). The case that carbon legislation can help end the recession is made by Economics Nobel Prize winner Paul Krugman, "An Affordable Salvation", *New York Times*, April 30, 2009. Senator Byrd's speech "Coal Must Embrace the Future" (December 3, 2009) can be found at <http://byrd.senate.gov>.