Crafting a Climate-Oriented Stimulus Recovery Program

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The COVID-19 pandemic has caused the U.S. unemployment rate to reach levels last experienced during the Great Depression. The shock's adverse impacts on households, businesses, and state and local governments will likely persist for years beyond the public health crisis. Economic stimulus and recovery programs will be key to bringing the unemployed back to work and deploying capital.

Economists, energy experts, and some political leaders have called for climate change-oriented investments in economic recovery efforts. The International Monetary Fund emphasized the importance of a "green recovery" and the International Energy Agency argued for putting "clean energy at the heart of stimulus plans." In July, presidential candidate Joe Biden proposed $2 trillion in spending on clean energy and climate-related infrastructure.

Respond to the virus and job losses by putting America to work in green energy

The development of recovery efforts can benefit from the lessons learned from the programs addressing the Great Recession, which included about $100 billion in clean energy spending and tax credits. These experiences driving major investments in renewable energy, energy efficiency, the grid, and transportation provide four key insights for future policy design.

First, administratively simple spending policies with little or no political discretion — such as investment tax credits and grants as well as production tax credits for renewable power — can quickly drive clean energy investment. Wind and solar power capacity today are 4 and 100 times greater, respectively, than they were in 2008. This reflects both accelerated buildout of these technologies under the 2009 Recovery Act's tax and grant programs, and the positive effect such investment has had in driving down technology costs.

Second, the clean energy package was designed to leverage other sources of finance, but this is a double-edged sword. When successful, clean energy tax credits attracted more private financing of renewable power, which amplifies their stimulus impacts. The challenge lies in those cases when leveraging requires partners who later abandon the project. Several high-speed rail projects failed to move forward when governors opted against their state's participation. Commercial-scale demonstration of carbon capture and storage technology did not move forward when a coalition of utilities would not satisfy the cost-sharing requirements.

Third, driving change in the energy system and creating new jobs requires effective targeting of policies. Poorly designed programs may invest in efforts that would have happened anyway. For example, Sébastien Houde and I found that about 90 percent of the households that claimed a rebate for buying an EnergyStar-rated refrigerator would have done so without the Recovery Act's rebate program.

Finally, there are potential pitfalls in clean energy programs with government discretion. The Department of Energy loan guarantee program became notorious in the case of Solyndra, a solar manufacturing company that defaulted. This program moved more slowly than automatic programs, such as tax credits and investment grants, and by the time it sunset in late 2011, it had used less than one-third of its initial appropriation to support clean energy innovation. The discretionary nature of the program made it a political lightening rod, even though it represented less than 2 percent of clean energy spending in the Recovery Act.

In considering these lessons, one should also recognize how the current circumstances differ from 2009. A decade ago, the climate-oriented spending in the Recovery Act focused almost entirely on clean energy investments, reflecting an emission mitigation approach to climate change. Over the past decade, global greenhouse gas emissions have increased, and serious climate change damages have become more likely. To reduce exposure to climate change shocks, future public spending should also facilitate adaptation and resilience to a changing world.

The policy landscape is also considerably more complex today than in 2009. State carbon dioxide cap-and-trade programs and renewable power mandates create incentives for deploying clean energy. The prospect of future federal climate policy — such as Clean Air Act regulations, a carbon tax, or a national clean energy standard — would also drive investment in climate-friendly technologies. The challenge for stimulus lies in crafting programs that complement and accelerate the investment that would already occur under these existing and future policies.

Finally, historically low interest rates — effectively negative inflation-adjusted government borrowing rates over 30 years — imply significantly lower costs to finance recovery programs today compared to a decade ago. The low borrowing costs coupled with the dire economic conditions we are encountering justify historically large economic recovery efforts. Moreover, this low-interest rate environment would enable a longer-term, climate-oriented public spending program.