Federal funding for research on renewable energy and climate change is likely to take a nose-dive under Trump. For instance, a senior advisor recently announced that NASA's earth sciences research program would be scrapped. In a previous post, I argued that state governments should help pick up the slack. Doing so could have economic benefits in energy tech for those states, as well helping to fight climate change around the world. By the way, in referring to renewable energy I'm also including related subjects like increased energy efficiency.

There's already a successful model for this kind of research funding. When the Bush Administration cut back on stem-cell research, California voters stepped into the breach with Prop 71, which created the California Institute of Regenerative Medicine (CIRM).

The Little Hoover Commission – California's state think-tank on administrative reform – had this to say about Prop 71 in 2009:

"CIRM has been successful in getting money out the door quickly and establishing California as a global leader in stem cell science. Its investment of more than $700 million since 2004 has provided demonstrable results, including new and expanded facilities under construction, an influx of out-of-state and foreign scientists, published articles on research progress and growth in California's life-sciences industry. Moreover, it has leveraged the state's investment by attracting $900 million in matching funds."

With the benefit of California's experience with the CIRM, we can actually do better with a new energy research initiative. The Little Hoover Commission had important recommendations, such as changing the governance structure and making the grant process more transparent.

We might also think about replicating the CIRM Discovery Inception Program. The Inception program is something like DARPA, the Defense Department's renowned funder for cutting-edge research. The CIRM initiative provides seed money for "great ideas" that need testing and early data before they can compete for later, larger funding opportunities. We can imagine something similar in the areas of energy and climate research. Maybe we could call it the California Advanced Research Project Agency – Energy and Climate or CARPA-EC. Its assignment should include not only renewable energy and climate modeling, but related topics like energy efficiency and methods of adapting to climate change.

One beneficial side effect of the CIRM is that it actually boosted similar efforts in other states, which were worried about losing top experts to California. Thus, there was a national multiplier effect. Something similar could happen with CARPA-EC.

There are two reasons why such a similar energy and climate program makes sense for states like California. First, it would be good for the host state. The energy research would boost research programs in the state, with spinoff benefits for start-ups and ultimately for local consumers. The climate information would help guide local climate adaptation efforts.

Second, new energy technologies and better climate information would be helpful for other, less progressive states. In particular, cheaper, more reliable, renewable energy technologies could penetrate markets even in adamantly red states and even outside the U.S. The resulting reduction in carbon emissions would benefit the host state, as well as everyone else, and create markets for firms in the host state.

Of course, it would be great if none of this turns out to be necessary – if climate denier Donald Trump and the pro-fossil fuels GOP Congress keep funding energy and climate research at present levels. But don’t count on that happening.