



Governments as Partners: The Role of Collaboration in US Cleantech Startup Innovation

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With many looking to cleantech innovation to solve global environmental problems, can we understand better whether and how government can help to promote new discoveries? Claudia Doblinger, Akademische Rätin a.Z. (Assistant Professor) at the University of Regensburg, in Germany, and former post-doctoral fellow in the Harvard Kennedy School's Belfer Center for Science and International Affairs, returned to Harvard this week to speak about the research she conducted with her Harvard co-authors, Kavita Surana and Laura Diaz Anadon.

In Silicon Valley, Doblinger noted, technology startups seem to flourish with little government encouragement. Can the same be expected for clean energy technologies? Or is there still an important role for direct government support for start-up innovation in the energy sector?

Setting aside the potential impacts of “demand pull” government policies (clean power portfolio requirements, for example), Doblinger and her colleagues focused on better understanding whether government support can help “push” the supply of new energy technology innovation by forging collaboration with cleantech start-ups. The researchers hypothesized that, given the long development timeline of new clean energy technologies and the sometimes large amount of capital needed, collaboration with government might still have an important role to play and might offer benefits greater than those available from collaboration with other, non-government, partners, such as other businesses and even universities.

The researchers looked at data on almost eight hundred cleantech start-ups in the United States between 2008 and 2012 to investigate the relationship between patent activity, financing deals, and collaboration. Their analysis, Doblinger reported, found that collaborating with a government partner (for example, a government lab, such as the National Renewable Energy Laboratory) in a technology development or licensing relationship had a significant positive impact on patent activity. In addition, firms that were government technology licensees had more financing deals than other firms. Having a licensee relationship with a government entity was especially helpful for firms whose extended network of other connections was limited—often, firms that may have been geographically isolated from the centers of cleantech innovation activity.

The same findings did not extend, however, to market relationships with government entities, suggesting that winning government contracts for an existing technology does not in itself contribute to future innovation activity.

Among the policy implications of their research, Doblinger noted that it supported the need for “sufficient and stable funding for longer-term research activities of government agencies,” and that it might be a good idea to find ways to incentivize joint development activities between government agencies and start ups.

Doblinger spoke as part of the Kennedy School's Energy Policy Seminar Series, which is sponsored by the Consortium for Energy Policy Research of the Mossavar-Rahmani Center on Business and Government.

