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EXECUTIVE SUMMARY

Mind the Gap: A Design for a New Energy Technology Commercialization Foundation

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Proposal

The Information Technology and Innovation Foundation calls on Congress to authorize a nonprofit Energy Technology Commercialization Foundation (ETCF) with the mission of strengthening U.S. competitiveness in a carbon-constrained world. Drawing on precedents set by other congressionally-authorized agency-related foundations, ETCF would work closely with the U.S. Department of Energy (DOE) to accelerate commercialization of energy technologies through partnerships with the private sector and philanthropic organizations.

Congress should provide the ETCF and DOE with the tools and incentives they need to work together harmoniously and jump-start ETCF with a modest one-time appropriation of $30 million, which would leverage substantially larger contributions from nongovernmental donors.

The Problem

Over the coming decades, the world economy must make a transition to low-carbon energy. This transition will require accelerated innovation to affordably reduce the carbon footprint of all major emissions sources, including hard-to-decarbonize sectors such as long-distance transportation and manufacturing, as well as electricity and light-duty vehicles, where the transition has already begun.

The United States' strong support for energy research and development should position it well to lead the global energy transition. But the United States has difficulty moving new technologies from early discovery to scale. No single entity in the U.S. energy innovation system is responsible for bringing new technologies across the fabled "valley of death" between proof of concept and early adoption in the market. Government and philanthropic funding typically comes too early in the process to help would-be innovators get to market, while the private sector (with a few exceptions) prefers investments that pay off more quickly and with more certainty.

This gap in the nation's energy innovation system could put the climate at risk by stalling the transition. It could also open the way for China and other countries to capitalize on U.S. investments. If key technologies are made overseas, the United States will lose out on many of the commercial opportunities the transition will create, and its national security could be compromised. If the United States is to lead the world toward a cleaner energy future and gain the economic, security, and environmental benefits of that leadership, it must fill the gaps in its system for commercializing new energy technologies by better connecting the diverse players that make up the innovation ecosystem.

Design for an Energy Technology Commercialization Foundation

At the core of ETCF would be collaboration strategies aimed at catalyzing and incubating partnerships between the public, private, and philanthropic communities to tackle cross-cutting national challenges and strengthening regional energy innovation ecosystems.

Collaboration Strategies	
Cross-Cutting National Challenges	Strengthen Regional Energy Innovation Ecosystems

To advance these strategies, ETCF would regrant funds to innovative teams and organizations developing new energy technologies in a variety of settings, including businesses, incubators, universities, and government laboratories. Within the context of the two strategies, ETCF would support four kinds of commercialization activities.

Commercialization Activities	
Access to Facilities and Expertise	Training and Education
Maturation Funding	Convening and Stakeholder Engagement

ETCF would leverage its strong connection to DOE to connect innovators with technical resources and expertise across the country, including at DOE's 17 national laboratories and in academia and industry. ETCF would complement and supplement DOE's own commercialization initiatives, which are products of the same reform impulse that has led advocates to propose ETCF.

Funding and Governance

ETCF would raise most of its funds from private-sector and philanthropic donors that see value in accelerating the commercialization of scalable climate solutions. Key requirements for ETCF's governance structure would be set by Congress, including a diverse board, and specific directions establishing the collaborative and coordinated relationship between DOE and the ETCF.

Precedents

ETCF's authorization would draw on precedents set by other congressionally-authorized agency-related foundations, such as the National Park Foundation, Foundation for the National Institutes of Health, Foundation for Food and Agriculture Research, and Centers for Disease Control Foundation (CDCF). These foundations have the capacity to create public-private partnerships in ways that federal agencies cannot and the ability to transfer money and equipment to agencies. They can also take action more quickly and flexibly than agencies can; CDCF has raised over $78 million to respond to COVID-19 in 2020.

Urgent Action

The need for an Energy Technology Commercialization Foundation is urgent. The United States, in spite of its scientific prowess, is not making rapid enough progress toward solving the diverse and difficult decarbonization challenges it faces. ETCF's creation would not solve all that ails the U.S. energy innovation system. But it would help DOE to lower the mortality rate of innovators seeking to cross the valley of death and encourage other actors to take actions that would have that effect as well.

About the Authors

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