



## **The Respondents: Champions for FESI**

The [Center for Clean Energy Innovation](#) at the [Information Technology and Innovation Foundation](#) (ITIF), a non-partisan think tank, and [SustainabiliD](#), a women-owned strategic advising firm, along with 13 expert co-signers, are pleased to offer this response to DOE’s Request for Information—Foundation for Energy Security and Innovation (FESI) 6450-01-P, issued on February 8, 2023.

Congress authorized DOE to establish FESI in section 10691 of the CHIPS and Science Act of 2022. This authorization reflects a powerful bipartisan consensus, expressed in the sponsorship of and votes on precursor legislation, that an agency-affiliated foundation, drawing on a [model](#) proven by the National Park Service, National Institutes of Health, and numerous other federal agencies, would be a valuable partner to help DOE achieve its mission.

ITIF has championed this concept since [2016](#), carrying out extensive research, authoring a [major report](#), and engaging with stakeholders to further refine it. SustainabiliD [joined](#) the effort in 2022 with support from Schmidt Futures. The other signatories of this response are individuals who have volunteered to share their wide-ranging experience and expertise to aid in FESI’s start-up.

We welcome DOE’s implementation of the congressional authorization and look forward to seeing FESI established by September 2023.

### *Response to Question 1: OTT is the Right Home for FESI Within DOE*

We believe the Office of Technology Transfer (OTT) is the appropriate central point of contact for FESI within DOE. The authorizing legislation gives FESI a broad mandate to support the full range of DOE’s mission but particularly calls out its value “to advance collaboration...to accelerate the commercialization of energy technologies.” (Sec. 10691(b)(1)(B)(ii)). We expect that a wide range of DOE and national laboratory offices and programs will work closely with FESI. OTT, which has a Department-wide mandate, should promote, coordinate, and advise on policy for these interactions, with the support of the Secretary and other senior DOE leaders, and by doing so fulfill this specific congressional intent. FESI has the potential to make significant progress on commercialization of DOE’s science and technology investments.

### *Response to Question 2: FESI Should Be Ambitious, Creative, and Experimental*

DOE has a vast, vital, and challenging mission: “to ensure America’s security and prosperity by addressing its energy, environmental and nuclear challenges through transformative science and technology solutions.” As DOE pursues this mission, it must be attentive and responsive to other national priorities as well. Security and prosperity must be equitably shared across the nation, for instance, and public engagement to seek solutions must be inclusive.

Congress authorized FESI “to support the mission of the Department.” (Sec. 10691(b)(1)(B)(i)) It is therefore empowered to undertake activities that advance progress toward all aspects of the mission. We encourage DOE, along with FESI’s board and staff, to be bold and think big about what FESI can do, building up momentum over time. The diverse approaches of other agency-affiliated foundations show that such an institution can do a surprisingly wide range of things. DOE should encourage FESI to be experimental and creative, learning from the experiences of its counterparts and staying alert to opportunities. FESI will achieve its full potential and make major contributions to DOE’s mission if it is an ambitious and nimble learning organization.

*Response to Question 3: FESI Is Uniquely Suited To Catalyze Public-Private Partnerships to Accelerate Innovation*

As we noted in our response to question 1, in addition to the broad purpose of supporting DOE's mission, Congress gave FESI the special purpose of accelerating technology commercialization through cross-sectoral collaboration. A large body of research has shown that such collaboration is vital for technologies to cross multiple "valleys of death" that often prevent promising prototypes from becoming widely-used solutions. American energy scientists and technologists at universities, national laboratories, and companies are prolific at generating ideas and inventions, but domestic follow-on investment to bring these to their full potential is often lacking. As a result, some technologies invented here are commercialized elsewhere, while others are abandoned.

FESI should be in the business of building bridges across the technology and financing valleys of death. In particular, FESI can establish novel public-private partnerships, use private and philanthropic donations to enhance the payoff from federal research and development investments, and help reduce regulatory barriers for the adoption of clean energy and other emerging technologies. FESI has the authority to advance any promising technology that can attract shared interest from the private or philanthropic sector as well as DOE, whether the technology originates inside or outside of DOE. FESI can accelerate innovation across diverse domains including but not limited to national security, the environment, medicine, health care, and manufacturing. These efforts should be driven by market and other end-use opportunities and informed by DOE and its national laboratories' depth of knowledge and expertise.

FESI's board will set its agenda, consistent with DOE's mission, drawing on ideas that arise from both inside and outside the Department. As FESI sifts these ideas, we suggest that it consider the following criteria for building programs and selecting projects:

- *Comparative advantage over other organizations*, given FESI's unique and streamlined relationship with DOE and the national laboratories,
- *Strength and commitment of partners*, including but not limited to national laboratories and their affiliated foundations, firms, consortia, communities, universities, entrepreneurs, philanthropy, and nonprofits,
- *Access to new, diverse, and otherwise inaccessible private and philanthropic resources and financing mechanisms* that build on existing DOE investments and reduce barriers to collaboration,
- *Ability to leverage non-DOE resources* to drive impact on DOE priorities, foster engagement between DOE and external partners, and cultivate relationships in areas of strategic interest,
- *Potential to overcome bureaucratic limits* due to DOE's institutional design, legal restrictions and regulations, and risk aversion, while maintaining strict adherence to conflict-of-interest and ethics rules, and
- *Use of convening authority* not only within DOE and across the national laboratory complex, private sector, and philanthropy, but also including other federal agencies, state and local governments, and community organizations.

*Response to Question 5a-f: FESI Has an Enormous Array of Potential High-Impact Use Cases*

Like any new organization, FESI will need to seek early wins to build momentum and establish its reputation for adding value to the innovation ecosystem. Given the scope and urgency of DOE's mission, opportunities to do so will abound. Over the longer-term, we can imagine an enormous array of high-impact use cases for FESI. Some possibilities include:

1. *Catalyzing problem-focused industry-led consortia.* DOE has long experience working on precompetitive technologies with industrial consortia. Once they are up and running, these consortia can be very productive, but their initial implementation tends to be slow and saddled by red tape. Like the Foundation for the NIH, FESI could launch consortia quickly and assist them to transition into stable, permanent relationships with DOE.
2. *Supporting coordinated procurement, advance market commitments, and other sources of demand to stimulate innovation uptake.* Early adoption of new technologies spurs their improvement and lowers their cost. FESI could work with DOE to identify uptake opportunities, while simultaneously collaborating with non-governmental funders who might buy down the costs. FESI's network could become a repository of design expertise and operational know-how for demand-side energy and climate innovation policy.
3. *Strengthening incentives to broaden the pool of innovators.* The nation's energy challenges demand an "all-of-society" response. The more diverse the communities that are advancing solutions (rural to urban, coast to coast), the better. Learning from the Foundation for Food and Agriculture Research, FESI could work with DOE to assess the pool of innovators and design programs, including prize competitions, to broaden it.
4. *Collaborating to strengthen regional innovation ecosystems.* Regions are increasingly building economic development strategies around clean energy. DOE has not had a strong regional presence in the past, but now has a Congressional mandate to build one. Working with the national laboratory foundations, universities, and other partners, FESI could convene initiatives to strengthen regional ecosystems.
5. *Convening impact and venture investors.* Early-stage investors have a granular understanding of the technological opportunities, competitive landscape, and commercialization challenges facing clean energy start-ups. FESI could bring this community together with DOE managers and national laboratory experts to identify promising areas for public-private partnerships as well as pitfalls that may impede participation of entrepreneurs in such efforts.
6. *Piloting or expanding DOE innovation programs with non-DOE funding.* DOE has fielded an array of creative programs that foster technology commercialization, such as Lab-Embedded Entrepreneurship, Lab Partnering, Small Business Vouchers, and Energy i-Corps. The demand for these programs is often stronger than federal funding can accommodate. FESI could enable philanthropic and private donors to expand capacity.
7. *Responding quickly to crises.* The global energy and climate situation is volatile, and crises are inevitable. As the CDC Foundation showed in its response to covid, FESI could act quickly in such situations, laying the basis for a longer-lasting response from DOE. Key activities might include public communication about the performance of the energy system and coordination with non-federal actors, especially in philanthropy and business.
8. *Enabling communities and new entrants to participate in clean energy innovation.* Landmark legislation has greatly expanded DOE's on-the-ground footprint through demonstration and deployment programs. The success of these programs depends on

effective engagement with a diverse group of actors. FESI could work with partners to provide technical assistance to organizations and businesses that have not worked with DOE in the past, increasing the number and quality of such new entrants.

*Response to Question 5g: FESI Should Strengthen and Collaborate with DOE National Laboratory Foundations*

A growing number of DOE national laboratories have created affiliated foundations. Like agency-affiliated foundations in general, the lab foundations have diverse goals and activities. This diversity, based on intimate knowledge of the individual laboratories and their surrounding innovation ecosystems, is an asset for DOE and FESI. FESI should consult with the lab foundations to determine how they can best work together to reinforce one another's strengths. Appointment or ex-officio inclusion of a lab foundation representative on FESI's board might help establish a relationship of mutual support.

FESI and the lab foundations should consider together how FESI might serve as a repository of operating knowledge and best practice. For instance, FESI might provide startup services to new lab foundations, including one authorized by Congress for the National Energy Technology Laboratory. FESI might aggregate resources for and facilitate conversations among the lab foundations, as well as assist the Secretary to prepare "guidelines and templates" for them. (Section 10691(b)(4)(G)(iii)) FESI might provide communications and other mutually agreed services that support common interests among the lab foundations and with FESI.

*Response to Question 6: DOE Must Build Trust among DOE, FESI, and the Public*

FESI's ultimate success depends on a trust-based relationship with DOE, Congress, and the public. Existing agency foundations have found that with such trust, their impact soars, and without them, it shrivels. FESI must be independent of, yet closely attached to, DOE: 'with' the agency but not 'of' it.

Relationships are one important mechanism for trust-building. At the highest level, DOE leadership should be active ex officio participants on the FESI board. Leadership relationships will enable strategic coordination in pursuit of DOE's mission, so FESI's role as the agency's complement is maximized. DOE leadership should also encourage staff throughout the Department to work closely with FESI staff, identifying opportunities, sharing knowledge, and collaborating on activities.

In an agency setting, relationships are embedded in an administrative and legal structure. DOE and FESI should negotiate a memorandum of understanding (MOU) that provides the overarching rules and principles that guide their relationship. This MOU should establish a consistent, streamlined process and lead to template agreements for partnering with DOE programs and accessing labs and facilities. Internally, DOE should implement the MOU with guidance, directives, and orders that empower agency staff to take full advantage of FESI.

Trust between DOE and FESI will also depend on winning the public's trust. Drawing on the experiences of other agency-affiliated foundations, FESI's board must develop strong conflict-of-interest and ethics rules and apply them rigorously and transparently to itself and FESI staff. These rules will be particularly important for governing flows of donations to and through FESI, as authorized by Congress. The creation of such a framework may allow FESI to lead an effort to

establish DOE pre-approval for accepting and using private donations at national labs, allowing them to be made with greater predictability and speed.

Finally, trust in FESI will depend on its ability to deliver on its commitments and manage risks as it grows and matures. It must build internal infrastructure and support operations in parallel with programmatic resources and personnel, avoiding the temptation to underspend on these less visible capacities. It must create sophisticated systems to screen potential partners, analyze contracts, and execute transactions as well as manage data storage, intellectual property, and cybersecurity. Right-sizing the support structure from the start will help FESI to scale aggressively and maximize its potential to support DOE's mission.

*Response to Question 7: DOE Should Take Full Advantage of FESI's Convening Authority and Scouting Capabilities*

As an entity that is “with” but not “of” DOE, FESI is in a unique position to develop and share information about needs and scout opportunities across the energy innovation ecosystem. On one side, FESI, in collaboration with the lab foundations, could build a high-level understanding of DOE's available research and technology resources and communicate these as it develops partnership opportunities. On the other side, like other agency-affiliated foundations, FESI could establish a program to gather, assess and recommend activities of common interest to the private sector, communities, and other key players in the ecosystem.

FESI could use its convening authority to address systemic barriers to innovation as well. For instance, it might provide neutral forums for dialogue among federal and state regulators, industry representatives and community organizations, drawing on DOE and national laboratory technical expertise. NIST's National Institute for Innovation in Manufacturing Biopharmaceuticals (NIIMBL)—one of the Manufacturing USA Institutes—is an appropriate model and can offer best practices.

**Conclusion: FESI Should Become a Vital Asset for DOE**

The Foundation for Energy Security and Innovation is an idea whose time has come. DOE drives action toward many of the United States' most vital goals: a strong, secure economy; global leadership in science and technology; eliminating climate pollution at home and around the world, and much more. Congress seized an historic opportunity to accelerate progress toward these goals by authorizing DOE to establish and collaborate closely with FESI.

FESI builds on a model proven by foundations affiliated with agencies across the federal government over a span of many decades. FESI's congressional authorization gives it a unique role to identify opportunities and build DOE's partnerships with the private and philanthropic sectors. FESI should become a vital asset for DOE as its responsibilities expand in response to recent legislation and the rising importance of energy security and innovation challenges.