



The Honorable Eddie Bernice Johnson (TX-30)
Chairwoman, House Committee on Science,
Space, & Technology

The Honorable Frank Lucas (OK-3)
Ranking Member, House Committee on Science,
Space & Technology

The Honorable Haley Stevens (MI-11)
Chairman, Subcommittee on Research and
Technology

The Honorable Michael Waltz (FL-6)
Ranking Member, Subcommittee on Research
and Technology

The Honorable Nydia Velázquez (NY-7)
Chairwoman, House Committee on Small
Business

The Honorable Blaine Luetkemeyer (MO-03)
Ranking Member, House Committee on Small
Business

The Honorable Jason Crow (CO-6)
Chairman, Subcommittee on Innovation,
Entrepreneurship & Workforce Development

The Honorable Young Kim (CA-39)
Ranking Member, Subcommittee on Innovation,
Entrepreneurship & Workforce Development

June 21, 2021

Dear Chairwoman Johnson, Ranking Member Lucas, Chairwoman Stevens, Ranking Member Waltz, Chairwoman Velázquez, Ranking Member Luetkemeyer, Chairman Crow, and Ranking Member Kim:

We are writing as members of the Clean Energy Business Network—the small business voice for the clean energy economy—to convey our recommendations for small business policies to support technology research, development, and commercialization.

Our companies and associations are working across the spectrum of clean energy technologies, including energy efficiency, natural gas, renewable energy, advanced transportation, and storage, among others. Our industries support over 3 million jobs across the country, many of those in manufacturing, and represent the major growth sectors of the U.S. energy economy.

Many of our businesses have benefitted from federal research and development initiatives such as the Small Business Innovation Research (SBIR) and Small Business Technology Transfer (STTR) Programs. We have seen how critical these programs are to promoting breakthroughs in commercialization of cutting-edge technologies. At the same time, we recommend improvements to make these programs even more impactful and available to small businesses across the nation.

Most of the recommendations below can be implemented at no additional cost to the American taxpayer and only require adjusting program direction and implementation. Where new programming or staff are called for in order to manage small business programs more effectively, these improvements can be achieved at minimal cost while increasing mission impact. Additionally, several of the proposals identified below involving extending permanent reauthorization of existing pilot programs that have been reauthorized multiple times on a bipartisan basis by Congress following extensive hearings and stakeholder engagement. These programs have periodically lapsed when these authorizations expired, and should be permanently reauthorized to avoid future disruptions to the SBIR/STTR program.

In the course of the development of these policy recommendations, we have identified changes that could be taken through legislative action as the 117th Congress considers Small Business Administration authorization. Additionally, a number of changes could be accomplished without legislation through administrative action; these are included as an addendum at the end of this letter.

1. Technical Assistance for Applications, Particularly for Diverse Teams

- Recommendation: *Provide technical assistance to teams with limited SBIR experience.*
- Background: Some federal agencies provide technical assistance to first-time applicants, such as the Department of Energy’s “Phase 0” program with its contractor, Dawnbreaker and National Institutes of Health’s “Application Assistance Program” with its contractor, Eva Garland Consulting. However, many novice applicants still struggle with the enormously technical applications even after the first time—particularly if the team is unsuccessful in its first attempt and wishes to learn from the experience and submit another application for future consideration. Dedicated agency-specific technical assistance (or vouchers for external assistance) should be available to first-time Phase I applicants, first-time Phase II applicants, and at least one round of re-applicants who were previously unsuccessful. These agency-specific technical assistance programs should also coordinate closely with state and local support centers funded through the Federal and State Technology (FAST) Partnership Program to recruit and support teams from underrepresented populations, regions, and universities. This practice will ensure that the most promising technical ideas are able to compete for awards, regardless of the team’s size or prior experience working with the federal government.

2. Sufficient Follow-on Funding

- Recommendation: *Make the Commercialization Readiness Pilot Program for Civilian Agencies and the Commercialization Assistance Pilot Program permanent*
- Background: The Civilian Agency Commercialization Readiness Pilot Program (CRPP) allows non-DOD agencies to use up to 10% of their SBIR/STTR budget for follow-on awards up to three times greater than a typical Phase II award. The Commercialization Assistance Pilot Program allows agencies to use up to 5% of their SBIR budget for subsequent Phase II awards with a private-sector match. Agencies have responsibly used their authority to make follow-on SBIR/STTR awards to promising companies after the initial Phase II, when there is a clear but lengthy path to commercialization (e.g., completing the drug approval pipeline). Agencies need long-term certainty that these authorities will not lapse or expire.

3. Entrepreneurial Authority

- Recommendation: *Allow Technical and Business Assistance funds to be spent in-house, rather than mandating one or more external vendors.*
- Background: Through the Technical and Business Assistance Programs, several agencies allow SBIR/STTR awardees to spend a portion of their awards on non-R&D expenses such as

technical and business expertise designed to create a commercialization plan for their technologies. For example, the Department of Energy calls this its “Commercialization Assistance Program.” Some agencies provide a designated contractor to support this work. Entrepreneurs should have the discretion to allocate these dollars in the most efficient way, so they should be allowed to choose among the designated contractor, another contractor of their choosing, or in-house employees who possess that technical and business expertise.

4. Award Flexibility

- Recommendation: *Extend direct-to-Phase-II authority to all agencies and make it permanent.*
- Background: For most agencies, only prior recipients of a Phase I (Feasibility and Proof of Concept) award are eligible to apply for Phase II (Research and Development) award. The Phase Flexibility Pilot Program authorized the National Institutes of Health, Department of Defense, and Department of Education to bypass Phase I and issue Phase II awards if the firm has already met the Phase I standards. Every agency should have the flexibility to make a Phase II award without a prior Phase I award if the small business is ready for it, and this pilot authority should be made permanent. Some businesses may find the smaller dollar amounts provided in Phase I less useful and may prefer to conduct R&D in-house and then proceed with a \$1-2 million Phase II grant to further test out and prove the commercial viability of the technology.

5. Agency Excellence

- Recommendation: *Make the Administrative Funding Pilot Program permanent.*
- Background: Since 2011, agencies have been allowed to use 3% of SBIR/STTR funds for program improvements, yielding a profusion of innovative initiatives to diversify the applicant pool, upgrade data reporting systems, and provide high-impact entrepreneurship training. The Small Business Administration provides performance criteria to measure the effectiveness of these activities and reports to Congress on how funds are used. In order to implement the critical improvements identified in this letter, agencies need long-term certainty that this authority will not lapse, as it has done in the recent past.

In closing, small businesses across all sectors are working to develop new technologies that will transform our lives, in part with support from SBIR/STTR programs. The energy sector offers many shining examples of how the U.S. government has worked in partnership with the private sector to spur innovation. These partnerships have contributed to most transformations in the U.S. energy economy—from new oil extraction methods and hydraulic fracturing, to energy-efficient windows, to dramatic declines in the cost of wind turbines and solar panels.

Small business programs such as SBIR/STTR help small businesses rise and compete to develop promising new technological solutions and bring them to market—resulting in job creation, lower energy bills, increased domestic investment, and healthier communities. We urge you to stand beside these entrepreneurs in bringing the best and brightest ideas to market.

Thank you in advance for consideration of our views. Should you have any questions, please contact CEBN President Lynn Abramson at labramson@cebn.org for further information.

Sincerely,

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ADDENDUM: RECOMMENDATIONS FOR ADMINISTRATIVE ACTION

Agencies offering small business R&D programs should be encouraged to learn from one another and make progress on these key elements of an entrepreneur-friendly SBIR/STTR program. Below are recommendations based on stakeholder input about practices in place at different federal agencies:

1. Short-Form “Letters of Intent” for First Round of Consideration

- Recommendation: *Ensure that agencies create a system for reviewing and greenlighting short-form project descriptions before requiring a more time-intensive full application.*
- Background: Preparing a high-quality application is a complex and time-intensive task for any small business. Reviewing lengthy applications that are a poor fit is also a waste of federal resources and staff time. Some federal agencies provide a short-form letter of intent—an initial application that is only a few pages long and can be completed without professional assistance. This approach should be used by all agencies to screen submissions for eligibility and fit.

2. Broad, Goal-Oriented Topics

- Recommendation: *Design SBIR/STTR funding announcements based on broad technologies of interest rather than narrow pre-defined research topics.*
- Background: Some agencies, such as the National Science Foundation, request broadly-defined, goal-oriented proposals, whereas the DOE’s typical SBIR/STTR Funding Opportunity Announcement is highly prescriptive in its solicitation topics and may miss highly-impactful, mission-relevant technology solutions proposed by entrepreneurs themselves. This is also a way to reduce barriers for non-traditional applicants. Although comparable in program size, the NSF SBIR/STTR Phase I funding announcement is 20 pages, while the DOE presents nearly 300 pages to describe all its SBIR/STTR topics in a given year.

3. Dedicated Program Managers

- Recommendation: *Develop a team of dedicated SBIR/STTR program managers who possess relevant private-sector experience and the ability to work closely with awardees both before and after awards are made.*
- Background: SBIR/STTR awards tend to be administered as a small portion of a larger R&D portfolio managed by DOE staff with numerous competing priorities. To cater to the unique needs of small businesses commercializing early-stage technologies, it would be ideal to deploy a team of program managers with relevant private-sector experience who focus exclusively on SBIR/STTR awards, akin to the approach used by the Advanced Research Projects Agency-Energy (ARPA-E) and Defense Advanced Research Projects Agency (DARPA).

4. Concrete Timelines, Speed, and Flexibility

- Recommendation: *Provide a more predictable schedule of awards and encourage the use of prizes and other flexible types of transactions to shorten award times.*
- Background: SBIR funding solicitations are often subject to budgetary uncertainties caused by delays in Congressional appropriations. Continuing resolutions (aka stop-gap funding bills) and other budgetary uncertainties sometimes delay SBIR solicitations for months—and then agencies must rush to get dollars out the door in a short timeframe. Fast-moving small businesses cannot suddenly drop everything to work on a funding application on short notice, nor wait months or a year to hear about funding decisions. To the extent possible, DOE should shorten selection and award times, and offer multiple—or even continuous—funding opportunities each year. Given the real constraints imposed by uncertainty in appropriations, a possible solution would be for DOE to maintain a quarterly solicitation schedule, make it clear that the total volume of awards and timing of decisions are contingent on available funding, and allow applicants to resubmit proposals without modification should funding constraints limit the ability to make awards. Having dedicated program managers, as described above, would also help increase speed and flexibility.

5. Matching Funds with Private Investors

- Recommendation: *Allow SBIR-funded small businesses to attract venture capital much earlier.*
- Background: The DOE SBIR program allows small businesses to match DOE dollars with venture capital dollars, which can be a powerful way to “crowd in” private-sector capital and accelerate a company’s path to commercialization. Because DOE currently only allows this “Phase IIC” to occur nearly a decade after a company’s first Phase I award, however, it is not often used. Public/private matching funds should be available after the small business has completed its first Phase II award.

III. Complementary Measures

6. Phase III and Other Commercialization Opportunities

- Recommendation: *Educate and solicit successful SBIR/STTR awardees to seek and win contracts across the federal government based on DOE’s missions and needs, and provide additional forms of commercialization assistance.*
- Background: Some agencies (e.g., Department of Defense) offer procurement opportunities that can help field-test new technologies. This is often referred to as “Phase III”—which is not an official SBIR level but is generally meant to involve demonstration of near-commercial technologies graduating from Phase II. The process of securing such follow-on commercialization funding is typically not widely advertised or understood—and is relatively rare in agencies focusing on R&D (e.g., NSF and DOE). Unfortunately, most companies graduating from SBIR Phase II still face a significant valley of death to building the first-of-a-kind or Nth-of-a-kind demonstrations. Helping these entrepreneurs prove their technologies is critical to establishing commercially-viable companies, creating jobs and tax revenues, and

producing a taxpayer return on investment. Federal agencies should develop cross-cutting procurement platforms for technologies that may have broad applications across the federal government. Additionally, DOE should explore additional means to support technology commercialization, such as demonstration grants and low-interest loans.

7. Support for Entrepreneurship Programs

- Recommendation: *Allocate funding toward entrepreneurship programs within federal laboratories, universities, and incubators to work collaboratively with companies pursuing tough technical challenges.*
- Background: Over the past five years, innovative entrepreneurship training programs at universities and federal laboratories have generated above-average cohorts of promising SBIR/STTR awardees. Examples include Chain Reaction Innovations at Argonne National Lab, Cyclotron Road at Berkeley Lab, The Engine at MIT, Innovation Crossroads at Oak Ridge National Lab, and numerous incubators and accelerators across the country. DOE should complement its SBIR program by continuing to identify and invest in existing and future programs that build a pipeline of highly-educated entrepreneurs pursuing tough technical challenges.