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Inclusive Innovation and Entrepreneurship Roundtable

August 2021

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Richland, Washington 99354

Summary

Pacific Northwest National Laboratory hosted the Inclusive Innovation and Entrepreneurship Roundtable on June 22, 2021. The roundtable convened individuals from the U.S. Department of Energy (DOE), the national laboratories, and experts in climate and energy justice, entrepreneurship and innovation, and incubation and acceleration to understand barriers to entry for communities who have been historically underserved by DOE funding opportunities.

The purpose of the roundtable was to allow for experts and stakeholders to identify the existing challenges and barriers to DOE funding, as well as identify potential solutions or ideas that could be implemented by DOE to address inequities in funding innovation. Furthermore, it served as the beginning of conversations needed to meet the Biden Administration's Justice40 Initiative.

The following five topics were addressed in breakout groups through facilitated discussions:

- Structural barriers in DOE funding instruments;
- Outreach and community engagement and community capacity building;
- Diversity, equity, and inclusion requirements on all DOE Office of Energy Efficiency and Renewable Energy funding instruments;
- Creating a science, technology, engineering, and mathematics pipeline; and
- Inclusive innovation ecosystem.

Each of these discussions resulted in unique ideas and suggestions, which are highlighted throughout this report. Additionally, through the course of the roundtable, several overarching themes were identified by participants across the breakout groups:

- **Resource Intensity Required for Applications Creates Barriers:** Many resources—capital, prior experience with DOE funding opportunities, labor hours, and expertise—are needed to apply for DOE funding opportunities. Even more resources are needed to be successful. The investment to apply, combined with the likelihood of not receiving funding at the end of the process can make DOE funding opportunities unapproachable and unappealing, as well as inequitable, particularly for small organizations, non-profits, and first-time applicants.

- **Biases Toward Familiarity Seen in Funded Recipients:** When awarding funding, there are biases in favor of familiar approaches, organizations, and contexts. DOE's limited engagement at a community level, particularly outside of well-known organizations, national laboratories, and elite research universities, makes it challenging for those who have been historically underserved by DOE funding to break into the sphere. As such, DOE needs to build trust and engagement at a community level. There can be a lack of trust between communities and government entities.

- **Lack of Representation in Outreach, Review, and in DOE Workforce:** Representation matters, and DOE needs to build trust with communities who have been traditionally underserved by the federal government. This will require outreach to underserved and underrepresented communities and a diverse group of perspectives in the application review process to broaden perspectives.

- **Lack of Available Trainings or Other Outreach Progamming Leads to High Burden on Applicants:** The burden of understanding the application and its requirements currently fall entirely to the applicant. DOE must absorb these responsibilities to create a more equitable application process.

Common suggestions on implementable solutions for DOE to consider were also identified:

- **Developing Outreach Strategies to Reach New Audiences:** To effectively include new communities, new engagement strategies are needed and should be conducted in ways that are meaningful to communities.

- **Develop Programming and Trainings for New Applicants:** DOE should provide and support the development of webinars, trainings, cohorts, and peer-to-peer knowledge exchange programs that guide applicants through the application process.

- **Broaden the Pool of Reviews to Include More Representation:** To reach communities that have historically had low to no access, DOE should ensure that these communities are represented in the review processes for applications and, more broadly, as employees at DOE. Participating in review processes would allow more organizations to understand the process, motivation, and review structure of DOE solicitations.

- **Build Networks through Trusted Partners:** DOE also needs to build trust as a credible and reliable partner including through supporting trusted intermediaries. By working with organizations closer to communities and underserved entrepreneurs and innovators, there is a higher likelihood of reaching out more effectively.

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Acronyms and Abbreviations

BIPOC	Black, indigenous, and people of color
DEI	Diversity, equity, and inclusion
DOE	Department of Energy
EERE	DOE Office of Energy Efficiency and Renewable Energy
PNNL	Pacific Northwest National Laboratory
RFI	Request for information
SBIR	Small Business Innovation Research
STEM	Science, technology, engineering, and mathematics

Contents

1.0 Introduction

On June 22, 2021, Pacific Northwest National Laboratory (PNNL) hosted a roundtable to discuss the role that the U.S. Department of Energy (DOE) can play in supporting inclusive and just innovation and entrepreneurship. The roundtable convened individuals from the U.S. Department of Energy (DOE), the national laboratories, and experts in climate and energy justice, entrepreneurship and innovation, and incubation and acceleration to understand barriers to entry for communities who have been historically underserved by DOE funding opportunities (see Appendix A for a list of organizations that were represented at the roundtable). The roundtable consisted of two rounds of breakout sessions addressing the following topics (see Appendix B for a full agenda):

- Structural barriers in DOE funding instruments
- Outreach and community engagement and community capacity building
- Diversity, equity, and inclusion (DEI) requirements on all DOE Office of Energy Efficiency and Renewable Energy (EERE) funding instruments
- Creating a science, technology, engineering, and mathematics (STEM) pipeline
- Inclusive innovation ecosystem.

These discussion topics were selected to complement a request for information (RFI) addressing inclusive innovation and entrepreneurship in climate technologies that DOE released on June 9, 2021 (Appendix C). Experts from the national laboratories and DOE facilitated discussion in each breakout group, and PNNL compiled background materials to prepare participants for the roundtable discussions. This included a preliminary glossary of terms to support inclusive innovation at DOE (Appendix D), DOE program profiles that provide opportunities for inclusive innovation and entrepreneurship (Appendix E), and a list of links and resources for further reading (Appendix F).

This report synthesizes the breakout room discussions during the roundtable before presenting overarching themes that were identified.

2.0 Breakout Rooms

The five breakout room topics complement the RFI by discussing the questions within the RFI and opening up a broader conversation around just and inclusive innovation and entrepreneurship.. Each of these breakout room topics are described below, along with a synthesis of the discussions. The content within these subsections reflects the conversations had during the event. Comments and ideas shared by participants and reflected in the narrative below have not been factchecked or substantiated in the production of this report. Note that participants were also encouraged to respond to the RFI with written input. This report is intended to supplement, not replace, that process.

2.1 Group 1: Structural Barriers in DOE Funding Instruments

Topic Description: *This breakout room offered an opportunity to discuss specific barriers within the application processes to acquire DOE funding, such as language, documentation, cost-share, and implementation requirements.*

The discussion in this group addressed four topic areas: equity and fairness of DOE funding applications; barriers in the funding opportunity process, language, and documentation; cost-share and its inherent barriers; and the application review process.

The first portion of discussion focused on how the DOE application and funding process could be fair and equitable. The overwhelming consensus was that the application and funding process, as it exists today, is not fair and equitable. Attendees brought up a number of specific issues around this consensus. Participants identified that extensive resources are needed to apply for DOE funding, creating a capacity-based limitation and a need for significant time and funding resources just to apply for most funding opportunities. In addition to the time and labor required to put together an application, participants highlighted that understanding the process can be burdensome and resource intensive. If applicants do not have previous experience with DOE funding opportunities, they must learn specialized terms and parse technical documents before even beginning the application. Unlike many large and well-resourced organizations, smaller and nonprofit organizations don't have a dedicated grants manager or other specialized staff to assist in this process.

Participants also identified incumbency and entrenched existing biases as a barrier to equitable DOE funding instruments. Participants noted that if you don't know how DOE works, it is challenging to engage with DOE, let alone win funds. DOE awards a significant portion of its loans and grants to repeat applicants. Participants noted it can appear that DOE often funds people and organizations that they already know. These organizations are knowledgeable about the funding opportunity development process. This results in a self-reinforcing feedback loop. One participant even noted that you "can definitely put yourself in the fast lane if you have connections or influence."

DOE community presence was also raised as a barrier to equitable funding. Participants noted that, even compared to other federal agencies, DOE is not viewed as accessible or welcoming and does not conduct broad engagement. One participant who had had many interactions with DOE entities noted that there is minimal effort from DOE to engage with the broader community, and DOE needs to reach out to underserved people/communities to build trust, especially during a time when trust in government is low. Participants indicated several areas where DOE could improve its community presence, including providing more resources to applicants from groups

underrepresented in STEM and clean energy. Another suggestion was to provide information about what successful applications could look like, and enable connections with other applicants to enable a community of practice and peer networking. Participants also discussed ways DOE could improve its outreach.

Participants identified several other strategies, including mapping the funding process and ecosystem to identify structural barriers. They suggested that DOE could fund consultants to work directly with underrepresented and underserved communities and that partnering with local entities could enable outreach and support for applying for DOE funding. Further, they recommended that bringing on people to serve as reviewers for DOE funding opportunities also could give them insight into the application and review processes. If those reviewers are then interested in applying for future funding, they would be more familiar with what a successful proposal looks like.

Finally, participants identified several strategies to improve the funding process. An overall consensus was to simplify the funding application process and provide assistance to first-time applicants and awardees, similar to the Small Business Innovation Research (SBIR) Phase 0 program. Another suggestion was to provide substantial feedback to unsuccessful applicants.

The second component of the discussion focused explicitly on barriers in the funding opportunity process, language, and documentation. The first barrier discussed was the significant institutional experience and support needed to navigate the application process, which favors well-resourced institutions. Participants noted that there are lucrative for-profit companies that write federal grant applications, which entrenches biases in funding towards those who can afford to hire these companies; the existence of such businesses distorts the pool of award recipients in the federal award system. High-profile R1 universities also have significant resources dedicated to federal funding applications. These systems are examples of higher barriers to smaller, less-resourced organizations receiving funding. Many participants also pointed out the lack of feedback from DOE after unsuccessful applications; feedback could help improve future proposals.

Even after award decisions are made, the negotiation process itself can be time-intensive and divert staff from other responsibilities; funding is not guaranteed at the end of the negotiation process. The process includes extensive documentation of different requirements within each award.

The third portion of the discussion focused on cost-share, its inherent barriers, and inbuilt lack of equal opportunity. Participants highlighted that, fundamentally, requiring private sector cost-share entrenches existing biases against people of color and other underrepresented and marginalized groups given the well-documented biases in acquiring private sector investment and venture capital funding for those groups. Discrimination in private capital extends to the ability to attract federal funding, which is detrimental to equal opportunity.

DOE requires a 20 to 50 percent cost-share for research and development or demonstration projects in applied energy to ensure that the private sector has bought into the project and has a real stake. Many participants noted that this was a barrier, even for well-resourced R1 universities. Participants pointed out that this has also come up as a barrier during the award negotiation process.

Participants provided several approaches for addressing the cost-share barrier. First, DOE can address this by clarifying what kinds of contributions would count toward cost-share.

Participants stressed that many smaller organizations and entities subsist on thin margins; DOE can consider waiving cost-share requirements for smaller organizations. Participants also indicated several strategies that DOE could use within the constraints of current regulations, including incentivizing private sector participation for meritorious grants by making the approval of the contract conditional to acquiring private capital. This is because when a grant is secured, the private sector might be more willing to pledge capital; DOE may assist in this process. Participants noted that DOE could also assist with attracting philanthropic entities to support awardees.

Currently, DOE has no path to eliminate cost-share, but this was the topic where participants were most passionate about its effects and stressed that DOE and Congress need to evaluate the paradigm of cost-share as having skin in the game.

The fourth and final discussion area was the review process for applications. Participants identified the need for a diverse review team and to evaluate what DOE values in its funding processes. Some potential ideas to address these issues included running a redacted or "dual anonymous" peer review that can help remove some biases, as shown in some NASA reviews. Participants also noted that DOE needs to analyze and clarify its goals and then build review criteria to reflect those goals. For example, SBIR review criteria are scientific and technical merit, team capabilities, and innovation. None of these incentivize DEI. Participants indicated that this has worked in other agencies and highlighted the National Science Foundation efforts to incentivize broader impacts and DEI work that positively affected DEI outcomes.

Building off the review process discussion, participants ended the breakout session by unpacking which stakeholders DOE prioritizes. R2 and R3 universities, minority serving institutions, and other institutions are not necessarily the intended recipients of DOE funding. Participants asked if DOE leadership was adequately representative of the underserved/underrepresented groups. They expanded the discussion and talked about how underserved and underrepresented communities feel about or view the federal government and the issues surrounding lack of trust. Many of these communities have been left out and are, therefore, skeptical of federal engagement in general. DOE does not have a visible presence in such communities and needs to implement significant outreach, including at schools. Traditionally, the public sector is one of the largest employers of people of color, and participants noted that this could serve as a pathway for access to the federal government.

2.2 Group 2: Outreach and Community Engagement and Community Capacity Building

Topic Description: *DOE's current practices of engaging communities and creating awareness may limit access to opportunities. This breakout room discussed how outreach and engagement with underrepresented populations in science, technology, engineering, and mathematics (STEM) fields could support inclusion in DOE funding opportunities. This breakout room discussed ways in which DOE funding opportunities can reach and enable new networks of talent.*

Participants in this breakout session indicated there were three major areas where DOE could better align activities to help overcome existing barriers to participation for organizations that traditionally do not engage in DOE funding opportunities. The first area that participants described was the need to establish partnerships. Participants noted that many organizations are under-resourced and lack staff and bandwidth, yet these organizations are often asked to

provide consulting services (such as providing data and information or conducting webinars) without compensation. Participants advocated for organizations and their personnel to receive compensation whenever participating in DOE-related program activities (e.g., webinars or data collection).

The second major area participants identified expands upon the first. Participants stated that, based on their experience, DOE needs to expand the resources and training available to community leaders and increase long-term support to allow them to be successful in pursuing federal funding. Participants indicated that overcoming the application barriers is costly for many underserved and underrepresented communities, both financially and from a time perspective, and then, ultimately, they may not receive an award.

The final area participants focused on was that DOE needs to identify more ways to connect at the community level through trusted organizations. Community centers, churches, local universities, and other areas for young entrepreneurial support may be venues through which to create trust and capacity. These connections should include existing DOE networks and expand beyond the current suite of connected organizations.

These three areas participants identified as places where DOE can improve lent themselves to two additional conversations around how applicants currently hear about DOE funding opportunities and how DOE can enhance that outreach, in addition to how DOE can generally engage and support a diverse group of entrepreneurs through effective partnership.

With respect to overcoming barriers, participants were asked to provide their perspective on (a) how they become aware of DOE funding opportunities (and other forms of assistance), (b) which approaches to finding funding opportunities are most effective and why, and (c) how DOE can better distribute information about open opportunities to communities and innovators traditionally underrepresented in climate innovation and entrepreneurship. Participants indicated they primarily found out about DOE funding opportunities through university research collaborations, webinars, and DOE announcements. Participants shared that they perceive DOE to sit in an "echo chamber" of the same applicants and perspectives and that there needs to be more attention put into bringing in new ideas and innovators.

Other approaches participants shared to improve awareness of current funding opportunities included building a new innovation network, improving trust with community organizations, partnering with trusted local brokers, and working with trade associations representing minority/underserved business owners' communities. Examples of potential partners with whom to engage to build trust included community organizations, trade associations, educators, urban farmers, churches, community-based journalists, minority and women-owned business enterprises, Historically Black Colleges and Universities, minority serving institutions, and community colleges or local universities.

Regardless of the exact groups, participants emphasized that building trust and support from within communities and community organizations is critical to the success of any project focused on underserved communities. With historically grounded distrust of "big" government projects and corporations, participants clarified that a model built on respect (e.g., listening to the partner, incorporating their thoughts and feedback, and providing them with the flexibility and resources to implement said project/initiative) and equitable treatment of the time and labor of community groups (including fair compensation) is necessary to move forward collaboratively.

Shifting the conversation to access and support for entrepreneurs and innovators from historically underrepresented communities (either in STEM or writ large), participants underscored how difficult current DOE application processes are for new entrants to the DOE funding system. Participants indicated they find support from entrepreneurial organizations in business development and operations, technical assistance, and financing in the current ecosystem. However, participants indicated that the current networks accessible to many groups do not offer the information or services necessary to successfully apply for DOE funding.

Participants emphasized that applications are cumbersome and require high expertise and technical writing ability to be successful. As a pathway to reducing these barriers, participants suggested education and training that cover elements of the entire project lifecycle (e.g., application, award negotiation, administration/reporting—especially financial) would be of great benefit. Training could be done by sharing a network of webinars or workshops where accelerator/incubator/university partners walk through how to complete an application and how to review and submit a good application. Participants also discussed the potential of trusted organizations serving as prime contractors for local projects, handling the bureaucratic elements of project management while allowing the community groups to focus on project delivery.

In addition, participants discussed the idea of having paid staff available at DOE to support projects from new applicants. They also discussed the value of employing both social science and STEM perspectives to evaluate the impact of technologies on the communities participating in a project. Overall, participants highlighted the importance of ensuring that any new DOE system of funding management reduces barriers to access while simultaneously being accountable for and to communities for the social, economic, environmental, and technological impacts.

Participants agreed that ample opportunities exist for expanding the reach and impact of DOE programming, and all were enthusiastic about seeing what may emerge from the ongoing discussion of justice and equity in the DOE ecosystem.

2.3 Group 3: Diversity, Equity, and Inclusion Requirements on All EERE Funding Instruments

Topic Description: *Future funding opportunities from DOE will require DEI requirements, which include a range of activities. However, the way in which these requirements are specified, implemented, and tracked has yet to be determined in detail. Thoughtful discussion on the importance of these requirements and implementation methods to ensure their success took place in this breakout room.*

The primary points of conversation in this breakout room revolved around the implications of introducing DEI requirements on all EERE funding instruments—from how they are implemented, to how they're tracked over the course of a project's lifecycle, to the larger considerations for establishing these requirements. Two key insights arose from the breakout sessions that anchor many of the discussion topics. The first being that, while implementing DEI requirements can potentially create new barriers for applicants, there is a real need to see them as creating opportunities for communities who have been historically underserved by DOE funding instruments. This dichotomy necessitates balance when developing truly effective DEI requirements. The second insight is that by adding DEI requirements to funding instruments, DOE is trying to elicit change in the research community to make it more equitable and just in its fabric; DEI requirements can serve significant purpose beyond requirements within specific

opportunities. Messaging around these requirements should speak to that broader purpose to show the value they create to organizations applying for funding.

There was a general consensus among participants that DEI requirements are valuable and that DOE should pursue them, but participants also identified several areas of concern related to ensuring DEI requirements are effective. The most notable area of concern was in how the DEI requirements are constructed. Participants agreed that the general requirements on DOE funding instruments are already particularly high when compared to other funding opportunities. Adding DEI requirements could compound the burden felt by applicants, particularly small organizations and first-time applicants. If organizations do not have the expertise, bandwidth, or staff to address DEI requirements on applications, this creates an even more challenging application environment, specifically when compared to larger, already well-funded organizations that have experience acquiring DOE funding. There is potential that, by adding DEI requirements, DOE may further limit the success of diverse but underresourced communities. This burden could be further heightened if DOE fails to articulate what makes a competitive response to the DEI requirements and places that responsibility on applicants instead. If DOE does not define what successful DEI criteria look like up front, DEI criteria may create additional barriers for applicants.

Beyond the burden that DEI requirements might create, participants in this breakout room also saw a clear line between the way in which DEI requirements are structured and the risk of creating a “check the box” exercise. As with many well-intentioned initiatives, if not executed thoughtfully, DEI requirements could turn into a procedural step on applications rather than a legitimate change in the way research is performed and organizations operate. One participant suggested that DOE reflect on their own goals for why they are implementing DEI requirements to help avoid this situation. Without concerted effort in how the DEI requirements are structured, DOE also risks awardees not implementing their DEI plan that was presented in their application. Having applicants propose competitive DEI plans is fruitless unless there is follow through and realized impact. One participant did note, however, that establishing appropriate metrics to measure the impact of a DEI plan is nontrivial given the hope that they lead to both near-term and deep-rooted changes.

The discussion included high-priority solutions to these areas of concern. Solutions were also centered around how the DEI requirements are constructed, but they expanded to include support mechanisms outside the application that DOE should also consider. Perhaps the most agreed upon recommendation was that the DEI requirements should necessitate embedded checkpoints through the duration of the research project; this might include milestones or deliverables. Doing so could mitigate the creation of a “check the box” exercise and create a level of insurance that any DEI plan established through the requirements is carried out. Allowing applicants to leverage and build upon their organization’s existing DEI efforts can contribute to this mitigation effort. This can also lessen the burden of introducing the requirements on applications and encourages institution-level changes that are likely to survive beyond a single project’s lifetime.

Participants also recommended that the DEI requirements promote diversity and inclusion, both in who is doing the work and the substantive problems that the work is trying to solve. DEI requirements should promote diverse ideas that solve energy and climate problems for all communities. Participants agreed that DOE needs to create awareness around the DEI requirements that they introduce. Creating awareness should include transparency into how the DEI requirements are evaluated during the review process, standardizing and defining language used within the requirements, and articulating expectations for what constitutes a competitive

response to the DEI requirements. DOE should avoid placing the burden on applicants for these things. Up-front efforts could also include considering ways to allow for letters of support from community leaders and Black, indigenous, and people of color (BIPOC) professionals. Additionally, if an applicant claims to be working with an organization or individuals as part of their DEI plan, DOE should verify that it is indeed happening and that those people are compensated for their services. Both opportunity and compensation are critical.

Outside of the application itself, DOE can provide workshops, trainings, and lists of consulting groups to support applicants as DEI requirements could very likely be beyond an applicant's own expertise. Historically underserved and first-time applicants already face considerable burden in the application process; these support mechanisms can help prevent DEI requirements from compounding that burden. Allowing longer time frames for applicants to respond to funding opportunities is also recommended; DOE should ensure there is adequate time to develop ideas on this front. Participants indicated that including people in the review process from the communities that DOE is trying to reach would further support successful implementation of DEI requirements, as those individuals are likely the best judges as to whether or not a DEI plan successfully addresses the needs of communities that have been historically excluded. Once several rounds of funding applications with DEI requirements have been reviewed and awards distributed, it would be beneficial for DOE to coordinate a way for successful applicants to share their DEI plans with others through peer-to-peer sharing. Awardees can share best practices with interested applicants, supporting a culture of collaboration around DEI.

Participants also engaged in a discussion around the interconnection and interdependence between DEI requirements on funding instruments and the other ways in which DOE can promote an inclusive and just innovation ecosystem. Rectifying past injustices will not be solved through a single-sided effort; ensuring different efforts align is necessary. Several participants shared the same example: there is a need to streamline the application process more broadly to reduce the burden on applicants. In doing so, any potential new burden created by DEI requirements could be better absorbed. As part of streamlining efforts, DOE should ensure that their funding instruments are available in multiple languages and for those with disabilities. If DEI requirements are intended to promote a diverse and inclusive pool of awardees, the application itself needs to support them, as well. To be successful on this front, one participant recommended that DOE find better ways to connect with and understand the communities they have traditionally excluded.

Two mechanisms at the intersection of DEI requirements and structural changes to funding processes also were discussed. The first was that DOE may consider ways to issue smaller awards to more people over a shorter timeline. This structure creates a shorter wait for applicants, involves more people, builds experience in the application process, and prepares applicants for larger funding opportunities. One participant suggested the Air Force Ventures program as a reference model. The second mechanism was centered around the idea that some applications have valuable ideas but miss the mark in other aspects, such as logistics, technical detail, or now, potentially, DEI requirements. In scenarios like this, questions include whether DOE can move these applicants to another bucket for assistance or support and, if a really large funding opportunity is coming up, whether DOE can set aside a portion of money for this purpose. Such efforts could support the future success of applicants.

Overall, this breakout room discussion provided insights as to how DEI requirements can be implemented in a way that serves the mission of the government, the target areas that should

be considered as DEI requirements become more widespread, and the way in which DEI requirements connect to the larger context of funding instruments.

2.4 Group 4: Creating a STEM Pipeline

Topic Description: *Inclusive entrepreneurship has roots in inclusive STEM education. Traditional mechanisms for STEM workforce development are in university partnerships, educational exchanges, and collegiate competitions. This breakout room discussed DOE's role in supporting university STEM programs and recruitment efforts that lead to greater workforce DEI through employment and workforce engagement.*

This breakout room discussed DOE's role in encouraging greater workforce DEI within the STEM pipeline and, more importantly, barriers preventing DOE from doing so more effectively. DOE's narrow focus on universities as the primary input to the STEM workforce pipeline emerged as a key concern and substantive point of discussion. Participants explained that the language of the RFI appeared to focus on encouraging STEM workforce development at the university level and went on to elaborate that, in general, DOE partnerships within the academic sphere are mostly constrained to the university level. This creates the sense that DOE's attention on cultivating training initiatives for the university-to-STEM-workforce pipeline supersedes other equally important, but often overlooked, educational groups, including primary, secondary, and community college students.

Given that most DOE partnerships within the academic sphere are at the university level, DOE's footprint and presence in the K–12 range is exceptionally small. Participants noted that engagement at the primary and secondary school levels is critical for ensuring a diverse STEM pipeline into the future. One participant noted that cultivating a diverse and enduring STEM pipeline is necessary to replace the aging workforce, and another participant added this also is necessary to address the aging infrastructure across the nation.

The group reflected on the concept of early outreach as a best practice for cultivating the STEM pipeline, but they also noted the need for DOE to better engage with the K–12 age range to make this pipeline a reality. One idea for greater engagement is the use of outreach toolkits, which DOE could deploy at schools across the nation to familiarize students with relevant STEM research being conducted at the national laboratories. Participants also offered the idea of a "business week," where research institutions and other organizations could broadly highlight their STEM work to students and offer insights into relevant work experiences and opportunities. Participants discussed the need for representation in the STEM field at all age levels but especially with K–12 students. Interest in STEM is usually cultivated by a person or an experience; one participant noted that her reason for being in STEM today was partly related to having role models in this space. Having racial, ethnic, and gender representation across the STEM field helps young, impressionable students visualize themselves in these sorts of positions.

Aside from K–12 students, participants also noted the lack of inclusivity for community college students. Participants noted that DOE's collegiate partnerships favor larger research institutions over community colleges, where there are students who may very well rival in capability and skill to their university counterparts but have inadequate access to STEM pathways due to a lack of school funding, resources, connections, etc. Participants noted that DOE's collegiate wind and water power competitions also tend to focus on the "elite" colleges and may discourage well-equipped community college students from competing. Strengthening DOE relationships at community colleges is one solution for creating a more inclusive STEM pipeline.

Additionally, attendees pointed out that the focus on academic partnerships itself is a barrier to the development of a diverse and inclusive STEM pipeline. Simply put, fostering DEI principles in the STEM pipeline now and into the future will require outreach and engagement beyond the classroom. This, for example, could include community members who may not have a formal education but can successfully transition into the STEM workforce with training. In the words of a participant, “If we’re only relying on a certain part of the pipeline—on skilled workers with PhDs—we’re missing large opportunities.”

Workforce development/training programs and funding metrics were also discussed at great length in this breakout room. Creating and expanding effective workforce training opportunities aligned with industry needs was identified as a best practice. One participant stated that a comprehensive training program with a curriculum based on competency to industry-aligned job requirements should also be accredited by reputable college or university partners. However, workforce development does not end with training. Attendees mentioned the need for integrating workforce development pathways with community-based organizations that have the (a) outreach to connect employment-seeking community members with technical training programs and (b) strategic partnerships to help match trainees with actual STEM pathways. The role of DOE within this realm could be substantial—whether it be by leveraging its technical expertise and the resources at the national laboratories to help develop training curriculums, leveraging collegiate relationships to build and expand competency accreditation programs across the nation, or providing financial assistance with metrics for businesses or organizations that specialize in workforce development and training. To the latter point, participants highlighted the funding stipulations behind New York State Energy Research and Development Authority’s workforce development and training solicitations, which require that a certain percentage of “priority populations” be included in applicant programs, as a potential model for the DOE.

Ultimately, the funding metrics are only one small part of the application process. Besides establishing metrics that reserve “seats” for marginalized groups, attendees noted that a complete review of DOE solicitation/application requirements is also necessary for successful engagement of DEI principles. Participants suggested that such a review should consider the solicitation language and whether the technical wording is accessible to the audience reading it, as well as clearer communication about solicitation deadlines. Participants also voiced the need for multiple deadline rounds, especially given that it may be an underserved community’s first time responding to a funding or grant opportunity. Ultimately, the intention is not to make applicants feel that the prize requirements are simply geared toward changing hiring practices, but rather encouraging DEI in the STEM pipeline.

Attendees also discussed how the small DOE footprint outside the university level means that many K–12 groups are potentially unaware of available DOE resources or how DOE can assist with STEM engagement at the elementary and secondary school levels. However, it’s not just schools that are unaware of how their needs could be coupled with DOE resources, how to acquire DOE funding, or where they even fit within the funding nexus. Participants raised the concern that many communities and community-based organizations don’t know how DOE capabilities could assist their missions. The group discussed how it’s not really clear or evident how collaboration with community-based organizations focused on competency training has been addressed within DOE, nor how DOE has worked with nontraditional organizations to foster DEI principles in the STEM pipeline.

One participant suggested that the key to engaging young people interested in STEM careers/applied research science pathways was to enhance internship opportunities across

DOE and national laboratories. However, others raised the question of what's next, as internship programs require overarching management to make the experience engaging, to ensure that early career students are learning from these opportunities. How does one coordinate the resources needed for these programs? What is the best way to retain these interns in the STEM pipeline beyond the entry-level? One participant noted the potential to expand such a model beyond the DOE network, especially if they provide funding to small businesses and other organizations primed to bring in interns for ecosystem-building.

Attendees pointed to the lack of clear and consistent communication about funding opportunities as another barrier to the development of a diverse STEM pipeline. There should be enough time for first-time applicants to seek technical assistance if necessary and consistent reminders of approaching deadlines. Participants suggested that there are a number of poorly understood social barriers that may prevent individuals from accessing and participating in the STEM pipeline. One example was risk aversion to entrepreneurship. Compared to both white and affluent communities, which typically have greater financial security and the ability to take on larger financial risks, there is greater hesitancy toward entrepreneurship—a big risk venture—in more marginalized communities. Another participant noted that women within the Latinx academic community were reluctant to pursue entrepreneurial endeavors due to the perception that entrepreneurs are young, experienced individuals. For her, the lack of representation was also a barrier to using her STEM background for entrepreneurial development. Getting incubators, accelerators, and entrepreneurs into the STEM pipeline will require a better understanding of these social barriers and ways to mitigate them.

One participant noted that there is often a focus on the "technical side" of the STEM pipeline and not enough emphasis on uplifting the voices of people with interdisciplinary backgrounds. If a diverse workforce captures people of different backgrounds, attracting interdisciplinary scientists and researchers to the STEM pipeline could be a good practice, especially if they offer fresh perspectives to the "technical side."

Lastly, in order to build a lasting and diverse STEM pipeline, the group suggested that DOE and the national laboratories must also be sensitive to the needs of a diverse set of people. The Department of Labor's efforts to create access opportunities for people with disabilities, such as funding websites accessible to the blind and teleconferencing solutions with closed-captioning, were highlighted as best practices for increasing diverse employment opportunities while also responding to the needs of people with different disabilities.

2.5 Group 5: Inclusive Innovation Ecosystem

Topic Description: *Many accelerators and incubators recognize the need to reckon with a historical exclusion of underrepresented communities and have begun taking steps to better support and engage these communities. This breakout room discussed these practices and how the larger innovation ecosystem enables greater inclusion.*

This breakout group was organized into three sections—current challenges, solutions, and recommendations specific to DOE—to provide a robust understanding of the challenges alongside actionable next steps relevant to innovators in the clean energy space and DOE. Participants identified five main challenges, all of which centered around the fact that developing an inclusive innovation ecosystem starts at the very beginning of the pipeline when reaching and engaging diverse communities and groups. This means that, even if some inclusive practices are implemented (such as an inclusive hiring process that includes a blind review, careful consideration of language, etc.), an inclusive ecosystem will not be developed because it

will fail to identify, reach, and engage a diverse applicant pool. Participants agreed that overcoming the pipeline challenge requires pursuing holistic and synergistic strategies that fundamentally shift current thinking and approaches to innovation to create a more inclusive ecosystem. Specific challenges discussed ranged from framing and narratives, to the limited information on inclusivity and equity in clean energy innovation, to the nature of DOE as an entity. Each of the five challenges participants identified are discussed below, with recommendations for proposed solutions.

Challenge 1: The current framing of clean energy innovation is not representative of the wider interests in energy and, therefore, critical groups may be missed in engagement.

The group highlighted that, historically, clean energy innovation has focused on technology incubators and accelerators. However, energy intersects with many aspects of life, resulting in a large umbrella of interests in clean energy (e.g., affordable housing, a clean environment, accessible transportation, etc.). For example, community development organizations are often interested in tangible community outcomes and are not limited to energy technology. Attendees recommended working with community development organizations to ensure the communities' needs are represented with potential to improve BIPOC representation, as these organizations often reflect the makeup of those communities. One participant also identified pathways into the clean energy space from other environmental fields (climate, ocean sustainability, community sustainability). Despite overlapping values, these groups are often seen as distinct from energy.

Participants noted that DOE and the innovation community need to reframe who and what are thought of when thinking of clean energy if they are to improve the representation of the wider interests and communities in clean energy innovation. Participants identified a range of activities to undergo this reframing. The many values of energy must be identified (e.g., community empowerment, economic development, energy sovereignty). Then the scope of who is considered relevant stakeholders must be widened to include organizations supporting these energy roles and those impacted.

Once a broader definition of stakeholders is established, new partnerships and channels of communication need to be built and fostered that move beyond just incubators and accelerators. Involving trusted community development organizations should be a priority for fostering inclusive innovation ecosystems, and the already prolific innovation happening in BIPOC communities must be recognized. Community needs relevant to energy must be the starting point. These actions will result in a bigger pool of women and BIPOC entrepreneurs entering the pipeline. Several attendees noted the potential for “wayfinding tools” (e.g., to address imposter syndrome, network with previous applicants or similar organizations) to help locate and engage communities to further improve strategic engagement.

Challenge 2: The current storytelling narrative supports historical practices and, therefore, may not support an inclusive ecosystem.

One participant noted, “Sponsors don’t fund what they don’t know, and they don’t know what they don’t see.” On the community side, disadvantaged communities have less clean energy in their communities, BIPOC entrepreneurs in clean energy are not as visible, and groups that have historically funded clean energy do not represent these communities. Participants elaborated that lack of representation has tangible impacts on involvement and inclusivity in that involvement. Communities need to see themselves represented and organizations need to recognize BIPOC communities as relevant stakeholders. Without communities seeing clean energy as a welcoming environment for them, pipeline challenges will persist. Another

participant noted that, if the energy stakeholder definition is reduced to energy consumers, we lose the development perspective and all the ways that energy influences lives.

Attendees pointed out that change starts within an organization and the individuals of that organization. They highlighted a variety of topics that should be covered in internal learning, including the history of exclusion, methods to foster an inclusive environment, and applicable statutory prohibitions. Participants noted diverse resources should be utilized, including books and literature, DEI training experts, and lessons learned from other organizations/sectors. Effective examples given included creating working groups to develop organizational strategies that foster a more inclusive workplace and programming. However, working group members should include diverse representation. To ensure growth and sustained momentum, organizations must identify short-term and long-term strategies. One attendee noted their organization's short-term goals centered around starting conversations, diversifying teams and leadership, and setting up working groups. They explained that longer-term goals will be determined based on the outcomes of short-term goals and will likely be more organization-specific.

Participants noted an essential takeaway that organizations must not assume that increasing diversity and equity translates to inclusivity. The group identified several external solutions to ensure communities see themselves as part of clean energy innovation. Pilot programs need to be created to increase the visibility of women and BIPOC entrepreneurs and used by both DOE and external communities. Clean energy deployment in underserved communities needs to be increased to improve the visibility of clean energy as a career path. However, this must be done with (and not to) communities. Finally, community education around career paths in the clean energy space must be improved.

Challenge 3: There is limited information (i.e., data) on inclusivity and equity in clean energy innovation.

The group noted that, historically, inclusivity and equity have not been prioritized aspects of programming. We are still unsure of what works and for whom it works. One participant explained that there has been little research on strategies that are commonly thought to reduce barriers and improve access (such as shortening applications, simplifying language, providing video instructions, reducing reporting requirements). Participants are still unsure of what captures inclusivity and the best way to capture that information. Although some metrics exist for diversity and equity, increasing diversity and equity doesn't necessarily translate to inclusivity.

Attendees emphasized that data-driven solutions need to be developed. Existing programs need to conduct baseline DEI assessments. As areas for improvement are identified, organizations can start with pilot programs to ensure effectiveness, both from a business case and inclusivity standpoint. As best practices are learned from pilot programs, these lessons need to translate into larger funding mechanisms. One participant noted the potential for DOE to play a major role by leveraging their relatively large amounts of information to provide more representative studies for the innovation community at large. Another participant noted that DOE can be a leader in developing metrics for an inclusive ecosystem to ensure consistency across organizations and minimize the burden on applicants and awardees.

Challenge 4: The initial barriers (both real and perceived) can prevent organizations or individuals from engaging with DOE.

Participants explained that the scale of DOE applications can be huge—organizations may prioritize smaller funds with fewer initial barriers.The group suggested creating a range of program sizes to accommodate the varied capacities to submit proposals. This has the potential to better support community organizations that may be less focused on scale and more interested in community impact. Participants noted that assessment criteria need to be explicit and clear to reduce ambiguity and allow organizations to identify optimal opportunities to pursue.

Resources (such as training and orientation on funding mechanisms) need to be created to communicate information simply, quickly, and easily. After these resources are created, solutions to the above challenges are needed to ensure dissemination to priority groups. Additionally, lessons learned from past successful applicants can be utilized to improve first-time applicants' experiences. Participants discussed that one potential way to leverage this knowledge is to develop a mentoring system that connects first-time applicants to those that have been successful in the past. Several participants questioned if DOE was a recognized and trusted source by some communities and suggested that DOE identify trusted partners at the community level to help recruit and run energy programs to overcome barriers in directly partnering with DOE.

Challenge 5: An inclusive ecosystem is broader than the technical research, development, and deployment organizations currently thought of as the innovation ecosystem.

The group expressed that an inclusive energy ecosystem requires more than just technology, and technology may not be the right answer for community needs. Prescriptive funding opportunities assume full knowledge of the problem and viable solutions limiting applicants. Participants also noted that inclusivity (or lack of it) is a systemic issue; it's not just climate technology or the STEM pipeline. Bias is embedded in the entire system and, therefore, solutions need to be just as expansive.

Attendees identified a range of programs that expand beyond just technology deployment and development, including workforce development, community outreach, education, etc. In doing so, DOE and others need to consider the language and word choices used to describe innovation organizations. One participant noted that "incubator" may not be the right name for target organizations when encompassing the markets, education, and development sides of clean energy. Attendees suggested that DOE should pilot less prescriptive funding opportunities to expand the types and number of appropriate solutions. However, participants highlighted additional challenges can develop from wider calls. For example, flexible funding mechanisms lead to less standardization between applicants. As a result, individual biases of the selection committee may persist. After developing metrics to measure inclusivity and judge effective programming, attendees suggested introducing pilot programs with less prescriptive funding mechanisms and measuring outcomes.

Participants agreed that DOE should engage outside organizations and community groups to understand DOE's potential role in the broader innovation ecosystem. DOE may need to develop funding models that are more adaptive to communities and community organizations. The group made two main suggestions: 1) develop a non-technology-based consortium focused on energy equity that may help advance the field and 2) explore trust-based philanthropy funding models that are meant to reduce barriers to entry, administrative burdens, etc., for grant-makers and grantees.

In summary, participants agreed that fostering an inclusive innovation ecosystem will require understanding the wide variety of interests in energy (community empowerment, economic development, energy sovereignty) and using this wider perspective to reframe current innovation narratives to include diverse perspectives where organizations recognize BIPOC communities as relevant stakeholders and communities see themselves as valued contributors. Simultaneously, methods of measuring inclusivity need to be developed and implemented in a way that minimizes the initial burden of submissions. An inclusive ecosystem is bigger than technology and requires holistic and systemic strategies. DOE needs to develop an understanding of its role, including how stakeholders envision DOE, and develop strategies to advance non-technology-specific programs alongside improved traditional research and development to foster an inclusive innovation ecosystem.

3.0 Conclusions and Next Steps

Each of the five breakout session topics addressed unique challenges that DOE faces as they aim to create a more just innovation ecosystem and offered solutions DOE may employ to overcome them. Several overarching themes show the interconnectedness and interdependence of these topics. The following concepts were main themes seen across the breakout sessions:

- **Resource Intensity Required for Applications Creates Barriers:** Many resources—capital, prior experience with DOE funding opportunities, labor hours, and expertise—are needed to apply for DOE funding opportunities. Even more resources are needed to be successful. The investment to apply, combined with the likelihood of not receiving funding at the end of the process can make DOE funding opportunities unapproachable and unappealing, as well as inequitable, particularly for small organizations, non-profits, and first-time applicants.

- **Biases Toward Familiarity Seen in Funded Recipients:** When awarding funding, there are biases in favor of familiar approaches, organizations, and contexts. DOE's limited engagement at a community level, particularly outside of well-known organizations, national laboratories, and elite research universities, makes it challenging for those who have been historically underserved by DOE funding to break into the sphere. As such, DOE needs to build trust and engagement at a community level. There can be a lack of trust between communities and government entities.

- **Lack of Representation in Outreach, Review, and in DOE Workforce:** Representation matters, and DOE needs to build trust with communities who have been traditionally underserved by the federal government. This will require outreach to underserved and underrepresented communities and a diverse group of perspectives in the application review process to broaden perspectives.

- **Lack of Available Trainings or Other Outreach Progamming Leads to High Burden on Applicants:** The burden of understanding the application and its requirements currently fall entirely to the applicant. DOE must absorb these responsibilities to create a more equitable application process.

In addition to overarching themes, several solutions were identified:

- **Developing Outreach Strategies to Reach New Audiences:** To effectively include new communities, new engagement strategies are needed and should be conducted in ways that are meaningful to communities.

- **Develop Programming and Trainings for New Applicants:** DOE should provide and support the development of webinars, trainings, cohorts, and peer-to-peer knowledge exchange programs that guide applicants through the application process.

- **Broaden the Pool of Reviews to Include More Representation:** To reach communities that have historically had low to no access, DOE should ensure that these communities are represented in the review processes for applications and, more broadly, as employees at DOE. Participating in review processes would allow more

organizations to understand the process, motivation, and review structure of DOE solicitations.

- **Build Networks through Trusted Partners:** DOE also needs to build trust as a credible and reliable partner including through supporting trusted intermediaries. By working with organizations closer to communities and underserved entrepreneurs and innovators, there is a higher likelihood of reaching out more effectively.

These concepts indicate that a multi-faceted approach is necessary to create a more inclusive innovation ecosystem at DOE and beyond. To support entrepreneurs, current procedures in the funding application process should be revised, while new mechanisms need to be implemented. The potential for DOE to broaden the pool of talent that receives its funding and support a more inclusive future in climate and energy technologies is large. Participants from this roundtable offered a range of challenges that DOE needs to address, as well as potential solutions.

Appendix A – Organizations Represented

Arizona State University
Center for American Progress
Carbon180
Dream Corps
E2
Elemental Excelerator
Elevate
Federation of American Scientists
Green For All
Greentown Labs
Groundswell
Harambee House/Citizens For Environmental Justice
Hua Nani Partners
Maritime Blue
MXV Ventures
National Renewable Energy Laboratory
Natural Resources Defense Council
Pacific Northwest National Laboratory
Soulful Synergy
SynEnergy
Third Way
University of California, Davis
University of Michigan
University of Texas at Austin
U.S. Department of Energy
Vertue Lab
Virginia State University
Wheelhouse Group
Yale University

Appendix B – Agenda

Inclusive Innovation and Entrepreneurship Roundtable

June 22, 2021

12:30–4 p.m. Eastern Time

Advancing equity, civil rights, racial justice, and equal opportunity is the responsibility of the entire U.S. government, including the U.S. Department of Energy (DOE). DOE is taking a number of proactive steps to diagnose and eliminate barriers to equal opportunity by enabling an inclusive and just entrepreneurial innovation ecosystem in climate and energy technologies. This roundtable aims to bring together experts in climate and energy justice, entrepreneurship and innovation, and incubation and acceleration services to understand the barriers to entry and the role that DOE can play in lowering them. To learn more about this event, please visit: https://www.pnnl.gov/events/inclusive-innovation-and-entrepreneurship-roundtable.

Agenda

12:30–1:15 p.m.: Welcome

Tanya Bowers, Diversity Equity and Inclusion (DEI) Manager, Pacific Northwest National Laboratory (PNNL) (Event Facilitator)

Alejandro Moreno, Deputy Assistant Secretary, Renewable Power, Office of Energy Efficiency and Renewable Energy (EERE)

Opening Discussion

What is DOE's experience in new pathways and expanding access to innovation support? What are the goals and the plans ahead for inclusive innovation and entrepreneurship?

Panelists:

Shalanda Baker, Deputy Director for Energy Justice and Secretary's Advisor on Equity

Kelly Speakes-Backman, Acting Assistant Secretary for EERE

Vanessa Chan, Director, Office of Technology Transitions

Facilitator: Jenn Garson, Acting Director, Water Power Technologies Office (WPTO), EERE

1:15–3:25 p.m.: Workshop Breakout Discussions

All breakouts will occur simultaneously, but there will be two rounds of breakouts so that individuals can participate in multiple sessions.

1:15–2:15 p.m. - Round 1 Breakout Discussion

2:15–2:25 p.m. - Transition/Break

2:25–3:25 p.m. - Round 2 Breakout Discussion

Breakout Groups

1. Structural barriers in DOE funding instruments: This breakout room offers an opportunity to discuss specific barriers within the application processes to acquire DOE funding, such as language, documentation, cost share, and implementation requirements.

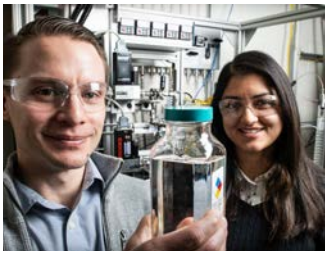
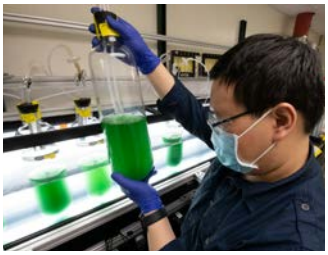
Breakout Room Moderator: Rukmani Vijayaraghavan, Innovation and Commercialization, WPTO, EERE

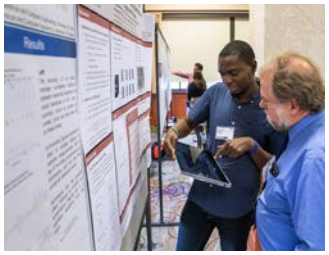
2. Outreach and community engagement and community capacity building: Engaging communities and creating awareness may limit access to opportunities, similar to barriers in funding instruments themselves. This breakout room will discuss how outreach and engagement with underrepresented populations in Science, technology, engineering, and mathematics (STEM) fields could support inclusion in DOE funding opportunities. This breakout room will discuss ways in which DOE funding opportunities can reach and enable new networks of talent.

Breakout Room Moderator: Kimberlee Ott, Network Innovation Manager, National Renewable Energy Laboratory

3. DEI requirements on all EERE funding instruments: Future funding opportunities from DOE will require DEI requirements, which include a range of activites. However, the way in which these requirements are specified, implemented, and tracked has yet to be determined in detail. Thoughtful discussion on the importance of these requirements and implementation methods to ensure their success will take place in this breakout room.

Breakout Room Moderator: Ashley Brooks, DEI Lead for WPTO, EERE



Breakout Groups (continued)

4. Creating a STEM pipeline: Inclusive entrepreneurship has roots in inclusive STEM education. Traditional mechanisms for STEM workforce development are in university partnerships, educational exchanges, and collegiate competitions. This breakout room will discuss DOE's role in supporting university STEM programs and recruitment efforts that lead to greater workforce DEI through employment and workforce engagement.

Breakout Room Moderator: Evangelina Shreeve, Director of STEM Education, PNNL

5. Inclusive innovation ecosystem: Many accelerators and incubators recognize the need to reckon with a historic exclusion of underrepresented communities and have begun taking steps to better support and engage these communities. This breakout room will discuss these practices and how the larger innovation ecosystem enables greater inclusion.

Breakout Room Moderator: Sara Hunt, Commercialization, PNNL

3:25–3:50 p.m.: Report Out From Breakout Discussions

Facilitator-led report of breakout room discussions and outcome

3:50–4:00 p.m.: Closing Remarks

Shalanda Baker, Deputy Director for Energy Justice and Secretary's Advisor on Equity

It is the policy of the Biden Administration that:

[T]he Federal Government should pursue a comprehensive approach to advancing equity for all, including people of color and others who have been historically underserved, marginalized, and adversely affected by persistent poverty and inequality. Affirmatively advancing equity, civil rights, racial justice, and equal opportunity is the responsibility of the whole of our Government. Because advancing equity requires a systematic approach to embedding fairness in decision-making processes, executive departments and agencies must recognize and work to redress inequities in their policies and programs that serve as barriers to equal opportunity.

By advancing equity across the Federal Government, we can create opportunities for the improvement of communities that have been historically underserved, which benefits everyone.

As recognized in section 305 of the American Innovation and Competitiveness Act of 2017, Public Law 114-329:

(1) [I]t is critical to our Nation's economic leadership and global competitiveness that the United States educate, train, and retain more scientists, engineers, and computer scientists; (2) there is currently a disconnect between the availability of and growing demand for STEM-skilled workers; (3) historically, underrepresented populations are the largest untapped STEM talent pools in the United States; and (4) given the shifting demographic landscape the United States should encourage full participation from individuals from underrepresented populations in STEM fields.

Appendix C – Request for Information

Inclusive Innovation and Entrepreneurship in Climate Technology

DATE: June 9, 2021
SUBJECT: Request for Information (RFI) on Inclusive Innovation and Entrepreneurship in Climate Technology

Description

This Request for Information (RFI) is intended to inform the U.S. Department of Energy (DOE) Office of Energy Efficiency and Renewable Energy (EERE) and the Office of Economic Impact and Diversity (ED) on enabling an inclusive and just entrepreneurial innovation ecosystem[1] in climate and energy technologies.

Advancing equity[2], civil rights, racial justice, and equal opportunity is the responsibility of the entire government. The administration wants to create opportunities for all. As part of the whole of government approach, EERE is taking a number of proactive steps to diagnose and eliminate barriers to equal opportunity. DOE seeks to understand the barriers to entry to DOE funding opportunities and other forms of assistance for first-time applicants, individuals from groups historically underrepresented in Science, Technology, Engineering, and Mathematics (STEM)[3], individuals from underserved communities[4], organizations that support underserved

[1] The innovation ecosystem is "the evolving set of actors, activities, and artifacts, and the institutions and relations, including complementary and substitute relations, that are important for the innovative performance of an actor or a population of actors" (Grandstrand, Ove and Holgersson, Marcus. 2020. "Innovation Ecosystems: A Conceptual Review and a New Definition." *Technovation* 90-91(2020) 102098. https://doi.org/10.1016/j.technovation.2019.102098).

[2] The term "equity" means the consistent and systematic fair, just, and impartial treatment of all individuals, including individuals who belong to underserved communities that have been denied such treatment, such as Black, Latino, and Indigenous and Native American persons, Asian Americans and Pacific Islanders and other persons of color; members of religious minorities; lesbian, gay, bisexual, transgender, and queer (LGBTQ+) persons; persons with disabilities; persons who live in rural areas; and persons otherwise adversely affected by persistent poverty or inequality. Executive Order 13985, "Advancing Racial Equity and Support for Underserved Communities Through the Federal Government" (Jan. 20, 2021).

[3] According to the National Science Foundation's 2019 report titled, "Women, Minorities and Persons with Disabilities in Science and Engineering", women, persons with disabilities, and underrepresented minority groups—blacks or African Americans, Hispanics or Latinos, and American Indians or Alaska Natives—are vastly underrepresented in the STEM (science, technology, engineering and math) fields that drive the energy sector. That is, their representation in STEM education and STEM employment is smaller than their representation in the U.S. population. https://ncses.nsf.gov/pubs/nsf19304/digest/about-this-report

[4] The term "underserved communities" refers to populations sharing a particular characteristic, as well as geographic communities, that have been systematically denied a full opportunity to participate in aspects of

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communities, such as, minority serving institutions (MSI's)[5] or that are located in underserved communities, as well as understanding programmatic, operational, or other internal measures that DOE can implement to remove these barriers. Measures may encompass application support services for funding opportunities, incubation and acceleration services for entrepreneurship; and other measures to support a just and inclusive innovation ecosystem. This RFI is not aimed at policy recommendations that require changes in the law, but those that DOE can implement using its existing authorities.

Background

The Office of Energy Efficiency and Renewable Energy (EERE) supports research, development, demonstration, and commercial application (RDD&CA) of renewable energy and energy efficiency technologies. The Office of Economic Impact and Diversity (ED) works to identify and ensure that everyone is afforded an opportunity to participate fully in the Department of Energy's programs, opportunities, and resources.

DOE funds RDD&CA activities in climate and energy technologies through a variety of mechanisms encompassing external competitive solicitations and through its seventeen national laboratories. In addition, DOE programs support building and sustaining an innovation ecosystem for climate and energy technologies, encompassing early career and workforce development, entrepreneurial programs and resources for individuals and organizations, and support for communities and regions.

The Biden Administration has set ambitious goals to address climate change, including achieving a 50-52% reduction from 2005 levels in economy-wide net greenhouse gas pollution by 2030, and reaching net zero emissions economy-wide by no later than 2050.[6] Achieving

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economic, social, and civic life, as exemplified by the list of in the definition of "equity." E.O. 13985. For purposes of this FOA, as applicable to geographic communities, applicants can refer to economically distressed communities identified by the Internal Revenue Service as Qualified Opportunity Zones; communities identified as disadvantaged or underserved communities by their respective States; communities identified on the Index of Deep Disadvantage referenced at https://news.umich.edu/new-index-ranks-americas-100-most-disadvantaged-communities/, and communities that otherwise meet the definition of "underserved communities" stated above.

[5] Minority Serving Institutions (MSIs), including Historically Black Colleges and Universities/Other Minority Institutions) are educational entities recognized by the Office of Civil Rights (OCR), U.S. Department of Education, and identified on the OCR's Department of Education U.S. accredited postsecondary minorities' institution list. See https://www2.ed.gov/about/offices/list/ocr/edlite-minorityinst.html. Organizations associated with underrepresented groups could also include Minority Business Enterprises, Minority Owned Businesses, Woman Owned Businesses, Veteran Owned Businesses, or members within underserved communities

[6] FACT SHEET: President Biden Sets 2030 Greenhouse Gas Pollution Reduction Target Aimed at Creating Good-Paying Union Jobs and Securing U.S. Leadership on Clean Energy Technologies, White House. https://www.whitehouse.gov/briefing-room/statements-releases/2021/04/22/fact-sheet-president-biden-sets-2030-greenhouse-gas-pollution-reduction-target-aimed-at-creating-good-paying-union-jobs-and-securing-u-s-leadership-on-clean-energy-technologies/

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these goals will require a combination of innovative solutions and through accelerating the deployment of climate and energy technologies with environmental and climate justice as key considerations.

In addition to setting goals to significantly reduce pollution and greenhouse gas emissions towards decarbonizing the economy, the Administration also announced the Justice40 Initiative. This government-wide initiative has a goal of delivering 40% of the overall benefits of relevant federal investments in climate and energy to underserved communities and tracks performance toward that goal. The Office of Economic Impact and Diversity will lead this effort at DOE, and will inform equitable research, development, and deployment within the DOE. To date, the clean energy innovation ecosystem, including DOE funding, has not been inclusive and accessible enough to individuals from groups historically underrepresented in STEM, and underserved communities. The Justice40 initiative, in concert with the Administration's climate and decarbonization goals, will aim to address these inequities.

To effectively address climate change and implement the Justice40 initiative, DOE seeks to understand the structural barriers to entry to its funding opportunities and other forms of assistance, towards ultimately eliminating those barriers and making DOE-supported projects equitable and inclusive. DOE also seeks to understand the current resources and support for innovation and entrepreneurial activities available to individuals from groups underrepresented in STEM and individuals from underserved communities, organizations that serve underrepresented communities or are located in underserved communities, the experiences of those who have received DOE funding or assistance, the barriers to DOE funding for these groups, and resources and approaches that DOE can provide and implement towards removing these barriers. Resulting measures may encompass grant application support services, incubation and acceleration services for entrepreneurship, and other measures to support a just and inclusive innovation ecosystem.

Purpose

The purpose of this RFI is to solicit feedback from environmental justice organizations, community-based organizations, incubators and accelerators, developers, investors and funders, state, local, and tribal governments, researchers, and other stakeholders on issues related to enabling an inclusive and equitable entrepreneurial and innovation ecosystem. EERE and ED are specifically interested in information on barriers to DOE funding opportunities and solutions to remove these barriers. This is solely a request for information and not a Funding Opportunity Announcement (FOA), prize, or other solicitation.

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Request for Information Categories and Questions

This RFI seeks information about barriers to DOE funding and support, particularly for individuals from groups historically underrepresented in STEM, underserved communities, organizations that support underserved communities, and frontline communities, in six general categories:

- Category 1: Increasing Access to, and Awareness of, DOE Funding through Effective Outreach, Engagement, and Application Support
- Category 2: Barriers to Applying for and Receiving Funding from DOE
- Category 3: Support for an Innovation Ecosystem and Place-Based Innovation
- Category 4: Regional and Local Barriers to DOE Funding
- Category 5: Barriers to Performing within the DOE Funding System
- Category 6: Open Topic

Specific respondents of interest are indicated for each specified category; however, DOE will accept responses from others. Respondents are encouraged but not required to provide any insights they may have to any category or question listed below. Respondents are not required to address every category or every question within a given category.

Category 1: **Increasing Access to, and Awareness of, DOE Funding through Effective Outreach and Engagement**

DOE seeks information about methods and approaches for making DOE funding opportunities and other forms of support more accessible and eliminate barriers to equity and inclusion. The below set of questions seeks information about how DOE can better communicate with and engage innovators and entrepreneurs from such communities, and from other excluded backgrounds.

Respondents of Interest: Respondents specifically of interest include environmental justice organizations; community-based organizations, incubators and accelerators; state, local, and tribal governments; MSI's and institutions located in underserved communities; and researchers, innovators, and entrepreneurs from backgrounds not traditionally represented in the innovation ecosystem. Other respondents with relevant insights are also welcome to respond.

Questions

1. How do you become aware of DOE funding opportunities and other forms of assistance? Which do you find most effective? What makes this an effective pathway for you?

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Please specify relevant channels including news media, press releases, social media, stakeholder email lists, word of mouth from colleagues, etc.

2. How can DOE better distribute information about open opportunities to communities and innovators traditionally underrepresented in climate innovation and entrepreneurship?
3. Do you know of organizations that effectively engage with innovators and entrepreneurs in underserved communities? How can DOE partner with these organizations?
4. To make its funding opportunities more accessible and inclusive, DOE is considering stating application requirements in a simplified portal describing the range of funding opportunities and support services, guides to the range and types of funding mechanisms, and providing support services. Do you think these measures will be helpful or effective, and if so, how? What additional measures would you suggest?

Category 2: **Barriers to Applying for and Receiving Funding from DOE**

DOE is interested in increasing support to individuals from groups historically underrepresented in STEM, and underserved communities and innovators. Such groups and communities have historically faced barriers to applying for, or subsequently receiving, DOE assistance due to lack of access, insufficient information or background knowledge, process-related difficulties, and a lack of resources, among other issues. The following questions seek information about barriers to entry for DOE funding and support and how its approach can be more inclusive, equitable, and create opportunities for all Americans.

Respondents of Interest: DOE is specifically interested in responses from researchers, entrepreneurs, or innovators from groups historically underrepresented in STEM or underserved communities; environmental justice organizations; community-based organizations; and incubators and accelerators. Other respondents with relevant insight are also encouraged to respond.

Questions

1. Have you previously applied for DOE funding? If so, what kind of funding opportunity -- including Funding Opportunity Announcements (FOA), Small Business Innovation Research Grants (SBIR), Prize, etc. -- did you apply for? What challenges did you experience in the application process?
2. If you have not previously applied for DOE funding, what specifically has stopped you from applying (content of solicitation, process, awareness of opportunities, etc.)? Please provide details about the type of funding/solicitation and the specific issue that prevented or discouraged you from applying.

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3. Do you believe there are preconceived notions about applying for DOE funding opportunities that might prevent or discourage innovators or communities from seeking DOE funding? If so, what are they?
4. Are cost-share requirements a barrier to applying for funding? If so, please provide a detailed explanation of how they have been a barrier.
5. How might DOE better support applicants and potential applicants in applying for DOE funding opportunities, either directly or through other organizations? What resources can DOE provide to organizations that support applicants for DOE funding opportunities? If applicable, how was your experience with DOE's Small Business Innovation Research (SBIR) Grants Phase 0 program?
6. After applications are submitted, do further barriers exist within the DOE selection process? For example, are the review criteria for DOE funding opportunities sufficiently equitable and inclusive? Are there additional logistical or administrative hurdles in the selection process? How might DOE address these issues?
7. If you have received an award from DOE, how did this impact your career and/or your organization in the long-term? If you have not been successful in receiving an award from DOE but have applied, has this impacted your career/organization? How can the structure of DOE awards provide sustainable development for recipients and ensure their long-term success?

Category 3: **Support for an Innovation Ecosystem and Place-Based Innovation**
In an effort to better support climate and energy technology innovators, DOE may seek to provide support through organizations that provide entrepreneurial services and resources. These questions seek to understand the resources in place, the organizations providing these resources, existing gaps, and DOE's potential role.

Respondents of Interest: Specific respondents of interest include community-based organizations, incubators and accelerators, developers, investors and funders, and researchers and innovators; state, local, and tribal governments; and other respondents with relevant insight are also encouraged to respond.

Questions

1. What can DOE do, directly or indirectly, to provide access to funding and support for entrepreneurs/innovators from groups historically underrepresented in STEM or from underserved communities, and underserved communities as a whole?
2. Are you part of an organization that provides support entrepreneurs and innovators from groups historically underrepresented in STEM or from underserved communities?
3. What types of support do non-DOE/non-governmental organizations provide to entrepreneurs/innovators?

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4. What organizations have been successful in the short-term and long-term support of entrepreneurs/innovators from groups historically underrepresented in STEM or from underserved communities? How have these organizations been successful?
5. Are there specific organizations that have partnered with DOE to successfully provide support to innovators, particularly from groups historically underrepresented in STEM or from underserved communities in the past? Are there other organizations that are well-positioned to enter into such a partnership now?
6. In your experience, what have been the most effective programs for first-funding-in for entrepreneurs?
7. What types of services could non-governmental organizations provide to better position applicants for DOE funding?
8. If an organization were considering an initiative aimed at increasing diversity and representation in entrepreneurship, what actions might they consider? How can DOE support these organizations in their mission? What annual budget would be required? Please provide a brief explanation of potential activities at budget levels of up to $50,000, $50,000-150,000, $150,000-250,000, and $250,000-500,000.

Category 4: Identifying Regional and Local Barriers to DOE Funding

Some communities or individuals face barriers to support or funding that are location-specific. These may include barriers to mobility, telecommunications, insufficient infrastructure, or lack of access to innovation hubs. DOE seeks information about barriers that are specific to an applicant's region or locality and how these barriers might be alleviated**.**

Respondents of Interest: Specific respondents of interest include environmental justice organizations, community-based organizations, state, local, and tribal governments, and research and innovators who experience location-based difficulties in accessing resources.

Questions

1. Do you feel there are barriers due to your location that prevent or discourage you from seeking and/or applying to DOE funding?
2. What regional or local efforts currently in place are effective means to alleviating access to funding opportunities? Are there regional or local efforts that effectively enhance access to funding opportunities at DOE or other federal agencies?
3. How can DOE support underserved communities in overcoming regional and local barriers?
4. Are you aware of current DOE place-based initiatives, such as the Energy Transitions Initiative Partnership Program (ETIPP)? If so, do you feel these initiatives will help you obtain Federal funding? Why or why not?

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Category 5: Barriers to Performing within the DOE Funding System

After receiving a DOE award, some organizations or individuals may face challenges in executing and completing the required tasks for the award. DOE would like to better understand such challenges and potential measures to enable awardees to effectively complete the required tasks.

Respondents of Interest: DOE is specifically interested in responses from researchers, entrepreneurs, or innovators, including from those individuals from groups historically underrepresented in STEM or from underserved communities; environmental justice organizations; community-based organizations; and incubators and accelerators. Other respondents with relevant insight are also encouraged to respond.

Questions:

1. Have you or individuals and organizations you have worked with received funding from DOE, but failed to be granted a 'Go' decision to subsequent periods of performance? Describe your experience and the challenges you faced to accomplish the goals set forth in your award.
2. Have you had team members that have not been able to perform as expected or complete tasks as planned? Provide context on the circumstances surrounding that individual or organization's challenges.
3. What recommendations or resources would have enabled you, your organization, or partners to have a higher likelihood of success in those circumstances or in future funding programs?

Category 6: Open Topic

Please include any other relevant information or data that will enable DOE to better understand the barriers encountered by individuals from groups historically underrepresented STEM, underserved communities, and frontline communities seeking to participate in DOE-supported activities and how DOE may address these barriers to improve inclusion and equity.

Request for Information Response Guidelines

Please submit responses to this RFI electronically to inclusiveinnovationRFI@ee.doe.gov no later than 5:00pm (ET) on August 6, 2021. Responses must be received electronically by August 6, 2021 for immediate consideration; however, DOE will continue to accept responses after that date and will review as time permits. Responses must be provided as attachments to an email.

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It is recommended that attachments with file sizes exceeding 25MB be compressed (i.e., zipped) to ensure message delivery. Responses must be provided as a Microsoft Word (.docx) attachment to the email, and no more than 10 pages in length, 12 point font, 1 inch margins. Only electronic responses will be accepted.

Please identify your answers by responding to a specific question or topic if applicable. Respondents may answer as many or as few questions as they wish.

DOE will not respond to individual submissions or publish publicly a compendium of responses. A response to this RFI will not be viewed as a binding commitment to develop or pursue the project or ideas discussed.

Respondents are requested to provide the following information at the start of their response to this RFI:

- Company / institution name;
- Company / institution contact;
- Contact's address, phone number, and e-mail address.

Disclaimer and Important Notes

This RFI is not a Funding Opportunity Announcement (FOA), prize, or any other type of solicitation; therefore, DOE is not accepting applications at this time. DOE may issue a FOA or other solicitation in the future based on or related to the content and responses to this RFI; however, DOE may also elect not to issue a FOA or solicitation. There is no guarantee that a FOA or solicitation will be issued as a result of this RFI. Responding to this RFI does not provide any advantage or disadvantage to potential applicants if DOE chooses to issue a FOA regarding the subject matter. Final details, including the anticipated award size, quantity, and timing of DOE funded awards, will be subject to Congressional appropriations and direction.

Any information obtained as a result of this RFI is intended to be used by the Government on a non-attribution basis for planning and strategy development; this RFI does not constitute a formal solicitation for proposals or abstracts. Your response to this notice will be treated as information only. DOE will review and consider all responses in its formulation of program strategies for the identified materials of interest that are the subject of this request. DOE will not provide reimbursement for costs incurred in responding to this RFI. Respondents are advised that DOE is under no obligation to acknowledge receipt of the information received or provide feedback to respondents with respect to any information submitted under this RFI. Responses to this RFI do not bind DOE to any further actions related to this topic.

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Confidential Business Information

Pursuant to 10 CFR 1004.11, any person submitting information that he or she believes to be confidential and exempt by law from public disclosure should submit via email, postal mail, or hand delivery two well-marked copies: one copy of the document marked "confidential" including all the information believed to be confidential, and one copy of the document marked "non-confidential" with the information believed to be confidential deleted. Submit these documents via email or on a CD, if feasible. DOE will make its own determination about the confidential status of the information and treat it according to its determination.

Evaluation and Administration by Federal and Non-Federal Personnel

Federal employees are subject to the non-disclosure requirements of a criminal statute, the Trade Secrets Act, 18 USC 1905. The Government may seek the advice of qualified non-Federal personnel. The Government may also use non-Federal personnel to conduct routine, nondiscretionary administrative activities. The respondents, by submitting their response, consent to DOE providing their response to non-Federal parties. Non-Federal parties given access to responses must be subject to an appropriate obligation of confidentiality prior to being given the access. Submissions may be reviewed by support contractors and private consultants.

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Appendix D – Preliminary Glossary of Terms

Pacific Northwest
NATIONAL LABORATORY

Preliminary Glossary of U.S. Department of Energy Terms for Inclusive Innovation and Entrepreneurship

Advancing equity, civil rights, racial justice, and equal opportunity is the responsibility of the entire U.S. government, including the U.S. Department of Energy (DOE). DOE is taking a number of proactive steps to diagnose and eliminate barriers to equal opportunity by enabling an inclusive and just entrepreneurial innovation ecosystem in climate and energy technologies. This preliminary glossary of terms used within DOE funding instruments and federal policies is intended to support these efforts and provide common language for discussion. Terms are categorized based on themes identified for innovation and entrepreneurship at DOE.

These terms and definitions, unless otherwise noted, were compiled by the Office of Indian Energy as part of their Glossary of Terms, Systems and Acronyms [1] to help award recipients navigate DOE and the Office of Indian Energy award processes from pre-award to closeout. That glossary is an appendix to the Recipient Guide to Award Negotiation and Administration [2], which provides additional information to guide recipients through the award process.

Contents

[1] "Appendix 1: Glossary of Terms, Systems and Acronyms." Office of Indian Energy, 2020, https://www.energy.gov/sites/prod/files/2020/06/f76/appendix-1-glossary.pdf

[2] "Recipient Guide to Award Negotiation and Administration & Appendices." Office of Indian Energy Policy and Programs, 2020, https://www.energy.gov/indianenergy/downloads/recipient-guide-award-negotiation-and-administration-appendices

Inclusive Innovation

Inclusivity in Federal Priorities

"Environmental justice" is the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income, with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies [3]. Executive Order 12898 directed federal agencies to "make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations" [4].

"Equity", as defined in Executive Order No. 13985, "means the consistent and systematic fair, just, and impartial treatment of all individuals, including individuals who belong to underserved communities that have been denied such treatment, such as Black, Latino, and Indigenous and Native American persons, Asian Americans and Pacific Islanders and other persons of color; members of religious minorities; lesbian, gay, bisexual, transgender, and queer (LGBTQ+) persons; persons with disabilities; persons who live in rural areas; and persons otherwise adversely affected by persistent poverty or inequality" [5].

"Underserved communities" "refers to populations sharing a particular characteristic, as well as geographic communities, that have been systematically denied a full opportunity to participate in aspects of economic, social, and civic life" [6].

U.S. Department of Energy Funding Instruments

Awards *& Submission Sites*

"EERE Exchange" is the Department of Energy, Energy Efficiency and Renewable Energy's web system for posting Federal FOAs and receiving applications. EERE Exchange may be found at https://eere-exchange.energy.gov. Applications must be submitted through this portal in response to a FOA.

"FedConnect" is where federal agencies make awards and Recipients accept awards via the web. It can be found at https://www.fedconnect.net/FedConnect/.

"FOA" stands for **"Funding Opportunity Announcement"** which is a publicly available document by which a Federal agency makes known its intentions to award discretionary grants or cooperative agreements, usually as a result of competition for funds. FOAs may be known as

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[3] "Environmental Justice." EPA, https://www.epa.gov/environmentaljustice.

[4] Executive Order No. 12898, Federal Actions To Address Environmental Justice in Minority Populations and Low-Income Populations. 3 C.F.R. 7629, 1994. https://www.federalregister.gov/documents/1994/02/16/94-3685/federal-actions-to-address-environmental-justice-in-minority-populations-and-low-income-populations

[5] Executive Order No. 13985. "Advancing Racial Equity and Support for Underserved Communities Through the Federal Government". 3 C.F.R. 7009, 2021. https://www.federalregister.gov/documents/2021/01/25/2021-01753/advancing-racial-equity-and-support-for-underserved-communities-through-the-federal-government

[6] Ibid. (Same source as above).

FOAs, notices of funding availability, solicitations, or other names depending on the agency and type of program. See 2 CFR 200.203 for more information.

"Grants.gov" is the web portal which allows organizations to electronically find grant opportunities from all Federal grant-making agencies. Grants.gov is THE single access point for over 900 grant programs offered by the 26 Federal grant-making agencies. It can be accessed at http://www.grants.gov.

"Project Management Center (PMC)" is the portal for Recipients to submit required reports and NEPA Environmental Questionnaires. Access and register with the PMC at https://www.eere-pmc.energy.gov/.

"RFI" stands for **"Request for Information"** is a process to collect written feedback regarding the specific request. It is an important step to ensure open and inclusive collaboration between government and stakeholders across government, community, and industry [7].

"SAM" stands for **"System for Award Management"** is the primary database which collects, validates, stores and disseminates data in support of agency missions. It can be accessed at https://www.sam.gov.

VIPERS is the Vendor Invoicing Payments Electronic Reporting System at https://vipers.doe.gov/. Payment requests and supporting documentations are submitted here for review and reimbursement.

Personnel Roles

"Applicant" means the legal entity or individual signing the application. This entity or individual may be one organization or a single entity representing a group of organizations (such as a Consortium) that has chosen to submit a single application in response to a FOA.

"Authorized Representative" refers to an individual who is designated by a tribe, or an organization, to act as an agent of that tribe or organization.

"Business Contact" means a representative of the Applicant authorized to act on behalf of the Applicant in the daily administration of the grant and to negotiate the agreement, as all DOE official correspondence related to this announcement, or agreement if one was awarded, would be addressed to the business point of contact.

"Contracting Officer" means the DOE official authorized to execute awards on behalf of DOE and who is responsible for the business management and non-technology/program office aspects of the financial assistance process.

"E-Business Point of Contact (POC)" is the individual who is designated as the Electronic Business Point of Contact in the SAM registration. This person is the sole authority of the organization with the capability of designating or revoking an individual's ability to conduct SAM transactions.

[7] In the EERE Exchange, announcement types include both FOAs and RFIs but are two distinct announcements. RFIs are not a Funding Opportunity Announcement (FOA).

“Key Personnel” mean the individuals who will have significant roles in planning and implementing the proposed Project on the part of the Applicant and Participants, including FFRDCs.

“Principal Investigator” means a representative authorized to act as the **“Technical Contact”** or **“Project Manager”** on behalf of the Applicant and would be the prime point of contact for DOE’s Project Officer during the period of performance of the grant, if an agreement is awarded. See Technical Contact and Project Manager.

“Project Manager” means a representative authorized to act as the **“Technical Contact”** or **“Principal Investigator”** on behalf of the Applicant and would be the prime point of contact for DOE’s Project Officer during the period of performance of the grant, if an agreement is awarded. See Principal Investigator and Technical Contact.

“Project Team” means the team which consists of the Recipient, subrecipients, and others performing or otherwise supporting work under a DOE funding agreement.

“Recipient” or “**Awardee”** means the organization, individual, or other entity that receives a financial assistance award from DOE (i.e., is the signatory on the award), is financially accountable for the use of any DOE funds or property provided for the performance of the Project, and is legally responsible for carrying out the terms and condition of the award.

“Selectee” refers to an Applicant whose submitted application has been selected for award negotiation. A Selectee who successfully completes the award negotiation process may become a Recipient.

“Selection Official” means the DOE official designated to select applications for negotiation toward Award under a subject FOA.

“Subawardee, Subrecipient, or Subcontractor” (excluding vendors) means the legal entity to which a subaward is made and which is accountable to the Recipient for the use of the funds or property provided under a Financial Assistance Award. A Subrecipient is a third party participating in a project who contributes any amount of cost share to the proposed project or who has a vested interest in the proposed project.

“Technical Contact” means a representative of the Applicant authorized to act as the **“Project Manager”** or **“Principal Investigator”** on behalf of the Applicant and would be the prime point of contact for DOE’s Project Officer during the period of performance of the grant, if an agreement is awarded. See Principal Investigator and Project Manager.

Vendor is a legal entity contracted to provide goods and services within normal business operations, who provides similar goods or services to many different purchasers, and operates in a competitive environment.

Organization Types

“FFRDC” stands for **“Federally Funded Research and Development Center (FFRDC)”** means a government-sponsored operation that exists for the purpose of carrying out various functions related to both basic and applied research and development on behalf of the Government. Typically, most or all of the facilities utilized in an FFRDC are owned by the Government, but the operations are not always managed by the Government; an FFRDC may

be managed by a University or consortium of Universities, other not-for-profit or nonprofit organization, or a for-profit organization, with the Government performing an oversight function.

"Large Businesses" may be defined as simply those that are larger than 'small businesses' as defined by the US Small Business Administration (SBA). SBA defines small businesses based on business sector or type. SBA has established two widely used size standards – 500 employees for most manufacturing and mining industries and $7.5 million in average annual receipts for many nonmanufacturing industries. However, there are a number of exceptions. See https://www.sba.gov/contracting/getting-started-contractor/make-sure-you-meet-sba-size-standards/summary-size-standards-industry-sector

Financing Types

"Cooperative Agreement" means a financial assistance instrument used by DOE to transfer money or property when the principal purpose of the transaction is to accomplish a public purpose of support or stimulation authorized by federal statute, and Substantial Involvement (see definition below) is anticipated between DOE and the Applicant during the performance of the contemplated activity. Refer to 2 CFR 200.24 for additional information regarding cooperative agreements.

"Grant" means a Financial Assistance instrument used by DOE to transfer money or property when the principal purpose of the transaction is to accomplish a public purpose of support or stimulation authorized by Federal statute, and no Substantial Involvement is anticipated between DOE and the Applicant during the performance of the contemplated activity.

"Financial Assistance" means the transfer of money or property to an Applicant or Participant to accomplish a public purpose of support authorized by Federal statute through grants or cooperative agreements and sub-awards. For DOE, it does not include direct loans, loan guarantees, price guarantees, purchase agreements, Cooperative Research and Development Agreements (CRADAs), or any other type of financial incentive instrument.

DOE Program Offices & Relevant Federal Offices

"AITO" refers to the **"Artificial Intelligence & Technology Office"**. AITO is a program office within DOE. AITO aims to accelerate the research, development, delivery, and application of Artificial Intelligence [8]

"ARPA-E" refers to the **"Advanced Research Projects Agency-Energy"**. ARPA-E is a program office within DOE that advances high-potential, high-impact energy technologies that are too early for private-sector investment [9].

"CESER" refers to the **"Office of Cybersecurity, Energy Security, and Emergency Response"**. CESER is a program office within DOE. CESER improves energy infrastructure security and supports the DOE's national security mission, focusing on preparedness and response activities to natural and man-made threats [10]

[8] https://www.energy.gov/ai/artificial-intelligence-technology-office
[9] https://arpa-e.energy.gov
[10] https://www.energy.gov/ceser/office-cybersecurity-energy-security-and-emergency-response

"ED" refers to the **"Office of Economic Impact and Diversity".** ED is a program office within DOE. ED advises on the impact of energy policies, regulations, and DOE programs on minority communities, minority institutions, and specific segments of the U.S. population [11].

"EERE" refers to the **"Office of Energy Efficiency and Renewable Energy"**. EERE is a program office within DOE. EERE's mission is to create and sustain American leadership in the transition to a global clean energy economy. Its vision is a strong and prosperous America powered by clean, affordable, and secure energy [12].

"EM" refers to the **"Office of Environmental Management"**. EM is a program office within DOE. EM is charged with addressing the nation's Cold War environmental legacy resulting from five decades of nuclear weapons production and government-sponsored nuclear energy research, including the clean up of 107 sites across the country [13].

"LM" refers to the **"Office of Legacy Management"**. LM is a program office within DOE. LM is tasked with fulfilling the DOE's post-closure responsibilities and ensure the future protection of human health and the environment [14].

"LPO" refers to the **"Loan Programs Office"**. LPO is a program office within DOE. LPO provides loans and loan guarantees available to help deploy large-scale, innovative energy infrastructure projects in the United States [15].

"NE" refers to the **"Office of Nuclear Energy (NE)"**. NE is a program office within DOE. NE's mission is to advance nuclear energy science and technology to meet U.S. energy, environmental, and economic needs [16].

"OE" refers to the **"Office of Electricity"**. OE is a program office within DOE. OE leads the DOE efforts to ensure the Nation's most critical energy infrastructure is secure, drive grid technology evolution and enable rapid recovery from disruptions. OE also leads activities that provide long-term transformational strategies to ensure that it supports the evolving grid and emerging threats, like climate or cyber events [17].

"OMB" refers to the "**Office of Management and Budget"**. The Office of Management and Budget (OMB) serves the President of the United States in overseeing the implementation of his vision across the Executive Branch. Specifically, OMB's mission is to assist the President in meeting his policy, budget, management and regulatory objectives and to fulfill the agency's statutory responsibilities.

"OSTI" stands for the **"Office of Scientific and Technical Information"**. OSTI is a component of the Office of Science within DOE. The Energy Policy Act PL 109-58, Section 982, called out the responsibility of OSTI: "The Secretary, through the Office of Scientific and Technical Information, shall maintain with the Department publicly available collections of scientific and

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[11] https://www.energy.gov/diversity/office-economic-impact-and-diversity
[12] https://www.energy.gov/eere/office-energy-efficiency-renewable-energy
[13] https://www.energy.gov/em/office-environmental-management
[14] https://www.energy.gov/lm/office-legacy-management
[15] https://www.energy.gov/lpo/loan-programs-office
[16] https://www.energy.gov/ne/office-nuclear-energy
[17] https://www.energy.gov/oe/office-electricity

technical information resulting from research, development, demonstration, and commercial applications activities supported by the Department." Final Technical reports are submitted to OSTI via E-Link at https://www.osti.gov/elink/.

The **"Office of Fossil Energy"** is a program office within DOE. The Office of Fossil Energy is responsible for the research and development of programs involving coal, petroleum, and natural gas [18].

The **"Office of Indian Energy Policy and Programs"** is a program office within DOE. The Office of Indian Energy Policy and Programs funds and implements a variety of programmatic activities that assist American Indian Tribes and Alaska Native villages with energy development, capacity building, energy cost reduction, and electrification of Indian lands and homes [19].

The **"Office of Science"** is a program office within DOE. The Office of Science is the lead federal agency supporting fundamental scientific research in the physical sciences and energy production and security [20].

Submission and Project Terminology

"Award" means the written documentation executed by a Contracting Officer, after an Applicant is selected, which contains the negotiated terms and conditions for providing Financial Assistance to the Applicant. A financial assistance award may be a grant, cooperative agreement, or technology investment agreement.

"Award Negotiation" occurs after the application is selected for a potential award when the selectee and DOE negotiates the award terms and documents including the federal and cost share amount, the Statement of Work (SOPO), timeline, and the budget.

"Budget" means the cost expenditure plan submitted in the application, including both the DOE contribution and the Applicant cost share.

"Compliance" is an eligibility determination that refers to the non-technical requirements outlined in a FOA (e.g., formatting, timeliness of submission, or satisfaction of prerequisites).

"Control Number" will be issued when an applicant begins the EERE Exchange application process. This control number must be included with all application documents [21].

"Cost Sharing" is the portion of the project or program's costs not borne by the federal government. The non-federal cost share is calculated as a percentage of the Total Project Cost.

"DUNS" stands for **"Data Universal Numbering System"** is a unique nine-character identification number issued by Dun and Bradstreet (D&B). Organizations must have a DUNS

[18] https://www.energy.gov/fe/office-fossil-energy
[19] https://www.energy.gov/indianenergy/office-indian-energy-policy-and-programs
[20] https://www.energy.gov/science/office-science
[21] This term is not included in the Office of Indian Energy's Glossary of Terms, Systems and Acronyms. It has been added to this glossary after a review of current FOAs.

number prior to registering in the SAM (System for Award Management). Call 1-866-705-5711 (US Only) or go to http://fedgov.dnb.com/webform to receive a DUNS number free of charge.

"FTE" stands for **"Full-time equivalent"** and is a unit that indicates the workload of an employed person.

"Marketing Partner Identification Number (MPIN)" is a very important password designated by your organization when registering in SAM. The E-Business Point of Contact will need the MPIN to assign privileges to the individual(s) authorized to perform SAM transactions on behalf of your organization. The MPIN must have 9 digits containing at least one alpha character (must be in capital letters) and one number (no spaces or special characters permitted).

"NOI" stands for **"Notice of Intent"**. The purpose of issuing an NOI is to provide potential applicants advance notice of a proposed upcoming FOA.

"PII" stands for **"Personally Identifiable Information"**. PII is information which can be used to distinguish or trace an individual's identity, such as their name, social security number, biometric records, etc. alone, or when combined with other personal or identifying information which is linked or linkable to a specific individual, such as date and place of birth, mother's maiden name, etc. PII should not be included in reports submitted to DOE that are intended for publication such as the Final Technical Reports that will be publicly available.

"Period of Performance" is the length of a project when approved work may take place, as specified by the start and end dates on the Assistance Agreement document, provided to grant Recipients via FedConnect.

"Project" means the set of activities described in an application, State plan, or other document that is approved by DOE for Financial Assistance (whether such Financial Assistance represents all or only a portion of the support necessary to carry out those activities).

"RDD&CA" stands for **"research, development, demonstration, and commercial application"** [22].

SMART stands for Specific, Measurable, Achievable, Realistic, and Timely and is used to help guide goal setting. Plans required for FOAs may require SMART milestones [23].

"SOPO" stands for **"Statement of Project Objectives"**. This document describes the project goals, tasks and its timeline, which is included in the approved award documents.

"Substantial Involvement" means involvement on the part of the Government. DOE's involvement may include shared responsibility for the performance of the project; providing technical assistance or guidance which the Applicant is to follow; and the right to intervene in the conduct or performance of the Project. Such involvement will be negotiated with each Applicant prior to signing any cooperative agreement.

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[22] "Technology Commercialization Fund." Office of Technology Transitions, https://www.energy.gov/technologytransitions/technology-commercialization-fund

[23] This term is not included in the Office of Indian Energy's Glossary of Terms, Systems and Acronyms. It has been added to this glossary after a review of current FOAs.

“Supplemental Data Letter” is a letter sent to Applicant(s) who have been selected for award negotiation from the Contracting Officer requesting additional information to clarify or supplement their Application.

“Total Project Cost” means all the funds to complete the effort proposed by the Applicant, including DOE funds (including direct funding of any FFRDC) plus all other funds that will be committed by the Applicant as Cost Sharing.

Codes, Regulations, & Policy

“CFR” stands for the **“Code of Federal Regulations”** which is the codification of the general and permanent rules published in the Federal Register by the departments and agencies of the Federal Government. In general 2 CFR 200 and 2 CFR 910 are applicable to grants awarded by DOE.

“eCFR” stands for the **“Electronic Code of Federal Regulations”** at http://www.ecfr.gov/

“FOIA” stands for **“Freedom of Information Act”** and is a law that gives the public the right to access information from the federal government.

“GAAP” stands for **“Generally Accepted Accounting Principles”** which are a common set of accounting principles, standards and procedures that entities must follow when they compile their financial statements.

“NEPA” stands for the **“National Environmental Policy Act”** which requires the Federal Government to evaluate and understand the potential impacts to the environment BEFORE committing resources to a proposed action (i.e. providing federal funding). The entire project (either funded with Federal funds or cost-shared) is subject to NEPA compliance. NEPA determinations include **Categorical Exclusions (CX)** for pilot projects and studies**, Environmental Assessment (EA)** when activities may result in environmental impacts, **or Environmental Impact Statement (EIS)** when activities may have significant impact to the environment**.**

“UCC” stands for **“Uniform Commercial Code”** which was first published in 1952 and is one of a number of uniform acts that have been put into law with the goal of harmonizing the law of sales and other commercial transactions across the United States of America (U.S.) through UCC adoption by all 50 states, the District of Columbia, and the U.S. territories.

Appendix E – DOE Program Profiles

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U.S. Department of Energy Program Profiles to Support Inclusive Innovation and Entrepreneurship

Below are profiles of five U.S. Department of Energy (DOE) programs: American-Made Challenges, Energy I-Corps, the Lab Partnering Service, Small Business Vouchers, and the Technology Commercialization Fund. These programs are examples of existing or past DOE programs that provide support to individuals and organizations in innovation and entrepreneurship. These programs aim to accelerate innovation to high-impact commercialization through partnerships connecting entrepreneurs to the private sector and the network of DOE's National Laboratories. As DOE takes proactive steps to diagnose and eliminate barriers to its funding opportunities and seeks to enable a more inclusive and just entrepreneurial innovation ecosystem in climate and energy technologies, these programs highlight potential venues that can be modified or expanded.

American-Made Challenges (AMC) [1] are prize accelerators based at the National Renewable Energy Laboratory, originally aimed at incentivizing the nation's entrepreneurs to reenergize innovation and reassert American leadership in the energy marketplace. Prize competitions on the AMC platform are aimed at lowering the barriers to innovators while helping to create partnerships that connect entrepreneurs to the private sector and the network of DOE's National Laboratories. These prize competitions and challenges provide a rapid funding mechanism to support entrepreneurs from an initial idea to a commercial demonstration across energy domains, from solar energy to ocean observation to geothermal energy. Future work may identify connections between DOE programs to reduce barriers for entrepreneurs. For example, American-Made Challenge awardees could participate in Energy I-Corps, increasing the likelihood of commercializing their technologies.

Energy I-Corps [2] is a program that pairs teams of national laboratory researchers with industry mentors for an intensive two-month training. With a focus on value commercialization and entrepreneurial activities, the program aims to increase the number of national laboratory-developed technologies that are transferred into commercial development or industry agreements. Energy I-Corps currently provides training to ensure investments in national labs are maintaining and strengthening U.S. competitiveness long-term. This entrepreneurial training program could be expanded to other DOE awardees, further developing the energy innovation ecosystem.

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[1] https://americanmadechallenges.org/
[2] https://energyicorps.energy.gov/

The **Lab Partnering Service (LPS)** [3] provides a single location to connect with DOE national laboratory technical experts to quickly answer innovation questions, as well as discover opportunities for building partnerships. LPS provides a crucial first step in reducing barriers by providing access to extensive information across numerous technology areas and labs. However, additional mechanisms are needed to translate information into effective partnering mechanisms, for national labs, investors, and other parties looking to advance energy innovation. Stakeholders may benefit from a more advanced startup-lab matchmaking process with mechanisms for both free technical assistance and affordable durable lab-entrepreneur partnerships. These advancements should consider methods to reach and support underserved communities.

Small Business Vouchers (SBV) [4] were part of a pilot program aimed at opening the DOE National Laboratories to qualified clean energy small businesses by making the contracting process simple, lab practices transparent, and access to the labs' unique facilities affordable. Vouchers provided funding (between $50,000 and up to $300,000) to national laboratory staff to support small businesses in overcoming critical technology and commercialization challenges with no cost to the partnering business. It was implemented under the DOE Office of Energy Efficiency & Renewable Energy (EERE).

The **Technology Commercialization Fund (TCF)** [5] is a funding opportunity that leverages the R&D funding in the applied energy programs to mature promising energy technologies with the potential for high impact. The goals are 1) to increase the number of energy technologies developed at DOE's national labs that graduate to commercial development and achieve commercial impact and 2) enhance the Department's technology transitions system with a forward-looking and competitive approach to lab-industry partnerships. This program often requires cost share from industry partners, and in the future may be modified to provide more flexibility and address existing challenges.

[3] https://www.labpartnering.org/
[4] https://www.energy.gov/eere/technology-to-market/small-business-vouchers
[5] https://www.energy.gov/technologytransitions/technology-commercialization-fund

Appendix F – Links and Resources

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Resources for Inclusive Innovation and Entrepreneurship at the U.S. Department of Energy

Below are three tables of resources for additional reading to support discussions on how to improve participation and inclusion in DOE funding opportunities. The first table describes a series of DOE Resources, the second describes Program-Specific Resources at DOE, and the third provides Perspectives on Inclusive Innovation Ecosystems. These resources are intended to outline the opportunities for innovation and entrepreneurship at DOE and initiate ways to think about how improvements can be made to create a more inclusive and just entrepreneurial innovation ecosystem in climate and energy technologies. Each resource is briefly described below alongside a link at which the resource can be accessed.

DOE Resources		
Title	*Description*	*Link*
Appendix 1: Glossary of Terms, Systems and Acronyms from the Office of Indian Energy. A component of the Recipient Guide to Award Negotiation and Administration from the Office of Indian Energy	Provides definitions of the language contained in the DOE and the Office of Indian Energy award process from pre-award through the closeout process.	https://www.energy.gov/sites/prod/files/2020/06/f76/appendix-1-glossary.pdf
Entrepreneurs – Office of Technology Transitions	Describes seven relevant resources for Entrepreneurs: Advanced Research Projects Agency-Energy (ARPA-E), Lab-Embedded Entrepreneurship Programs (LEEPs), Program Offices, Small Business Innovation Research (SBIR) and Small Business Technology Transfer (STTR), Technology Commercialization Fund (TCF), Lab Partnering Service (LPS), and Gateway for Accelerated Innovation in Nuclear (GAIN).	https://www.energy.gov/technologytransitions/partners/entrepreneurs
Equity in Energy Booklet	Describes the seven pillars of Equity in Energy initiative: Technical Assistance, Supplier Diversity, Workforce Development, Energy Affordability, National Laboratories, Energy Innovation & Alternative Fuels, and STEM Enhancement.	https://www.energy.gov/diversity/equity-energytm
Funding & Financing for Energy Businesses	Describes funding resources specific to energy businesses both within the energy department but also government-wide.	https://www.energy.gov/funding-financing-energy-businesses

DOE Resources Cont.		
Title	*Description*	*Link*
Guide to Partnering with DOE's National Laboratory	Describes eight partnering mechanisms for collaboration with DOE's National Laboratories: Cooperative Research and Development Agreement (CRADA), Strategic Partnership Project (SPP), Agreements for Commercializing Technology (ACT), Technical Assistance (TA) Agreement, User Agreement, Technology Licensing Agreement, Material Transfer Agreement (MTA), and Small Business Innovation Research (SBIR) and Small Business Technology Transfer (STTR).	https://www.inl.gov/wp-content/uploads/2016/05/Revised-Guide-Partnering-with-National-Labs-Final.pdf
Incubators and Accelerators – Buildings	Describes additional resources (organizations or programs) related to the U.S. Department of Energy's (DOE) Office of Energy Efficiency and Renewable Energy (EERE) Building Technology Office (BTO).	https://www.energy.gov/eere/buildings/incubators-and-accelerators
Recipient Guide to Award Negotiation and Administration from the Office of Indian Energy	Provides resources to help award recipients navigate DOE and the Office of Indian Energy award process from pre-award through the closeout process. Comprised of the Guide and ten appendices that include a glossary of common DOE terms and acronyms (the first resource in this table), along with step-by-step instructions with screenshots to help grant Recipients navigate the DOE grant systems.	https://www.energy.gov/indianenergy/downloads/recipient-guide-award-negotiation-and-administration-appendices
Technology Transfer Mechanisms at DOE Facilities	Describes four technology transfer mechanisms at DOE Facilities: Cooperative Research and Development Agreement (CRADA), Work for Others (WFO), Agreements for Commercializing Technology (ACT), and User Facility Agreements (UFAs).	https://www.ornl.gov/sites/default/files/MechanismsMatrix.pdf

Program-Specific Resources		
Title	*Description*	*Link*
American-Made Challenges	This is a series of prize competitions that are designed to incentivize the nation's entrepreneurs to reenergize innovation and reassert American leadership in the energy marketplace. Challenges aim to spur manufacturing, develop innovative solutions and products, and create new domestic jobs and opportunities through public-private partnerships.	https://americanmadechallenges.org/
Energy I-Corps	Pairs teams of national laboratory researchers with industry mentors for an intensive two-month training. With a focus on value commercialization and entrepreneurial activities, the program aims to increase the number of national laboratory-developed technologies that are transferred into commercial development or industry agreements.	https://energyicorps.energy.gov/
Incubator Program – Solar Energy Technologies Office (SETO)	Provides early-stage assistance to help startup companies cross technological barriers to commercialization while encouraging private sector investment.	https://www.energy.gov/eere/solar/incubator-program
Lab Partnering Service (LPS)	Provides a single location to connect with leading DOE national laboratory technical experts to quickly answer innovation questions, as well as discover opportunities for building partnerships. The goal of LPS is to increase access to the information needed to make informed decisions.	https://www.labpartnering.org/
Loan Programs Office (LPO)	Provides debt financing for the commercial deployment of large-scale energy projects with flexible financing and valuable expertise.	https://www.energy.gov/lpo/loan-programs-office
National Incubator Initiative for Clean Energy (NIICE)	Maintains a network to increase coordination and collaboration among the incubators across the country and develop best practices to raise incubator performance standards thereby enabling incubators to provide more efficient and effective services. Led to the development of a network of more than 1,000 early-stage companies: The Incubatenergy Network.	https://www.energy.gov/eere/technology-to-market/national-incubator-initiative-clean-energy-niice-0
Small Business Innovation Research (SBIR) and Small Business Technology Transfer (STTR) program	Awards grants to competitively selected small businesses for the research and development and commercialization of new ideas and innovative research. The mission is to promote technological innovation and economic growth through the investment of Federal research funds in small US businesses.	https://www.energy.gov/science/sbir/small-business-innovation-research-and-small-business-technology-transfer
Small Business Vouchers (SBV) – Technology-to-Market	The program fosters collaboration between national labs and small businesses. It opens the national labs to qualified clean energy small businesses by making the contracting process simple, lab practices transparent, and access to the labs' unique facilities affordable. Implemented under the Office of Energy Efficiency & Renewable Energy (EERE). See the webpage for critical technology challenge focus areas.	https://www.energy.gov/eere/technology-to-market/small-business-vouchers

Program-Specific Resources Cont.		
Technology Commercialization Fund (TCF)	A funding opportunity that leverages the R&D funding in the applied energy programs to mature promising energy technologies with the potential for high impact. The goals are 1) to increase the number of energy technologies developed at DOE's national labs that graduate to commercial development and achieve commercial impact and 2) enhance the Department's technology transitions system with a forward-looking and competitive approach to lab-industry partnerships..	https://www.energy.gov/technologytransitions/initiatives/technology-commercialization-fund

Perspectives on Inclusive Innovation and Entrepreneurship		
Title	*Description*	*Link*
Breaking Down Barriers: How the Department of Energy Can Immediately Advance Racial and Gender Equity for Entrepreneurs, Nicholas Montoni and Doug Rand	A discussion of actions for the Department of Energy (DOE) to take in support of inclusive clean energy startups and make progress on three of the Biden Administration's highest priorities: economic recovery, tackling the climate emergency, and racial equity.	https://www.thirdway.org/memo/breaking-down-barriers-how-the-department-of-energy-can-immediately-advance-racial-and-gender-equity-for-entrepreneurs
Creating Inclusive High-Tech Incubators and Accelerators: Strategies to Increase Participation Rates of Women and Minority Entrepreneurs	A report from JP Morgan Chase & Co. and Initiative for a Competitive Inner City describing strategies to increase participation rates of women and minority entrepreneurs in business incubators and accelerators.	https://icic.org/wp-content/uploads/2016/04/ICIC_JPMC_Incubators_updated_post.pdf?x96880
Policies to Broaden Participation in the Innovation Process, Lisa Cook	A policy paper that explores approaches to reduce disparities in the innovation process, focusing on women and underrepresented minorities. Specific policies are proposed to improve data collection and measurement of innovation, particularly at the U.S. Patent and Trademark Office (USPTO), improve the inclusivity of commercialization using the Small Business Innovation Research (SBIR) and Small Business Technology Transfer (STTR) programs, and direct efforts to foster an inclusive workplace climate in the innovation economy.	https://www.brookings.edu/wp-content/uploads/2020/08/Cook_PP_LO_8.13.pdf
Women's Inclusion in Small Business Innovation Research (SBIR) & Small Business Technology Transfer Programs (STTR), America's Seed Fund	A report providing the results of a study on women's participation in SBIR/STTR-funded small businesses with a focus on women business owners and principal investigators. It also analyzes potential factors that may influence women's participation.	https://www.nwbc.gov/2020/08/12/womens-inclusion-in-small-business-innovation-research-small-business-technology-transfer-programs/

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