

Request for Information: Grid Resilience and Innovation Partnerships Program

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SUBJECT: Request for Information (RFI) (DE-FOA-0002827)
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SUBMIT TO: GDORFI@hq.doe.gov

This is a Request for Information (RFI) issued by the U.S. Department of Energy's (DOE) Grid Deployment Office (GDO) in collaboration with the Office of Clean Energy Demonstrations (OCED). This RFI seeks public input to help inform DOE's implementation of the Infrastructure Investment and Jobs Act (IIJA), also commonly known as the Bipartisan Infrastructure Law (BIL).¹

The BIL is a once-in-a-generation investment in infrastructure, designed to modernize and upgrade American infrastructure to enhance United States competitiveness, drive the creation of good-paying union jobs, tackle the climate crisis, and ensure stronger access to economic, environmental, and other benefits for disadvantaged communities (DACs). BIL includes a historic investment to upgrade our transmission and distribution systems to improve reliability and resilience and to facilitate the deployment of more affordable and cleaner energy across the country as highlighted by DOE's Building a Better Grid Initiative. As relevant to this RFI, under sections 40101(c), 40107, and 40103(b), the BIL appropriated approximately \$10.5 billion for the five-year period encompassing Fiscal Years (FY) 2022 through 2026 to prevent outages and enhance the resilience of the electric grid, deploy technologies to enhance grid flexibility, and demonstrate innovative approaches to power sector infrastructure resilience and reliability. Together DOE refers to these provisions as the Grid Resilience and Innovation Partnerships (GRIP) program.²

To help inform DOE's implementation of the BIL provisions referenced above, this RFI seeks input on:

- DOE's implementation strategy for the GRIP program, including the competitive solicitation process, funding opportunity announcement (FOA) structure, prioritization of topics and projects, and assessment criteria. In addition to the overview presented here, the full DRAFT FOA can be found <https://www.fedconnect.net/fedconnect/?doc=DE-FOA-0002740&agency=DOE>.
- The alignment of the implementation of the GRIP program in supporting the Biden Administration's priorities, including:
 - a. Maximizing Benefits of an upgraded and modernized grid for American communities, including increased resilience and reliability and increased access to affordable, lower-carbon electricity.
 - b. Quality Jobs developed through the GRIP program including (a) efforts to attract, train, and retain a skilled workforce and (b) workforce opportunities in communities that have lost jobs due to the displacements of fossil energy jobs.
 - c. Community Benefits that could be achieved through the GRIP program including diversity, equity, inclusion, and accessibility.

¹ Public Law 117-58 (November 15, 2021).

² 42 USC §18711(c); 42 USC §18712(b); 42 USC §17386

- d. Implementation of the Justice40 Initiative³ and the maximizing of benefits to disadvantaged communities, within the GRIP program, and where applicable.

The three programs offering competitive grant funding for grid investments encompass a number of eligible entities, including states, Tribes, units of local government, public utility commissions, grid operators, utilities, and more. There are opportunities for investment in grid resilience and hardening, deployment of technologies to get more out of the existing grid, and large-scale transmission and distribution infrastructure.

Information collected from this RFI may be used by DOE for planning purposes, which could include revisions to the draft FOA noted above and developing future FOAs, other solicitations or technical assistance related to the GRIP program. The information collected may be published, therefore, DOE strongly encourages that no confidential business information or proprietary information be submitted and, if such information is provided, all documents are marked accordingly. This is an RFI only. DOE will not pay for information provided under this RFI and no project will be supported as a result of this RFI. This RFI is not accepting applications for financial assistance.

This RFI's purpose and questions for response are provided at the end of this document, beginning with RFI Categories and Questions on page 22.

Background

On November 15, 2021, President Joseph R. Biden, Jr. signed the BIL. The BIL is a once-in-a-generation investment in infrastructure, which provides the backbone for a more sustainable, resilient, and equitable economy through enhancing U.S. global competitiveness, diversifying regional economies to include supply chain and manufacturing industries, creating good union jobs, and ensuring stronger access to economic and other benefits for underserved communities. The BIL appropriates more than \$62 billion to DOE to ensure the clean energy future delivers true economic prosperity to the American people by:

- Investing in American manufacturing and workers, by creating good-paying jobs with the free and fair chance to join a union and supporting effective workforce development that ensures access to these jobs and enables workers to advance in their careers.
- Expanding access to energy efficiency and clean energy for families, communities, and businesses.
- Delivering reliable, clean, and affordable power to more Americans.
- Building the technologies of tomorrow through clean energy demonstrations.

The BIL appropriated approximately \$10.5 billion for the five-year period encompassing FY22 through FY26 for three provisions broadly focused on enhancing the resilience of our power system against growing threats of extreme weather and climate change. A reliable, resilient, affordable, and equitable

³ The Justice40 initiative, created by E.O. 14008, establishes a goal that 40% of the overall benefits of certain federal investments—including investments in climate change; clean energy and energy efficiency; clean transit; affordable and sustainable housing; training and workforce development; the remediation and reduction of legacy pollution; and the development of critical clean water infrastructure—flow to disadvantaged communities. The Justice40 Interim Guidance provides a broad definition of disadvantaged communities (Page 2): <https://www.whitehouse.gov/wp-content/uploads/2021/07/M-21-28.pdf>. The Department of Energy has identified DACs by census tract. See <https://www.energy.gov/diversity/justice40-initiative>. The DOE, the Office of Management and Budget, and/or the Federal Council on Environmental Quality (CEQ) may issue additional and subsequent guidance regarding the designation of disadvantaged communities and recognized benefits under the Justice40 Initiative.

clean power system is a core requirement for achieving the Biden Administration target of a 100% carbon pollution free electricity system by 2035 and a net zero emission economy by 2050.

As part of the whole-of-government approach to advance equity and encourage worker organizing and collective bargaining,^{4,5,6} the implementation of BIL sections 40101(c), 40107, and 40103(b) will seek to encourage meaningful engagement and participation of workforce organizations, including labor unions, as well as underserved communities and underrepresented groups, including Tribal nations⁷. Consistent with Executive Order 14008,⁸ the GRIP program is designed to help meet the goal that 40% of the benefits of federal investments in clean energy and climate solutions flow to disadvantaged communities, as defined by the Department pursuant to the Executive Order and Interim Guidance and to drive the creation of good-paying jobs with the free and fair chance for workers to join a union.

Grid Resilience and Innovative Partnerships (GRIP) Elements

DOE is proposing a combined implementation strategy for the following three BIL sections in order to support the development of more comprehensive and regional resilience strategies:

- **Section 40101(c):** Preventing Outages and Enhancing the Resilience of the Electric Grid/Hazard Hardening (Grid Resilience Grants)
- **Section 40107:** Deployment of Technologies to Enhance Grid Flexibility/Smart Grid Investment Matching Grant Program (Smart Grid Grants)
- **Section 40103(b):** Program Upgrading Our Electric Grid and Ensuring Reliability and Resiliency (Grid Innovation Program)

Together, these three programs form the GRIP program. DOE intends to coordinate implementation of these programs together to the extent practicable, to maximize the benefits and impacts of the three programs. DOE believes such coordination will provide practical benefits to applicants by aligning and coordinating the objectives and funding opportunities for the three provisions within the GRIP program:

- Aligning timing of programs should ease the application process by enabling applicants to focus on one annual award cycle for all relevant opportunities;
- A coordinated application process should allow for development of broader teams in industry, state, local, Tribal, and regional partnerships;
- Coordinated implementation should enable a more systematic approach to planning to help identify projects with the most significant national, regional, and community resilience, reliability, and affordability benefits; and
- Industry applications can be informed by and complementary to other energy planning efforts and grid resilience investments that States, Territories, and Indian Tribes are undertaking, including in connection with other BIL programs such as the Grid Resilience State and Tribal

⁴ EO 13985, “Advancing Racial Equity and Support for Underserved Communities Through the Federal Government” (January 20, 2021).

⁵ EO 14025, “Worker Organizing and Empowerment,” April 26, 2021.

⁶ EO 14052, “Implementation of the Infrastructure Investment and Jobs Act,” November 18, 2021.

⁷ EO 13175, November 6, 2000 “Consultation and Coordination With Indian Tribal Governments”, charges all executive departments and agencies with engaging in regular, meaningful, and robust consultation with Tribal officials in the development of federal policies that have Tribal implications.

⁸ EO 14008, “Tackling the Climate Crisis at Home and Abroad,” January 27, 2021.

formula grants under BIL section 40101(d), State Energy Security Plans under BIL section 40108, and other activities supported by the State Energy Program, including a mandatory focus on transmission and distribution planning under BIL section 40109.

DOE Draft Strategy for Grid Resilience and Innovative Partnership (GRIP) Program

The Nation's power system is aging and under increasing and evolving threat, yet historical investments have not been sufficient in magnitude or focus to address these threats to the grid. The energy transition is underway with the retirement of older assets, the deployment of newer assets with different generation profiles, and a shifting load profile that includes storage, electric vehicles, building electrification, and more. All of this creates both challenges and opportunities to build a more resilient grid.

Disruptive weather events are more intense in terms of temperature extremes and precipitation; are becoming broader in scope; and are affecting larger areas at a time, such as Winter Storm Uri, Hurricane Ida, and Hurricane Maria. Droughts are longer-lasting, compounding the potential impact of disruptive events and increasing other threats such as wildfires. Increasing interdependencies between critical infrastructure systems will continue to impact our power system and can have a significant impact on other sectors. Power outages from extreme weather have doubled over the past two decades across the country, highlighting our aging grid and infrastructure. Vulnerable communities have disproportionately suffered during these events.

Approaches and solutions that leverage new technologies; enable the deployment of new, geographically disbursed carbon-free energy resources; enhance the ability to move power on a regional and interregional basis; and work towards common regional goals and strategies, are all necessary to achieve greater grid resilience and reliability.

With the grid resilience funding provided by the BIL there is an opportunity to not only invest in power system infrastructure that addresses critical interconnected national and regional needs, but also a unique chance to build partnerships between states, local governments, Tribes, and power system owners and operators that align industry objectives with broader regional goals to enhance reliability, all-hazards resilience, access to affordable energy resources, and efficiency of the electric grid. A comprehensive approach that considers opportunities available across relevant BIL provisions should enable more coordinated efforts by relevant stakeholders that can ultimately guide investment strategies for improving resilience beyond what the BIL can support directly.

Concurrently, infrastructure investments in power system resilience offer the opportunity to include a diverse set of populations, including underserved and disadvantaged communities, in the development of resilience strategies that focus on communities, and equitable access to opportunities and the benefits that derive from them. DOE believes that a coordinated approach to implementation should reduce barriers to equitable community participation.

For the reasons described above, DOE believes there are significant benefits to be realized by the coordinated implementation of the three BIL programs focused on power sector infrastructure and resilience. In this request for Information, DOE is requesting comment on this coordinated approach.

Together the GRIP program has three common Strategic Goals:

1. Transform community regional, interregional, and national resilience, including in consideration of future shifts in generation and load

As explained in DOE's Building a Better Grid Initiative Notice of Intent, modernizing, hardening, and expanding the grid will enhance the resilience of our entire electric system, and ensure that electricity is available to customers when it is needed most. Projects funded by the GRIP program should be designed to enable significant national, regional, or community resilience improvements, consistent with grid needs that will manifest as a result of aging grid infrastructure, increasing climate change-related or other hazards to reliability, and the clean energy transition. An important objective of community and regional resilience and transformation is improving the electric grid's ability to avoid, mitigate and recover from major disruptions and plan for future disruptions across all hazards. Grid investments can enhance resilience by, among other things:

- i. increasing regional and interregional electricity transfer capacity,
- ii. addressing the most consequential system needs and challenges that cause or contribute to the problematic and increasing interconnection queue time for clean energy,
- iii. facilitating clean energy deployment, generation mix diversity, and other system benefits.

A systemic approach can consider all aspects of physical infrastructure and the ability of power system owners and operators to mitigate outages and restore power to communities as well as the ability of communities to work towards recovery. Therefore, alignment with state, regional, and national energy planning is important to understand threats, mitigation approaches, and system needs, and to help with the prioritization of funding. BIL investments can leverage these plans as well as industry and other investments to assist in community transformation. Proposals may consider emphasis on a specific threat, such as wildfire or flooding, and how an approach can transform a region or community resulting in a significant resilience and other economic benefits, with an emphasis on equity.

2. Catalyze and leverage private sector capital for infrastructure deployment.

Investments should prioritize driving innovative approaches to achieving grid infrastructure deployment at-scale where significant economic benefits to mitigate threats and impacts of disruptive events to communities can be attained.

DOE is looking for proposals that will leverage private sector and non-federal public capital to advance deployment goals. These efforts will be aligned with state, regional, or other planning activities and goals. As state resilience plans continue to be updated annually and evaluate future risks, DOE is interested in how Federal funds will leverage industry investments towards hardening their system and/or advancing innovative solutions to enhance system resilience.

DOE is also interested in leveraging Federal infrastructure funding to maximize grid infrastructure deployment at-scale. Successful projects will demonstrate how federal investments under the GRIP program can lead to additional future investments by industry, communities, venture capital, and other private debt and equity capital. Investments should prioritize grid

improvements especially in cases where GRIP investments can overcome institutional barriers, perceived risk, and the like so as to both deliver beneficial grid outcomes and demonstrate an approach suitable for replication.

3. **Advance community benefits**

Increasing grid reliability and resilience provides notable benefits such as reducing outages resulting from extreme events and/or other causes, by reducing restoration times from such outages, or by reducing risks to health and safety for the affected community.

In keeping with the Administration's goals, and as an agency whose mission includes strengthening our country's energy prosperity, DOE seeks projects that should not only contribute to the country's energy technology and climate goals, but also meet the following goals (1) support meaningful community and labor engagement; (2) invest in the American workforce; (3) advance diversity, equity, inclusion, and accessibility; and (4) contribute to the goal that 40% of the overall benefits flow to disadvantaged communities (the Justice40 Initiative).

To ensure these priorities are met, applications must include a Community Benefits Plan that illustrates how the proposed project plans to incorporate the four priorities stated above, as well as achieve the priorities outlined in the proposed Community Benefits Plan.

Topic Areas

The proposed objectives, eligibility, technical approach, and evaluation criteria for each of the three programs within the GRIP program are outlined below. DOE will be requesting and reviewing concept papers as part of the application process. Concept Papers and full applications can only cover one Topic Area. Based on DOE's review of the concept papers, DOE will encourage a subset of applicants to submit Full Applications.

- Topic Area 1: Grid Resilience Grants (BIL section 40101(c))
- Topic Area 2: Smart Grid Grants (BIL section 40107)
- Topic Area 3: Grid Innovation Program (BIL section 40103(b))

Topic Area 1: Grid Resilience Grants (40101(c))

Objective

This program supports activities that reduce the likelihood and consequence of impacts to the electric grid due to extreme weather, wildfire, and natural disaster. The statutory language requires prioritization of projects that will generate the greatest regional or community benefit (whether rural or urban) in reducing the likelihood and consequences of disruptive events.⁹

DOE is seeking projects that address comprehensive transformational transmission and distribution technology solutions that will mitigate one or multiple hazards across a region or within a community, including but not limited to wildfires, floods, hurricanes, extreme heat, extreme cold, storms, and any other event that can cause a disruption to the power system.

Consistent with the broader overall objectives of the GRIP programs, projects in this area should demonstrate that they provide significant economic and justice benefits to communities, can leverage capital investment, and lead to repeatable solutions for other entities.

⁹ 42 USC §18711(c)(4)

Eligible Applicants

Eligible applicants defined by the statute include electric grid operators, electricity generators, electricity storage operators, transmission owners or operators, distribution providers, fuel suppliers, and other relevant entities, as determined by the Secretary.¹⁰ DOE proposes to allow and encourage eligible applicants to team up with each other and with a wide variety of additional entities, including but not limited to technology vendors, system integrators, subject matter experts, community leaders, and other stakeholders, in order to submit applications that provide a comprehensive approach to addressing and mitigating one or more hazards across a region or within a community. Support from stakeholders should be demonstrated by letters of commitment and support from potential team members. In addition, State, Tribal, territory, regional or regulatory stakeholders should be engaged in the approach as appropriate.

Eligible Uses and Technical Approaches

Grants under this program are for projects and activities that increase the ability of applicants to reduce the likelihood and consequences of impacts to the electric grid due extreme weather, wildfire, natural disaster and other disruptive events.

DOE is proposing to require that applicants demonstrate a transformational, comprehensive approach to mitigating one or more hazards across a region or within a community. Concurrently, DOE encourages applicants to align proposed grid resilience and grid hardening investments with broader State, Tribal, or regional resilience or energy security plans. DOE is particularly interested in applications for adaptive storage deployment, microgrid deployment, and the undergrounding of distribution and transmission lines – in addition to other eligible projects and solutions that provide significant benefit. In the selection process, DOE will prioritize applications that address community transformation or the ability to leverage capital investments.

Activities, technologies, equipment, and hardening measures include but are not limited to;¹¹

- A. weatherization technologies and equipment;
- B. fire-resistant technologies and fire prevention systems;
- C. monitoring and control technologies;
- D. undergrounding of electrical equipment;
- E. utility pole management;
- F. the relocation of power lines or the reconductoring of power lines with low-sag, advanced conductors;
- G. vegetation and fuel-load management;
- H. the use or construction of distributed energy resources for enhancing system adaptive capacity during disruptive events, including microgrids and battery-storage subcomponents;
- I. adaptive protection technologies;
- J. advanced modeling technologies;
- K. hardening of power lines, facilities, substations, of other systems; and
- L. replacement of old overhead conductors and underground cables

¹⁰ 42 USC §18711(a)(2)

¹¹ 42 USC §18711(e)1

By statute, DOE is not permitted to allow entities to use grant funds to construct new electric generating facilities or large-scale battery storage facilities that are not used for enhancing system adaptive capacity during disruptive events, or for cybersecurity purposes.¹²

Additional Statutory Requirements

- **Cost Share.** Minimum 50% non-federal cost share of total project costs. For small utilities, it is a minimum 1/3 non-federal cost share of total project costs.
- **Small utility set-aside.** Thirty percent (30%) of the total funding available will be set aside for small utilities, which are defined as entities that sell no more than 4,000,000 MWh of electricity per year.¹³ DOE proposes that entities applying for this set aside must demonstrate their eligibility by submitting their total retail electricity sales to ultimate customers as reported to the Energy Information Administration (EIA) on Form 861 for the last reporting year.
- **Report on Resilience Investments.** An applicant must submit as part of their application, a report detailing past, current, and future efforts by the eligible entity to reduce the likelihood and consequences of disruptive events.¹⁴ DOE proposes that this report include efforts over at least the previous 3 years and at least the next 3 years and any broader resilience strategy used by the applicant.
- **Limitation of award amount.** DOE may not award a grant to an eligible entity in an amount that is greater than “the total amount that the eligible entity has spent in the previous 3 years on efforts to reduce the likelihood and consequences of disruptive events”.¹⁵ DOE is proposing an additional discretionary limit of \$100 million in federal funds per award. DOE proposes to interpret “efforts to reduce the likelihood and consequences of disruptive events” as those activities, technologies, equipment, and hardening measures that are eligible for grants under this provision.¹⁶ DOE also proposes that applicants will need to certify in their application an accounting of amounts spent on such efforts as an element of the *Report on Resilience Investments* described above.
- **Funding supplemental to existing efforts.** Grants under this program are in general intended to be supplemental to existing hardening efforts done by applicants for any given year.¹⁷ DOE proposes that the applicant describe in a narrative how the grant funding provided by this program would result in proposed activities that are additional to efforts that would have been undertaken but for the funding, and will generate the greatest community or regional resilience benefit in reducing the likelihood and consequences of disruptive events. The narrative should reference the *Report on Resilience Investments* to demonstrate how the proposed activities would be additional to existing planned investments.
- **Biennial Report to Congress.** Every two years DOE will submit a report to Congress covering data on the cost of projects, the types of activities funded, and the extent to which the ability of the

¹² See BIL section 40101(e)(2), as codified at 42 USC 18711(e)(2)

¹³ 42 USC §18711(c)(5)

¹⁴ 42 USC §18711(c)(2)(B)

¹⁵ 42 USC §18711(c)(3)

¹⁶ 42 USC §18711(e)1

¹⁷ 42 USC §18711(c)(1)(A)

power grid to withstand disruptive events has increased.¹⁸ DOE will provide guidance to awardees on specific reporting requirements to measure and communicate the change in the grid's ability to withstand disruptive events. Awardees will be required to track and report this data to DOE.

Technical Review Criteria

Applications are proposed to be assessed based on the following criteria.

1. Impact, Transformation, and Technical Merit (50%)

- Extent to which the proposed projects will generate the greatest community or regional resilience benefit in reducing the likelihood and consequences of disruptive events.

This criterion will be assessed by considering the degree to which the project, based on information provided in the full application, has the demonstrated technical ability to:

- comprehensively mitigate one or more hazards faced by community or region
 - fully mitigate the potential for equipment to cause a wildfire in a community or region
 - fully address the consequences of an outage caused by a natural hazard
 - mitigate economic risk as derived from outage duration or outage frequency
- Extent to which project supports State, local, Tribal, regional resilience, decarbonization, or other energy strategies and plans.
 - Extent to which the proposed project aligns with and is additive to the current efforts by the applicant outlined in the *Report on Resilience Investments*.
 - Extent to which the application provides sufficient technical detail to demonstrate that the proposed project is technically feasible and would likely result in the described community or regional resilience benefits.
 - The potential impact of the project to lead to additional private sector investments.

2. Project Plan and Project Financial Feasibility (20%)

Project Plan

- Project Approach, Workplan (including Milestone Summary), and Statement of Project Objectives (SOPO). Degree to which the approach and critical path have been clearly described and thoughtfully considered; and the degree to which the task descriptions are clear, detailed, timely, and reasonable, resulting in a high likelihood that the proposed Workplan and SOPO will succeed in meeting the project goals.
- Identification of Risks. Discussion and demonstrated understanding of the key anticipated risks (e.g., technical, financial, market, environmental, regulatory) involved in the proposed work and the quality of the mitigation strategies to address them.
- Baseline, Metrics, and Deliverables. The level of clarity in the definition of the baseline, metrics, and milestones; and relative to a clearly defined baseline, the strength of the

¹⁸ 42 USC §18711(i)

quantifiable metrics, milestones, and mid-point deliverables defined in the application, such that meaningful interim progress will be made.

Project Financial Feasibility

- The level of confidence in the cost estimate and the required project contingency.
- Cost share commitment is adequate and cost share contributions are identified.
- Sufficient justification for why government funding is necessary, and what can be delivered different, better or faster with this funding.
- The degree to which the applicant justifies the project's economic viability and cost-effectiveness with DOE financial assistance and the degree to which the proposed project avoids duplication/overlap with other publicly or privately funded work.

3. Management Team and Project Partners (10%)

Project Management

- Description of the project management organization including relevant and critical subrecipients and vendors. The capability of the prime recipient and the proposed team to manage and address all aspects of the proposed work with a high probability of success
- The qualifications, relevant expertise, and time commitment of the key individuals on the project team and Management Team
- The level of participation by project participants as evidenced by letter(s) of commitment and how well they are integrated into the Project Plan/Workplan
- The degree to which the applicant has defined and described a project management structure that addresses interfaces with DOE and key hub team members
- The clarity and appropriateness of the roles of the team members

Partners

- Degree to which the applicant includes partnerships with critical entities that will help ensure project success, as well as any partnerships with entities (including other states) outside of the applicant's jurisdiction, who will commit to encourage asset operators (e.g., utilities, merchant developers) to replicate the proposed approaches, technologies or solutions, as applicable.

4. Community Benefits Plan (20%)

Overall Approach

- Extent to which an applicant's Community Benefits Plan illustrates project viability and social risk mitigation through the following sections:

Community Benefits

- Every BIL-funded project is expected to contribute to the country's energy infrastructure modernization goals, energy technology demonstration and deployment goals, and climate goals, and also to (1) support meaningful community and labor engagement; (2) invest in America's workforce; (3) advance diversity, equity, inclusion, and accessibility; and (4) contribute to the goal that 40% of the overall project benefits flow to disadvantaged communities (the Justice40 Initiative).

- To ensure these goals are met, applications must include a Community Benefits Plan that illustrates how the proposed project plans to incorporate the four goals stated above and are encouraged to submit letters of support from established labor and community-based organizations that demonstrate the applicant's ability to achieve the above goals as outlined in the Community Benefits Plan.

Quality Jobs

- Quality and manner in which the proposed project will create or retain high quality, good-paying jobs with a free and fair choice to join, form, or assist a union.
- Extent to which applicant has a plan to attract, train, and retain skilled workers; and partner with community-based, labor, and worker organizations and groups.
- Extent to which the project provides workforce opportunities in low and moderate-income communities or communities that have lost jobs due to fossil energy displacement.

Diversity, Equity, Inclusion, and Accessibility (DEIA)

- The quality and manner in which the proposed project incorporates and measures diversity, equity, inclusion and accessibility goals in the project, as reflected in the applicant's Community Benefits Plan.
- Extent to which the project supports the development or demonstration in DACs, supports existing minority business enterprises (MBEs) or promotes the creation of MBEs and underrepresented businesses in DACs.
- Extent to which workforce education and training is targeted to serve underrepresented workers and those facing barriers to career-track training and employment.
- Extent of engagement of organizations that represent underserved communities as core element of their mission to include Minority Serving Institutions (MSIs), MBEs, associations, and non-profit organizations.
- Extent to which the project illustrates the ability to meet or exceed the objectives of the Justice40 Initiative, including the extent to which the project benefits disadvantaged, underserved communities or partners with Tribal Nations.

Justice40 Initiative

- Extent to which the Community Benefits Plan identifies: specific, measurable benefits for disadvantaged communities, how the benefits will flow to disadvantaged communities, and how negative environmental impacts affecting disadvantaged communities would be mitigated; and
- Extent to which the project would contribute to meeting the objective that 40% of the benefits of climate and clean energy investments flow to disadvantaged communities.

Topic Area 2: Smart Grid Grants (40107)

Objectives

This program seeks to deploy and catalyze technology solutions that increase the flexibility, efficiency, reliability, and resilience of the electric power system, with particular focus on enhancing the system's capabilities to meet the following objectives:

- increase the capacity of transmission facilities or the capability of the transmission system to reliably transfer increased amounts of electric energy;
- prevent faults that may lead to wildfires or other system disturbances;
- integrate variable renewable energy resources at the transmission and distribution levels; and
- facilitate the aggregation and integration (edge-computing) of electric vehicles and other grid-edge devices or electrified loads.

Ideally, projects funded under this program should coordinate with and support broader State, local, Tribal, community and regional strategies on resilience, energy security, and decarbonization. In addition, smart grid technologies funded and deployed at scale under this program should have a pathway to wider market adoption such that the funding significantly encourages and facilitates the development of a smart grid.^{19,20} Aggregation of smart grid technologies is encouraged to accelerate deployment.

Eligible Applicants

Statutory language requires that the grant goes to the party making the actual expenditures for the qualifying Smart Grid investments.²¹ The following domestic entities are eligible to apply:

- Institutions of higher education;
- For-profit entities;
- Non-profit entities; and
- State and local governmental entities, and tribal nations.

DOE encourages applicant teams to include a broad set of stakeholders including but not limited to electric grid operator or owners, technology vendors, system integrators, subject matter experts, and community leaders. In addition, State, local, Tribal, territory, or regulatory stakeholders should be engaged in the approach as appropriate.

Eligible Uses and Technical Approaches

A broad set of eligible smart grid investments and capabilities is allowed under statute,²² and any combination of smart grid investments and functions that support the objectives are eligible. DOE will require projects to support data standards, interoperability, and non-discriminatory data access on a real-time basis. DOE is particularly seeking applications that address the grid flexibility functions identified in the BIL and support market deployment of specific smart grid technologies including:

- Increasing transmission capacity and operational transfer capacity through grid enhancing technologies such as dynamic line rating, flow control devices, advanced conductors, and network topology optimization, to improve system efficiency and reliability.

¹⁹ 42 USC §17386(e)(1)(C)

²⁰ [The Smart Grid | SmartGrid.gov](https://www.smartgrid.gov)

²¹ 42 USC §17386(e)(1)(C)

²² 42 USC §17386(b) and (d)

- Improving the visibility of the electrical system to grid operators, to help quickly rebalance the electrical system with autonomous controls, through data analytics, software, and sensors.
- Enhancing secure communication and data flow between distribution components, through investments in optical ground wire, dark fiber, operational fiber, and wireless broadband communications networks.
- Aggregation and integration of distributed energy resources and other “grid-edge” devices to provide system benefits, such as renewable energy resources, electric vehicle charging infrastructure, vehicle-to-grid technologies and capabilities, and smart building technologies.
- Enhancing interoperability and data architecture of systems that support two-way flow of both electric power and localized analytics to provide information between electricity system operators and consumers.
- Anticipating and mitigating the impacts of extreme weather or natural disaster on grid resilience, including investments to increase the ability to redirect or shut of power to minimize blackouts, prevent wildfires, and avoid further damage.

Grants under this program may not be used to cover expenditures for generation, transmission, or distribution infrastructure and expenditures for the physical interconnection of devices, if such expenditures are not directly related to enabling the “Smart Grid functions” enumerated by statute or by the Secretary.²³ Grants also may not be used for ongoing or routine costs not incurred in the initial installation, training or start-up of smart grid functions and devices.²⁴

Additional Statutory Requirements

Cost Share. Minimum 50% non-federal cost share of total project costs.

Proposed Award Size. Up to \$30 million per award (Federal share).

Cybersecurity Plan.

In accordance with BIL Section 40126, DOE is proposing to require awardees to submit a cybersecurity plan after selection and prior to receiving funding.²⁵ These plans are intended to foster a cybersecurity-by-design approach²⁶ for BIL efforts. The Department will also use these plans to ensure effective integration and coordination across its research, development, and demonstration programs.

The Department recommends using open guidance and standards such as the National Institute of Standards and Technology's (NIST) Cybersecurity Framework (CSF), the DOE Cybersecurity Capability Maturity Model (C2M2), and the Cybersecurity and Infrastructure Security Agency (CISA) cybersecurity

²³ 42 USC §17386(c)(2),(5)

²⁴ 42 USC §17386 (c)(6)-(8).

²⁵ 42 USC §18725

²⁶ Security must be baked into the development process, not bolted on. Security risk evaluation and mitigation measures should be an active component in a project (or product) lifecycle – from early development stages to implementation.

performance goals for critical infrastructure and control systems.²⁷ The cybersecurity plan created pursuant to Section 40126 should document any deviation from open standards, as well as the utilization of proprietary standards where the awardee determines that such deviation is necessary.

- Cybersecurity plans should be commensurate to the threats and vulnerabilities associated with the proposed efforts and demonstrate the cybersecurity maturity of the project.
- Cybersecurity plans may cover a range of topics relevant to the proposed project, e.g., software development lifecycle, third-party risks, and incident reporting.
- At a minimum, the Cybersecurity Plan should address questions noted in IJA section 40126(b) 'Contents of Cybersecurity Plan'.²⁸
- Projects receiving funding under this program must utilize open protocols and standards (including Internet-based protocols and standards) if available and appropriate.²⁹

Technical Review Criteria

1. Impact, Transformation, and Technical Merit (50%)
 - Extent to which the project will have a significant effect on encouraging and facilitating the development of one or more smart grid functions identified as priority focus areas in the Objectives and Eligible Uses and Technical Approaches sections above.
 - Extent to which the project would enhance system flexibility to meet program objectives.
 - Extent to which the project supports State, local, Tribal, regional resilience, decarbonization, or other energy strategies and plans.
 - Extent to which the application provides sufficient technical detail to demonstrate that the proposed project is technically feasible and would likely result in the described smart grid benefits.
 - The potential impact of the project to reduce innovative technology risk; achieve further deployment at-scale; and lead to additional private sector investments.
2. Project Plan and Project Financial Feasibility (20%) – Same description as for Grid Resilience Grants above

²⁷ NERC critical infrastructure protection (CIP) standards for entities responsible for the availability and reliability of the bulk electric system. NIST IR 7628: 2 Smart grid cyber security strategy and requirements. NIST SP800-53, Recommended Security Controls for Federal Information Systems and Organizations: Catalog of security controls in 18 categories, along with profiles for low-, moderate-, and high-impact systems. NIST SP800-82, Guide to Industrial Control Systems (ICS) Security. NIST SP800-39, Integrated Enterprise-Wide Risk Management: Organization, mission, and information system view. AMI System Security Requirements: Security requirements for advanced metering infrastructure. ISO (International Organization for Standardization) 27001, Information Security Management Systems: Guidance on establishing governance and control over security activities (this document must be purchased). IEEE (Institute of Electrical and Electronics Engineers) 1686-2007, Standard for Substation Intelligent Electronic Devices (IEDs) Cyber Security Capabilities (this document must be purchased). DOE Cybersecurity Capability Maturity Model (C2M2). CISA cybersecurity performance goals for critical infrastructure and control systems directed by the National Security Presidential Memorandum on Improving Cybersecurity for Critical Infrastructure Control Systems, found at <https://www.cisa.gov/cpgs>

²⁸ 42 USC §18725

²⁹ 42 USC §17386(e)(1)(B)

3. Management Team and Project Partners (10%) – Same description as for Grid Resilience Grants above
4. Community Benefits Plan (20%) – Same description as for Grid Resilience Grants above

Topic Area 3: Grid Innovation Program (40103(b))

Objectives

This program seeks to provide financial assistance to eligible entities (States, local governments, Tribes, public utility commissions) to facilitate coordination and collaboration with electric sector owners and operators to:

- demonstrate innovative approaches to transmission, storage, and distribution infrastructure to harden and enhance resilience and reliability; and
- demonstrate new approaches to enhance regional grid resilience, implemented through States by public and rural electric cooperative entities on a cost-shared basis.³⁰

DOE is proposing to solicit projects that contribute significantly to one or more of the following primary objectives:

- Ensuring reliable grid operations by reducing the frequency, scale, and/or duration of disruptions, improving availability of a technologically and geographically diverse set of generation capacity, reducing capacity interconnection time, increasing regional and interregional transfer capacity, or reducing costs associated with increased reliability.
- Improving overall grid resilience in terms of avoiding, withstanding, responding to, and recovering from disruptions, including deliberate attacks, accidents, the growing threats of extreme weather events and climate change, and other naturally occurring threats or incidents. Projects may demonstrate:
 - Individual technologies and solutions (or multiple technologies and solutions working as a system) that address resilience in one part of the power system (e.g., transmission system).
 - Technologies and solutions that address resilience across the traditional boundaries in the power system (e.g., between transmission and distribution).
- Enhancing collaboration between and among eligible entities and private and public sector owners and operators on grid resilience, in alignment with regional resilience strategies and plans. This includes collaboration across state and other territorial boundaries such as grid operators or other balancing authorities, with a particular focus on innovating planning processes, modeling, cost allocation, permitting, reduction of interconnection queue waiting time, and other activities aided by collaborative approaches. and.
- Contributing to the decarbonization of the electricity and broader energy system in a way that supports system resilience, reliability, and affordability by improving access to technologically and geographically diverse energy resources, including distributed energy resources and electrification opportunities.
- Providing enhanced system value, improving current and future system cost-effectiveness, and delivering economic benefits to community members, underrepresented regions, or other stakeholders. Applications should clearly identify their value proposition for each individual stakeholder group.

³⁰ 42 USC §18712(b)(3)

Project results should enable asset owners and operators to effectively articulate within local, state, regional and federal decision-making frameworks the economic, technical, and societal benefits of deploying new innovative technologies that improve system reliability and resilience.

Eligible Applicants

The eligible applicants to this program as defined in statute³¹ are:

1. a State
2. a combination of two or more States
3. an Indian Tribe
4. a unit of local government
5. a public utility commission

Eligible applicants are expected to work in partnership with public or private electric utilities and other grid stakeholders to develop projects and are encouraged to identify project developers as part of their application. DOE is proposing to encourage eligible applicants to assemble diverse and multi-functional project teams capable of receiving and managing Federal and matching funds; executing on technology deployments and upgrades; conducting operational testing and validation; analyzing resultant data and performance; clearly communicating and disseminating findings to key stakeholders and decision makers; implementing activities to invest in America's workforce; meaningfully engaging communities and stakeholders; advancing energy and environmental justice; and ensuring diversity, equity, inclusion, and accessibility. Projects supported by this program are intended to be at sufficient scale and within a system of sufficient complexity to establish confidence in the value proposition of the proposed approach.

Eligible Uses and Technical Approaches

Applications to this topic area may address the transmission system, the distribution system, storage or a combination. Applications combining multiple approaches are encouraged, and all applications should demonstrate how the proposed innovative approach interacts with each other and any existing infrastructure to increase overall system resilience. Innovative approaches can include advanced technologies, innovative partnerships, financial arrangements, and environmental siting and permitting strategies. Hardening of assets and infrastructure may be included but must show a clear contribution to overall system resilience.

DOE has identified the three areas of interest for this program. These are not exhaustive, nor intended to be fully independent. Applications that address more than one area of interest, or that present alternative approaches to accomplish the key objectives outside of the specified areas of interest, are encouraged.

Area of Interest 1: Transmission system applications

The transmission system in operation today is the backbone of the electricity delivery system that connects all grid resources and acts as the path for electricity to flow from generation to demand. Transmission capacity constraints and congestion can prevent delivery of clean, cost-effective electricity to consumers, harming overall system reliability. Advanced transmission technologies, coupled with advanced computational and advanced dynamic situational awareness, are a suite of tools that can help address transmission challenges, improve the efficiency and effectiveness of electricity delivery, and increase the reliability and resilience of the system. Innovative project approaches can reduce or remove

the existing technical, economic, and/or regulatory barrier(s) necessary to accelerate widescale transmission expansion and renewable energy interconnection. Proposed solutions should demonstrate enhanced transmission system operational flexibility or capacity while enhancing reliability.

Applications in this area could include technologies, solutions, and advanced functionalities such as:

- Investments and strategies that accelerate interconnection of clean energy generation and/or storage
- Interregional or cross-ISO/RTO projects that address key grid reliability, flexibility, and/or resilience challenges
- Projects addressing grid access challenges for remote, stranded, or novel low-carbon resources
- Planning, modeling, cost allocation, or other approaches that enable a transition to innovative financial and/or regulatory constructs that accelerate transmission expansion
- Underground or underwater HVDC systems in challenging environments
- Capacity enhancing approaches such as advanced conductors or dynamic line rating systems
- Congestion management techniques including energy storage and integrated controls
- Transmission-scale reactive power devices
- Flexible alternating current transmission system (FACTS) devices
- Solid state transformers
- Power flow controllers for AC or High Voltage Direct Current (HVDC) systems

Area of Interest 2: Distribution system applications

The distribution system serves as a highly interconnected system providing reliable electricity to consumers. The integration of variable distributed energy sources such as wind and solar power, new loads such as electric vehicle charging, and energy storage into these networks is creating new challenges and opportunities for power system control and operation. Solutions should demonstrate improved cost-value characteristics relative to alternative approaches, managing distribution grid integration costs and traditional asset upgrade costs while maintaining or enhancing system reliability and service provision.

In addition, extreme weather events have led to an increase in the frequency and duration of de-energization events. These occurrences, along with other experienced or potential disruptions of the distribution grid highlight the importance of improved system resilience. Solutions should demonstrate improved system resilience in response to disruptions and/or recovery from these events with an emphasis on community transformation.

Applications in this area could include demonstration of technologies, solutions, and advanced functionalities such as:

- Adaptive microgrid formation, reliable islanded operations, and service provision during grid-tied operations
- Demonstration of reliable and resilient system operations utilizing high levels of distributed renewable generation and energy storage, or increased levels of non-emitting, non-electric distributed energy resources (e.g., renewable heating or cooling)
- Black-start capable systems and control approaches to minimize negative impacts during power grid disruptions
- Provision of grid services from distributed, advanced grid-forming inverter-based systems at sufficient scale and system complexity

- Behind the meter asset operations, aggregation, and coordination to provide demand response and grid services, including building systems, distributed generation, energy storage, electric vehicle fleets and others

Area of Interest 3: Combination systems applications

While there is a clear differentiation between transmission and distribution systems in the current electrical grid, they both function within the same overall systems. This area of interest is intended to highlight opportunities to improve joint resilience and functionality across both grid sectors. This could involve using assets in one sector to provide services to the other in a manner that reduces upgrade or expansion requirements, or efforts to improve visibility and communication across sectors to allow for more complete optimization of grid operations.

Applications in this area could include demonstration of technologies, solutions, and advanced functionalities such as:

- Utilization of distribution grid assets to provide backup power and reduce transmission requirements
- Utilization of distribution grid dispatchable loads, distributed generation, and energy storage to manage transmission congestion and limit required upgrades
- Optimized integrated management of transmission and distribution systems
- Monitoring and control technologies, that can provide improved resilience and extend grid visibility & situational awareness across the entire electric delivery system by providing real-time situational awareness across the system

Additional Statutory Requirements

Cost Share. Minimum 50% non-federal cost share of total project costs.

Proposed Award Size. Between \$50 million and \$250 million per award (Federal share). Proposed increased award of \$1 Billion per award for interregional transmission projects only.

Cybersecurity Plan.

In accordance with BIL Section 40126, DOE is proposing to require awardees to submit a cybersecurity plan after selection and prior to receiving funding.³² These plans are intended to foster a cybersecurity-by-design approach³³ for BIL efforts. The Department will also use these plans to ensure effective integration and coordination across its research, development, and demonstration programs.

The Department recommends using open guidance and standards such as the National Institute of Standards and Technology's (NIST) Cybersecurity Framework (CSF), the DOE Cybersecurity Capability Maturity Model (C2M2), and the Cybersecurity and Infrastructure Security Agency (CISA) cybersecurity performance goals for critical infrastructure and control systems.³⁴ The cybersecurity plan created

³² 42 USC §18725

³³ Security must be baked into the development process, not bolted on. Security risk evaluation and mitigation measures should be an active component in a project (or product) lifecycle – from early development stages to implementation.

³⁴ NERC critical infrastructure protection (CIP) standards for entities responsible for the availability and reliability of the bulk electric system. NIST IR 7628: 2 Smart grid cyber security strategy and requirements. NIST SP800-53, Recommended Security Controls for Federal Information Systems and Organizations: Catalog of security controls in

pursuant to Section 40126 should document any deviation from open standards, as well as the utilization of proprietary standards where the awardee determines that such deviation is necessary.

- Cybersecurity plans should be commensurate to the threats and vulnerabilities associated with the proposed efforts and demonstrate the cybersecurity maturity of the project.
- Cybersecurity plans may cover a range of topics relevant to the proposed project, e.g., software development lifecycle, third-party risks, and incident reporting.
- At a minimum, the Cybersecurity Plan should address questions noted in IJA section 40126(b) 'Contents of Cybersecurity Plan'.³⁵

Technical Review Criteria

1. Impact and Market Viability (50%)

- Extent to which the project will address innovative approaches and deployment goals across transmission system, distribution system, storage or a combination as identified as priority focus areas in the Eligible Uses and Technical Approaches section above.
- Extent to which the project clearly enhances collaboration between eligible entities and owners/operators, ensures electricity system reliability and/or resilience, provides enhanced system value and economic benefits, or contributes to the decarbonization of the electricity and broader energy systems.
- Extent that the project has the potential to deliver near-term impact.
- Extent to which project supports State, local, Tribal, and regional resilience, decarbonization, or other energy strategies and plans.
- The potential impact of the project to increase adoption of innovative approach(es), for example to lead to more widespread deployment of advanced technologies; innovative partnerships; new financial arrangements; increased non-Federal investment; deployment of projects identified by innovative planning, modeling, or cost allocation approaches; and/or innovative environmental siting, permitting strategies, or community engagement practices.

2. Project Plan and Project Financial Feasibility (20%)

Project Plan

18 categories, along with profiles for low-, moderate-, and high-impact systems. NIST SP800-82, Guide to Industrial Control Systems (ICS) Security. NIST SP800-39, Integrated Enterprise-Wide Risk Management: Organization, mission, and information system view. AMI System Security Requirements: Security requirements for advanced metering infrastructure. ISO (International Organization for Standardization) 27001, Information Security Management Systems: Guidance on establishing governance and control over security activities (this document must be purchased). IEEE (Institute of Electrical and Electronics Engineers) 1686-2007, Standard for Substation Intelligent Electronic Devices (IEDs) Cyber Security Capabilities (this document must be purchased). DOE Cybersecurity Capability Maturity Model (C2M2). CISA cybersecurity performance goals for critical infrastructure and control systems directed by the National Security Presidential Memorandum on Improving Cybersecurity for Critical Infrastructure Control Systems, found at <https://www.cisa.gov/cpgs>

³⁵ 42 USC §18725

- Project Approach, Workplan (including Milestone Summary), and Statement of Project Objectives (SOPO). Degree to which the approach and critical path have been clearly described and thoughtfully considered; and the degree to which the task descriptions are clear, detailed, timely, and reasonable, resulting in a high likelihood that the proposed Workplan and SOPO will succeed in meeting the project goals.
- Identification of Risks. Discussion and demonstrated understanding of the key anticipated risks (e.g., technical, financial, market, environmental, regulatory) involved in the proposed work and the quality of the mitigation strategies to address them.
- Baseline, Metrics, and Deliverables. The level of clarity in the definition of the baseline, metrics, and milestones; and relative to a clearly defined baseline, the strength of the quantifiable metrics, milestones, and mid-point deliverables defined in the application, such that meaningful interim progress will be made.

Project Financial Feasibility

- The level of confidence in the cost estimate and the required project contingency.
- Cost share commitment is adequate and cost share contributions are identified.
- Sufficient justification for why government funding is necessary, and what can be delivered different, better or faster with this funding.
- The degree to which the applicant justifies the project's economic viability and cost-effectiveness with DOE financial assistance and the degree to which the proposed project avoids duplication/overlap with other publicly or privately funded work.

Project Viability, Readiness, and Timing

- Evidence as to the state of project development, including depth, stage and completeness of engineering design; critical agreements and permits in place; customer expressions of interest; and financial commitments beyond the support sought under this FOA

3. Management Team and Project Partners (10%) – Same description as for Grid Resilience Grants above
4. Community Benefits Plan (20%) – Same description as for Grid Resilience Grants above

Performance Metrics

DOE is requiring awardees to report program specific performance metrics and BIL-wide metrics to track toward key departmental goals – ensuring justice and equity, creating jobs, boosting domestic manufacturing, reducing greenhouse gas emissions, and advancing a pathway to private sector.

Reported values will be initially prospective (e.g., what awardees plan to build, generate, or store, etc.), but additional reporting will be required annually and upon project completion to measure the actual infrastructure supported or to update prospective estimates.

Each project will only be required to report data specific to the project, examples include:

- Installed electricity nameplate, transmission, or distribution capacity [MW]
- Installed stationary storage capacity [MW and MWh]

- Transmission capacity or reconductoring capacity increase [GW-miles]
- Undergrounding [miles]
- Disruption recovery time [minutes]
- Delivery distance [miles]
- Reduced congestion / increased delivery [MWh]
- Number of sensors or grid enhancing devices installed

In support of tracking workforce development, data collected through Davis Bacon Act compliance will be used to track direct jobs. To the extent projects support training programs their outcomes should also be tracked.

Justice40 benefits and community and stakeholder engagement will be tracked and to the extent a project supports domestic manufacturing, direct domestic manufacturing capacity should be tracked for programs that support (i.e., construct, establish, retool, re-equip, or retrofit) manufacturing capacity or advanced energy property recycling capacity.

RFI Purpose

The purpose of this RFI is to solicit feedback from industry, academia, research laboratories, government agencies, State and local officials, labor unions, Tribes,³⁶ community-based organizations (CBOs),³⁷ and other stakeholders on issues related to the GRIP program. This is a Request for Information (RFI) only and not a funding opportunity. DOE will not pay for information provided under this RFI and no project will be supported as a result of this RFI.

To help inform DOE's implementation of the BIL provisions referenced above, this RFI seeks input on the following categories:

1. DOE's implementation strategy for the GRIP program, both overall and the individual topic areas.
2. DOE's approach to Community Benefits including engagement, quality jobs, DEIA, and Justice40.
3. Build America, Buy America requirements.

RFI Categories and Questions

Responses to this RFI may address one or more of the questions presented.

Category 1: DOE's Proposed Implementation Strategy for GRIP program

1. What actions can DOE take to best achieve the benefits of coordinating applications to all three Grid Resilience and Innovation Partnerships topic areas at the same time?
2. How should DOE best assess and prioritize applications that further state objectives developed through the Grid Resilience formula grants under BIL section 40101(d), the State Energy Security Plans under BIL section 40108, and activities supported by the State Energy Program under BIL section 40109?
3. How can funding from the GRIP program best overcome challenges impeding the development of transmission, grid solutions, and interconnecting new generation and storage to improve grid resilience and reliability?
4. What approaches can be used to both solicit and evaluate proposals for high-value deployment projects with additionality (i.e., where additional funding will overcome existing obstacles that would otherwise result in the project not being built)?
5. Any comment on the overall solicitation process, structure, prioritization, requirements, and assessment criteria presented in the draft FOA. The Draft FOA (DE-FOA-0002740) can be found <https://www.fedconnect.net/fedconnect/?doc=DE-FOA-0002740&agency=DOE>.

³⁶ Including Tribal governments, American Indian and Alaska Native communities, Tribal enterprises, Alaska Native Regional and village corporations.

³⁷ Community-Based Organizations (CBOs) are public or private not-for-profit resource hubs that provide specific services to the community or targeted population within the community.

6. Are existing or expected supply chain concerns anticipated to delay or impact development of potential applications or project implementation, if awarded? What might be some of the potential barriers to timely delivery and how can DOE support the timely delivery of projects?
7. DOE proposes to open the first application cycle for the GRIP program in fall 2022 for 45 days for applicants to submit concept papers, that the Department will then down select to recommend submission of full applications in winter 2023, targeting award selections announced in spring 2023.
 - a. Any comments on this proposed timing?
 - b. Are there inter-state inter-regional projects, as described in this RFI, that are sufficiently advanced in development to be ready to apply by this timeline in fall 2022?

Category 2: DOE Proposed Implementation for Grid Resilience Grants (40101(c))

1. How should DOE define community and assess “greatest community benefit in reducing the likelihood and consequences of disruptive events” for prioritization of applications?
2. What other relevant entities should the Secretary consider as eligible entities?
3. Are there additional burdens or challenges faced by small utilities as defined by the statute that should be taken into consideration for the design of this program?
4. What information could be provided by applicants to ensure proposals are supplemental to existing or already planned hardening efforts?
5. What evaluation criteria, and what accompanying evidence, should DOE seek to best achieve the goals of this program as laid out in the FOA?
6. Is the proposed \$100 million Federal funds cap per award appropriate? What actions can DOE take to optimize the overall portfolio supported by 40101(c) through the mobilization of other funds?
7. Is the proposed information to be contained in the *Report on Resilience Investments* appropriate to determine if proposed projects are supplemental to existing efforts? What challenges may be faced in developing the report? What additional DOE guidance would aid in development of the report?
8. What data should be required to be tracked by awardees for the duration of the project and/or after project completion to assess "the extent to which the ability of the power grid to withstand disruptive events has increased" and to inform the biennial Report to Congress?
 - a. How long after project completion should data be tracked to fully understand the impacts of project funding beyond the biennial report?
 - b. What data should be tracked to understand changes in community resilience?
9. Information or analysis that could be submitted to help identify the highest impact projects and proposals that address (1) public benefit (e.g., cost/benefit of the project), (2) additionality (e.g., obstacles that additional funding would allow the project to overcome or would otherwise prevent the project from advancing in the absence of the funding), (3) stakeholder support

(e.g., projects where a regional planning process is underway or is taking place), and (4) transformative potential of the project (e.g., the value of the project in catalyzing follow-on replication).

10. Any comment on the selection criteria specifics, relative weighting, and capacity for applicants to meet the criteria under this program.
11. Any comment on the proposing staging and timing of the application, evaluation, and award process (including both Concept Paper and Full Application Stages), and on the requested performance period.
12. Any comment on the specific proposed application and information submission requirements.

Category 3: DOE Proposed Implementation for Smart Grid Grants (40107)

1. Appropriateness of highlighted grid flexibility functions and technologies of interest identified by DOE above. Are there additional smart grid functionalities or technologies that would support grid reliability and resilience that should be considered?
2. Information or analysis that could be submitted to help identify the highest impact solutions and proposals that address (1) greatest public benefit (e.g., cost/benefit of the project), (2) additionality (e.g., obstacles that the Federal funding would allow the project to overcome that would otherwise prevent the project from advancing in the absence of the Federal funding), and (3) transformative potential of the project, (e.g., the value of the project in catalyzing follow-on replication).
3. In the collective portfolio of awarded projects, any suggestions regarding project types that have special strategic importance?
4. Appropriateness of the requirement for a cybersecurity plan for this provision, and the required contents of such a cybersecurity plan.
5. Any comment on the selection criteria specifics, relative weighting, and capacity for applicants to meet the criteria under this program.
6. Any comment on the proposing staging and timing of the application, evaluation, and award process (including both Concept Paper and Full Application Stages), and on the requested performance period.
7. Any comment on the specific proposed application and information submission requirements.

Category 4: DOE Proposed Implementation for Grid Innovation Program(40103(b))

1. How should DOE define and evaluate a full range of “innovative approaches” to transmission and distribution projects that deploy large-scale, high-value projects that are innovative in scope; scale; stakeholder engagement; technology; partnership or business model; financial arrangement; use of innovative planning, modeling, or cost allocation approaches;

environmental siting or permitting strategies; or in overcoming other existing barriers to project development and deployment in ways that enhance reliability and resilience and unlock new renewable generation?

2. What technical review criteria, and what accompanying evidence, should DOE seek to best achieve the goals of this program as laid out in the FOA?
3. Information or analysis that could be submitted to help identify the highest impact projects and proposals that address (1) greatest public benefit (e.g., cost/benefit of the project), (2) additionality (e.g., obstacles that the Federal funding would allow the project to overcome that would otherwise prevent the project from advancing in the absence of the Federal funding), (3) stakeholder support (e.g., projects where a regional planning process is underway or is taking place), and (4) transformative potential of the project (e.g., the value of the project unlocking resilience and reliability benefits from investments elsewhere on the grid).
4. What are best practices and processes for states, public utility commissions, Tribes, and other eligible entities to obtain input and engage in coordination with regional planning organizations, electricity utilities, and other stakeholders in developing and submitting proposals?
5. This draft FOA will make up to \$2 billion available for this first award cycle under BIL section 40103(b). Any comment on whether any specific projects or types of large transformative projects might not be viable within the current FOA total of \$2 billion, but could be viable if additional funding were made available and/or if the maximum award size were increased (*see question #6 below on maximum award size*).
6. Appropriateness of the proposed range of \$50 million to \$250 million for Federal investment; as well as the provision allowing an increased maximum award of up to \$1 billion for an application submitted by a coalition of multiple states for interregional transmission projects.
 - a. What actions can DOE take to optimize the overall portfolio supported by 40103(b) through the mobilization of other funds? Does such a scale of investment support the right scale of project to achieve transformative impact?
 - b. Are there any impactful projects that may not be sufficiently supported with these minimum and maximum award sizes but that would provide significant public benefits, consistent with the statute, by cost-effectively 1) increasing transfer capacity between regions, 2) addressing the most consequential system needs and challenges related to interconnection queue times, and 3) increasing access to geographically and technologically diverse energy resources to enhance energy affordability, resource adequacy, and resilience? What are examples of these projects that would not be viable, and what maximum / minimum award size would accommodate these projects?
7. In the collective portfolio of awarded projects, any suggestions regarding project types that have special strategic importance? Should the program prioritize inter-regional multi-state or other types of projects that may be more transformative and provide multiple benefits on a large scale?
8. Appropriateness of the requirement for a cybersecurity plan for this provision, and the required contents of such a cybersecurity plan.

9. Any comments on the selection criteria specifics, relative weighting, and capacity for applicants to meet the criteria under this program.
10. Any comments on the proposing staging and timing of the application, evaluation, and award process (including both Concept Paper and Full Application Stages) to accommodate the most impactful types of deployment projects at various stages of development.
11. Any comments on the requested performance period, considering that potential projects will be different stages of development and readiness
12. Any comments on the specific proposed application and information submission requirements
13. Appropriateness of the use of a minimum 50% non-Federal cost share for the proposed project. Should DOE establish a different minimum non-Federal cost share? Should DOE express a preference for projects with a higher non-Federal cost share than the statutory minimum?
 - a. To what degree should DOE include in the Technical Review Criteria and Policy Program Factors an assessment of applicant's ability to provide sufficient information to show that minimal federal cost-share is being requested, so that GRIP program dollars are 1) only providing the amount of additional capital needed to advance project development and 2) unlocking the greatest possible public benefits relative to the amount of federal investment. What types of application information should be requested to indicate that minimal federal cost-share is being requested?
14. DOE is interested in supporting highly impactful projects that can deliver significant public benefit and acknowledges that some of these projects may be earlier in the planning or development stages. DOE is considering an option to offer grants of up to \$20 million for planning and development activities for concept papers submitted by a coalition of multiple states for projects that are interregional (i.e., cross multiple ISOs, grid operators, or other balancing authorities) and/or a product of an interregional planning process – assuming the concept paper shows promise in the ability to deliver significant public benefit, but has a project that is not sufficiently mature enough to submit a Full Application. Please provide comment on this approach, the maximum planning and development grant size, what factors to consider in offering these types of grants, and any other additional considerations.

Category 5: Community Benefits, Justice40, Quality Jobs, and Performance Metrics

1. How can applicants ensure community-based stakeholders/organizations are engaged and included in the planning, decision-making, and implementation processes (e.g., including community-based organizations that are advisory to the decision or directly benefit) for the GRIP program?
2. How can DOE best support the creation and retention of high-quality jobs, and the clear workforce training pathways into those jobs, through the GRIP program?

3. DOE identified eight policy priorities to guide DOE's implementation of Justice40³⁸ in DACs: (1) decrease energy burden;^{39,40,41} (2) decrease environmental exposure and burdens;⁴² (3) increase access to low-cost capital; (4) increase the clean energy job pipeline and job training for individuals;⁴³ (5) increase clean energy enterprise creation (e.g., minority-owned or disadvantaged business enterprises); (6) increase energy democracy, including community ownership and other economic benefits associated with the energy transition; (7) increase parity in clean energy technology access and adoption; and (8) increase energy resilience.
 - a. Of the eight Justice40 benefits, any comments on tracking these across the GRIP program?
4. What are the most appropriate performance and other metrics to track community benefits?

Category 6: Build America, Buy America requirements

If funded, DOE will consider applicability of the Build America, Buy America Act⁴⁴. All projects subject to the corresponding FOA for GRIP are considered "infrastructure." The Buy America requirements of the BIL do not apply to DOE projects in which the prime recipient is a for-profit entity; the requirements only apply to projects whose prime recipient is a "non-Federal entity," e.g., a State, local government, Indian tribe, Institution of Higher Education, or nonprofit organization.

1. Identify any iron, steel, manufactured goods/products or construction materials which may be crucial to this work, and whether those items would normally be procured domestically or from a foreign source.
2. For any item that would normally be procured from a foreign source, please specify to the best of your ability what actions would be required to comply with this requirement should it be deemed to apply, such as the expected added cost of sourcing the requisite materials from domestic sources, seeking a waiver from Build America, Buy America, etc.; the impact on your project, and whether these items would be unable to be procured domestically due to lack of availability or cost.

³⁸ The Justice40 Initiative states that 40% of the overall benefits of certain federal investments will flow to DACs, and that projects will have minimal negative impacts on communities with environmental justice concerns. The Justice40 Interim Guidance defines benefits as direct and indirect investments (and program outcomes) that positively impact disadvantaged communities and provides examples (Page 4): <https://www.whitehouse.gov/wp-content/uploads/2021/07/M-21-28.pdf>

³⁹ The Initiative for Energy Justice https://iejusa.org/glossary-and-appendix/#glossary_of_terms

⁴⁰ DOE's LEAD tool illustrates energy burden in U.S. <https://www.energy.gov/eere/slsc/maps/lead-tool>

⁴¹ Drehobl, A., Ross, L., and Ayala, R. 2020. How High are Household Energy Burdens? Washington, DC: ACEEE.

⁴² Tessum, C., et al., 2019. Inequity in consumption of goods and services adds to racial-ethnic disparities in air pollution exposure. Proceedings of the National Academy of Sciences.

⁴³ DOE's US Energy & Employment Jobs Report (USEER), <https://www.energy.gov/us-energy-employment-jobs-report-useer>; Department of Labor, Civilian Labor Force by Sex, <https://www.dol.gov/agencies/wb/data/facts-over-time/women-in-the-labor-force>

⁴⁴ Additional information related to the application and implementation of these Buy America requirements, please see OMB Memorandum M-22-11, issued April 18, 2022: <https://www.whitehouse.gov/wp-content/uploads/2022/04/M-22-11.pdf>

Disclaimer and Important Notes

This RFI is not a Funding Opportunity Announcement (FOA); therefore, DOE is not accepting funding applications at this time. DOE may issue a FOA 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. There is no guarantee that a FOA 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 U.S. Federal 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.

Freedom of Information Act:

Responses received under this RFI are subject to public disclosure under the Freedom of Information Act. Because information received in response to this RFI may be used to structure future programs and funding opportunity announcements and/or otherwise be made available to the public, **respondents are strongly advised to NOT include any information in their responses that might be considered business sensitive (e.g., commercial or financial information that is privileged or confidential), trade secrets, proprietary, or otherwise confidential.**

Consistent with 10 CFR 1004.11, DOE requires that any person submitting information that they believe to be confidential and exempt by law from public disclosure should submit **two well-marked copies**: one copy of the document marked “confidential” which must clearly and conspicuously identify the business sensitive, trade secrets, proprietary, or otherwise confidential information, and one copy of the document marked “non-confidential” with the information believed to be confidential deleted. **Failure to comply with these marking requirements may result in the disclosure of the unmarked information under the Freedom of Information Act or otherwise.** The Government is not liable for the disclosure or use of unmarked information and may use or disclose such information for any purpose.

If you choose to provide business sensitive, trade secrets, proprietary, or otherwise confidential information, you must include a cover sheet marked as follows identifying the specific pages containing business sensitive, trade secrets, proprietary, or otherwise confidential information:

Notice of Restriction on Disclosure and Use of Data: Pages [List Applicable Pages] of this response may contain business sensitive, trade secrets, proprietary, or otherwise confidential information that is exempt from public disclosure. Such information shall be used or disclosed only for the purposes described in this RFI DE-FOA-0002827. The Government may use or disclose any information that is not appropriately marked or otherwise restricted, regardless of source.

In addition, (1) the header and footer of every page that contains business sensitive, trade secrets, proprietary, or otherwise confidential information must be marked as follows: “Contains Business Sensitive, Trade Secrets, Proprietary, or Otherwise Confidential Information Exempt from Public Disclosure” and (2) every line and paragraph containing such information must be clearly marked with double brackets or highlighting. 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.

Request for Information Response Guidelines

Responses to this RFI must be submitted electronically to GDORFI@hq.doe.gov no later than 5:00pm (EDT) on October 14, 2022. Responses must be provided as attachments to an email. 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) or PDF attachment to the email, and no more than 20 pages in length, 12-point font, 1-inch margins. Only electronic responses will be accepted.

For ease of replying and to aid categorization of your responses, **please copy and paste the RFI questions, including the question numbering, and use them as a template for your response.** 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:

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