

Leveraging GRIP Grants to Accelerate Resilience, Flexibility, and Smart Grids



Isabel Sepulveda

Senior Project Manager,
Smart Grid - GRIP, U.S.
Department of Energy



Alison Elliott

Executive Director,
LEAN Energy US



Navneet Trivedi

Co-Founder and Chief
Operating Officer,
Vrinda



Claire Dépit

Director of Public Policy,
LEAN Energy US



Webinar Presented by LEAN Energy US

November 29, 2023, at 2 PM US ET



Agenda

- Introduction
- DOE Program Overview & Expectations for the GRIP Program
- Industry Trends & Role of GRIP Grants
- Priority Focus Areas
- Partnership Opportunities for Communities
- Q&A Session



Introduction

Today's objective:

Sharing information on access to federal funding opportunities for local governments, especially under the U.S. Department of Energy's Grid Resilience and Innovation Partnerships (GRIP) program.

Final goal:

To assist communities with the complex process of identifying appropriate smart grid and grid resiliency initiatives funded by the federal government, applying for them, and implementing them in your community.

DOE program overview & expectations for the GRIP program

Isabel Sepulveda

Senior Project Manager, Smart Grid - GRIP, U.S. Department of Energy

Grid Resilience and Innovation Partnerships (GRIP) Program Overview

DOE Goals for the GRIP Program

- Transform the U.S. electric grid at the transmission and distribution levels by increasing resilience in the face of extreme disruptions, enabling data-rich and flexible grid performance, and spurring innovation at all stages of project ideation and execution;
- Prioritize energy justice as an essential component of infrastructure development by dramatically altering the relationship between energy providers and their communities;
- Catalyze and leverage private sector and non-federal public capital for impactful technology and infrastructure deployment.

Topic Areas Overview

Program	Program Description	Eligible Entities
40101c: Utility/Industry Resilience Grants	Supports activities that reduce the likelihood and consequence of impacts to the electric grid due to extreme weather, wildfire, or natural disasters	<ul style="list-style-type: none"> • Electric grid operators • Electric storage operators • Electricity generators • Transmission owners or operators • Distribution providers • Fuel suppliers
40107: Smart Grid Grants	Supports activities that deploy and catalyze technology solutions that increase the flexibility, efficiency, and reliability of the electric power system, with a particular focus on advanced technologies and data-enabled system capabilities.	<ul style="list-style-type: none"> • For-profit entities • Non-profit and not-for-profit entities • State and local governmental entities • Tribal nations • Institutions of higher education
40103b: Grid Innovation Program	Supports activities that facilitate coordination and collaboration with electric sector owners and operators to demonstrate innovative approaches to transmission, storage, and distribution infrastructure and to harden and enhance resilience and reliability and demonstrate new approaches to enhance regional grid resilience	<ul style="list-style-type: none"> • a State • a combination of 2 or more States • an Indian Tribe • a unit of local government • a public utility commission

Community Benefits Planning

Within the concept paper, applicants must describe succinctly the approach to be taken in the Community Benefits Plan, to be further detailed in the Full Application, which should include the following four elements:

Community and Labor Engagement

- Engagement with labor unions, local governments, Tribal entities, and community-based stakeholders, especially in disadvantaged communities.

Investing in Job Quality and Workforce Continuity

- Creation and retention of high quality, good-paying jobs with employer-sponsored benefits and the ability to organize and bargain collectively for all phases of work.

DEIA

- Incorporating and measuring diversity, equity, inclusion and accessibility goals in the project.

Justice40

- Demonstration of how the project will support the Justice40 initiative, that 40% of the overall benefits of certain climate and clean energy investments must flow to disadvantaged communities.



BIL Funding available through this FOA

GRIP Program & BIL Provision:	Anticipated Number of Awards	Anticipated Minimum Award Size	Anticipated Maximum Award Size**	FOA-3195 Approximate Funding (FY24-25)	Total Funding Amount (FY22-26)
Topic Area 1: Grid Resilience Grants 40101(c)	10-20*	Small utilities: \$10 Million All others: \$50 Million	All projects: \$100 Million Exceptions: \$250 Million	\$918 Million	\$2.5 Billion
Topic Area 2: Smart Grid Grants 40107	25-40	\$10 Million	All projects: \$50 Million Exceptions: \$100 million/ \$250 million	\$1,080 Million	\$3 Billion
Topic Area 3: Grid Innovation Program 40103(b)	4-40	N/A	All projects: \$250 Million Exception: \$1 Billion	\$1,820 Million	\$5 Billion

*Approximately 30% of total funding available from this FOA will be set aside for 3-6 of the anticipated number of awards that will be made to small utilities.

**Please see Section II.A. of the FOA for further information on maximum award size exceptions.

Application Submission Timing / Schedule

FOA Released: November 14, 2023					
Topic Area 1 Grid Resilience Grants (40101(c))		Topic Area 2 Smart Grid Grants (40107)		Topic Area 3 Grid Innovation Program (40103(b))	
Concept Papers Due:	January 12, 2024	Concept Papers Due:	January 12, 2024	Concept Papers Due:	January 12, 2024
Response to Concept Papers:	February 2024	Response to Concept Papers:	February 2024	Response to Concept Papers:	February 2024
Full Applications Due:	April 17, 2024	Full Applications Due:	May 22, 2024	Full Applications Due:	April 17, 2024

- An entity may submit more than one Concept Paper and Full Application to this FOA, provided that each application describes a unique, scientifically distinct project and provided that an eligible Concept Paper was submitted for each Full Application.
- In response to applicant feedback from FOA-2740, additional time has been provided between FOA release and Concept Paper submission.

Resources

- FOA 3195 can be accessed on Exchange at: <https://infrastructure-exchange.energy.gov/>.
- Questions regarding this FOA must be submitted to: FOA3195@netl.doe.gov. All questions and answers related to this FOA will be posted on Exchange at the above link
- Questions regarding specific project/concept papers cannot be currently addressed.
- Informational webinars can be found on DOE's GRIP site at: [Grid Resilience and Innovation Partnerships \(GRIP\) Program | Department of Energy](#)



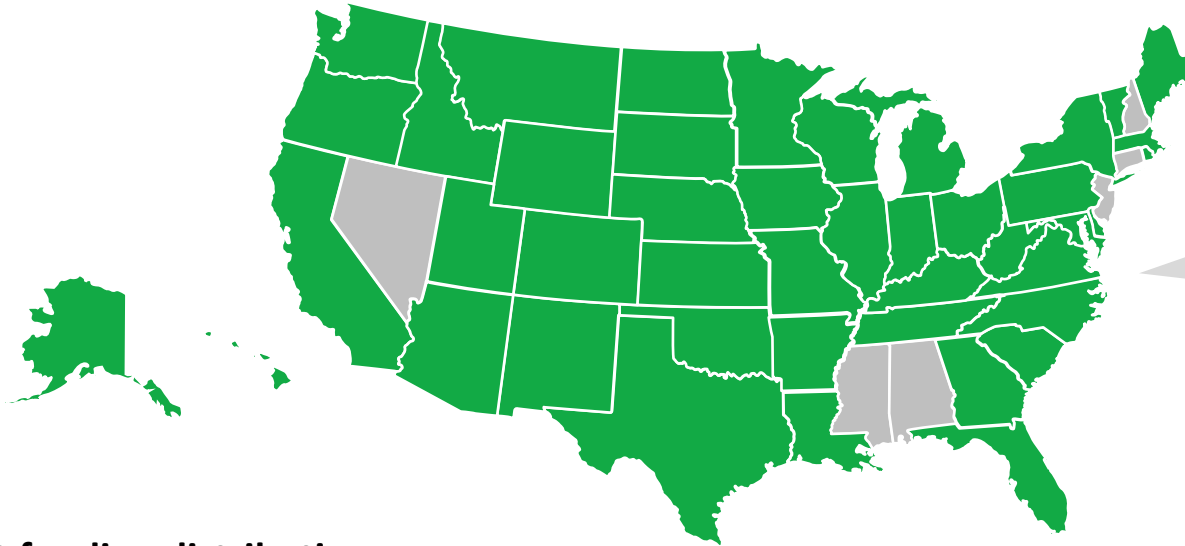
Industry trends and role of GRIP grants

Navneet Trivedi

Co-Founder and Chief Operating Officer, Vrinda

DOE GRIP Program Overview

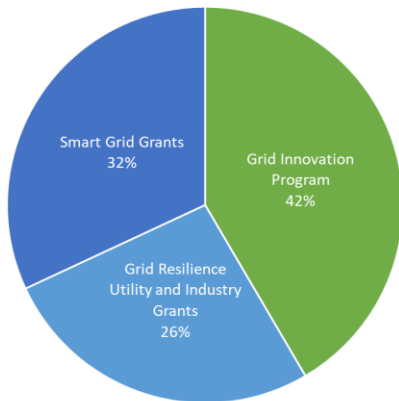
Understanding last GRIP grants allocation



In 2023, Grants are distributed among 58 projects across 44 states

Grant funding distribution across programs

Distribution by Program Type

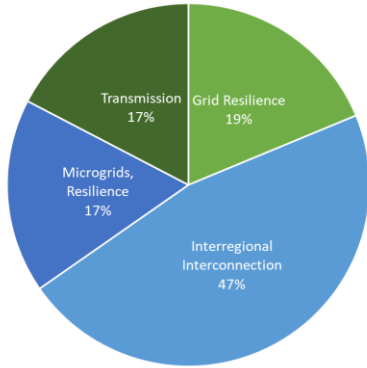


Program Type	Grant Amount
Grid Innovation Program	\$1,439,896,327
Grid Resilience Utility and Industry Grants	\$919,420,073
Smart Grid Grants	\$1,106,321,478
Grand Total	\$3,465,637,878

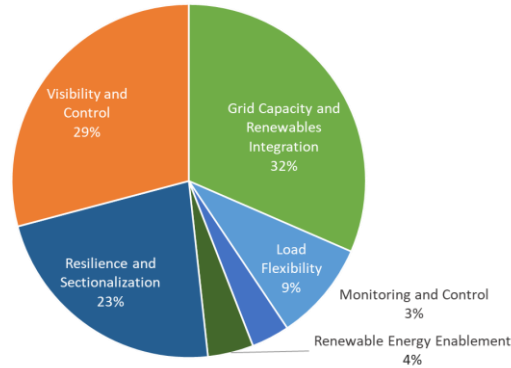
DOE GRIP Program Overview

Understanding last GRIP grants allocation

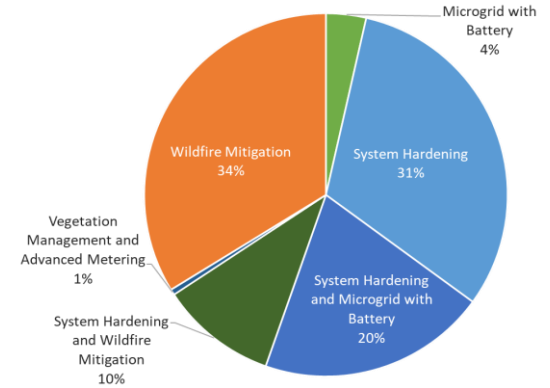
Distribution of Grid Innovation Program



Distribution of Smart Grid Grants



Distribution of Grid Resilience Utility and Industry Grants



Project Type	Grant Amount
Grid Resilience	~ \$270M
Interregional Interconnection	~\$670M
Microgrids, Resilience	~\$250M
Transmission	~\$250M
Grand Total	\$1,44B

Project Type	Grant Amount
Grid Capacity and Renewables Integration	~\$349M
Load Flexibility	\$100M
Monitoring and Control	\$39M
Renewable Energy Enablement	\$46M
Resilience and Sectionalization	\$250M
Visibility and Control	\$322M
Grand Total	\$1.1B

Project Type	Grant Amount
Microgrid with Battery	\$33M
System Hardening	\$289M
System Hardening and Microgrid with Battery	\$187M
System Hardening and Wildfire Mitigation	\$95M
Vegetation Management and Advanced Metering	\$5M
Wildfire Mitigation	\$310M
Grand Total	\$919M

GRIP Round 1 Project Themes and Trends

	Description	Selectees and Funding Levels
Wildfire Resilience	GRIP projects around the country will make significant investments in wildfire resilience and mitigation projects and will deploy innovative solutions to improve grid operators' ability to approach wildfire prevention, protection, mitigation, response, and recovery.	<ul style="list-style-type: none"> • 13 projects • \$662.5 federal investment • \$1.26B total investment
Microgrids	GRIP projects will support investment in over 400 microgrids, which are a group of interconnected loads and distributed energy resources that can provide electricity to a smaller community or region, which enhances the resilience of the grid against extreme weather.	<ul style="list-style-type: none"> • 11 projects • \$659.1M federal investment • \$1.4B total investment
Renewables Integration	GRIP projects will support further integration of renewables through technological deployments such as Distributed Energy Resources (DERs) and Distributed Energy Resource Management platforms (DERMS) that will further unlock renewable energy resources to the grid, as well as EVs, batteries, and other devices.	<ul style="list-style-type: none"> • 17 projects • \$1.6B federal investment • \$3.6B total investment
Community/DAC Impacts	All GRIP projects include a Community Benefits Plan (CBP) that outlines how the project will invest in disadvantaged communities (DACs) and in workforce development and labor engagement.	<ul style="list-style-type: none"> • 100% of projects have J40 commitments • 84% of projects include labor union partnerships

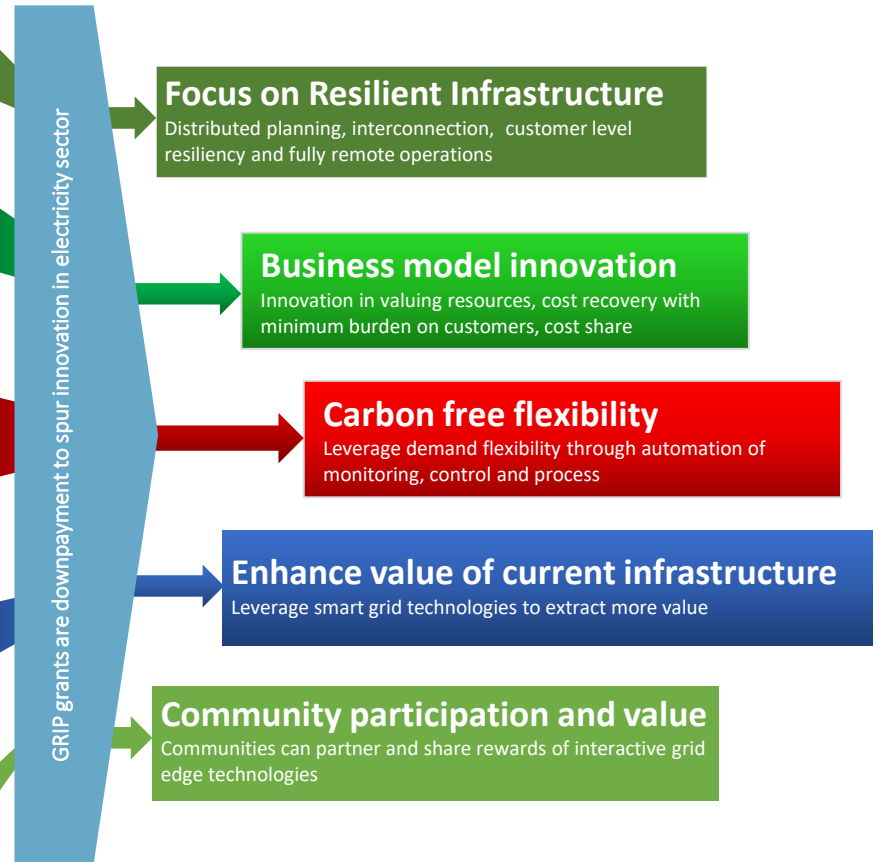
What is the GRIP grants intent

Some key consideration for applicants

Emerging Trends impact



GRIP grants supports



Priority focus areas

Isabel Sepulveda

Senior Project Manager, Smart Grid - GRIP, U.S. Department of Energy

Topic Area 1: Grid Resilience Grants, BIL-40101(c)

Technical approaches of interest and priority investments*:

- **Approaches that expand transmission and distribution capacity along existing rights of way using upgrades and improvements to the electrical system as a means of hardening that provide overall resiliency benefits**
 - DOE is particularly interested in applications that involve advanced reconductoring and other approaches that increase and improve the capabilities of already-deployed equipment
- **Transformational, comprehensive approaches to mitigating one or more hazards that cover multiple utility service territories**
 - Concurrently, DOE encourages applicants to align proposed grid resilience and grid hardening investments with broader State, Tribal, or regional resilience or energy security plans
 - In the selection process, DOE will prioritize applications that address community transformation or the ability to leverage capital investments
- **Activities that reduce the likelihood and consequence of impacts to the grid from extreme weather and other natural disasters**
 - This includes but is not limited to: monitoring and control technologies, advanced modeling software, and adaptive protection devices
- **The following resilience measures are NOT eligible for funding under Topic Area 1:**
 - Construction of a new electric generating facility
 - Construction of a new large-scale battery-storage facility that is not used for enhancing system adaptive capacity during disruptive events
 - Cybersecurity
- **Additionally, new transmission lines at or above 69 kV will not be considered for funding, except in the case that applicant clearly demonstrates that the new transmission line either completes a radial loop or solves an N-1 contingency issue.**

*Please see Section I.B. of the FOA for further priority investment information.

Topic Area 2: Smart Grid Grants, BIL-40107

Technical approaches of interest and priority investments*:

- **Innovative project development on the transmission system**
 - Significantly increasing transfer capacity within existing rights-of-way through advanced conductors or High Voltage Direct Current (HVDC)
 - Fostering coordination between multiple grid operators
 - Grid enhancing technologies such as dynamic line rating, advanced power flow control, congestion management and network topology optimization
- **Strategic use of data for grid operations and planning; deriving actionable insights from grid data**
- **Facilitating the processing of interconnection applications to minimize queue-related delays for clean energy**
 - transmission and distribution systems
- **Substation level innovation that promotes system efficiency and agility given increasing penetration of intermittent generating resources and DERs**

*Please see Section I.B. of the FOA for further priority investment information.

Topic Area 3: Grid Innovation Program, BIL-40103(b)

Technical approaches of interest and priority investments*:

- **Coordinated operations and/or planning across the transmission and distribution networks, resulting in improved combination system applications and joint resilience, functionality, and cost-effectiveness across both grid sectors**
- **Demonstration of reliable and resilient distribution system operations given high penetrations of distributed renewable generation, energy storage, and flexible customer loads as a percentage of total load, up to and including “full electrification” scenarios, including but not limited to:**
 - Electrification of industrial, commercial and other building energy needs through district energy systems
 - Black start capable systems and control approaches
 - Distributed, advanced grid-forming inverter-based systems intended to maintain grid services during availability constraints
- **Applications that demonstrate novel and replicable approaches to reducing energy burden and increasing resilience for disadvantaged communities**
- **Innovative project approaches to the transmission system, including those leveraging advanced transmission technologies and those that can reduce or remove existing barrier(s) to accelerate wide scale transmission expansion and renewable energy interconnection. Proposed solutions should demonstrate enhanced transmission system operational flexibility or capacity while enhancing reliability.**
 - Projects that meet these objectives are eligible for a higher maximum federal award

*Please see Section I.B. of the FOA for further priority investment information.

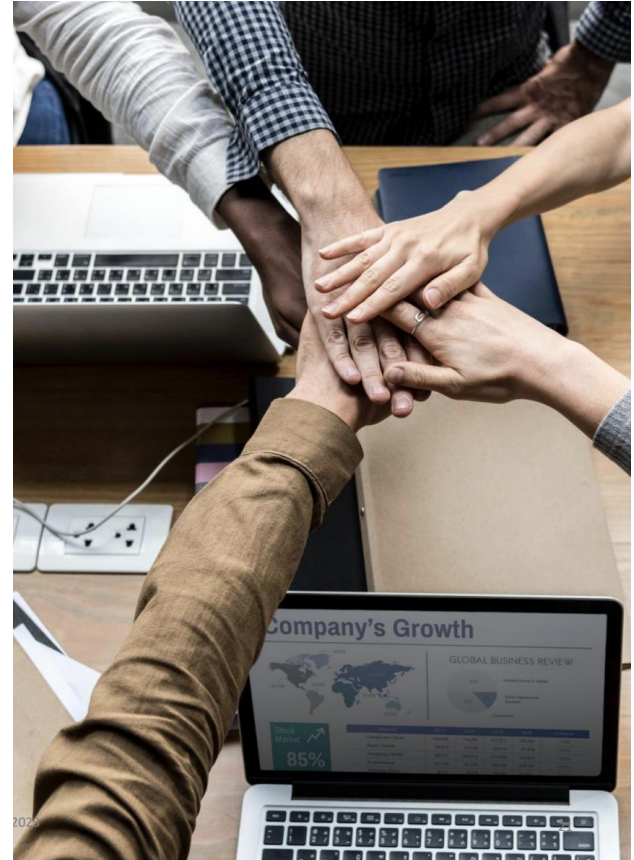
Partnership opportunities to fill the gap at the local level

Claire Dépit

Director of Public Policy, LEAN Energy US

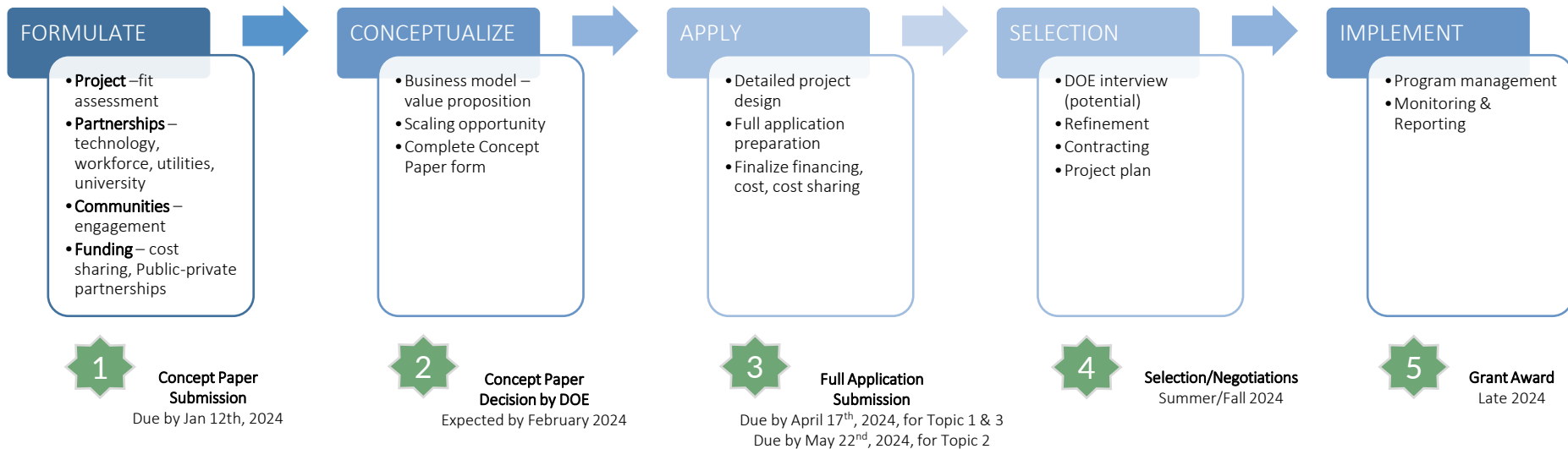
Objective of LEAN Energy US and Vrinda Partnership

To assist communities with the complex process of **identifying** appropriate smart grid and grid resiliency initiatives funded by the federal government, **applying** for them, and **implementing** them in *your* communities.



GRIP Grant Journey

LEAN & VRINDA partner in each step of the way



We believe success of the GRIP program will be in the partnership with each stakeholder putting their skin in the game throughout the journey from conceptualization to implementation.

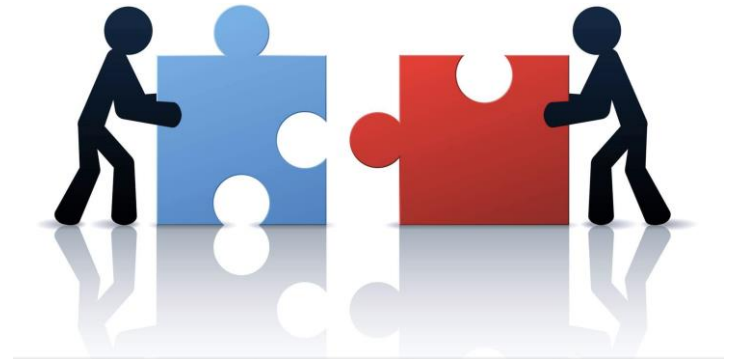
Engagement Model

Role of LEAN Energy US and Vrinda, Inc. in supporting communities with DOE grants:

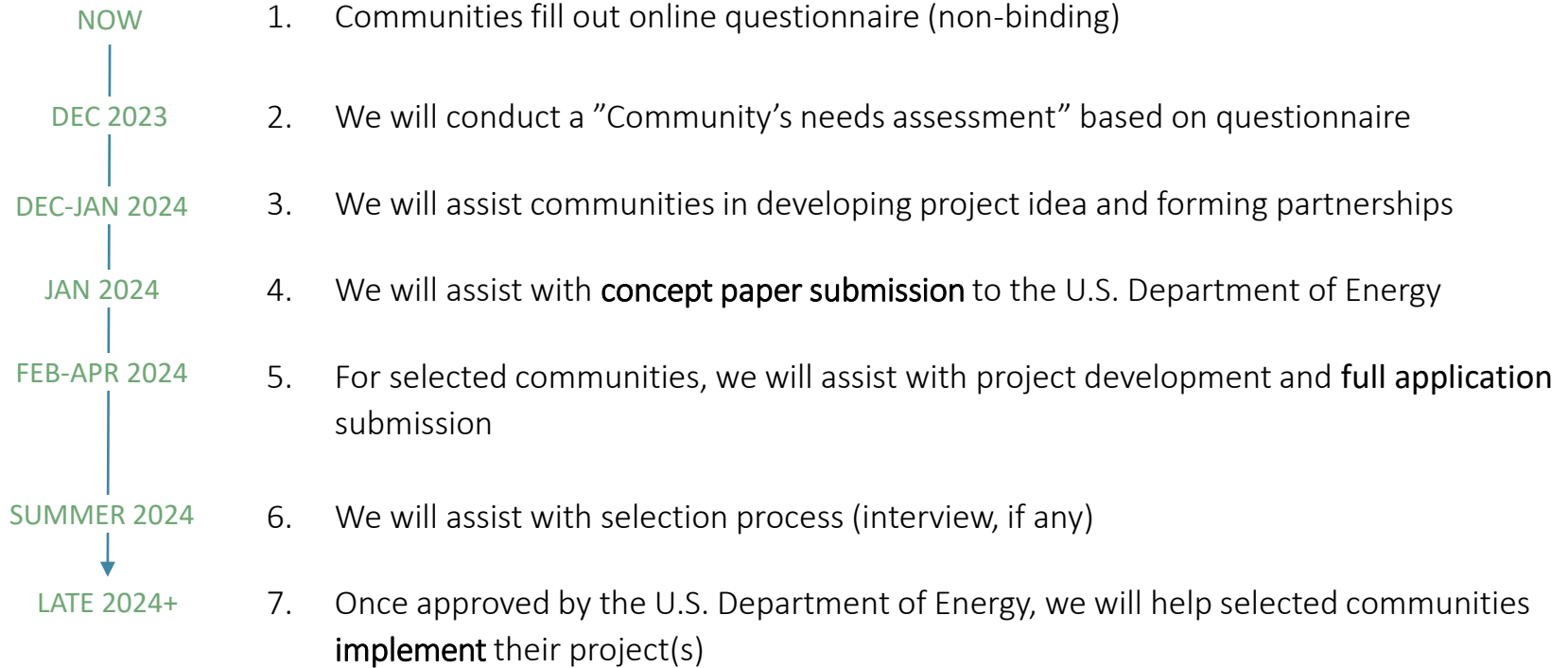
➡ Vrinda Inc. provides technical expertise to communities

➡ LEAN Energy US provides program and process management assistance to communities

No upfront costs for communities. Vrinda Inc. and LEAN Energy US will be part of the DOE grant application and help with implementation if the submission(s) is(are) selected.



Next Steps



Q&A Session

Please submit all questions via the control panel.

If you still have a questions following the webinar, please reach out to Claire Dépit at cdepit@leanenergyus.org or Navneet Trivedi at navneet.trivedi@vrindainc.com.

Thank you!

Navneet Trivedi

Co-Founder and Chief Operating Officer,
Vrinda Inc.

Email: navneet.trivedi@vrindainc.com

www.vrindainc.com



Claire Dépit

Director of Public Policy,
LEAN Energy US

Email: cdepit@leanenergyus.org

www.leanenergyus.org



GRIP Round 1 Selections Overview



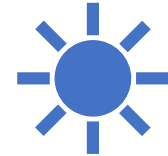
The Bipartisan Infrastructure Law **invests \$10.5 billion** in the Grid Resilience and Innovation Partnerships (GRIP) program.



The first round of GRIP funding totals nearly **\$3.5 billion and will support 58 projects in 44 states across the U.S.** This is the **largest single direct investment in critical grid infrastructure** in U.S. history.



GRIP will catalyze **\$8 billion** in public and private investment to enhance the nation's ability to deliver affordable, clean energy to American communities, prepare for extreme weather, and meet clean energy goals.



GRIP will enable the addition of **35 GW of renewable energy**, expanding U.S. renewable energy capacity by **10.5%**.

GRIP Priority Areas of Investment (1/2)

- Projects that cover multiple utility service territories share utility best practices that increase resilience against extreme weather and adapt to the changing energy and technology landscapes.
- Projects that address substation hardening, including the automation and digitization of substations, and/or coordination with upgrades that enable distributed energy resource integration and electrification readiness.
- Projects that propose to construct new transmission infrastructure to resolve a specific and identified contingency condition that the applicant has been unable to resolve using standard investment and planning approaches.
- Projects that significantly increase the transmission capacity of existing rights-of-way using
 - advanced conductors,
 - grid-enhancing technologies, or
 - high-voltage direct current

GRIP Priority Areas of Investment (2/2)

- Projects that will deploy solutions to increasing the processing of interconnection applications and minimize the queue-related delays for clean energy and electrification loads at both the transmission and distribution levels.
- Projects that have a significant impact on the transmission system, including projects that leverage advanced transmission technologies and can reduce or remove the existing barriers, demonstrate enhanced operational flexibility or capacity, and enhance reliability.
- Projects that implement novel and replicable approaches to reducing energy burden and increasing resilience for disadvantaged communities, especially projects that increase access to cheaper generation resources and reduce the impact of infrastructure costs.
- Projects that in combination with priority investments will foster growth of a highly skilled power sector workforce and minimize workforce constraints associated with power sector innovation.