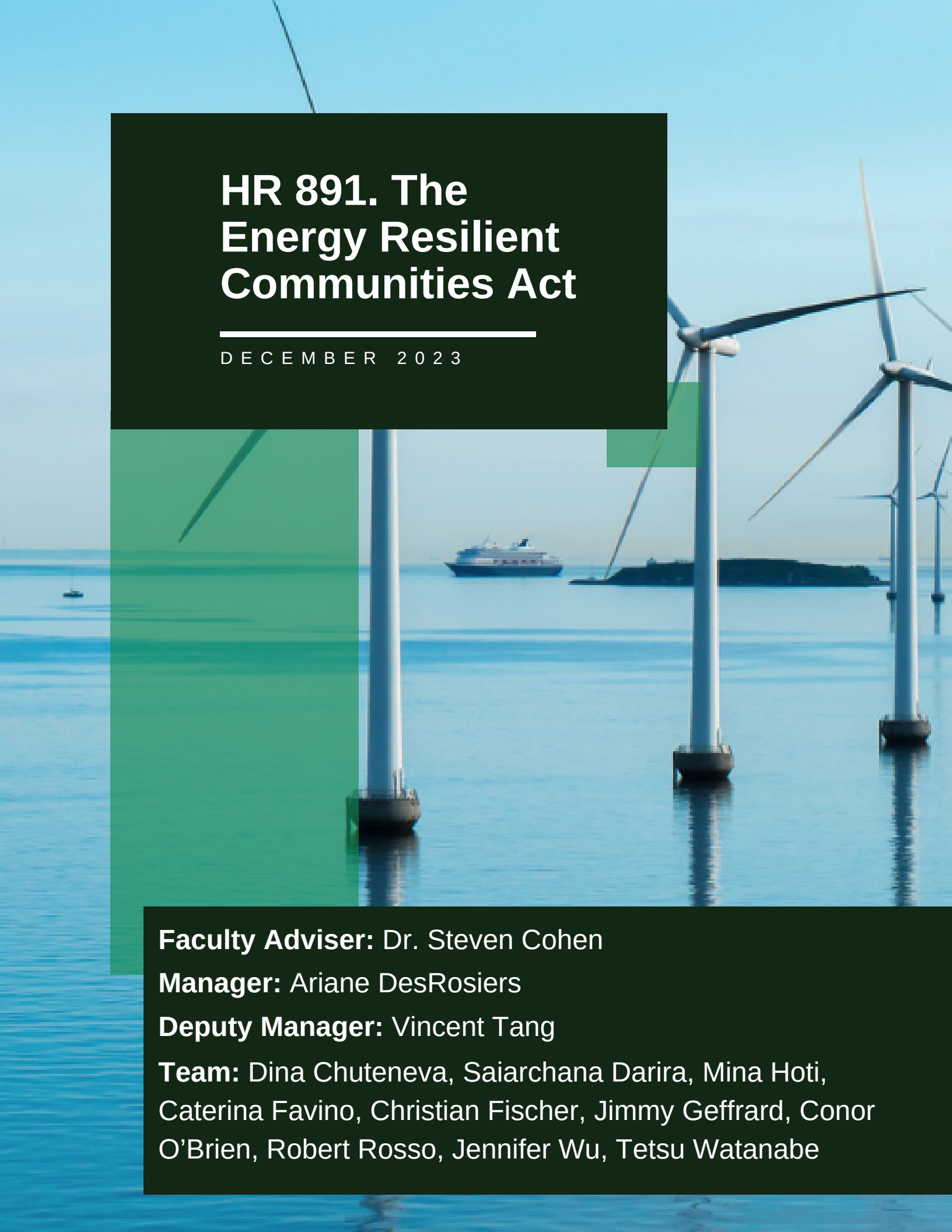

HR 891. The Energy Resilient Communities Act

DECEMBER 2023

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EXECUTIVE SUMMARY

The Energy Resilient Communities Act (ERCA) — also known as H.R. 891 — responds to vulnerabilities in the current U.S. energy system, exacerbated by climate change risks. The outdated grid struggles with extreme weather events and energy transport inefficiencies, leading to widespread outages. ERCA aims to address these challenges and usher in a more secure, resilient, and equitable energy future.

Clean energy microgrids powered by renewables emerge as a promising solution, enhancing energy resilience, supporting decarbonization, and providing equitable energy access. ERCA seeks to scale these microgrids by establishing a grant program under the Department of Energy. The bill allocates funds for technical assistance, community outreach, and clean microgrid projects, including $50 million for assistance and outreach and $1.5 billion for microgrid projects, with at least 10% dedicated to community-owned microgrids. Environmental justice communities are also prioritized.

We simulate what ERCA's implementation would look like if the bill was passed. Our proposed program design blends top-down and bottom-up approaches, involving standardized evaluation criteria, prioritizing environmental justice communities, and ensuring efficient grant allocation. The top-down approach accelerates project implementation through DOE-created pilot microgrid projects, with a one-year waiver period for flexibility. Our implementation plan includes organizational restructuring, task ownership, budget allocation, and a flexible three-phased timeline.

In summary, the Energy Resilient Communities Act improves the U.S. energy landscape by promoting clean microgrid adoption. The proposed program design and implementation plan provide a strategic framework to achieve the bill's objectives efficiently, representing a pivotal step towards a more secure, sustainable, and equitable energy future.

New York University's Microgrid. This facility decreased NYU's emissions by 23% and reduced annual energy costs by $5 to $8 million. It also stayed operational during Hurricane Sandy, which caused city-wide grid failures and left most people without power (Microgrid Symposiums, 2022).

AMERICA'S CURRENT ENERGY SYSTEM

WHY IS THE ENERGY RESILIENT COMMUNITIES ACT (H.R. 891) NEEDED?

The Energy Resilient Communities Act (also known as ERCA or H.R. 891), represents a pivotal legislative step in addressing the challenges facing the United States energy sector. This Act is particularly crucial in enhancing energy resilience and security, which are exacerbated by escalating climate change threats and cybersecurity risks (Dodaro, 2023; Zinaman et al., 2022). The existing grid system, while efficient at managing high volumes of electricity, struggles with the increasing frequency of extreme weather events, underscoring its inherent vulnerabilities due to size and interdependence (EIA, 2023). This interconnectedness means that there are widespread outages when the system fails. Moreover, the current system experiences a high degree of energy loss given the potentially long energy transport distances from the generation site (Chint, 2021). Line congestion and transformer losses further exacerbate this issue by decreasing the overall efficiency of energy transport (Costa-Campi et al., 2018). Additionally, the current grid's design and operation are based on assumptions that were developed several decades ago, which no longer align with today's energy demands and technological advancements (Blunt, 2022). These emerging challenges necessitate a comprehensive rethinking and redesigning of the grid system to ensure its resilience, reliability, and efficiency.

CASE STUDY: TEXAS

2021: DEEP FREEZE

In February 2021, an unprecedented winter storm hit the state led to a surge in electricity demand as people attempted to heat their homes, while simultaneously, the cold weather hampered electricity generation. Texas largely operates an isolated grid system that is not designed for such extreme weather, resulting in a massive power failure. An estimated 4.5 million customers were left without power, and, tragically, there were at least 246 recorded deaths (GAO, 2021; Stivek, 2022).

2022: HEATWAVE

In 2022, Texas experienced the opposite problem—a heatwave. The grid was not prepared for such high electricity demand caused by increased air conditioning use. The Electric Reliability Council of Texas issued conservation alerts and warnings of potential blackouts (Malik, 2023). These back-to-back crises underscore the growing threats of climate change and the need for a radical rethinking of the current grid system to ensure it can withstand the challenges of the future.

A SOLUTION: CLEAN ENERGY MICROGRIDS

Clean energy microgrids emerge as a promising solution, advocating for a more decentralized, resilient, and cost-effective electricity infrastructure. A microgrid consists of a network of users with local sources of electricity supply; microgrids are usually attached to the centralized grid, but can also function autonomously. Microgrids powered by clean energy not only support decarbonization and improve resilience by being able to isolate from power outages in the main grid but also ensure equitable access to energy (Ferreira et al., 2021). Microgrids offer self-sufficiency and are compatible with various renewable energy sources, providing autonomy and reliability for remote areas and regions prone to severe weather (Mohseni & Brent, 2023). This plays a pivotal role in energy democratization by offering local control and access to energy for communities, particularly for those deemed "environmental justice communities." Moreover, the effectiveness of a country's power system and supply is closely linked to its GDP and socioeconomic development (Adefarati & Bansal, 2019). Microgrids contribute to energy resilience and offer economic benefits, such as job creation and GDP growth (Guidehouse, 2021). However, their broader adoption is often hindered by financial and regulatory challenges.

The current regulatory frameworks struggle to keep pace with the rapid deployment of microgrids and the integration of advanced technologies like renewable energy and blockchain (Brilliantova & Thurner, 2019). A major obstacle is the inconsistency in state-level policies, which creates challenges in deploying microgrids nationwide (Shea, 2022). The Energy Resilient Communities Act intervenes to provide essential policy and financial support, paving the way for a more sustainable, secure, and equitable energy future.

A Prime Example: Blue Lake Rancheria

Blue Lake Rancheria is a federally-designated tribal government and Native American community located in a disaster-prone region of California. They recently installed a renewable energy microgrid that has reduced annual greenhouse gas emissions by 200 tonnes (equivalent to powering 35 homes a year) and reduced annual energy costs by $200,000. The project has already proved hugely successful during disasters. California's 2019 wildfires caused outages in 30 counties, but at Blue Lake Rancheria, the microgrid kicked in, protecting the local community as well as surrounding communities: the American Red Cross evacuation center & emergency services across the surrounding area still had access to power and emergency supplies, protecting many people who were especially vulnerable to power outages (CEC, 2019).

RELEVANT DEFINITIONS

Excessive GHG Emissions:

Greenhouse gasses (GHGs) are gasses that trap heat within the atmosphere (CO2, CH4, NO2, and various fluoridated gasses) (EPA, 2023). The Environmental and Energy Study Institute (EESI) states that 75% of current GHG emissions are derived from fossil fuel consumption (Bertrand, 2021). Criteria air pollutant emissions are any gaseous emissions for which known human exposure thresholds exist and for which ambient air quality levels have been set (State of California, 2023).

Energy Resilience:

The US Code defines energy resilience as the "ability to prevent, plan for, minimize, adapt to, and recover from anticipated and unanticipated energy disruptions in order to ensure energy availability and reliability sufficient to provide for mission assurance and readiness, including mission essential operations related to readiness, and to execute or rapidly reestablish mission essential requirements" (Legal Information Institute, 2023).

Community Security:

Community security is defined as the denial of active citizenship and public engagement on issues related to security and justice (US Legal, 2023). As an end-state, community security means that people feel protected and valued as members of society (Bennett, 2014).

Energy Democracy:

Energy Democracy involves social ownership of energy infrastructure in a decentralized energy grid that allows for citizen participation in energy-related decisions; in this system citizens are both the stakeholders and customers of the energy grid (Szulecki, 2017).

SUMMARY OF THE ENERGY RESILIENT COMMUNITIES ACT

The Energy Resilient Communities Act (ERCA) seeks to funnel funding into energy solutions that improve communities' building resilience, hazard mitigation planning, energy resilience, energy democracy, and overall community energy security. The bill will give the Secretary of Energy and the Department of Energy authority to oversee and disseminate grants. These energy solutions include technical assistance for clean energy infrastructure, community outreach programs, clean energy microgrid projects, and educational programming on clean energy. The mechanism by which these energy solutions are intended to happen is through a grant program overseen by the Secretary of Energy.

Important to the understanding of the bill is the definition of *environmental justice communities*, which are communities with significant representation of color, low-income, or tribal and indigenous communities that experience, or are at risk of experiencing, higher or more adverse human health or environmental effects. Priority is given to applications from environmental justice communities.

THE BILL'S FUNDING BREAKDOWN

$1.5 Billion	**Annual grants for clean energy microgrids**
$150 Million	**Annual grants for community owned energy systems**
Additional $50 Million	**Annual grants for technical assistance**

Priority given to applications from environmental justice communities

WHAT WILL IT TAKE TO GET THIS BILL PASSED?

Getting the Energy Resilient Communities Act passed requires navigating a politically divided landscape. The bill faces partisan dynamics in today's Congress. To ensure passage, strategic bipartisan engagement, addressing job-related anxieties, and emphasizing the bill's broader resilience goals will be pivotal.

WHO ARE THE PROPONENTS OF THIS BILL?

In general, the proponents of this bill are Democrats; all 47 of the co-sponsors of this bill are Democrats. Overall, the Democratic party is in support of clean energy and energy resilience (Democrats). Additionally, there are environmental NGOs that lobby for clean energy policy (Hess, 2018). Renewable energy organizations can also be in support of this bill. Environmental justice communities are also in favor of this bill because of how the bill addresses environmental injustice.

WHO ARE THE OPPONENTS OF THIS BILL?

Republicans tend to resist investing in renewable or clean energy, instead favoring fossil fuel production. The main argument they have against shifting away from fossil fuels is that it would take away needed jobs from communities, especially from families that depend on fossil fuel production for a living (Colman & Siegal, 2023). Fossil fuel corporations also are opposed to this bill, because it mentions clean energy project growth. Around $124 million was spent on federal lobbying by the fossil fuel industry in 2022 alone. Additionally, many fossil fuel companies have donated to politicians' elections, incentivizing politicians to support legislation that supports the economic growth of these companies (Sayki & Cloutier, 2023).

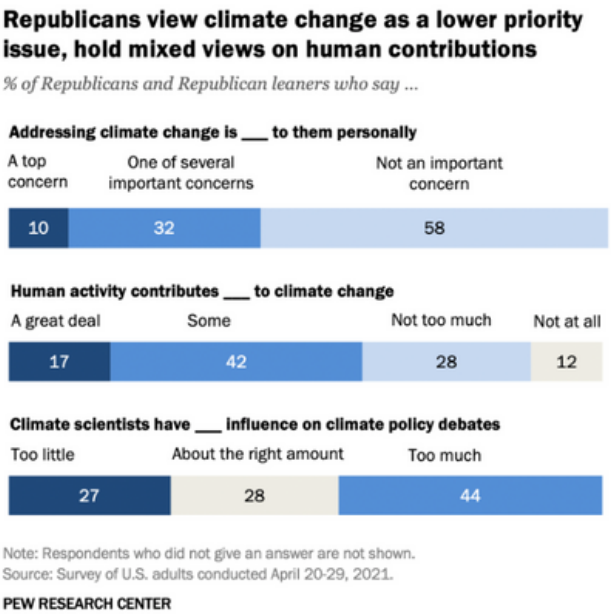


Fig. 1 Republicans views on climate change , Pew Research Center

WHAT IS THE PATH THIS BILL NEEDS TO TAKE?

In the 118th session of Congress, the House of Representatives is dominated by Republicans, while the Senate has a Democratic majority (United States Senate, 2023). Because this bill focuses on energy resilience in response to climate change, it can be difficult to foster Republican support for this bill. This bill would need to be voted on in the House of Representatives before being moved to the Senate. If a bill is voted on by a simple majority, which is 218 representatives, it is moved to the Senate. In the Senate, a filibuster can take place, where there is a prolonged debate over the bill's components. (Whitener, 2021). In order to vote for the bill's final passage, 60 Senators have to vote for cloture to end the debate. This means that any senator can prevent/delay legislation from being voted on by filibustering. Although on paper, the bill can be passed by a simple majority vote in the Senate (51 Senators), due to filibustering, a bill needs 60 votes to pass n

Members of Congress tend to vote based on what the rest of their party votes on, especially on highly debated policy topics such as climate change. This pattern is illustrated in this example: when the Inflation Reduction Act was passed, every Republican in Congress voted against it (White House, 2022).

A survey conducted by the Civil Society Institute with 1000 voters discovered that a majority of Republicans, Democrats, and Independents support the concept of microgrids after it is explained to them. 53% of the Americans surveyed indicated that they never heard of microgrids before (Wood, 2020). This survey indicates that when it comes to energy microgrids, there is a basis for potential bipartisan support.

FOSTERING A WINNING COALITION

In order to foster Republican support for this bill, here are some steps that could be taken:

- **Reframe the bill as an energy resilience bill**, rather than a climate change bill. The central focus of the bill would shift to a broader energy reliability program that lowers energy costs and improves general energy infrastructure issues. This will help it earn support from members of Congress who do not consider climate change a policy priority.
- **Make communities with the least amount of energy microgrid reliability become the priority grant recipients** of this bill, rather than environmental justice communities. Republicans tend to resist policies with environmental justice components. Communities with less energy microgrid reliability are typically environmental justice communities. This shift in verbiage in the bill would allow the bill to still have a component of social justice to it, even if it doesn't explicitly mention the words "environmental justice."
- **Set a broader metric that covers a larger constituency.** This is another way to ensure that the most vulnerable communities are prioritized in the bill (without explicitly using the term "environmental justice"). For example, instead of funneling 40% of grant funds towards environmental justice communities, the bill could prioritize 40% of its funds to communities that are overburdened from spending a certain percent of their income on electricity. By making the bill components sound more technical rather than prosocial, the bill will be more likely to pass in the House of Representatives.

PROGRAM DESIGN

If the Energy Resilient Communities Act were to pass, what would be the best way to implement it to maximize its impact on our energy system? Below, we propose a program design based on the bill. This design will work to solicit community-led microgrid applications while ensuring that these projects are built, thus improving energy resilience and democracy.

WHAT IS REQUIRED BY THE BILL?

There are 5 mandatory key items:

- **Grant priority** to EJ communities, community-owned energy systems & other qualifying criteria
- **Maximum amount** per project limited to $10 Million
- **Community-owned energy systems** should be **maximized** and never be less than 10% of projects
- Project focus on the **inclusion of socially disadvantaged groups** and prioritize the **American economy**
- DOE has to develop an **educational outreach program**

WHAT IS LEFT OPEN/NOT SPECIFIED?

1. The bill is specific in relation to workers, environmental justice communities, material goods, and project requirements. The bill lacks specificity, however, regarding the final appearance of the local solutions. There is a noticeable absence of Key Performance Indicators (KPIs) that would support the main goals of the bill. Although the Minister of Energy has to report to Congress, the bill doesn't set any specific KPI to achieve on an annual basis, or on an overall KPI across the lifetime of the bill.

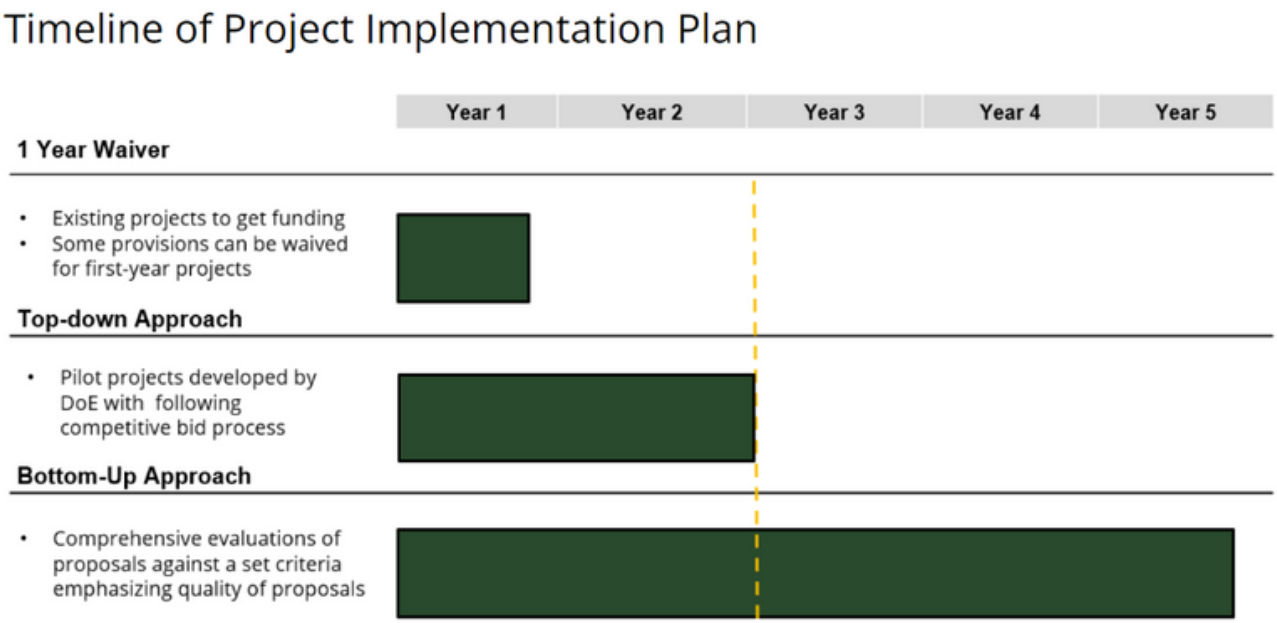
2. Although the bill mentions several prioritization criteria, the bill is silent about the prioritization process and the relative weighting of the different priorities. Although the bill mandates the prioritization of EJ communities, the other grant priority criteria lack specificity.

3. While the bill mentions the Secretary of Energy as the overarching responsible agency, the bill does not specify who executes the grant process and who has to be involved.

4. The bill neither specifies the duration for funding being granted to accepted grantees, nor how to determine the requisite funding. Although the bill mentions a maximum allowable grant, it isn't specified whether this maximum refers to yearly funding or total project funding.

WHAT IS OUR PROPOSED PROGRAM DESIGN?

We structure our program design to meet the bill's specifications and address its unanswered questions. Our proposed program design consists of a combination of a top-down and bottom-up process. The bottom-up approach will be the standard approach to evaluate grant applications submitted by communities and is valid for the full length of the program. The top-down approach is an enhancement of the first two years of the program implementation to increase the speed and quality of the projects, where the DOE will create pilot microgrid projects for communities to build. In addition, we also propose a 1-year waiver period so that some of the provisions can be waived for first-year projects or existing projects can get funding to gain more momentum.



THE BOTTOM-UP APPROACH

The bottom-up approach is a thorough examination of all incoming grant applications to ensure the quality of the program and to ensure their alignment with the objectives outlined in the bill. The evaluation process will consider three key provisions:

i. Microgrid priority provisions
ii. Health & community resiliency topics covered within a project
iii. Additional provisions related to US produce and labor

These matrices will serve as criteria for preselecting potential projects, ensuring that they adhere to the specified provisions and contribute to the bill's goals. Each project will be assessed via the following criteria and then classified as “high priority”, “medium priority”, “low priority”, or “doesn’t meet standards for funding.” The respective thresholds can be found in Appendix A.

Environmental justice criteria will be double-weighted in the overall project assessment, consistent with the bill’s environmental justice focus. In addition, the two “assessment priority indicators” (highlighted in Table 1, Appendix A) will speed up the process for projects from EJ communities or community-owned energy systems. All projects that get a positive evaluation here receive priority in further examination (“top-of-the-pile” approach).

THE TOP-DOWN APPROACH

To expedite grant allocation, the DOE may create project documentation (site identification, design) for projects up to $10M and set up a competitive bid process among different development companies (subcontractors) — ideally community-owned companies — in the two years. With this approach, pilot projects can be developed early on after the program starts. The DOE will consider all main provisions, as discussed before. Furthermore, there is the option of granting approval to projects for a one-year period, even if they do not fully meet all requirements at the outset. However, these projects must provide assurances of meeting all requirements by the end of the second year.

WHY THIS PROGRAM DESIGN?

With the bottom-up approach, each application will go through a standardized process which ensures consistency and will potentially increase efficiency over time. With the assessment priority indicators and the double-weight of EJ provisions, we ensure a significant emphasis on environmental justice communities, therefore speeding up the evaluation process and the weighting of priorities. The top-down approach on the other hand speeds up the process and therefore is able to show results quicker than in the other options. In addition, if the DOE is designing pilot projects for auctions these project designs (if made public) could be used by future applicants as a template for their project design. This option would lead to a higher quality of applications and a faster grant process. After the first two years, this will phase out, which allows DOE to redistribute funding allocation from project design to additional grant funding.

DETAILED PROGRAM IMPLEMENTATION PLAN

Following our program design, below we explain what the first year of implementation would look like, creating an organizational plan, a detailed budget, a master calendar, and a performance management system to ensure that the bill achieves its goals.

WHAT ARE THE GOALS FOR THE FIRST YEAR?

Given the specifications of the bill and our program design, below are the outcomes that we aim to achieve within the first year of implementation:

Organizational Structure

- Secure budget for new hires
- Complete employees recruiting
- Complete new hire training

Grant Application Setup & Technical Assistance

- Design KPIs
- Set up forums and committees for performance mgmt.
- Start measuring KPIs and pilot reporting

Educational Outreach

- Develop application materials (e.g., FAQs, best practices)
- Launch technical assistance

Grant Application Review & Pilot

- Develop outreach materials
- Complete 50-state outreach

Performance Management and Reporting

- Launch pilot program (including 1st badge application review, shortlist of grantee)

With these goals in mind, let's break down our program design further to explain who will be involved, where employees will be hired from, how much we estimate task items will cost, when we expect to complete certain tasks, and finally, how we will measure our success.

WHICH DEPARTMENTS WILL BE INVOLVED?

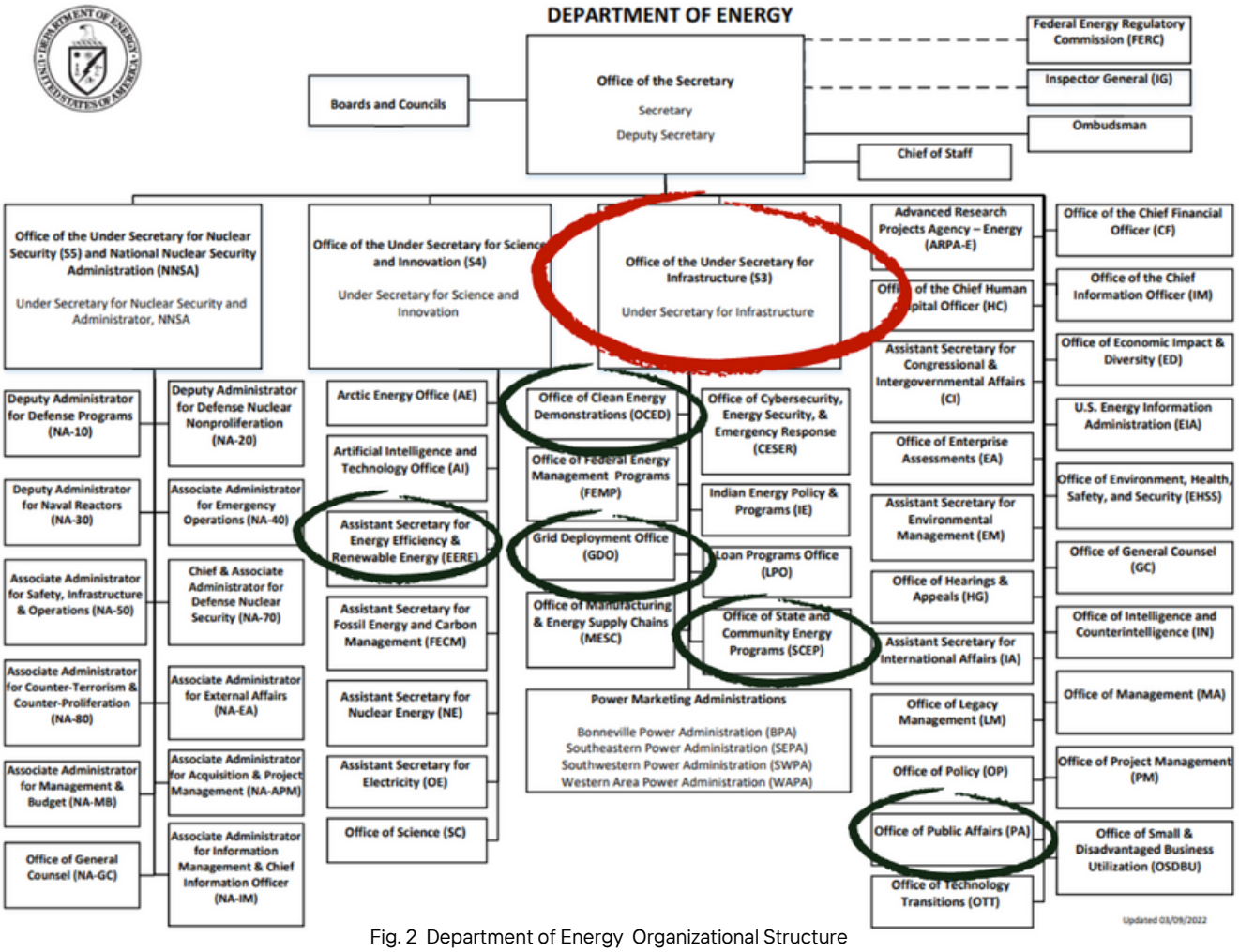


Fig. 2 Department of Energy Organizational Structure

The Energy Resilient Communities Act directs the DOE to implement the grant program laid out in the bill. The subdivisions of the DOE responsible for the implementation of this bill will be the Energy Efficiency and Renewable Energy (EERE) group and the Office of the Undersecretary for Infrastructure (S3) (DOE, 2022). Within S3, which deals with clean energy infrastructure implementation in order to "meet national goals for affordable and reliable energy", the Grid Deployment Office (GDO), the Office of Clean Energy Demonstrations (OCED), and the Office of State and Community Energy Programs (SCEP) will be principally responsible for the implementation, with the direct implementation of the bill mostly within the remit of SCEP's partnership with tribes and communities in deploying clean energy infrastructure (DOE). Educational outreach and grant solicitation processes will take place with the collaboration of the Office of Communications and Public Affairs (DOE).

DETAILED PROGRAM IMPLEMENTATION PLAN

Given the high degree of overlap between EERE's goal of accelerating the implementation of technologies to decarbonize the nation while benefiting people historically underserved by energy resilience, EERE is opportunely placed to provide support to the microgrid implementation administration. GDO works to provide electricity to all people across the country and works closely with energy suppliers along the 3 main grids in the nation. OCED funds clean energy and industrial decarbonization demonstrations for future use in commercial settings. SCEP works with community-level organizations to implement equitable clean energy distribution and will be instrumental in administering ERCA on a state level. Lastly, the PA office develops and implements strategies to communicate the department's initiatives and relevant information to news outlets and the general public. The PA office will design and disseminate information relevant to the grant program and oversee any contracted agencies to ensure the content matches the goals and interests of the department.

WHO SHOULD BE DOING THE WORK?

Microgrid Implementation and Community Resiliency Office

To effectively administer the bill, the Department of Energy needs to form the office of Microgrid Implementation and Community Resiliency (MI). MI will perform educational outreach on the grant application process, review grant applications relevant to microgrid/building resilience, offer technical assistance, and oversee the implementation of approved grants. MI will additionally develop several pilot grant proposals that fit the key bill constraints, which it will contract out to streamline initial microgrid implementation. The final staffing plan requires a reorganization of the relevant offices into a mix of partial FTEs and full FTEs to fill sub-office oversight and development positions, with contracting dollars filling in the gaps. The offices which MI will create, and which existing organizations' work match these offices, are shown to the right.

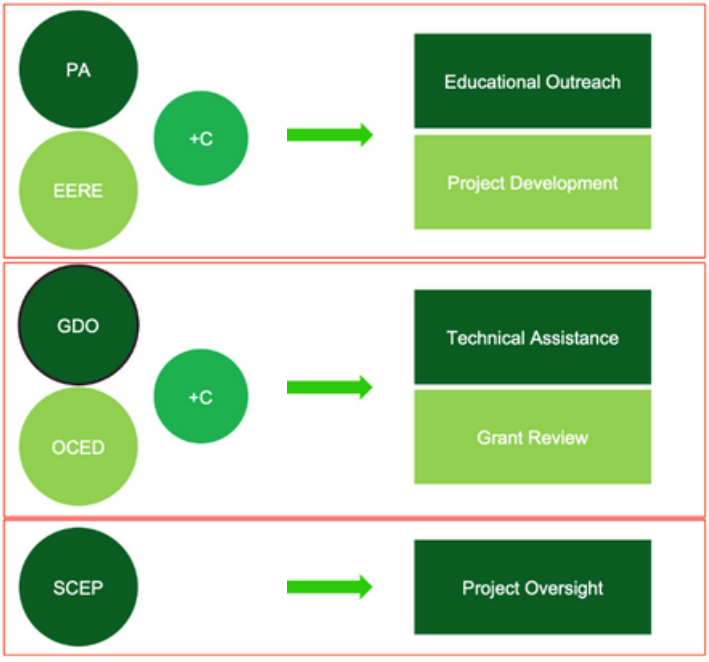


Fig. 3 Work Allocation for Program

Given the present role of the PA office in communicating agency initiatives, only partial FTE deployment is needed to oversee contractors who develop and distribute information across the country. FTEs from EERE will be deployed to develop model grant proposals in keeping with their research in renewable energy and building resiliency.

Grant reviewing and technical assistance will be accomplished by a mix of partial FTE and FTE deployment and contracting dollars to ensure that all grants can be reviewed and assistance is provided from a place of both private and public knowledge. Lastly, the project oversight will require both partial FTE and FTE deployment from SCEP to ensure that projects adhere to the goals of the bill and to avoid private influence in the evaluation of federal funding implementation. In order to contract out responsibilities related to educational outreach, grant reviews, and technical assistance, DOE will need to create several Requests For Proposals (RFPs) to hire contractors. Aside from the funds required to hire DOE FTEs as deployed and to hire contractors, additional funds are required for transport, accommodation, and development of RFPs and reviewing proposals received from the RFPs.

This structure makes the best use of partial and full-time FTEs without overusing the resources from anchoring offices. Contracting will allow for a hybrid approach to accomplishing the work laid out by the bill. In the long term, MI will also look to hire additional FTEs with industry experience to spearhead the program.

Task Orders for RFPs

Educational Outreach	Grant Review and Technical Assistance
Develop **promotional materials** to explain the purpose of the bill, funding opportunities and agency prioritization	Develop microgrid and building resiliency **best practices documents and FAQs**
Travel to **all 50 states** and solicit grant proposals	**Review requests for technical assistance** and collaborate with DOE to provide prompt and accurate information
Collaborate with the PA office to ensure that all materials and messaging **adhere to both the bill and agency goals**	**Review grant applications** by the metric defined by the DOE and collaborate with DOE partners to create the **final list of grantees**

Fig. 4 Program Implementation

WHAT WILL VARIOUS TASK ITEMS COST?

The bill specifies that 1.55 billion is available for microgrid grants and technical assistance. Of this 1.55 billion, 2% (31 million) is allocated for administrative purposes, with 30 million going to clean energy microgrids (and 4 million within this number specifically to community-owned projects), and 1 million going to technical assistance. How can we best distribute this administrative budget to achieve our goals?

Non-Salary Expenses | First, to calculate how much we can spend on labor, we subtract the non-salary expenses from our administrative budget. We approximate the non-salary expenses from a similar DOE program (see Table 1), and scale it to match our budget. Using this approach, we have around 177 thousand dollars worth of administrative non-salary expenses, leaving us with a budget of approximately 30.8 million to hire full-time and part-time employees and contractors.

Breaking Down the Budget Allocation to Full-Time, Part-Time, and Contracted Employees | We assigned 50% to full-time employees, 20% to quarter-time employees, and 30% to contracted labor. To determine the number of employees we could hire, we divided our salary budget by the average annual cost of an FTE for each category. The resulting numbers are 139 full-time employees, 223 quarter-time employees, and approximately 102,000 contracted hours for the program's inaugural year. However, we anticipate that not all these people will be hired in the first year, likely resulting in unused funds at the end of the year.

Final Budget | The final budget for administrative costs is as follows:

Expense Categories	Total Administrative Budget	Clean Energy Microgrid Budget	Community Owned Project Budget	Technical Assistant Budget
Administrative Budget in millions	*31,000,000*	*30,000,000*	*4,000,000*	*1,000,000*
Full-Time ($121550 / Employee)	$14,921,892.56	$14,921,892.55	$1,989,585.67	$497,396.42
Part-Time ($30,387.5 / Employee)	$5,968,757.02	$5,968,757.02	$795,834.27	$198,958.57
Contractors ($100 / h)	$8,953,135.94	$8,953,135.53	$1,193,751.40	$298,437.85
All Non-Salary Expenses	$156,215	$156,215	$20,829	$5,207
H.R. 891 Total Administrative Budget	**31,000,000**	**30,000,000**	**4,000,000**	**1,000,000**

Fig. 5 Program Budget Breakdown

Table 3: This table provides an illustrative breakdown of the combined hours worked by full-time and part-time employees, along with the total contractor hours, providing a clear representation of how these factors impact the budget. Additionally, it accounts for all non-salary expenses, which sum up to 31 million, equivalent to 2% of the total budget.

WHERE WILL THE MONEY COME FROM?

The budget will be appropriated from the Department of Energy's budget, which is determined through an annual congressional committee and presidential review. The Department of Energy (DOE) has a budget of $51.99 billion for 2024. The DOE has demonstrated a willingness to invest in transformative scientific and technological solutions, including those that promote clean energy, enhance resilience, and advance environmental justice. These priorities align with the goals of the Energy Resilient Communities Act, meaning that the Microgrid Implementation and Community Resilience Office (MI) has a good chance of receiving the funding that it requests.

WHAT IS THE TIMELINE FOR ACHIEVING OUR FIRST-YEAR GOALS?

Proposed Three-Phased Approach and Calendar-Year Timeline | The proposed three-phased plan provides a flexible framework for real-time budget tracking and allows adjustments as the ERCA program progresses. It empowers the DOE to monitor progress closely, optimizing budget allocation based on actual performance and resource utilization, ensuring efficient and cost-effective program management. The high-level plan for organizational setup is outlined below.

Three-phased high-level plan for organizational setup

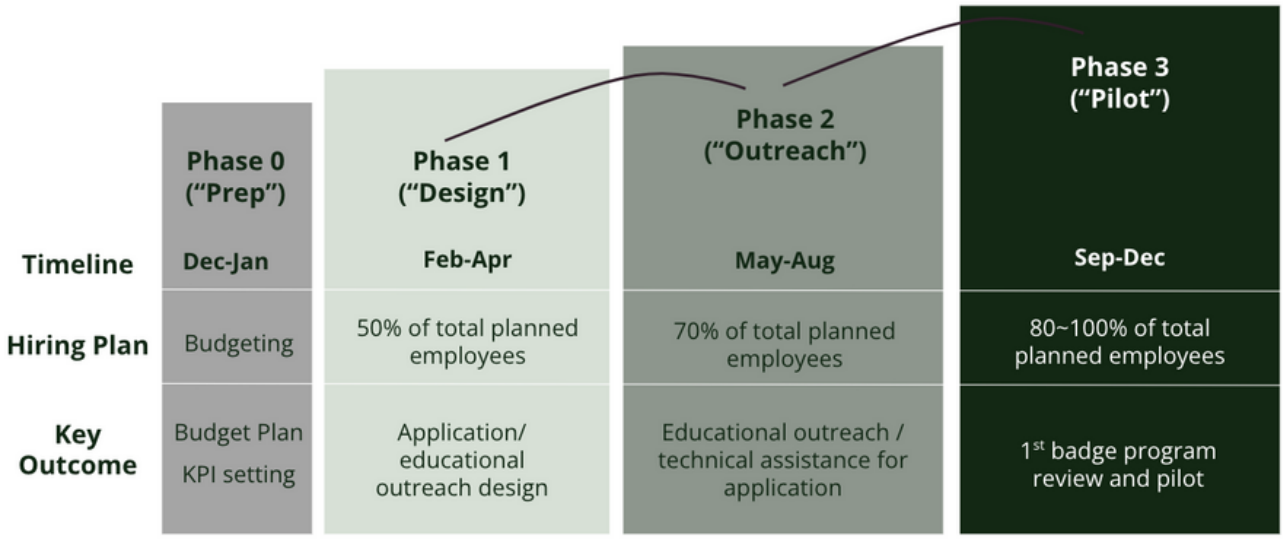


Fig. 6 Project Timeline Overview

Building on the high-level action plan, the detailed first-year calendar is outlined as below.

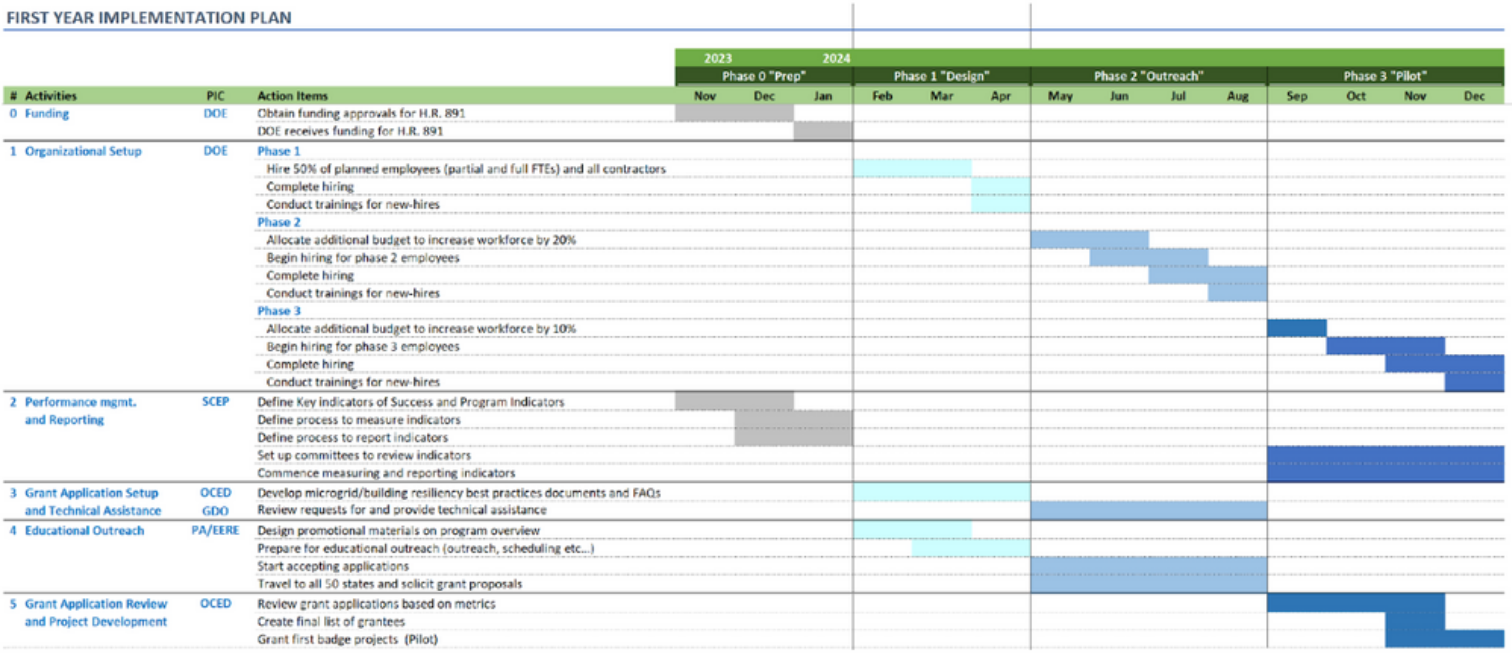


Fig. 7 Detailed implementation plan (First Year Calendar), with task owners assigned

Phase	Timeline	Owners	Tasks
Phase 0 Prep	**November 2023 ~ January 2024**	**DOE**	Secure budgets for the first year
		SCEP	Define KPIs and measurement/reporting schemes for the programs Set up committees to monitor and evaluate program progress and integrity.
Phase 1 Design	**February ~ April 2024**	**DOE**	Hire and train 1st phase employees (50% of total FTEs)
		OCED and GDO	Develop application materials (e.g., program best practices, FAQs)
		PA and EERE	Develop educational materials to promote and support program applications
		PA and EERE	Prepare for educational outreach (e.g., identify the target of outreach, contract with promotion vendors, reach out to each state and other targets)
Phase 2 Outreach	**May ~ August, 2024**	**DOE**	Hire and train 2nd phase employees (70% of total FTEs)
		PA and EERE	Travel to all 50 states for outreach and program promotion
		OCED/GDO	Provide technical assistance to the applicants, project developers, and other stakeholders who would need guidance on program application, microgrid setup, etc.
		OCED/GDO	Open up the application and start accepting them
Phase 3 Pilot	**September ~ December 2024**	**DOE**	Hire and train 3rd phase employees (80~100% of total planned FTEs)
		OCED	Review and shortlist applications
		SCEP	Start measuring and reporting metrics

Fig. 8 implementation plan with key actions and owners for each phase:

HOW WILL WE ASSESS OUR PERFORMANCE?

The core goals of the bill are to build energy resiliency, reduce emissions, and expand energy democracy and security. Managing the performance of this bill requires an understanding of both the progress of individual microgrid projects as well as the program devised to implement them. Success is measured by the DOE in evaluating key indicators of both administrative and program success that serve the bill's goals. These indicators are able to accurately communicate how well the program is operating and drive key feedback that enables program optimization. The selection of metrics is determined through the reliability, ease of collection, and accuracy in defining program operations.

The metrics have been divided into categories based on the goals they serve as indicators for. Administrative goals track the progress of the DOE in giving out grant funds, employee productivity and ensuring microgrids are built. This measures the DOE's ability to manage the implementation of the bill and enable management decisions. Program goals track the overall progress in meeting the goals of the bill, such as resiliency through longer term metrics such as households covered and outages reduced.

Administrative Goals	Indicators	Reporting Frequency
Optimal Budget Utilization	1. Number of FTEs, partial FTEs, and contractors employed	Monthly
	2. Expenditures on salaries, outreach, and education	Monthly
Grant Processing	1. Number of grant applications received	Monthly
	2. Number of grant applications approved	Monthly
	3. Number of grant dollars obligated	Monthly
Program Goals	**Indicators**	**Reporting Frequency**
Energy Democracy and Community Security	1. Number of microgrids completed and operational	Biannually
	2. Number of microgrids in progress	Biannually
	3. Megawatts of energy produced	Biannually
	4. Percent of households in EJ areas	Biannually
Resilient Communities	1. Number of households covered	Biannually
	2. Estimated outage hours reduced	Biannually
Reducing Emissions	1. Estimated tons of CO_2 reduced	Biannually

Fig. 9 Performance Management Indicators

Key metrics will be reported upstream to relevant parties. If the DOE establishes the Office of Microgrid Implementation (MI), it will oversee educational programs, outreach, grant reviews, technical assistance, and grant implementation. Reporting on project progress and auditing will be done by grant awardees and contractors to MI. MI will report on organizational metrics and share them with S3 and the Secretary of Energy, along with data from awardees and contractors. The flow of this reporting is indicated in Figure 10.

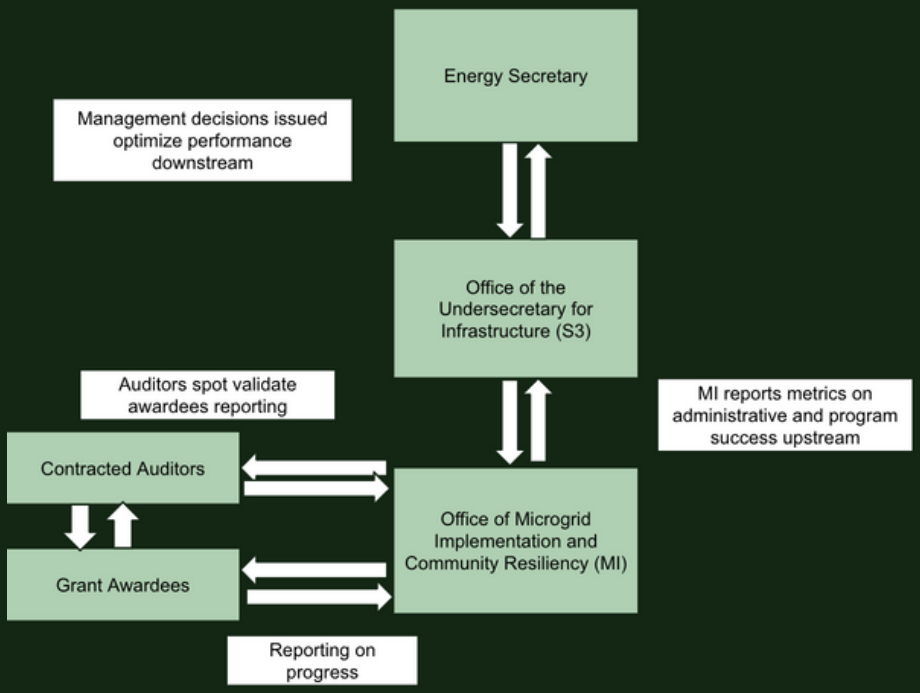


Fig. 10 Reporting and Feedback Structure

This system maximizes transparency and accountability in the program. Key success metrics are processed in this reporting structure, allowing for comprehensive progress understanding, identifying failures, and providing feedback. MI handles day-to-day decision-making and shares results upstream. Administrative success indicators, such as budget utilization and approved grants, should be reported monthly, while program success indicators should be reported biannually. Financial and technical audits ensure responsible use of grant funds, verifying compliance with DOE requirements and grant stipulations This will be conducted through outside auditors, to maximize quality and reduce costs though spot audits. Corrective action plans with timetables are developed by MI offices based on audit findings.

This detailed implementation plan will allow for a smooth and impactful first year. By creating dedicated offices in the Department of Energy and hiring both internal and external experts, the Energy Resilient Communities Act can hasten the deployment of microgrid infrastructure and ensure that communities receive access to financing for greener and more reliable energy projects.

CONCLUSION

In summary, the Energy Resilient Communities Act (ERCA or H.R. 891), aims to increase clean energy microgrid infrastructure across the country, with a particular focus on environmental justice communities. The bill will address longstanding issues within the nation's energy system, which include blackouts, pollution, and expensive electricity. Gaining bipartisan support for this bill may be difficult given the Republican Party's historical opposition to pro-environmental legislation. However, we propose multiple reframings to achieve Republican support.

Our proposed program design for the implementation of the bill will help achieve ERCA's mandatory specifications. By allowing for both top-down processes (where the DOE creates pilot projects for communities) and bottom-up processes (where communities submit their own proposals for the DOE's review), we can ensure that we build microgrids at speed while prioritizing environmental justice communities. Our first-year hiring, budgeting, and performance management plans further detail how implementation should be carried out within the first year to maximize efficiency and secure results that will improve energy resilience and environmental equity in the United States.

Special thanks to Thomas Bourgeois and Aashna Aggarwal for their insights on microgrid policy and development.

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APPENDIX

Appendix A: Program Design Application Criteria

Table 1. Key concepts covered within a project

Key concepts	Yes	No	N/A
Technical assistance for clean energy infrastructure			
Community outreach			
Project is in an environmental justice community (assessment priority indicator)			
Community-owned energy systems (assessment priority indicator)			

Table 2. Microgrids priority provisions:

Key provisions	0 or N/A	1	2	3	4	5
Greenhouse gas emissions: reduction						
Public health: reduction in air pollution						
Community priority (double weighted): % of income spent on electricity						

Note: 0 or N/A - 0% or not applicable, 1 - very low priority (1-20%), 2 - low (21-40%), 3 - intermediate (41-60%), 4 - high (61-80%), 5 - very high (>81%)

Appendix A (cont'd): Program Design Application Criteria

Table 3. Additional provisions

Key provisions	Yes	No	N/A
US produce: iron, steel, and manufactured goods*			
Labor: 1. Prevailing wages** 2. See Part 6c in Section 2: Required and unspecified activities			

** Exceptions: inconsistency with public interest, insufficiency of quantity and quality of goods in the U.S.*

*** The Secretary of Labor will assist in mandating the wages of laborers, which shall be not less than the prevailing wage in accordance with subchapter IV of chapter 31 of title 40, United States Code on similar construction projects in that locality.*