CDBG-DR FUNDS

ELECTRICAL SYSTEM ENHANCEMENTS

DEPARTMENT OF HOUSING

Stakeholder Engagement Report

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EXECUTIVE SUMMARY

On June 22, 2021, the U.S. Department of Housing and Urban Development (HUD) published an allocation of $1.93 billion for the Government of Puerto Rico for Electrical Power System Enhancements and Improvements. The CDBG-DR Program represents a unique opportunity for electrical power system improvements in communities to prevent loss from future disaster threats and to create energy resilience and reliability.

The Puerto Rico Department of Housing (PRDOH) presents the CDBG-DR Stakeholder Engagement Report for the electrical power improvements as a chapter in the continuing story of the Citizen Participation Program. Within these pages, PRDOH presents a summary of the outreach and engagement efforts undertaken by the agency during collaboration, consultation and planning sessions in the development of the Action Plan.

Note: This Stakeholder Engagement Report is an initial draft, limited to activities conducted in advance of the posting of the Action Plan for Public Comment. This report will be updated upon completion of the public comment period and before formal and final submission to HUD as part of the Action Plan submission package in January of 2022.

OUTREACH STRATEGY

Special Considerations for COVID-19

The Puerto Rico response to the COVID-19 pandemic and restrictions to social movement continued to be adapted according to circumstances at the time—nationally, internationally, and in Puerto Rico. As a result, throughout the planning process, PRDOH has implemented innovative engagement strategies to overcome obstacles to public participation, including leveraging of technology, radio and stakeholder networks.

Impact on Engagement Strategy

On March 20, 2020, HUD released the CDBG-DR COVID-19 Fact Sheet, which granted flexibilities on timelines, eligible activities, and citizen participation as communities worked to prevent and respond to the spread of COVID-19. In the COVID-19 Fact Sheet, HUD suspended the on-site public participation requirement and acknowledged "…its interpretation of public hearings in the context of the CDBG-DR FRN to include virtual public hearings (alone, or in concert with an in-person hearing) if it allows questions in real-time, with answers coming directly from the elected representatives to all 'attendees'."

Method of Engagement

PRDOH utilized various electronic methods, media, and community networking to maintain a vigorous outreach process. PRDOH set out to be fully inclusive of the diverse population of Puerto Rico while working within public health constraints on a rapid planning timeline. PRDOH set out to leverage social media and the public website as the foundation for the CDBG-DR outreach effort, understanding that most of the population was turning to technology to stay connected during the pandemic.

Cloud-based platforms such as Microsoft Teams and Zoom were utilized to deliver briefings, conduct roundtables, and host individual planning meetings connecting PRDOH staff to federal agency personnel, Puerto Rico agency personnel, municipalities, academia, non-governmental organizations (NGOs), and one another. In-person roundtables were conducted with small groups of organizations to maintain compliance with COVID-19 protocols.

As part of the FRN requirements outlined in Federal Register Vol. 86, No. 117 (June 22, 2021), 86 FR 32681, for allocations of $1 billion or more CDBG-DR grantees must hold at least two (2) public hearings with at least one (1) of these public hearings occurring before the publication of the Energy Action Plan for public comment. PRDOH set out to reach the masses by utilizing the widespread mediums including live broadcasting on social media platforms with simultaneous broadcast via radio.

Outreach methods included:

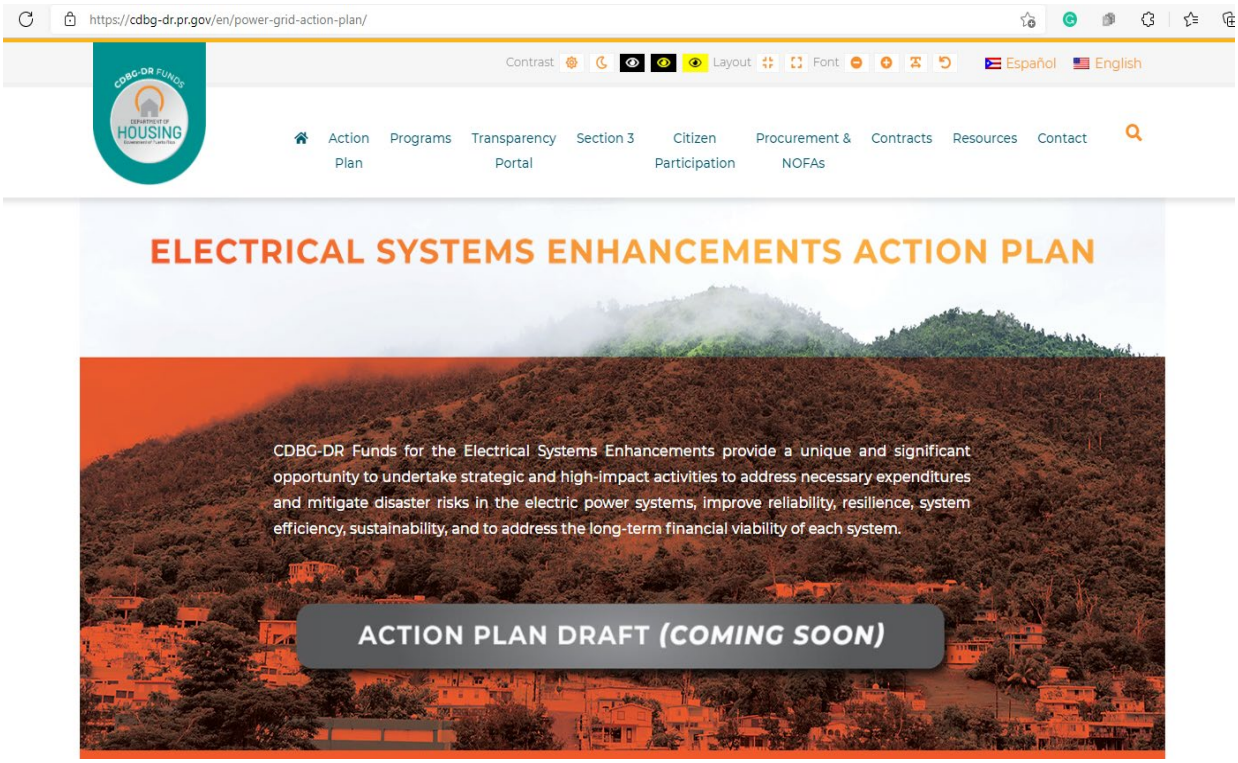
- **Public Website** – English and Spanish webpages available at https://www.cdbg- dr.pr.gov/CDBG-DR and used as a resource to access general information aboutCDBG-DR, as a method to promote engagement activities, as a tool for constituents to participate in the planning process, and to receive updates on the CDBG-DR Energy Action Plan, as the official site for posting of the Energy Action Plan draft for comment, and eventually, as a resource for updates on implementation plan;
- **Emails** – Utilizing a subscriber database from CDBG-DR programs, new registrants from the CDBG-DR web page, and a database from municipalities, entities, Academia and NGOs, English and Spanish emails were used for invitations, conveying surveys and tools, and various reminders.
- **Social Media** – The CDBG-DR Facebook page and CDBG-DR YouTube channel were used to announce activities, e.g., public hearings, important announcements (such as Energy Action Plan Posting, Energy Action Plan Public Comment Period); Additionally, social media links were shared with the Federal members of the TCT for distribution to their related networks.
- **Press Releases** - used to announce activities to general media.
- **Newspaper Public Announcements** - used to publish public hearing notices.

Outreach tools included:

- **Forms and Surveys** – webforms used to allowfor registration and public input.
- **Presentations** – captivating presentations (Spanish and English) used in briefings, roundtables, and various individual meetings.
- **Follow up calls** - for the roundtable attendance and to ensure stakeholder participation and questionnaire submission.
- **Call Center Assistance** – call center services were promoted as an available method for citizens to submit questions or comments during the public hearing. Comments and questions posted during the public hearing were read live during simulcast public hearing events.

Website

Public information is made available on a dedicated webpage within the CDBG-DR Program website at [Power Grid Action Plan - CDBG (pr.gov)] in English and at [Plan de Acción de Red de Energía - CDBG (pr.gov)] in Spanish.



From this page, entity and private citizen stakeholders can find up-to-date information and register for program-related notifications and find formal announcements for public participation opportunities. These opportunities included the following:

- Public Hearing events and opportunities for participation.
- The opening of the CDBG-DR Energy Action Plan public comment period.

The website serves as an information hub during the preparation of the CDBG-DR Energy Action Plan. Once the CDBG-DR Energy Action Plan is approved by HUD and program information becomes available, the final plan will be posted in its entirety to the CDBG-DR Energy Action Plan and amendments page where all versions of the CDBG-DR Energy Action Plan and amendments will reside at https://cdbg-dr.pr.gov/en/action-plan/ in English and at https://cdbg-dr.pr.gov/action-plan/ in Spanish.

Focused Roundtables

Recognizing their unique and ongoing contributions to Puerto Rico's recovery from the hurricanes, PRDOH held a series of Focused Roundtables to initiate engagement with

public and private sector partners, including Community Leaders and Academic Partners.

An objective of these roundtables was to provide an overview of the federal CDBG-DR Program for Electrical System Enhancements. More specifically, PRDOH sought the assistance of Community Leaders in providing valuable insight regarding unmet needs. Academic Partners were provided a preview of the technical issues for the electrical power system improvements and their expertise recommended solutions.

To a great extent, agencies and organizations that participated in Focused Roundtables had previously provided data, resources, and literature to the recovery of Puerto Rico. The roundtables provided the opportunity for discourse among the members, synergies across those resources and helped to guide consensus toward a path forward. The plan for each Focused Roundtable was appropriate to the topic, and the group's participation was an excellent example of that.

The Energy Roundtable was convened to exchange ideas to contribute to the stability and resilience of vulnerable communities in Puerto Rico. Discussion included identifying those communities, the characteristics that make them particularly vulnerable, and past or current efforts to mitigate vulnerability and enhance energy resilience and exploring the potential resources CDBG-DR for Electrical System Enhancements.

Individual Meetings

As presented in earlier outreach agendas, PRDOH recognized that meetings with one or more individuals or entities participating in briefings and roundtables might be engaged individually and more frequently. These meetings could facilitate focused planning efforts necessary for beneficial data exchange, idea generation, or coordination that would yield a tangible benefit in the planning process. The main stakeholders responsible for the essential services (water and energy supply) at the agency level were cited individually: the Puerto Rico Aqueduct and Sewer Authority (PRASA), the Puerto Rico Electric Power Authority (PREPA), and LUMA Energy LLP. The purpose was to request unmet energy needs not funded by other federal programs.

The table below summarizes the individual meetings PRDOH conducted with key agency partners during the outreach and engagement process.

INDIVIDUAL PUERTO RICO AGENCY MEETINGS CONDUCTED

- Puerto Rico Electric Power Authority (PREPA)
- LUMA Energy LLP
- Puerto Rico Aqueduct and Sewer Authority (PRASA)
- Puerto Rico Economic Development and Commerce (DDEC)
- Central Office for Recovery, Reconstruction and Resiliency (COR3)

STAKEHOLDER ENGAGEMENT – ROUNDTABLE AND INDIVIDUAL MEETINGS		
Date	**Entities**	**Topic**
07/28/21	DOE	TCT Meeting Goals
08/10/21	DOE, EDA, FCC, FEMA, FOMB, GAO, USACE, USDA, Treasury, HUD	Energy Action Plan
08/17/21	Federal Members of the TCT and Puerto Rico Energy Bureau (PREB); Puerto Rico Aqueducts and Sewers Authority (PRASA); Department of Economic Development and Commerce (DDEC) Energy Public Policy Program; Central Office for Recovery, Reconstruction and Resiliency (COR3); Puerto Rico Public-Private Partnerships Authority (P3A)	Disaster Impact & Other Disaster Assistance Received
08/20/21	DDEC	Stakeholder Engagement
08/24/21	Federal Members of TCT and Puerto Rico Energy Bureau (PREB); Puerto Rico Aqueducts and Sewers Authority (PRASA); Department of Economic Development and Commerce (DDEC) Energy Public Policy Program; Central Office for Recovery, Reconstruction and Resiliency (COR3); Puerto Rico Public-Private Partnerships Authority (P3A); LUMA and PREPA	Disaster Impact & Other Disaster Assistance Received
08/27/21	DOE, LUMA	Stakeholder Engagement
08/30/21	LUMA, PREPA	Stakeholder Engagement
08/31/21	Federal Members of TCT and Puerto Rico Energy Bureau (PREB); Puerto Rico Aqueducts and Sewers Authority (PRASA); Department of Economic Development and Commerce (DDEC) Energy Public Policy Program; Central Office for Recovery, Reconstruction and Resiliency (COR3); Puerto Rico Public-Private Partnerships Authority (P3A)	Disaster Impact & Other Disaster Assistance Received
09/01/21	COR3	Energy Action Plan | PRDOH + COR3 | Coordination Call
09/01/21	EPA, DOE	Energy Action Plan | PRDOH + EPA + DOE | Coordination Call
09/02/21	DOE	Mapping

STAKEHOLDER ENGAGEMENT – ROUNDTABLE AND INDIVIDUAL MEETINGS		
09/08/21	PRASA	PRASA Stakeholder meeting to discuss data request
09/09/21	COR3	Stakeholder Engagement
09/13/21	LUMA, PREPA	Stakeholder Engagement
09/14/21	FEMA, DOE, HUD, PRDOH, PREB, DDEC, COR3	TCT Meeting - Work Session - Projects with Greater Impact to Maximize Federal Funding
09/20/21	DDEC	Action Plan Development
09/20/21	Resident Commissioner Roundtable	Stakeholder Engagement
09/28/21	Puerto Rico College of Expert Electricians, and Puerto Rico College of Engineers and Surveyors.	Energy unmet needs
09/23/21	PREPA	Energy Unmet Needs Assessment requested documentation
10/05/21	Puerto Rico Manufacturers Association, Pharmaceutical Industry Association of Puerto Rico, DDEC	Stakeholder Roundtable
10/06/21	TCT Committee federal members	TCT Committee Status Update
10/12/21	AMANESER 2025, Solar Libre, Queremos Sol, Cooperativa Hidroeléctrica de la Montaña	Stakeholder Roundtable
10/18/21	Municipalities of Aguadilla, Gurabo, Toa Alta, Quebradillas, Hormigueros, Sabana Grande, Yabucoa, Las Piedras, Cabo Rojo	Municipios Virtual Meeting
10/19/21	Municipalities of Hormigueros, Salinas, San Juan, Las Marías, Añasco	Municipios Virtual Meeting
10/19/21	UPR Mayaguez; Colegio de Ingenieros y Agrimensores de Puerto Rico (CIAPR); Universidad Politécnica de Puerto Rico (PUPR)	Stakeholder Engagement Roundtable - Academics
10/20/21	**First Public Hearing**	Receive public comments on Action Plan Development
10/25/21	DOE	First Public Hearing, TCT Comments, and Questions for HUD

STAKEHOLDER ENGAGEMENT – ROUNDTABLE AND INDIVIDUAL MEETINGS			
11/02/21	Mercy Corps, Liga de Ciudades de PR, Proyecto INARO Las Piedras, Voluntariado Ingenieros y Profesionales de PR, Hispanic Federation, Producir Inc., El Puente ELAC, OSAN los Acueductos Comunitarios, SESA, Center for Energy and Society Arizona State University, IDEBAJO	Citizen Committee Roundtable	Advisory (CAC)

Stakeholder Questionnaire

PRDOH developed the Stakeholder Questionary to better understand the participants' knowledge about the Energy Infrastructure Plans for the two leading government agencies, including the Puerto Rico Electric Power Authority (PREPA). These plans are designed for a ten (10) year period and are the basis for the FEMA federal funds obligated funds. PRDOH recognized that this knowledge is limited to the organization's interaction with the government agencies. Stakeholders were asked to complete the questionnaire based on their experience during Hurricane Maria and visualize the Puerto Rico energy crisis solution proposing energy community-based projects that provide resilience and reliability.

During the roundtable meetings, information was collected on the stakeholders' concerns, questions, and recommendations related to the areas and communities with the greatest need to improve the electric power service. Stakeholders were provided with a questionnaire to obtain the information above in more detail.

Further breakdown of the questionary responses is enclosed with this report.

Pre-Draft Public Hearing

As provided in the FRN, HUD Guidance states that PRDOH must conduct at least one public hearing prior to posting the action plan for public comment. To balance the democratic opportunity for inclusive public participation with the appropriate response and safety measures established due to the COVID-19 pandemic, PRDOH implemented a unique solution.

PRDOH hosted a transmission through live Social Media (YouTube, and Facebook) with a simultaneous radio broadcast on October 20, 2021.

By simultaneously broadcasting the public hearing on radio and social media, PRDOH's efforts rose to the spirit and intent of the FRN. Citizens could submit questions and comments through the CDBG-DR email, call the PRDOH call center, or complete an online form on the CDBG-DR website. The first public hearing resulted in the submission of 17 comments from the public.

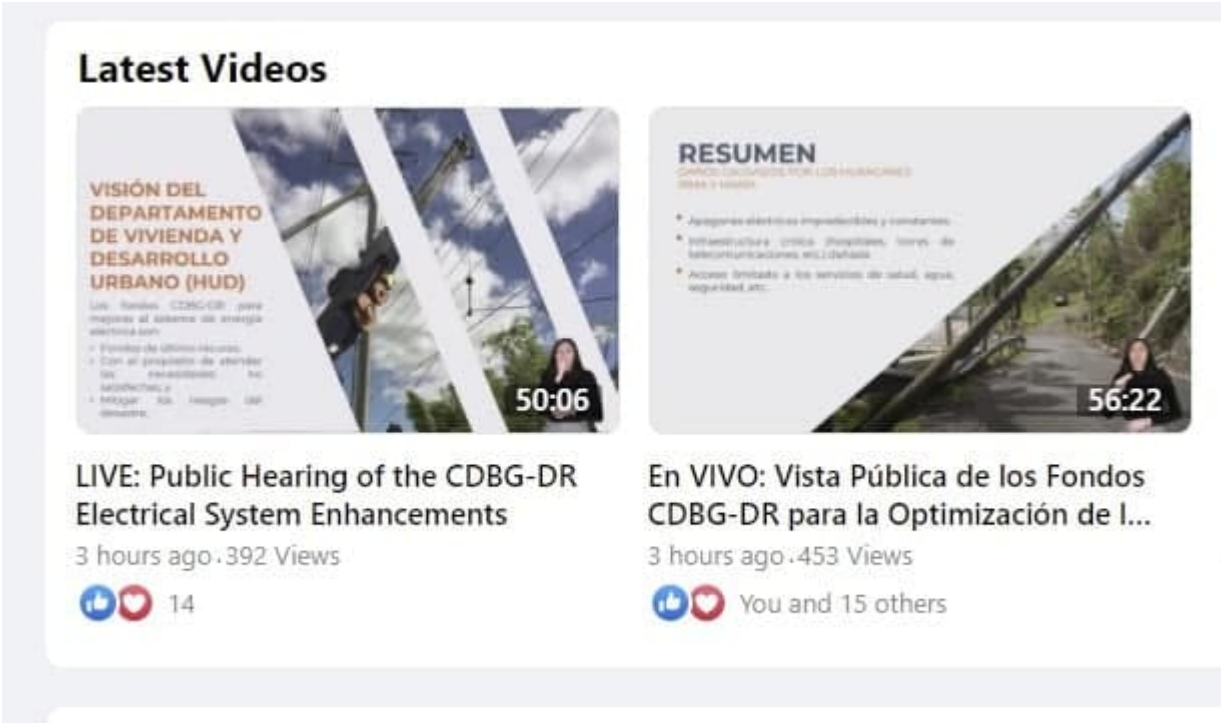


Figure 1 Screen captures from PRDOH CDBG-DR Facebook page

GOVERNMENT OF PUERTO RICO
DEPARTMENT OF HOUSING

STAKEHOLDER QUESTIONNAIRE						
Questions	**Cayey Municipaly**	**Isabela Municipality**	**Gurabo Municipality**	**Utuado Municipality**	**Toa Alta Municipality**	
1-Do you know the government's plans (PREPA / LUMA / AAA) regarding infrastructure plans to meet Puerto Rico's energy needs? Yes or No	NO	SI	NO	NO	NO	80% NO
2- What technical aspects does your institution consider most critical for improving the electric power systems of Puerto Rico?	The most critical technical aspect in the Municipality of Cayey is the need for electrical undergrounding in the City's Urban Center.	General improvement of the entire energy system, substations, transformers, primary, secondary and three-phase lines. In addition to the service to the subscriber from the brigades, promptly attend to the new connections, lights, and rotten poles. Increase service in areas where the development of new structures and residences have been neglected by the LUMA administration. The inclined poles are our daily bread in addition to the problem of low voltage in entire communities, damaging the belongings of said residents.	The need of underground power lines is present in our thoughts. This creates barrier-free access in the town since the power lines constantly hinder the pedestrian.	The underground power lines in the commercial areas of the town of Utuado. The strongest pole change in mountainous and hard-to-reach areas. Also the cleaning and pruning of trees on the transmission and distribution lines.	Infrastructure maintenance, public lighting, replacement of damaged poles, prompt emergency response, customer service, etc.	
3- In your opinion, what sector of the population does your institution consider most in need of energy projects? Please rank in order of priority from 1 to 4. A-LMI population (low income, moderate-income, elderly and functional diversity), B-Commercial and Banking Sector, C-Industrial communities, D-Residential sector in general general.	A-1, B-1, C-2, D-3	A-1, B-3, C-3, D-1	A-1, B-4, C-3, D-2	A-1, B-3, C-4, D-2	A-4, B-1, C-2, D-3	80% A (LMI)

4-What specific energy projects does your institution promote?	At the moment we are promoting the infrastructure works for the electric underground of the Urban Center.	General improvement, priority for residential subscribers, although the commercial and industrial sector is not ruled out.	The municipality has focused on the underground of the electric lines of the Gurabo's square. In addition, it is urgently required that the streets that surround the square and its secondary streets be worked in the same way that they will be worked in the square, uniting everything in the same project.	None	Renewable energy, solar lighting.	80% Proyectos
5- In your opinion, what improvements does the energy system need to be resilient?	The electrical system must be undergrounding, mainly in the area of the Urban Center, where the facilities with the greatest social impact are located, such as hospitals, service centers, emergency management, and others.	Change the entire energy system and customer service.	For the electrical system to remain strong and resilient, a well-thought-out construction needs to be planned, and the process of undergrounding the electrical lines must be accompanied within the thought. In this way, many atmospheric mishaps would be avoided. It would prevent the commerce of the urban area from being without electricity for a long time, affecting the commercial and tourist areas and the supplier of basic needs.	The underground in the commercial areas of the town of Utuado, and the strongest pole change in mountainous and hard-to-reach areas. Also the cleaning and pruning of trees on the transmission and distribution lines.	Adequate infrastructure and maintenance.	60% Soterrar
6-Has your entity identified community projects of energy need that do not receive or will receive funds from other state or federal agencies (for example, FEMA) or insurers as a consequence of the disasters caused by Hurricane Maria? If your answer is yes, please answer questions number seven and eight.	The Municipality of Cayey has identified (4) NON-PRASA systems that serve various communities in relation to drinking water distribution.	Hiring private energy services.	Up to the present, No.	No	Electrical infrastructure in invaded communities.	

7-If your institution identified one or more projects, what are the estimated costs?	No independent cost estimate has been made.	Internal affairs		$ 50 million	No costs have been identified.	
8-What alternative energy systems will the projects implement? Please check all that apply.	Renewable energy	Renewable Energy, Renewable Energy with storage (batteries), Cogeneration Systems (diesel, propane or natural gas) and Hybrid (renewable and cogeneration)	Renewable Energy, Renewable Energy with storage (batteries) and Cogeneration Systems (diesel, propane or natural gas)	Renewable Energy, Renewable Energy with storage (batteries), Cogeneration Systems (diesel, propane or natural gas) and Hybrid (renewable and cogeneration)		80% Energía Renovable
9-Please rank the implementation of improvements to the electrical system in order of priority from 1 to 3. A-Generation, B-Distribution, C-Transmission	A-1, B-2, C-3	A-1, B-1, C-1	A-1, B-2, C-3	A-1, B-2, C-3	A-1, B-3, C-2	100% Generación

GOVERNMENT OF PUERTO RICO
DEPARTMENT OF HOUSING

STAKEHOLDER QUESTIONNAIRE					
Questions	**Pharmaceutical Industry Association of PR, Inc.**	**Cambio PR**	**Amaneser 2025**	**Solar Libre**	
1-Do you know the government's plans (PREPA / LUMA / AAA) regarding infrastructure plans to meet Puerto Rico's energy needs? Yes or No	NO	YES	YES	YES	75% YES
2- What technical aspects does your institution consider most critical for improving the electric power systems of Puerto Rico?	Reliability of the electrical supply and quality of the electrical power supplied.	We consider it critical that low and moderate income households have access to rooftop solar and storage solutions for resiliency. Earlier this year, CAMBIO released the results of detailed grid modeling studies analyzing the technical feasibility of supplying 75% of the island's electrical needs with distributed renewable energy and battery storage by 2035, including equipping all homes on the island with small-scale solar and storage systems (2.7 kW paired with 12.6 kWh storage). The modeling showed that this decentralized and resilient system could be achieved with modest upgrades to the distribution system. If adopted, this approach would reduce and stabilize electric rates by reducing the island's dependence on imported fossil fuels, while radically transforming the resiliency situation for Puerto Rico residents within fifteen years. See https://cambiopr.org/solmastechos/	To improve the electrical system in general we must move to renewable energy sources as quickly as possible. Determining which current plants have to be maintained and for how long the transition is completed are vital elements for success. The PIR is timid about eliminating this fossil infrastructure and even includes new investments in it that are not adequately justified by the data.	In Solar Libre we believe in the importance of making cleaner options of emergency power sources available to the low income population. The power system in Puerto Rico is not reliable and it's restructuring process will take a long time. For our organization, it's essential to make available for people in vulnerable communities an alternative to making long lines in gas stations and sleeping with the heavy noise and fumes from generators. Puerto Rico's electrical system is in a critical condition and vulnerable communities should not have to suffer the process of transformation of an outdated energy infrastructure. These solar energy generating systems could feed back extra energy to the grid through Net-Metered systems in the communities where the energy infrastructure exists. In rural areas of Puerto Rico, there still are communities where the electrical system was heavily damaged by hurricane Maria and electrical poles were not replaced. Giving out free solar energy generating systems to the people in communities like these, will better these people's quality of life.	

3- In your opinion, what sector of the population does your institution consider most in need of energy projects? Please rank in order of priority from 1 to 4. A-LMI population (low income, moderate-income, elderly and functional diversity), B-Commercial and Banking Sector, C-Industrial communities, D-Residential sector in general general.	A-3, B-4, C-4, D-3	A-1, B-4, C-3, D-2	A-1, B-4, C-2, D-2	A-1, B-4, C-3, D-2	75% A (LMI) Priority 1, 75% D Priority 2, 100% B Priority 4
4-What specific energy projects does your institution promote?	None	CAMBIO promotes the widespread deployment of rooftop solar and storage. CAMBIO also works with communities to advance energy and water resiliency solutions at the local level. In 2020, we spearheaded a neighborhood solar purchasing cooperative in a San Juan neighborhood, in which homeowners joined together to issue an RFP for rooftop solar and storage systems. The bulk purchase model resulted in a lower price for residents, and 20 systems have been installed on neighborhood homes and a church.	AMANESER 2025 promotes systems development to give immediate energy security to low- and middle-income residential sectors. They consist of off-grid systems with around 2 kW of power and 5-6 kWh of battery. These systems provide you at a very low cost (around $ 2,900 for the purchase of each system) with enough power to cover all the critical loads of an average home. This is the first stage of a model that includes the creation of community microgrids and municipal cooperatives to transform the country's electricity system organically and sustainably.	We work installing free Solar Energy Generating systems for local projects and community centers. Most of the systems we install are located at remote and rural communities where in most occasions, the energy infrastructure is not available or is not accessible. These systems could be connected to the grid through the Net-Meter program in places where the energy infrastructure is available, which would serve as an extra production of energy for the grid.	75% Projects

5- In your opinion, what improvements does the energy system need to be resilient?	The power generation units needs to be brought to a good state of maintenance, new generation units should be built in strategic areas close to high demand locations, the distribution network must be rebuild to withstand the weather conditions on the island.	As noted above, we advocate the widespread deployment of rooftop solar and storage to enhance resiliency at the household level and to reduce dependence on the island's long-distance south-to-north transmission system. Low and oderate income households will be better served by a focus on rooftop solar and storage solutions than investments in undergrounding and hardening of transmission and distribution infrastructure.	The transformation of the electrical system to make it resilient has several dimensions that have to be addressed in a systemic way. A. The transformation of the system based on fossil fuels and large and centralized generating units to systems based on renewable and distributed sources with a robust storage scheme. This requires a substantial investment and will take more than a decade to complete. B. Measures to provide energy security to the most vulnerable. This is an urgent task and requires approaches other than the first one that reduce costs and enables rapid implementation. This is what AMANESER 2025 has been doing successfully for the last 3 years. The approach we propose allows us to immediately solve the energy security problem of the most vulnerable while working with the transformation in the medium and long term.	One way to make a more resilient energy system is to diversify the energy production, harnessing all the natural resources available in its location. Using renewables like solar and wind and other alternative power sources like hydroelectric to produce energy in a location where there is plenty of all of these resources is the most logical option. Also, in Puerto Rico's particular case, the energy company needs to create a more resilient, resistant and protected transmission network. Puerto Rico is an island which due to its location, is impacted by heavy weather every year. The energy transmission network on the island is completely exposed to the elements which causes constant interruptions and adds to the costs for repairs. Another way to create a more resilient energy system is to create Micro-Grids which would serve as backup for the grid and supply energy to smaller areas (communities) when the central producing network needs repair. The Micro-Grids would reduce the communities reliance on the grid which would also simplify the process of bettering our energy system.

6-Has your entity identified community projects of energy need that do not receive or will receive funds from other state or federal agencies (for example, FEMA) or insurers as a consequence of the disasters caused by Hurricane Maria? If your answer is yes, please answer questions number seven and eight.	Yes. There is no federal or Commonwealth funding for PREPA to undertake a project for the widespread deployment of rooftop solar and storage, as CAMBIO has proposed. Aditionally, the level of funding available through CDBG-MIT and CDBG-DR funds for household energy resiliency projects is insufficient to meet the scope of the need throughout the island.	Yes. We identified many communities, and we are working with some of them in 8 municipalities.	We have developed a list of possible recipients which is composed mostly of small farms, elderly homes and some particular homes which have very high energy bills or do not have accessibility to connect to the grid for various reasons. Our focus is to not only help better quality of life in communities but also help projects that serve and feed the communities, like farmers.
7-If your institution identified one or more projects, what are the estimated costs?	A program by PREPA to manage the purchase and installation of low and moderate income small-scale residential solar and storage systems could benefit up to 150,000 households and absorb the entire CDBG-DR allocation. We also estimate that a municipal or community-level project to install 400 such systems over 5 years would cost up to $5.8 million. (Please see our written comments submitted on 10/15/21 for more details).	Estimated Costs A-Jayuya, Veguita Zama Complete critical load systems approximately $ 400,000 to $ 500,000 Development of a microgrid throughout the community $1,300,000 to $1,500,000 B-Cayey, Tinito Marín Sector Complete critical load systems approximately $ 400,000 to $ 500,000 C-Cayey, El Roble de Beatriz Sector Installation of critical load systems approximately $600,000 to $ 800,000 D-Yabucoa, Quebradillas Community Installation of critical load systems approximately $500,000 to $ 700,000 E-Caguas, El Coqui Sector- Complete critical load systems approximately $ 250,000 to $ 350,000 F-San Juan, Villa Nevárez Continue to install critical load systems	A 10kWh system would cost around $70,000 with a battery bank. We plan on installing at least 20 systems in a year, which would require a $1,400,000 budget.

			approximately $ 500,000 to $ 700,000		
8-What alternative energy systems will the projects implement? Please check all that apply.		Renewable Energy and Renewable Energy with storage (batteries)	Renewable Energy with storage (batteries)	Renewable Energy and Renewable Energy with storage (batteries)	75% Renewable Energy
9-Please rank the implementation of improvements to the electrical system in order of priority from 1 to 3. A-Generation, B-Distribution, C-Transmission	A-3, B-3, C-3	A-1, B-2, C-3	A-1, B-2, C-3	A-1, B-3, C-2	75% Generation Priority 1