

Action Plan

Grantee: Puerto Rico

Grant: B-18-DE-72-0001

| | |
|---------------------------------|-----------------------|
| LOCCS Authorized Amount: | \$ 1,932,347,000.00 |
| Grant Award Amount: | \$ 1,932,347,000.00 |
| Status: | Reviewed and Approved |
| Estimated PI/RL Funds: | \$ 0.00 |
| Total Budget: | \$ 1,932,347,000.00 |

Funding Sources

No Funding Sources Found

Narratives

Disaster Damage:

More than four (4) years have passed since Hurricanes Irma and María struck Puerto Rico in September of 2017. However, the impact on the power grid remains ever present in the daily lives of Island residents. Power outages are common and unpredictable, electricity prices continue to rise, and rolling blackouts due to insufficient generation have been common. The impact of the hurricanes on the power system was devastating and led to the longest sustained blackout in modern United States (U.S.) history. Without power, residents were unable to gain access to healthcare, communication, refrigeration, water, cooling, and security. With sustained systemic insecurity, residents continue to feel many of the same impacts, economic recovery is hampered, and the cycle of recovery cannot be completed. Energy remains the single most comprehensive and critical factor to the future of the Island.

The Electrical Power System Enhancements and Improvements Action Plan is not a specialized blueprint on the components of the electrical power system in need of repairs. Several extensive studies have already been conducted by Puerto Rico and U.S. governmental agencies, including the Puerto Rico Electric Power Authority (PREPA) 10-Year Infrastructure Plan, the Grid Modernization Plan for Puerto Rico conducted by the Central Office for Recovery, Reconstruction and Resiliency (COR3), the 2021 Fiscal Plan for PREPA as Certified by the Financial Oversight and Management Board for Puerto Rico, and key studies by the U.S. Department of Energy (DOE). This Action Plan seeks to adjust critical findings from these reports and identify the remaining unmet need for communities that stand vulnerable to the impacts of power insecurity. It aims to discern resilience opportunities for long-term system enhancement for the benefit of all residents.

Electrical Power System Recovery Needs:

Hurricanes Irma and María devastated 80% of the Islands' electric power system. Therefore, the initial immediate recovery process was implemented in such a way as to provide electric service to the people of the Islands in the fastest possible way. This meant that expediency reigned instead of the deep reconstructive approach that would have taken much longer and for which funding and resources were not immediately available. Because of this, the people of Puerto Rico face a lack of continuity of electric power service in great part due to the system's weakness. The need for permanent solutions to ensure system resiliency and sustainability must be a priority moving forward.

The U.S. Department of Energy aptly points out, "[m]aintaining and enhancing the resilience of the electric grid at fair and reasonable costs can provide service and value to Puerto Rican communities. Yet, no single investment in energy infrastructure at one point in time will achieve resilience." (Emphasis added) One of the goals set by PRDOH is to maximize the appropriated use of CDBG-DR Program funds, which will result in the coordination and engagement of governmental and non-governmental stakeholders to successfully detail and identify unmet needs.

PRDOH has developed the Electrical System Enhancements and Improvement Programs founded on the allocation requirements as well as identified unmet needs. Along with incorporating input from disaster-impacted municipalities,



utilities, and other stakeholders.

HUD defines an electrical power system in a broad way. Bringing together the many components that contribute to the proper operation of the grid, including physical assets for generation, transmission, and distribution, as well as technological and administrative components. Specifically, the definition is stated in 86 FR 32681, 32692:

“An electrical power system shall be defined as an interconnected or autonomous set of transmission lines, distribution lines, substations, central power generation stations, other sources of power, distributed energy resources, or enabling technologies and services, such as industry standard billing, accounting information technology, cybersecurity enhancements, microgrids and fuel transfer delivery systems, that are necessary for the provision of reliable, resilient, stable, and cost effective electrical service.”

The main objective of the CDBG-DR Program is to support the economic and social development of Puerto Rico’s communities, providing quality of life, safety, security, and growth opportunities for the future of all residents. The availability of CDBG-DR funds provides a unique opportunity to improve quality of life on the Island and strengthen the economy through electric power system enhancements. Lessons learned from the catastrophic events of Irma and María will give Puerto Rico the choice to be more resilient, more robust, wiser, and to rise in a sustainable manner.

The state of emergency caused by Hurricanes Irma and María is felt every day and still very present in Puerto Rico. The current condition of the electrical power system is critical. Without the implementation of transformative mitigation and resilience phases, the system will remain extremely weak and susceptible to collapse from any future major event, in which vulnerable communities will suffer the most, once again. Every community in Puerto Rico deserves to enjoy a strong, reliable, and resilient electrical power system that ensures the tranquility of the people and a better quality of life for its residents.

Project Summary

| Project # | Project Title | Grantee Activity # | Activity Title | Grantee Program |
|----------------|-------------------------------|--------------------------------------|------------------------------------|-----------------|
| 9999 | Restricted Balance | <i>No activities in this project</i> | | |
| Administrative | Energy Program Administration | ESP-ADMDOH-NA | Energy Program Administration | |
| Infrastructure | Infrastructure Energy Program | ESP-IER1DOH-LMI | Energy Grid Rehab and Recon ER1 LM | |
| | | ESP-IER1DOH-UN | Energy Grid Rehab and Recon ER1 UN | |
| Infrastructure | Infrastructure Energy Program | ESP-IER2DOH-LMI | Electric Power Resilience ER2 LM | |
| | | ESP-IER2DOH-UN | Electric Power Resilience ER2 UN | |
| Planning B-18- | Energy Program Planning | ESP-PLNDOH-NA | Energy Program Planning | |



Activities

Project # / Administrative B-18-DE-72-0001 / Energy Program

Grantee Activity Number: ESP-ADMDOH-NA

Activity Title: Energy Program Administration

Activity Type:

Administration

Project Number:

Administrative B-18-DE-72-0001

Projected Start Date:

08/05/2022

Project Draw Block by HUD:

Not Blocked

Activity Draw Block by HUD:

Not Blocked

Block Drawdown By Grantee:

Not Blocked

National Objective:

Not Applicable (for Planning/Administration or Unprogrammed Funds only)

Benefit Report Type:

NA

Ancillary Activities

None

Proposed budgets for organizations carrying out Activity:

Responsible Organization

Puerto Rico Department of Housing

Organization Type

State Agency

Proposed Budget

\$ 96,617,350.00

Location Description:

The location of the personnel administrating this fund will be at the Puerto Rico Department of Housing located in San Juan, Puerto Rico.



Activity Description:

PRDOH is the administrative entity responsible for administering CDBG-DR, CDBG-MIT, and CDBG-DR Energy funds as allocated by HUD.

Environmental Assessment:

Environmental Reviews: None

Activity Attributes

Disaster Type: Hurricane

Activity Supporting Documents: None

Project # / Infrastructure ER1 B-18-DE-72-0001 / Infrastructure Energy



Grantee Activity Number: ESP-IER1DOH-LMI

Activity Title: Energy Grid Rehab and Recon ER1 LM

Activity Type:

Electrical power system improvements

Project Number:

Infrastructure ER1 B-18-DE-72-0001

Projected Start Date:

08/05/2022

Project Draw Block by HUD:

Not Blocked

Activity Draw Block by HUD:

Not Blocked

Block Drawdown By Grantee:

Not Blocked

National Objective:

Low/Mod: Benefit to low- and moderate-income persons/families

Benefit Report Type:

Area Benefit (Census)

Ancillary Activities

None

LMI%:

Proposed budgets for organizations carrying out Activity:

Responsible Organization

Puerto Rico Department of Housing

Organization Type

State Agency

Proposed Budget

\$ 350,000,000.00

Location Description:

Improvement of electrical power system throughout the island.

Activity Description:

The purpose of this program is to maximize the benefit of federal grant programs by positioning CDBG-DR as the ideal local match program to other federal funding streams. This approach will relieve the financial burden related to the recovery efforts of Puerto Rico's Electrical Grid and Puerto Rico's long-term infrastructure resilience needs. Through the matching of funding provided by other federal agencies, critical infrastructure needs will be addressed making the Island more adaptable to changing conditions and able to withstand and recover rapidly from disruptions caused by future disasters.



At this time, most long-term reconstruction projects are still in preparation. As a result, the exact amount of CDBG-DR funds necessary to meet the entire universe of non-federal match requirements is still being assessed. PRDOH will collaborate with COR3 on long-term natural hazards resilience strategies and how infrastructure investments align with other planned Puerto Rican or local capital improvements.

Environmental Assessment:

Environmental Reviews: None

Activity Attributes

Disaster Type: Hurricane

Activity Supporting Documents: None



Grantee Activity Number: ESP-IER1DOH-UN

Activity Title: Energy Grid Rehab and Recon ER1 UN

Activity Type:

Electrical power system improvements

Project Number:

Infrastructure ER1 B-18-DE-72-0001

Projected Start Date:

08/05/2022

Project Draw Block by HUD:

Not Blocked

Activity Draw Block by HUD:

Not Blocked

Block Drawdown By Grantee:

Not Blocked

National Objective:

Urgent Need: A community development need having a particular urgency because existing conditions pose a serious and immediate threat to the health and welfare of the community

Activity Status:

Planned

Project Title:

Infrastructure Energy Program ER1

Projected End Date:

08/05/2028

Project Draw Block Date by HUD:

08/06/2028 by Steven Edwards

Activity Draw Block Date by HUD:

08/06/2028 by Steven Edwards

Total Budget: \$ 150,000,000.00

Most Impacted and Distressed Budget: \$ 150,000,000.00

Other Funds: \$ 0.00

Total Funds: \$ 150,000,000.00

Benefit Report Type:

Area Benefit (Census)

Ancillary Activities

None

LMI%:

Proposed budgets for organizations carrying out Activity:

Responsible Organization

Puerto Rico Department of Housing

Organization Type

State Agency

Proposed Budget

\$ 150,000,000.00

Location Description:

Improvement of electrical power system throughout the island.

Activity Description:

The purpose of this program is to maximize the benefit of federal grant programs by positioning CDBG-DR as the ideal local match program to other federal funding streams. This approach will relieve the financial burden related to the recovery efforts of Puerto Rico's Electrical Grid and Puerto Rico's long-term infrastructure resilience needs. Through the matching of funding provided by other federal agencies, critical infrastructure



needs will be addressed making the Island more adaptable to changing conditions and able to withstand and recover rapidly from disruptions caused by future disasters.

At this time, most long-term reconstruction projects are still in preparation. As a result, the exact amount of CDBG-DR funds necessary to meet the entire universe of non-federal match requirements is still being assessed.

PRDOH will collaborate with COR3 on long-term natural hazards resilience strategies and how infrastructure investments align with other planned Puerto Rican or local capital improvements.

Environmental Assessment:

Environmental Reviews: None

Activity Attributes: None

Activity Supporting Documents: None

Project # / Infrastructure ER2 B-18-DE-72-0001 / Infrastructure Energy



Grantee Activity Number: ESP-IER2DOH-LMI

Activity Title: Electric Power Resilience ER2 LM

Activity Type:

Electrical power system improvements

Project Number:

Infrastructure ER2 B-18-DE-72-0001

Projected Start Date:

08/05/2022

Project Draw Block by HUD:

Not Blocked

Activity Draw Block by HUD:

Not Blocked

Block Drawdown By Grantee:

Not Blocked

National Objective:

Low/Mod: Benefit to low- and moderate-income persons/families

Benefit Report Type:

Area Benefit (Census)

Ancillary Activities

None

LMI%:

Proposed budgets for organizations carrying out Activity:

Responsible Organization

Puerto Rico Department of Housing

Organization Type

State Agency

Proposed Budget

\$ 921,484,326.00

Location Description:

Improvement of electrical power system throughout the island.

Activity Description:

The Electrical Power Reliability and Resilience Program (ER2) provides assistance to applicants and subrecipients to create electrical system reliability and resilience. The program will serve the needs of communities by funding projects that are not currently anticipated to be funded from other federal or local sources. For construction activities, the awardee or subrecipient must agree to budget the operations and maintenance activities for the long-term sustainability of the electrical power system improvements. These multi-year budgets for operations and maintenance will apply for the useful life of the improvement or



enhancement. Projects must demonstrate leverage, with the ER2 award consisting of not more than 60% of the proposed project cost, depending on the size and scale, and other factors of the project, as it will be outlined in the Program Guidelines. Publicly owned projects may receive an award up to 100% of the proposed project cost. Program funds will be provided for infrastructure and physical assets that qualify as Electrical Power System Improvements. Projects are encouraged to integrate energy assets and contribute to the diversification of energy resources. Projects pursued as Microgrids shall conform to the Microgrid Regulations, as approved by the Puerto Rico Energy Bureau (PREB). 198 Projects will be evaluated to identify opportunities for alignment with efforts to increase energy efficiency. PRDOH anticipates that approximately 80% of projects funded under ER2 will qualify as Other sources of power, distributed energy, microgrids components. PRDOH understands the importance of proper land-use, so projects proposed as solar farms may only be allowed in accordance with permissible land-use, permits and applicable zoning regulations. PRDOH will seek opportunities to utilize brownfields and the built environment as per EPA guidance and recommendations. PRDOH may use procurement methods in accordance with PRDOH policies and procedures. Additionally, PRDOH may utilize direct and subrecipient selection methods in accordance with its policies and procedures and Program Guidelines. Eligible activities to be outlined in the Program Guidelines may include, but are not limited to, the range of eligible activities allowable under PREB microgrid and renewable energy regulations such as renewable, hybrid, and combined heat and power (CHP) microgrids or mini-grids, and electric power based on solar energy to foster distributed power generation (DGs). Potential models may include business structures such as Community Solar, Energy Wheeling, Power Purchase and Operating Agreements (PPOA), Private Utility, or other business models approved by PREB. To strengthen coordination with other relevant governmental agencies of Puerto Rico, PRDOH may work closely with those relevant governmental agencies in the review of potential activities.

The ER2 Program allocation will be used for the following:

*The strategic selection of eligible projects of public benefit selected by PRDOH and other critical stakeholders; and/or

*The competitive selection of eligible projects proposed by eligible entities through an application process.

Environmental Assessment:

Environmental Reviews: None

Activity Attributes: None

Activity Supporting Documents: None



Grantee Activity Number: ESP-IER2DOH-UN

Activity Title: Electric Power Resilience ER2 UN

Activity Type:

Electrical power system improvements

Project Number:

Infrastructure ER2 B-18-DE-72-0001

Projected Start Date:

08/05/2022

Project Draw Block by HUD:

Not Blocked

Activity Draw Block by HUD:

Not Blocked

Block Drawdown By Grantee:

Not Blocked

National Objective:

Urgent Need: A community development need having a particular urgency because existing conditions pose a serious and immediate threat to the health and welfare of the community

Activity Status:

Under Way

Project Title:

Infrastructure Energy Program ER2

Projected End Date:

08/05/2028

Project Draw Block Date by HUD:

08/06/2028 by Steven Edwards

Activity Draw Block Date by HUD:

08/06/2028 by Steven Edwards

Total Budget: \$ 394,921,854.00

Most Impacted and Distressed Budget: \$ 394,921,854.00

Other Funds: \$ 0.00

Total Funds: \$ 394,921,854.00

Benefit Report Type:

Area Benefit (Census)

Ancillary Activities

None

LMI%:

Proposed budgets for organizations carrying out Activity:

Responsible Organization

Puerto Rico Department of Housing

Organization Type

State Agency

Proposed Budget

\$ 394,921,854.00

Location Description:

Improvement of electrical power system throughout the island.

Activity Description:

The Electrical Power Reliability and Resilience Program (ER2) provides assistance to applicants and subrecipients to create electrical system reliability and resilience. The program will serve the needs of communities by funding projects that are not currently anticipated to be funded from other federal or local sources. For construction activities, the awardee or subrecipient must agree to budget the operations and



maintenance activities for the long-term sustainability of the electrical power system improvements. These multi-year budgets for operations and maintenance will apply for the useful life of the improvement or enhancement. Projects must demonstrate leverage, with the ER2 award consisting of not more than 60% of the proposed project cost, depending on the size and scale, and other factors of the project, as it will be outlined in the Program Guidelines. Publicly owned projects may receive an award up to 100% of the proposed project cost. Program funds will be provided for infrastructure and physical assets that qualify as Electrical Power System Improvements. Projects are encouraged to integrate energy assets and contribute to the diversification of energy resources. Projects pursued as Microgrids shall conform to the Microgrid Regulations, as approved by the Puerto Rico Energy Bureau (PREB).¹⁹⁸ Projects will be evaluated to identify opportunities for alignment with efforts to increase energy efficiency. PRDOH anticipates that approximately 80% of projects funded under ER2 will qualify as Other sources of power, distributed energy, microgrids components. PRDOH understands the importance of proper land-use, so projects proposed as solar farms may only be allowed in accordance with permissible land-use, permits and applicable zoning regulations. PRDOH will seek opportunities to utilize brownfields and the built environment as per EPA guidance and recommendations. PRDOH may use procurement methods in accordance with PRDOH policies and procedures. Additionally, PRDOH may utilize direct and subrecipient selection methods in accordance with its policies and procedures and Program Guidelines. Eligible activities to be outlined in the Program Guidelines may include, but are not limited to, the range of eligible activities allowable under PREB microgrid and renewable energy regulations such as renewable, hybrid, and combined heat and power (CHP) microgrids or mini-grids, and electric power based on solar energy to foster distributed power generation (DGs). Potential models may include business structures such as Community Solar, Energy Wheeling, Power Purchase and Operating Agreements (PPOA), Private Utility, or other business models approved by PREB. To strengthen coordination with other relevant governmental agencies of Puerto Rico, PRDOH may work closely with those relevant governmental agencies in the review of potential activities. The ER2 Program allocation will be used for the following:

- *The strategic selection of eligible projects of public benefit selected by PRDOH and other critical stakeholders; and/or
- *The competitive selection of eligible projects proposed by eligible entities through an application process.

Environmental Assessment:

Environmental Reviews: None

Activity Attributes: None

Activity Supporting Documents: None

Project # / Planning B-18-DE-72-0001 / Energy Program Planning



Grantee Activity Number: ESP-PLNDOH-NA

Activity Title: Energy Program Planning

Activity Type:

Planning

Project Number:

Planning B-18-DE-72-0001

Projected Start Date:

08/05/2022

Project Draw Block by HUD:

Not Blocked

Activity Draw Block by HUD:

Not Blocked

Block Drawdown By Grantee:

Not Blocked

National Objective:

Not Applicable (for Planning/Administration or Unprogrammed Funds only)

Benefit Report Type:

NA

Activity Status:

Under Way

Project Title:

Energy Program Planning

Projected End Date:

08/05/2028

Project Draw Block Date by HUD:

08/06/2028 by Steven Edwards

Activity Draw Block Date by HUD:

08/06/2028 by Steven Edwards

Total Budget: \$ 19,323,470.00

Most Impacted and Distressed Budget: \$ 19,323,470.00

Other Funds: \$ 0.00

Total Funds: \$ 19,323,470.00

Ancillary Activities

None

Proposed budgets for organizations carrying out Activity:**Responsible Organization**

Puerto Rico Department of Housing

Organization Type

State Agency

Proposed Budget

\$ 19,323,470.00

Location Description:

The planning activities for this fund will be carried at the Puerto Rico Department of Housing located in San Juan, Puerto Rico.

Activity Description:

On the Planning side, electric vehicles will quickly become an important consideration for the Island energy improvements. DDEC outlined an initiative for a three-phase approach to planning for EV integration, including research and planning, an infrastructure deployment program, and community engagement and education. PRDOH will fund these activities under the planning funds, starting with Phase one (1) for Research and Strategic Planning, and funding Phases two (2) to three (3) upon successful completion of Phase one (1), while



also allowing DDEC to explore funding options through DOE or other sources.

Environmental Assessment:

Environmental Reviews: None

Activity Attributes: None

Activity Supporting Documents: None

Action Plan History

| Version | Date |
|----------------------|-------------|
| B-18-DE-72-0001 AP#3 | 07/28/2023 |
| B-18-DE-72-0001 AP#2 | 06/14/2023 |
| B-18-DE-72-0001 AP#1 | 09/29/2022 |

