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Secretary
Puerto Rico Housing Department
Box 21365
San Juan, PR 00936-3188

Subject: ***Community Development Block Grant – Mitigation (CDBG – MIT)***
Puerto Rico Mitigation Action Plan
Amendment One (Substantial)
Comments and Recommendations

Dear Secretary Rodriguez:

To all staff of the Puerto Rico Department of Housing (**PRDOH**), and to you, please, receive a cordial greeting from the *Puerto Rico Builders Association* (**PRBA**). As is well-known, the PRBA has been instrumental in the transformation and recovery of our treasured Puerto Rico. First of all, we would like to express our gratitude to the Government of Puerto Rico, particularly to the PRDOH for the opportunity to contribute to such significant endeavor. As you well know, the impact of the hurricanes Irma and María destroyed our neighborhoods. We knew from the beginning that this was going to be a long journey, but the most important is that we have the commitment.

At this historical juncture, we would like to present our comments and suggested recommendations to the First Amendment (Substantial) of the Puerto Rico Mitigation Action Plan (**Action Plan**) under the Community Development Block Grant – Mitigation (**CDBG-MIT**), published for public comments on July 19, 2022. Given the enormous long-term and short-term impact that the housing sector has on Puerto Rico's economy, we recommend that more investment and programs be put in place to incentivize well-planned, economically resilient housing developments (i.e. multi-family, elderly, mixed-income/mixed-finance, among others).

As described on the *Study of Situation of the Housing Industry in Puerto Rico*, commissioned by the PRBA in 2018, the housing sector contributes to economic growth on the construction investment and consumer spending side, through growth in housing, maintenance, and associated supply chains. Housing-related consumer spending (including utilities) accounted for 27.5% of personal consumption expenditures in fiscal 2016. This does not include construction activity. Housing also, contributes to household wealth and asset accumulation. This exerts an influence on poverty and social mobility patterns, and impacts consumption levels. In the case of Puerto Rico, housing has contributed to the impoverishment of property owners.

The development of safe and affordable housing also greatly and positively impacts, household health, success at school and increased economic potential across all income classes. Also, it impacts the labor market, as all workers need some type of housing to carry out their work efficiently. Given the significance of the housing sector, we recognize many potential areas of opportunity, as addressing the need of rental housing for our working class, and young professionals.

In the housing sector in particular, there are opportunities for the inclusion of programs/initiatives already supported by the U.S. Department of Housing and Urban Development (**HUD**). An example is the Choice Neighborhoods Program. The Choice Neighborhoods Program leverages significant public dollars to support locally driven strategies that address struggling neighborhoods with distressed housing through a comprehensive approach to neighborhood transformation. This Program helps communities transform entire neighborhoods by revitalizing redeveloping housing and catalyzing critical improvements in the neighborhood, including vacant property, housing, businesses, services, and schools. With the integration of this type of initiative, the PRDOH – alongside private developers, will address the high need for affordable housing and housing for all income classes through neighborhood transformation/redevelopment. This is a great contribution that relies on the transformative effect of mixing income classes within a community, and which lays the foundation for development for the next thirty years. Accordingly, we encourage the PRDOH to identify funds to be reallocated to make this housing and community redevelopment approach feasible. Also, it is urge to PRDOH to eliminate restrictions in terms of maximum rents, as this will vary per project, based on the type and financial structure, this shall be based on a case-by-case basis.

None of the currently housing programs under the CDBG-MIT portfolio incentivize the well-planned, economically resilient housing developments, concentrating poverty and leaving many neighborhoods and communities at a disadvantage for long-term health and success. We recommend to the PRDOH to incentivize this type of developments under the current programs, and identify additional funds to fund additional transformative housing projects that focus and are related into infrastructure investments. In this way, we will continue to address the unmet needs, and redevelop the many communities impacted by the disasters.

We want to emphasize our commitment to the recovery of Puerto Rico. We respectfully submit for your consideration our comments and recommendations to the Action Plan. Nevertheless, it is our position that these recommendations merits further detailed analysis. As we have done since the beginning of the disaster recovery, we put the invaluable group of professionals that we represent at the disposal of PRDOH to continue developing the proposals included here, until the same being implemented. The PRBA is focused on contributing, together with the Government, private entities, and non-profit organizations towards the planned and safe redevelopment of our communities.

Respectfully,

PUERTO RICO BUILDERS ASSOCIATION

Vanessa de Mari-Monserrate, AIA
Chairwoman

Comments to CDBG-MIT Action Plan

Barrio Eléctrico has read the Community Development Block Grant Action Plan for Disaster Mitigation in Puerto Rico ("Action Plan") issued by the Departamento de Vivienda (Vivienda) and is grateful for the opportunity to offer the following responses and comments. We offer a few general observations and focus on the Programs for Community Installations for Power and Water.

Barrio Eléctrico is highly supportive of the Action Plan's guiding principles, which seek to reduce the potential for loss of life and catastrophic failures through sustainable investments by both public and private sources. Our responses to the Action Plan therefore focus on how to ensure that the funded Programs have the right foundations and structure to ensure the outcomes are sustainable. Through a truly sustainable investment plan, private funding from impact investors will follow.

Sustainable investment requires more than an investment in the technology and infrastructure. It requires an investment in the people who will be using and benefiting from it. This Action Plan correctly identifies the weaknesses in the physical infrastructure of Puerto Rico, without acknowledging or proposing how it will capitalize on the valuable asset represented by Puerto Rico's population.

The human factor in sustainability necessitates that the Action Plan require co-investment by the homes and families who will be receiving money and/or goods and services through the CDBG-MIT funds. Rather than gifting households equipment and services that will function as a finite supplement to the island's electric utility issues, individuals and families should be empowered to participate in and sustain alternative energy services by accessing them at affordable rates. In addition, community capacity building is also critical to support today's investment as a solid foundation for the investment of tomorrow. Program funding should be set aside specifically for community organizing and capacity building, which will support and lead the participating families in their journey to a more robust energy future. It will also promote the ripple effect of economic development in the community resulting from investments on a home-by-home basis.

The Action Plan should also offer details regarding how it will administer the programming and disbursement of funds. Barrio Eléctrico is concerned that the plan for recruiting beneficiaries and implementing the Community Installations for Power and Water will be exclusively in the discretion of the chosen programming administrators. The details of how to recruit and prioritize expenditure of these funds is an important factor in sustainability of the investment, which will demonstrate strongest outcomes most immediately by triaging the most vulnerable cases. The Action Plan should know and define how administration of the programs will reach low and moderate-income (LMI) households, who also tend to be the families most in need of help to access

the programming and benefits. To that end, the Action Plan should reinstate the priorities for the proposed programming of LMI communities and homes.

Finally, and most importantly, Barrio Eléctrico is highly supportive of the Action Plan's embracing investment in distributed energy resources, and the goal of making that investment data-driven. We believe that distributed energy resources as a means to rebuild a more resilient energy infrastructure will have much broader implications. This "grass-roots" rebuilding is the most sustainable in that it represents a direct connection with and investment in the end-user of the resource, which has economic development potential for the household and the community in which it resides. That direct interaction is how you obtain the data, analyze outcomes, and correct course as needed. Program funding should be directed at methods of implementation that include community groups, municipalities, and non-governmental and not-for-profit organizations like Barrio Eléctrico. These organizations are driven by missions that demand the investment of the CDBG-MIT funds be nothing less than long term and sustainable, and will support the investments with data gathering and accountability.

In the pages that follow we elaborate on our recommendations and aspirations for the important activities and spending to be accomplished pursuant to the Action Plan. As an organization committed to a more equitable and resilient energy future for Puerto Rico, we look forward to working with Vivienda to manifest the intents and purposes of the CDBG-MIT funds.

I. About Barrio Eléctrico

Barrio Eléctrico is a not-for-profit organization operating exclusively in Puerto Rico. Our mission is to recreate electric service in Puerto Rico so that it is equitable, clean, affordable, and reliable.

Founded after Hurricanes Irma and Maria in 2017, our organization is bringing impact investment to Puerto Rico's energy future to create a distributed energy infrastructure. We advocate for distributed energy as the most robust and resilient energy infrastructure for Puerto Rico and – most importantly – the most equitable and environmentally and economically sustainable.

Barrio Eléctrico organizes community energy market places that prioritize accessible solar and energy storage for low- and moderate-income (LMI) households. Our vision is to organize communities into a local, networked group of solar adopters who have experience using home energy and who offer each other mutual support to sustain performance and operation of that technology. In our vision, that experience translates into localized capacity and the community-based institution needed to create future transactive energy markets enabled by microgrids.

We have launched our first project in the Municipality of Isabela, where we offer free home energy assessments to participating families. We help families who can benefit from home solar systems and energy storage afford that equipment under energy services contracts, providing

resiliency in the wake of power outages and natural disasters where people need it most: in their homes. We partner with the Municipality and local community groups to extend our reach, and to create an enduring network of energy intelligent residents prepared for the next stage of investment in their collective energy future.

II. General Comments

A. Resiliency and Energy Justice for Puerto Rico Demands Distributed Energy

The Action Plan correctly identifies on page 129 that the electricity infrastructure in Puerto Rico is highly vulnerable because it relies on large, centralized generation plants to serve the population. Two clustered power plants serve 60-70% of the demand in Puerto Rico, and the electricity reaches that load through limited transmission line service that is itself susceptible to storm damage. The Action Plan also correctly acknowledges that these large generation plants rely on fossil fuels that must be imported. The electric utility's dependence on energy resources supplied from off the island further compound the potential that these generation plants will not be available to meet power demand.

A distributed network of solar-powered generation, backed by energy storage, is the most direct and effective way to meet the electric service goal of resiliency set forth by the Action Plan and Vivienda. It is also the most expedient and cost-effective equipment to satisfy the energy justice goals espoused by the Biden administration and adopted by his executive branch, including the U.S. Department of Housing and Urban Development.

1. Distributed energy resources are the cost effective, expedient route to robust energy infrastructure that has social benefits.

First, electric resiliency relies on the principle of multiple, redundant nodes – for power generation, transmission and distribution, and all of the communication and safety electronics that enable power production and delivery. Myriad independent, residential generation resources, with critical concentrations in population pockets, creates the redundancy necessary to resist power outages forced by violent acts of nature.

Investment in small solar+storage systems for multiple homes in a community is also economically resilient. With time comes strong winds of change. The sum of micro-investment is greater than its individual parts because it allows a funding trajectory that keeps pace, and can change course, with the rapidly evolving and improving technology. Each micro-investment in home energy resources also offers a payback period of years rather than decades, allowing for earlier replacement of next-generation technology. In the immediate term, these energy investments support the economic viability of the home and local community so that the community has resources of its own to contribute to the next stage of investment in the energy infrastructure. Conversely, a large funding commitment to central plant generation represents a single purchase for a decades-long commitment to technology, fuel sources, and regional

demographics, and to the related price volatility and maintenance burdens. These investments often do not survive the winds of change. Moreover, the beneficiaries of that central plant investment will have to wait multiple years for it to manifest in an operating plant.

Second, the goal of energy justice also requires a more rapid and direct response to those who are most affected by the quality of electric utility service in Puerto Rico. Over 200,000 homes, many concentrated in small communities, were without power for more than 5 months after Hurricane Maria.[1] Many who today rely on the restored utility service live with unpredictable outages and destructive voltage fluctuations, at high prices. The combination of residential solar systems with energy storage is a well-tested, reliable technology that produces high quality and reliable power. Programs like Barrio Eléctrico's prove it can also be affordable.

From the community perspective, an investment in distributed solar and storage that serves people in their homes creates resiliency and energy justice from the first moments of its roll-out. Distributed generation within a community allows for prioritization of people who are in most critical need of improved electric service. The investment also offers energy stability for the homes with systems, allowing them to live and work from their homes without unpredictable electricity disruptions. In addition, it enables cost stabilization of electric service within a reasonable planning horizon for the home, i.e., years, rather than decades.

Communities also benefit from a critical mass of residential solar+storage adoption, which crates power redundancy among neighbors. Individuals with experience with the energy resource and related technology are empowered to converse and debate about the technologies' supply and market transaction capabilities. Community energy hubs have a role in the energy infrastructure. However, they build energy intelligence and capacity only among a small group responsible for their operation and maintenance. Widespread energy intelligence within a community is necessary to manage decision-making around the next stage of infrastructure investment. That next stage of investment is likely to involve microgrids with digitization and wire conditions, as well as an energy market place with rules. Distributed energy resources offered through programs like Barrio Eléctrico, which support the entire community in adoption of solar+storage systems, ensure that community capacity building is a byproduct of the investment in residential systems.

2. A commitment to central plant reconstruction risks waste and negative externalities.

Building large facilities is an exercise in rebuilding a vulnerable system, because outage of just one power plant or major transmission line undermines recovery after a major storm. The time to

[1] Castro-Sitiriche, Marcel J., "Boricua Energy Justice: The Problem with 'Gridy' Solutions" at 4, AEG Thought Summit 2022 (Feb. 23, 2022). Dr. Castro-Sitiriche is a member of the Electrical Engineering Department faculty at University of Puerto Rico Mayagüez, Co-Director of the Centro Hemisférico Cooperación en Investigación y Educación en Ingenieria y Ciencias Aplicada, and a contributing researcher to multiple energy policy and technology think tanks and advocacy organizations in Puerto Rico. He is also a board member of Barrio Eléctrico.

construct these large generation plants and high-voltage lines compounds the vulnerability of the weak system in place today by requiring its customers to wait for the rebuilding and hope it completes before the next natural disaster. The cost of large generation and major transmission lines extends beyond an irreversible commitment of billions of dollars. It includes environmental degradation from construction and maintenance of long transmission lines. It translates into economic harm for Puerto Rico by taking productive land out of service to support generation, including large solar farms. Finally, investment in the expensive digital control system that must be implemented to manage the central plant and long-distance delivery could be shorter-term than contemplated, as more people take advantage of the declining cost of distributed energy and look to the utility service only for intermittent service and back-up power.

The greatest negative externality is inequity. A large investment cannot offer incremental and expanding improvements. Instead, it must be orchestrated and delivered as a unified solution. LMI homes must live with a non-resilient grid and lower service reliability, while those with greater means adopt home energy resources sooner. It also poses a higher potential that Puerto Rico will use expedience or political horse-trading as justification to build generation that relies on fossil fuels. Any potential for power generation in Puerto Rico to rely on imported fuel unnecessarily poses a risk of unfair and unnecessary vulnerability to fuel imports, as well as damage to the island's air quality. Distributed resources are much more likely to be technology that relies on renewable and clean energy sources, like solar and biofuels, that are available locally and without disruption. Clean, distributed power from local, renewable energy supplies is a more immediate and just energy solution for Puerto Rico.

B. Sustainability Is the Primary Factor in Determining How to Allocate the CDBG-MIT Funds

Barrio Eléctrico agrees with the holistic priorities established by the Action Plan, at page 308, for designing the mitigation programs: prevention of loss of life and catastrophic infrastructure and system failures, and sustainable investments that leverage private investment.

"Sustainability," is a multi-dimensional concept. It signifies an investment that is (a) physically enduring, and that also creates (b) the economic stability needed to maintain and build upon its foundation and (c) the environmental stewardship that ensures the long-term well-being of its users. Leveraging private investment is a critical factor in achieving all meanings of a sustainable investment. Indeed, leveraging private sector investment with social intent – but managed for reasonable returns and risk shared by both the public and private sector – is how the electric industry took root from it very beginnings. This managed balance remains relevant to rebuilding the electric sector for just and equitable modern electric service.

1. A sustainable investment is one that endures to support a long-term vision.

For an investment to be physically enduring it must be grass-rooted. Investment under this Action Plan must therefore be directed at capacity building as close to the communities and

individual beneficiaries as possible. It should seek to avoid creating or bolstering institutions or super-structures that are removed from the beneficiaries or that cease to be relevant once the funds are spent.

Distributed energy is enduring because it is an investment that happens over time and therefore becomes time-tested. It allows the investment to take shape with different technologies and market models in different locations. The investment commitment is incremental, allowing for lessons learned and course corrections that ensure wise decision-making behind equipment investment. It also avoids irreversible and large commitments to technology that disappoints expectations or does not endure changes in demographics, policy, or customer preferences.

Distributed energy investment is also enduring in that it is the tool for building the much-needed capacity within communities to influence the future of their electric service. Technology within the control of the individual families allows them to learn from the experience of using it. With this energy intelligence, families within a community can influence decision making about future investment and how it will benefit individuals and their community. Community groups that in turn aggregate this energy intelligence become the social solidarity and institutions that guide and govern those future investments. Building this capacity within the communities is as important as distributing the energy resources. It empowers the community to advance the infrastructure to meet their needs beyond the initial technology investment, and to do so with minimal or no external intervention.

2. A sustainable investment is one that is economically sensible and reinforces the local economy.

Distributed energy is economically sustainable. The first energy resource installed in a community represents a micro-investment with immediate, community-wide effects on economic stability. It provides an accessible, reliable energy node. Prioritizing homes with the most deficient electric service as "first-in-line" promotes the strongest outcome because it simultaneously reduces the costs and burdens of catastrophe and recovery efforts that must extend to hard-to-reach populations. With every additional distributed energy resource, community energy resiliency and reliability increases, while simultaneously establishing a reasonable level of service for all.

Widespread electric reliability contributes to economic viability within a community, increasing that community's potential to support itself. These economic benefits are bolstered by a series of investments over time rather than single investment for a long-term horizon. The Action Plan should seek to avoid expenditures that are large and may be regretted later for eliminating funds for follow-on investment. Large central generation plant investments, or microgrids without proper initial data gathering and feasibility studies, represent an investment with the high uncertainty of several decades into the future. Alternatively, investing in distributed energy resources across a community has immediate benefits while also being an incremental commitment over time. And during that time, communities grow and build capacity and strength.

As the incremental investment moves forward and corrects course as needed, the communities can step in and participate – potentially in a way that allows future investment to flow back to the community rather than to equipment and service providers who reside off-island.

3. A sustainable investment is one that is mindful of the environment.

Distributed energy in the form of solar+energy storage, or technologies that rely on other renewable fuels that can be sourced within Puerto Rico, is also critical to sustain the precious natural resource that is the island of Puerto Rico. Locating energy supply on rooftops, and electric delivery between already-developed real estate, avoids disruption and destruction of productive land or natural habitats. Renewable fuels that are clean burning preserves the air and water quality that the abundantly productive land and waters of Puerto Rico need to be healthy and thrive.

4. A sustainable investment must leverage people to leverage private capital.

Since its earliest days, energy infrastructure has been built with private investment in large, capital-intensive equipment, coupled with public investment and risk sharing. Private and public cost and risk sharing as an investment model remains relevant and powerful, but electric services technology has undergone a huge fundamental shift: The technology is no longer exclusively controlled by the providers of capital and the relatively small group of experts who build and operate the equipment. In the modern world, the technology and how it is deployed is increasingly within the control of the end-user.

Modern electricity infrastructure involves many persons – the electricity customers – each independently making decisions about how the power equipment is used deployed. Thus, the capital investment in the technology must also invest in the people using and controlling it. Impact investors seeking a cleaner, more resilient, more equitable energy future for all are looking for projects and programs that understand how critical the human factor is to the investment's success.

A successful investment in electricity users is one in which they participate in the solution. From the perspective of monetary investment, gifting energy resources to end-users makes those recipients victims of a short-sighted aid model. Instead, end-users should be seen as co-investors who are expected to contribute their own wherewithal and stewardship to making the technology work for them. Barrio Eléctrico is an example of a program that is shaped around stakeholder engagement. Adopters of a Barrio Eléctrico system are required to pay for their electricity, although at subsidized, affordable prices. They also must participate in their local Barrio Eléctrico-supported community group for system operational support. The group participation is a means to reinforce system benefits and maintain engagement on current trends in energy technology and policy. Importantly, it also generates social cohesion and solidarity. The human factor ensures longevity of the initial technology investment, as well as its use as a foundation to the next round of investment in energy stability and security.

III. Comments on the Program for Community Installations for Resilient Power and Water

A. Water and Energy Resiliency Improvements in the Home

Barrio Eléctrico applauds Vivienda and its Action Plan for recognizing that resilient infrastructure requires resilient homes. Barrio Eléctrico's support to families seeking resilient power systems begins with a free home energy assessment. Our program provides a comprehensive audit of the home and its energy consumption to evaluate energy efficiency and conservation opportunities, and to spot issues that could prevent successful adoption of solar+energy storage equipment. Our Informe Energético gives people detailed and personalized conclusions about their energy usage and needs. With this information, families understand and can predict how solar and energy storage will serve, or change, their daily consumption and fit within their budgets. So informed, they can make the decision as to whether adopting solar is the right choice for them.

Barrio Eléctrico's direct experience assessing homes in Puerto Rico has taught us that many who are seeking reliable, alternative energy services do not have capacity in their budgets for extraordinary expenses related to equipment installation. These expenses include tree trimming, roof repair, other home reconstruction or repair, and electrical upgrades required to physically and electrically protect the solar and energy storage equipment. Barrio Eléctrico's funding allows it to make small contributions for necessary pre-installation improvements to the families most in need of help. This monetary support usually does not – cannot – extend to much-needed weatherization of the home. Nor are the funds sufficient to cover replacement of essential appliances with energy efficient models or of those damaged by voltage fluctuations from the utility service. Most houses in Puerto Rico have not been constructed with design or materials for energy efficiency. Many homes in Isabela have lost hundreds of dollars in appliances due to power quality from the utility grid in the past twelve months or so.

In one example, a retired couple on a fixed income from social security – both with medical conditions that rely on electricity-driven devices for care – live in a house so badly damaged from utility voltage fluctuations that half of their electrical circuits do not function. The electrical repairs alone are over $1,000, and the couple has lost the use of multiple appliances. Their tight budget has prevented them from tackling the repairs, which also stretch the budget that Barrio Eléctrico maintains to support more minor site conditioning expenses. They are not alone in their neighborhood, where the electrical grid has caused similar problems for surrounding homes. Their needs do not require a $30,000 home improvement project. But a few thousand dollars could easily restore their electrical circuits, upgrade appliances to energy efficient models, solarize their water heater, and weatherize windows and doors. With these improvements, they can afford reasonably-priced energy services from a home solar+energy storage system and also maintain the habitability of their home through the next major storm and its aftermath.

We recommend that programs like Barrio Eléctrico's be eligible to apply directly and receive money under this Program allocation to support its members. Specifically, we ask that the Program include a mechanism for an entity like Barrio Eléctrico to aggregate eligible families and request Program funds on their behalf for the purposes that the Program intends. For homes seeking energy counseling and the potential for a residential home solar system, our staff provides energy and technology education and system financing in the form of electric services contracts. We manage for the family all aspects of the equipment installation, including identifying the need for site improvements and working with the family and professionals as needed to accomplish the upgrades. We also administer on behalf of our municipal partner a fund that subsidizes monthly electric services payments for families demonstrating need.

Our experience managing tight budgets and directing funds – including municipal funds – to serve our mission of accessible, clean, and reliable energy for all makes us an ideal intermediary for this program. At times, the information we provide to help a family make the right choice about meeting their energy needs results in recognition that a family's personal situation is incompatible with equipment installation. With our multi-home perspective on the range of issues provided by homes requiring upgrades or more energy efficient appliances, we have the data needed to identify priority cases and homes most in need of support. We also have the network of professional services to make the upgrades at a fair and affordable price. Working closely with our members, we can help them access this program funding and direct the dollars efficiently and effectively to valid home improvements expenditures within the Program's purposes, avoiding waste and allowing Program funding to stretch to serve more families.

We assume that this Program intends for funding to support home weatherization and energy efficiency upgrades in addition to more basic repairs needed for safe and proper installation of a distributed energy resource. With additional funding under this Program, Barrio Eléctrico can extend its support to Puerto Rican families in need of resilient energy to helping them make informed and reasoned choices about upgrades for a resilient and energy efficient home. We bring purpose and discipline to these decisions and the process of allocating the monetary resources. In this way, we ensure we extend help to the greatest number of families with needs that are within the scope of our mission of energy equity for Puerto Rico. As a recipient of funds under this Action Plan Program, we can ensure that priorities for the Program funds are met while providing, as a professional operation, accountability as to how the money was allocated and spent.

This is not a request to be a paid administrator for this Program. Rather, we are requesting eligibility to access this Program's funds and allocate the money to home improvements and upgrades that we have determined, in collaboration with our own program members, are necessary for resiliency.

Qualification of an entity to receive funds under this Action Plan Program must include an application and sensible eligibility criteria. The organization should have a mission directed at energy and water resources, in addition to the mission of serving LMI families. That mission must

be coupled with experience working with communities and families on issues of energy and water security. To the extent the organization requesting eligibility has a broader mission, eligibility for funding should require that the organization prioritize infrastructure equity and support of vulnerable and LMI homes.

Barrio Eléctrico also recommends that the Program reinstate eligibility factors for the families who receive funds under this Program. Our program prioritizes homes with 80% or less of area median income (80% AMI) in the communities where we work. We also prioritize families with elderly or very young persons; persons with medical conditions or in need of at-home health services; persons home all day to manage a household or provide care; and persons who earn their livelihood from the house. These are people vulnerable to a non-resilient home and to power outages. We make it possible to prioritize our spending to these neediest cases. We recommend that this Program likewise adopt a commitment to this prioritization to realize the energy justice that follows from doing so.

B. Incentive Program of $20,000 per Household for Resilient Power Systems

Through this Program, the Action Plan rightly identifies and sets asides public funding for rebuilding energy infrastructure that includes distributed energy resources. Distributed resources are the most resilient and allow people to be self-sufficient in their homes, and extend themselves to community members in need, after a storm. They are guaranteed to be fueled by renewable energy because that is the cost-effective option for a home energy resource today. They also build economic capacity and energy intelligence for communities, which will be faced with the collective choice about the future of their energy services.

Barrio Eléctrico recommends that the per household subsidy be less than $20,000 per home or be limited to a percentage of the cost of a home energy resource not to exceed $20,000. A home energy resource requires engagement and care from the end-user, which necessitates a co-investment by the family in the resource. In Barrio Eléctrico's experience and based on research of electricity demand in Puerto Rico, a budget of $20,000 per household is more than adequate to provide and install solar+energy storage equipment that meets the electricity demand of a majority of LMI families.[2] An overly generous per-home allocation will only reduce the efficiency of the Program and limit the number of households it can help.

In addition, Barrio Eléctrico requests that this Program deem entities like us to be eligible to receive funds for home energy systems. Our program could use the funding to further reduce the cost of our energy services contracts. Our mission and vision prioritize vulnerable households and families most in need of monetary support. We ensure that families receive right-sized energy systems that provide them the reliable power they need, without inflating equipment and related costs. We stretch funding by aggregating communities of solar adopters, which helps us reduce

[2] Castro-Sitiriche, Marcel J., "Boricua Energy Justice: The Problem with 'Gridy' Solutions" at 22, AEG Thought Summit 2022 (Feb. 23, 2022).

the cost of equipment. Our program also manages the work flow for local solar installer companies, ensuring a robust income stream for those professionals while reducing the installation cost per system. We also provide ongoing system support through our organized community groups, lowering the cost of service fees by lowering the cost of operation and maintenance. And our program, with its requirement of co-investment by the homeowner and its community-based support for the system operation and maintenance, creates an infrastructure that ensures longevity and reliable performance of the system. In short, supporting Barrio Eléctrico's program to procure and distribute energy resources ensures that the investment in that equipment is equitable and sustainable. Our professional administration also provides the accountability of fund allocation that this Program should demand.

Furthermore, we request that this Program allocate its dollars to programs like Barrio Eléctrico's where third party ownership of the system makes it accessible and affordable in Puerto Rico through energy services contracts. Relying on a sophisticated combination of federal tax credit incentives, impact investors, municipal participation, and other mission-driven funding organizations support Barrio Eléctrico's efforts to reach low- and moderate-income families in Puerto Rico with resilient home energy. This financing structure requires a period of third-party ownership of the energy systems in question – a structure that has been further encouraged through Congress's recent passage of the ground-breaking Inflation Reduction Act. We emphasize here that our program offers a multi-year commitment to the customer of rate-stabilized electricity. The rate is effectively subsidized to be approximately half of the rate of the current utility service. And this service offers greater reliability and resiliency, as well as system operation, maintenance, and warranty support. Our service contracts include rights of service renewal and purchase options designed to ensure that the equipment's use and operation remains in and with Puerto Rican families. If Barrio Eléctrico is eligible to apply for public funds available under this Program, it can further reduce the service contract costs and reach more families in need. It can also stretch the dollars available with efficient procurement and equipment sizing.

Finally, a program like Barrio Eléctrico's is ideal for funding allocations under this Program because it serves the Action Plan goal of leveraging private investment. Funds under this program, so allocated, represent a cost share with private impact investors. Under this cost share, public funding is essential to achieve the goal of more distributed energy systems to more families, but the impact investors rightfully share the cost and assume a risk of return on their investment.

In sum, directing funds to an organization like Barrio Eléctrico is ideal for ensuring that this Program's investment in distributed energy resources is truly impactful and encourages participation by private impact investors. We can prioritize the most vulnerable families. Our methods reduce cost, allowing funding to reach more families and homes in need. Our partnerships with community groups and municipalities build capacity that sustain the original investment for the long-term and create social benefits that the private investors seek. Most importantly, the energy services model reduces risk for the customer and public funder and allocates that risk to the private investor. Funding distributed energy resources through programs like Barrio Eléctrico

reflects the original public-private compact that built and operated most of the electricity infrastructure in the United States for over a hundred years. That compact is reimagined, however, for modern technology and for meeting goals related to climate and social equity.

Barrio Eléctrico also recommends that the Action Plan reduce the $1.5 million incentive for distributed energy for commercial concerns. The size of this incentive does not target small businesses, which are the life blood of all communities and critical to their economic viability. We recommend that the Program prioritize businesses and retail shopping outlets that need smaller projects. Larger projects, when sufficiently large, reflect investments in nodes that will serve utility grid generation and electrical support. Those types of installations contradict the policy of this Action Plan to focus attention away from utility infrastructure upgrades, which have access to separate funding sources. Consistent with prioritizing smaller commercial concerns for distributed energy resources, we also recommend that the Program reinstate prioritization of LMI and vulnerable communities and households.

C. Community Facilities Program

Barrio Eléctrico strongly urges that the Action Plan direct the funding under this Sub-Program exclusively to water and sanitation resources projects. Whereas distributed energy resources have communitywide implications and benefits, even when installed on individual homes, water resources must serve aggregated and co-located populations to be viable and sustainable. A reliable drinking water supply and robust sanitary sewage system is as important as reliable power, and many community water systems in Puerto Rico are in dire need of repairs, modernization, and more consistent and secure stewardship. Funding pledges of up to $2 million under this Program are right-sized for the minimum viable investment that these water systems require.

At the same time, we acknowledge that adequately supporting community water and sanitation often requires a reliable and independent power supply. For example, Barrio Eléctrico has worked with a community in Cayey that has been a successful steward of its local water resource. The community suffers, however, from poor electric service that undermines management of the aqueduct and distribution of the water to and throughout the homes of its community members. To the extent that proposed water resources projects include upgrades of supporting energy resources, we recommend that the Program deem distributed energy resources an eligible project expenditure.

We also urge the Program to deem community organizing for energy and water resilience to be, stand-alone, an eligible project. For investments in community-based resources to be successful and enduring, the communities must have the capacity and cohesion to manage those resources. Barrio Eléctrico invests in community activation on issues of energy resiliency and security while investing in the equipment. This investment takes the form of community outreach and education. It also includes capacity building among community leaders and recruiting of community group members to be subject matter experts on distributed energy technologies. We provide ongoing

support to the community groups in the form of money and other resources that help them follow technology trends and support their communities' existing and evolving energy infrastructure. These expenditures should be mandatory for any project that purports to be create and steward a community-based resource.

To the extent that this Program seeks to fund community energy projects, we urge the Program to broaden its scope of fundable facilities beyond proposed "microgrids." Barrio Eléctrico perceives its distributed energy resources combined with community-level investment in its supports as a community facility. Many communities are not yet ready for engineering and installation of a microgrid because the data for the feasibility studies and preliminary engineering is not available, and the existing energy infrastructure is not adequate to support it. The consequence is years of study and a much higher "site conditioning" expense – possibly duplicative to electric utility expenditures – to realize these projects.

Barrio Eléctrico's residential systems approach to community energy resiliency is more efficient on a cost-per-household basis, providing the right equipment for the household today. It also more immediately serves local energy demand and resiliency needs while simultaneously acting as a first step towards a future microgrid. Distributed energy resources provide load and supply data. They concentrate energy resources in a manner that helps anchor a future microgrid. They build energy intelligence among a group of people who will make the decisions about the size, scope, and energy-transaction rules of the microgrid to be implemented. They also provide a time horizon within which community capacity building can converge with technology evolution and price decreases, enabling communities to create microgrids with less outside intervention.

The Barrio Eléctrico approach of seeding "ground-up microgrids" by focusing first on distributed energy for household "nanogrids" also serves two important goals of HUD and this Action Plan.

First, HUD seeks to "[s]upport information-based investments in high-impact projects that will reduce the risks attributable to natural disasters, with a particular focus on the [risk of] repetitive loss of property and critical infrastructure." Our approach to community energy is highly data-driven. We are currently gathering data on use cases and demand. When our systems are in place and achieve critical concentrations in communities, we will have a consistent data stream of supply and demand at various locations. This information will be critical to planning and engineering robust local microgrids and understanding what market rules will promote efficient energy exchange. Moreover, we reduce risks of natural disasters more immediately by distributing equipment in a manner that creates energy redundancy within a community. Communities will more quickly achieve multiple nodes of renewable, resilient power that are not susceptible to simultaneous failure. Resilience in the home equates to resilience for the community, because more people in the wake of a disaster will be able to retain food supplies, keep their homes habitable, and rely less on public emergency response. This will reduce stress on emergency response resources and enable them to reach the most critical cases.

Second, HUD also seeks to "maximize the impact of available funds by promoting public-private partnerships and coordination with other federal programs." Barrio Eléctrico is already fully aligned with this objective. Our program currently relies on a mixed capital stack with multiple investor stakeholders. In addition to private investor funding that takes advantage of U.S. federal tax incentives, the Municipality of Isabela has partnered with us to provide critical resources. Through agreements with the Mayor ratified by the Municipal Legislature, Isabela provides in-kind resources such as warehouse space for logistics and, importantly, a Solar Energy Support Fund. Barrio Eléctrico's investor-subsidized systems fit within the budgets of most families at or below 80% of area median income. For households with very low incomes or pressure on their budgets due to extraordinary expenses such as medical care, the Isabela Solar Energy Support Fund provides additional subsidies to help pay for the energy services. This payment has a tradition in the use of municipal funds that help households in arrears with their utility bills with a one-time annual assistance payment. The subsidy for Barrio Eléctrico energy services should have a better outcome, however, in that it is ongoing support to help a family procure reliable, resilient kilowatt-hours at a much lower rate than the electric utility's, reducing that family's energy burden.

Barrio Eléctrico's model of impact investment coupled with municipal support has been received positively by other impact investors and philanthropic interests. Other interested parties could offer low-interest debt and debt guarantees to the capital mix, and also offer grants for capacity building with the municipalities and community groups. Municipalities are an important factor in this interest because they are critical to the overall success of the investment. Municipal governments are the first line of defense for families with acute needs. They also channel state and federal funding in a manner that ensures it lands where it is needed most, because they can identify and prioritize the cases of greatest vulnerability. Non-governmental organizations and cooperatives that form alliances with municipal governments can better address economic development as well, by receiving guidance on how to tap into a municipality's local population and align with its needs. We advocate that municipal governments feature more in the Action Plan spending and projects as the means to attract and leverage private investment. We also advocate more authority and decision-making power by the municipalities by avoding any restrictions to public-private partnership investment models that require intervention by a state agency or authority.

Thank you for this opportunity to comment.

/s/ Lauren Rosenblatt
Board Member, Acting CEO
lauren@barrioelectrico.com
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/s/ George (Jorge) Gaskins Alcott
President, Board of Directors
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August 19th, 2022

To: Hon. William Rodríguez
Secretary
Department of Housing
Commonwealth of Puerto Rico

RE: COMMENTS TO CDBG-MIT ACTION PLAN SUBSTANTIAL AMENDMENT

To the Honorable Secretary:

Comes now the Puerto Rico Chamber of Commerce (PRCC), Voice and Action of Private Enterprise in Puerto Rico to provide comment on the proposed CDBG-MIT Action Plan Substantial Amendment. PRCC represents over 500+ businesses in Puerto Rico.

A. General Comment

The exorbitant, and increasing, cost of grid energy in Puerto Rico, as well of the lack of quality and consistency of said utility power is a major barrier to business in the island. Puerto Rico businesses, and particularly small and medium business (*PYMES*) are the engine that drives Puerto Rico's job generation and economy, and their success and resilience must be secured. CDBG-MIT can be critical to improve that situation. Our comments focus on the $500 million program titled "COMMUNITY ENERGY AND WATER RESILIENCE INSTALLATIONS PROGRAM", particularly the solar plus storage incentive for businesses element, which we strongly support.

B. Specific Comments

1. Regarding "INCENTIVE" subprogram:

In pages 386-387 of the proposed CDBG-MIT Action Plan the proposed amended language intends to delete a "$1,500,000 per business" solar plus storage incentive. **PRCC strongly opposes deletion of this program**. We are now nearing the peak of the 2022 hurricane season, and PRCC has not observed either substantial grid improvements nor energy price stability, so this type of incentive is sorely needed.

PRCC, also requests specific stakeholder participation to land the details in Program Guidelines for this, and other incentives. For example, would this be a $1,500,000 per entity or per facility incentive, in case of multiple-facility business? PRCC is unaware of any stakeholder collaboration on topics like these.

2. PRCC is also supportive of more specific comments filed by SESA-PR, the expert entity that voices the particular concerns of the entities that do business in Puerto Rico in the solar and storage space, and defers to SESA-PR's policy expertise.

Yours,

Liza M. García Vélez, Esq.
Executive Director

cambiopr.org
POBOX 260025
San Juan, PR 00926

August 19, 2022

Puerto Rico CDBG-MIT Program
P.O. Box 21365
San Juan, PR 00928-1365

To Whom It May Concern:

CAMBIO PR appreciates the opportunity to provide comments on the CDBG-Mitigation Action Plan, as amended. Our comments focus on the Community Energy and Water Resilience Installations Program.

CAMBIO reiterates the importance and value of rooftop solar and storage systems in providing resiliency to households. Last 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, specifically 2.7 kW solar paired with 12.6 kWh storage.[1] 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.

CAMBIO provides the following specific comments:

- Regarding the Community Installations subprogram, we urge Vivienda to clarify that community-based systems could include individual household renewable energy systems that are installed as part of a collective, community effort. CAMBIO participated in a successful initiative in 2020 in which a group of homeowners collectively issued an RFP to select an installer for household solar and storage systems, resulting in an approximately 17% discount in price because of the bulk discount. We are aware of other organizations that have similarly organized bulk purchases to obtain better prices for solar and storage equipment. CAMBIO has received inquiries from other communities that are interested in bulk purchase projects, and the CDBG-MIT funds, if

[1] https://cambiopr.org/solmastechos

structured properly, could provide an important vehicle for extending this model to low-income communities.

- Regarding the Community Installations subprogram, we urge Vivienda to include upgrades or repairs of existing community-based energy systems in low-income communities as eligible for funding. It is important that existing energy projects in low-income communities be able to continue providing reliable power to the communities they serve.
- Regarding the Community Installations subprogram, we urge Vivienda to retain these original prioritization categories that were deleted in the Amended Action Plan: "communities with fifty-one percent (51%) LMI beneficiaries" and "Communities with high risk energy and water security."
- Regarding the Home Energy Resilience Improvements subprogram, we urge Vivienda to ensure that eligible participants are not deterred by a complicated process to demonstrate their eligibility.

Thank you for this opportunity to submit our comments.

Cordially,

Ingrid Vila-Biaggi, President and Co-Founder

Cathy Kunkel, Energy Program Manager

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12 de agosto de 2022

Fondos CDBG-DR
Plan de Acción CDBG-MIT
Enmienda 1 (Sustancial)
Departamento de la Vivienda
Gobierno de Puerto Rico
San Juan, P.R.

RE: Comentarios enmienda a la parte D: Proyectos Propuestos de Mitigación para inclusión de la comunidad de la Urbanización Sierra Berdecía en Guaynabo en el proyecto Núm. MAG-002MIT

Estimados señores:

Por este medio deseo someter mis comentarios para que se incluya la comunidad de la Urbanización Sierra Berdecía en Guaynabo en el proyecto número MAG-002MIT. En la propuesta de dicho proyecto aparecen las comunidades Colinas de Guaynabo, Riveras de Honduras, Terrazas de Guaynabo, Colimar y Villa Providencia Elderly Home como las comunidades afectadas por el deslizamiento y erosión en el río de Guaynabo y para lo que esta propuesto este proyecto de estabilización. Sin embargo, la comunidad de la Urbanización Sierra Berdecía no aparece en este listado aun cuando yo perdí mi propiedad desde el 2019 por la situación con el río de Guaynabo.

Al día de hoy, debido a la situación con el río de Guaynabo, dos comunidades han tenido daños significativos y que han sido documentados por el Municipio y las agencias gubernamentales correspondientes. Yo, una directora escolar retirada que le di treinta años de mi vida a la educación pública de este País perdí mi hogar y al día de hoy la situación no ha sido trabajada, las propiedades vecinas a la que era mi casa corren riesgo inminente en caso de una crecida o de un fenómeno atmosférico. Nuestra comunidad queda a una calle de distancia de la comunidad de Colinas de Guaynabo y separada por el cauce del río con la comunidad de Colimar.

En la comunidad de Colinas de Guaynabo hay por lo menos una casa en riesgo inminente, en mi comunidad Sierra Berdecía ya se perdieron dos hogares siendo uno de ellos el mío.

He estado en comunicación con la Oficina de Planificación del Municipio de Guaynabo y su directora, la planificadora Ada Bones, quien coincide con nosotros que esta comunidad debe ser incluida en este Plan y quien me ha indicado que el Municipio de Guaynabo ha realizado las gestiones correspondientes para presentar sus comentarios a este borrador haciendo el reclamo de inclusión de la Urbanización Sierra Berdecía.
Al día de hoy, el caso de la propiedad en riesgo de la Urbanización Colinas de Guaynabo, tiene fondos del programa R3 de CDBG-DR del Departamento de Vivienda para reubicación. Yo no he tenido la misma oportunidad y no he podido ser reubicada por lo que no tengo un techo propio. En nuestra comunidad no se están perdiendo “casas”, aquí se pierden hogares que costaron mucho esfuerzo y en mi caso una vida de trabajo en el servicio público y por ello solicito que se enmiende el borrador y nos incluyan como comunidad para que la situación pueda ser atendida.

Nosotros en la comunidad de la Urbanización Sierra Berdecía, y en particular yo, no solicitamos un trato especial. Nosotros solicitamos que se nos tome en cuenta, se nos incluya en los proyectos propuestos y así poder ver alguna solución a nuestra situación.

Cordialmente,

Sandra Olivieri Cano

CENTRO PARA LA RECONSTRUCCIÓN DEL HÁBITAT

August 19, 2022

Department of Housing
Commonwealth of Puerto Rico
PO Box 21365
San Juan, PR 00928-1365

RE: COMMENTS FOR THE CDBG-MIT ACTION PLAN, JULY 12, 2022 AMENDMENT

To Whom It May Concern,

It is with much pleasure that I present to you the Center for Habitat Reconstruction's (CRH) comments for the latest proposed amendments to the Puerto Rico Department of Housing's CDBG-MIT Action Plan. We congratulate you on an excellent CDBG-MIT Action Plan and are grateful for the incorporation of activities related to addressing vacancy and abandonment. We are confident that this latest revision will provide even better tools for fostering resiliency within Puerto Rico.

The CRH is the only non-profit organization in Puerto Rico dedicated exclusively to tackling the problem of vacant and abandoned properties as part of a comprehensive, cross-sectoral approach. We conduct collaborative planning activities, local government capacity building, and promote implementation strategies with aims to transform nuisance properties into assets for recovery, community redevelopment, and long-term resilience. We currently assist 17 municipalities with the creation and/or implementation of code enforcement programs and have recently published an investigation with support from the University of Colorado and their National Hazards Center titled, "The Public Health Implications of Abandoned Spaces in Post-Maria Puerto Rico". This study will be cited within this testimony and a printed report will soon be available. The study can be accessed online here: https://bit.ly/3QXEidT

The entirety of our suggestions is directly or indirectly geared towards addressing vacancy and abandonment are leverage our ample experience on the matter. This testimony will provide Program-specific suggestions and where possible, reference exact page numbers. Nevertheless, the CRH first make the following suggestions and observations that are applicable to CDBG-MIT in general:

- We congratulate you on the inclusion of alternative methods to demonstrate proprietary interests (p. 352). The CRH fully endorses this amendment and stresses its necessity considering the faults of Puerto Rico's property registry system and fluidly of its property rights system.
- We request that the Puerto Rico Department of Housing reconsider the need to request a waiver for national objective criteria for elimination of slum and blighting conditions (p. 271). Though 84 FR 45838 and 45857 have states that this national objective generally is not appropriate in the context of mitigation activities, two research papers (ours as well as "Tracking Neighborhood Change in Geographies of Opportunity for Post-Disaster Legacy Cities" from the Lincoln Land Institute by Raúl Santiago and Deepak Lamba) demonstrate that there is in fact a correlation and a need for mitigation activities related to blight management and elimination or vacancy in general. Our own preliminary discussions with representatives of HUD lead us to believe that if a formal request is presented, that said waiver could very well be obtained. **The CRH is more than willing and available to collaborate with Puerto Rico Housing and assist make the case for said waiver.**
- Instances where Puerto Rico is referred to as an "island" should be replaced with "archipelago". The CRH works extensively with the Municipality of Culebra and its communities and are fully aware of the stigma and exclusion often suffered by its residents.
- Though request this may be more applicable to the regulations for each of their respective programs, the CRH emphasizes that non-profits with less than five years experience in the management of federal funding should not be excluded from receiving grants. The Whole Communities Resilience Program (WCRP) for example, disqualified a bulk of organizations due to not meeting this requirement, meaning that any organization that arose from the ruins of hurricanes Irma and Maria are automatically disqualified from applying. This was a shock to the dozens of non-profit organizations who had hoped to participate

in the WCRP and for this reason, we request that this be clarified for CDBG-MIT, preferably within its Action Plan.

Regarding specific Program-related suggestions, the CRH provides the following:

Recommendation #1: Strengthen activities related to the identification of vacant properties in the Risk and Asset Data Collection Program, and if possible, make them obligatory for local governments

- The CRH applauds the inclusion of activated related to data collection for vacant and abandoned properties within this Program. Nevertheless, the identification and mapping of blight is only part of the equation, as formal nuisance declaration activities are needed to identify which of those properties have owners, which owners respond, and to discover each properties' respective and tax issues. Declaring a property a nuisance as part of a formal code enforcement program has demonstrated that 44% of property owners appear with 40% of properties in being mitigated of health, safety, security, and environmental risks. Though we suggest these activities for the Mitigation and Adaptation Policy Support Program and/or Planning and Capacity Building Program, even after properties are declared nuisances there is constant data maintenance and case management that needs to be carried out. Considering this, we suggest that the Risk and Asset Data Collection Program not be closed out per se, and instead be kept active throughout the following years to assist local governments conserve and update their data.
- This Program is crucial for the identification and mapping of vacant and abandoned properties, as municipalities have failed to do so under other CDBG-DR-funded programs. From what we have observed, MRP initiatives have not carried out inventories of properties and WCRP will not either. Having these inventories could have provided much value to such planning activities, as well as provided guidance for municipalities' CityRev projects. Though we are aware that CDBG-DR program staff have been adamant to municipalities on the need to carry out such activities, we feel that the Risk and Assessment Data Collection Program create a uniform module and methodology for vacant and abandoned property data collection, and that said activity either be required from all municipalities, or that there be a pre-designed activity that municipalities could "plug in". Though our investigation revealed that 67% of municipalities have

carried out inventories, our experience shows that they are often incomplete, deficient, inconsistent, or inaccessible due to having been contracted out to private service providers.

Recommendation #2: Permit activities related to the maintenance of vacant property data as well as nuisance declaration through the Mitigation and Adaptation Policy Support Program and/or Planning and Capacity Building Program.

- The following comments can apply to either of the two programs as the CRH feels that they intersect with both policy support and capacity building.
- As mentioned above, data collection for vacant and abandoned properties is only part of the solution. Formal declaration proceedings are needed in order to reach our investigation's 40% rate of voluntary mitigation from property owners. This includes the revision and implementation of code enforcement ordinances, title and tax roll searches, and staff support. The CRH suggestions that supported code enforcement activities can include the investigation, due process notification, issuance of abatement orders, nuisance declaration, and when possible, revocation of abandoned usufruct surface rights. Our investigation shows that 36% of municipalities do not have assigned personal to address nuisance programs, 28% have outdated nuisance program ordinances, and that 60% have not declared a single nuisance property within the past four years.
- The Action Plan contemplates the developent a policy toolbox that includes best practices, model ordinances, funding models, and other regulatory documents that can be adapted to local circumstances. The CRH acknowledges the need of providing these types of guides to local government and communities alike. Along these lines, the CRH published its 2021 "Municipal Guide for the Recovery of Unused Spaces" in both hardcopies and digital version, available for free to the general public. **The CRH is willing and able to meet and collaborate with the Puerto Rico Department of Housing to jointly create and publish a revised version of its guidebook** for free distribution among municipalities to complement CDBG-MIT Program implementation.
- The CRH also advocates for the need to create a series of in-person and online workshops for municipalities throughout the archipelago. These workshops should include assessments of each municipalities' current programs, best practices, and if possible, continued technical support for follow-up. **The CRH has already designed a training module for nuisance identification, abatement,**

and acquisition and would be more than willing to meet and collaborate with the Puerto Rico Department of Housing to adjust said curriculum to the CDBG-MIT's needs as well as coordinate pilot training sessions.

Recommendation #3: Adjust the Single-Family Mitigation Program to prevent and leverage vacant and abandoned properties.

- The CDBG-MIT action plan cites "HOU 10 - Assess and Renovate Vacant and Blighted Properties" as a Recovery Plan objective (p. 354). Nevertheless, the CRH feels that said activities can be refined or expanded to further said objective.
- For example, Plan should specify in the Program's Eligibility Criteria (p. 348) that a property may include that which is no longer being utilized as primary housing, but that it was prior to hurricanes Irma and María and that said property had been vacated.
- The current Plan states that the properties obtained by the Department will be demolished and preserved as greenspace. As is, the Department and Plan lack a formal strategy to prevent that these unused spaces will turn into public nuisances. Our research has shown that if these lots and ruins are left unused, they will easily become public nuisances. Without a reuse plan in effect, these post-relocation Department-owned properties will easily become blighted; further diminishing the quality of life of residents who stayed behind in high-risk communities. Considering this, the CRH suggests that the Department contemplate and budget reuse activities to prevent future public nuisances. These reuse activities can be low-cost and can even contribute to the mitigation of natural disasters and flooding in the surrounding community. In addition, proposals submitted by municipalities, non-profits, and businesses under other CDBG-DR programs that propose reuse of post-relocation properties should be prioritized. These are similar findings that we had made regarding the CDBG-DR Repair, Reconstruction, or Relocation Program (R3). **The CRH attaches a one-page flyer that it prepared for a previous CDBG-DR testimony of potential activities that it feels applies to this Program as well.**

- Properties identified for possible relocation should at all times emphasize vacant and abandoned properties over new construction. Vacant and abandoned properties should be referred to specifically in p. 350 paragraph 4. Most specifically, nuisance properties identified by municipal abatement programs per Municipal Code Art. 4.012 should be eligible for this Program, with Puerto Rico Housing exploring the possibility of utilizing Program funding and/or vouchers for the payment of fair compensation in municipal eminent domain acquisitions or auction bids for tax or nuisance lien foreclosures. **The CRH is more than willing and able to collaborate on the drafting of program regulations to meet this objective.**

The CRH is excited about the CDBG-MIT program and is happy to answer any questions or concerns that may arise regarding this testimony or vacant and abandoned properties in general. Please feel free to contact us at 787-396-6606 or through e-mail at gallardo@crhpr.org.

Sincerely,

Luis Gallardo-Rivera
Executive Director

Centro para la Reconstrucción del Hábitat, Inc.
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PROYECTO ENLACE DEL CAÑO MARTÍN PEÑA

FIDEICOMISO DE LA TIERRA CAÑO MARTÍN PEÑA

August 19, 2022

VIA EMAIL: infoCDBG@vivienda.pr.gov

Departamento de la Vivienda
Oficina del Secretario
Fecha: 08.19.22
Recibido por: Melanie Maldonado
Hora: 4:21 pm

William Rodríguez Rodríguez
Secretary
Department of Housing
Puerto Rico CDBG-MIT Program
P.O. Box 21365
San Juan, PR 00928-1365

COMMENTS TO THE PUERTO RICO MITIGATION ACTION PLAN

Honorable Secretary:

Corporación del Proyecto ENLACE del Caño Martín Peña (ENLACE) and Fideicomiso de la Tierra del Caño Martín Peña (Fideicomiso) hereby submit our comments to the Puerto Rico Disaster Recovery Action Plan Substantial Amendment 1 (Action Plan). The Community Development Block Grant – Mitigation Program (CDBG-MIT) funds represent a unique opportunity to impact Puerto Rico's development in the years to come, in a meaningful way. Our comments are based on more than seventeen years (17) of experience, as organizations that were designed as instruments to implement innovative solutions to issues of sustainability, risk management, affordability, land tenure, and strong community organizing in the context of eight low-income communities, many of which originated as informal settlements. We strongly believe that the internationally renowned Proyecto ENLACE del Caño Martín Peña Project (ENLACE Project) has the credibility, history, and policy / institutional framework to demonstrate that a just, equitable, and participatory recovery for Puerto Rico is possible. The ENLACE Project is also key to transform the San Juan Metropolitan Area, generating wealth, jobs, and new economic development opportunities by restoring its bodies of water while reducing flood risks in the Caño Martín Peña Special Planning District (District), the Luis Muñoz Marin International Airport and communities surrounding the San José Lagoon.

Our institutions are the result of a highly participatory planning – action – reflection process that led to the creation of the Comprehensive Development and Land Use Plan for the Caño Martín Peña Special Planning District (District Plan). We have been working together with the grassroots coalition group, Grupo de las Ocho Comunidades Aledañas al Caño Martín Peña, Inc. (G-8), which plays a leading role within the 16,721 residents[1] of the eight communities in policy and project design and implementation. In addition, we have created strong partnerships with over 100 universities and businesses from Puerto Rico and abroad and have built a tradition of volunteer work. It is from that experience that we present our comments, in the hopes that we contribute to inform the decision-making process of the Puerto Rico Department of Housing

[1] U.S. Census (2020).

(PRDOH) and the US Department of Housing and Urban Development (HUD) regarding the development of the Action Plan.

After a brief description of both institutions and our work, we present our comments to specific content and strategies contained in the proposed Action Plan.

Background Information

About the Corporación del Proyecto ENLACE del Caño Martín Peña (ENLACE)

ENLACE is a government corporation created under Puerto Rico Law 489 of September 24, 2004, as amended (PR Law 489-2004) in charge of the implementation of the public policies and projects contained in the Comprehensive Development and Land Use Plan for the Caño Martín Peña Special Planning District (District Plan). The District Plan includes the Caño Martín Peña Ecosystem Restoration Project (CMP-ERP), which seeks to restore the tidal connection between the San José Lagoon and San Juan Bay through the dredging and channelization of the Caño Martín Peña. After 15 years of the initial congressional authorization through Section 5127 of the Water Resources Development Act, on January 2022, the US Congress allocated the US Army Corps of Engineers (USACE) a total of $163 Millions towards the implementation of the CMP-ERP, benchmarking the beginning of the construction phase. As a result, representatives of Corporación del Proyecto ENLACE del Caño Martín Peña, the United States Department of the Army, and the Commonwealth of Puerto Rico, signed the Project Partnership Agreement on July 26, 2022.

In addition, the District Plan includes stormwater, sanitary, and potable water infrastructure needed to make feasible the CMP-ERP, addresses public health issues and flooding mitigation, as well as the relocation of families that live within the projects' footprint into decent, safe, and sanitary housing. To make all this possible, ENLACE was created with an agile institutional design that allows it to work in partnership with the public and private sectors, and with a high degree of citizen participation. Since Hurricane Maria, over 45 new allies and collaborators and over 800 volunteers have joined the efforts. This has allowed us to have significant achievements to accomplish the ENLACE Project objectives, despite budgetary limitations.

About the Fideicomiso de la Tierra del Caño Martín Peña (Fideicomiso)

Winner of the 2016 United Nations World Habitat Award for its innovation in housing, the Fideicomiso is a private, non-profit community land trust, with independent juridical personality, created under PR Law 489-2004 as an instrument to regularize land tenure through collective land ownership in perpetuity of over 200 acres of land, and through individual surface rights. Such individual property rights over the structure and the surface, together with the collective property rights to the land, are recognized through deeds that are presented to the Puerto Rico Property Registry. The Fideicomiso is also an instrument to prevent gentrification and involuntary displacement as an unintended consequence of the implementation of the District Plan, ensuring long-term housing affordability. It develops housing as well, mainly focusing on providing options for the families that currently live on the District as it is related to the CMP-ERP or the proposed infrastructure projects that impact the community which are included in the District Plan. ENLACE, the Fideicomiso, and the G-8, as well as the public policy established in PR Law 489-2004 and

the District Plan, were designed as a result of 700 participatory planning-action-reflection activities carried out over a period of two years, between 2002 and 2004.

About the ENLACE Project

The ENLACE Project main purpose included in the District Plan, is extremely relevant and important for the development of Puerto Rico. It is crucial not only for reducing the vulnerability of thousands of families to recurrent flooding filled with wastewater, and their exposition to diseases related to the environmental degradation of the CMP, but it also provides the possibility of transforming the city. It is an innovative environmental justice and social transformation initiative that pursues a livable, inclusive, and resilient city through the ecosystem restoration of an estuarine channel in the heart of San Juan, Puerto Rico, the availability of affordable and safe housing, adequate infrastructure, and quality public spaces. Partial estimates indicate that each 100-year recurrence flooding incident causes an approximately $700 million in losses for the island, while on the other hand, the ENLACE Project would inject $587 million into the economy, and provide further tourism and real estate benefits. The cost of not implementing the projects, included in the District Plan, could amount to more than $773 million during a rain event of 100-year recurrency.[2] Restoring the Caño would reconnect the lagoons and channels of the San Juan Bay Estuary, create recreation and tourism opportunities, and cause a revaluation of urban land, and economic development.

Despite their central location in the heart of the San Juan Metropolitan Area, the CMP communities have a long history of poverty, urban overcrowding, unsafe living conditions, exposure to environmental and health hazards, and marginalization. The eastern half of the 3.75-mile long channel, historically between 200 and 400 feet wide and navigable, is currently clogged with sediments, debris, trash, and water polluted with fecal matter. This has affected public health, safety, and increased flood risks for the residents of neighboring communities. Additionally, it compromises critical infrastructure nearby, such as the Luis Muñoz Marín International Airport, which receives close to 9 million visitors per year. Research conducted in the District shows that exposition to flood water leads to an increased risk of gastrointestinal diseases and a higher prevalence of chronic diseases, such as bronchial asthma and atopic dermatitis".[3] On the other hand, precisely because of their location, the communities surrounding the Caño have been threatened by displacement and gentrification, situations that already disappeared communities such as Fanguito and San Mateo de los Cangrejos suffered.

As a result of Hurricanes Irma and María, approximately 70% of the communities were flooded with wastewater, in some areas for up to four days; approximately 1,200 homes lost their roofs, either partially or totally; and over 75 homes were destroyed in their entirety, thus exacerbating public health and safety hazards. Through the sense of empowerment and solidarity that has always characterized these communities, the ENLACE Project propelled effective grassroots disaster relief and recovery efforts. Just one month after the hurricane, with the support of over 620 volunteers, the following relief and recovery activities, among others, were conducted: distribution of over 800 tarps; removal of approximately 2,565 cy of vegetative material blocking access; assistance to over 682 families applying for the Federal Emergency Management Agency (FEMA) Individual Assistance Program; and distribution goods, food, water, mosquito repellents,

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[2] (October 27, 2015) Puerto Rico National Disaster Resilience Competition, Phase II Final Narrative.
[3] Sheffield PE, Agu DP, Rowe M, Fischer K, Pérez AE, Rodríguez LN, Avilés KR. (2014). Health Impact Assessment of the Proposed Environmental Restoration of Caño Martín Peña. San Juan, Puerto Rico

mosquito nets, among other donations which resulted in an immediate benefit for the communities.

Despite the disaster relief and recovery efforts of the ENLACE Project, funds are required to address the unmet public health, housing, and infrastructure needs, exacerbated by the hurricane. This is a critical issue for District's communities because of their high population density. According to the 2020 U.S. Census, there are approximately 16,721 residents. US Census 2020 data (USCB 2020)[4], U.S. American Community Survey 2020 (ACS 2020) and ENLACE's own studies[5] provide a striking profile of the poverty prevalent in these communities and their pervasive socio-economic needs. The District's most recent population density is almost three times the rate for the Municipality of San Juan and 19 times that of Puerto Rico (USCB) and the median household income for families living in the District is $23,360. (ACS 5 Year Estimates).[6,7]

The ENLACE Project will address the issues described above while contributing to long-term climate change mitigation, adaptation, and resilience. Investment of CDBG-MIT funds in the ENLACE Project will provide an opportunity for a just and equitable disaster recovery, without community displacement and gentrification and with democratic community participation.

References of public policies and related documents

- PR Law 489-2004[8]
- District Plan[9]
- Reglamento General para el Funcionamiento del Fideicomiso de la Tierra del Caño Martín Peña[10]
- Final Feasibility Report and Environmental Impact Statement for the CMP-ERP[11]
- Build Back Better Puerto Rico: Request for Federal Assistance for Disaster Recovery[12]
- Joint Resolution No. 118-2019[13]

[4] American Community Survey 2014-2018 estimates sets the District's population at 13,236.
[5] Proyecto ENLACE, Primer Informe Socioeconómico, 2002, Estudios Técnicos (CPE 2002).
[6] USCB 2010, ACS 2014 & CMP Studies.
[7] American Community Survey 2014-2018 estimates.
* Calculated using the median formula for obtaining the Median from grouped data: L+ (n/2-B)/G x w
[8] http://www.presupuesto.gobierno.pr/af2009_2010/Tomo_II/suppdocs/baselegal/264/ley489.pdf
[9] http://app.estado.gobierno.pr/ReglamentosOnLine/ReglOnLine.aspx under Regulation #7469
[10] http://app.estado.gobierno.pr/ReglamentosOnLine/ReglOnLine.aspx under Regulation #7587
[11] https://usace.contentdm.oclc.org/digital/collection/p16021coll7/id/2302/
[12] https://nlihc.org/sites/default/files/Build_Back_Better_PR_Request_94B.pdf
[13] https://noticiasmicrojuris.files.wordpress.com/2019/11/resoluciocc81n-conjunta-118.pdf

COMMENTS, QUESTIONS, AND SUGGESTIONS:

Main Comments

Introduction and Background

Mitigation for the Present and Future

As Puerto Ricans look toward their collective future and make decisions about how to mitigate natural and human-caused hazards and instabilities such as hurricanes, flooding, climate change and sea level rise, economic disparity, earthquakes, pandemics, drought, and many others, several organizing principles emerge. These organizing principles form a common thread throughout the Risk-Based Mitigation Needs Assessment and inform the programmatic response to the mitigation needs identified therein: (a) reduce instability by lessening the impact of hazard events on the built environment, social structures, and ecological systems; (b) improve the adaptive capacity of Puerto Rico by removing impediments to long-term systemic change and promoting collaborative governance at multiple scales; (c) create self-sustaining, regenerative systems that have the ability to persist or thrive through physical, economic and social challenges.

From our experience of implementing projects in the District and collaborating with different government agencies, we would also argue that **state-caused hazards** due to lack of timely and strategic interventions **must be addressed within the Action Plan**.

Hazard Frequency Assessment (Pp. 24-28 of 432)

Rationale for Hazard Frequency Assessment

Comment: The degree of risk and vulnerability is not necessarily observed at the District level. Constant losses cannot only be attributed to floods and cyclones and their effects. The detriment of family's quality of life in Maritime-Terrestrial Zones (MTZ) is also caused by the state of the body of water and the frequency at which the District is particularly affected (outside of cyclonic or high-risk phenomena). If the level of contamination of water and the frequency at which the District is particularly affected (outside of cyclonic or high-risk phenomena). If the level of contamination in the Caño is excluded, the District may have traits similar to peripheral areas.

Methodology

As stated on page 31 of the Action Plan, "[f]looding is the most frequent and costly natural hazard in the United States. Floods are generally the result of excessive precipitation and can be classified under two (2) categories: flash floods, the product of heavy localized precipitation in a short time period over a given location; and general floods, caused by precipitation over a longer time period and over a given river basin."[15]

[15] Page 29 of the proposed Action Plan.

Comment: The PRDOH only uses the 100-year U.S. Special Flood Hazard Area (SFHA) data in their composite hazard analysis. Mitigation strategies are based on research and projections that may occur once in 100 years (i.e.100-yr flood), while it is common for residents of the Caño Martín Peña to experience severe weekly flooding.

It is true that 100-year flood events represent a significant hazard, we strongly believe that PRDOH must take into consideration that there are communities such as those that make up the District that face significant and periodical impacts as a result of smaller scale flood events (i.e. 1-yr, 5-yr, 10-yr events, etc.). As stated in the Feasibility Report for the CMP-ERP, "[i]nability to improve local drainage infrastructure due to the lack conveyance in the CMP [Caño] leads to substantial flooding with the surrounding neighborhoods. Fecal coliform levels within these floodwaters are alarmingly high, and subsequent human contact with the waters of the CMP has been associated with higher rates of asthma and gastrointestinal diseases."[16] The existing sanitary sewer system combined with the stormwater system is not enough to meet the demands of the residents and adequately function to prevent flood-caused overflows. As a result, the overflow of the combined systems effluent into the Caño communities even in flood events of lesser recurrence. According to the San Juan Bay Estuary Program's "Second Environmental Condition Report 2009", the water quality in Caño is compromised. More than 2,000,000 fecal coliform colonies and 1,200,000 enterococci per 100mL of water have been found in the Caño, which significantly exceeds the parameters allowed by law and regulations of 2,000 and 80 col/100mL, respectively, for an estuarine water body and for indirect human contact activities. As recently as August and November 2020, various flooding events were reported because of Storm Isaias and a cold front, respectively, as shown in Figure 1 and Figure 2.

Figure 1. Flooding in Buena Vista Santurce, District (August 2020)

[16] Feasibility Report, Pag. vi

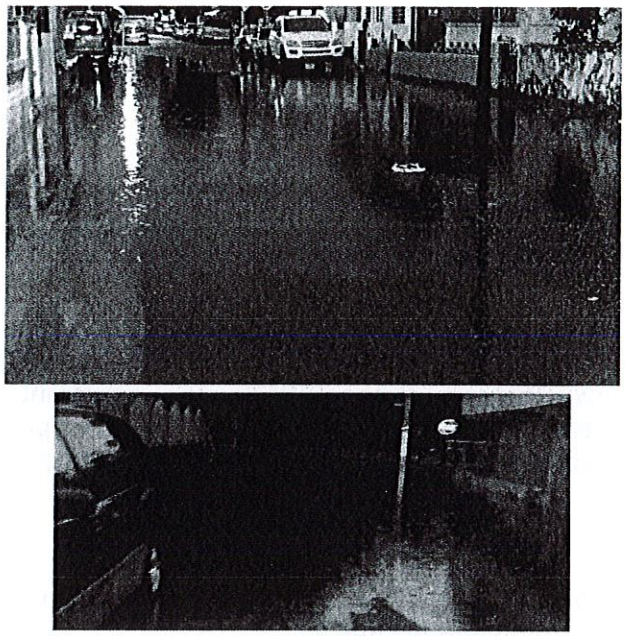
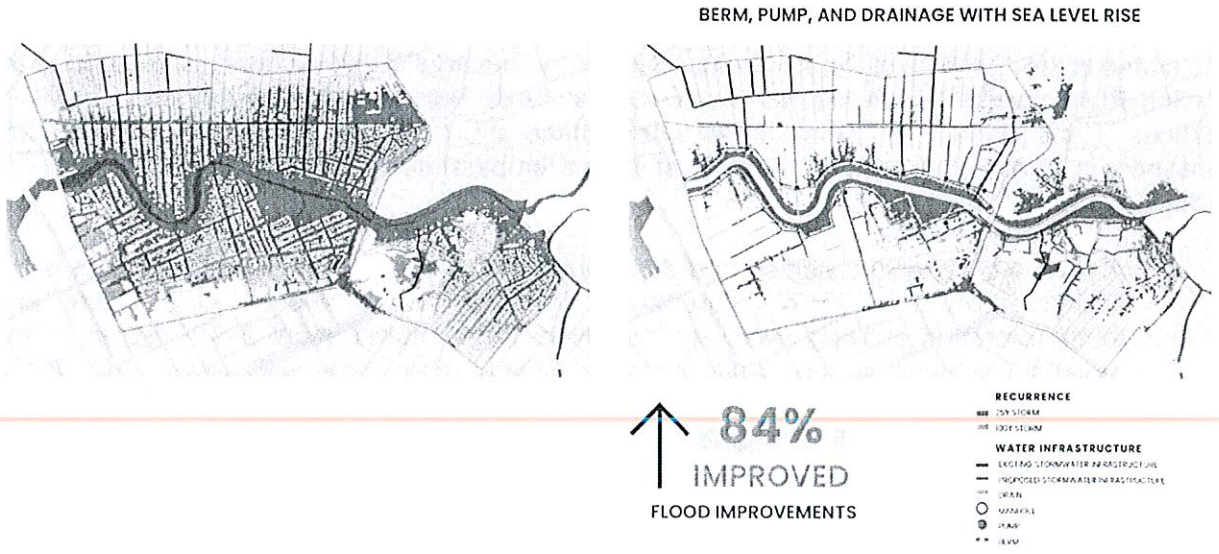


Figure 2. Flooding in Buena Vista Santurce (November 2020)

Additionally, to flooding events in the District not being aligned with the methods used to establish mitigation strategies based on the 100-yr flood, this measure also shows flood zones differently than what the ENLACE Project has documented over the years. The following map shows an example of flood projections in the District before and after water infrastructure improvements[17]:



[17]2022, *Caño Martín Peña Comprehensive Infrastructure Plan Phase II*, Puerto Rico, OLIN.

This shows the discrepancy in the accuracy of FEMA maps and the reality of the District as ENLACE has documented. Therefore, we believe that using only FEMA flood zones to determine mitigation strategies and allocating funds will lead to an inaccurate analysis leaving vulnerable people with their needs unmet.

Risk Analysis Based on Community Lifelines (Pp. 77 of 432)

Risk Analysis Based on Community Lifelines

Geospatial information for the key sectors within four (4) critical lifelines has been compiled and made accessible to communities and citizens of Puerto Rico in the PR Critical Lifeline – Regional Dashboard (https://cdbg-dr.pr.gov/PRpeligrosyriesgosIFRM). Is important to analyze its assumptions in the process of creating the tool because the way data is represented may affect funding opportunities as the tool is used to assess risk and lifeline infrastructure.

Action Required:

(a) We ask PRDOH to coordinate with the ENLACE Project the data to be used to reflect the flood analysis in the District to ensure accuracy.

Analysis of Vulnerability

Comment: It is not clear from the GIS Density Analysis on page 80 if the Critical Lifeline Infrastructure analysis was developed using infrastructure density and quality of infrastructure or not. If quality is not accounted for, this creates an inaccurate representation of vulnerability. The Hazard Vulnerability Composite score of all three factor shows San Juan Metropolitan area as one with the highest vulnerability in the Island, same area where the ENLACE Project serves.

Severity of Consequences

As stated in the "Severity of Consequences Scores by Hazards" Table included on page 91 of the Action Plan, the PRODOH assigns the lowest score to high temperature hazards. The EPA defines "Heat Islands" as "urban areas where these structures are highly concentrated, and greenery is limited, that become "islands" of higher temperatures relative to outlying areas."[18] In addition, the EPA states that:

> A review of research studies and data found that in the United States, the heat island effect results in daytime temperatures in urban areas about 1–7°F higher than temperatures in outlying areas and nighttime temperatures about 2–5°F higher. Humid regions (primarily in the eastern United States) and cities with larger and denser populations experience the greatest temperature differences. Research predicts that the heat island effect will strengthen in the future as the structure, spatial extent, and population density of urban areas change and grow.[19]

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[18] https://www.epa.gov/heatislands/learn-about-heat-islands#:~:text=Surface%20Heat%20Islands.,F%20warmer%20than%20air%20temperatures.
[19] Id.

Comment: A study conducted in San Juan and Bayamón modeled the relation between high temperature and cause-specific mortality (e.g. stroke, cardiovascular disease, diabetes, etc.). The study concluded that there is "a significant increase in the effect of high temperatures on mortality, during the summers of 2012 and 2013. Stroke (relative risk = 16.80, 95% CI 6.81-41.4) and cardiovascular diseases (relative risk = 16.63, 95% CI 10.47-26.42) were the primary causes of death most associated with elevated summer temperatures."[20] We believe that high temperatures should be ranked higher as it poses a significant threat to public health.

Severity of Consequences

Comment: In Puerto Rico, the highest "severity/gravity of consequences" score by hazard type is flooding, coastal flooding and sea level rise, and hurricanes (storm surges and winds) (in that order). All three types of danger impact the District directly and consistently. In addition, the waters are contaminated increasing the degree of risk, this was not recognized in the analysis.

General Program Requirements (Pp. 270 of 432)

One of the general requirements established in the Action Plan is to obtain a certification complying with the Green Building Standard for applicable construction.

Action Required:

(a) We request to be exempted from that requirement of certifications in order to maintain the feasibility of the project considering other criteria as the construction cost and time limits. Nonetheless, we take such standards in consideration throughout our designs to address higher levels of sustainability and resiliency.

Unifying Mitigation Strategies (Pp. 291 of 432)

Alignment with Capital Investments

Page 294 states that the Action Plan "conducted extensive outreach and collaboration with a broad group of federal and state agencies, municipalities, private-sector, non-profit entities, and the group most affected by the hurricanes [...]."

Action Required:

(a) The ENLACE Project has had the opportunity to actively participate in public outreach for the development of the Action Plan. However, we request that a list and description of the public outreach carried out for the development of the Action Plan be provided in order to better assess the efforts of the PRDOH to reach other marginalized and vulnerable communities which could have suffered the most from the impact of Hurricane Maria. In addition, recognizing that the emergency caused by COVID-19 may have limited PRDOH's capacity to conduct an extensive public outreach, we would like to know if additional activities will be coordinated to ensure greater citizen participation, particularly in rural areas or areas with limited access to technology.

[20] Méndez, P. (2015) https://pubmed.ncbi.nlm.nih.gov/27981339/

Single-Family Housing Mitigation Program (Pp. 345 of 432)

Relocation

As stated on page 350 of the Action Plan, "Properties acquired by PRDOH will be demolished and vacant lots will be maintained as green space"[23]

Action Required:

(a) The PRDOH should create a plan and identify non-CDBG-MIT funds to avoid the adverse effects of leaving vacant lots as green areas. Failure to maintain these spaces will cause problems with scattered vacant lots that will become either clandestine dumps or spaces that promote unwanted and / or illegal activities.

(b) The PRDOH should make the necessary amendments to the Action Plan to incorporate, and assimilate to the CDBG-MIT funds, the provisions set forth in Joint Resolution No. 118 of November 19, 2019 (RC 118-2019, by its Spanish acronym). Section 2.3 of RC 118-2019 states that "[...] in the case of the Caño Martín Peña Special Planning District, any land acquisition made by the Government of Puerto Rico through these funds [CDBG-DR]] should consider its transfer to the Trust, in compliance with and according to the provisions of Law 489-2004, as amended, known as the "Law for the Integral Development of the Martín Peña Special Planning District; [...]".[24]

As of page 350 and subsequently, the terms acquisition, purchase and buyout are referenced incorrectly. Buyout is a form of acquisition. Acquisition may vary on terms such as voluntary and involuntary, but every purchase or "buyout" is inherently voluntary, per statutory requirements (i.e., consent).

Action Required:

(a) The PRDOH should make the necessary amendments to the Action Plan to clarify distinctions between "acquisition", "purchase" and "buyout".

The following statement, located on page 351: "The purchase of new housing stock developed by PRDOH... [or] by partners..." lacks congruency in both the english and the spanish version of the Action Plan.

Action Required:

(a) We request that PRDOH makes the necessary amendments to the Relocation section under the Single-Family Housing Mitigation Program to clarify that relocated beneficiaries are not purchasing "stock", they would be purchasing/buying a house that is within the stock or inventory of new housing developments.

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[23] Id, pág. 270
[24] RC 118.

Multi-Sector Community Mitigation Program (Pp. 366-432)

Program Description

As stated on page 369 of the Action Plan, "PRDOH recognizes that the Caño Martín Peña community in San Juan, Puerto Rico, has invested significant planning efforts in identifying community-based mitigation needs..." The Caño Martín Peña is not a singular community as expressed above. The Caño Martín Peña Special Planning District is composed of various communities that border the Martín Peña Channel.

Action Required:

(a) We request that PRDOH makes the necessary amendments to the program description of the Multi-Sector Community Program, clarifying the narrative that suggests that the Caño Martín Peña is a singular community, when the Caño Martín Peña Special Planning District is comprised of 8 communities: Barrio Obrero Oeste, Barrio Obrero Marina, Barrio Obrero San Ciprián Buena Vista Santurce, Buena Vista Hato Rey, Las Monjas, Israel-Bitumul, Parada 27.

As stated on page 369 of the Action Plan, "PRDOH will work with Caño Martín Peña to implement, at a minimum, a $52 million community-based project to serve the housing needs of its residents".

Action Required:

(a) We request that PRDOH makes the necessary amendments to the program description of the Multi-Sector Community Program, to state that PRDOH will work with the Corporación del Proyecto ENLACE del Caño Martín Peña and the Fideicomiso de la Tierra del Caño Martín Peña to implement at a minimum, a $52 million community-based project to serve the housing needs of its residents. The Puerto Rico Law 489 of September 24, 2004, as amended (PR Law 489-2004) charges Corporación del Proyecto ENLACE del Caño Martín Peña with the implementation of the public policy adopted under said law. In addition, pursuant to Article 22 of Law 489-2004, la Corporación del Proyecto ENLACE del Caño Martín Peña approved the General Regulations for the Operation of the Fideicomiso de la Tierra del Caño Martín Peña, which became effective on November 22, 2008 (REGLAMENTO FIDEICOMISO). Said law and adopted regulation also states that both entities shall collaborate closely, promote joint work towards common objectives and approve the necessary agreements to make the implementation of the PLAN FOR THE DISTRICT feasible. Furthermore, Corporación del Proyecto ENLACE del Caño Martín Peña is the only entity, empowered by law to implement planning processes in the Caño Martín Peña Special Planning District. Therefore, we request that PRDOH clarifies the narrative to prevent any misleading statements.

(b) We request that PRDOH takes into consideration the inflation costs on construction labor and materials and adjusts the 52$ Million amount set-aside under the CDBG-MIT Action Plan published in 2020, to better represent the implementation of community-based projects to serve the housing and infrastructure needs of the residents in the Caño Martín Peña District. As requested, and later confirmed thru a Comprehensive Infrastructure Master Plan lead by OLIN, an external work-hire consultant, the implementation costs of such projects is estimated at ~$540 Million dollars.

Elevation Requirements

As stated on page 370 of the Action Plan, "As required in 84 FR 45838, 45864, PRDOH will apply elevation standards for structures located in the Advisory 100-year (or one percent (1%) annual chance) floodplain to require that structures elevated, or reconstructed and elevated, raise the lowest floor (including the basement) to at least two (2) feet above the base flood elevation (BFE)."

Action Required:

(a) We request the PRDOH to lower the requirement to at least (1) feet above the base flood elevation or that PRDOH excludes the Caño Martín Peña Special Planning District from that requirement in order to maintain the feasibility of the projects. Furthermore, as stated above in the comments related to the **Hazard Frequency Assessment,** flooding events in the District are not aligned with the methods used to establish mitigation strategies based on the 100-yr flood. Flood zones shown per the 100-yr food maps are different than what the ENLACE Project has documented over the years.

Citizen Participation (Pp. 391 of 432)

(a) Create Housing Committees in every community composed of community leaders, as well as personnel or consultants with acquisition and relocation experience. This committee should accompany all the families through their relocation process and make sure they are treated justly and sensibly.

Our entities are complying with submitting comments within the period established by the PRDOH. Shall you require clarifications, please contact us at mnunez@martinpena.pr.gov or 1.787.729.1594.

Sincerely,

Mario Núñez Mercado
Executive Director
ENLACE Project Corporation

Sarah J. Delgado Brayfield
President of Board of Trustees
Fideicomiso de la Tierra

August 19, 2022

VIA EMAIL: infoCDBG@vivienda.pr.gov

William Rodríguez Rodríguez
Secretary
Department of Housing
Puerto Rico CDBG-DR Program
P.O. Box 21365
San Juan, PR 00928-1365

COMMENTS TO THE PUERTO RICO MITIGATION ACTION PLAN

Honorable Secretary:

Corporación del Proyecto ENLACE del Caño Martín Peña (ENLACE) and Fideicomiso de la Tierra del Caño Martín Peña (Fideicomiso) hereby submit our comments to the Puerto Rico Disaster Recovery Action Plan Substantial Amendment 1 (Action Plan). The Community Development Block Grant – Mitigation Program (CDBG-MIT) funds represent a unique opportunity to impact Puerto Rico's development in the years to come, in a meaningful way. Our comments are based on more than seventeen years (17) of experience, as organizations that were designed as instruments to implement innovative solutions to issues of sustainability, risk management, affordability, land tenure, and strong community organizing in the context of eight low-income communities, many of which originated as informal settlements. We strongly believe that the internationally renowned Proyecto ENLACE del Caño Martín Peña Project (ENLACE Project) has the credibility, history, and policy / institutional framework to demonstrate that a just, equitable, and participatory recovery for Puerto Rico is possible. The ENLACE Project is also key to transform the San Juan Metropolitan Area, generating wealth, jobs, and new economic development opportunities by restoring its bodies of water while reducing flood risks in the Caño Martín Peña Special Planning District (District), the Luis Muñoz Marin International Airport and communities surrounding the San José Lagoon.

Our institutions are the result of a highly participatory planning – action – reflection process that led to the creation of the Comprehensive Development and Land Use Plan for the Caño Martín Peña Special Planning District (District Plan). We have been working together with the grassroots coalition group, Grupo de las Ocho Comunidades Aledañas al Caño Martín Peña, Inc. (G-8), which plays a leading role within the 16,721 residents[1] of the eight communities in policy and project design and implementation. In addition, we have created strong partnerships with over 100 universities and businesses from Puerto Rico and abroad and have built a tradition of volunteer work. It is from that experience that we present our comments, in the hopes that we contribute to inform the decision-making process of the Puerto Rico Department of Housing

[1] U.S. Census (2020).

(PRDOH) and the US Department of Housing and Urban Development (HUD) regarding the development of the Action Plan.

After a brief description of both institutions and our work, we present our comments to specific content and strategies contained in the proposed Action Plan.

Background Information

About the Corporación del Proyecto ENLACE del Caño Martín Peña (ENLACE)

ENLACE is a government corporation created under Puerto Rico Law 489 of September 24, 2004, as amended (PR Law 489-2004) in charge of the implementation of the public policies and projects contained in the Comprehensive Development and Land Use Plan for the Caño Martín Peña Special Planning District (District Plan). The District Plan includes the Caño Martín Peña Ecosystem Restoration Project (CMP-ERP), which seeks to restore the tidal connection between the San José Lagoon and San Juan Bay through the dredging and channelization of the Caño Martín Peña. After 15 years of the initial congressional authorization through Section 5127 of the Water Resources Development Act, on January 2022, the US Congress allocated the US Army Corps of Engineers (USACE) a total of $163 Millions towards the implementation of the CMP-ERP, benchmarking the beginning of the construction phase. As a result, representatives of Corporación del Proyecto ENLACE del Caño Martín Peña, the United States Department of the Army, and the Commonwealth of Puerto Rico, signed the Project Partnership Agreement on July 26, 2022.

In addition, the District Plan includes stormwater, sanitary, and potable water infrastructure needed to make feasible the CMP-ERP, addresses public health issues and flooding mitigation, as well as the relocation of families that live within the projects' footprint into decent, safe, and sanitary housing. To make all this possible, ENLACE was created with an agile institutional design that allows it to work in partnership with the public and private sectors, and with a high degree of citizen participation. Since Hurricane Maria, over 45 new allies and collaborators and over 800 volunteers have joined the efforts. This has allowed us to have significant achievements to accomplish the ENLACE Project objectives, despite budgetary limitations.

About the Fideicomiso de la Tierra del Caño Martín Peña (Fideicomiso)

Winner of the 2016 United Nations World Habitat Award for its innovation in housing, the Fideicomiso is a private, non-profit community land trust, with independent juridical personality, created under PR Law 489-2004 as an instrument to regularize land tenure through collective land ownership in perpetuity of over 200 acres of land, and through individual surface rights. Such individual property rights over the structure and the surface, together with the collective property rights to the land, are recognized through deeds that are presented to the Puerto Rico Property Registry. The Fideicomiso is also an instrument to prevent gentrification and involuntary displacement as an unintended consequence of the implementation of the District Plan, ensuring long-term housing affordability. It develops housing as well, mainly focusing on providing options for the families that currently live on the District as it is related to the CMP-ERP or the proposed infrastructure projects that impact the community which are included in the District Plan. ENLACE, the Fideicomiso, and the G-8, as well as the public policy established in PR Law 489-2004 and

the District Plan, were designed as a result of 700 participatory planning-action-reflection activities carried out over a period of two years, between 2002 and 2004.

About the ENLACE Project

The ENLACE Project main purpose included in the District Plan, is extremely relevant and important for the development of Puerto Rico. It is crucial not only for reducing the vulnerability of thousands of families to recurrent flooding filled with wastewater, and their exposition to diseases related to the environmental degradation of the CMP, but it also provides the possibility of transforming the city. It is an innovative environmental justice and social transformation initiative that pursues a livable, inclusive, and resilient city through the ecosystem restoration of an estuarine channel in the heart of San Juan, Puerto Rico, the availability of affordable and safe housing, adequate infrastructure, and quality public spaces. Partial estimates indicate that each 100-year recurrence flooding incident causes an approximately $700 million in losses for the island, while on the other hand, the ENLACE Project would inject $587 million into the economy, and provide further tourism and real estate benefits. The cost of not implementing the projects, included in the District Plan, could amount to more than $773 million during a rain event of 100-year recurrency.[2] Restoring the Caño would reconnect the lagoons and channels of the San Juan Bay Estuary, create recreation and tourism opportunities, and cause a revaluation of urban land, and economic development.

Despite their central location in the heart of the San Juan Metropolitan Area, the CMP communities have a long history of poverty, urban overcrowding, unsafe living conditions, exposure to environmental and health hazards, and marginalization. The eastern half of the 3.75-mile long channel, historically between 200 and 400 feet wide and navigable, is currently clogged with sediments, debris, trash, and water polluted with fecal matter. This has affected public health, safety, and increased flood risks for the residents of neighboring communities. Additionally, it compromises critical infrastructure nearby, such as the Luis Muñoz Marín International Airport, which receives close to 9 million visitors per year. Research conducted in the District shows that exposition to flood water leads to an increased risk of gastrointestinal diseases and a higher prevalence of chronic diseases, such as bronchial asthma and atopic dermatitis".[3] On the other hand, precisely because of their location, the communities surrounding the Caño have been threatened by displacement and gentrification, situations that already disappeared communities such as Fanguito and San Mateo de los Cangrejos suffered.

As a result of Hurricanes Irma and María, approximately 70% of the communities were flooded with wastewater, in some areas for up to four days; approximately 1,200 homes lost their roofs, either partially or totally; and over 75 homes were destroyed in their entirety, thus exacerbating public health and safety hazards. Through the sense of empowerment and solidarity that has always characterized these communities, the ENLACE Project propelled effective grassroots disaster relief and recovery efforts. Just one month after the hurricane, with the support of over 620 volunteers, the following relief and recovery activities, among others, were conducted: distribution of over 800 tarps; removal of approximately 2,565 cy of vegetative material blocking access; assistance to over 682 families applying for the Federal Emergency Management Agency (FEMA) Individual Assistance Program; and distribution goods, food, water, mosquito repellents,

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[3] Sheffield PE, Agu DP, Rowe M, Fischer K, Pérez AE, Rodríguez LN, Avilés KR. (2014). Health Impact Assessment of the Proposed Environmental Restoration of Caño Martín Peña. San Juan, Puerto Rico

mosquito nets, among other donations which resulted in an immediate benefit for the communities.

Despite the disaster relief and recovery efforts of the ENLACE Project, funds are required to address the unmet public health, housing, and infrastructure needs, exacerbated by the hurricane. This is a critical issue for District's communities because of their high population density. According to the 2020 U.S. Census, there are approximately 16,721 residents. US Census 2020 data (USCB 2020)[4], U.S. American Community Survey 2020 (ACS 2020) and ENLACE's own studies[5] provide a striking profile of the poverty prevalent in these communities and their pervasive socio-economic needs. The District's most recent population density is almost three times the rate for the Municipality of San Juan and 19 times that of Puerto Rico (USCB) and the median household income for families living in the District is $23,360. (ACS 5 Year Estimates).[6,7]

The ENLACE Project will address the issues described above while contributing to long-term climate change mitigation, adaptation, and resilience. Investment of CDBG-MIT funds in the ENLACE Project will provide an opportunity for a just and equitable disaster recovery, without community displacement and gentrification and with democratic community participation.

References of public policies and related documents

- PR Law 489-2004[8]
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- Joint Resolution No. 118-2019[13]

[4] American Community Survey 2014-2018 estimates sets the District's population at 13,236.
[5] Proyecto ENLACE, Primer Informe Socioeconómico, 2002, Estudios Técnicos (CPE 2002).
[6] USCB 2010, ACS 2014 & CMP Studies.
[7] American Community Survey 2014-2018 estimates.
* Calculated using the median formula for obtaining the Median from grouped data: L+ (n/2-B)/G x w
[8] http://www.presupuesto.gobierno.pr/af2009_2010/Tomo_II/suppdocs/baselegal/264/ley489.pdf
[9] http://app.estado.gobierno.pr/ReglamentosOnLine/ReglOnLine.aspx under Regulation #7469
[10] http://app.estado.gobierno.pr/ReglamentosOnLine/ReglOnLine.aspx under Regulation #7587
[11] https://usace.contentdm.oclc.org/digital/collection/p16021coll7/id/2302/
[12] https://nlihc.org/sites/default/files/Build_Back_Better_PR_Request_94B.pdf
[13] https://noticiasmicrojuris.files.wordpress.com/2019/11/resoluciocc81n-conjunta-118.pdf

COMMENTS, QUESTIONS, AND SUGGESTIONS:

Main Comments

Introduction and Background

Mitigation for the Present and Future

As Puerto Ricans look toward their collective future and make decisions about how to mitigate natural and human-caused hazards and instabilities such as hurricanes, flooding, climate change and sea level rise, economic disparity, earthquakes, pandemics, drought, and many others, several organizing principles emerge. These organizing principles form a common thread throughout the Risk-Based Mitigation Needs Assessment and inform the programmatic response to the mitigation needs identified therein: (a) reduce instability by lessening the impact of hazard events on the built environment, social structures, and ecological systems; (b) improve the adaptive capacity of Puerto Rico by removing impediments to long-term systemic change and promoting collaborative governance at multiple scales; (c) create self-sustaining, regenerative systems that have the ability to persist or thrive through physical, economic and social challenges.

From our experience of implementing projects in the District and collaborating with different government agencies, we would also argue that **state-caused hazards** due to lack of timely and strategic interventions **must be addressed within the Action Plan**.

Hazard Frequency Assessment (Pp. 24-28 of 432)

Rationale for Hazard Frequency Assessment

Comment: The degree of risk and vulnerability is not necessarily observed at the District level. Constant losses cannot only be attributed to floods and cyclones and their effects. The detriment of family's quality of life in Maritime-Terrestrial Zones (MTZ) is also caused by the state of the body of water and the frequency at which the District is particularly affected (outside of cyclonic or high-risk phenomena). If the level of contamination of water and the frequency at which the District is particularly affected (outside of cyclonic or high-risk phenomena). If the level of contamination in the Caño is excluded, the District may have traits similar to peripheral areas.

Methodology

As stated on page 31 of the Action Plan, "[f]looding is the most frequent and costly natural hazard in the United States. Floods are generally the result of excessive precipitation and can be classified under two (2) categories: flash floods, the product of heavy localized precipitation in a short time period over a given location; and general floods, caused by precipitation over a longer time period and over a given river basin."[15]

[15] Page 29 of the proposed Action Plan.

Comment: The PRDOH only uses the 100-year U.S. Special Flood Hazard Area (SFHA) data in their composite hazard analysis. Mitigation strategies are based on research and projections that may occur once in 100 years (i.e.100-yr flood), while it is common for residents of the Caño Martín Peña to experience severe weekly flooding.

It is true that 100-year flood events represent a significant hazard, we strongly believe that PRDOH must take into consideration that there are communities such as those that make up the District that face significant and periodical impacts as a result of smaller scale flood events (i.e. 1-yr, 5-yr, 10-yr events, etc.). As stated in the Feasibility Report for the CMP-ERP, "[i]nability to improve local drainage infrastructure due to the lack conveyance in the CMP [Caño] leads to substantial flooding with the surrounding neighborhoods. Fecal coliform levels within these floodwaters are alarmingly high, and subsequent human contact with the waters of the CMP has been associated with higher rates of asthma and gastrointestinal diseases."[16] The existing sanitary sewer system combined with the stormwater system is not enough to meet the demands of the residents and adequately function to prevent flood-caused overflows. As a result, the overflow of the combined systems effluent into the Caño communities even in flood events of lesser recurrence. According to the San Juan Bay Estuary Program's "Second Environmental Condition Report 2009", the water quality in Caño is compromised. More than 2,000,000 fecal coliform colonies and 1,200,000 enterococci per 100mL of water have been found in the Caño, which significantly exceeds the parameters allowed by law and regulations of 2,000 and 80 col/100mL, respectively, for an estuarine water body and for indirect human contact activities. As recently as August and November 2020, various flooding events were reported because of Storm Isaias and a cold front, respectively, as shown in Figure 1 and Figure 2.

Figure 1. Flooding in Buena Vista Santurce, District (August 2020)

[16] Feasibility Report, Pag. vi

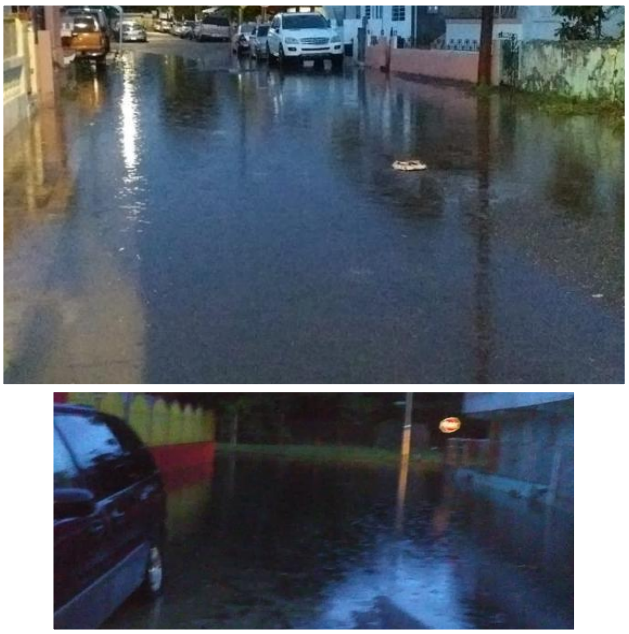
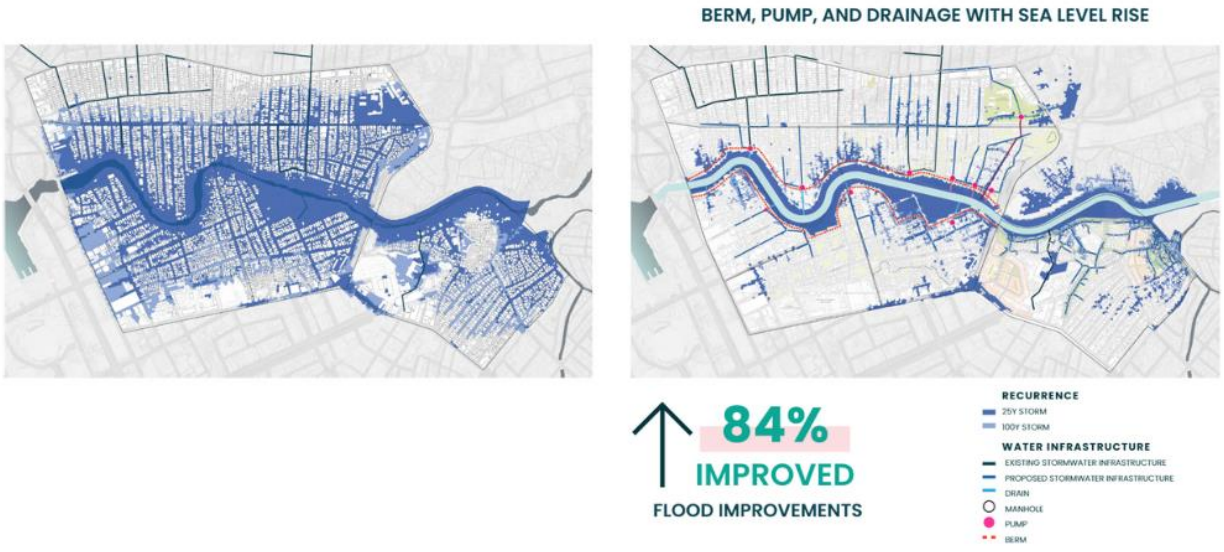


Figure 2. Flooding in Buena Vista Santurce (November 2020)

Additionally, to flooding events in the District not being aligned with the methods used to establish mitigation strategies based on the 100-yr flood, this measure also shows flood zones differently than what the ENLACE Project has documented over the years. The following map shows an example of flood projections in the District before and after water infrastructure improvements[17]:



[17]2022, *Caño Martín Peña Comprehensive Infrastructure Plan Phase II*, Puerto Rico, OLIN.

This shows the discrepancy in the accuracy of FEMA maps and the reality of the District as ENLACE has documented. Therefore, we believe that using only FEMA flood zones to determine mitigation strategies and allocating funds will lead to an inaccurate analysis leaving vulnerable people with their needs unmet.

Risk Analysis Based on Community Lifelines (Pp. 77 of 432)

Risk Analysis Based on Community Lifelines

Geospatial information for the key sectors within four (4) critical lifelines has been compiled and made accessible to communities and citizens of Puerto Rico in the PR Critical Lifeline – Regional Dashboard (https://cdbg-dr.pr.gov/PRpeligrosyriesgosIFRM). Is important to analyze its assumptions in the process of creating the tool because the way data is represented may affect funding opportunities as the tool is used to assess risk and lifeline infrastructure.

Action Required:

(a) We ask PRDOH to coordinate with the ENLACE Project the data to be used to reflect the flood analysis in the District to ensure accuracy.

Analysis of Vulnerability

Comment: It is not clear from the GIS Density Analysis on page 80 if the Critical Lifeline Infrastructure analysis was developed using infrastructure density and quality of infrastructure or not. If quality is not accounted for, this creates an inaccurate representation of vulnerability. The Hazard Vulnerability Composite score of all three factor shows San Juan Metropolitan area as one with the highest vulnerability in the Island, same area where the ENLACE Project serves.

Severity of Consequences

As stated in the "Severity of Consequences Scores by Hazards" Table included on page 91 of the Action Plan, the PRODOH assigns the lowest score to high temperature hazards. The EPA defines "Heat Islands" as "urban areas where these structures are highly concentrated, and greenery is limited, that become "islands" of higher temperatures relative to outlying areas."[18] In addition, the EPA states that:

> A review of research studies and data found that in the United States, the heat island effect results in daytime temperatures in urban areas about 1–7°F higher than temperatures in outlying areas and nighttime temperatures about 2–5°F higher. Humid regions (primarily in the eastern United States) and cities with larger and denser populations experience the greatest temperature differences. Research predicts that the heat island effect will strengthen in the future as the structure, spatial extent, and population density of urban areas change and grow.[19]

[18] https://www.epa.gov/heatislands/learn-about-heat-islands#:~:text=Surface%20Heat%20Islands.,F%20warmer%20than%20air%20temperatures.
[19] Id.

Comment: A study conducted in San Juan and Bayamón modeled the relation between high temperature and cause-specific mortality (e.g. stroke, cardiovascular disease, diabetes, etc.). The study concluded that there is "a significant increase in the effect of high temperatures on mortality, during the summers of 2012 and 2013. Stroke (relative risk = 16.80, 95% CI 6.81-41.4) and cardiovascular diseases (relative risk = 16.63, 95% CI 10.47-26.42) were the primary causes of death most associated with elevated summer temperatures."[20] We believe that high temperatures should be ranked higher as it poses a significant threat to public health.

Severity of Consequences

Comment: In Puerto Rico, the highest "severity/gravity of consequences" score by hazard type is flooding, coastal flooding and sea level rise, and hurricanes (storm surges and winds) (in that order). All three types of danger impact the District directly and consistently. In addition, the waters are contaminated increasing the degree of risk, this was not recognized in the analysis.

General Program Requirements (Pp. 270 of 432)

One of the general requirements established in the Action Plan is to obtain a certification complying with the Green Building Standard for applicable construction.

Action Required:

(a) We request to be exempted from that requirement of certifications in order to maintain the feasibility of the project considering other criteria as the construction cost and time limits. Nonetheless, we take such standards in consideration throughout our designs to address higher levels of sustainability and resiliency.

Unifying Mitigation Strategies (Pp. 291 of 432)

Alignment with Capital Investments

Page 294 states that the Action Plan "conducted extensive outreach and collaboration with a broad group of federal and state agencies, municipalities, private-sector, non-profit entities, and the group most affected by the hurricanes […]."

Action Required:

(a) The ENLACE Project has had the opportunity to actively participate in public outreach for the development of the Action Plan. However, we request that a list and description of the public outreach carried out for the development of the Action Plan be provided in order to better assess the efforts of the PRDOH to reach other marginalized and vulnerable communities which could have suffered the most from the impact of Hurricane Maria. In addition, recognizing that the emergency caused by COVID-19 may have limited PRDOH's capacity to conduct an extensive public outreach, we would like to know if additional activities will be coordinated to ensure greater citizen participation, particularly in rural areas or areas with limited access to technology.

[20] Méndez, P. (2015) https://pubmed.ncbi.nlm.nih.gov/27981339/

Single-Family Housing Mitigation Program (Pp. 345 of 432)

Relocation

As stated on page 350 of the Action Plan, “Properties acquired by PRDOH will be demolished and vacant lots will be maintained as green space”[23]

Action Required:

(a) The PRDOH should create a plan and identify non-CDBG-MIT funds to avoid the adverse effects of leaving vacant lots as green areas. Failure to maintain these spaces will cause problems with scattered vacant lots that will become either clandestine dumps or spaces that promote unwanted and / or illegal activities.

(b) The PRDOH should make the necessary amendments to the Action Plan to incorporate, and assimilate to the CDBG-MIT funds, the provisions set forth in Joint Resolution No. 118 of November 19, 2019 (RC 118-2019, by its Spanish acronym). Section 2.3 of RC 118-2019 states that “[…] in the case of the Caño Martín Peña Special Planning District, any land acquisition made by the Government of Puerto Rico through these funds [CDBG-DR]] should consider its transfer to the Trust, in compliance with and according to the provisions of Law 489-2004, as amended, known as the "Law for the Integral Development of the Martín Peña Special Planning District; [...]".[24]

As of page 350 and subsequently, the terms acquisition, purchase and buyout are referenced incorrectly. Buyout is a form of acquisition. Acquisition may vary on terms such as voluntary and involuntary, but every purchase or “buyout” is inherently voluntary, per statutory requirements (i.e., consent).

Action Required:

(a) The PRDOH should make the necessary amendments to the Action Plan to clarify distinctions between “acquisition”, “purchase” and “buyout”.

The following statement, located on page 351: “The purchase of new housing stock developed by PRDOH… [or] by partners…” lacks congruency in both the english and the spanish version of the Action Plan.

Action Required:

(a) We request that PRDOH makes the necessary amendments to the Relocation section under the Single-Family Housing Mitigation Program to clarify that relocated beneficiaries are not purchasing “stock”, they would be purchasing/buying a house that is within the stock or inventory of new housing developments.

[23] Id, pág. 270
[24] RC 118.

Multi-Sector Community Mitigation Program (Pp. 366-432)

Program Description

As stated on page 369 of the Action Plan, "PRDOH recognizes that the Caño Martín Peña community in San Juan, Puerto Rico, has invested significant planning efforts in identifying community-based mitigation needs…" The Caño Martín Peña is not a singular community as expressed above. The Caño Martín Peña Special Planning District is composed of various communities that border the Martín Peña Channel.

Action Required:

(a) We request that PRDOH makes the necessary amendments to the program description of the Multi-Sector Community Program, clarifying the narrative that suggests that the Caño Martín Peña is a singular community, when the Caño Martín Peña Special Planning District is comprised of 8 communities: Barrio Obrero Oeste, Barrio Obrero Marina, Barrio Obrero San Ciprián Buena Vista Santurce, Buena Vista Hato Rey, Las Monjas, Israel-Bitumul, Parada 27.

As stated on page 369 of the Action Plan, "PRDOH will work with Caño Martín Peña to implement, at a minimum, a $52 million community-based project to serve the housing needs of its residents".

Action Required:

(a) We request that PRDOH makes the necessary amendments to the program description of the Multi-Sector Community Program, to state that PRDOH will work with the Corporación del Proyecto ENLACE del Caño Martín Peña and the Fideicomiso de la Tierra del Caño Martín Peña to implement at a minimum, a $52 million community-based project to serve the housing needs of its residents. The Puerto Rico Law 489 of September 24, 2004, as amended (PR Law 489-2004) charges Corporación del Proyecto ENLACE del Caño Martín Peña with the implementation of the public policy adopted under said law. In addition, pursuant to Article 22 of Law 489-2004, la Corporación del Proyecto ENLACE del Caño Martín Peña approved the General Regulations for the Operation of the Fideicomiso de la Tierra del Caño Martín Peña, which became effective on November 22, 2008 (REGLAMENTO FIDEICOMISO). Said law and adopted regulation also states that both entities shall collaborate closely, promote joint work towards common objectives and approve the necessary agreements to make the implementation of the PLAN FOR THE DISTRICT feasible. Furthermore, Corporación del Proyecto ENLACE del Caño Martín Peña is the only entity, empowered by law to implement planning processes in the Caño Martín Peña Special Planning District. Therefore, we request that PRDOH clarifies the narrative to prevent any misleading statements.
(b) We request that PRDOH takes into consideration the inflation costs on construction labor and materials and adjusts the 52$ Million amount set-aside under the CDBG-MIT Action Plan published in 2020, to better represent the implementation of community-based projects to serve the housing and infrastructure needs of the residents in the Caño Martín Peña District. As requested, and later confirmed thru a Comprehensive Infrastructure Master Plan lead by OLIN, an external work-hire consultant, the implementation costs of such projects is estimated at ~$540 Million dollars.

Elevation Requirements

As stated on page 370 of the Action Plan, “As required in 84 FR 45838, 45864, PRDOH will apply elevation standards for structures located in the Advisory 100-year (or one percent (1%) annual chance) floodplain to require that structures elevated, or reconstructed and elevated, raise the lowest floor (including the basement) to at least two (2) feet above the base flood elevation (BFE).”

Action Required:

(a) We request the PRDOH to lower the requirement to at least (1) feet above the base flood elevation or that PRDOH excludes the Caño Martín Peña Special Planning District from that requirement in order to maintain the feasibility of the projects. Furthermore, as stated above in the comments related to the **Hazard Frequency Assessment,** flooding events in the District are not aligned with the methods used to establish mitigation strategies based on the 100-yr flood. Flood zones shown per the 100-yr food maps are different than what the ENLACE Project has documented over the years.

Citizen Participation (Pp. 391 of 432)

(a) Create Housing Committees in every community composed of community leaders, as well as personnel or consultants with acquisition and relocation experience. This committee should accompany all the families through their relocation process and make sure they are treated justly and sensibly.

Our entities are complying with submitting comments within the period established by the PRDOH. Shall you require clarifications, please contact us at mnunez@martinpena.pr.gov or 1.787.729.1594.

Sincerely,

Mario Núñez Mercado
ENLACE Project Corporation

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Casas del Futuro

CASA PIRAMIDAL

"GRAN RESISTENCIA A SISMOS y HURACANES , EFICIENTE, INTELIGENTE y AUTOABASTECIDA CON ENERGÍA RENOVABLE (Solar + Eólica + Termo Solar) "

BENEFICIOS DE ESTA CASA.

Tiene gran resistencia al sismo y huracanes.

Auto sustentable con energía renovable (Solar + Eólica + Termo solar) y cargador de baterías para vehículos eléctricos.

Gran eficiencia energética.

Estos equipos de energía renovables tienen poco o nulo mantenimiento y una larga vida útil.

Inteligente, con domótica, es la tecnología que convierte la casa en un espacio inteligente y automatizado, capaz de optimizar los recursos energéticos(Internet de las cosas)

Puede estar aislada o conectada a la red eléctrica domiciliaria.

El exceso de energía producida se puede inyectar y vender a la red eléctrica domiciliaria.

No contamina el medio ambiente.

Sencilla, liviana, de rápida construcción y larga vida útil.

Menor costo / m2, comparado con la construcción tradicional de mampostería.

TIPOS DE CASA

Casa Aislada
Zona Rural

Casa Conectada a Red Eléctrica
Zona Urbana – semi Rural

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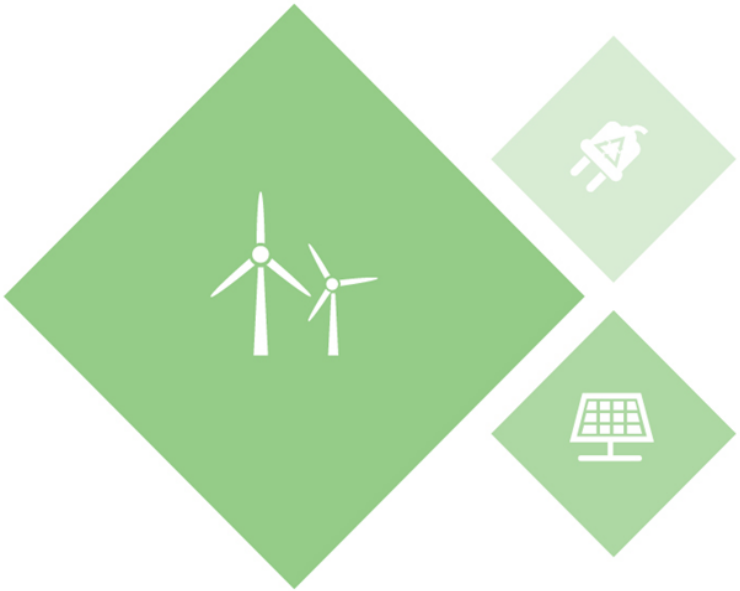
Casas del Futuro

MODELO DE NEGOCIO

Buscamos empresas constructoras y/o desarrolladoras con buenos antecedentes, respaldo económico y disponibilidad técnica, interesadas en tomar la Licencia de la patente, para poder construir y comercializar llave en mano esta casa PIRAMID-ALL Casas del Futuro en cualquier parte del país.

La patente se encuentra actualmente (concedida), se ofrece una (Licencia / Franquicia) por 2 a 3 años con opción a renovar por 5 años más.

También se pretende concesionar a empresas constructoras en otros países, preferentemente Chile, , Centroamérica, México, USA y Japón, que son los países donde hay más sismos y desastres naturales.

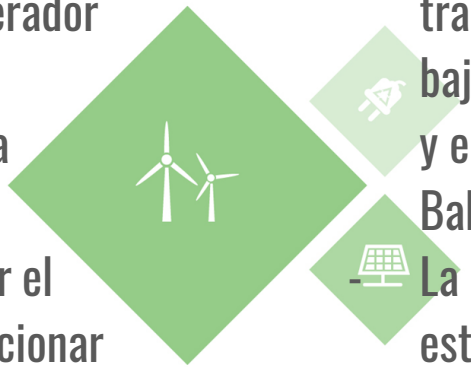


ENERGÍA RENOVABLE

Este proyecto está diseñado con energía (solar + eólica + termosolar) y puede estar aislada o conectada a la red eléctrica domiciliaria. Actualmente, se puede abastecer el total de la demanda media de energía de un hogar tipo de 4 personas, siendo de 7 a 10 Kwh/día,.

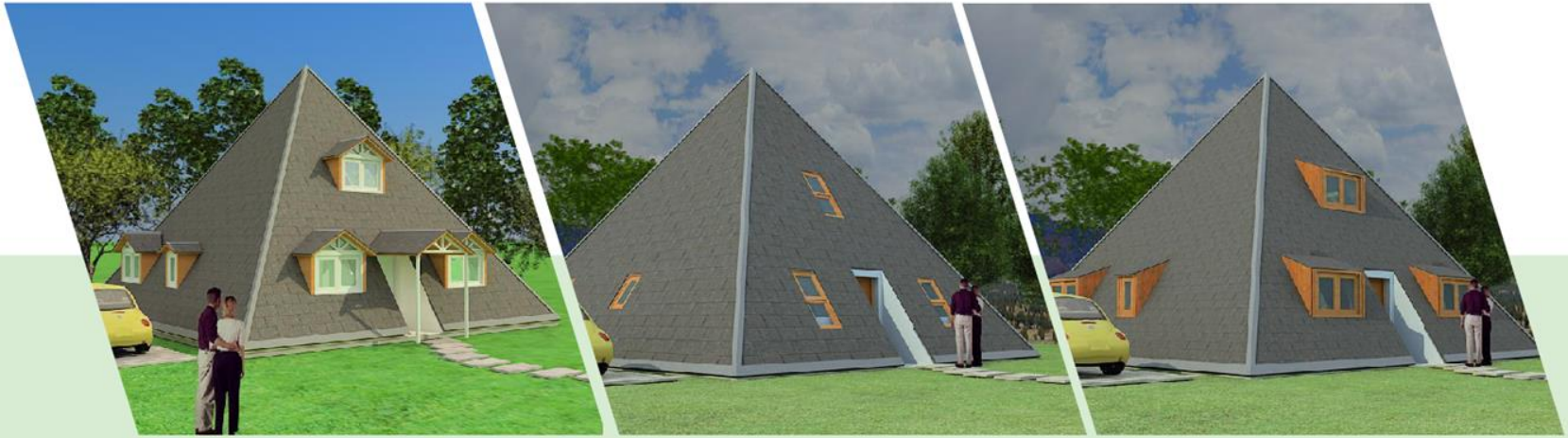
PIRAMID-ALL
Casas del Futuro

- Tiene Paneles solares ubicados en 1, 2 o 3 caras de la pirámide, dependiendo de la energía que se quiera producir, complementado con un aerogenerador eólico en la cumbre del techo.
- Conexión eléctrica para cargar la batería del vehículo eléctrico.
- Termo tanque solar para calentar el agua de uso doméstico y calefaccionar la casa con radiadores o losa radiante.



- El excedente de energía que se produzca y no se consuma, se puede inyectar y vender a la red, transformándose en un prosumidor, bajo la Ley de Generación Distribuida y el Sistema de Facturación de Balance Neto.
- La estructura es metálica/madera y está diseñada para soportar una gran resistencia al sismo y huracanes, la fundación es con vigas y platea de Hormigón Armado.

TIPOS DE FACHADAS



OPCIÓN 1

OPCIÓN 2

OPCIÓN 3

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TIPOS DE FACHADAS

OPCIÓN 4

OPCIÓN 5

OPCIÓN 6

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TIPOS DE FACHADAS

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PROPUESTA – BARRIO SUSTENTABLE

MAQUETA

PLANTA BAJA

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PLANTA ALTA

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VISTA INTERIOR

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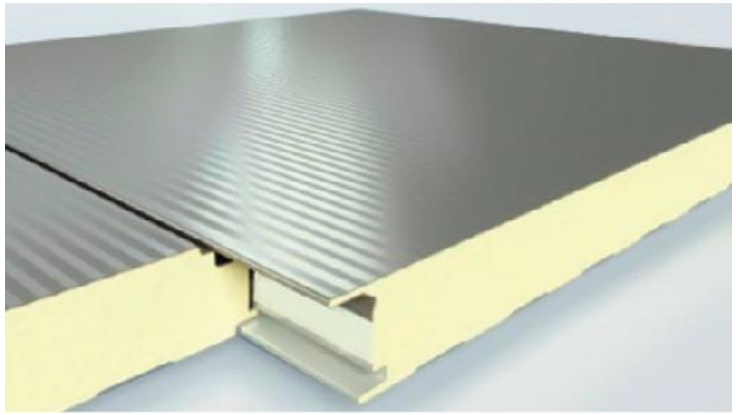
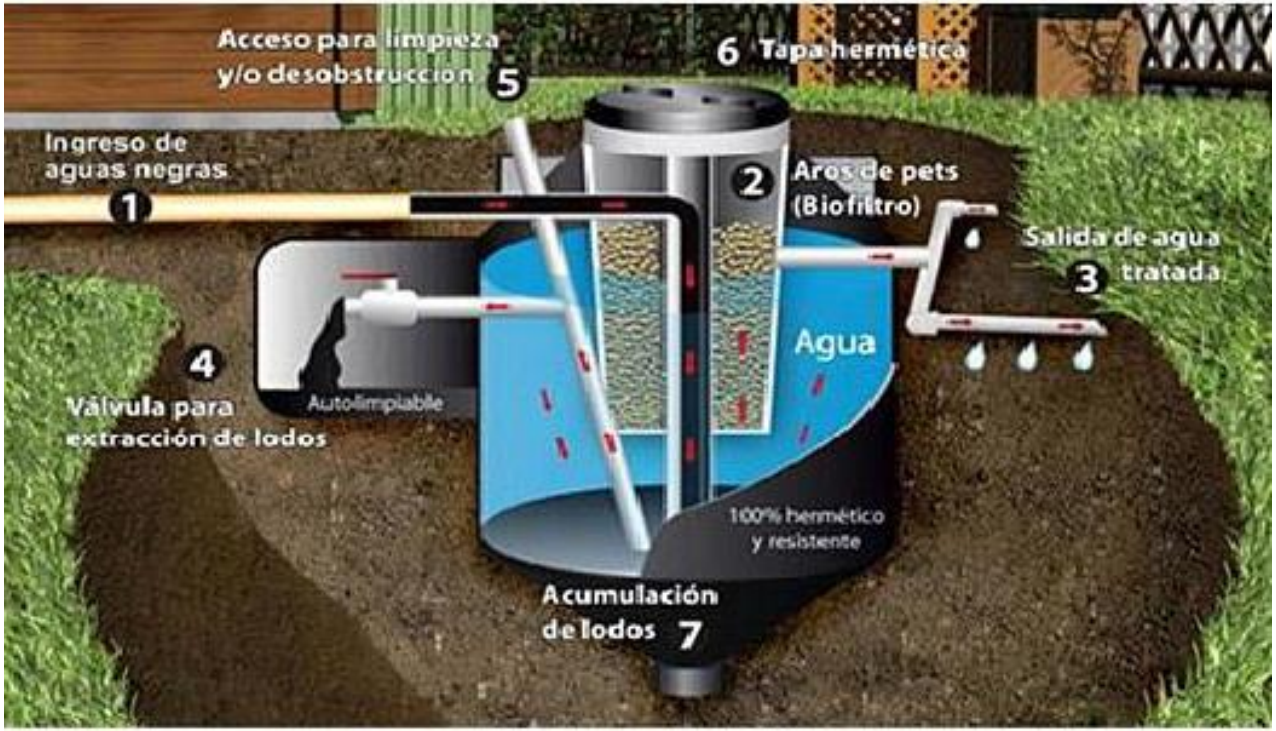



EL AGUA CORRIENTE NO SE DESPERDICIA
SISTEMA DE FILTRAJE SELECTIVO
SISTEMA DE TRATAMIENTO DE AGUA
DEPÓSITO DE TRATAMIENTO
CISTERNA WC


Acceso para limpieza
y/o desobstruccion 5
6 Tapa hermética
Ingreso de
aguas negras
1
2 Aros de pets
(Biofiltro)
Salida de agua
tratada
3
Agua
4
Válvula para
extracción de lodos
Autolimpiable
100% hermético
y resistente
Acumulación
de lodos 7

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dariormartin@gmail.com

CENTRO PARA LA RECONSTRUCCIÓN DEL HÁBITAT

UNA PROPUESTA PARA EVITAR LOS

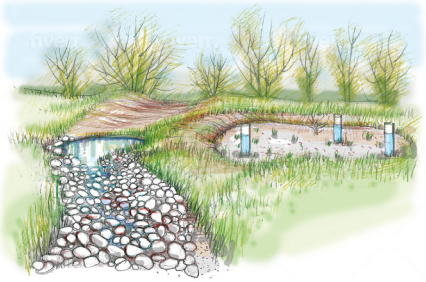
SOLARES BALDÍOS

DEL PROGRAMA R3 DE CDBG-DR

El programa principal del CDBG-DR de Puerto Rico es el de Reparación, Reconstrucción y Relocalización (R3), el el que incluye la conseción de vales a personas para reubicarse fuera de zonas de riesgos. Las propiedades amenazadas son cedidas al gobierno y demolidas. Con el fin de asegurar que estos lotes no se conviertan en vertederos clandestinos y estorbos públicos, el CRH promueve las siguientes medidas verdes.

EJEMPLOS DE ESTRATEGIAS:

BIORETENCIÓN



Otros tipos de suelos, la canalización y siembra de cierta vegetación podrá ayudar mitigar inundaciones.

HUERTO COMUNITARIO

De existir entidades comunitarias dispuestas y capaces, se podrá destinar suelo para proyectos de agricultura urbana.

PATIO EXTENDIDO

Se transfiere el lote a dueñxs colindante, en cambio de mantenerlo y con prohibición a construcciones futuras.

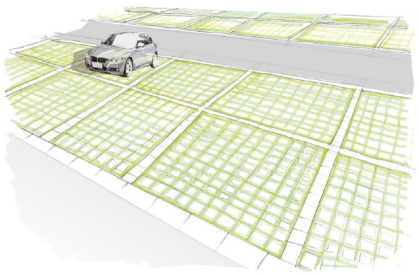
PARQUES "BOLSILLOS"

Dependiendo de la seguridad en el lugar, se podrán instalar pequeños parques verdes o pasivos de poco mantenimiento.

REFORESTACIÓN

Particularmente, en zonas costeras la reforestación podrá mitigar y revertir erosión y controlar inundaciones.

ESTACIONAMIENTO VERDE



La planificación ordenada de estos combate la conversión de lotes a estacionamientos clandestinos.

crhpr.org - info@crhpr.org - 833-CHR-CASA (274-2272)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Casas del Futuro

PIRAMIDAL HOUSE

"GREAT RESISTANCE TO EARTHQUAKES and HURRICANES,
EFFICIENT, SMART and SELF-SUPPLIED WITH RENEWABLE ENERGY
(Solar + Wind + Solar Thermo) "

BENEFITS OF THIS HOUSE.

It has great resistance to earthquakes and hurricanes.

Sustainable car with renewable energy (Solar + Wind + Solar thermo) and battery charger for electric vehicles.

Great energy efficiency.

These renewable energy equipment has little or no maintenance and a long service life.

Smart, with home automation, is the technology that turns the house into a smart and automated space, capable of optimizing energy resources (Internet of Things)

It can be isolated or connected to the household electrical network.

The excess energy produced can be injected and sold to the home electricity grid.

It does not contaminate the environment.

Simple, light, fast construction and long life.

Lower cost / m2, compared to traditional masonry construction.

HOUSE TYPES

Isolated House
Rural zone

House Connected to Red Eléctrica
Urban Area - semi Rural

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BUSINESS MODEL

We are looking for construction and / or development companies with good backgrounds, financial support and technical availability, interested in taking the Patent License, in order to build and market this house PIRAMID-ALL Casas del Futuro turnkey anywhere in the country.

The patent is currently (granted), a (License / Franchise) is offered for 2 to 5 years with the option to renew for 5 more years.

It is also intended to concession construction companies in other countries, preferably Chile, Central America, Mexico, USA and Japan, which are the countries where there are more earthquakes and natural disasters.

RENEWABLE ENERGY

This project is designed with energy (solar + wind + solar thermal) and can be isolated or connected to the home electricity grid. Currently, the total average energy demand of a typical household of 4 people can be supplied, being from 7 to 10 Kwh / day.

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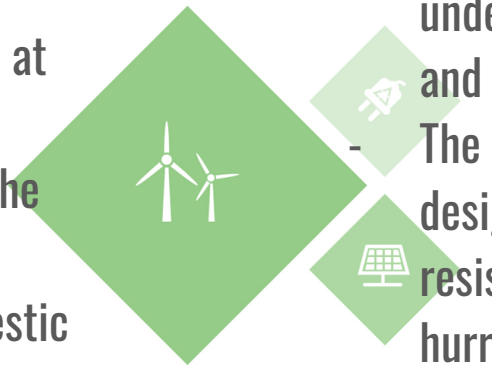
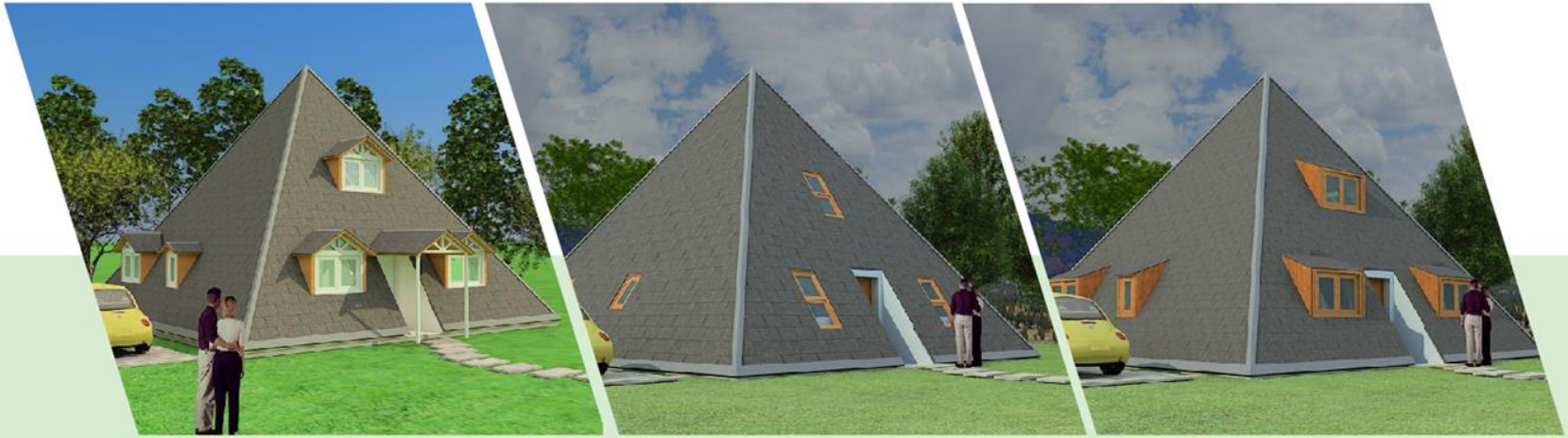
Casas del Futuro

- It has solar panels located on 1, 2 or 3 sides of the pyramid, depending on the energy you want to produce, complemented by a wind turbine at the top of the roof.
- Electrical connection to charge the battery of the electric vehicle.
- Solar thermos tank to heat domestic water and heat the house with radiators or underfloor heating



- The surplus energy that is produced and not consumed can be injected and sold to the grid, becoming a prosumer, under the Distributed Generation Law and the Net Balance Billing System.
- The structure is metal / wood and is designed to withstand great resistance to earthquakes and hurricanes, the foundation is with beams and a reinforced concrete plate.

TYPES OF FACADES



OPCIÓN 1

OPCIÓN 2

OPCIÓN 3

PIRAMID-ALL
Casas del Futuro

TYPES OF FACADES

OPCIÓN 4 OPCIÓN 5 OPCIÓN 6

PIRAMID-ALL
Casas del Futuro

TYPES OF FACADES

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Casas del Futuro

PROPOSAL - SUSTAINABLE NEIGHBORHOOD

MODEL

PLANTA BAJA

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Casas del Futuro

PLANTA ALTA

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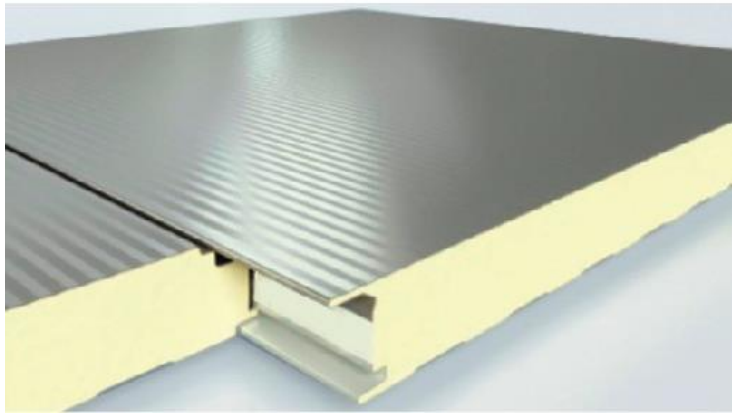
Casas del Futuro

VISTA INTERIOR

PIRAMID-ALL
Casas del Futuro




EL AGUA CORRIENTE NO SE DESPERDICIA
SISTEMA DE FILTRAJE SELECTIVO
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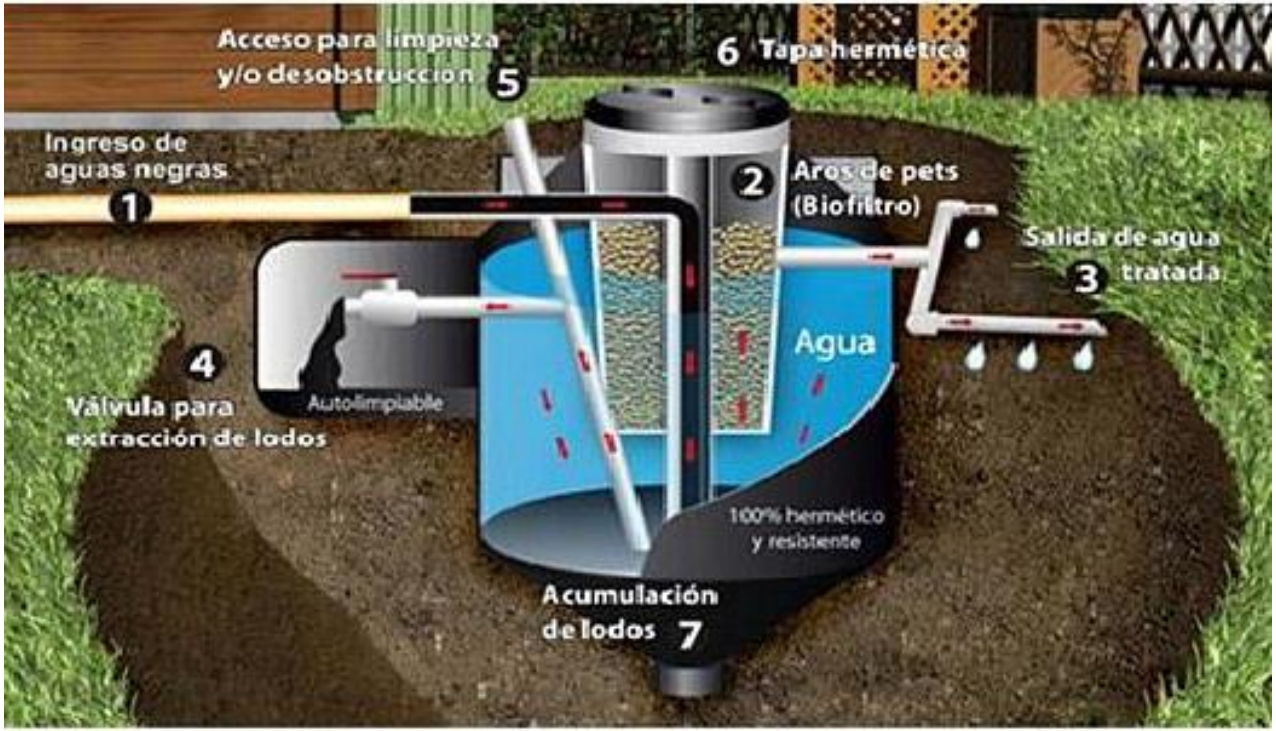
Acceso para limpieza
y/o desobstruccion 5
6 Tapa hermética
Ingreso de
aguas negras
1
2 Aros de pets
(Biofiltro)
Salida de agua
tratada
3
Agua
4
Válvula para
extracción de lodos
Autolimpiable
100% hermético
y resistente
Acumulación
de lodos 7

PIRAMID-ALL

Casas del Futuro

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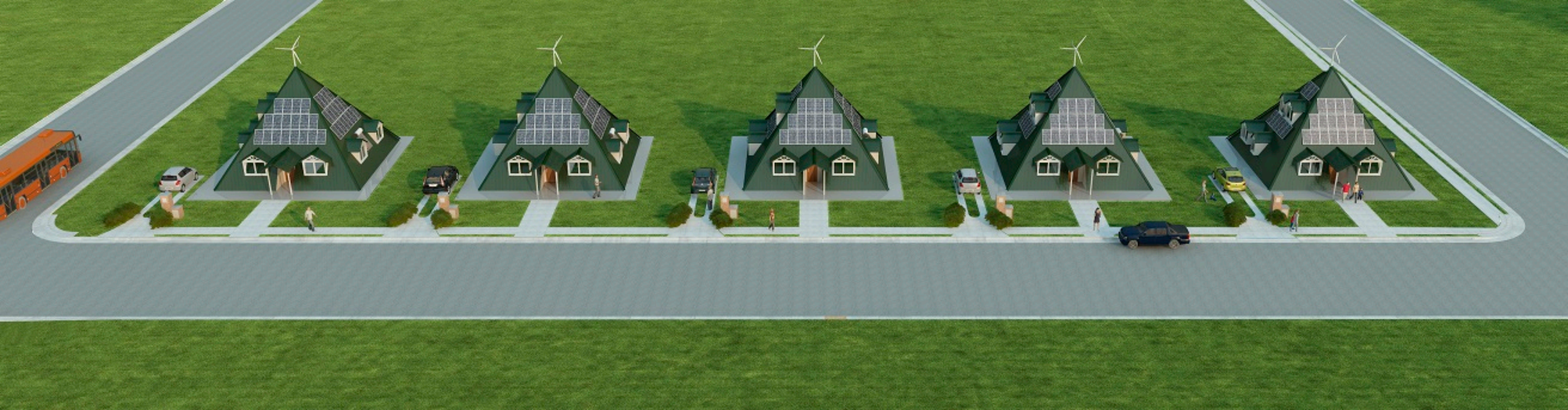

18 de agosto de 2022

Departamento de la Vivienda de Puerto Rico

Comentarios a la revisión sustancial del Plan de Mitigación (CDBG-DR)

Saludos:

Mi nombre es Wanda I. Crespo Acevedo, Planificadora y Especialista en Adaptación al Cambio Climático en Puerto Rico, en apoyo al Programa Regional Integrado de Ciencias y Evaluaciones (RISA), de la Administración Nacional Oceánica y Atmosférica bajo contrato con Lynker. El objetivo de mi posición es facilitar la conexión entre la información científica disponible sobre cambio climático y las actividades de planificación y recuperación de importancia para Puerto Rico.

Por este medio, someto comentarios al borrador del Plan de Mitigación bajo los fondos CDBG del Departamento de la Vivienda Federal (conocidos como (CDBG-MIT), disponible para revisión pública. Mis comentarios están dirigidos a la necesidad de fortalecer el análisis relacionado con el tema de cambio climático y la adaptación en el Plan, de manera que los programas y las actividades propuestas respondan efectivamente a las necesidades actuales y futuras de Puerto Rico y a los objetivos de dichos fondos.

Los fondos CDBG-MIT constituyen una oportunidad única para que los recipientes utilicen la ayuda en áreas impactadas por desastres recientes, con el propósito de que se lleven a cabo actividades estratégicas y de impacto para mitigar los riesgos de desastres y reducir las pérdidas futuras.[1] Estas actividades de mitigación se definen como aquellas que incrementan la resiliencia a desastres y reducen o eliminan el riesgo a largo plazo de pérdida de vida, de lesiones, de daños y pérdida de propiedad y de sufrimiento y dificultades, mediante la reducción del impacto de desastres futuros.[2]

Múltiples informes han documentado que el cambio climático podría incrementar la frecuencia e intensidad de eventos climáticos extremos (Gould et al, 2018; Mycoo et al, 2022). [3,4] Incluso, el informe más reciente del IPCC, indica que en las islas se amplifican muchos de los impactos y riesgos asociados con el cambio climático. Por tanto, la integración de la ciencia climática más

[1,2]Tomado y traducido de: https://www.hudexchange.info/programs/cdbg-mit/overview/

[3] Gould, W.A., E.L. Díaz, (co-leads), N.L. Álvarez-Berríos, F. Aponte-González, W. Archibald, J.H. Bowden, L. Carrubba, W. Crespo, S.J. Fain, G. González, A. Goulbourne, E. Harmsen, E. Holupchinski, A.H. Khalyani, J. Kossin, A.J. Leinberger, V.I. Marrero-Santiago, O. Martínez-Sánchez, K. McGinley, P. Méndez-Lázaro, J. Morell, M.M. Oyola, I.K. Parés-Ramos, R. Pulwarty, W.V. Sweet, A. Terando, and S. Torres-González, 2018: U.S. Caribbean. In *Impacts, Risks, and Adaptation in the United States: Fourth National Climate Assessment, Volume II* [Reidmiller, D.R., C.W. Avery, D.R. Easterling, K.E. Kunkel, K.L.M. Lewis, T.K. Maycock, and B.C. Stewart (eds.)]. U.S. Global Change Research Program, Washington, DC, USA, pp. 809–871. doi: 10.7930/NCA4. 2018.CH20. https://nca2018.globalchange.gov/chapter/20/

[4] Mycoo, M., M.Wairiu, D. Campbell, V. Duvat, Y. Golbuu, S. Maharaj, J. Nalau, P. Nunn, J. Pinnegar, and O.Warrick, 2022: Small Islands. In: Climate Change 2022: Impacts, Adaptation and Vulnerability. Contribution of Working Group II to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change [H.-O. Pörtner, D.C. Roberts, M. Tignor, E.S. Poloczanska, K. Mintenbeck, A. Alegría, M. Craig, S. Langsdorf, S. Löschke, V. Möller, A. Okem, B. Rama (eds.)]. Cambridge University Press, Cambridge, UK and New York, NY, USA, pp. 2043–2121, doi:10.1017/9781009325844.017.

actualizada y disponible, es fundamental para avanzar en la recuperación justa y equitativa y desarrollar resiliencia al cambio climático.[5]

El Plan de CDBG-MIT, hace uso del Plan de Mitigación para Puerto Rico de 2016 (Puerto Rico's 2016 SHMP), el cual fue actualizado por el Gobierno de Puerto Rico en 2021 y está disponible en este enlace [URL]. El Plan de Mitigación de 2016 no contiene información reciente sobre los peligros naturales que afectan a Puerto Rico y cómo el cambio climático incide en los mismos. Se recomienda incorporar la información más reciente del Plan de 2021, de acuerdo con los requisitos establecidos por HUD para los recipientes.[6]

Se recomienda, además, que se complemente con otras fuentes de información secundarias, que permitirían realizar un análisis de riesgos más robusto, entre las que se encuentran:

- **Capítulo del Caribe del Cuarto Informe Nacional del Clima**
    - Gould, W.A., E.L. Díaz, (co-leads), N.L. Álvarez-Berríos, F. Aponte-González, W. Archibald, J.H. Bowden, L. Carrubba, W. Crespo, S.J. Fain, G. González, A. Goulbourne, E. Harmsen, E. Holupchinski, A.H. Khalyani, J. Kossin, A.J. Leinberger, V.I. Marrero-Santiago, O. Martínez-Sánchez, K. McGinley, P. Méndez-Lázaro, J. Morell, M.M. Oyola, I.K. Parés-Ramos, R. Pulwarty, W.V. Sweet, A. Terando, and S. Torres-González, 2018: U.S. Caribbean. In Impacts, Risks, and Adaptation in the United States: Fourth National Climate Assessment, Volume II [Reidmiller, D.R., C.W. Avery, D.R. Easterling, K.E. Kunkel, K.L.M. Lewis, T.K. Maycock, and B.C. Stewart (eds.)]. U.S. Global Change Research Program, Washington, DC, USA, pp. 809–871. doi: 10.7930/NCA4.2018.CH20 [URL]
- **Informe sobre el Estado del Clima de Puerto Rico, 2021**
    - Puerto Rico Climate Change Council (PRCCC). 2022. Puerto Rico's State of the Climate 2014-2021: Assessing Puerto Rico's Social-Ecological Vulnerabilities in a Changing Climate. Puerto Rico Coastal Zone Management Program, Department of Natural and Environmental Resources, NOAA Office of Ocean and Coastal Resource Management. San Juan, PR. Unpublished manuscript. *Comunicarse con el Sr. Ernesto Díaz Velázquez, Coordinador Científico del PRCCC, para obtener copia de este documento.*
- **Resumen del Clima para Puerto Rico y las Islas Vírgenes de EE.UU.**
    - Runkle, J., K.E. Kunkel, L.E. Stevens, S.M. Champion, D.R. Easterling, A. Terando, L. Sun, B.C. Stewart, G. Landers, and S. Rayne, 2022: Puerto Rico and the U.S. Virgin Islands State Climate Summary 2022. NOAA Technical Report NESDIS 150-PR. NOAA/NESDIS, Silver Spring, MD, 5 pp. [URL]

[5] Ver comunicado de HUD: HUD Allocates More than $2 Billion to Advance Equitable Disaster Recovery, Build Climate Change Resilience. https://www.hud.gov/press/press_releases_media_advisories/hud_no_21_181

[6] Ver: https://www.hudexchange.info/programs/cdbg-mit/action-plan-requirements/

El Plan CDBG-MIT, en la página 91 prioriza las consecuencias y severidad para cada peligro identificado, de acuerdo con la información del Puerto Rico's 2016 SHMP. En el mismo se identifica el peligro de calor como de poco riesgo a través de Puerto Rico. Sin embargo, este es un asunto de preocupación en Puerto Rico, que se exacerba por la vulnerabilidad de la población. En Puerto Rico las temperaturas nocturnas han aumentado durante las décadas pasadas y se prevé que continuarán aumentando en escenarios de mayores y menores emisiones (Gould et al, 2018; Puerto Rico Climate Change Council, 2022; Runkle et al, 2022). Incluso, este año se han emitido 13 Heat Advisories en Puerto Rico (estos han sido desde el 18 de mayo al 18 de agosto de 2022).[7] En fin, el peligro de calor existe en Puerto Rico y será incrementado por los efectos del cambio climático. Las siguientes publicaciones proveen información importante sobre el peligro de calor en la población puertorriqueña.

- Di Napoli, C., Allen, T., Méndez-Lázaro, P. A., & Pappenberger, F. (2022). Heat stress in the Caribbean: Climatology, drivers, and trends of human biometeorology indices. *International Journal of Climatology*, joc.7774. https://doi.org/10.1002/joc.7774

- Méndez-Lázaro, P. A., Bernhardt, Y. M., Calo, W. A., Pacheco Díaz, A. M., García-Camacho, S. I., Rivera-Lugo, M., Acosta-Pérez, E., Pérez, N., & Ortiz-Martínez, A. P. (2021). Environmental Stressors Suffered by Women with Gynecological Cancers in the Aftermath of Hurricanes Irma and María in Puerto Rico. *International Journal of Environmental Research and Public Health*, *18*(21), 11183. https://doi.org/10.3390/ijerph182111183

- Méndez-Lázaro, P. A., Pérez-Cardona, C. M., Rodríguez, E., Martínez, O., Taboas, M., Bocanegra, A., & Méndez-Tejeda, R. (2018). Climate change, heat, and mortality in the tropical urban area of San Juan, Puerto Rico. *International Journal of Biometeorology*, *62*(5), 699–707. https://doi.org/10.1007/s00484-016-1291-z

- Méndez-Lázaro, P., Muller-Karger, F. E., Otis, D., McCarthy, M. J., & Rodríguez, E. (2018). A heat vulnerability index to improve urban public health management in San Juan, Puerto Rico. *International Journal of Biometeorology*, *62*(5), 709–722. https://doi.org/10.1007/s00484-017-1319-z

- Rivera-Pagán G. (2019). *Impacto del calor extremo en la Morbilidad Cardiovascular en Puerto Rico.* Tesis doctoral. Escuela de Salud Pública, Recinto de Ciencias Médicas, Universidad de Puerto Rico.

Respecto a los niveles del mar, es importante indicar que estos han estado aumentando en Puerto Rico desde mediados del Siglo 20, y se observa una aceleración notable a partir del año 2010 (Gould et al, 2018; PRCCC, 2022). El Plan CDBG-MIT considera un incremento en el nivel del mar de 10 pies. Se recomienda revisar el siguiente informe técnico sobre los escenarios del

[7] https://forecast.weather.gov/product.php?site=NWS&issuedby=SJU&product=HWO

aumento en el nivel del mar, publicado por la NOAA en 2022 para fortalecer los análisis relacionados con el aumento en el nivel del mar.

- Sweet, W.V., B.D. Hamlington, R.E. Kopp, C.P. Weaver, P.L. Barnard, D. Bekaert, W. Brooks, M. Craghan, G. Dusek, T. Frederikse, G. Garner, A.S. Genz, J.P. Krasting, E. Larour, D. Marcy, J.J. Marra, J. Obeysekera, M. Osler, M. Pendleton, D. Roman, L. Schmied, W. Veatch, K.D. White, and C. Zuzak, *2022: Global and Regional Sea Level Rise Scenarios for the United States: Updated Mean Projections and Extreme Water Level Probabilities Along U.S. Coastlines. NOAA Technical Report NOS 01*. National Oceanic and Atmospheric Administration, National Ocean Service, Silver Spring, MD, 111 pp. [URL]

En el siguiente enlace se encuentra un resumen de indicadores climáticos para Puerto Rico, algunas implicaciones y recomendaciones, el cual resume muchas de las publicaciones antes señaladas [URL].

Finalmente, reiteramos la importancia de utilizar la información más reciente disponible para que los análisis reflejen las tendencias y proyecciones relacionadas con el cambio climático en Puerto Rico y que los programas y actividades respondan efectivamente a las condiciones de la Isla.

Mis funciones en Puerto Rico están dirigidas a apoyar a las agencias estatales, municipios y otras organizaciones a incorporar el tema de cambio climático y la adaptación en los procesos de planificación y la toma de decisiones relacionadas con la recuperación y otros asuntos que sean importantes para Puerto Rico. Quedo a su disposición para apoyar en lo que el Departamento de la Vivienda entienda necesario sobre este asunto tan apremiante para Puerto Rico.

Cordialmente,

Wanda I. Crespo Acevedo, PPL
Climate Adaptation Program Specialist
Lynker, in support of NOAA-RISA Program in Puerto Rico

787-528-5999
wcrespo@lynker.com

19 de agosto de 2022

Hon. William O. Rodríguez Rodríguez
Secretario
Departamento de la Vivienda de Puerto Rico
PO Box 21365
San Juan, PR 00928-1365

Vía portal

Re: Comentarios al borrador de Plan de Acción para los fondos CDBG-MIT

Estimado Secretario:

Reciba un cordial saludo por parte del equipo de Ayuda Legal Puerto Rico. En atención al quinto aniversario del paso del huracán María y la necesidad de utilizar los fondos federales para promover una recuperación justa, sometemos los siguientes comentarios al Borrador de la primera enmienda sustancia al Plan de Acción CDBG-MIT. Considerando nuestras áreas de trabajo, enfocamos la mayor parte de los mismos en los temas relacionados a vivienda, desplazamientos y rendición de cuentas.

I. Programa de Vivienda Unifamiliar, oportunidad de relocalización o mitigación y garantía de participación comunitaria

Las políticas de mitigación y adaptación relacionadas a las inundaciones necesitan atemperarse no sólo al riesgo sino también al derecho a la vivienda. Las relocalizaciones no pueden ser la primera medida de mitigación, porque aumentan el riesgo de convertirse en desplazamientos forzosos y rompen el tejido social de las comunidades sin garantías de que el nuevo espacio sea uno con acceso a educación, salud, empleo o seguridad. Como señalamos previamente, la intención inicial del Departamento a través del Programa R3 de prohibir reconstrucciones en zonas inundables era la más estricta entre las jurisdicciones de Estados Unidos. Además, representaba una amenaza particular para comunidades negras y empobrecidas. Aunque por casi dos años logramos enmendar esta política para garantizar el

derecho a permanecer y a decidir, versiones recientes del Plan de Acción el lenguaje que establecía que las personas solicitantes elegibles a reubicación podrían esperar para considerar la mitigación como alternativa, se eliminó.[1] Aunque según del Departamento esto responde a que ya se contempla la elevación en el Programa de Mitigación de Viviendas Unifamiliares, eliminar esta oración echa al traste las garantías de participación comunitaria (a través del Consejo Asesor Comunitario) sobre las decisiones relacionadas a la mitigación, así como la preferencia del solicitante que podría optar por mitigar y no relocalizarse.

Por otro lado, nos preocupa que ausente un plan de participación y transparencia sobre las relocalizaciones y medidas de mitigación ante inundaciones se repita un panorama de discrimen contra poblaciones históricamente vulnerables. Estudios recientes demuestran que las políticas de elevación de FEMA tienden a favorecer a comunidades blancas o con recursos económicos.[2] Queremos hacer notar que esta disparidad no es ajena a Puerto Rico. Aunque los datos relacionados a raza y relocalizaciones son mínimos e insuficientes, ante desastres atestiguamos cómo sectores afluentes tienen mayor acceso a mitigación mientras que otros son relegados.

Acciones requeridas

- Reincorporar el lenguaje que reconozca el derecho de la persona solicitante a elegir la relocalización o la mitigación cuando ésta última alternativa sea viable.
- Reincorporar el lenguaje que reconoce el derecho y la necesidad de participación comunitaria en decisiones de relocalización que impactan el tejido social, y que no se limite al CAC, sino que integre a la comunidad que específicamente se verá afectada.

II. Necesidad de una política de minimización de desplazamientos con atención a derechos humanos y justicia climática

De forma reiterada, Ayuda Legal Puerto Rico le ha requerido al Departamento la creación de una política de minimización de desplazamientos que se extienda más allá del lenguaje estandarizado sobre la aplicabilidad de la Uniform Relocation Act. En el caso de esta enmienda sustancial, en la que se incorporan nuevos procesos relacionados a infraestructura, aprobación de proyectos de desarrollo económico y la expansión de los programas de vivienda de interés social, una política de minimización de desplazamientos

[1] Véase Departamento de la Vivienda, *Borrador de la Primera Enmienda Sustancial al Plan de Acción CDBG-MIT Plan de Mitigación para Puerto Rico*, en la pág. 379, disponible en https://cdbg-dr.pr.gov/download/plan-de-accion-cdbg-mit-enmienda-1-sustancial-borrador-para-comentarios-publicos-12-de-julio-de-2022/
[2] Thomas Frank, *How FEMA helps white and rich Americans escape floods*, Politico.com, 27 de mayo de 2022, https://www.politico.com/news/2022/05/27/unfair-fema-climate-program-floods-00032080

es urgente. Como siempre hemos advertido, la mayor amenaza para la permanencia de comunidades es la mitigación sin fiscalización.

Un plan de minimización de desplazamientos, permitiría 1) atender la continuidad de garantías de vivienda asequible; 2) integrar el bienestar comunitario, particularmente la integridad de comunidades residentes o circundantes como criterio de selección de propuestas o de fiscalización; 3) garantizar relocalización temporera con asistencia; 4) promover el derecho al retorno; 5) integrar criterio de equidad al analizar el impacto de los proyectos en grupos históricamente marginados por razón de raza y condición social; y 6) atender el impacto de la crisis climática en las posibilidades de comunidades y proyectos de permanecer en los espacios en los que se encuentran, con una perspectiva de derechos humanos.

De no establecerse ahora una política de este tipo, el mayor impacto lo llevarán comunidades históricamente marginadas, particularmente aquellas empobrecidas y negras. Reiteramos que el Departamento debe referirse a análisis de vulnerabilidad sobre los grupos históricamente marginados, así como a áreas de concentración racial o étnica. Todo proyecto debe ser claro en que cumple con el objetivo de equidad racial para atender las necesidades de mitigación a largo plazo de los y las residentes.

Por lo tanto, promover este tipo de política es cónsono con la política federal del propio HUD, según esbozada en el Citizen Participation & Equitable Engagement (CPEE) Toolkit, publicado a inicios de este año.[3] En esos materiales, la agencia atiende el impacto de las políticas de recuperación tras desastres o cambio climático en personas con diversidad funcional, comunidades negras o no-blancas, personas de ingresos limitados, entre otros. Una de las áreas de mayor vulnerabilidad es la de desplazamientos y asistencia en la relocalización, por lo que se llama a receptores de fondos CDBG-DR y MIT a actuar sobre ella. Más allá de participación a través de comentarios y vistas públicas, existe un deber de *avanzar afirmativamente* la protección contra el discrimen hacia estas comunidades. Esto incluye análisis, políticas y procesos de transparencia y rendición de cuentas contínuos a contratistas y a propios funcionarios del Departamento.

Nos parece positivo que el Plan CDBG-MIT enfatice en los proyectos comunitarios y regionales como medidas para reducir el desplazamiento. Sin embargo, los espacios desde

[3] Este *Toolkit* se alimenta del desarrollo de política pública de la presente administración presidencial, en particular de las órdenes ejecutivas 13985 y 13988. Estas órdenes se relacionan a la necesidad de combatir el discrimen por raza, clase y género, además de otras intersecciones, en el uso de fondos federales. El Toolkit está disponible en https://www.hudexchange.info/programs/cdbg-dr/cpee-toolkit/shift-the-mindset/.

donde se tendría incidencia de la comunidad para advertir este riesgo se cierran. A estos efectos, en esta enmienda se elimina la capacidad del CAC e incluso de participantes del programa R3 de discutir estas opciones de mitigación. Este es el caso del ya mencionado Programa de Vivienda Unifamiliar y del Programa para la Mitigación en la Infraestructura[4].

Por último, se enmendó la sección de Operación y mantenimiento bajo Requisitos Generales para eliminar el lenguaje que requería que las compañías provean "informes trimestrales de plan de costos de operaciones y mantenimiento para Vivienda por el tiempo de duración del Programa de CDBG-MIT"[5] en los Acuerdos de Subrecipientes. Reconociendo que las Guías del Plan de Mitigación en la Infraestructura incorporan este criterio como requisito para otorgar las subvenciones, nos preocupa la posibilidad de dejar este mecanismo de rendición de cuenta relegado a las guías. Para garantizar un proceso transparente la población debe estar en posición de fiscalizar a las entidades subvencionadas y velar por el cumplimientos de las actividades a las que se comprometen. Por lo que el Plan de Acción debe reincorporar el lenguaje que obliga a las entidades subcontratadas a rendir informes trimestrales del plan de costos operacionales y de mantenimiento.

Acciones requeridas

- Aprobar una política de minimización de desplazamientos según descrita.
- Promover la adopción real y efectiva de los materiales creados por HUD en relación a la equidad racial en el manejo de estos fondos federales de recuperación.
- Que se integre el análisis de raza a cada Programa detallado en el Plan de Acción CDBG-MIT.
- Retomar el lenguaje que garantizaba participación del CAC y participantes de R3 en el análisis de estos procesos de mitigación y en los Programas de vivienda con estos fondos.
- Retomar el lenguaje de los Requisitos Generales que obliga a rendir los los informes trimestrales de plan de costos de operaciones y mantenimiento en los Acuerdos de Subrecipientes.

III. Programa de Vivienda de Interés Social; contingencias y necesidad de fiscalizar la continuidad de vivienda asequible

[4] P. 340 en adelante
[5] En la pág. 291.

Las enmiendas al Programa de Vivienda de Interés Social[6] permiten la asignación directa a receptores de fondos. Esto permite agilidad pero también promoverá una mayor diversidad de entidades que recibirán fondos para llevar a cabo estos proyectos. El Departamento debe incluir entre los criterios de selección de propuestas y de evaluación de los trabajos la continuidad de oferta de vivienda asequible. Como ha ocurrido en distintos casos, la extinción de condiciones restrictivas que garantizan rentas asequibles, termina promoviendo que fondos públicos apalanquen proyectos de especulación. Así también, la fiscalización constante de estos proyectos puede garantizar cumplimiento con los Objetivos Nacionales de estos fondos, as í como con leyes protectoras como la Fair Housing Act y la Americans with Disabilities Act, entre otras.

Acciones requeridas

- Incorporar entre los criterios de selección y fiscalización que incluyan estrategias para continuar ofreciendo renta accesible a largo plazo, así como la participación de los residentes.

IV. Programa de Economic Development Investment Portfolio for Growth; necesidad de integrar participación comunitaria como un criterio de selección de ofrecimientos

El Programa *Cartera de inversiones para el desarrollo económico y crecimiento- Programa de Mitigación en líneas vitales* propone revitalizar a Puerto Rico a través de la inversión económica para "crear trabajos e impactos económicos en cascada". Conforme establece la enmienda sustancial, "[e]stos proyectos requerirán niveles altos de inversión económica, de los cuales la porción de CDBG-MIT puede fluctuar de menor a significativo. Los proyectos tendrán un impacto sustancial en la comunidad, ya sea en términos de la creación de empleos, servicio al vecindario o renovación de un área específica".[7]

Como hemos reiterado, toda política pública que afecte el derecho a la vivienda y a la recuperación justa debe contar con amplios mecanismos de participación que permitan amplificar las necesidades, los deseos y los reclamos de las comunidades. Para desarrollar un esquema verdaderamente participativo se debe facilitar oportunidades para que las comunidades aprueben, comenten y diluciden los beneficios de los proyectos que les impactarán directamente.

[6] P. 386 en adelante
[7] Pág. 408

Según el Plan de Acción, todos los solicitantes deben demostrar el apoyo de la comunidad a los proyectos propuestos, lo cual puede incluir: documentación de consulta con los municipios en los que ubica el área del proyecto y las personas beneficiarias, cartas de apoyo de organizaciones comunitarias o líderes que representan el área del proyecto y las personas beneficiarias, o mediante instrumentos tales como consorcios formalizados o memorandos de acuerdo ejecutados.

El plan de acción limita la aprobación de la subvención a una serie de escenarios que no consideran la participación de las comunidades de bajos ingresos como un elemento que debe acompañar cada etapa del proyecto en cuestión. Tampoco explica cómo se atenderán los proyectos de manera que se evite la especulación y que los potenciales beneficios económicos se desvíen de la comunidad.

El Plan de Acción debe obligar al Programa de Cartera de Inversiones a reflejar cómo, en atención al requisito de contar con el apoyo comunitario para llevar a cabo los proyectos elegibles, se conserva el derecho de las comunidades a la participación activa mientras se protegen las necesidades de mitigación a largo plazo de los y las residentes.

Acción Requerida:

- Las entidades elegibles e interesadas en solicitar deben integrar la participación comunitaria como requisito obligatorio para competir por los fondos y en cada etapa de la elaboración de los proyectos contemplados bajo el Programa.
- El Departamento debe requerir a las entidades solicitantes un análisis sobre el impacto de los proyectos en el inventario y accesibilidad de vivienda, en atención a las comunidades ya residentes.

Cordialmente,

s/Lcda. Ariadna M. Godreau Aubert
Directora Ejecutiva

s/Lcda. Verónica González Rodríguez
Abogada comunitaria

s/Lcda. María de Lourdes Vaello Calderón
Abogada comunitaria

19 de agosto de 2022

Departamento de Vivienda de Puerto Rico

¡Saludos cordiales! Agradecemos la oportunidad de presentar comentarios al Puerto Rico Mitigation Action Plan – Community Development Block Grant – Mitigation (CDBG-MIT).

Mi nombre es Ernesto L. Díaz y me desempeño como Coordinador Científico del Consejo de Cambio Climático de Puerto Rico (PRCCC, por sus siglas en inglés).

El PRCCC es una asociación voluntaria, auto convocada con una membresía de sobre 150 investigadores y colaboradores provenientes de agencias federales, estatales, universidades publicas y privadas de Puerto Rico, el Caribe y de los Estados Unidos, organizaciones sin fines de lucro y empresas privadas, representados por destacados científicos, ecólogos, oceanógrafos, planificadores, ingenieros, arquitectos, antropólogos, comunicadores sociales e investigadores independientes, entre otros. El PRCCC ha sido responsable de la publicación del primer Informe sobre el Estado del Clima de Puerto Rico en 2013[1], del primer Informe para la región del Caribe Estadounidense incluido como un Capítulo en el *Fourth National Climate Assessment* requerido por el Congreso de los Estados Unidos al Programa de Investigación sobre Cambios Globales (USGRCP, por sus siglas en inglés)[2] y su más reciente publicación el Informe sobre el Estado del Clima de Puerto Rico 2021. Es importante señalar que nuestras publicaciones han servido de base para el desarrollo de la Política Pública sobre Mitigación, Adaptación y Resiliencia al Cambio Climático de Puerto Rico[3], [4] y ha servido de guía para la inversión de fondos para la reducción de riesgos costeros en el marco del Programa de Manejo de la Zona Costanera de Puerto Rico.

Nuestros comentarios se centran en la necesidad de promover la incorporación efectiva de la mejor ciencia y conocimiento sobre la situación actual, las tendencias y proyecciones sobre el clima y de las condiciones marinas y costeras de Puerto Rico y el Caribe, a los procesos de toma de decisiones para mitigar y desarrollar una sociedad sostenible, productiva y resiliente.

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[1] Puerto Rico Climate Change Council (PRCCC). 2013. Puerto Rico's State of the Climate 2010-2013: Assessing Puerto Rico's Social-Ecological Vulnerabilities in a Changing Climate. Puerto Rico Coastal Zone Management Program, Department of Natural and Environmental Resources, NOAA Office of Ocean and Coastal Resource Management. San Juan, PR.

[2] Gould, W.A., E.L. Díaz, (co-leads), N.L. Álvarez-Berríos, F. Aponte-González, W. Archibald, J.H. Bowden, L. Carrubba, W. Crespo, S.J. Fain, G. González, A. Goulbourne, E. Harmsen, E. Holupchinski, A.H. Khalyani, J. Kossin, A.J. Leinberger, V.I. Marrero-Santiago, O. Martínez-Sánchez, K. McGinley, P. Méndez-Lázaro, J. Morell, M.M. Oyola, I.K. Parés-Ramos, R. Pulwarty, W.V. Sweet, A. Terando, and S. Torres-González, 2018: U.S. Caribbean. In *Impacts, Risks, and Adaptation in the United States: Fourth National Climate Assessment, Volume II* [Reidmiller, D.R., C.W. Avery, D.R. Easterling, K.E. Kunkel, K.L.M. Lewis, T.K. Maycock, and B.C. Stewart (eds.)]. U.S. Global Change Research Program, Washington, DC, USA, pp. 809−871. doi: 10.7930/NCA4.2018.CH20

[3] Ley de Mitigación, Adaptación y Resiliencia al Cambio Climático de Puerto Rico. Ley Núm. 33 de 22 de mayo de 2019.

[4] https://aldia.microjuris.com/2013/02/28/cinco-ordenes-ejecutivas-para-proteger-el-ambiente-y-promover-el-desarrollo-sostenible-del-pais/

Estamos conscientes de que el programa CDBG-MIT consiste de asignaciones que se realizan luego de desastres naturales para asistir a las comunidades, brindar viviendas decentes y un entorno de vida adecuado y oportunidades económicas de expansión, principalmente para personas de ingresos bajos y moderados, con la intención de financiar proyectos de mitigación que disminuyan el impacto de futuros desastres.

Subrayamos el final de la descripción del Programa, toda vez que el financiamiento de proyectos de infraestructura que han de cumplir con la reglamentación federal y estatal aplicable vigente para Puerto Rico hará legal dicha construcción, pero se aleja del objetivo de disminuir el impacto de futuros desastres. El desarrollo de nueva infraestructura enmarcados en la legislación, reglamentación y códigos de construcción vigentes significa construir a condiciones pre-huracanes Irma y Maria (2017), así como la reglamentación y códigos vigentes antes de los terremotos (2019-2020) que tanta destrucción trajeron a Puerto Rico. Los programas CDBG-DR y en particular el CDBG-MIT, así como fondos de la Agencia federal para el Manejo de Emergencias y fondos supletorios asignados a las agencias federales pueden servir no solo para desarrollar mayor resiliencia en las comunidades puertorriqueñas y la infraestructura crítica, sino para desarrollar una mayor capacidad para responder y recuperarse luego de eventos similares o más intensos que los ya enfrentados.

La metodología y enfoque empleados en el desarrollo del Plan contribuyen a desarrollar un diagnóstico aproximado de la situación actual de los sistemas socio-ecológicos, sin embargo, detectamos el uso de información no aplicable a Puerto Rico, así como información no actualizada. Apreciamos, asimismo, la incorporación d ellos diferentes *lifelines en la determinación* y la metodología para la determinación de riesgos en el proceso de planificación[5]. No obstante, notamos que peligros como neblina, tornados, licuefacción, rayos y granizo, que no son eventos comunes en Puerto Rico, se encuentren en la lista y que se ubiquen por encima de otros peligros como olas de calor que han causado muertes, trastornos respiratorios severos en la Isla, por ejemplo. Resulta preocupante que no se hayan consultado y empleado en el desarrollo del Plan los datos, información y conocimiento específicos para Puerto Rico avalados por el USGCRP[i] y por revistas arbitradas. Notamos que el Plan de CDBG-MIT se apoya la versión del Plan de Mitigación para Puerto Rico de 2016, el cual fue actualizado en el 2021, pero obvia información reciente sobre los peligros naturales que afectan a Puerto Rico, los cuales son exacerbados por el cambio climático, según se ha probado a nivel global por el Panel Intergubernamental sobre Cambios Climáticos[6], el Informe Especial sobre la

[5] Department of Homeland Security (DHS) extended risk definitionF7 to determine measurable risk in as universal a language as possible, making the results accessible for planning across federal funding sources beyond those addressed in this Action Plan. Here, risk is the potential for an adverse outcome assessed as a function of threats, vulnerabilities, and consequences associated with an incident, event, or occurrence. CDBG-MIT Action Plan Page iv of xv.

[6] IPCC, 2021: Climate Change 2021: The Physical Science Basis. Contribution of Working Group I to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change [Masson-Delmotte, V., P. Zhai, A. Pirani, S.L. Connors, C. Péan, S. Berger, N. Caud, Y. Chen, L. Goldfarb, M.I. Gomis, M. Huang, K. Leitzell, E. Lonnoy, J.B.R. Matthews, T.K. Maycock, T. Waterfield, O. Yelekçi, R. Yu, and B. Zhou (eds.)]. Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA, In press, doi:10.1017/9781009157896.

Ciencia Climática del USGCRP[7] y los informes antes referidos específicos para Puerto Rico publicados por el PRCCC, y cómo el cambio climático incide en los mismos. Se recomienda incorporar la información más reciente del Plan de Mitigación para Puerto Rico (2021), así como la información sobre la condición, tendencias y proyecciones sobre diferentes parámetros climáticos, actualizados al 2021 por el PRCCC. Nuestros hallazgos se encuentran a su disposición para la actualización del Plan y nuestros miembros se encuentran disponibles para apoyar la incorporación de esta información en la medida que así se considere necesaria.

Los temas examinados por el Grupo de Trabajo 1 del PRCCC [8] (PRCCC WG1), se presentan a continuación:

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[7]USGCRP, 2017: Climate Science Special Report: Fourth National Climate Assessment, Volume I {Wuebbles, D<J<. Fahey, K.A., Hibbard, D.J., B.C. Stewart and T.K. Maycock (eds.)} U.S> Global Change Research Program, Washington D.C. USA, 470 pp, doi. 10.7930/J0J964j6

[8] Díaz, E., Terando, A., Gould, W., Bowden, J., Chardon, P., Meléndez, M., and Morell, J. (2021). Working Group 1: Geophysical and Chemical Scientific Knowledge. State of the Climate Report. Puerto Rico Climate Change Council. Díaz, E. and Terando, A. [Eds.]

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Section 2: Puerto Rico's Contribution to Global Climate Change	Adam Terando[3,4] William Gould[5] Mark Jury[6]
Section 3: El Niño and Other Forms of Natural Climate Variability	Jared Bowden[4]
Section 4: Observed and Projected Temperature Changes in Puerto Rico	Adam Terando[3,4] Jared Bowden[4]
Section 5: Observed and Projected Precipitation Changes in Puerto Rico	Jared Bowden[4] Adam Terando[3,4]
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El PRCCC a través de sus grupos de trabajo sobre Sociedad y Economía (WG3) y Ecología y Biodiversidad (WG2) ha examinado, asimismo, los posibles efectos, impactos y consecuencias sobre en función de los cambios en los parámetros evaluados en el marco del WG1.

Estimamos que el uso del conocimiento sobre las condiciones climáticas, peligros, riesgos y vulnerabilidades especificas para Puerto Rico contribuirán a optimizar la inversión de los fondos de CDBG-MIT, evitando que la infraestructura, planes, estrategias, iniciativas y acciones a ser desarrolladas en el marco del Plan, subestimen los peligros y mantengan la vulnerabilidad de nuestra población e infraestructura en los niveles pre-huracanes (2017) y terremotos (2019-2020).

Concurrimos en que los procesos de mitigación no sólo reducen los riesgos para la población, sino para la infraestructura, los ecosistemas, los recursos naturales e históricos, evaluando los riesgos potenciales asociados a las amenazas, desarrollando resiliencia, incorporando redundancia a la planificación en los servicios vitales (*lifeline services*). Es por ello que ofrecemos contribuir a actualizar la información empleada en el desarrollo del Plan para evitar la subestimación de peligros y riesgos que puedan aumentar la vulnerabilidad de los diferentes sectores, servicios y líneas vitales de interés.

Nuevamente, reiteramos nuestro compromiso de apoyar la actualización del Plan de Mitigación para que se guie la inversión de los recursos del Programa CDBG-MIT en la dirección deseable y posible de un Puerto Rico seguro, sostenible, productivo y resiliente.

Respetuosamente,

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19 de agosto de 2022

Lcdo. William Rodríguez, Secretario

Departamento de Vivienda de Puerto Rico

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Re: Comentarios Borrador Plan de Acción CDBG-MIT Enmienda 1 (Sustancial)

Puerto Rico por el Derecho a una Vivienda Digna (PRODEV) está profundamente comprometida con asegurar mediante la participación activa que las comunidades de Puerto Rico tengan la capacidad multidimensionales especialmente en las áreas de desarrollo económico, vivienda, salud, infraestructura, educación y medio ambiente con el objetivo principal de sobrevivir ante las amenazas del cambio climático y prosperar con éxito frente al futuro. Nuestro trabajo demuestra que a medida en que las comunidades estén más involucradas en el desarrollo de planes que pretenden impactarlos, más exitoso será su ejecución.

Quisiéramos unirnos a la invitación de aportar a los comentarios sobre la asignación que hiciera el Congreso de los Estados Unidos el pasado 27 de enero de 2020 de alrededor de $8.3 mil millones de dólares al gobierno de PR para específicamente el desarrollo y ejecución de un Plan de Mitigación que busca aumentar precisamente la resiliencia ante desastres reduciendo a un mínimo el riesgo de pérdida. Nos sentimos que el propósito del Plan de Mitigación esta alineado con nuestro compromiso de impactar a las comunidades con desventajas en todo Puerto Rico para que puedan afrontar peligros presentes y futuros de la mejor manera posible.

Quisiéramos resaltar del resumen ejecutivo del Plan de Mitigación donde se reconoce que *"La resiliencia de Puerto Rico en el futuro podría depender de que los sistemas de la Isla se establezcan en sus propias comunidades: apoyar el desarrollo de recursos locales que no dependan de cadenas de suministros complejas que han demostrado ser frágiles durante un desastre. Es imprescindible asegurarse de potenciar las soluciones locales, las empresas locales y la autoridad de los residentes para influir en la toma de decisiones que los capacita para recuperarse rápidamente luego de un huracán."* Nos brinda confianza que se deprende del propio documento que el

Departamento de la Vivienda utilizo para desarrollar los programas del Plan de Mitigación la "Evaluación de las Necesidades de Mitigación Basada en el *Riesgo"*, para identificar *el impacto de peligros actuales y futuros que amenazan la infraestructura y los servicios que son indispensables para mantener la operación continua de negocios y las funciones criticas gubernamentales*, asunto que ante los huracanes Irma y María demostraron necesitar fortalecimiento para disminuir a un mínimo el riesgos de pérdidas de vidas, bienes y la seguridad económica, ante, durante y después de los desastres.

A continuación queremos destacar algunos comentarios que a nuestro entender son sumamente relevantes ante esta primera enmienda sustancial:

Comentarios

I. *Los daños provocados a la red eléctrica por los huracanes del 2017, Irma y María hizo que HUD otorgara una asignación separada de $1.93 mil millones para las reparaciones de la red eléctrica bajo un aviso de Registro Federal separado, en un nuevo aviso el 22 de junio de 2021 (86 FR 32681), rige el uso de la asignación de $2,000 millones en fondos CDBG-DR para fortalecer o mejorar los sistemas de energía eléctrica en Puerto Rico.*

Como cambio sustancial propuesto estamos en acuerdo que para realizar cualquier tipo de arreglo al sistema de energía eléctrico del país se cumpla con los requisitos para el uso de los fondos de CDBG-MIT y en consonancia con los requisitos sobre el Aviso para la Optimización y Mejoras de los Sistemas de Energía Eléctrica182 en consulta con HUD, según sea necesario, estos promueven **medidas de resiliencia de energía**, localizadas a través de todos los sectores económicos lo que estimula los esfuerzos de mitigación de los riesgos en el sistema eléctrico. Además, también, garantiza disminuir la duplicidad de fondos para un mismo propósito.

II. *El programa atenderá las necesidades de mitigación de los hogares identificados durante la implementación del Programa R3 de CDBG-DR que se consideran inhabitables, enfrentan una amenaza inmediata o están ubicados en un área de alto riesgo. La asistencia a los hogares no se duplicará entre los programas. Por lo tanto, los hogares que reciban asistencia a través del Programa R3 no podrán optar al Programa de Mitigación para Viviendas Unifamiliares.*

En Puerto Rico se ha identificado un gran problema de la falta de títulos de propiedad en muchas comunidades con desventaja económica a través de todo el archipiélago. Esta situación representa una limitación de las posibilidades de mejorar condiciones de infraestructura persistente a través de décadas. Entendemos que esto representa una ventaja al adoptar un lenguaje en la enmienda que reconoce el interés propietario a residentes de manera más flexible para demostrar que es dueño de la propiedad a pesar de la falta de titularidad.

También, es favorable la continuación de los esfuerzos del Programa R3 en aquellas viviendas que se encuentran ubicas en un área donde se identifica las posibilidades de realizar mitigación. Esto además de disminuir los costos asociados a las reubicaciones, el agilizar los procesos de la reconstrucción, también disminuye los efectos sociales que causa en las personas dejar sus lugares de convivencia comunitaria.

III. *"Todos los solicitantes deben demostrar el apoyo de la comunidad a los proyectos propuestos. Esto puede incluir: documentación de consulta con los municipios locales en los que ubica el área del proyecto y las personas beneficiarias, cartas de apoyo de organizaciones comunitarias o líderes que representan el área del proyecto y las personas beneficiarias, o mediante instrumentos tales como consorcios formalizados o memorandos de acuerdo ejecutados. Todos los solicitantes deberán presentar un plan de operaciones y mantenimiento para cualificar. "*

Es meritorio que fuera considerado dentro del Programa de Mitigación específicamente en el área de Infraestructura el desarrollo comunitario y beneficios sociales y comunitario como parte de los esfuerzos. Sugerimos adoptar una definición para los conceptos especialmente desarrollo comunitario, donde este reconoce el trabajo de apoyo a organizaciones comunitarias de base y está fundamentado en propiciar la participación activa de los residentes, quienes se convierten en los protagonistas de sus propias mejoras.

Es a nuestro entender una gran oportunidad que todos los solicitantes tengan que presentar un plan de operaciones y mantenimiento para cualificar. Es imperativo que todos los proyectos propuestos demuestren su capacidad de sustentabilidad a corto y largo plazo antes de realizar inversiones sustanciales. Los planes operacionales y de mantenimiento deben como mínimo asegurar cuáles serán los protocolos de uso, costos de operarlos y recursos identificados para vida útil.

También, esto abre la oportunidad de que aquellas residencias que se determine no estar apta para vivirla puedan adquirirse para usos que respondan a necesidades en proceso de consultas de las propias comunidades donde se encuentran ubicados.

IV. *El Programa para Instalaciones Comunitarias de Energía y Agua Resilientes y el programa de Cartera de Inversión para el Desarrollo Económico y Crecimiento- Programa de Mitigación en Líneas Vitales. "tiene como objetivo maximizar y conseguir desarrollo privado para los proyectos creando Zonas de Oportunidad cuando sea posible".*

El eliminar en esta enmienda el Panel de Casos Especiales quien tenía como responsabilidad atender casos que presentaban excepciones para ser elegidos disminuye los procesos burocráticos, que a nuestro entender puede ser sustituido por unas guías robustas que dirijan los proponentes de manera uniforme.

En cuanto a la reserva de mil millones para mejoras en el área de salud lo consideramos sumamente necesario, especialmente si parte de estos fondos fortalecen las instalaciones públicas como los centros de servicios de salud pública. Uno de estos espacios que consideramos es el Centro Médico, lugar donde se coordinan de manera sistemáticas el conjunto de instituciones, hospitales y programas, a beneficio de personas de todos los niveles socios económicos especialmente aquellas poblaciones más vulnerables. El Centro Médico no tan solo es un espacio de brindar servicios el mismo representa nuestro acervo de

conocimientos y destrezas especializadas en áreas como restauración de la salud física, mental y social de la comunidad, la búsqueda continua del progreso de la medicina y disciplinas relacionadas por medio de la educación, adiestramiento e investigación científica.

V. El Programa de Vivienda Unifamiliar se eliminó como actividad elegible la construcción de vivienda (vivienda nueva): *"Este Programa aborda la necesidad de reducir la pérdida de vidas y de propiedad, al ofrecer a los propietarios de viviendas unifamiliares la oportunidad de reparar, readaptar, rehabilitar, reconstruir, elevar y reubicar su vivienda, en la medida posible, lo que ofrece nuevas opciones de mitigación para las familias que enfrentan riesgos."*

Esta enmienda a nuestro entender atiende la realidad de las áreas que urge atender que es la recuperación de viviendas ocupadas existente. También, entendemos que es una oportunidad de atender una situación que durante la última década a través de todo el país confrontamos que son el aumento sustancial de edificios y viviendas abandonadas que están convertidos como adefesios estéticos. Estos aumentan los problemas de seguridad, causan efectos negativos sobre el ambiente y donde se encuentran disminuyen la economía. Mientras existan áreas abandonadas aunque se realicen mejoras en sus alrededores no se resaltan las inversiones de recursos.

VI. El Plan de Recuperación Económica bajo Programa de Mitigación de la Infraestructura tiene como objetivo conectar y convertir los sistemas que nos son de AAA en sistemas de agua potable. *"WTR 6 Expandir los Servicios de la AAA a las Zonas no Conectadas. Conectar y convertir los sistemas que no son de AAA en sistemas de agua potable de AAA y conectar las comunidades con tanques sépticos y sistemas de aguas residuales de propiedad pública al alcantarillado de AAA, donde sea técnica y financieramente práctico. Cuando no sea técnicamente factible, consulte la sección Comunidades Sostenibles."*

En Puerto Rico existen un promedio de 241 sistemas de acueductos comunitarios o privados conocidos como Non-Prasa, los cuales no pertenecen a la AAA por representar un alto costo de conexión. Los Non-Prasa en Puerto Rico proveen ofrecen servicios a más de 120,000 personas, 68% de ellos obtienen el agua de fuentes subterráneas y el 32 % obtienen el agua de fuentes superficial. Reconocemos que estos sistemas son un claro modelo de autogestión comunitaria que tienen como objetivo principal de proporcionar agua segura y confiable a los residentes de sus comunidades.

Quisiéramos destacar que existen varias iniciativas de inversión económica a los Non-Prasa entre ellas una inversión de FEMA por más de $25 millones con el objetivo de la instalación de placa solares para independizar a los mismos de energía eléctrica. También, recientemente y sin precedente se anunció una asignación de la EPA de un promedio de $340 millones para mejoras de la infraestructura de estos.

Sugerimos hacer una coordinación de esfuerzos con las agencias federales y quienes a través se coordinarán el uso de dichos fondos para maximizar los recursos asignados en dicha enmienda y aumentar la efectividad del uso de estos.

Energy Justice
Puerto Rico

August 19, 2022.

To: Hon. William Rodríguez
Secretary
Department of Housing
Commonwealth of Puerto Rico

RE: REQUEST FOR 30-DAY EXTENSION FOR THE PUBLIC COMMENT PERIOD ON THE PROPOSED FIRST SUBSTANTIAL AMMENDMENT TO CDBG-MIT ACTION PLAN

Hon. William Rodriguez, Secretary,

Justicia Energetica para PR, Inc. hereby request that the public comment period on the Substantial Amendment to the CDBG-MIT Action Plan be extended by 30 days. Justicia Energetica is a local non-profit that has previously submitted throughout comments to PRDOH on their HUD plans, most recently the CDBG-DR Action Plan. It is essential for us and a host of interested parties including communities and NGO's that the public comment period be extended beyond August 19th to assure a comprehensive review, understanding and comment on this critical action plan.

As you know, there are 6 Programmatic Areas and 9 Impact Programs which amount to an investment of over $8.0 billion dollars for Mitigation projects, programs and initiatives for Puerto Rico. The dramatic outreach of this historic effort requires a parallel dramatic effort to promote and cause a strong public participation. Regarding this matter, ICSE, Justicia Energética and other NGO's are committed to join efforts with PRDOH and HUD to effectively disseminate knowledge the historic impact of this reconstruction effort. The extended period requested is critical for our joint success to get the money where the needs are located.

We expect that the 30 day extension will allow ICSE and other NGO's to coordinate public participation, expand awareness, knowledge and discussion efforts among multiple organizations so the pooling of resources and drafting of shared ideas and final comments by allies and us greatly enhances the eventual participation of private sector resources in the final the action plan.

We, thank you in advance for considering an additional thirty (30) days, extending the deadline for public comment to September 19th, 2022, thus encouraging further stakeholder meetings and pooling of privates sector resources that ICSE again commits to with you.

Sincerely,

Waleska Rivera
President

August 19, 2022

Puerto Rico Department of Housing
CDBG-DR
PO Box 21365
San Juan PR 00928-1365
infoCDBG@vivienda.pr.gov
VIA Electronic portal submission

Re: Public Comments for the First Substantial Amendment to the CDBG-MIT Action Plan

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Thank you for accepting public comments on this Substantial Amendment to the CDBG-MIT Action Plan ("Substantial Amendment"). We write to underscore the accurate analysis by the Puerto Rico Department of Housing ("PRDOH" or "Vivienda") of the grave risks posed by Puerto Rico's centralized, fossil-fuel based electric grid and explain why, in light of that analysis, Vivienda should expand funding for distributed clean resources and remove references to the already-rejected ER1 Cost Share Program in this Substantial Amendment.[1] We also respectfully request that Vivienda extend the deadline for public comment by a reasonable period of time, to allow all Puerto Rico stakeholders and interested members of the public to provide comment.

1. Vivienda accurately describes the serious vulnerabilities of Puerto Rico's current fossil-fuel dominated electric grid and the grave risks it poses to residents.

Commenters wholeheartedly agree with, and support, Vivienda's statements concerning the lack of resiliency of the current electric grid in Puerto Rico and the cascading impacts of that vulnerable grid. As Vivienda underscores, a system where the primary power generators are in the south and the bulk of energy demand in the north, requiring electrical power to "traverse the Island's mountainous terrain from south to north using high voltage overhead transmission lines that are vulnerable to hurricane force winds,"[2] is a recipe for disaster. Disaster is precisely what resulted when Hurricanes Maria and Irma devastated Puerto Rico in 2017.

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Moreover, as Vivienda explains, the fact that these centralized, largely distant generating stations run on imported fossil fuels exacerbates the system's vulnerabilities to fuel shortages, wars, and rapid price increases, as well as creating significant climate pollution inconsistent with Puerto Rican law.[3] In Vivienda's words, "the grid system built to accommodate the import and distribution requirements proved fragile and vulnerable during Hurricanes Irma and María and its failure led to cascading failures in communications, healthcare, water, and other Lifelines."[4] Rather than look to problematic quick fixes that recreate a grid which is equally, or more, vulnerable to the next storms that climate science makes clear will hit Puerto Rico,[5] we agree that the archipelago *must* look to self-sustaining energy solutions – such as distributed solar and storage – that support true resilience.

As Vivienda explains, "a Puerto Rico that is dependent on sustained external support to function: foreign investment, imported fuel, and imported food[, all of which] rely on complex supply chains with many potential points of failure. . . . cannot be called resilient."[6] Rather, "[t]he future resilience of Puerto Rico," we are convinced, "rel[ies] on rooting the Island's systems in its own communities: supporting the development of local resources that do not rely on complex supply chains which have proven to be fragile during disasters."[7]

Vivienda further concludes that switching from one fossil fuel to another (Liquefied Natural Gas) is a false solution: "A plan to switch from petroleum to LNG as an interim measure before investing in renewables … would not solve the problem of Puerto Rico's energy dependence, nor the problem of transporting fuels by truck when roads are down. This also conflicts with Puerto Rico's Climate Change Mitigation, Adaption, and Resiliency Law1 135 or the Puerto Rico Energy Public Policy Act—which call for Puerto Rico's power system to be broken up into microgrids that run on increasing levels of renewable energy. This also does not solve the problem of rising prices which already comprise sixty percent (60%) of PREPA's operating cost and cause Puerto Rico to pay higher fuel prices than the other forty-eight (48) states."[8] Another point that supports Vivienda's rejection of gas conversion: PREPA cannot ensure a steady, reliable supply of gas. New Fortress

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Given Vivienda's recognition that the only truly resilient future for Puerto Rico is a far more self-sufficient archipelago not reliant on fossil fuels, Vivienda must act in accordance with its own observations. It must greatly increase funding for distributed solar and storage as well as refuse to fund further centralized fossil-fuel generation and the highly vulnerable long-distance transmission lines that necessarily accompany it, and reject projects – such as ER1, as described below – that undermine that future.

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While $500,000,000 is a good step forward, it is far from enough to ensure all Puerto Ricans benefit from the resilient, clean power that distributed solar provides (and which the "PR100" study, helmed by DOE and other federal agencies, has preliminarily concluded could provide vast quantities of electricity in Puerto Rico).[12] That sum is dwarfed by the well over $15 billion FEMA and HUD have, in total, to finance the rebuilding of Puerto Rico's devastated electrical infrastructure. To achieve the resilient, reliable, independent electric grid that Vivienda makes clear is needed, it should greatly expand the amount dedicated to distributed solar and storage throughout the archipelago and ensure that ample funding from the Community Energy and Water Resilience Installations Program goes to the low-income Puerto Ricans who need it most.

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As Vivienda is aware, any programs under the CDBG-MIT Action Plan must "meet the requirements for the use of the CDBG–MIT funds and [be] consistent with the requirements" for Puerto Rico's CDBG-DR funds for electrical systems

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enhancements, set out at 86 Fed. Reg. 32,681.[13] Further, "activities funded with CDBG-MIT allocation must result in measurable and verifiable reductions in the risk of loss of life and property from future disasters and to yield community development benefits."[14] Using CDBG-MIT funds for the Energy Grid Rehabilitation and Reconstruction (ER1) Cost Share Program does not satisfy those mandates.

Much of the matching funds from ER1 would have been put towards projects propping up long-distance transmission lines almost certain to be downed, yet again, by hurricanes, earthquakes, rapid vegetation growth, and floods.[15] Almost two decades ago, Congress determined that "electric power transmission and distribution lines in insular areas [including Puerto Rico] are inadequate to withstand damage caused by the hurricanes and typhoons which frequently occur in [such] areas and such damage often costs millions of dollars to repair."[16] The Puerto Rico Legislature and the Puerto Rico Energy Bureau also rejected continued reliance on a centralized fossil fuel grid, through Law 17-2019 and the August 2020 Integrated Resource Plan.

Because the proposed ER1 program is inconsistent with the approved Integrated Resource Plan, it failed to prioritize the use of renewable resources, and it failed to demonstrate that the projects it proposed would benefit low- and moderate-income persons, HUD rejected[17] it as insufficient to satisfy the standards for this CDBG grant, as laid out in Federal Register Notice 86 FR 32681.[18] HUD found no evidence that FEMA's proposed projects would provide electrical power system improvements to communities, lower electricity rates, or increase reliability, quality, and durability of electrical infrastructure.[19] This violates the Federal

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Register Notice that grantees "must" use funds for electrical power system improvements that:

> …are undertaken to extend, upgrade, and otherwise enhance and improve the cost effectiveness, reliability, efficiency, sustainability, or long-term financial viability of the grantee's electrical power system including activities to increase the resilience of the electrical power system to future disasters and to address the impacts of climate change.[20]

Through the Disaster Mitigation Act[21] and Disaster Recover Reform Act[22], Congress discouraged FEMA from wasting money on vulnerable projects, and directed FEMA to only invest in resilient projects. The current FEMA grant conflicts with those Congressional directives, and incorporating ER1 into CDBG-MIT funding – when HUD has *already rejected* it in the CDBG-DR process – would be inconsistent with Puerto Rican law, federal mandates, and Vivienda's obligations to low- and middle-income Puerto Ricans.

The ER1 proposal would not ensure that 70% of the grant benefit LMI customers.[23] Communities were not engaged or consulted in the decision to shift these funds away from Housing and Urban Development purposes, and to hand to FEMA.[24] HUD asked and received no answer[25] about how the use of these funds, as matching funds for FEMA's grant, would benefit vulnerable populations, protected classes, underserved communities, rural areas, poor communities, or ethnic communities.[26]

Per p. 133 of the March 2022 Action Plan, ER1 would have relied on the FEMA Programmatic Environmental Assessment. The PEA violates the National Environmental Policy Act, violates Puerto Rico energy law and policy, conflicts with Congressional directives in the Disaster Mitigation Act and the Disaster Recovery Reform Act, and undermines this Administration's Executive Orders on Climate Change and Environmental Justice.

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For all these reasons, HUD rejected ER1. All references should therefore be removed from Vivienda's draft CDBG plan.

Respectfully,

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Via electronic submission to https://cdbg-dr.pr.gov/iframes/PublicComments.html

August 19, 2022

Hon. William Rodríguez, Secretary
Department of Housing (Vivienda)
Commonwealth of Puerto Rico

Re: CDBG-MIT Action Plan Amendment 1 (Substantial): Draft for Public Comment

Dear Secretary Rodríguez,

GRID Alternatives (GRID) appreciates the opportunity to comment on the Puerto Rico Housing Department's (Vivienda) proposed substantial amendment to the Action Plan for Community Development Block Grant-Mitigation (CDBG-MIT). As a preliminary matter, GRID has supported requests for an extension of the public comment deadline, and we look forward to future opportunities for more detailed input on renewable energy and storage programs.

About GRID Alternatives

Renewable energy can drive economic growth, environmental benefits, and resilience in communities most impacted by underemployment, pollution, and climate change. GRID Alternatives is a leader in helping economic and environmental justice communities around the United States get clean, affordable renewable energy, transportation, and jobs. Internationally, our energy access work is lighting up off-grid communities in Nepal, Nicaragua, and Mexico. GRID envisions a rapid, equitable transition to a world powered by renewable energy that benefits everyone.

As a 501(c)3 nonprofit solar installer, GRID has completed solar projects for over 18,000 low-income families and hundreds of community facilities throughout the country, totaling over 80 megawatts and providing more than $620 million in lifetime savings. GRID's work has provided more than 30,000 job trainees and community members with hands-on training to build the skills and experience necessary to secure jobs in today's rapidly growing solar and storage industry. GRID is also a leader in low-income renewable energy policy and partners with utilities, state agencies and other stakeholders to increase solar and storage access and equity. Towards that goal, GRID maintains the Low-income Solar Policy Guide[1] in partnership with Vote Solar.

[1] https://www.lowincomesolar.org/

General Comments on Proposed Amendment to CDBG-MIT Action Plan

GRID advocates for equity to be the driving principle in energy and resilience related policies. To operationalize this principle requires thoughtful design and administration incorporating input from the communities most affected.

In the context of other financing available to enable many higher- and moderate-income Puerto Rican households to obtain solar and storage, these CDBG-MIT funds must be tailored to assist those households that cannot otherwise afford these resilience measures. Without appropriate targeting, these funds are likely to go to projects that would have occurred anyway, eliminating any additional impact and diverting funding from where it is most needed.

To achieve this targeting, the income eligibility criteria for this program should be aligned with the criteria for other programs targeting households most in need. The Action Plan should provide for defining a set of programs (e.g. LIHEAP) for which eligibility would pre-qualify recipients for this subprogram. Paperwork and similar barriers can be especially significant for the lowest income households, so steps taken administratively to streamline the process for these households is crucial. Coordination with other income-qualified programs can not only improve targeting, but also multiply the benefits of each program and maximize return on investment.

However, in certain instances flexibility is also highly important to effective implementation. For example, solar and storage system installations should be encouraged but not required to be accompanied by water system installations. Appropriate expertise on these energy and water systems are not always found in the same companies or entities. Thus, tying them together introduces logistical hurdles and practical project-by-project coordination issues that are likely to significantly slow down deployment.

GRID Alternatives looks forward to continued engagement with the Action Plan for Community Development Block Grant-Mitigation and its energy program to ensure that program investments are intentionally and effectively targeted toward those households in Puerto Rico who can benefit most.

Respectfully submitted by:

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18 de agosto de 2022

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Re: Solicitud de prórroga para comentar la primera enmienda sustancial al Plan de Acción CDBG-MIT.

Estimado secretario Rodríguez Rodríguez:

El 12 de julio de 2022, comenzó el periodo de comentarios públicos para la primera enmienda sustancial al Plan de Acción CDBG-MIT. La fecha límite para comentar es el 19 de agosto de 2022.

En noviembre del 2020, Hispanic Federation presentó sus comentarios al Plan de Acción CDBG-MIT. Actualmente, nuestro equipo de trabajo de política pública está desarrollando los comentarios sobre diversos programas propuesto en la primera enmienda sustancial. Sin embargo, no será posible finalizarlos para presentarlos el 19 de agosto de 2022. Por esto, respetuosamente, **Hispanic Federation solicita una prórroga de diez (10) días laborables para presentar los comentarios a la primera enmienda sustancial.**

A su vez y no menos importante, ante el hecho de que el Comité de Asesoría Ciudadana (CAC) aún no está estructurado ni constituido, respetuosamente, solicitamos prórroga para que el CAC pueda comentar las guías como colectivo una vez esté constituido.

Finalmente, acusamos recibo de la extensión de término concedida a Hispanic Federation para comentar las Guías de Reserva para Pareo Global del Programa de Subvenciones de Mitigación de Riesgos (HMGP, por sus siglas en inglés) y las Guías de Análisis de Costo Beneficio mediante comunicación fechada el 9 de agosto de 2022. Sin embargo, **nuestra solicitud de prórroga original fue a los efectos de que, "ante el hecho de que el CAC aún no está estructurado ni constituido, respetuosamente, solicitamos prórroga para que el CAC pueda comentar las guías como colectivo una vez esté constituido". Por esto, reiteramos dicha solicitud.**

Cordialmente,

f/Maritere Padilla Rodríguez
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ICSE
PUERTO RICO

August 19, 2022

To: Hon. William Rodríguez
Secretary
Department of Housing
Commonwealth of Puerto Rico

RE: REQUEST FOR 30-DAY EXTENSION FOR THE PUBLIC COMMENT PERIOD ON THE PROPOSED FIRST SUBSTANTIAL AMMENDMENT TO CDBG-MIT ACTION PLAN

Hon. William Rodriguez, Secretary,

We encourage the US Department of Housing and Urban Development (HUD) and the PR Department of Housing (PRDOH) in its ongoing effort to enhance the public comments and participation efforts pertaining to Planning and Programming of Congress appropriation of taxpayers moneys and private sector investment in building back better Puerto Rico.

We hereby request now that the public comment period on the Substantial Amendment to the CDBG-MIT Action Plan be extended by 30 days.

ICSE is a local non-profit that has previously submitted throughout comments to PRDOH on their HUD plans, most recently the CDBG-DR Action Plan. ICSE actively participates, convenes, and nurtures consensus building in the governance and the public participation and intervention of basic infrastructure for Puerto Rico. Over the last five years our efforts have focused on bringing together expert knowledge leaders, researchers, energy planners and intervenors in the regulatory framework and policy mandates of Puerto Rico Act 17 Energy Policy of 2019. We also convene and provide subject matter expert education to business and community leaders with formal and informal alliances. The formal alliances include other public interest organizations like Justicia Energética para–Puerto Rico Inc., a non-profit and the PR Manufacturers Business Association.

It is essential for us and the allied NGO's that the public comment period be extended beyond August 19th, to assure a robust review and comment on this critical action plan. As you know, most non-profit organizations do not have a deep pool of specialized personnel dedicated exclusively to the legal and programmatic review of these very important and seemingly complex government processes.

As you know, there are 6 Programmatic Areas and 9 Impact Programs which amount to an investment of over $8.0 billion dollars for Mitigation projects, programs and initiatives for Puerto Rico. The dramatic outreach of this historic effort requires a parallel dramatic and almost unheard-of effort to promote and cause a strong public participation. Regarding this matter, ICSE, Justicia Energética and other NGO's are committed to join efforts with PRDOH and HUD to effectively disseminate knowledge the historic impact of this reconstruction effort. The extended period requested is critical for our joint success to get the money where the needs are located.

We expect that the 30-day extension will allow ICSE and other NGO's to coordinate public participation, expand awareness, knowledge and discussion efforts among multiple organizations so the pooling of resources and drafting of shared ideas and final comments by allies and us greatly enhances the eventual participation of private sector resources in the final the action plan.

We, thank you in advance for considering an additional thirty (30) days, extending the deadline for public comment to September 19th, 2022, thus encouraging further stakeholder meetings and pooling of private sector resources that ICSE again commits to with you.

Sincerely,

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Chairman of the Board
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ICSE | INSTITUTO DE COMPETITIVIDAD Y SOSTENIBILIDAD ECONOMICA
DE PUERTO RICO

Comments on CDBG-MIT Action Plan Amendment 1

August 19, 2022

Contents

1.0 Introduction

On July 12, 2022, the Department of Housing of Puerto Rico (DOH) proposed a substantial amendment to the Action Plan for Community Development Block Grant – Mitigation (CDBG-MIT). CDBG-MIT funds are an opportunity for Puerto Rico to carry out strategic and high-impact activities to mitigate disaster risks and reduce future losses. LUMA's comments focus on the Community Energy and Water Resilience Installations Program, that enables the installation of renewable energy systems, including storage.

LUMA Energy, responsible for operating the electric grid in Puerto Rico to achieve goals of reliability, resiliency, sustainability, and affordability, is committed to engagement with different stakeholders to fully leverage advanced technologies to provide the value that Puerto Ricans deserve. LUMA is grateful for the opportunity to provide feedback on the CDBG-MIT Action Plan and looks forward to furthering collaboration with the Department of Housing (PRDOH).

2.0 Initial Comments

There are important considerations to address when planning for the recovery and transformation of the electricity infrastructure in Puerto Rico, including critical mitigation to increase the resilience of communities and individual households. Both LUMA and the Puerto Rico Department of Housing are working to meet the goals set by the Puerto Rico Energy Public Policy Act, Law 17-2019.

LUMA welcomes this type of early collaboration with the PRDOH and other stakeholders, which will help identify the need for future development of regulations, processes, programs, or projects to provide improvements in the resiliency of Puerto Rico's electricity system.

LUMA understands that federal funds and the collaboration of different entities are an essential part of improving Puerto Rico's electrical system and wants to work together with the PRDOH and other stakeholders that wish to adopt a coordinated approach for the benefit of Puerto Rico.

LUMA supports the Department of Housing's prioritization of projects that:

- Reduce the impact of climate change, such as those using renewable sources of energy
- Improve the efficiency of electric power generation, electricity transmission and distribution infrastructure; and
- Decrease transmission and distribution losses and therefore minimize the consumption of fossil fuels in power generation.

LUMA's comments have the goals of encouraging CDBG-MIT funding continue to support the use of solar and battery energy storage to make communities in Puerto Rico more resilient in the face of disruptive events, more environmentally sustainable, and economically productive. Doing so, LUMA believes, is dependent on solar and battery energy storage being equitably deployed in a technically sound way that can be integrated by grid technologies to provide maximum value for communities and households.

3.0 Future Considerations

LUMA recommends that during the design and implementation phases of the program, DOH carefully consider, among other things:

GRID VISIBILITYTO ENSURE SYSTEM LEVEL RESILIENCY, AND POTENTIAL FOR CONTROLLABILITY IN THE FUTURE.

The value of behind-the-meter solar generation and energy storage can be maximized when they are ultimately integrated into the larger grid, providing all customers access to cleaner, more reliable, and more affordable electricity. To achieve that, LUMA would encourage deployment of grid sensors at the point of interconnection, in order to provide the grid operator the enhanced observability needed to improve resiliency and support the integration of distributed energy resources (DER) like solar PV and energy storage. Coupling solar PV, energy storage and these controls would also increase system hosting capacity and more equitably allow more participants in net energy metering programs, making it more affordable for customers to participate in these technologies. Additionally, this would support future grid controllability needs, which will produce incremental improvements in grid resiliency and expand the grids capacity for additional renewable generation, producing more sustainability and reliability benefits for the island.

TECHNICAL SPECIFICATIONS TO SUPPORT LARGE-SCALE DEPLOYMENT OF TECHNOLOGIES

The long-term integration of distributed energy resources like solar and storage require foundational technologies like advanced metering infrastructure (AMI), as well as advanced capabilities like advanced distribution management system (ADMS) and microgrids. These technologies together provide the increased ability to identify, process, and understand the critical information about natural disasters that is needed to support the planning of a grid with high penetrations of clean generation. The technology also enables the control capabilities needed to integrate the energy resources that can mitigate the effects of climate change, while also the adaptation capabilities that can prepare communities to respond to disruptive events. LUMA encourages the PRDOH to support engagement with stakeholders and the electric utility to define a larger vision for the utility deployment of AMI and ADMS, as well as a structured process to support third-party, as well as privately owned microgrids. This will help more customers across the island benefit from improved grid reliability, resiliency during disruptive events, as well as adopting DER like solar panels which can reduce costs and emissions.

PARTNERSHIPS

The value of these resources can be fully demonstrated in the short-term when they are part of a larger microgrid and/or a DER management system (DERMS) project. By linking these technologies together, it would provide higher levels of resilience and sustainability to customers, reducing carbon emissions and supporting resiliency during disruptive events. With these capabilities, communities will be better prepared to avoid the damage that could occur when a severe event strikes an area without sufficient capabilities to mitigate its effects. To achieve this, LUMA would encourage the PRDOH to explore a potential partnership with stakeholders including the electric utility on identifying an electrically defined area where multiple customers would have solar and storage deployed to it, and the electric utility would interconnect these DERs into the grid to further demonstrate the value of these technologies.

4.0 Conclusion

LUMA welcomes the opportunity to provide feedback. LUMA believes that adoption of the objectives and principles summarized in this document will support effective use of CDBG-MIT funds for electric system

enhancements in Puerto Rico in a manner consistent with Puerto Rico's energy public policy. LUMA looks forward to continuing constructive discussion and coordination.

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19 de agosto de 2022

Departamento de la Vivienda de Puerto Rico

Comentarios al borrador de la primera enmienda sustancial del Plan de Acción CDBG MIT

El Centro Legal de Desarrollo de Resiliencia de la Universidad de Puerto Rico (RLC, por sus siglas en inglés) es una iniciativa de la Escuela de Derecho de la UPR que busca cambiar el equilibrio de poder hacia las comunidades locales con el fin de garantizar que la recuperación y la reconstrucción de Puerto Rico sea eficaz, justa y resiliente, y que se atiendan con celeridad los asuntos relacionados al cambio climático. Para lograr esto, se establece un centro dedicado a abogar por esfuerzos de recuperación de desastres y la concienciación sobre el cambio climático, se capacita a estudiantes, abogados y otros profesionales en técnicas legales para una recuperación resiliente y para combatir el cambio climático y, además, se brinda asesoría, representación legal y educación a personas, organizaciones y líderes de comunidades afectadas por desastres naturales y el cambio climático. El RLC sirve de apoyo a entidades que buscan promover una recuperación equitativa y sostenible y luchan contra el cambio climático, asegurando una distribución justa de los fondos gubernamentales, y promoviendo la resiliencia necesaria en nuestras comunidades.

El 19 de julio de 2022, el Departamento de la Vivienda de Puerto Rico (Vivienda) publicó el borrador de la primera enmienda sustancial del Plan de Acción CDBG-MIT (Plan de Acción) y abrió un período de 30 días para recibir comentarios del público sobre el plan. Por lo tanto, presentamos el siguiente análisis y comentario.

A. Clarificación del requisito de titularidad

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El borrador clarifica que el requisito de ser dueño de la propiedad puede demostrarse a través de un interés propietario en la estructura ocupada y elegible para el Programa de Mitigación de Vivienda Unifamiliares. Coincidimos con esta clarificación, ya que la reducción de los requisitos de titularidad eliminarían obstáculos a comunidades desventajadas y así podrán solicitar la asistencia necesaria. No obstante, es importante que se aseguren que el interés propietario sea aplicado uniformemente a todas las familias, pues han habido denegaciones de estos fondos a familias por alegados problemas de titularidad.

B. Eliminación de la Sección 105(a)(18)

El borrador elimina la "rehabilitación de viviendas" como una actividad elegible bajo el Programa de Mitigación de Viviendas de Interés Social y el Programa para Mitigación Comunitaria Multisectorial. Sin embargo, el borrador no provee información o explicación sobre la causa de su eliminación. Nos surge la interrogante y la preocupación de cómo se ayudará a comunidades y familias tras la eliminación de la rehabilitación de viviendas como actividad elegible bajo el programa, especialmente cuando conocemos una cantidad significativa de familias que se les ha denegado la ayuda en el Programa R3.

C. Extensión de la PR-22: incumplimiento de requisitos CDBG-MIT

En el borrador, se menciona un proyecto de financiamiento para desarrollar *una red vial más extensivamente resiliente.*[1] Más adelante en el borrador, y sin brindar detalles, se menciona el objetivo de extender la PR-22 en alineamiento con el plan de recuperación económica.[2]

Al evaluar la propuesta de la extensión de la PR-22, incluida en el borrador del Plan de Acción, Vivienda no ofrece detalles sobre el proyecto que demuestre su cumplimiento con los requisitos establecidos por HUD y con diversos estatutos ambientales. El borrador se limita a enumerar como objetivo la expansión de la PR-22, en alineamiento con el plan de

[1] Plan de Acción de CDBG-MIT, pág. 172.
[2] Plan de Acción de CDBG-MIT, págs. 437-38.

recuperación económica, pero sin información adicional sobre el proyecto o la actividad propuesta. Además, en el Apéndice H,[3] titulado Proyecto de la Oficina del Gobernador, se encuentra una lista de proyectos con descripciones breve, entre los cuales se encuentra ampliar la ruta 22 (Manatí a Aguadilla) como uno de los proyectos cuyo objetivo es aumentar la capacidad de la Línea Vital de Transportación. Ahora bien, dicho listado se limita a simplemente expresar que el proyecto se alínea a las necesidades de mitigación identificadas, y que se recibieron otros proyectos relacionados a la ampliación de la ruta 22 en diferentes formularios de proyectos propuestos de mitigación.

Los requisitos del Departamento de Vivienda Federal (HUD) dispuestos en el Federal Register, 84 FR 45838, establecen los objetivos que tiene que cumplir el Plan de Acción. El aviso describe los requisitos y procedimientos, incluyendo exenciones y requisitos alternativos, aplicables a los fondos CDBG-MIT. Según el aviso del Federal Register de HUD, las actividades del Plan de Acción deben cumplir con los siguientes requisitos:

> All CDBG–MIT activities **must:** (1) Meet the definition of mitigation activities above; (2) address the current and future risks as identified in the grantee's Mitigation Needs Assessment of most impacted and distressed areas (described below); (3) be CDBG-eligible activities under title I of the Housing and Community Development Act of 1974 (HCDA) or otherwise eligible pursuant to a waiver or alternative requirement; and (4) meet a national objective, including additional criteria for mitigation activities and Covered Projects. **The action plan must describe how funded activities satisfy these requirements.**[4]

i. **Las actividades propuestas en el Plan de Acción deben cumplir con la definición de *mitigation activities*, el cual dispone que son aquellas actividades que aumentan la resiliencia a los desastres y reducen o eliminan el riesgo a largo plazo de pérdida de vidas, lesiones, daños y pérdidas de propiedad, al disminuir el impacto de futuros desastres.**[5]

El Plan de Acción no incluye suficiente información para determinar si se cumple con la definición de *mitigation activities.* El borrador, al igual que el Apéndice H, fallan en explicar en detalle cómo la extensión de la PR-22 facilitará un aumento a la resiliencia ante

[3] Apéndice H.
[4] Registro Federal Vol. 84 No. 169 (30 de agosto de 2019), 84 FR 45838, 45840 (énfasis suplido).
[5] *Id*.

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desastres futuros, reducirán el riesgo de pérdida de vidas y propiedad y disminuirá el impacto ante futuros desastres.

ii. **El Plan de Acción debe incluir un *Risk-Based Mitigation Needs Assessment* que identifique y analice todos los riesgos significativos de desastres actuales y futuros y proporcione una base sustantiva para las actividades propuestas. Para completar la evaluación y análisis, los concesionarios deben consultar con otras jurisdicciones, el sector privado y otras agencias gubernamentales.**[6]

El Plan de Acción no contiene bases suficientes para determinar que la extensión de la ruta PR-22 aumentará la resiliencia o cubrirá una necesidad apremiante. El Plan de Acción y la información provista en el Apéndice H no cumplen con identificar los riesgos significativos. Tampoco ofrecen información o referencias a investigaciones que indiquen o determinen que la extensión de la PR-22 proveerá reducciones medibles y verificables en el riesgo de pérdida de vida y propiedades por futuros desastres, y que producirá beneficios de desarrollo a las comunidades de la zona y la ciudadanía. Además, no se provee consultas con otras jurisdicciones o sectores. De igual manera, no se explica, entre otras cosas, las razones por las cuales sería más resiliente la extensión de la PR-22 en comparación con la PR-2 y cuánto tiempo se tardó en abrir la PR-2 después del paso de los huracanes.

iii. **Las actividades propuestas deben ser elegibles según el título I del Housing and Community Development Act 1974 (HCDA) o de otro modo elegibles conforme a una exención o requisito alternativo.**

Al revisar las actividades autorizadas por la HCDA, entendemos que el proyecto propuesto de extender la PR-22 no cae bajo ninguna de las actividades elegibles.[7] Aunque el borrador del Plan de Acción menciona que el proyecto puede cualificar bajo la excepción de dominio eminente, el Aviso de Registro Federal dispone una limitación al uso de fondos para dominio eminente. El Aviso aclara que no se puede usar fondos CDBG-MIT para apoyar proyectos federales o locales que busquen usar el poder de dominio eminente, al menos que

[6] *Id.*
[7] Apendix A

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sea para un uso público que beneficie o sirva al público en general.[8] Recalcamos que el Plan de Acción no cumple con la información requerida para concluir que la extensión de la PR-22 proveerá un beneficio público. Por lo tanto, no cualifica bajo la exención de dominio eminente.

iv. Las actividades propuestas deben cumplir con un objetivo nacional, incluidos los criterios adicionales para las actividades de mitigación y los proyectos cubiertos (*covered projects*).

Según el borrador del Plan de Acción, los proyectos que incurren en un gasto de $50 millones, llamados *Covered Projects*, tienen que cumplir con requisitos adicionales.[9] Luego de una evaluación de los requisitos adicionales, concluimos que el Plan de Acción tampoco cumple con éstos. El borrador no provee la información suficiente para determinar el cumplimiento.

v. Otros requisitos alternativos dispuestos en el aviso del Federal Register de HUD para que los concesionarios implementen en los programas son: ofrecer consideraciones de planificación a largo plazo, ofrecer conexión de programas de mitigación con los riesgos identificados, dar prioridad a comunidades de ingresos bajos y moderados, establecer planes para minimizar desplazamientos y garantizar accesibilidad, establecer planes de mantenimiento, verificar costos y establecer códigos de construcción y planes de mitigación de riesgos.[10]

Las consecuencias ambientales, económicas y sociales del proyecto propuesto nos hace concluir que la extensión de la PR-22 causará más daños que beneficios para la ciudadanía. El impacto negativo de la actividad propuesta no va a la par con los requisitos ni con la intención de los objetivos de los fondos CDBG-MIT, establecidos por HUD. El

[8] *Véase* 84 FR 45838, 45869.
[9] El Aviso del Registro Federal 45838, 45851 dispone que:
All CDBG–MIT Covered Projects must meet the additional criteria to meet a national objective:
(1) Definition of an infrastructure project
(2) Covered Project action plan or substantial amendment requirements
(3) HUD review of action plans and substantial amendments for Covered Projects
(4) Implementation of Covered Projects
To meet a national objective, all Covered Projects must:
(1) Demonstrate long-term efficacy and fiscal sustainability
(2) Demonstrably benefit the MID area
To meet a national objective, all CDBG–MIT activities must:
(1) Demonstrate the ability to operate for the useful life of the project
(2) Be consistent with other mitigation activities
[10] *Véase* 84 FR 45838.

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borrador no contiene detalles sobre la planificación a largo plazo ni planes para establecer un mantenimiento eficiente. Tampoco ofrece información ni un estudio sobre cómo el proyecto va a beneficiar o priorizar a las comunidades de ingresos bajos y moderados. Reiteramos que el Plan de Acción, al igual que los apéndices adjuntos, no tienen la información suficiente para determinar si se cumple con los requisitos establecidos.

vi. Para el uso de los fondos, se requiere cumplir con requisitos de protección ambiental y política pública ambiental aplicable, incluyendo completar las evaluaciones ambientales requeridas.[11]

El Aviso del Registro Federal requiere que se hagan evaluaciones ambientales.[12] La extensión del expreso PR-22 tiene un impacto significativo en el ambiente y las comunidades aledañas. Este impacto ha sido analizado y discutido ampliamente por diversas organizaciones comunitarias y ambientales, tales como Ciudadanos del Karso, Inc., y se han discutido alternativas noveles que protegen el ambiente, las comunidades y la economía del área, por lo que es imperativa la participación activa de estas organizaciones en el proceso de evaluación de la extensión de la PR-22.

Una de las zonas que más se afectaría por la actividad propuesta es la región cársica, si las alineaciones se desarrollan a través de la geología cársica húmeda no desarrollada, en lugar de utilizar vías ya desarrolladas. Es importante recalcar que esta área está protegida por la Ley Núm. 292-1999, conocida como "Ley para la Protección y Conservación de la Fisiografía Cársica".[13] Esta ley contiene un listado de actividades prohibidas en la zona cársica, incluyendo la extracción, excavación, fragmentación de ecosistemas de valor natural y la construcción de caminos, carreteras u otras vías sin la autorización debida.[14] Según

[11] NFM Program Guidelines, §4.12.
[12] *Véase* el 84 FR 45838, 45840, donde se indica lo siguiente:

> The grantee may not draw down funds from the line of credit for an activity until after the Responsible Entity (usually the grantee): (1) Completes required environmental review(s) pursuant to 24 CFR part 58 or adopts the environmental review performed by another federal agency, as authorized by the Appropriations Act; and (2) Receives from HUD or the Responsible Entity (as applicable) an approved Request for Release of Funds and certification.

[13] *Véase* la "Ley para la Protección y Conservación de la Fisiografía Cársica", Ley Núm. 292-1999 (12 LPRA §§ 1151-1158) y el Plan y Reglamento Especial del Área del Carso del 4 de julio de 2014.
[14] 12 LPRA §§ 1152a-1152h.

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estudios realizados, algunos de los impactos ambientales que la extensión de la PR-22 tendrían en la región cársica son la disminución en la calidad del agua, posibles inundaciones, afectaría los abastos de agua y ocasionaría contaminación por los sedimentos e hidrocarburos y la pérdida de biodiversidad, incluyendo efectos negativos a los bosques, mogotes y humedales.[15] Los estudios también indican efectos negativos a la economía del área ya que se desplazarían familias, negocios e instituciones. Además, el proyecto causaría el cierre de vaquerías, pozos de agua y sumideros, desplazará a cientos de familias y provocará una deforestación de más de mil cuerdas de terreno.[16] Considerando los reclamos de las comunidades aledañas y los resultados de varios estudios realizados a través de los años, el proyecto no cumple con los objetivos principales de la Política Pública Ambiental.[17] Además, violaría la política pública ambiental que establece la protección de la zona cársica. Entendemos que la ampliación de la PR-22 conllevaría el incumplimiento del gobierno con sus deberes de lograr un desarrollo sostenible.

A raíz de lo anteriormente expresado, exhortamos a Vivienda a que considere nuestros comentarios, cumpla con los requisitos federales establecidos por HUD y la Política Pública Ambiental y proteja el ambiente, la economía y las comunidades de Manatí a Aguadilla. Además, reiteramos la importancia de que haya una participación ciudadana robusta en todos los programas bajo los fondos CDBG-MIT y CDBG-DR para lograr justicia social y ambiental.

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[15] *Véase* los comentarios a la DIA de los Ciudadanos del Karso, Inc. (2010), "La Conservación y Vulnerabilidad a la Urbanización del Karso puertorriqueño" por Ariel E. Lugo y Eileen H. Helmer (2007) y el podcast "La extensión del Expreso 22: un mal proyecto para Puerto Rico" por El otro Puerto Rico (2022).

[16] *Véase* Miguel Díaz, *Expreso hasta aguadilla causará grave daño a la agricultura*, Eyboricua (11 de marzo de 2022), https://eyboricua.com/noticias/puerto-rico/expreso-hasta-aguadilla-causara-grave-dano-a-la-agricultura/

[17] *Véase* Artículo 3C (12 LPRA § 8001) de la "Ley Sobre Política Pública Ambiental", Ley Núm. 416-2004 (12 LPRA §§ 8001-8007), y "Ley para la Protección y Conservación de Cuevas, Cavernas o Sumideros de Puerto Rico", Ley Núm. 111 de 12 de julio de 1985 (12 LPRA § 1143).

August 19th, 2022

To: Hon. William Rodríguez
Secretary
Department of Housing
Commonwealth of Puerto Rico

RE: SESA-PR COMMENTS TO CDBG-MIT ACTION PLAN SUBSTANTIAL AMENDMENT, "COMMUNITY ENERGY AND WATER RESILIENCE INSTALLATIONS PROGRAM" and "SINGLE-FAMILY HOUSING MITIGATION PROGRAM"

To the Honorable Secretary:

Comes now SESA-PR, the Solar and Energy Storage Association of Puerto Rico, to comment the Puerto Rico Housing Department's (*Vivienda*) proposed substantial amendment to the Action Plan for Community Development Block Grant-Mitigation (CDBG-MIT). Our overarching comments and urgent requests focus on:

1. **Limiting funding for residential solar & storage only to lowest-income / neediest families, defined by HUD to be those below 30% of the Average Medium Family Income level (AMFI); and defining this lowest-income category with an existing pre-qualified program for ease of administration;**

2. **Reinstating incentives for Businesses supporting one of the FEMA lifelines (ie, providing food & other essentials during future blackouts);**

3. **Implementing lessons learned by nonprofits that spent millions on equipping hospitals, clinics other critical facilities and residences with solar + storage in the aftermath of Maria in the Community Installations systems program. (ie Direct Relief, Red Cross, Hispanic Federation & others).**

4. **Request for extension of time for public comments, and stakeholder engagement meeting**

INTRODUCTION

Firm data has established that an estimate of 4,645 excess post María deaths "is likely to be conservative"; that the increased use of "support that is dependent on electricity" was among the "primary cause[s] of sustained high mortality".[1] These impacts were fundamentally felt by Puerto Rico's neediest communities and federal investment in deployment of solar+storage "for the last 500,000 homes that were reconnected would have reduced the [post María] blackout size by two thirds and the length of the blackout by 78%."[2]

Our comments have the overarching goal of encouraging any CDBG-MIT funding available for solar & battery storage to result in additional solar & storage systems being constructed that otherwise wouldn't have existed, thus resulting in measurable additionality to the preparation of mitigation of loss of life & suffering in power blackouts caused by future Hurricane Maria-like natural disasters; ie, focusing federal support for life-saving energy resiliency via solar plus storage systems to the Puerto Ricans that need it the most and would otherwise be unable to pay for or acquire financing to install such systems.

SESA-PR, as an expert organization focused on solar plus storage policy in Puerto Rico, has been deeply involved in the island's post Hurricane María path towards a more resilient, solar powered present and future for all Puerto Ricans based on 100% renewable energy and energy

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[1] Kishore N, Marqués D, Mahmud A, et al., 2018, *Mortality in Puerto Rico after Hurricane Maria*, N. England J Med., www.nejm.org/doi/full/10.1056/NEJMsa1803972. There is also "a strong positive association between […] the length of time without electricity…on average, households went 84 days without electricity…83% of households were without electricity for this entire time period." Id.

[2] M. Castro-Sitiriche, J. Gómez, Y. Cintrón, *The Longest Power Outage, María & Energy Poverty*, Proceedings of the 8th International Conference on Appropriate Technology, Benin, 2018 http://www.appropriatetech.net/media/attachments/2019/06/20/8th-icat---policy-standards-ethics.pdf#page=36. *See also*, M. Castro-Sitiriche, Household Emergency Preparedness, Decentralized Community Power for Puerto Rico, Call to Action, Puerto Rico Policy Brief, INESI, COHEMIS (UPR).

storage. Our comments and suggestions reflect the aggregated views from foremost local and stateside solar and storage industry experts.

SESA also strongly supports the view that Vivienda's path forward regarding solar plus storage incentive design and rollout must not only include specific direct and effective consultation with experts including SESA-PR, but success will probably only be attained if Vivienda engages or otherwise procures a third party expert with many years of experience with CDBG funds deployment for solar, such as the nonprofit Grid Alternatives, to effectively craft and administer such an incentive program.

ELABORATION OF COMMENTS, SUGGESTIONS AND REQUESTS BY SESA

1. Community Energy ~~and Water~~ Resilience Installations Program

a. **Regarding "up to $30,000 Home Energy Resilience Improvements" subprogram:**

i. SESA <u>supports</u> the proposed change of erasing "AND WATER" from the title of this subprogram, and the associated text which previously referred to including water cisterns. Recognizing that water resiliency is important as well, we recommend water resiliency subprograms be included elsewhere in the CDBG-MIT Action Plan, and that this entire $500 million program be limited to and focused only on solar & battery power storage which both provide reliable, emissions-free electricity during power outages.

This program initially included "water" resiliency, and the proposed language deletes that reference, which SESA supports. Photovoltaic panels are relatively lightweight and straightforward installations that generally don't stress a roof. However, "water resiliency" has been understood as

siting relatively heavy water cisterns in roofs, which substantially complicate projects, as cisterns can stress a roof and might require structural evaluations. Also, such a water requirement limited the number of entities able to participate in procurements deployment and construction of the program, unduly limiting competition.

ii. SESA strongly objects to the proposed eligibility criteria of 80% of AMFI, and strongly requests using instead the threshold of 30% AMFI rather than 80% AMFI by changing on P. 384, end of the 3rd paragraph, the phrase "…must be below eighty percent (80%) AMFI" to "…must be below thirty percent (30%) AMFI". The up-to-eighty percent (80%) AMFI standard would potentially include hundreds of thousands of households already able to access financing options such as loans and leases. In order to ensure CDBG-MIT funding actually results in systems installed that wouldn't otherwise be, said threshold should be much lower than 80% AMFI, specifically a 30% AMFI level instead to focus on the neediest.

The National Renewable Energy Labs (NREL) recently identified a quantity of over 203,600 households in Puerto Rico which are below 30% AMFI and also "Solar Suitable"[3]. The following is a chart from this NREL report demonstrating their findings to this effect:

[3] NREL Report "*Puerto Rico Low-to-Moderate Income Rooftop PV and Solar Savings Potential*", Meghan Mooney and Katy Waechter, December 2020 https://www.nrel.gov/docs/fy21osti/78756.pdf

Residential PV rooftop technical potential by income group

Income Group	Households (thousands)	Suitable Buildings (thousands)	Suitable Module Area (millions of m2)	Capacity Potential (GW_{DC})	Annual Generation Potential (TWh/year)
Very Low (0-30% AMI)	267.8	203.6	21.9	4.0	4.8
Low (30-50% AMI)	151.2	129.1	13.5	2.5	3.0
Moderate (50-80% AMI)	203.3	177.4	18.6	3.4	4.1
Middle (80-120% AMI)	297.8	267.7	28.2	5.1	6.2
High (>120% AMI)	317.1	279.5	29.6	5.4	6.5
All LMI Buildings	622.3	510.1	54.0	9.8	11.9
All Residential Buildings	1,237.2	1,057.3	111.8	20.4	24.6

NREL | 7

Given the large group of NREL-identified solar-suitable buildings occupied by under 30% AMFI residents, we hope it is clear that focusing these funds on higher-income & less vulnerable families would clearly not maximize the mitigation of loss of life & suffering of these important government funds.

iii. SESA further <u>strongly requests</u> identifying and specifying a **pre-defined universe of pre-qualified recipients** eligible for this subprogram which is within the 30% AMFI threshold, so as to avoid the creation of any cumbersome qualification paperwork. Possible examples could include LIHEAP recipients, PAN (SNAP), Medicaid recipients or others, so long as such pre-qualified programs fall within the 30% AMFI threshold.

iv. SESA <u>supports</u> limiting the program only to homeowners, as specified in the proposed change of the 3rd paragraph of P. 384. The prior iteration of

the program included program eligibility for renters and that language is omitted from the proposed amended action plan. Although renter eligibility could be theoretically positive if a workable, efficient program design for renters could be identified, SESA does not oppose this deletion as we cannot at this moment point to or recommend such a workable program design in existence in the United States.

v. SESA supports the offering of this subprogram on a continual rolling basis, as specified in the addition of the sentence at the end of the 4th paragraph on P. 384.

vi. SESA questions the proposed added phrase "…according to priority designation" as part of the added sentence at the end of the 4th paragraph on P. 384, as the document proposes to erase the existing indications of prioritization, included in the three bullet points and associated footnotes that follow the proposed sentence. SESA supports either adding clear prioritization criteria (based on pre-established qualifications for prioritization) or else erasing the "priority designation" phrase.

vii. SESA opposes the proposed deletion in the Action Plan of the prioritization of elderly residents (sixty-five (65) years old or older), Critical Recovery Workforce (CRW) personnel, as well as residents with high-risk energy and water security. SESA recommends keeping these priority categories instead of deleting them. SESA also recommends that Vivienda consider lessons learned from models with clearly structured parameters and priorities like the Municipality of Bayamón's "Solar Recharge Portable Battery Program" which provides said municipality's bedridden citizens, as well as those that require electrical medical assistance equipment, with portable batteries for domestic use that can be recharged with solar.[4]

[4] https://www.municipiodebayamon.com/bayamon-entrega-baterias-portatiles-de-recarga-solar-a-encamados-y-personas-que-utilizan-equipo-electrico-de-asistencia-medica/; https://www.sanjuandailystar.com/post/bayam%C3%B3n-providing-rechargeable-solar-batteries-to-the-bedridden.

b. **Regarding "INCENTIVE" subprogram:**

i. Regarding proposed strikethrough of "$1,500,000 per business" line-item and all associated text.

1. SESA requests re-inclusion of this program, but modifying the cap to a lower threshold (perhaps $50,000), after consultation with nonprofit associations representing businesses of Puerto Rico, such as ASORE, PRMA, PIA, the Chamber of Commerce and others.

ii. Regarding "$20,000 per household, or a designated percentage of household project costs" line-item:

1. SESA strongly requests elimination of this line-item and all associated text, thereby focusing all available funds for residential solar & storage on the "up to $30,000 Home Energy Resilience Improvements" subprogram.

If this line-item is not erased entirely, SESA strongly requests that the income threshold be established and specified as no higher than 50% AMFI, by changing the proposed new sentence at the end of the first full paragraph of Page 385 to reach "Households must also be between thirty percent (30%) and fifty percent (50%) AMFI." NREL estimates that there are 129,100 "Solar Suitable buildings" in Puerto Rico in the 30% to 50% Income Group[5].

In pages 386-387 of the proposed, amended CDBG-MIT Action Plan this incentive is described as:

[5] NREL Report "Puerto Rico Low-to-Moderate Income Rooftop PV and Solar Savings Potential, Meghan Mooney and Katy Waechter, December 2020 https://www.nrel.gov/docs/fy21osti/78756.pdf.

> "An incentive program covering up to $20,000 or a designated percentage of household project costs will be offered to enable the installation of renewable energy systems, including storage, which provide electricity to the building during times of electric grid failure Eligible applicants may include the owner of must own or have a proprietary interest in the single-family residential structure, and it must be their primary residence. This program will serve households with an urgent mitigation need as well as LMI."

This language proposed to delete a "$1,500,000 per business" line-item and all associated text. **SESA requests re-inclusion of this $1,500,000 per business program, but modifying the cap to a lower threshold (perhaps $50,000).**

However, in regards the proposed up to $20,000 per household element, it is SESA's strong recommendation that this program be eliminated. In the alternative, if this $20,000 per household program is not eliminated, we urge clear definition of the concept "urgent mitigation need as well as LMI" included therein. As proposed, it is unclear whether the phrase "urgent mitigation need as well as LMI" is a single criterion or two alterative criteria for a household's qualification for incentive, ie if a qualified recipient must be both LMI as well as fit an "urgent mitigation need", or simply be one or the other. LMI is not defined with a % AMFI threshold, and the phrase "urgent mitigation need" itself appears undefined. If this program is maintained and there is a % AMFI threshold used, we recommend using the 30% or 50% AMFI level, as NREL reports indicate a plethora of solar suitable buildings under the 30% and 50% thresholds, and industry research indicates that much of the 50-80%+ AMFI population in Puerto Rico is already able to access financing and thus able to install solar & storage without government assistance.

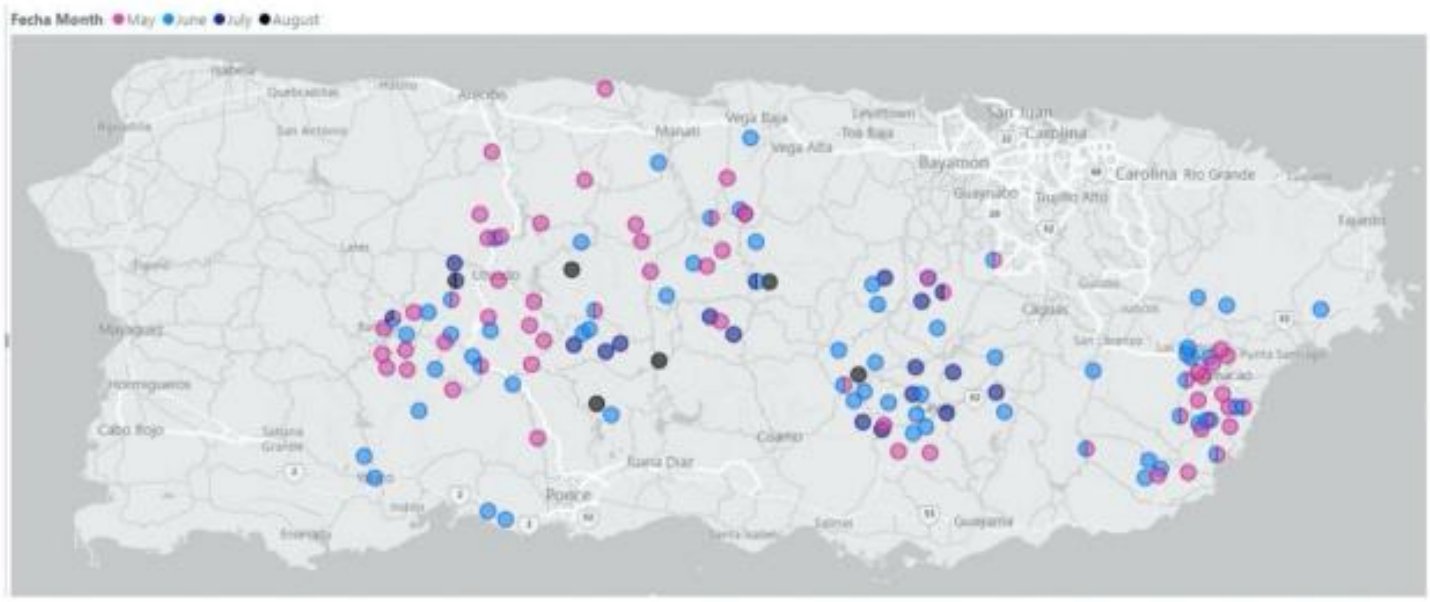
SESA also strongly recommends <u>not</u> creating any sort of new, unique methodology for qualifying potential household program recipients, as doing so has proven across the nation to be a cumbersome barrier to access such programs, a waste of government and private monies in going through the onerous, time-consuming process of trying to determine whether a potential recipient

is eligible, and also can encourage fraudulent "gaming the system" attempts, which take yet more government resources to attempt to minimize.

Rather, we encourage best practices on recipient qualification, which would be to utilize an already-existing, pre-qualified program which is a non-subjective, and instantly verifiable. Some possibilities to consider could be evidence of a household's status as a qualified recipient for another federal anti-poverty benefit. For example, a household that is currently qualified for a government program such as PAN (SNAP) nutritional assistance, as well as MEDICAID could be quickly be validated as eligible for the solar/storage incentive upon simple presentation of evidence of enrollment in either of those programs. This is the type of qualification approach that has been successful in telecommunications universal service programs for low-income households. The Low-Income Home Energy Assistance Program (LIHEAP), which assists eligible low-income households with their energy costs, also utilizes a similar objective qualification approach, based on a household's eligibility for other federal anti-poverty programs. Vivienda could be attracted to also consider an Area Median Family Income (AMFI) cutoff incentive qualification percentage level, but SESA's view is that that process could be more complex, and time consuming, especially when compared to the preferred simple and non-bureaucratic approach of linking solar/storage incentive qualification to participation in another anti-poverty federal program.

One other approach to limit and clearly define the neediest recipients for low-income solar incentives could be to limit it geographically to only the communities likely to be last to be reconnected to the power grid in the wake of the next large-scale blackout. Such analyses of which communities are both the most vulnerable, as well as the most low-income, could include a collaborative effort involving LUMA's grid-vulnerability analyses as well as low-income advocate experts as well as the excellent work of Professor Marcel Castro of the University of Puerto Rico

– Mayaguez, including an analyses of the last communities actually reconnected to the grid following Hurricane Maria as elaborated in the report "The Evolving Solar Energy Innovation Ecosystem in Puerto Rico", among others.[6] This report contains the following graphic on Page 19:



agosto:	julio:	junio:	mayo:
6 barrios	16 barrios	68 barrios	134 barrios
4 pueblos	8 pueblos	24 pueblos	33 pueblos
260 hogares	2,084 hogares	7,741 hogares	18,223 hogares

Referencia: M. Castro-Sitiriche, A. Burgos-Rivera, A. Burgos-Cintrón, "Localization of the Communities Reconnected Last to PREPA After Hurricane Maria: Implications For Hazard Mitigation", PRYSIG 2019, CoHemis, October 25, 2019.

Another strong recommendation of SESA-PR which would apply to both a re-included $1,500,000 per business program as well as a program for households is to <u>erase the any potential %-of-system-cost incentive structure to instead be a $ dollar amount per installed AC watt of solar</u> incentive, with a corresponding required range of modern battery storage as well. This dollar per installed watt incentive should be set at a specific dollar amount initially, and decline over time – and again, be limited only to a pool of prequalified applicants

[6] http://cohemis.uprm.edu/solar2020/pdf/EvolvingSolarEnergy_March2021.pdf.

Additional Background & Explanation: In Puerto Rico, any residential customer with a credit score of around 650 and above can attain financing to install - and many are installing today at the tune of close to 3,000 systems monthly - solar plus storage, very quickly and economically. Therefore, the CDBG-MIT / CEWRI solar plus storage programs must be targeted to the neediest Puerto Ricans as priorities; those that simply cannot install today due to financial and financing barriers, and aren't predicted to be able to access solar & storage for the coming years. In fact, any residential incentives that are not properly structured would not only impede money and resources flow to those that truly need it in our society, it would also result in in suddenly stopping current solar & storage deployments and installations beyond that sector, which would result in thousands less solar & storage systems being installed for the foreseeable future. For example, the start/stop incentive structure proposed would freeze the current solar market, a market which is very effectively delivering resilient power to around 3,000 families monthly. Moving forward as intended in the proposed amended Action Plan would put thousands more families' lives at risk of death and suffering during the next blackout, which would be the exact opposite of the required impact of CDBG-MIT funding.

SESA strongly suggests including the results of the NREL study titled "Puerto Rico Low-to-Moderate Income Rooftop PV and Solar Savings Potential", which cites the existence of 203,600 "Solar Suitable" buildings occupied by residents under the 30% AMFI threshold, and an additional 129,100 "Solar Suitable" buildings with residents between 30% and 50% AMFI threshold. Given this staggeringly high number of buildings in these categories, our strong recommendation and request is to limit any residential incentives to the under 30% AMFI threshold. As an example, if 10,000 homes participate in the "up to $30,000" program, and the total cost of such systems were to be on average, for example, the full $30,000, then $300 million would be spent on this

subprogram, leaving only $200 million for all other subprograms. We reiterate our request to limit all incentives to this under 30% AMFI threshold.

c. Regarding the "COMMUNITY INSTALLATIONS" subprogram:

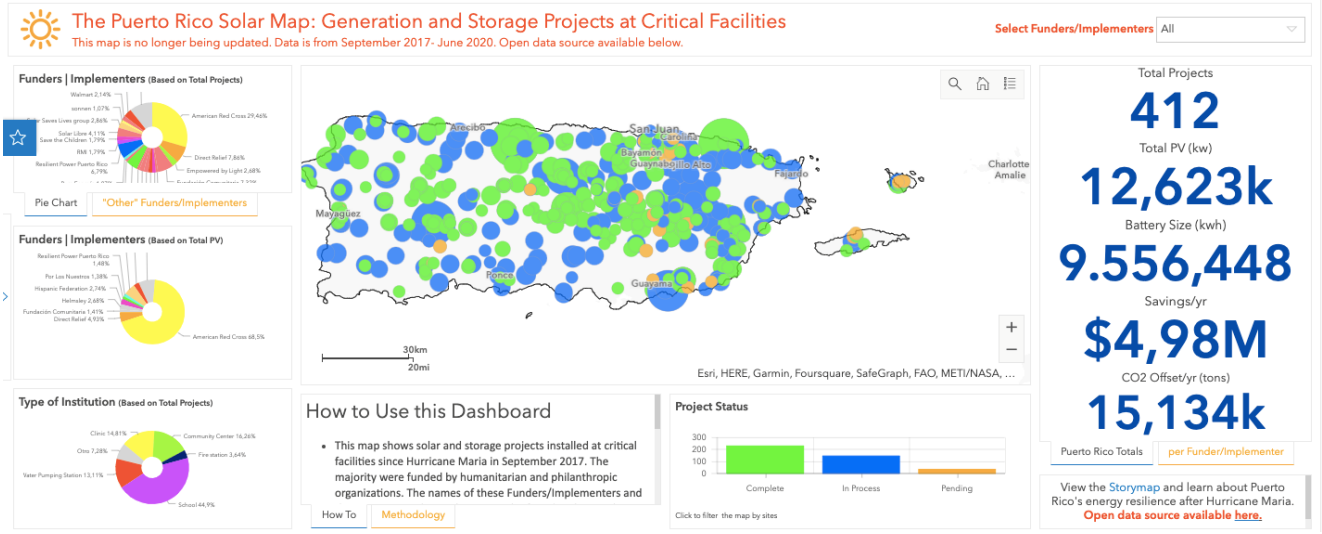
i. Regarding the proposed erasing of prioritization language (second paragraph of P. 386), SESA requests either a) keeping this prioritization language, or b) clarifying language be added to indicate how these programs are to be prioritized, if this prioritization criteria is erased.

ii. In finalizing language of this Action Plan, as well as elaboration of any subsequent Program Guidelines, RFPs, RFIs, or any other subsequent documentation, SESA strongly recommends an thorough analyses of and inclusion of lessons learned from the myriad of nonprofits which dedicated countless resources in terms of tens of millions of dollars donated and hours volunteered to provide lifesaving solar & storage to needy critical facilities, multifamily homes, and single-family homes in the many months-long blackout following Hurricane Maria. During that timeframe, there was literally not any money at all spent by the federal government on providing solar/storage systems to save lives, thus 100% of the responsibility to do so fell on the shoulders of volunteers and nonprofits.

During that timeframe, there was an overarching assumption that all of the lessons learned would be listened to and integrated into federal support one day. Now the day has come for federal support to exist, thus we encourage not repeating all the mistakes made by nonprofits during the post-Maria aftermath, implementing best practices learned, and integrating the individuals and organizations with experience into Vivienda's planning and administration process.

As an example, the following is the current map from the website developed by the large international nonprofit Direct Relief, along with another large

multinational nonprofit called the Clinton Foundation, in tracking solar & storage systems donated and deployed in the aftermath of Hurricane Maria[7]:



Note: All the data from this website is open-source, downloadable for Vivienda and anyone from the public. The following is a list of some of the key organizations that donated an incredible amount of resources to deploying solar & storage resources during this timeframe, and we heavily recommend be invited to be included in any and all of Vivienda's activities involving solar & storage in Puerto Rico:

> *Direct Relief, Clinton Foundation, abbvie, Acadia Network, American Red Cross, ARECMAN INC, BOXPOWER, Blue Planet Energy, Casa Pueblo, CMRC, Cypress Creek, Empowered By Light, Fundación Comunitaria de Puerto Rico, Hispanic Federation, ihs infinitum, The Kresge Foundation, Maximo Solar Industries, Mutual Aid Disaster Relief, New Energy, NRDC, Para La Naturaleza,Por Los Nuestros, PR X PR, Pura Energía, Resilient Power Puerto Rico, The Rockefeller Foundation, Rocky Mountain Institute, Save the Children, The Solar Foundation, Sonnen, Sunrun, Tesla, Water Mission, and WindmarPV.*

2. **<u>SINGLE-FAMILY HOUSING MITIGATION PROGRAM</u>**

[7] https://www.puertoricosolarmap.org/

BACKGROUND:

i. Page xiv of the proposed Substantial Amendment reads in part (3rd bullet point from the bottom):

> "Revised Single Family Housing Mitigation Program to clarify eligible activities and set maximum awards consistent with market pricing, **including solar and water resilience installations** as a program benefit under the Single-Family Housing Mitigation Program."

ii. On Page 347 of the proposed Substantial Amendment, the sentence was added (at the end of the second full paragraph):

> "The Single-Family Housing Mitigation Program **also includes the installation of solar and water resilience systems as part of mitigation activities**."

iii. On Page 298 of the proposed Substantial Amendment, the budget line-item in the PROGRAM BUDGET for the Single-Family Housing Mitigation Program appears to be proposed to be unchanged, at $1,600,896,086.00.

COMMENT / REQUEST: SESA comments and requests that Vivienda clarify in the Substantial Amendment that the addition of such "solar and water resilience systems" is to be included in the existing $1,600,896,086.00 line-item of the PROGRAM BUDGET for "Single-Family Housing Mitigation Program", and not intended to come from any other line-item in the PROGRAM BUDGET.

RQUEST FOR EXTENSION OF TIME AND STAKEHOLDER ENGAGEMENT MEETINGS

SESA-PR understands that allowing robust comments by organizations such as those listed above (and including SESA-PR) would be of great benefit to Vivienda, and in this sense an extension of

the current commentary period, perhaps by 30 to 45 days would be positive and is warranted, as well as Vivienda convening one or more listening sessions between Vivienda and interested stakeholders during this timeframe (preferably by August 30th) in order to clarify stakeholders' questions regarding the intention of Vivienda's proposed changes regarding solar & storage.

CONCLUSION

If modestly sized rooftop solar installations paired with batteries had been substantially deployed amongst the neediest and hardest hit Puerto Ricans prior to the 2017 storms, they would have simply been spared the year-long blackout they endured.[8] With batteries, solar systems are storm-resistant,[9] fuel-less, silent, maintenance free and user-friendly generators - that save lives. We are now nearing the peak of the 2022 hurricane season, and science tells us that these events will continue happening, with similar or increasing intensity, fueled by undeniable global warming and climate change. Despite the awesome need -which is continuously made again evident during our persistent brownouts and blackouts, if another major storm hits, we fear our neediest populations would fare similarly as was the case in 2017: thousands of needy Puerto Rican families would be force to again endure the nightmare that was María.

That everyone's number one priority must be saving lives should be an unquestioned truth. In terms of CDBG-MIT funds, that must mean that saving lives of the hardest hit, whom, unsurprisingly are also the poorest in our society, must also be the programmatic and budgetary priority. In fact, the main thrust of our comments today is to urge the Department of Housing to

[8] Kwasinski, Andrade, Castro-Sitiriche, O'Neill-Carrillo, *Hurricane María Effects on Puerto Rico Electric Power Infrastructure*, IEEE Power and Energy Technology Systems Journal (Volume: 6, Issue: 1, March 2019), https://ieeexplore.ieee.org/document/8644031.

[9]Rocky Mountain Institute, "*Solar Under the Storm*", https://www.rmi.org/wp-content/uploads/2018/06/Islands_SolarUnderStorm_Report_digitalJune122018.pdf.

ensure that all actions in this CDBG-MIT Action Plan Substantial Amendment fully align with this vision and particularly, that any and all amendments to the Community Energy & Water Resilience Incentive Program, in other words CEWRI's solar plus storage proposed incentives, are structured and invested according to this exigent priority.

SESA-PR submits our recommendations with the sincere hope that they are implemented in the CDBG-MIT Action Plan, particularly the solar plus storage incentives discussed herein. It is also our hope that, with our proposed changes accepted, hundreds of thousands of the neediest and most vulnerable Puerto Ricans will keep their lights on via solar plus storage before the next hurricane season.

Respectfully submitted,

[signed]

Javier Rúa-Jovet
Chief Policy Officer,
SESA-PR

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To Obtain a position that enables me to utilize my knowledge and experienced acquired in the Criminal Justice or related field including the administrative field (Management)

Work Experience

Custom Protector Officer, Inspector (Supervisor)

G4S - Miami, FL

March 2015 to May 2020

Responsibilities

I worked at the Airport as a Security Inspector

Home Inspector

Vanguard Emergency Management - Puerto Rico

October 2017 to December 2017
Inspect carefully both inside as outside the residences assigned.

Sergeant Officer (Police)

Municipal of Cidra, Cidra , Puerto Rico
December 1998 to June 2013
Take Complaints of Citizens Attend Activities of The Municipality
Issue Fines Attend Activities of The Municipality
Monitor Municipal, State, And Federal Dependencies
Maintain Law

Security Consultant (Adviser)

Housing Public Administration - San Juan, PR

May 2009 to September 2011

Advise, Investigate and Implement Inside and Outside Security Issues for The Benefit at The Public Housing Administration.

Provide Inspection and Security to Properties, Public Housing, Facilities and Officials of Public Housing. Coordinate, Offer Support, And Participate in Activities with Law and Order Agencies. These Include and are not limit to activities directed to drug use prevention and elimination.

EDUCATION

Master Business Administration (Labor Relations in process) 24 Credits approved
Universidad Interamericana De Puerto Rico- San Juan, PR
January 2021

Master Criminal Justice AVG 3.92
Universidad Interamericana De Puerto Rico- San Juan, PR
June 2011

Bachelors (Social Science) (Criminology and Psychology) AVG3.63
Universidad Del Turabo- Gurabo, PR

Pedro J. Cintron Rodríguez

Certificate in Law Enforcement Training Seminar AVG 4.00
Police Academy - Gurabo, Puerto Rico, USA
1999 to 2000

Certificate Training (Interpol Washington)
United States National Central Bureau Washington, (D.C)
June 2010

Certificate Hazardous Materials OSHA 29CFR
Bayamon, PR (Government)
Emergency Management Agency
August 2009

Certificate Training (Supervision and Management)
San Juan, PR (Government)
Public Housing Department Agency

High command of the Microsoft office 365 System
(Word, Power point, Excel, Outlook, OneNote)

Experience supervising many personnel
Charge of payroll, preparation of employee's schedules
And preparation of contingency plans, and liaison between
Employer and client (Contracts)

Bilingual (Spanish, English)

Military Service
Branch: National Guard
Service Country: Puerto Rico
Rank: E-6 Sergeant
February 2013 to February 2016
I gave supported different missions.

Certifications/Licenses

Heart saver First Aid CPR AED
September 2020 to September 2022
Heart saver CPR /AED

Special Skills:

Investigator Criminal and Civil Manners Inside Judicial Systems.
Knowledge Federal Investigations, State and Municipal
Security Consultant with Extensive Knowledge Structuring Emergency Plans
Capacity to Adapt Rapidly to Any Scenario Work. Stress management, ability to
Negotiate, excellent way of communicating, Innovative and Creative.

GOBIERNO DE PUERTO RICO
Departamento de Recursos Naturales y Ambientales

17 de mayo de 2021

Rafael Machargo Maldonado
Secretario

Ing. Edgardo J. Contreras
Secretario Auxiliar
Secretaría Auxiliar de Operaciones

Ing. Luis Sierra Torres
Secretario Auxiliar
Secretaría de Permisos, Endosos y Servicios Especializados

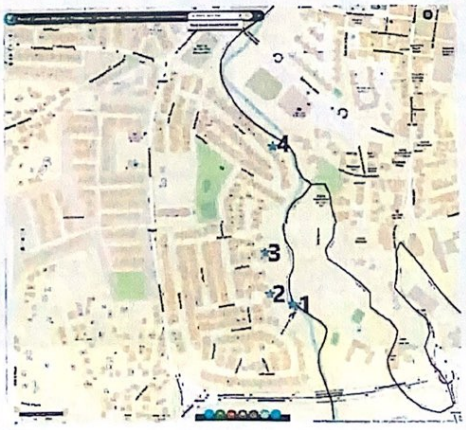
Digitally signed by Luis R Sierra-Torres
Date: 2021.10.05 13:29:39 -04'00'

Geól. Ruth H. Vélez Rosado
Geólogo Licenciado II
Negociado de Servicios Especializados

INFORME DE HALLAZGOS Y RECOMENDACIONES
SITUACIÓN DE EROSIÓN DE TALUDES
COMUNIDADES COLINDANTES CON EL RÍO GUAYNABO
URBANIZACIONES COLINAS DE GUAYNABO, COLIMAR Y SIERRA BERDECÍA
MUNICIPIO DE GUAYNABO

En atención a la petición expresada en carta con fecha del 30 de septiembre de 2020 dirigida a usted por el Alcalde del Municipio de Guaynabo, Hon. Ángel A. Pérez Otero, el 5 de mayo de 2021 se realizó una inspección conjunta con el propósito de evaluar el área en la que se reportan problemas de terrenos cediendo al margen del cauce del Río Guaynabo y que afectan residencias de las urbanizaciones Colinas de Guaynabo, Colimar y Sierra Berdecía. En esta inspección asistimos el Ing. Edgardo J. Contreras, Secretario Auxiliar de la Secretaría Auxiliar de Operaciones; el Sr. José A. Alvarado Calderón, Director de la Oficina Regional de San Juan, esta servidora y usted. El Honorable Alcalde nos dirigió, en compañía de personal del Municipio de Guaynabo.

Durante la inspección, se escucharon los relatos y preocupaciones de varios residentes, además de evaluar preliminarmente las condiciones del área donde se reporta hundimiento de terreno. Las áreas visitadas corresponden a la franja de terreno del talud entre el Río Guaynabo y los patios de varias viviendas. A continuación, se presentan datos de cada lugar visitado. Como referencia, se presenta la ubicación de cada lugar visitado en las siguientes figuras obtenidas en el portal Catastro Digital y Productos Cartográficos del CRIM:



1. Puente de la Calle Alpierre sobre el Río Guaynabo, punto escogido para visualizar las condiciones del río hacia el Norte, donde se distingue la curvatura de un meandro en el río. Se describió que la amplitud del área observada quedó inundada por la crecida extraordinaria del río ocurrida durante el paso del huracán María, en septiembre de 2017.

2. H-10, final de la Calle Esteves, Urb. Sierra Berdecía, donde se distingue el escarpe de un desprendimiento de terreno que impacta terrenos cercanos a la franja de colindancia con el Río Guaynabo. También se observan fracturas y desplazamiento en la parte externa de la vivienda. De acuerdo a los relatos ofrecidos, han observado hundimiento de terreno lento y continuo.

3. H-24, final Calle Febles, Urb. Sierra Berdecía, donde se describe hundimiento lento del terreno, lo cual produce inclinación hacia el cauce del Río Guaynabo.

4. Núm. 15 y Núm. 16, Calle Laurel, Urb. Colinas de Guaynabo, donde se puede evidenciar el escarpe de un derrumbe de terreno hacia el cauce del Río Guaynabo. Este lugar fue evaluado posterior al paso del huracán María. Se aneja el informe sometido entonces.

Posterior a la inspección, se revisó el historial disponible en varios portales cibernéticos de fotos aéreas e imágenes de satélite del área. En las imágenes de satélite obtenidas varios días después del paso del huracán María, y disponible en el portal NOOA Hurricane MARIA Imagery, se evidencia la severa deforestación y erosión ocasionada en los taludes del cauce del Río Guaynabo.

La siguiente es una secuencia de imágenes de satélite representativas del historial de cambios en las condiciones del cauce del Rio Guaynabo, donde se comparan las imágenes antes (Catastro Digital y Productos Cartográficos del CRIM) y después del paso del huracán María, en septiembre de 2017 (NOAA Hurricane MARIA Imagery).

De la inspección realizada y la revisión de información disponible, se considera que la determinación de viabilidad de obras de mitigación que protejan las propiedades de los residentes colindantes con el Río Guaynabo requiere la realización de estudios, tales como estudios de subsuelo e hidrológico-hidráulico.

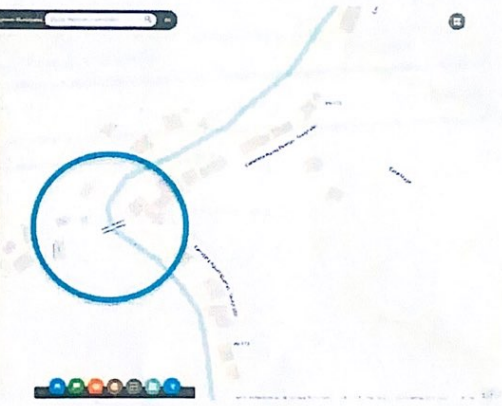
En términos de la viabilidad de realizar dichos estudios y ejecutar obras de mitigación a partir de los mismos, se repasaron las gestiones realizadas posterior al paso del huracán María por parte del Municipio de Guaynabo, quienes expresan que no se ha logrado la asignación de fondos.

El próximo paso, según recomendado por usted al concluir las visitas realizadas, es referir la situación a la atención del Departamento de la Vivienda, para lo que se sugirió realizar visitas adicionales a las áreas de interés.

Posterior a concluir las visitas a las áreas de las urbanizaciones mencionadas, se procedió a documentar las condiciones de un puente que cruza sobre el Río Guaynabo y sirve como único acceso de una comunidad del Bo. Hato Nuevo y con acceso desde la Carr. PR-173, km. 8.8.

Los pilotes del puente corresponden a drones metálicos aparentemente rellenos con cemento. Se observa serio desgaste del hormigón en la base del puente, por lo que el agua sigue socavando los cimientos del puente. Al respecto, se discutió la posibilidad de evaluar un permiso de emergencia para la sustitución del puente, para lo que se instó al Municipio de Guaynabo a someter la información pertinente para la correspondiente evaluación.

A continuación, la ubicación del área en figura e imagen de satélite, además de fotos representativas de las condiciones del puente.



Se somete el presente informe para su consideración y acción correspondiente.

RHV

Solicitud de Inclusión a Plan de Mitigación Contra Peligros Naturales
Junta de Planificación

Resumen:

Situación- erosión y/o hundimiento vertical de terreno en las propiedades colindantes al Río Guaynabo. Dos hogares afectados estructuralmente en Sierra Berdecía y se ha perdido propiedad (muros y verjas) tanto en Sierra Berdecía como en Colinas de Guaynabo. La seguridad de vida y propiedad están comprometidas.

Municipio tiene conocimiento- Casa de C/Laurel #16 de María Chevres tiene Informe de Evaluación Geológica del DRNA del 12/abril/2018 enviado a la Oficina de Manejo de Emergencias Municipal que indica: que los movimientos de masa evidenciados en los terrenos evaluados de no ejecutarse acción correctiva pueden comprometer estructuralmente la vivienda. Tres (3) años y cuatro (4) meses más tarde no se ha tomado ninguna acción correctiva (anejo 1, informe).

Reunión con Alcalde- 29/agosto/2018 Junta de Sierra Berdecía y Alcalde Ángel Pérez con su equipo de trabajo (anejo 2, carta y minuta). Resultando en varias visitas de personal de Obras Públicas sin ninguna gestión oficial.

Terremotos complican situación- El 21/ene./2019 personal de Manejo de Emergencias municipal (Carlos Guzmán y Rafael Cumba) instruyeron a Sandra Olivieri, titular de la H-24, que desalojara por su seguridad y nunca entregaron un informe de la visita.

Peligra la entrada principal de la Urb. Sierra Berdecía- puente que pasa por encima del Río Guaynabo, acceso de visitas y servicios esenciales. Desde el año 2018 lo hemos denunciado y solo tenemos una carta de Obras Públicas municipal del 10/dic./2020 ofreciendo gestiones que no sabemos si las han realizado. (anejo 3, carta).

El Municipio de Guaynabo responsabiliza a DRNA- el 25/feb./2021 Telenoticias de Telemundo busca respuesta del Municipio de Guaynabo sobre la situación y reciben carta indicando que es responsabilidad de DRNA por ser un cuerpo de agua y que solo podían servir de enlace para pautar una reunión. (Anejo 4, expresiones y adjunto video).

Visita del Cuerpo de Vigilantes DRNA- 3/marzo/2021 Luis García 1-268 y José Quiñones 1-295 inspeccionan propiedades e indican que solicitaran una evolución geológica para nuestra área. Luego nos informan que la solicitud de la evaluación geológica tenía que venir de Manejo de Emergencias municipal.

Visita Manejo de Emergencias- el 20/abril/2021, el Sr. Jaime González, director de Manejo de Emergencias San Juan y David Rivera, director de Manejo de Emergencias del Municipio de Guaynabo. Inspeccionaron las áreas afectadas y el Sr. González nos facilitó el informe de la visita de Manejo de Emergencia municipal del 21/ene./ 2019. El informe no menciona el estado de la casa, ni las instrucciones de desalojo impartidas a la familia (anejo 5, querellas e informe).

Visita DRNA- el 5/mayo/2021, el Secretario Rafael Machargo, Ayudante Especial Delvis Pagán, Geóloga Ruth Vélez, Ingeniero Edgardo Contreras y Director de San Juan José Alvarado, con el Alcalde Ángel Pérez, Director de Obras Públicas Ing. Wilfredo Martínez, consultor Ing. Roberto Torres y otros visitaron las áreas afectadas. Constataron lo avanzado del deterioro en los terrenos, la perdida de propiedad y el daño estructural en las viviendas desalojadas. No hemos tenido acceso al informe de esta visita, ni a la evaluación de la Geóloga Ruth Vélez y tenemos la preocupación de las limpiezas que se están realizando en el Río Guaynabo por no sabemos cómo nos pueden afectar. (Anejo 6, fotos y lista de firmas).

Se repite problema de erosión de terreno- en Colinas Metropolitanas, la recién construida Rotonda Downtown y la construcción en proceso de Praderas de Guaynabo. Adjunto carta con más detalles y anejos.

COMUNIDAD DE RESIDENTES DE SIERRA BERDECÍA
COMUNIDAD DE RESIDENTES DE COLINAS DE GUAYNABO
ASOCIACIÓN DE RESIDENTES SIERRA BERDECÍA
EMAIL: asociacion.sierraberdecia@gmail.com

Vía Correo Electrónico

25 de agosto de 2021

Mayra Martínez Noble, Analista de Planificación
Junta de Planificación d Puerto Rico
Rosa Lozano, Oficina de Planificación
Municipio Autónomo de Guaynabo

RE: ***Solicitud para la inclusión de las comunidades Urb. Sierra Berdecía y Colinas de Guaynabo en el Plan de Mitigación contra Peligros Naturales***

Estimadas Servidoras Públicas:

Con la presente y luego de una consulta con el geomorfólogo, José Molinelli Freytes, estamos solicitando que se nos incluyan en el Plan de Mitigación contra Peligros Naturales de La Junta de Planificación junto al Municipio de Guaynabo. Nuestra situación es de máxima urgencia ya que por la erosión y/o hundimiento vertical de terreno que estamos experimentando en las propiedades colindantes al Río Guaynabo se han inhabilitado estructuralmente dos hogares en la Urbanización Sierra Berdecía, se están afectando otras estructuras y se ha perdido propiedad (muros y verjas) tanto en Sierra Berdecía como en Colinas de Guaynabo. Al momento tenemos dos familias que perdieron su hogar y las demás propiedades colindantes al Río Guaynabo con la seguridad de su vida y propiedad comprometidas.

Esta situación es de conocimiento del ayuntamiento por años, de hecho, la propiedad en la calle Laurel #16 de María Chevres tiene un Informe de Evaluación Geológica del DRNA del 12 de abril de 2018 enviado a la Oficina de Manejo de Emergencias Municipal que indica: que los movimientos de masa evidenciados en los terrenos evaluados de no ejecutarse acción correctiva pueden comprometer estructuralmente la vivienda. Tres (3) años y cuatro (4) meses más tarde no se ha tomado ninguna acción correctiva (anejo 1, informe).

El 29 de agosto del 2018 los Directivos de la Asociación de Residentes de Sierra Berdecía se reunieron con el Honorable alcalde Ángel Pérez y su equipo de trabajo y se discutió la gravedad de esta situación incluyendo otras necesidades de ambas comunidades (anejo 2, carta y minuta). Los resultados de esa reunión, sobre este tema, fueron varias visitas de personal de Obras Públicas municipal sin ninguna gestión oficial explicando que está pasando, que van a hacer o que tenemos que hacer para solucionarlo. Luego de los terremotos de enero del 2019 las viviendas H-10 y H-24 de Sierra Berdecía quedaron inhabilitadas y dos familias perdieron su hogar. El 21 de enero de 2019 personal de Manejo de Emergencias municipal (Carlos Guzmán y Rafael Cumba) dieron instrucciones a Sandra Olivieri Cano, titular de la casa H-24, que tenían que desalojar por su seguridad. Posterior a esto nunca entregaron un informe de la visita, esto a pesar de todas las gestiones realizadas por la Sra. Olivieri y su hija Coral Mabry para obtenerlo.

La Asociación de Residentes de Sierra Berdecía se incluye en la solicitud ya que la entrada principal de la urbanización es por un puente que pasa por encima del Río Guaynabo. Por esta entrada se reciben todos los servicios municipales y del estado (recogido de basura, ambulancias, bomberos, etc.). Los directivos de la Junta han realizado innumerables gestiones

solicitando información desde el año 2018 y logramos recibir una carta por parte de Obras Públicas municipal el 10 de diciembre de 2020. De la cual no se nos ha informado si realizaron las gestiones que indicaban en la misma (anejo 3, carta).

Para el 25 de febrero de 2021 recibimos a Telenoticias de Telemundo para hacer un reportaje de la situación que se está viviendo en la comunidad. En su intento de buscar una respuesta de personal del Municipio de Guaynabo, recibieron una carta indicando que era responsabilidad de Recursos Naturales por tratarse de un cuerpo de agua y que ellos solo podían servir de enlace para pautar una reunión entre el DRNA y la comunidad (Anejo 4, expresiones y adjunto video).

Por gestiones de Coral Mabry, el 3 de marzo de 2021 recibimos personal del DRNA (Luis García 1-268 y José Quiñones 1-295) para una inspección y nos informaron que estarían solicitando una evolución geológica para nuestra área. Días después nos informaron que la solicitud de la evaluación geológica tenía que venir de Manejo de Emergencias municipal. Por gestiones de residentes el 20 de abril de 2021, nos visitaron el Sr. Jaime González, director de Manejo de Emergencias Región San Juan y David Rivera, director de Manejo de Emergencias del Municipio de Guaynabo e inspeccionaron las áreas afectadas. Gracias al Sr. González logramos obtener el informe de la visita de Manejo de Emergencia municipal el 21 de enero de 2019, el cual no especifica nada del estado de la casa ni de las instrucciones de desalojo que impartieron a la familia (anejo 5, querellas e informe de Manejo de Emergencias).

El 5 de mayo de 2021, nos visitaron de Recursos Naturales el Secretario Rafael Machargo Maldonado, Ayudante Especial de Asuntos Municipales Delvis Pagán, Geóloga Ruth Vélez, Ingeniero Edgardo Contreras y Director Regional de San Juan José Alvarado. También del municipio de Guaynabo, el Alcalde Ángel Pérez Otero, Director de Obras Públicas Ingeniero Wilfredo Martínez, consultor Ingeniero Roberto Torres y de la Oficina de Planificación Municipal, el Gerente de Proyectos Alfredo Bravo. Los funcionarios del Estado visitaron las áreas afectadas (puente de entrada principal, casas H-10 y H-24 de Sierra Berdecía y casas #16 y 17 de la C/Laurel en Colinas de Guaynabo). En las visitas se pudo constatar lo avanzado del deterioro en los terrenos, la perdida de propiedad en los mismos y el daño estructural en las viviendas desalojadas. Los residentes expresaron sus preocupaciones por la seguridad de vida y propiedad en el área afectada. Además, de la urgencia que sentimos con el comienzo de la temporada de huracanes. No hemos tenido acceso al informe que se nos prometió sería el resultado de esta visita, ni a la segunda evaluación de la Geóloga Ruth Vélez y en nuestros intentos de obtener dicha información se han levantado reclamos de confidencialidad para no proveer la misma. Hoy no conocemos el estado del terreno, el nivel de gravedad de la situación y cuál debe ser el protocolo responsable para las propiedades que se encuentran en el área afectada en caso de un huracán. Además, tenemos la preocupación de las limpiezas que se están realizando en el Río Guaynabo que no sabemos cómo nos pueden afectar. (Anejo 6, fotos y lista de firmas).

Al momento conocemos que, en Colinas Metropolitanas, la recién construida Rotonda Downtown y la construcción en proceso de Praderas de Guaynabo tiene el mismo problema de erosión de terreno. Esperanzados en que nos incluyan en el Plan de Mitigación contra Peligros Naturales de La Junta de Planificación junto al Municipio de Guaynabo, para que con acciones concretas se solucione el problema sin esperar a que ocurra lo peor para actuar. Las personas contacto lo son Tatiana Castro Santiago, cel. 787-306-0610 (castro.tatiana21@gmail.com), María Chevres, cel. 787-313-3866 (mariachevres@hotmail.com) y Marianela Díaz Velazco, cel. 787-403-2000 (marianeladiaz80@hotmail.com).

Cordialmente,

Comunidad Urb. Sierra Berdecía
Comunidad Urb. Colinas de Guaynabo
Junta de Directores, Asociación de Residentes de Sierra Berdecía

Anejo 1

Informe de Evaluación Geológica de Caso Reportado en el Municipio de Guaynabo

Evaluación solicitada por	Oficina Municipal Manejo Emergencias Guaynabo
Evaluación realizada por	Geól. Ruth H. Vélez Rosado Departamento de Recursos Naturales y Ambientales Secretaría de Permisos, Endosos y Servicios Especializados Negociado de Servicios Especializados División de Geología
Fecha inspección	12 de abril de 2018
Caso y Localización	María Chevres, Calle Laurel, #16, Urb. Colinas de Guaynabo, Municipio Guaynabo
Ubicación aproximada GPS	18° 21'17.20"N, 66° 6'50.55"W
Situación	Se reportan problemas de erosión y hundimiento de talud de la propiedad de la Sra. María Chevres colindante con el Río Guaynabo, eventos ocurridos durante el paso del huracán María.

Hechos documentados durante la inspección y revisión de información disponible:

- La vivienda de la Sra. María Chevres ubica en la Calle Laurel de la Urb. Colinas de Guaynabo.
- Su vivienda es una de una hilera que colinda con el Río Guaynabo, según se muestra en varias de las imágenes presentadas adelante en este informe.
- La Sra. María Chevres ha solicitado atención a las condiciones que sufre ella y otros vecinos debido a la erosión ocasionada por el curso del Río Guaynabo, y subsecuentes problemas de pérdida y hundimiento de terrenos en el área de colindancia con dicho cuerpo de agua natural.
- Durante el paso del huracán María esta franja de colindancia con el Río Guaynabo fue impactada por la crecida extraordinaria ocurrida en el caudal de dicho río.
- Adelante se incluyen imágenes de satélite que muestran las condiciones antes y después del paso del huracán María.
- También se incluye una foto ejemplar tomada durante la inspección realizada el 12 de abril de 2018. En el lugar se evidencia el hundimiento del terreno, donde se desplazó y se fragmentó una sección donde la Sra. María Chevres tenía un área de descanso y jardinería. El problema es extensivo a las propiedades colindantes a ambos lados de la Sra. María Chevres dado a que también colindan con el río.
- La Sra. María Chevres también mostró pisos agrietados que deben ser evaluados por un ingeniero estructural.
- Se pudo evidenciar que se están corrigiendo los desagües de los techos para que descarguen hacia la calle, como medida para minimizar el flujo de escorrentías por el talud afectado.
- La Sra. María Chevres trajo a nuestra atención que su propiedad, al igual que parte de la Calle Laurel, es considerada parte del área inundable asociada con el Río Guaynabo, según los mapas publicados por FEMA. Hemos corroborado esta información mediante un artículo noticioso publicado el 17 de septiembre de 2017 como parte de la gestión preventiva y para orientar a la ciudadanía previa al paso del huracán María. La dirección del artículo es https://esnoticiapr.com/conoce-las-zonas-inundables-en-puerto-rico/ .
- A nuestro mejor entendimiento, los mapas de inundabilidad establecen grados de inundación y medidas aplicables para cada nivel de inundabilidad. La inclusión del área evaluada en la zona inundable establece, como mínimo la necesidad de tomar medidas de precaución que incluyen el desalojo preventivo durante el paso de fenómenos meteorológicos con alta precipitación.

Las acciones recomendadas para el caso evaluado son las siguientes:

- La inspección realizada es una de carácter superficial y preliminar con el propósito de determinar acciones inmediatas.
- Se recomienda la evaluación por parte de un ingeniero estructural para que emita sus hallazgos y recomendaciones en cuanto a las condiciones de la vivienda posterior al paso del huracán María.
- La situación presentada por la Sra. María Chevres debe ser atendida desde el punto de vista de mejoras en el cuerpo de agua para minimizar riesgos a la hilera de viviendas de la Calle Laurel que colindan con el Río Guaynabo, que es marco mínimo que debe ser objetivo de cualquier acción.
- Se recomienda la evaluación por parte de ingenieros del Área de Recursos de Agua y Minerales del Departamento de Recursos Naturales y Ambientales que emitan hallazgos y recomendaciones en cuanto a posibles acciones de mitigación que se puedan considerar en el área de interés.
- Se aclaró que toda obra dentro del Río Guaynabo requiere cumplir con las leyes y reglamentos estatales y gubernamentales aplicables.
- Los movimientos de masa evidenciados en los terrenos evaluados pueden progresar de no ejecutarse ninguna acción correctiva y comprometer la estabilidad de los taludes y estabilidad estructural de la vivienda de la Sra. María Chevres, por lo que se recomienda se inicien las acciones a realizarse con prontitud.
- No se descarta que el no tomar acción, combinado con eventos periódicos de lluvias significativas, pudiera provocar la necesidad de recomendar el **desalojo permanente** ante posibles daños permanentes que hagan insegura la vivienda de la Sra. María Chevres y otras colindantes con el Río Guaynabo.

Las recomendaciones aquí vertidas responden al propósito de minimizar riesgo a vida y propiedad, coordinado por el Gobierno de Puerto Rico a partir de la emergencia ocasionada por el paso del huracán María.

P.O. Box 366147 San Juan Puerto Rico 00936
Tel: 787.999.2200 Fax: 787.999.2303
www.drna.gobierno.pr

adelantado por email 27 abril 2018;
sometido para franqueo regular el 3 mayo 2018

Anejo 2

ASOCIACIÓN DE RESIDENTES SIERRA BERDECIA
P.O. box 262, Guaynabo P.R. 00970-0262

20 de agosto de 2018

Honorable Ángel Pérez Otero, Alcalde
Municipio Autónomo de Guaynabo
Guaynabo, P.R.

Honorable Alcalde:

Tenemos varios temas que discutir con usted que son de importancia para el bienestar de nuestra comunidad. Desde el 12 de marzo comenzamos las gestiones solicitando una reunión con usted y logramos pautar una para el 29 de agosto de 2018 a las 6:30 pm en nuestra comunidad. Como tema prioritario en la urbanización tenemos todas las propiedades que colindan con el cauce del río sufriendo pérdida de terreno por erosión. Ésta situación nos tiene muy preocupados, porque en algunas propiedades más que erosión en el terreno, está causando daños estructurales a las mejoras existentes en el terreno.

Entiendo que usted estuvo en nuestra urbanización discutiendo esta situación con varios residentes la semana siguiente al paso del Huracán Irma y a casi un año de esa reunión no sabemos si estamos incluidos en los proyectos que se van a trabajar con fondos federales para este tipo de situaciones. No pedimos que se arregle nada en la propiedad privada, por lo que no nos corresponde querellarnos con FEMA. Queremos que se realicen los trabajos preventivos necesarios, que detengan la erosión del terreno y evitar una situación que tengamos que lamentar. Entendemos que puede estar en riesgo la seguridad de algunas de estas familias por procesos que se están dando en terrenos que son públicos o responsabilidad de Recursos Naturales.

Adjunto encontrará fotos de una de las verjas agrietadas y cayéndose, y del piso de una terraza que se despego completamente de la estructura porque el terreno está cediendo. Desconocemos cuál es el protocolo o proceso a seguir y/o las Agencias a las que debemos acudir para trabajar con esta situación. Sin embargo entendemos que por tener conocimiento de la situación debemos responsablemente hacer lo que esté a nuestro alcance para evitar un incidente.

Esperamos poder discutir con usted este y otros temas como: Cambios al Dictamen Final del Control de Acceso, mejoras en el control de acceso por la Carr. PR 837, administración del Parque Colisierra, mejoras en calles y aceras, y ubicación y cercanía de Empire Gas. La persona contacto es la Sra. Marianela Díaz Velazco, celular 787-403-2000.

Sin otro particular al cual hacer referencia y reiterándonos a su disposición.

Cordialmente,

Junta de Directores,
Asociación de Residentes Sierra Berdecía, Inc.

Asociación De Residentes Urbanización Sierra Berdecía
Registro 22,345
27 octubre 1997

Anejo 2

Asociación de Residentes de Sierra Berdecía

Minuta: Reunión con el alcalde de Guaynabo, Ángel Pérez

Día: 29 de agosto de 2018
Hora: 6:30 pm
Lugar: Urb. Sierra Berdecía, Guaynabo

Asistentes de la Asociación de Residentes:

- Ángel Suárez- Vicepresidente
- Vivian Méndez- Secretaria
- Marianela Díaz- Tesorera
- Brenda Cabrera-Vocal
- Ramón López- Vocal.

Asistentes del municipio: Ángel Pérez- Alcalde

- Wilfredo Martínez: Director de Obras Públicas, (787) 720-4040 ext. 3048
- Cesar Cintrón: Sub-director de Obras Públicas, (787) 944-7372
- Johanna Rodríguez: Ayudante del alcalde, (787) 308-4727/ (787)720-4040 ext. 3315,jrnavarro @guaynabocitypr.gov
- Víctor Rivera: Ayudante del alcalde, (787)720-4040 ext. 3312 / 3315, virivera@guaynabocity.gov.pr
- Luz Manzano: 787-720-4040 ext. 3314
- Víctor Franco Rodríguez: (787) 720-4040 ext. 4013
- Alberto Morales: Control Ambiental y Ornato, (787) 316-7284
- Gill Urbina: Recreación y Deportes, (787) 379-5279
- David Rivera Medina: (787) 946-1647

Temas discutidos:

- ✓ Erosión del terreno en el cauce del Rio Guaynabo - No estamos incluidos en proyectos de fondos federales para mejoras permanentes por desastres naturales. Obras Públicas municipales coordinará una inspección y evaluación de los daños para determinar si el municipio puede remediar la situación con un muro de gaviones o si es necesario radicar una solicitud a FEMA.
- ✓ Cambios en el dictamen final de aprobación de cierre - Tenemos el visto bueno del Alcalde para solicitarlo y se refirió el caso a la División Legal.
- ✓ Mejoras en control de acceso por la carretera PR 837-
  - Eliminar el rótulo- aprobado
  - Eliminar la parada- se consultará con la división de transporte para cotejar si esta fuera de uso y se puede eliminar
  - Construcción de rampas de impedidos- aprobado
  - Embreado e islotes- aprobado para las entradas, coordinar reunión con ADL en el lugar para coordinar la logística del trabajo.
  - Situaciones con la residencia Benítez D-1
    Casa Entrada 837 - la querella existente ya prescribió, se debe crear una nueva querella detallando todas las situaciones en relación y someter copia al municipio y a la policía municipal. (Entrada al garaje almacén en la parte posterior de la residencia y la operación del mismo, mal estado de las aceras y vegetación que interrumpe la visibilidad de la entrada de la urbanización)
- ✓ Barrera de sonido en la 837- recomendó escribir una carta de petición a Georgie Navarro y Henry Newman.
- ✓ Limpieza del terreno baldío existente en la comunidad- aprobado. Sugirió redactar una propuesta para su posible uso comunitario.
- ✓ Paredes en cemento en la entrada de la Alpierre- se sometió a la evaluación de Obras Públicas para determinar el tipo de seguridad que se puede ofrecer en el lugar (paredes o vayas)
- ✓ Mejoras de calles y acera- en evaluación, sólo se aprobaron las entradas.
- ✓ Restablecer la iluminación de las calles- el municipio está firmando acuerdo colaborativo con AEE para acelerar los procesos de iluminación, está en proceso. La Asociación, enumerar y distinguir los postes sin luz o con desperfectos y someterlo al municipio.
- ✓ Cercanía de Empire Gas- prometió que se reuniría con la empresa para expresar nuestra preocupación y que solicitaría validar el plan de seguridad.
- ✓ Administración dl Parque Colisierra- se informó que la Asociación no tiene injerencia en su uso y que el manejo de su uso está a cargo de un particular. Manifestó no tener conocimiento de esa información.
- ✓ Ordenanza que prohíbe camiones dentro de las urbanizaciones- se solicitó letrero de la ordenanza para la entrada de la carretera 837.
- ✓ Se solicitaron letreros nuevos de las calles.

El Alcalde y su equipo de trabajo se mostraron muy receptivos a todas las preocupaciones de la comunidad y pidieron que todo debe trabajarse por medio de sus ayudantes Víctor Rivera y Johanna Rodríguez.

Anejo 3

departamento de
obras públicas

10 de diciembre de 2020

Marianela Díaz
Junta de Directores
Urb. Sierra Berdecía
marianeladiaz80@hotmail.com

STATUS VARIOS ASUNTOS EN URB. SIERRA BERDECIA

Estimada Sa. Díaz:

Sirva esta comunicación para informarle formalmente lo que conversamos vía teléfono el pasado martes, 8 de diciembre de 2020, para atender un comunicado suyo enviado por correo electrónico el 21 de septiembre de 2020.

Asfalto

Como bien menciona en su comunicación, la repavimentación total (escarificado y asfalto) de la urbanización estaba programada, pero para este último trimestre de 2020. Retrasos en trabajos previos debido a causas ajenas a nuestra voluntad, resultan en alteraciones al programa. Esto no afecta el orden establecido. En este momento nos encontramos en la Urb. Ponce de León. Al terminar en esa urbanización continuaremos con el sector Parcelas de Sonadora y luego le corresponde el turno a Sierra Berdecía. Esto debe ocurrir durante el primer semestre de 2021.

Reubicación de entrada principal

Según le comenté, la posibilidad de relocalizar la entrada principal de acceso por donde ustedes indican, entendemos que no es viable debido a razones de seguridad, ya que quedaría en la curva de la intersección de la Ave. Urbina y la PR-837. Sin embargo, podemos consultar al DTOP, ya que al ser una carretera estatal, son ellos los que evalúan y autorizan los accesos en esa carretera. De recibir respuesta de ellos, se lo comunicaremos.

Río Guaynabo

Para atender la preocupación sobre las condiciones del puente de acceso, solicitaremos un informe de inspección y evaluación a nuestros consultores. Se pedirá también opinión sobre los taludes. Una vez tengamos ese informe, decidiremos el curso a seguir, de necesitar alguna intervención adicional.

Reuniones de seguimiento

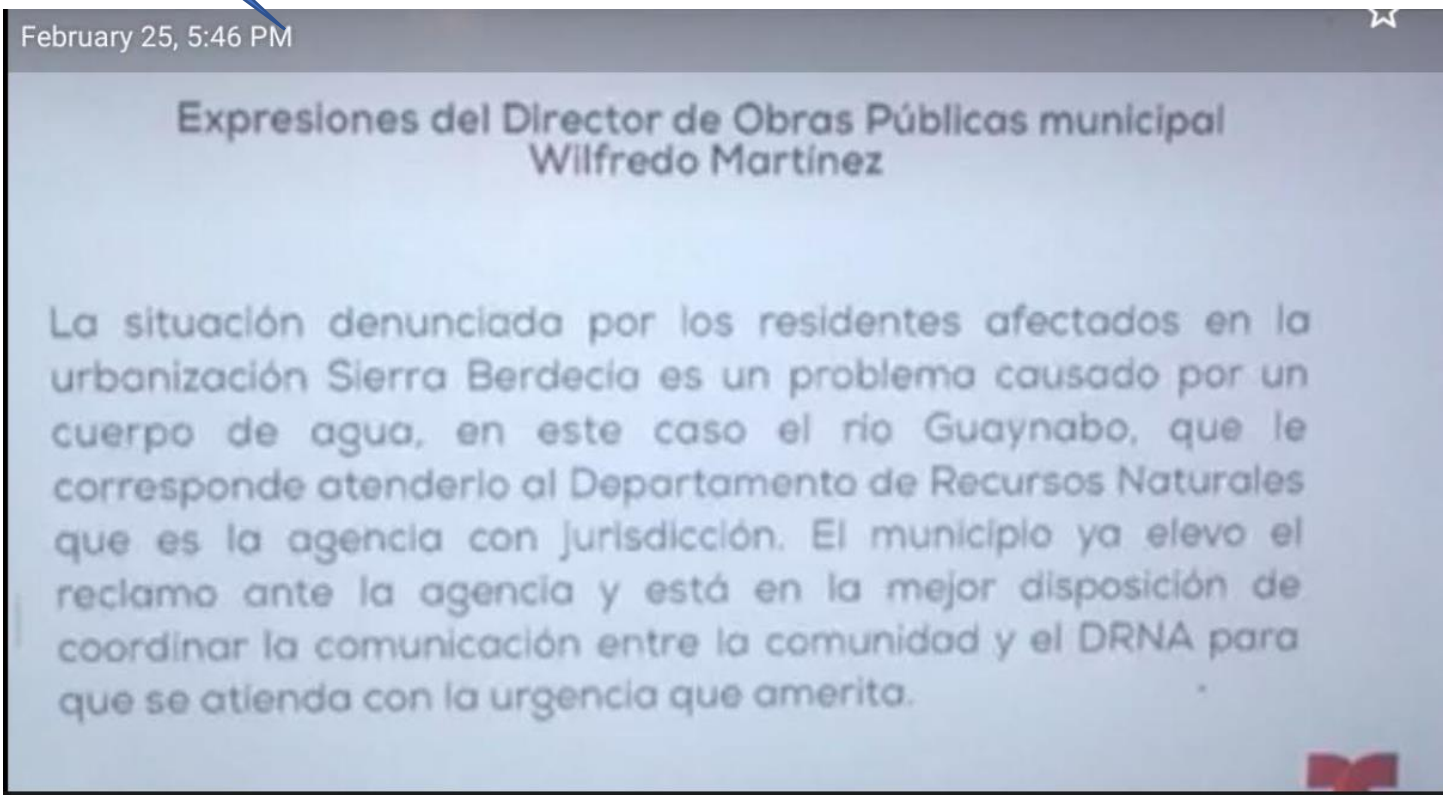
La solicitud de dos reuniones anuales para dar seguimiento a las necesidades de la urbanización es muy favorable. Una vez regresemos del receso navideño, calendarizaremos la primera del año 2021.

Esperamos haber provisto la información solicitada. Continuamos ininterrumpidamente trabajando para brindar los servicios necesarios en todas las comunidades de Guaynabo. Estamos para servirles.

Atentamente,

Ing. Wilfredo Martínez Vázquez
Director

Anejo 4


February 25, 5:46 PM
Expresiones del Director de Obras Públicas municipal
Wilfredo Martínez
La situación denunciada por los residentes afectados en la urbanización Sierra Berdecia es un problema causado por un cuerpo de agua, en este caso el río Guaynabo, que le corresponde atenderlo al Departamento de Recursos Naturales que es la agencia con jurisdicción. El municipio ya elevo el reclamo ante la agencia y está en la mejor disposición de coordinar la comunicación entre la comunidad y el DRNA para que se atienda con la urgencia que amerita.

Anejo 5

Ir a Inicio

Información de Trámite OTROS ARREGLOS OBRAS PUBLICAS # 2019-04983-ARRE **Referido**

Solicitud | Documentar Trámite | Utilidades | Asignar Trámite | Mapa GIS | Recurrencia | Rechazar Servicio

Detalle de Servicio

VERSIÓN PARA IMPRIMIR

INFORMACIÓN GENERAL

Núm. de Caso:	2019-04983-ARRE		
Núm. de Ciudadano:	613805115300000		
Nombre:	Sandra	Apellidos:	Olivieri

INFORMACIÓN CONTACTO

Teléfono Primario:	7875683033	Teléfono Secundario:	------	Notas de Contacto:
Móbil:	------			
Contacto de Emergencia:	------			
Contacto (Tel. Primario):	------	Contacto (Móbil):	------	

DIRECCIÓN

Dirección Física			Dirección Postal		
Urb Sierra Berdecia Calle Febles H24					
Barrio: PUEBLO VIEJO			Barrio:		
Sector:			Sector:		
Ciudad	**Estado**	**Código Postal**	**Ciudad**	**Estado**	**Código Postal**
Guaynabo	PR		Guaynabo	PR	

INFORMACIÓN GENERAL DE LA SOLICITUD

Fecha de Solicitud	03-Sep-2019 2:12 PM
Lugar de Solicitud	
Dirección de Referencia	Se Reunieron con Roberto Garcia para informar dicha querella.

Editar

Descripción Solicitud

Terreno de la casa se esta agrietando y se esta deslizando hacia el Rio Guaynabo.

Valor

$0.00

Resumen Especifico de Incidente	Guaynabo OMME [gubo_msantiago]	2021-05-19 14:45:04

Resumen de Incidente

# Incidente / # 9-1-1:	GNBO012120-NM2-300 /
Codigo de incidente:	
Descripcion de incidente:	OTRO TIPO DE EMERGENCIA
Direccion:	URB SIERRA BERDECIA PR
Punto de Referencia:	CALLE FEBLES NUM H24
Coordenadas / [Margen de error]:	/ []
Ciudad / Municipio:	
Telefono de incidente:	787-568-3033
Querellante / Informante:	SANDRA OLIVIERY
Telefono Querellante / Informante:	787-460-8341
Agencia:	Guaynabo OMME
Estatus:	ARCH
Disposicion Final:	Guaynabo OMME
Servicio:	EVALUACION DE RECIDENCIA
Unidad Primaria:	437
Involucrados:	1
Telecomunicador / 9-1-1:	gubo_nsilva /
Despachador:	gubo_nsilva

Horas

Creado 9-1-1:	
Recibido 9-1-1:	
Recibido en Despacho:	2020-01-21 13:03:04
Activado:	2020-01-21 13:03:10
Escena:	2020-01-21 13:19:01
Completado:	2020-01-21 13:54:10
Archivado:	2020-01-22 07:09:56

Tiempos

9-1-1:	
Activacion:	0:00:06
Reaccion:	0:00:05
Ruta:	0:15:45
En Escena:	0:21:32
Ruta Hospital:	
En Hospital:	

Total Agencia: 0:51:06
Total Llamada: 0:51:06

Coordinaciones / Gestiones

Agencia / Coordinacion	*Activado*	*Escena*

Numeros de Referencia

Numero de Referencia	*Tipo*	*Asignado a*
GNBO012120-NM2-300R1	Recurso	437
GNBO012120-NM2-300I1	Persona	SANDRA OLIVIERY

Recursos

Unidad Recurso	*Estatus*	*Tiempos*
437	TERMINADO	2020-01-21 13:40:33
437	ESCENA	2020-01-21 13:19:01
437	TRANSITO	2020-01-21 13:03:15
437	ACTIVADO	2020-01-21 13:03:10

Persona Recurso	*# Licencia*	*Unidad Recurso*
CARLOS GUZMAN		437
RAFAEL CUMBA		437

Comentarios

Tiempos	*Autor*	*Comentario*
2020-01-22 07:09:56	gubo_msantiago	agent: gubo_msantiago Archived.

Información de Trámite OTROS ARREGLOS OBRAS PUBLICAS # 2020-00222-ARRE

Referido

Solicitud | Documentar Trámite | Utilidades | Asignar Trámite | Mapa GIS | Recurrencia | Rechazar Servicio

Detalle de Servicio

VERSIÓN PARA IMPRIMIR

INFORMACIÓN GENERAL

Núm. de Caso:	2020-00222-ARRE
Núm. de Ciudadano:	000001222000007
Nombre:	Sandra
Apellidos:	Olivieri

INFORMACIÓN CONTACTO

Teléfono Primario:	7875683033	Teléfono Secundario:	------	Notas de Contacto:
Móbil:	-----			
Contacto de Emergencia:	-----			
Contacto (Tel. Primario):	-----	Contacto (Móbil):	------	

DIRECCIÓN

Dirección Física

Urb sierra Berdecia calle Febles #H-24

Barrio:
Sector:

Ciudad	Estado	Código Postal
Guaynabo	PR	00969

Dirección Postal

Urb sierra Berdecia calle Febles #H-24

Barrio:
Sector:

Ciudad	Estado	Código Postal
Guaynabo	PR	00969

INFORMACIÓN GENERAL DE LA SOLICITUD

Fecha de Solicitud	22-Jan-2020 10:27 AM
Lugar de Solicitud	
Dirección de Referencia	

Editar

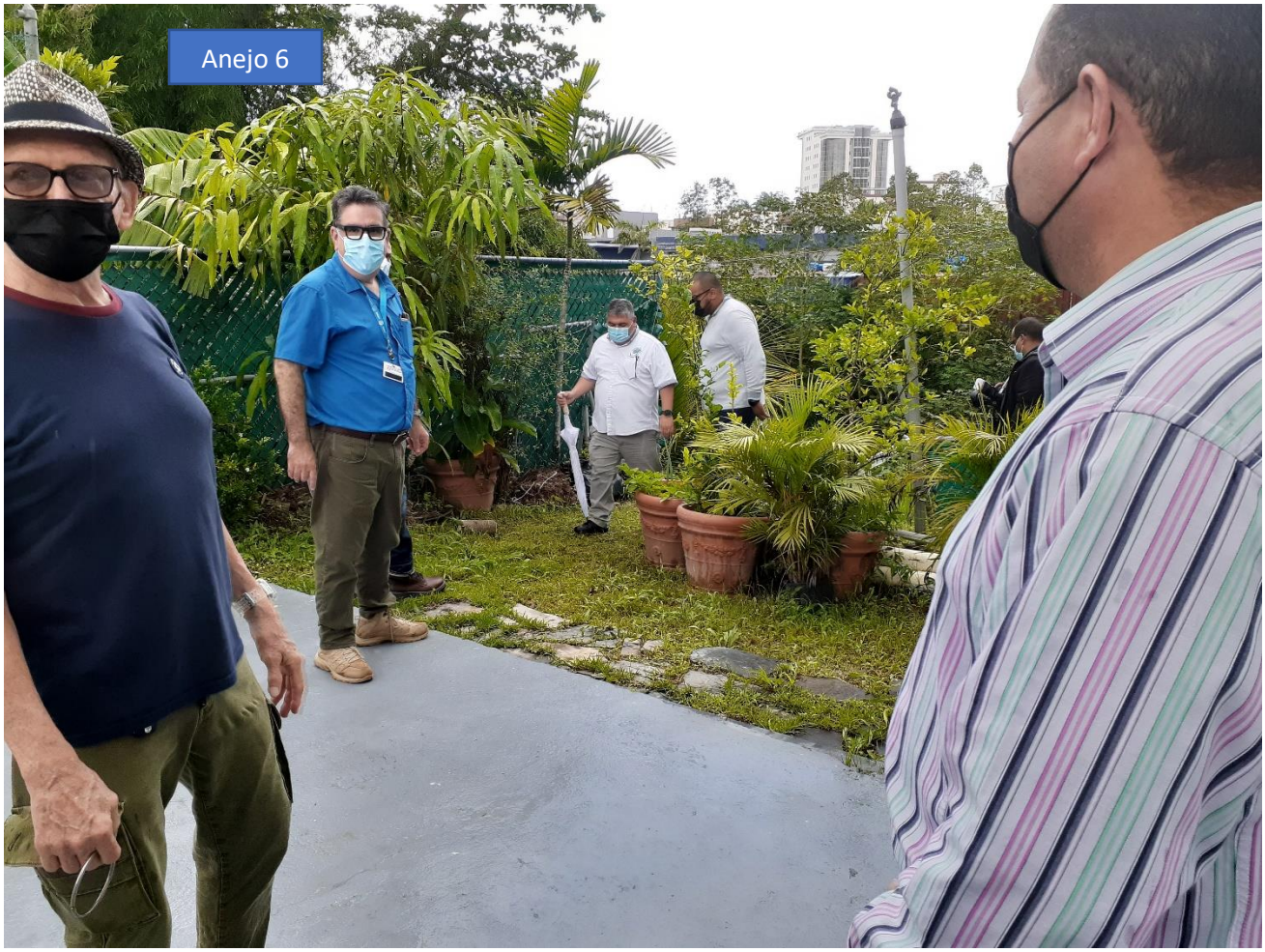
Descripción Solicitud

A causa de los temblores la casa tiene grietas en pared, se desprendio empañetado y separación de las lozas

Valor

$0.00

Anejo 6



Residentes de Comunidades Colinas de Guaynabo y Sierra Berdecía en el municipio de Guaynabo
Denuncia de erosión y/o hundimiento vertical de terreno en propiedades colindantes al Río Guaynabo

Firmas:

1 Delia M. Pellot - Laurel E-8
2 Ana C. Pesante Sandalia Benitez E-17
3- Carmen Lydia Rivera Figueroa Laurel E 17
4- Hector Peter Esteves H-10
5 Ramón López Esteves H-10
6. Anilda Serrano Ruiz Laurel E-19
7. LEMUEL ORTIZ ROSARIO - E-19
8. Karen López Collazo - Benitez D8 Sierra Berdecia
9. Grisel Collazo Davila - Laurel E-18
10. Sandra Olivieri Cano - Febles H24
11. Coral Mabry Olivieri Febles H23
12 JOSE TORO MERCADO LAUREL E15
13 José A. Suarez, Domenech H-8
14. Evelyn Escudero - Garcia H-51
15. Eduardo Melendez - C/Garcia H42
16 Loyda Lugo Garcia H-37
17. Victor Torres - E-16 Laurel-(Altos)
18. María C. Chevres E-16
19. Wanda Alexander - Laurel E-7
20- Pedro Castillo Lopez - Laurel E 21

Residentes de Comunidades Colinas de Guaynabo y Sierra Berdecía en el municipio de Guaynabo
Denuncia de erosión y/o hundimiento vertical de terreno en propiedades colindantes al Río Guaynabo

Firmas:

1. Lourdes Aquino Freytes Laurel E-6
2. Fernando Fernández León Laurel E-6
3. [illegible] Laurel E-6 Altos
4. Carlos E. [illegible] Laurel E- E-5
5. [illegible] Laurel E- E-5
6. Bernaldo Orozco Suarez Laurel E-4
7. Priscilla Gayol Santana Laurel E-20
8. [illegible] Laurel F-18
9. Vanessa Gonzales - Laurel E-14
10. Jacbeth Rivera Ruiz - Laurel F-16
11. Laura Kerner. Laurel F-17
12. María C. Chevres Laurel E-16
13. Tatiana Castro Santiago H-7 SB
14. Marianela Díaz Esteves H-14 Guaynabo

info CDBG

From: Arnaldo Lopez <arnaldo.lopez2014@outlook.com>
Sent: Tuesday, July 26, 2022 4:53 PM
To: info CDBG
Subject: Re: CDBG-MIT Plan de Acción Enmienda 1/Action Plan Amendment 1(Período comentarios/Comments period)

Saludos. Que posibilidades hay de tener los fondos para una construcción ya que no hay casas. Yo tengo el solar pago y me gustaría que me ayudaran.

Get Outlook for iOS

From: CDBG-DR & MIT Puerto Rico <infocdbg@vivienda.pr.gov>
Sent: Tuesday, July 26, 2022 11:16:15 AM
To: arnaldo.lopez2014@outlook.com <arnaldo.lopez2014@outlook.com>
Subject: CDBG-MIT Plan de Acción Enmienda 1/Action Plan Amendment 1(Período comentarios/Comments period)

Lee el Plan de Acción

View Action Plan

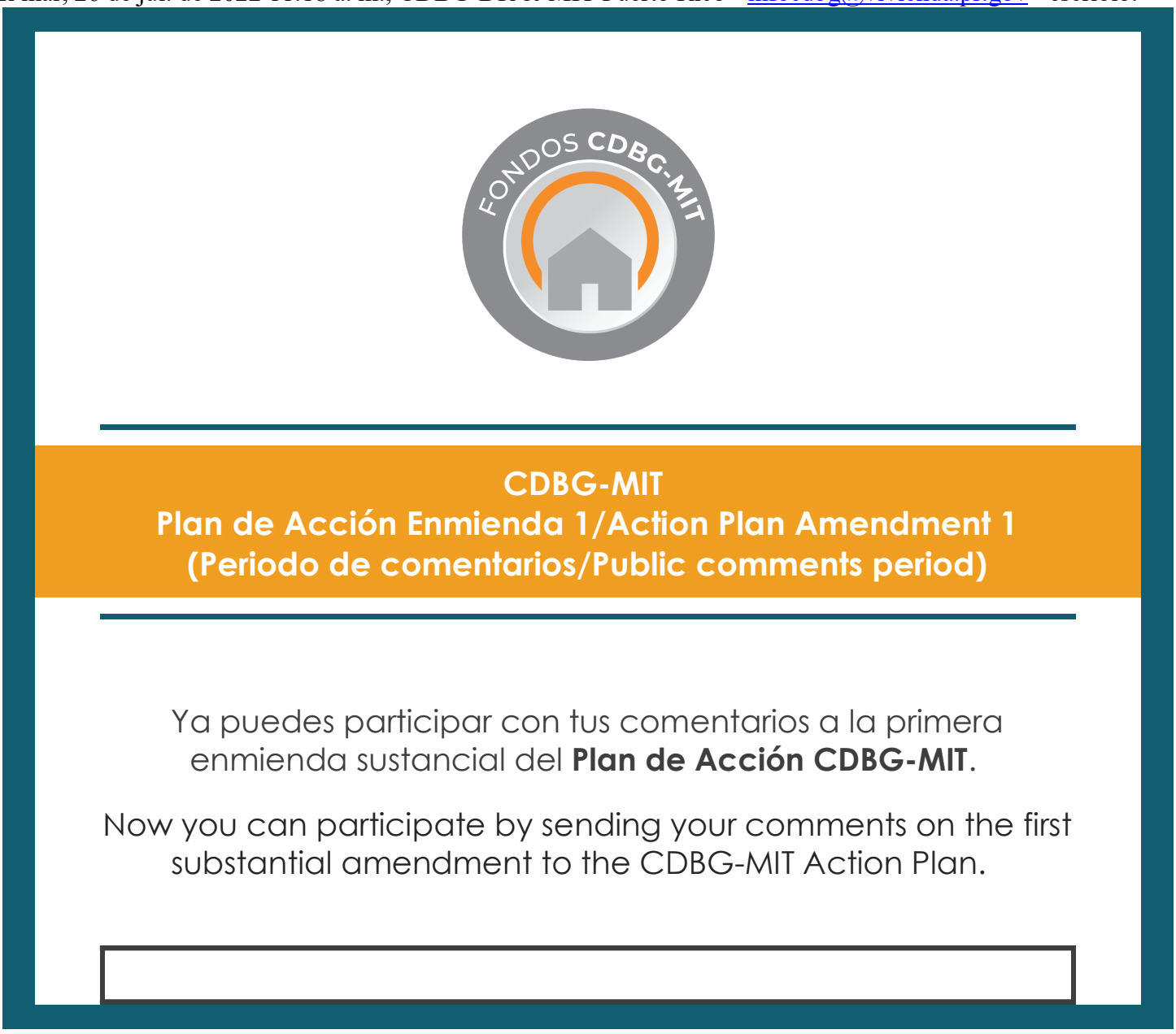
DEPARTAMENTO DE LA
VIVIENDA

info CDBG

From: Elizabeth Santiago <elizabeth21159@gmail.com>
Sent: Tuesday, July 26, 2022 10:07 PM
To: info CDBG
Subject: Re: CDBG-MIT Plan de Acción Enmienda 1/Action Plan Amendment 1(Período comentarios/Comments period)

Que hay de cierto que se puede solicital placas solares para perdonas con condicionesque las necesite

El mar, 26 de jul. de 2022 11:18 a. m., CDBG-DR & MIT Puerto Rico <infocdbg@vivienda.pr.gov> escribió:

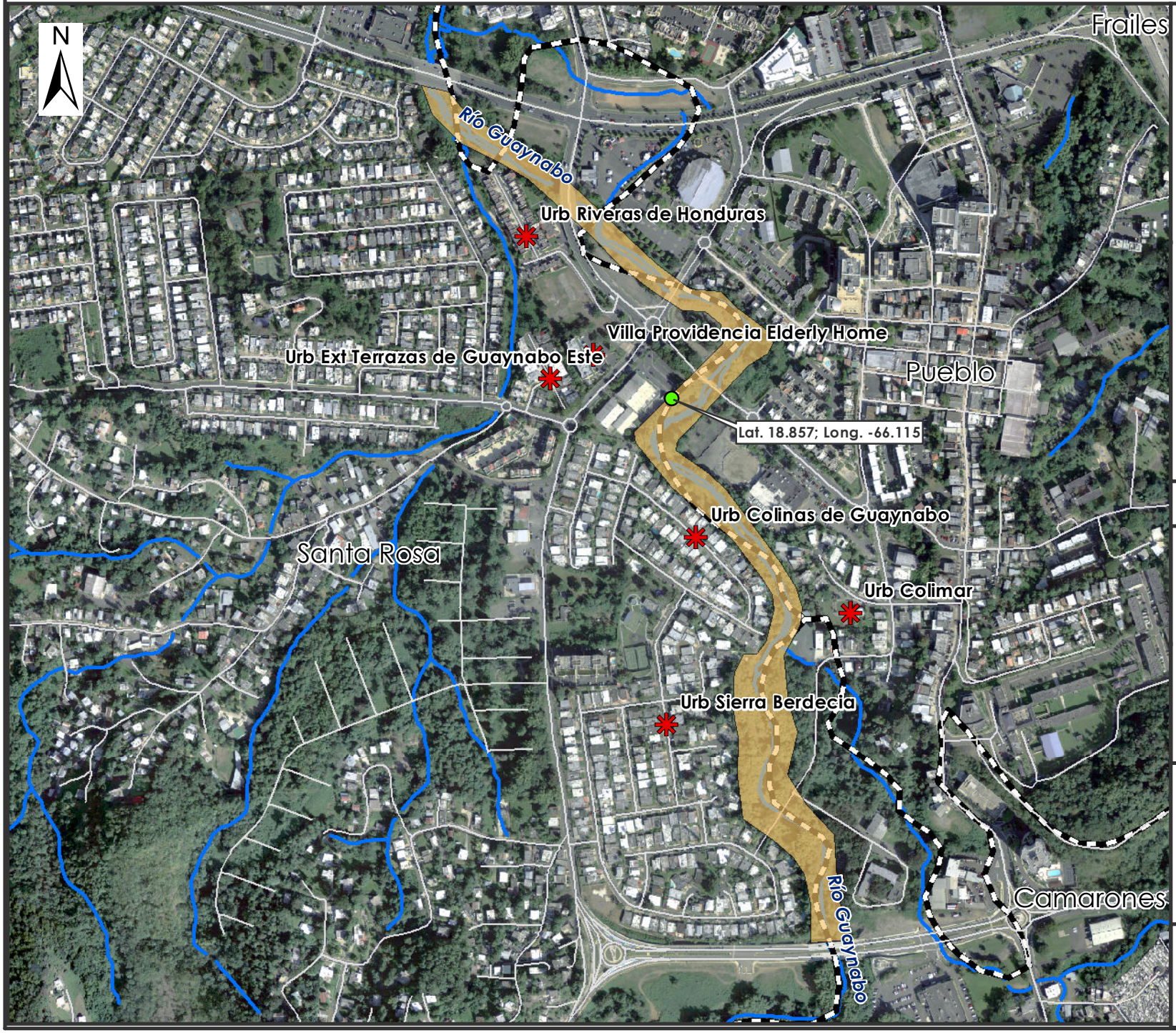


Lee el Plan de Acción

View Action Plan

DEPARTAMENTO DE LA
VIVIENDA

Municipio Autónomo de Guaynabo
Oficina de Planificación y Ordenación Territorial
MAG- 002 MIT



- Puntos Afectados
- Proyecto Río Guaynabo
- Calles/Caminos
- Hidrología
- Barrios
- Limite Guaynabo

1:8,000

0 37.575 150 225 300 Metros

Por: MMB, 2/8/2022

Freewindenergy

403 CALLE DEL PARQUE, SUITE 15 SAN JUAN, PR 00912

innovative technologies
from Hungary

t.doczi@freewindenergy.us

Our Professional energy generating and storage systems

Our complete system includes:

Freewindenergy vertical axis wind turbine

CdF CIGS PV module / Black solar panels

Battery –bank by active BMS (Option)

Freewindenergy vertical axis wind turbine product range

Freewindenergy hybrid system

Freewindenergy vertical axis wind generator

Freewindenergy vertical axis wind generator to yachts, ships

Large pillar version

ON-GRID

1,5-2,5 kW

5 kW

10 kW

20 kW

5 kW

10 kW

20 kW

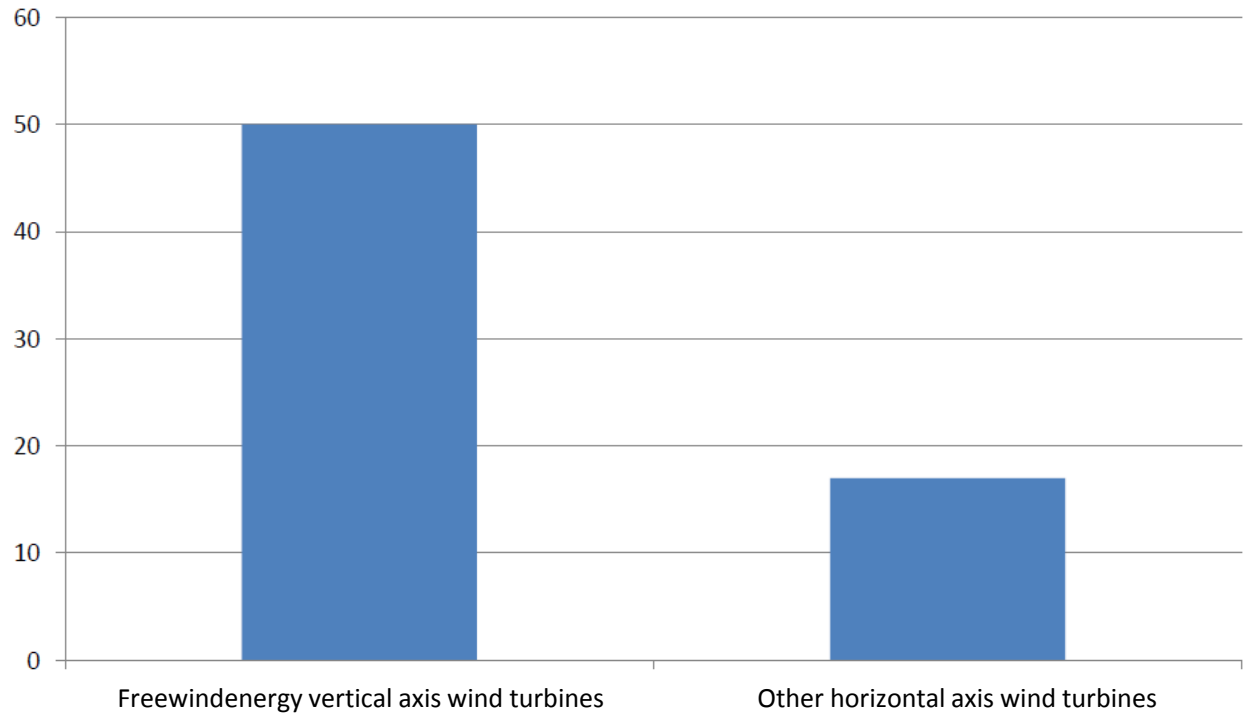
OFF-GRID

Hybrid system versions

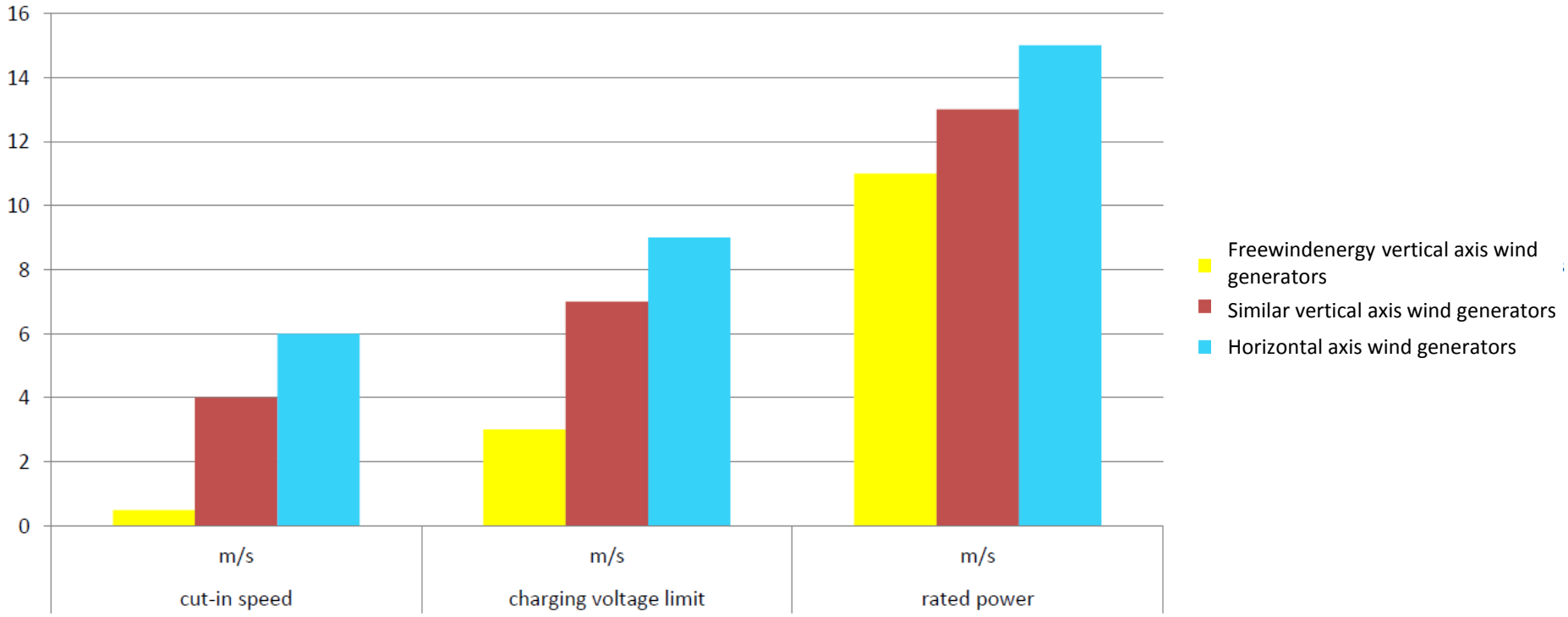
Solar panel capacity		Wind turbine capacity
2 kW	+	5 kW
4 kW	+	10 kW
6 kW	+	20 kW

Solar panel capacity can be increased as required.

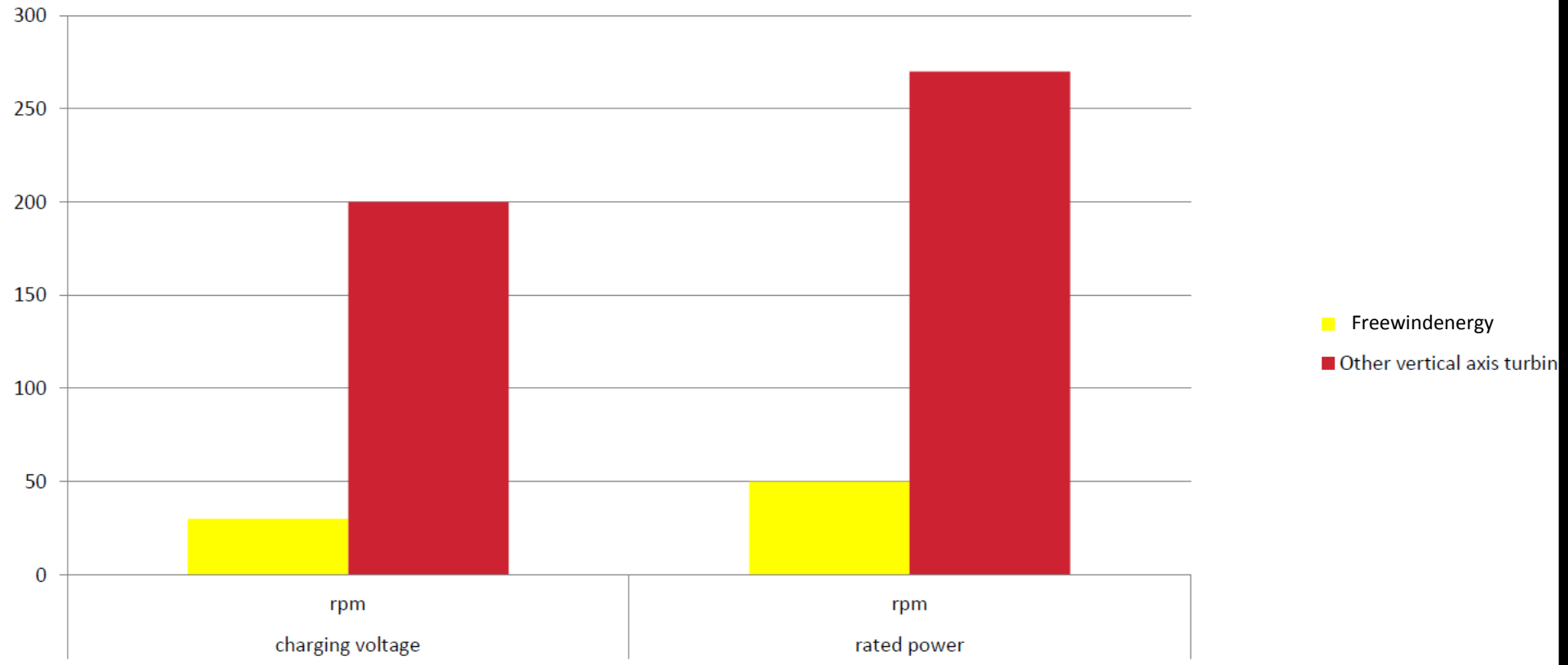
Efficiency


60
50
40
30
20
10
0
Freewindenergy vertical axis wind turbines
Other horizontal axis wind turbines

The main data in case of different wind generators – depending on the wind speed



Wind speed where min. charging potential for the batteries (300V) is reached

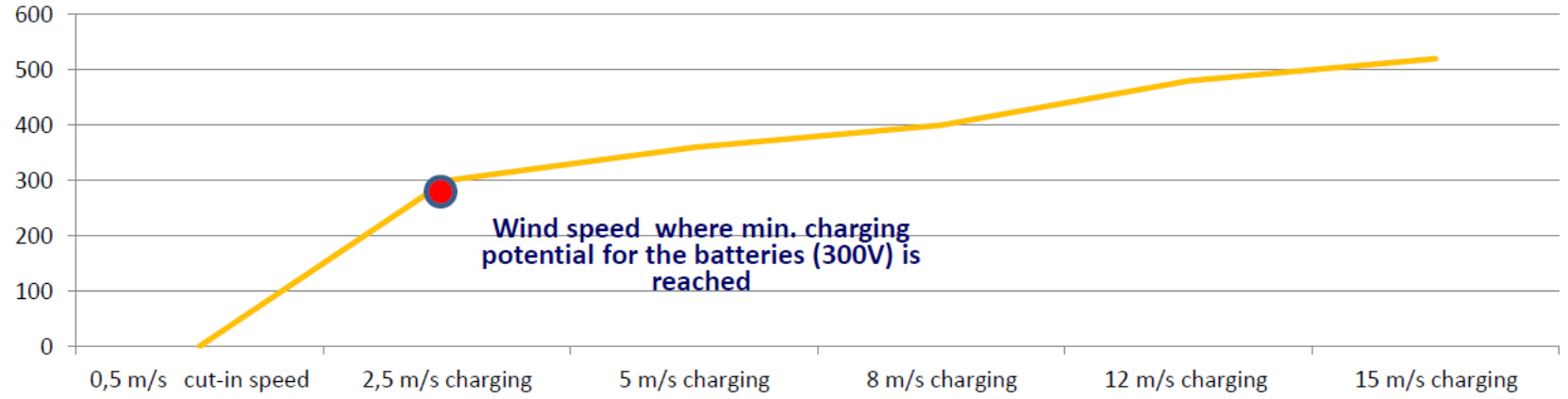


Shaft revolution where min. charging potential for the batteries (300V) is reached

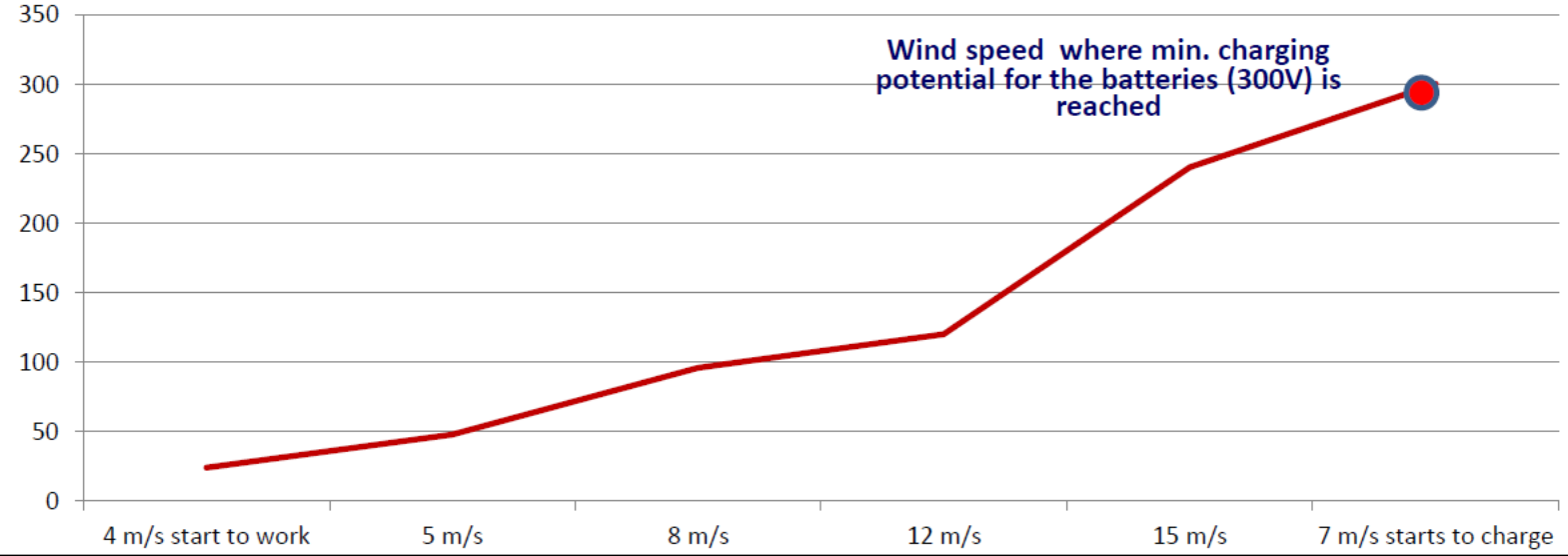
Shaft revolution where rated power is reached

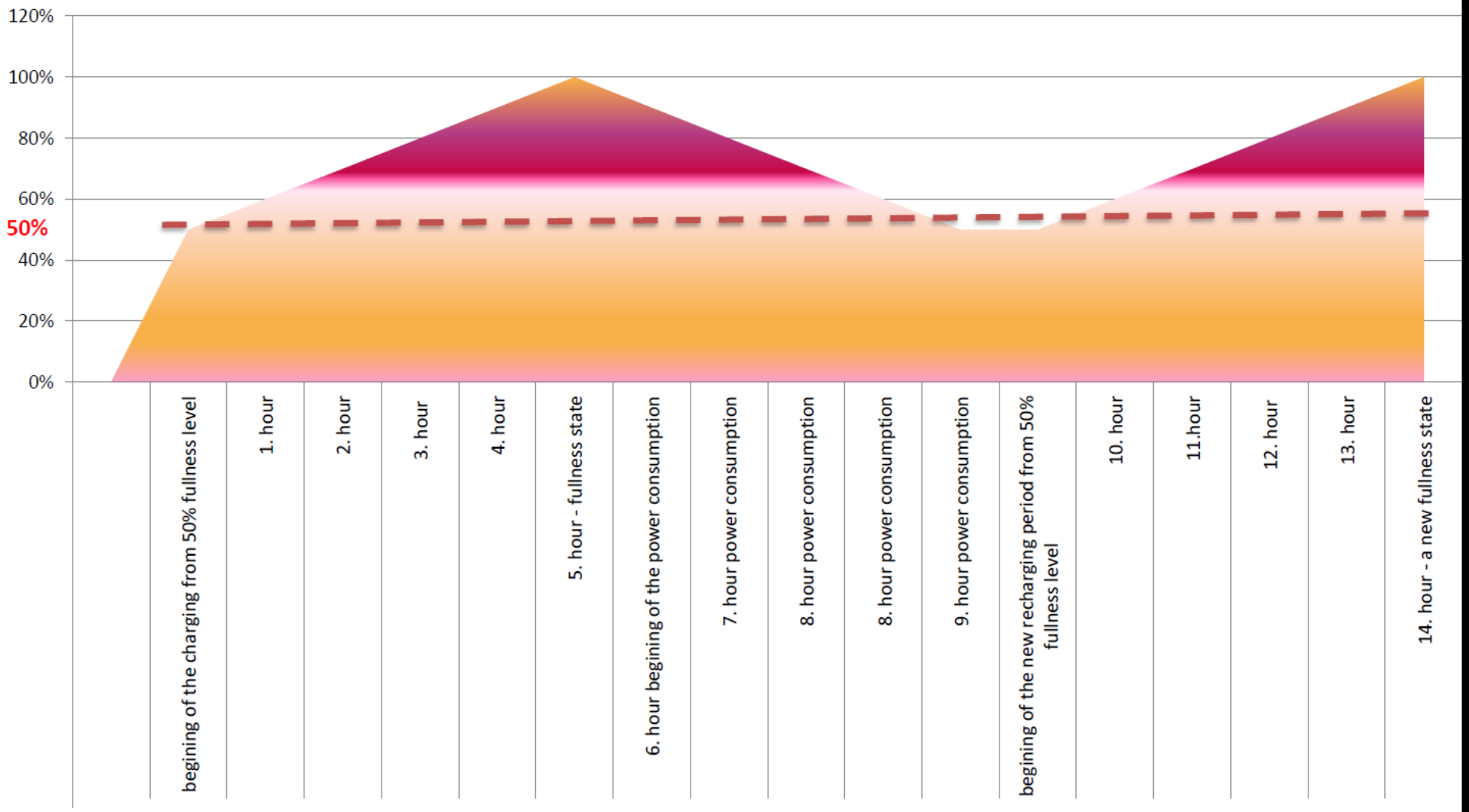
Charging potential depending on wind speed

Generated voltage by Freewindenergy vertical axis wind generators – minimum required charging voltage is 300V



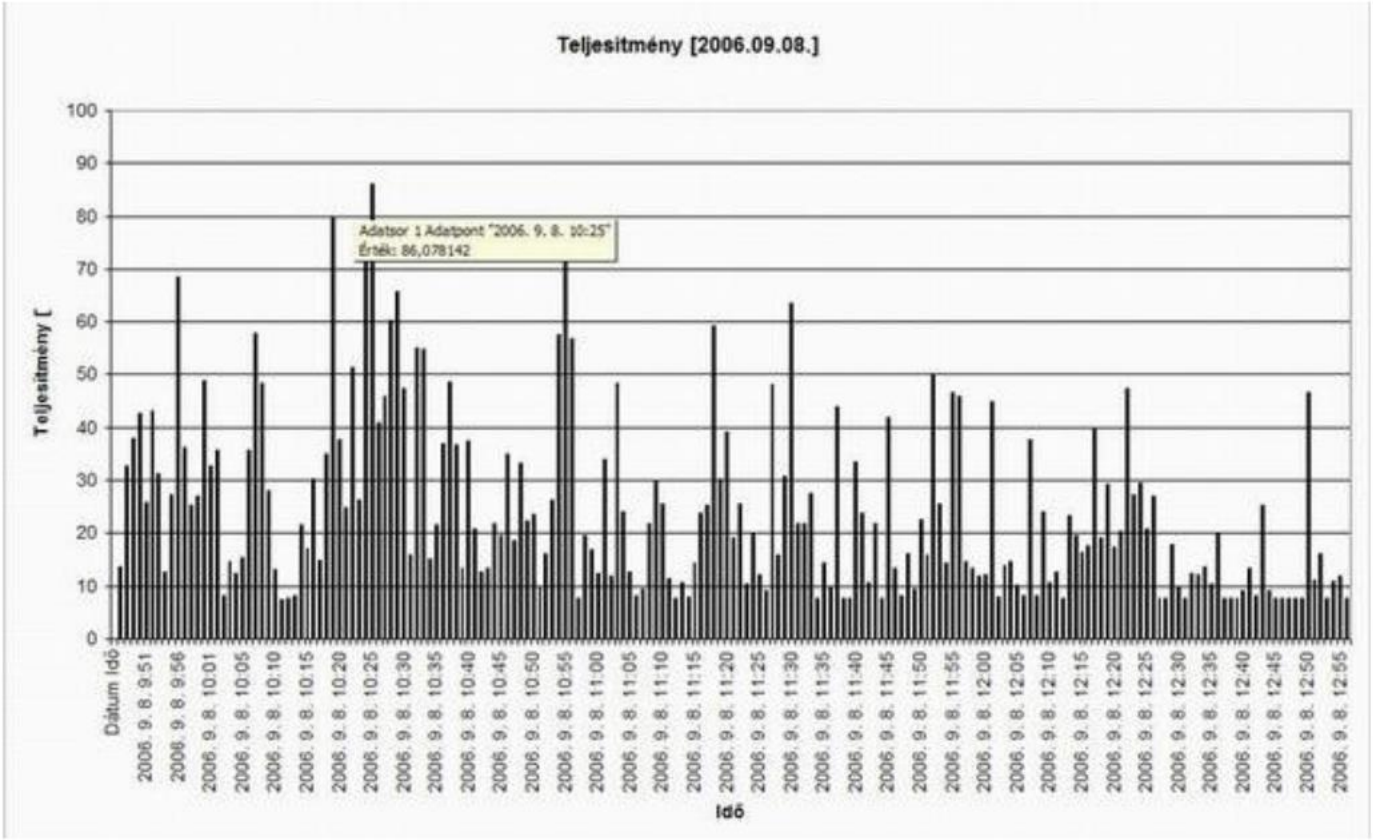
Generated voltage by similar vertical axis wind generators





Generated electricity by 5 kW Freewindenergy wind generator and charging/storage time into a 20 kW battery pack and using of electricity by 2 kW pump motor – LIFE CYCLE OF THE BATTERY PACK

The Freewindenergy wind turbine generator charges the batteries with a “peak” method



The result: Extremely long life time.
for lead-acid batteries: 8-10 years
min. 30 years for lithium-ion batteries (with active BMS)

The main characteristics of our wind generators

It can work in calm **and**

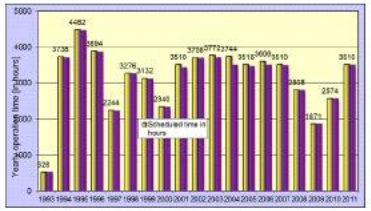
Noiseless

Significantly high efficiency

It generates the rated power in a moderate wind speed

Storm too

Minimal maintenance requirement



High number of operating hours

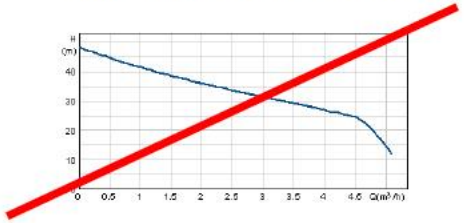
Short installation time

It's not dangerous for birds

Low installation costs

5 years guarantee

Low space requirement (2 m2 / 50 kW)



No efficiency loss over lifetime

25 years lifetime

Main attributes of the hybrid system

It can be installed during 24 hours

It can be re-installed anytime

It can work as off-grid **and**

On-grid version too

Easy to carry

On boat

By truck

By rail

It can be installed anywhere

tropics

deserts

Polar regions

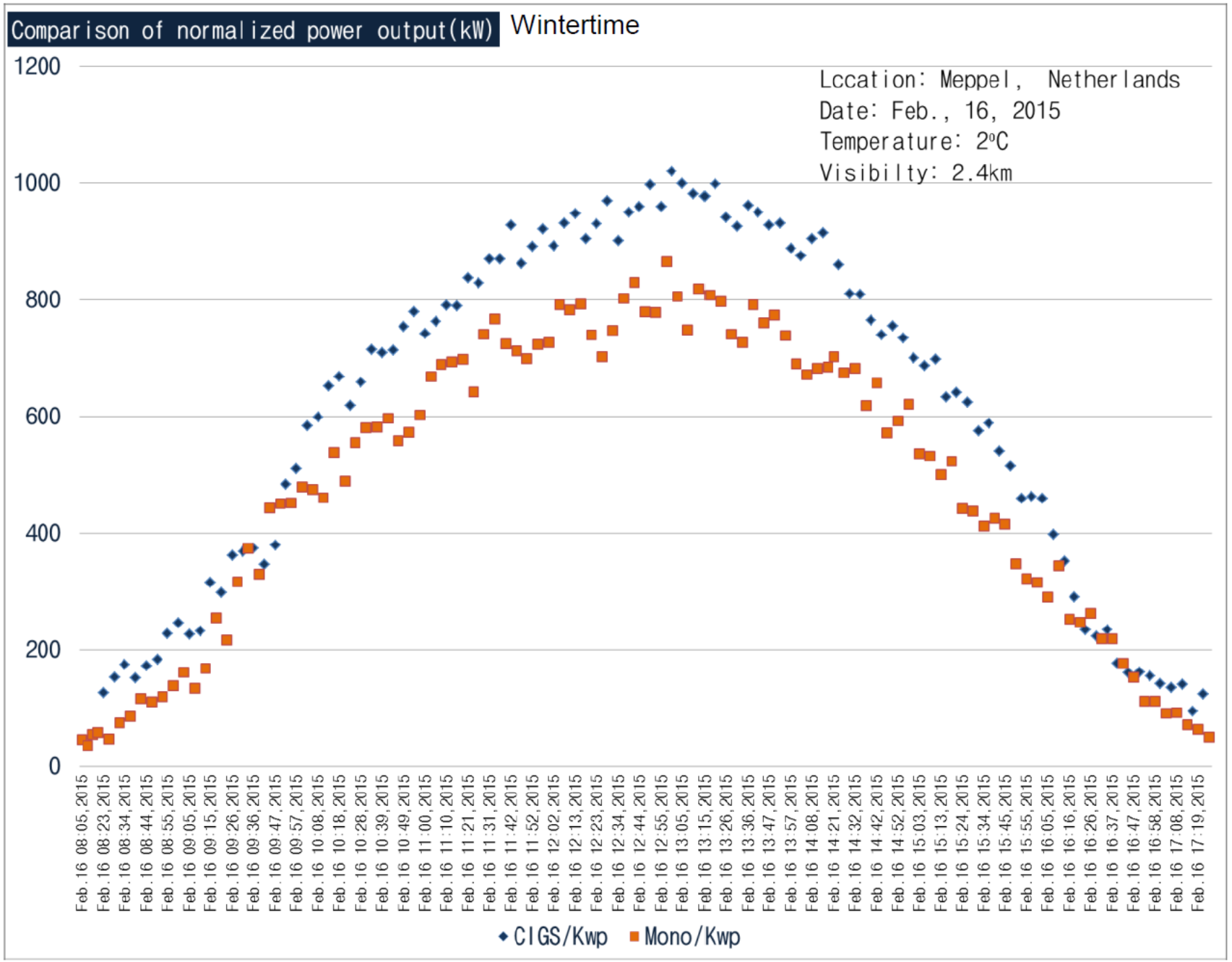
„Black" solar panels

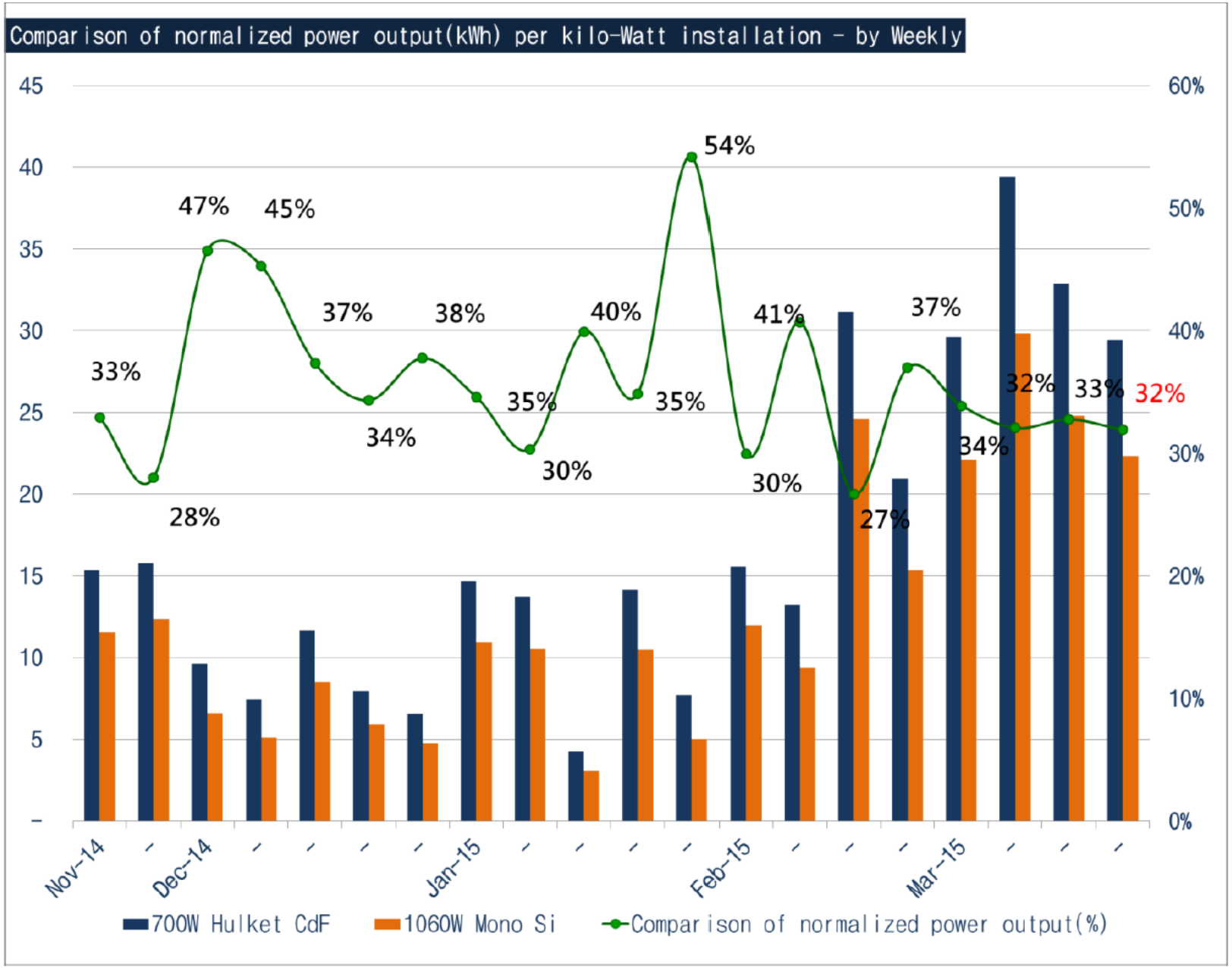
CdF CIGS PV Module

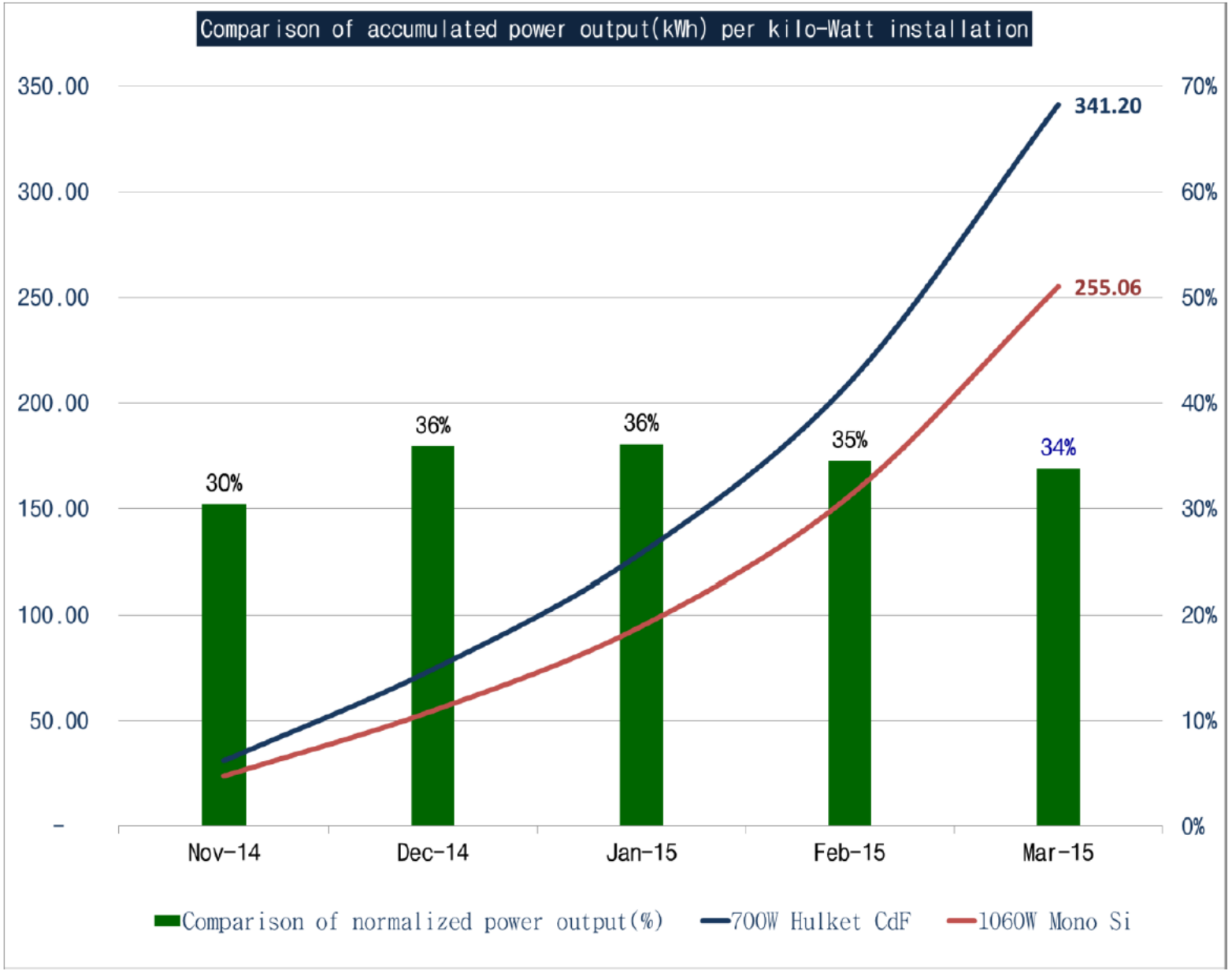
The traditional C-Si PV and the CdF CIGS panels

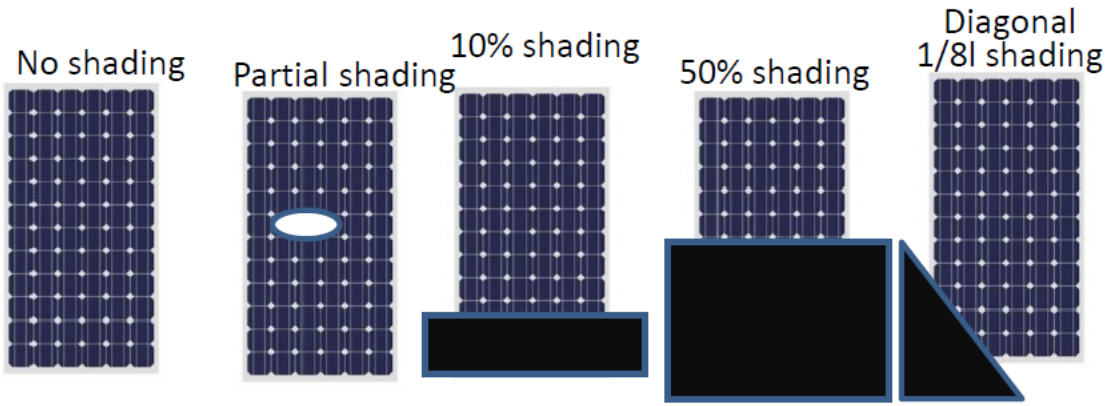
Mono c-Si PV, 265W x

CdF CIGS PV Module


Comparison of normalized power output(kW)
Wintertime
Lccation: Meppel, Netherlands
Date: Feb., 16, 2015
Temperature: 2°C
Visibilty: 2.4km
1200
1000
800
600
400
200
0
Feb.16 08:05,2015
Feb.16 08:23,2015
Feb.16 08:34,2015
Feb.16 08:44,2015
Feb.16 08:55,2015
Feb.16 09:05,2015
Feb.16 09:15,2015
Feb.16 09:26,2015
Feb.16 09:36,2015
Feb.16 09:47,2015
Feb.16 09:57,2015
Feb.16 10:08,2015
Feb.16 10:18,2015
Feb.16 10:28,2015
Feb.16 10:39,2015
Feb.16 10:49,2015
Feb.16 11:00,2015
Feb.16 11:10,2015
Feb.16 11:21,2015
Feb.16 11:31,2015
Feb.16 11:42,2015
Feb.16 11:52,2015
Feb.16 12:02,2015
Feb.16 12:13,2015
Feb.16 12:23,2015
Feb.16 12:34,2015
Feb.16 12:44,2015
Feb.16 12:55,2015
Feb.16 13:05,2015
Feb.16 13:15,2015
Feb.16 13:26,2015
Feb.16 13:36,2015
Feb.16 13:47,2015
Feb.16 13:57,2015
Feb.16 14:08,2015
Feb.16 14:21,2015
Feb.16 14:32,2015
Feb.16 14:42,2015
Feb.16 14:52,2015
Feb.16 15:03,2015
Feb.16 15:13,2015
Feb.16 15:24,2015
Feb.16 15:34,2015
Feb.16 15:45,2015
Feb.16 15:55,2015
Feb.16 16:05,2015
Feb.16 16:16,2015
Feb.16 16:26,2015
Feb.16 16:37,2015
Feb.16 16:47,2015
Feb.16 16:58,2015
Feb.16 17:08,2015
Feb.16 17:19,2015
CIGS/Kwp
Mono/Kwp


Comparison of normalized power output(kWh) per kilo-Watt installation - by Weekly
45
40
35
30
25
20
15
10
5
-
60%
50%
40%
30%
20%
10%
0%
33%
28%
47%
45%
37%
34%
38%
35%
30%
40%
35%
54%
41%
30%
27%
37%
34%
32%
33%
32%
Nov-14
Dec-14
Jan-15
Feb-15
Mar-15
700W Hulket CdF
1060W Mono Si
Comparison of normalized power output(%)


Comparison of accumulated power output(kWh) per kilo-Watt installation
350.00
300.00
250.00
200.00
150.00
100.00
50.00
-
70%
60%
50%
40%
30%
20%
10%
0%
341.20
255.06
30%
36%
36%
35%
34%
Nov-14
Dec-14
Jan-15
Feb-15
Mar-15
Comparison of normalized power output(%)
700W Hulket CdF
1060W Mono Si



C-Si PV systems

0%	-33-66%	-99%	-99%	-73%

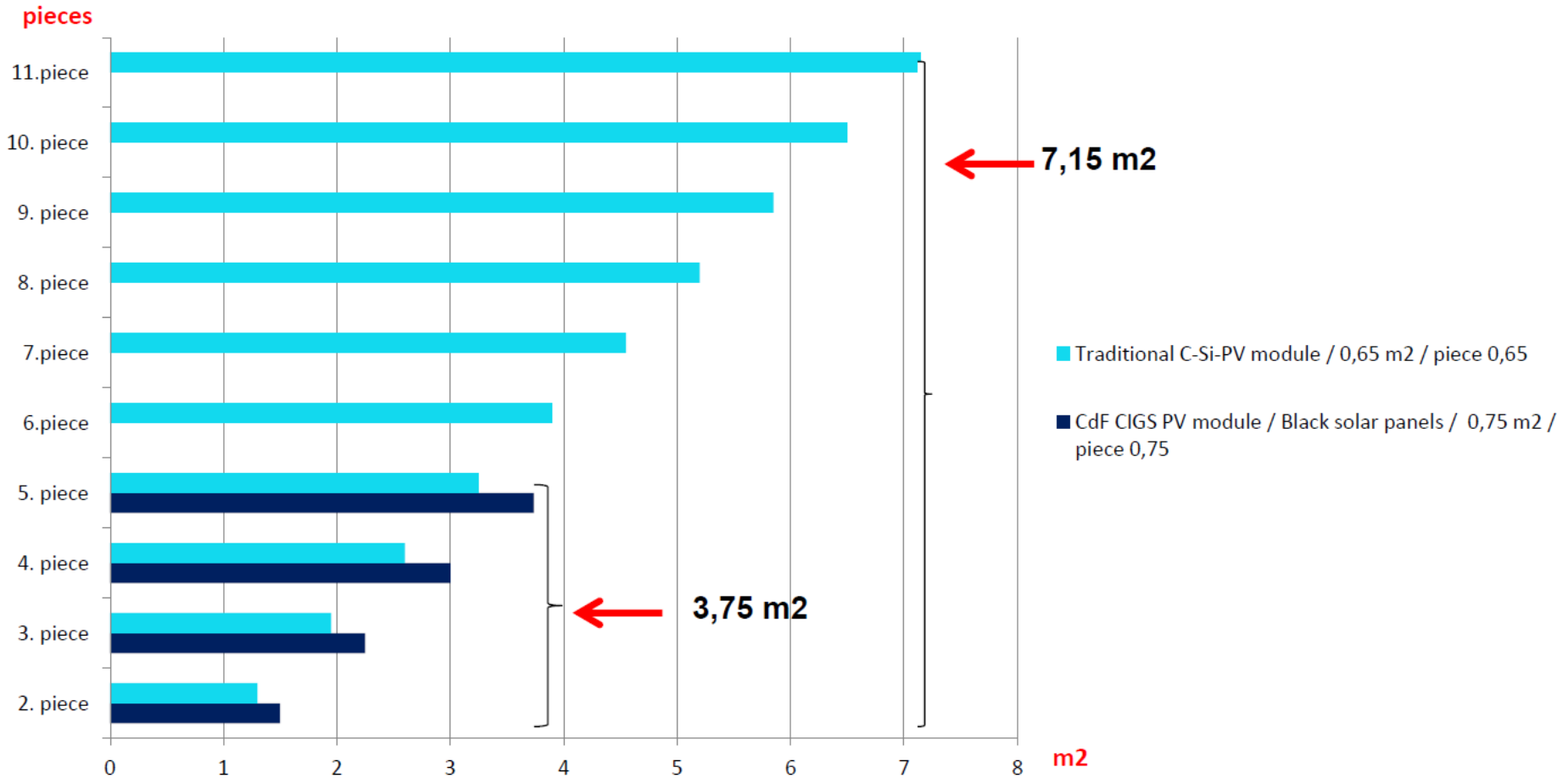
Power loss

CdF-CIGS PV systems
Black solar panels

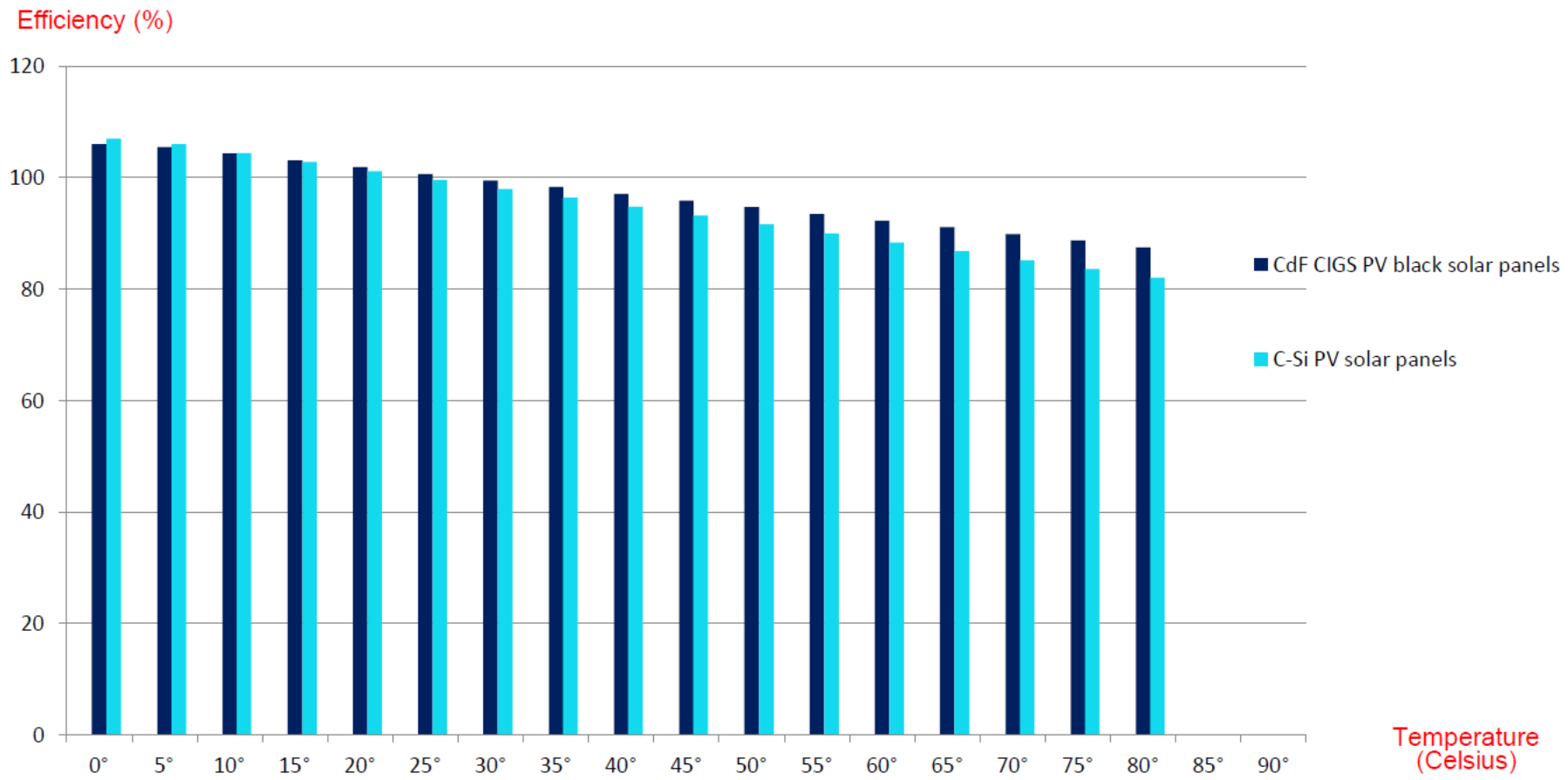
0%	shade area	-10%	-50%	-26%

Power loss

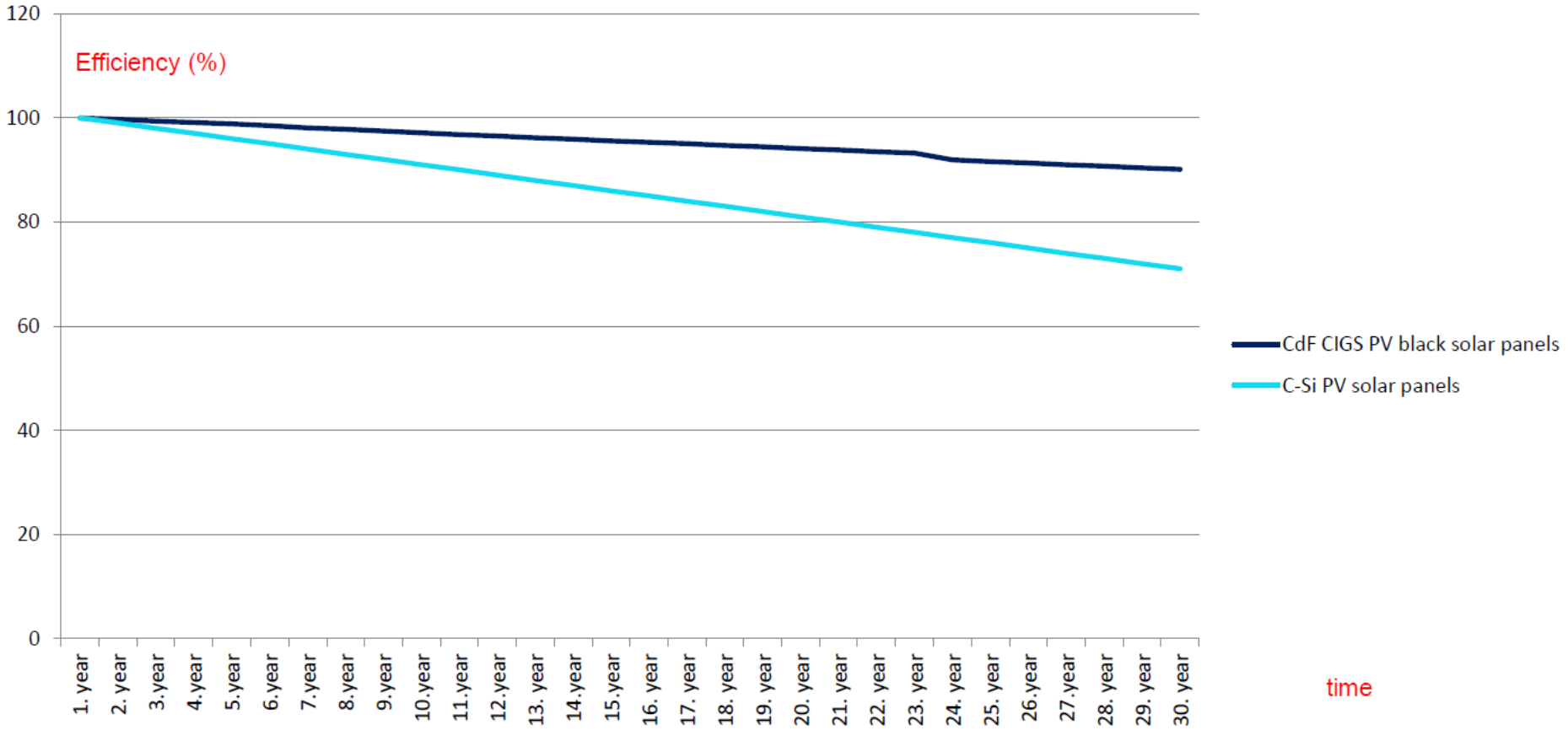
C-Si PV and CdF CIGS Solar panel effective surface requirement to reach the min. 300 V charging potential



Efficiency loss of the PV panels - depending on the temperature



Efficiency loss of the PV panels - over 30 years lifetime



Batteries

Battery –bank with active BMS (Optional)

Banner battery pack

Other than these,
there is no such compact, variable system with high storage capacity,
which can also work off-grid, and can serves as UPS.

Special lithium-ion battery-pack and battery-bank with active BMS

Output:

Minimum storage capacity: 20 kw

Maximum storage capacity / unit: 500 MW

- Life time: min. 30 years
- Effeciency loss during 30 years is less than 5%
- The battery-bank can be remote controled and monitored by smart phone

Our complete system includes:

(Option)

Our Complete system

Black solar panel

Hybrid system

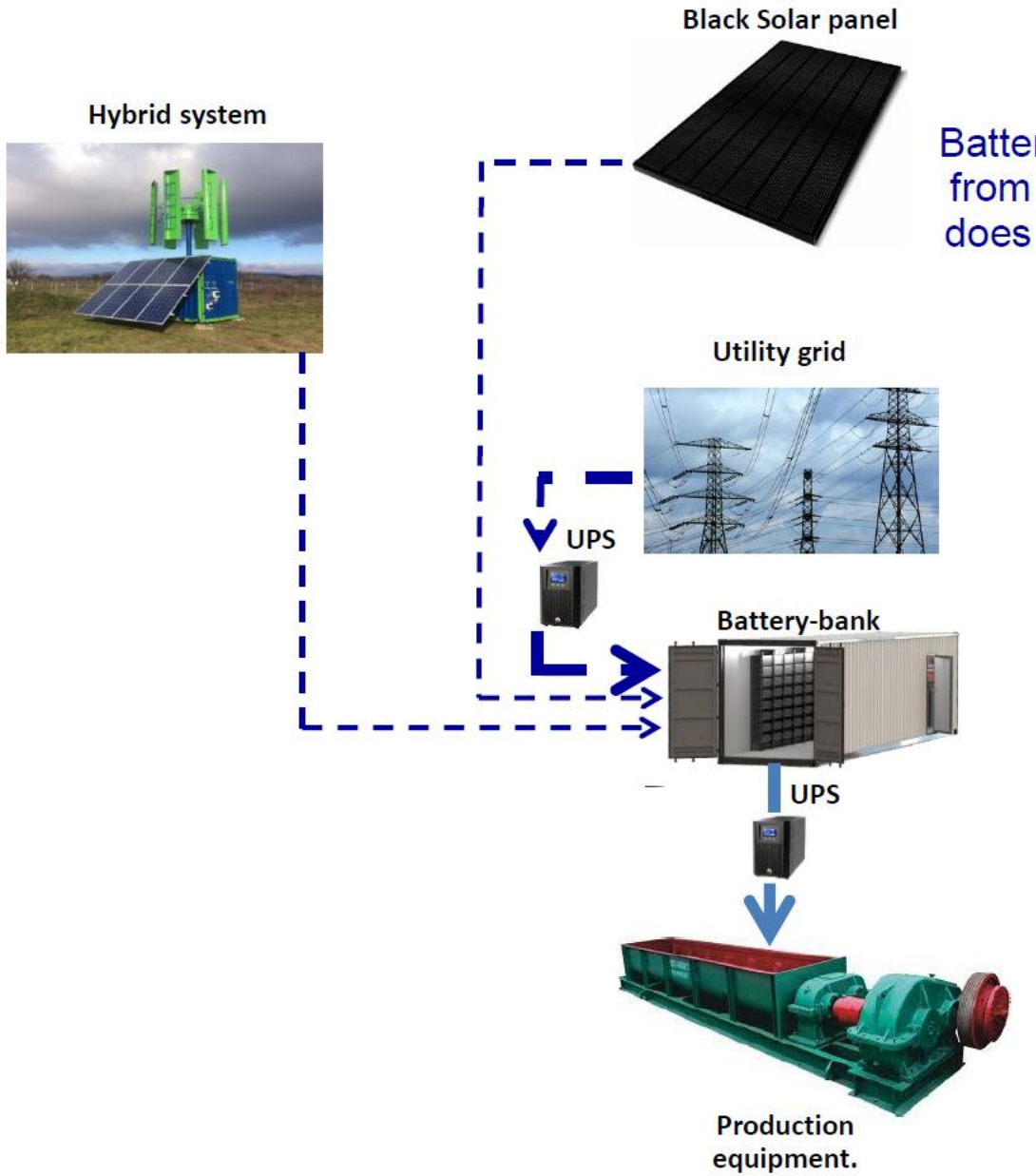
Battery-bank

UPS

house

Energy flow

off-grid and on-grid UPS functions



II. Version

Battery-bank gets electricity and charged from utility grid, when the hybrid system does not work and/or the battery bank is empty.

Energy flow

off-grid and on-grid UPS functions

Black Solar panels

Hybrid system

III. Version

Battery-bank sends electricity back to the Utility grid when they're full.
This solution solves smoothes out the „valley" periods of the utility grid.

Utility grid

Inverter

UPS

Battery-bank

UPS

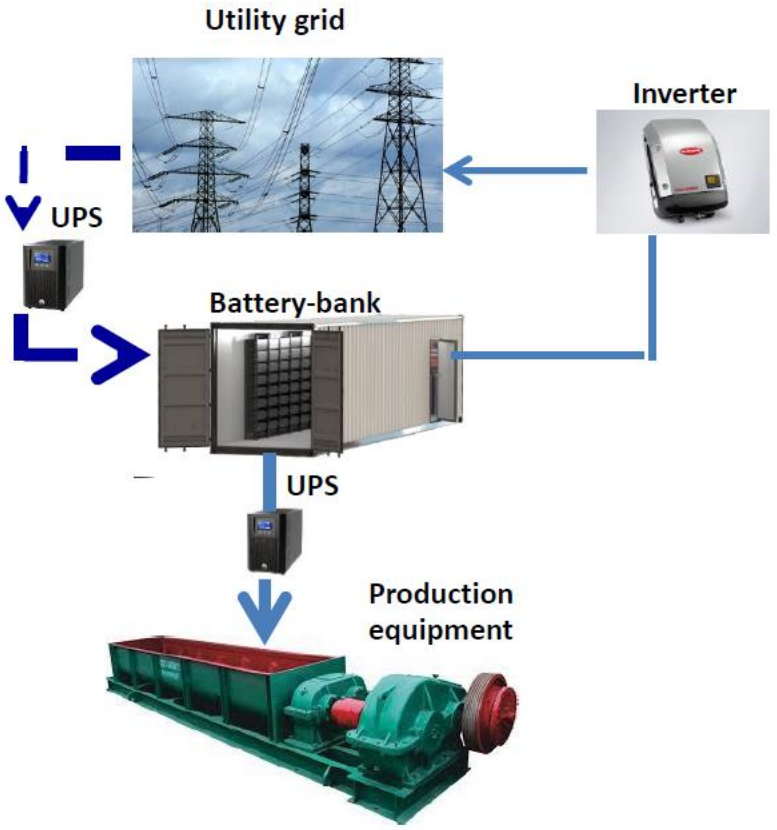
Production equipment

Energy flow

off-grid and on-grid UPS functions

IV. Version

When an industrial facility needs large amount of electricity in a very short time, battery-bank can smooth out the peak load required from utility grid

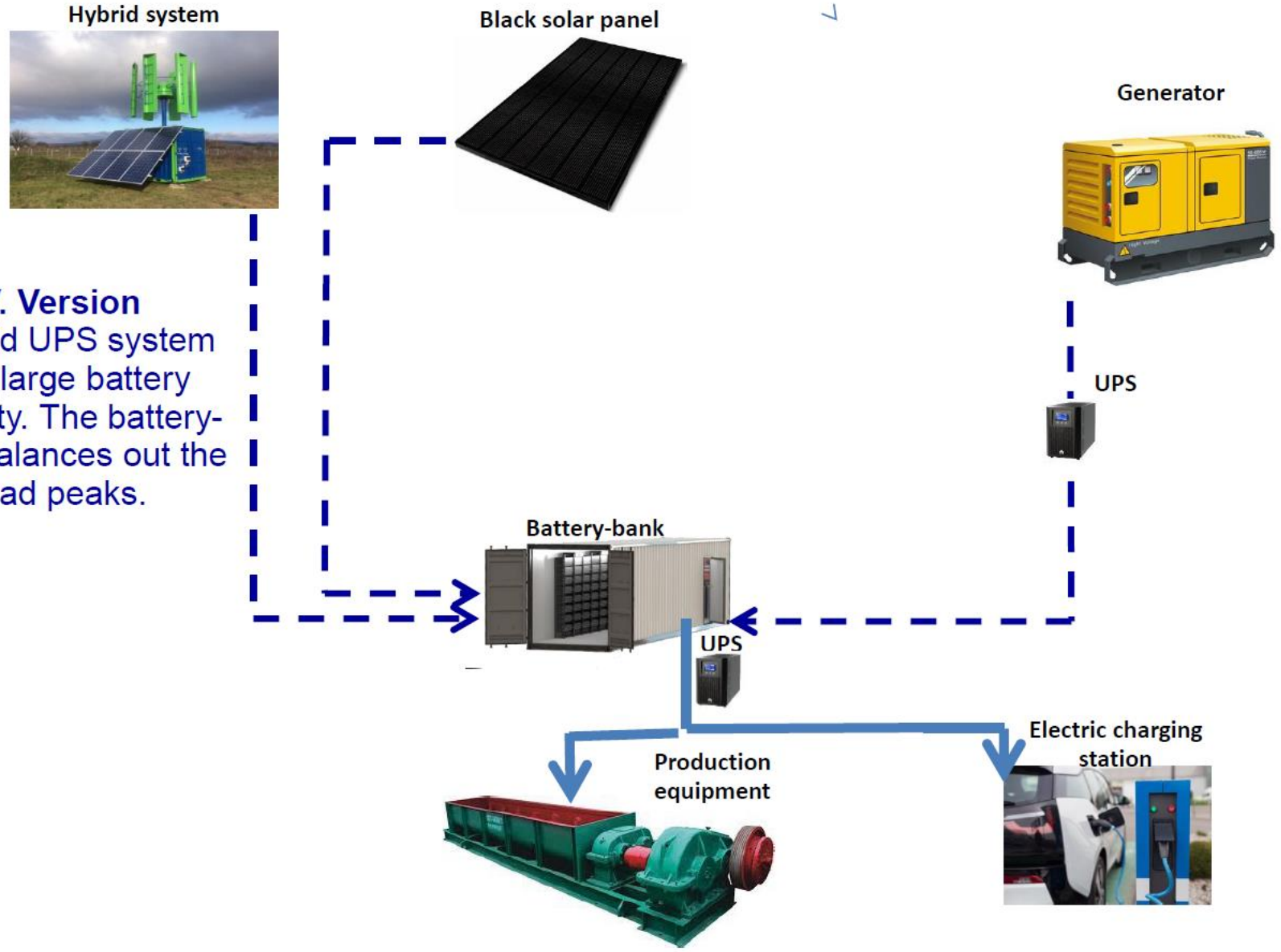


Energy flow

off-grid and on-grid UPS functions

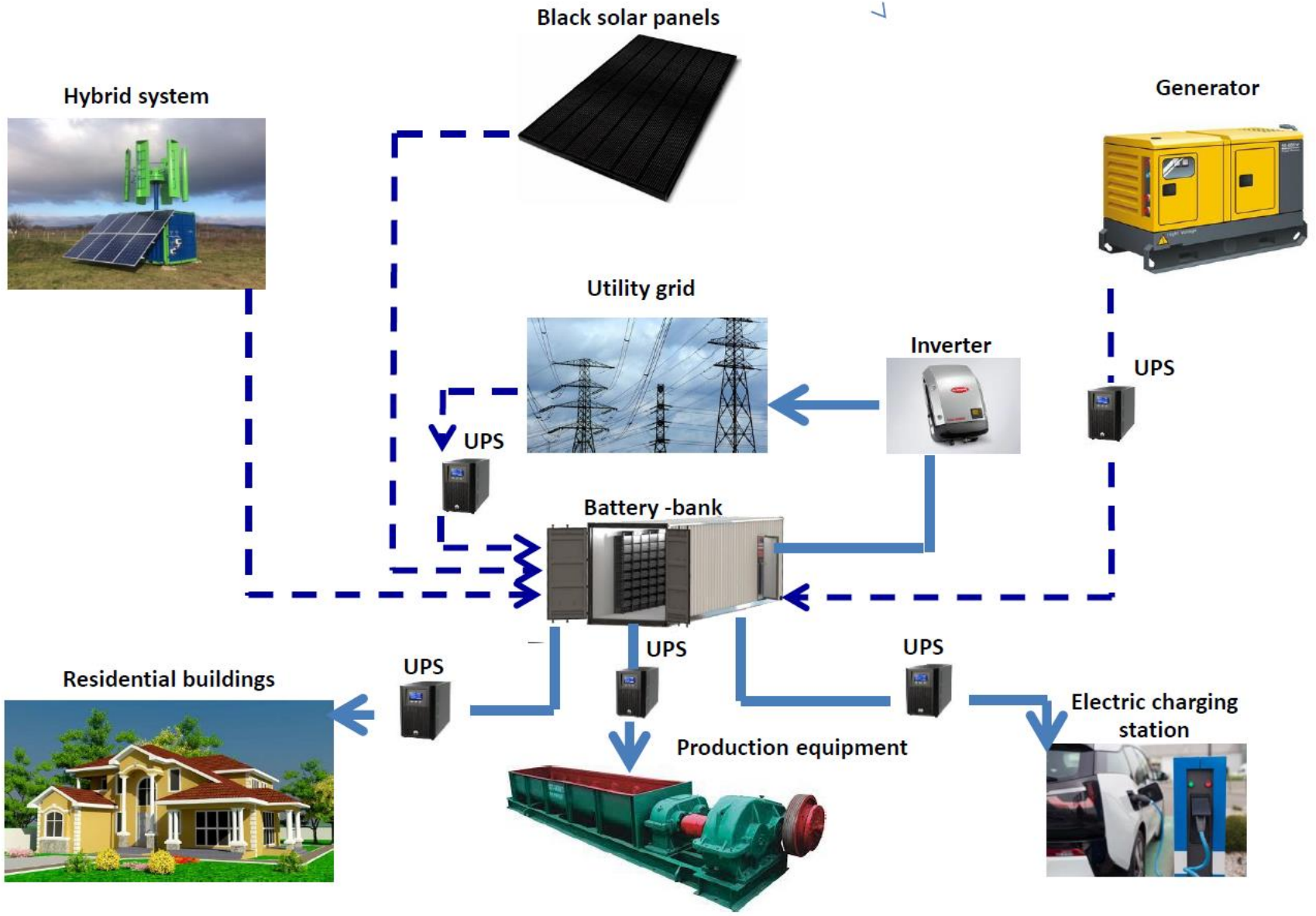
V. Version

Off-grid UPS system with large battery capacity. The battery-bank balances out the load peaks.



Energy flow

off-grid and on-grid UPS functions



Scope of application

Disaster areas

Buildings

Industrial facilities

Low capacity power supply

Smoothing „peak" loads of the utility grid

Electric charging stations

Farms

Isolated settlements

Exotic islands with no insfrstucture

Reference list for Freewindenergy wind generator

Szombathely/Zanat	5 kW
2., Barcs	50 kW
3., Kisbér	9 kW
4., Ajka-Bakonygyepes	7,5 kW
5., Szeged	18 kW
6., Sárszentmihály	5 kW
7., Szombathely	12 kW
8., Pécs	2 kW
9., Kóspallag	5 kW
10.,Gyulafirátót	5 kW
11.,Vitorláson Karib sziget	2 kW
12.,Öskü	2,5 kW
13.,Öskü	10 kW
14.,Öskü	2 kW
15.,Budapest XVI.	10 kW
16.,Berzence hybrid	5+5 kW
17.,Szada hybrid	5+5 kW
18.,Öskü hybrid	2+2 kW
19.,Öskü	10 kW