

Odum School of Ecology Puerto Rico Relief Drive

Hurricane Maria made landfall on the island of Puerto Rico Wednesday, Sept 20, 2017, two weeks after Hurricane Irma had left approximately 60% of the population without electricity. The eye of hurricane Maria crossed the island from the southeast to the northwest coast with wind speeds of up to 155mph, just 1mph short from being a category 5 hurricane as it made landfall. Maria left 100% of the island without electricity and 60% of towns with no household running water. Several rivers and reservoirs hit record water levels with flooding causing catastrophic damages to homes and bridges to collapse, prompting large-scale evacuations.

Puerto Rico's worst economic crisis and its worst natural disaster since 1928 have overlapped. The collapse of all island-wide telecommunication systems, structural damages to roads and bridges, and lack of fuel have made it extremely difficult for authorities to offer first response aid. Moody's Analytics Inc. estimates over \$55 billion in property damages, while \$40 billion could be lost in the island's economic output. It may take several months or even years for some towns to recover from the property damages, while mental health deteriorates and health complications continue to arise and worsen over time. The livelihoods of 3.4 million American citizens are at risk while the long-term recovery process just begins.

In honor of our Puerto Rican students, colleagues, and research sites, and as part of the global community, the Odum School of Ecology seeks to support disaster relief initiatives in Puerto Rico. For the remainder of the 2017-18 school year, the Odum School will be organizing fundraisers, donating supplies, and collaborating with UGA relief efforts for Puerto Rico. We will be sharing events and information on how we all can help support the people of Puerto Rico, so please look out for future updates and our logo.

All donations made through events organized by the Odum School of Ecology will benefit:

Puerto Rico Real-Time Recovery Fund

This fund has been organized and is managed by the non-profit **ConPRmetidos** in partnership with Foundation for Puerto Rico, a 501(c)(3) corporation, which is acting as the fiscal sponsor. All donations are 100% tax-deductible. 100% of donations to this fund will go exclusively to long-term relief for the victims of catastrophic Hurricane María in Puerto Rico. All donations to the [Maria & Irma: Puerto Rico Real-time Recovery Fund](#) will exclusively support the victims of the catastrophic Hurricane María and Irma in Puerto Rico and provide relief and aid the communities affected by this disaster. The funds will be used first for immediate needs of food, shelter, and water, and then transition to long-term recovery efforts.

Website link: <https://www.generosity.com/emergencies-fundraising/puerto-rico-real-time-recovery-fund>

Other ways to help

We have also included a list of relief organizations on the following pages that have direct access to victims on the island. These organizations have been vetted by the planning committee, but we welcome new suggestions and any feedback about this list.

Thank you!

*Katherine Adams, Krista Capps, Ron Carroll, Scott Connelly, Alan Covich, Beth Gavrilles,
Darixa Hernandez Abrams, Keysa Rosas, Ben Taylor, John Wares, Allison Walters*



Hurricane Maria Children's Relief Fund

Save the Children is currently on the ground in Puerto Rico responding to the needs of children. We are coordinating closely with the local partners on the ground to assess the specific needs of children and families amid reports of massive damage.

Website link:

http://www.savethechildren.org/site/c.8rKLIXMGIpI4E/b.6115947/k.8D6E/Official_Site.htm

Donation link:

https://secure.savethechildren.org/site/c.8rKLIXMGIpI4E/b.9535647/k.A2B9/Hurricane_Maria_Childrens_Relief_Fund/apps/ka/sd/donor.asp

CharityWatch: <https://www.charitywatch.org/ratings-and-metrics/save-the-children/175>



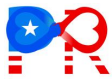
Re-energizing critical parts of local communities in Puerto Rico via solar power

*****Founders of this project are well known and trusted by Odum School of Ecology grad student Darixa Hernandez. The information below was provided by Alexandra Garcia, a childhood friend of Darixa.*

Purpose: The purpose of this project is to provide critical, energy-dependent locations with a fully sustainable, 24/7 off-grid source of electricity through the use of solar power and an energy storage system (battery). The solar panels will serve as the key component for solar energy harvest and the battery will ensure that even at night or after a cloudy day, there will still be power available for the serviced location.

Background: My dad (José “Henry” García) believes that although food, water, and emergency supply donations will be necessary to support multiple less-fortunate communities all over the island for many weeks, there is a critical need for constant, reliable source of energy to ensure the survival of the people that depend on medical devices to have a chance at life. He understands the current plan to restore the energy infrastructure in Puerto Rico, which is expected to take months to complete in its entirety, will be heavily focused on restoring power to critical locations such as major hospitals and airports; however, his concern is that small, independent locations (specifically, outside the metropolitan area) that provide critical medical services to elderly and critically ill patients (think nursing homes, dialysis centers, etc.) will not be prioritized during the return-to-service of power grid efforts, putting the lives of many people, young and old, at risk. This project is intended to save lives in the communities that will not see immediate relief for their urgent needs, which is why the focus will be on locations farther away from the capital city of San Juan.

My dad is co-owner of Pura Energía PR (see link in Contacts section below), which provides solar power and energy storage systems installation to residential and commercial buildings in Puerto Rico during its normal operations. Pura Energía has a supplier partnership contract with



sonnen, Inc. (link in Contacts section below). Sonnen reached out to Pura Energía to offer a donation of multiple sonnen “energy management system” microgrids and provided the initial idea for this initiative, which they are calling the “Puerto Rico Energy Security Initiative”, or PRESI. You can read the press release of this news in the links shared below:

[sonnen Inc. pledges to build and donate microgrids to help bring emergency power to the people of Puerto Rico](#)

[Puerto Rico to get power relief from German microgrid supplier](#)

Preliminary plan: The goal of this project is to install a full set of solar panels (amount depends on size and energy consumption profile of each building) and energy storage device (sonnen microgrid) in various locations across the island. Pura Energía PR will donate the engineering estimates, design, and installation/electrical set-up of each location. Per the Bloomberg press release article, sonnen, the battery supplier (vendor) that Pura Energía usually makes business with during normal operation, has agreed to donate 15 sonnen “energy management systems”.

The exact locations for this project are yet to be identified. This is due to the island’s post-hurricane dysfunctional communication system that does not permit easy access via e-mail/phone to potential candidates and requires face-to-face communication to assess the viability of the project in each location. Pura Energía has identified a preliminary set of potential candidates in different sectors of the island (west-northwest, central, and eastern regions, including Vieques) and will provide updates on this part of the project status as communications in the island and with the mainland allow.

What Is Needed: With the micro-grid systems, engineering estimates, design, and installation free of charge, the funding page exists to fill the gap of additional materials, mainly:

- Solar panels, 250-300 W each (estimated 600 panels for 15 locations – subject to change)
- 1 micro-inverter for each panel (

A YouCaring funding page has been created to fund the costs of these materials and transportation costs for Pura Energia personnel during these projects. An initial goal of \$40,000 was set for the page, but may change as estimates for required materials are updated. The money collected that is not used for the project will be directed to helping the local communities that Pura Energía will service through this initiative.

The most pressing need for donations is for the solar panels themselves, which is the main reason I’m reaching out to you. The cost for each solar panel, which depends on the model, size, and power capacity could be anywhere from \$150-\$350. The total projected cost for all required solar panels has not been included in the initial project funding goal.

Limitations: Communication is currently the most significant limiting factor to further develop this plan and I apologize for the missing pieces you might identify in this initial write-up. I will try to provide updates as constantly and efficiently as possible.

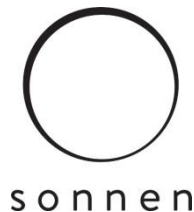
Contacts: As of now through October 19, the contact in the mainland is Alexandra Garcia who can be reached via e-mail at Alexandra.garcia3@upr.edu or by phone at 787-365-5298. Please reach out with any questions you may have and I will reply as soon as possible. I will be out of the country from October 19 through November 6.



With the expectation that AT&T services will re-commence in Puerto Rico soon, my father will be able to have continuous communication through his phone and e-mail in the near future. I will provide his contact information when I know he will be able to communicate. Another POC may be established within Pura Energía as communication in the island is further restored.

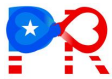
Please see <http://www.puraenergiapr.com/nosotros.html> if you'd like to know more about what Pura Energía does on a normal basis but is looking to do free of charge to help the nearby communities. Please also check out <https://www.sonnenbatterie.de/en-us/start> to learn more about how their system operates.

Disclaimer: My goal is to be as transparent as possible about the details of this effort. Neither my father, Pura Energía, nor I are looking to make money or self-benefit from this project in any way. This energy issue is a legitimate concern and I have been mobilizing, as the current communications lead, to support this effort because I believe Puerto Rico should start considering ways to effectively re-build the power grid in the wake of more frequent extreme atmospheric disasters such as Hurricane María in the Caribbean. This initiative is an effort to promote change and bring much needed help to geographically marginalized communities and increase chances of survival of people who will otherwise be in the darkness for too long. Additionally, though I work as an engineer for an energy company based in Virginia, I am not a subject matter expert in the topic of solar energy, so I apologize if this write-up is technically incorrect in any way.



Website link: <http://www.puraenergiapr.com/nosotros.html>

Donation link: https://www.youcaring.com/puertorico-965733?fb_action_ids=10159504716910311&fb_action_types=youcaringcom%3Ashare&fb_source=other_multiline&action_object_map=%5B1614798025246532%5D&action_type_map=%5B%22youcaringcom%3Ashare%22%5D&action_ref_map=%5B%5D



Environmental Organizations

The Puerto Rico Manatee Conservation Center

The Puerto Rico Manatee Conservation Center is a research, education, rescue and rehabilitation partnership established in 2009 in the Caribbean island of Puerto Rico in order to help endangered manatees survive from extinction. The Puerto Rico Manatee Conservation Center were hit badly by the recent Hurricane Maria that passed through the Caribbean. The center lost some of their labs, experienced damage in one of their quarantine pools and facility, and is still without electricity. Thankfully, the four manatees under the center's rehabilitative care are safe, however their current home isn't. The Director and Founder of the center, the esteemed Dr. Tony Mignucci, has started the following crowdfunding page to raise the much needed funds for the center's recovery. In our opinion, this center is one of the best in the world for manatee/marine mammal veterinary and rehabilitative care, and we really hope they can get back on their feet soon and continue their great work in protecting endangered Puerto Rican manatees.

Donation link: <https://www.gofundme.com/manatee-center-hurricane-recovery>

Facebook page: <https://www.facebook.com/manatipr.org/>

Casa Pueblo

Casa Pueblo is a community self-management project that is committed to appreciating and protecting natural, cultural and human resources. It was born in 1980 when the government of Puerto Rico wanted to start a mining operation in 17 deposits of silver, gold and copper. Mining would have caused an ecological and social catastrophe in 36, 000 acres of land in the municipalities of Adjuntas, Utuado, Lares and Jayuya. They also have Bosque Escuela.

Casa Pueblo is currently helping the communities in need in the rural town of Adjuntas after the hurricane. They have current updates on their Facebook page.

Website link: <http://casapueblo.org/>

Facebook page: https://www.facebook.com/casapueblo/?ref=br_rs

San Francisco de Asís Animal Sanctuary

The San Francisco de Asís Animal Sanctuary is a non-for-profit organization enrolled in the Department of State, and tax-exempt under section 501(c)(3) of the Internal Revenue Code. We are one of the four animal sanctuaries or 'no-kill' shelters in Puerto Rico, and the first one in the west side. We respect life and the right of all animals to be rehabilitated, especially domestic animals.

Website link: <http://sasfapr.org/>