



Achieving Urban Resilience through Equitable, Transparent, and Accountable Institutions

NASEM-STS Fall 2020 Sustainability Webinar Series













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Universities Space Research Association



SDG 16: PEACE, JUSTICE, STRONG INSTITUTIONS

The main goal for advancing good governance and anti-corruption: it sets 12 specific targets to be achieved by countries by 2030.

TARGET 16-1  REDUCE VIOLENCE EVERYWHERE	TARGET 16-2  PROTECT CHILDREN FROM ABUSE, EXPLOITATION, TRAFFICKING AND VIOLENCE	TARGET 16-3  PROMOTE THE RULE OF LAW AND ENSURE EQUAL ACCESS TO JUSTICE	TARGET 16-4  COMBAT ORGANIZED CRIME AND ILLICIT FINANCIAL AND ARMS FLOWS
TARGET 16-5  SUBSTANTIALLY REDUCE CORRUPTION AND BRIBERY	TARGET 16-6  DEVELOP EFFECTIVE, ACCOUNTABLE AND TRANSPARENT INSTITUTIONS	TARGET 16-7  ENSURE RESPONSIVE, INCLUSIVE AND REPRESENTATIVE DECISION-MAKING	TARGET 16-8  STRENGTHEN THE PARTICIPATION IN GLOBAL GOVERNANCE
TARGET 16-9  PROVIDE UNIVERSAL LEGAL IDENTITY	TARGET 16-10  ENSURE PUBLIC ACCESS TO INFORMATION AND PROTECT FUNDAMENTAL FREEDOMS	TARGET 16-A  STRENGTHEN NATIONAL INSTITUTIONS TO PREVENT VIOLENCE AND COMBAT TERRORISM AND CRIME	TARGET 16-B  PROMOTE AND ENFORCE NON-DISCRIMINATORY LAWS AND POLICIES

Hurricane Maria



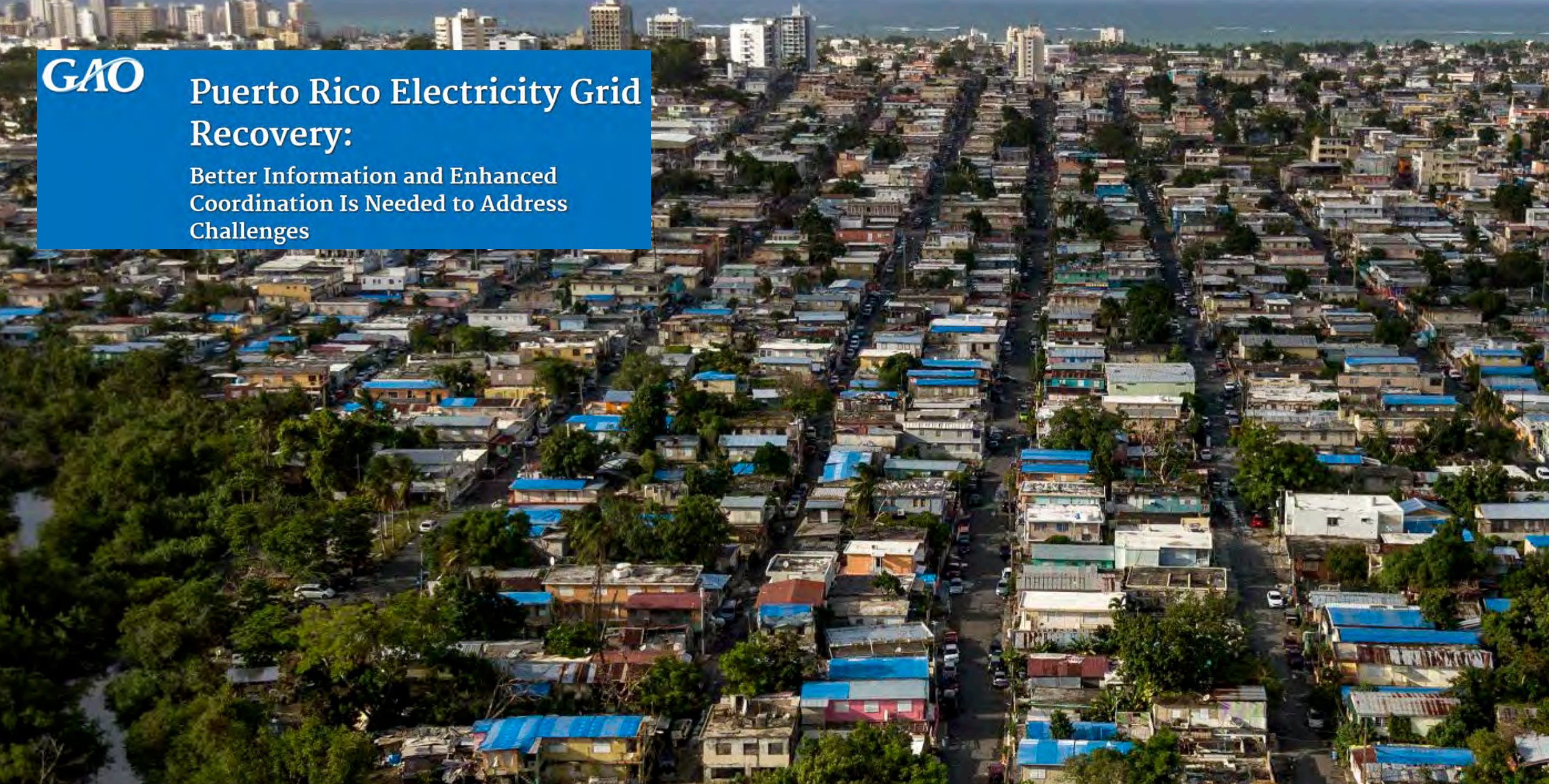
Sept. 2017

- **\$ 90 billion dollars in damages**
- **-15% loss in GDP**
- **+4,645 lives lost**
- **Migration of +200,000 persons**
- **Emotional Impact: unknown**



Puerto Rico Electricity Grid Recovery:

Better Information and Enhanced Coordination Is Needed to Address Challenges

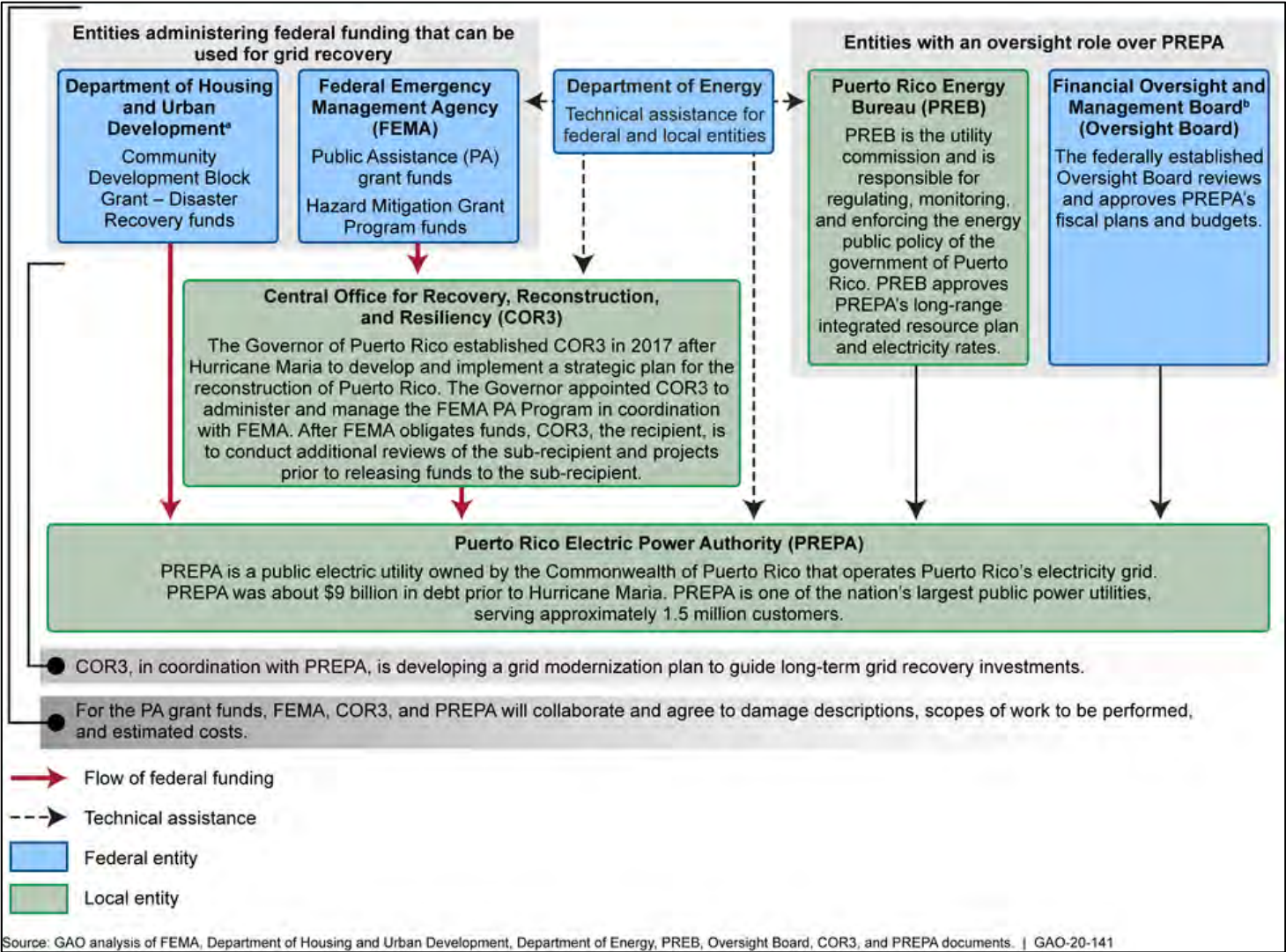


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<https://www.gao.gov/reports/GAO-20-141/>

Published: Oct 08, 2019. Publicly Released: Oct 08, 2019

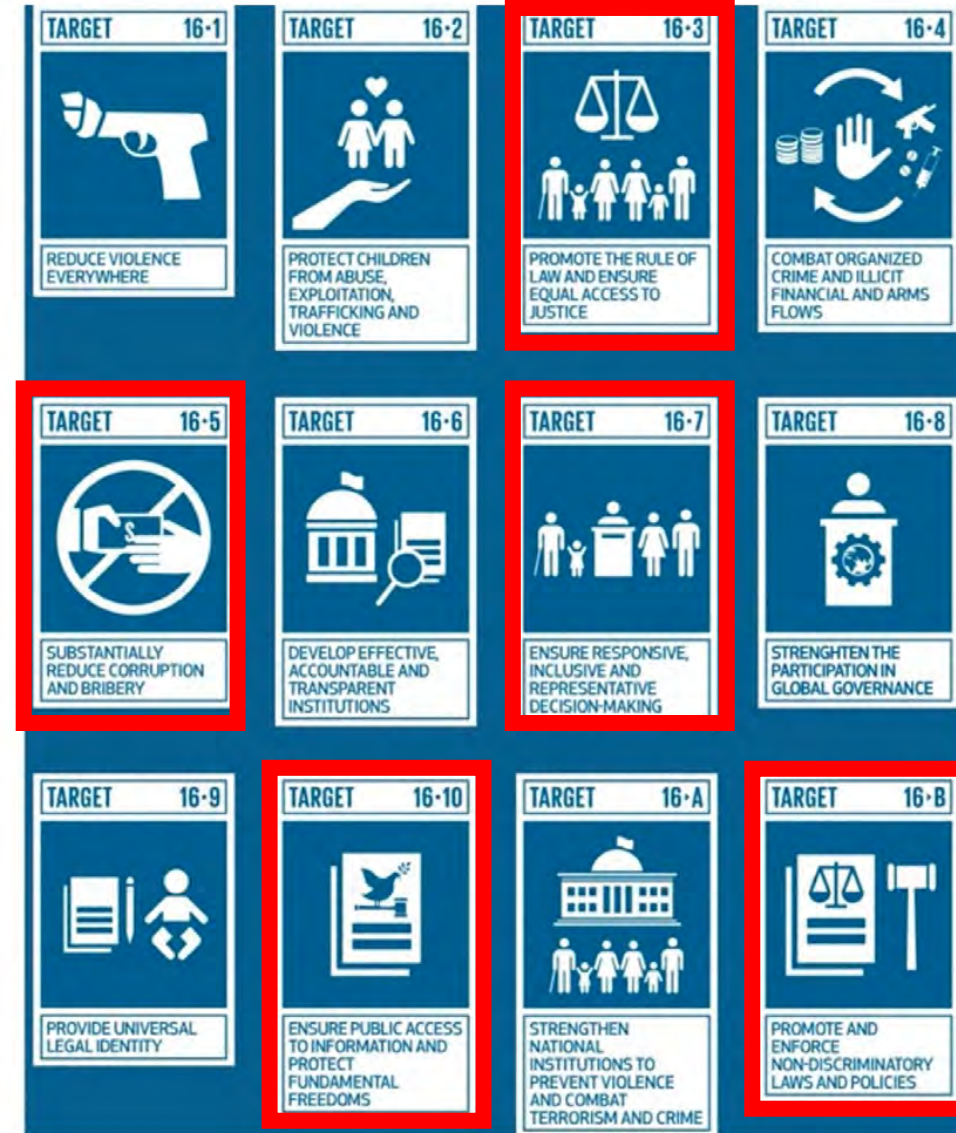
Key Local and Federal Entities Overseeing Puerto Rico's Energy Transition



Puerto Rico Infrastructure Grades		
	BRIDGES	D+
	DAMS	D+
	DRINKING WATER	D
	ENERGY	F
	PORTS	D
	ROADS	D-
	SOLID WASTE	D-
	WASTEWATER	D+

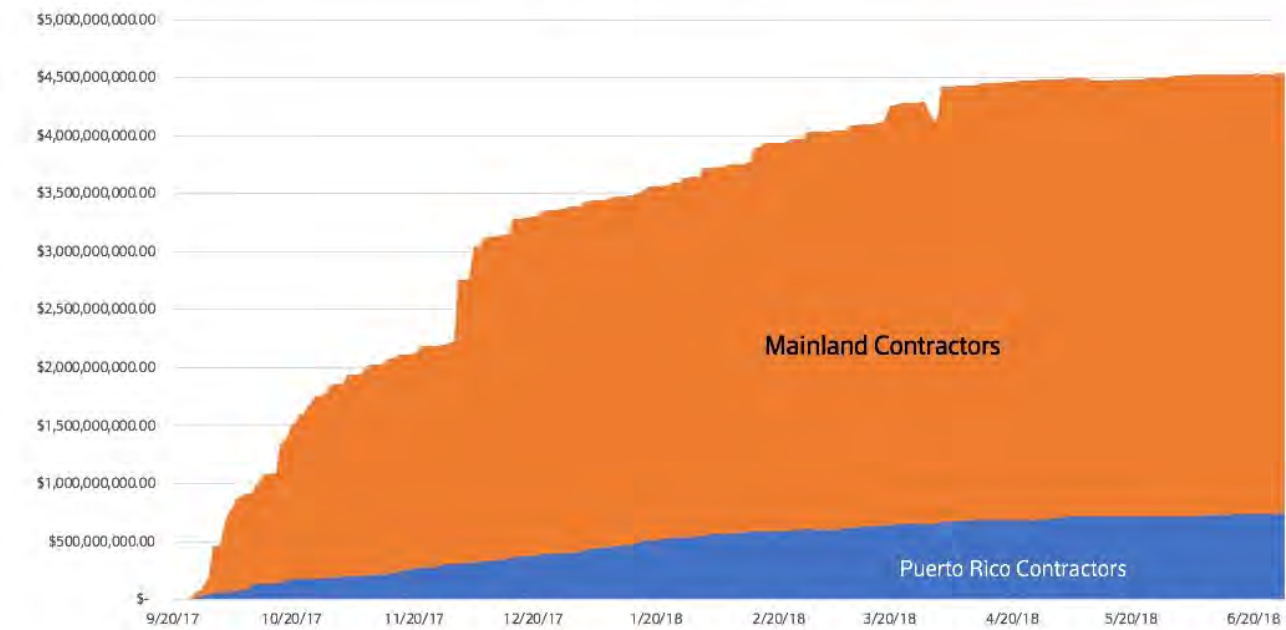
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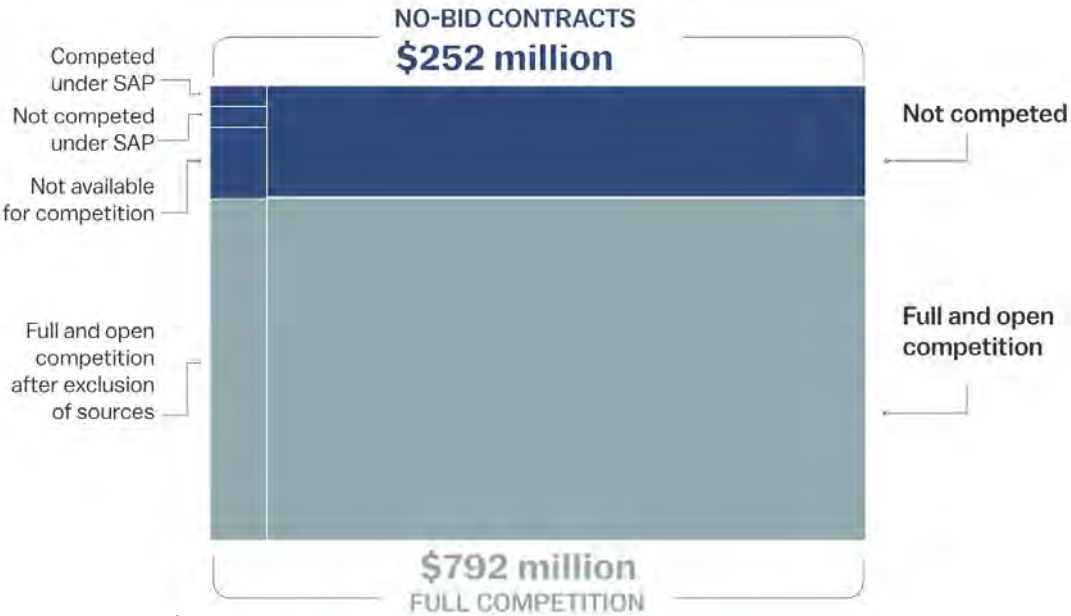


Follow The Money: Improving Public Accountability and Transparency

Accumulated Post Hurricane María Federal Expenditures
in Puerto Rico
by type of contractor



Source: CNE analysis of official US Government data



FEMA is relying more and more on no-bid contracts to respond to disasters.

Ninety percent of federal contracts are being granted to companies whose headquarters are outside of Puerto Rico.

FEMA Data Show How Federal Disaster Money Favors The White And Rich (NPR)



- Climate-driven disasters are becoming more frequent and severe, causing increased need for federal disaster spending.
- Today, nearly 70 percent of U.S. counties experience a disaster each year, compared to fewer than 20 percent in the early and mid-20th century.
- Analysis of 40,000 property buyouts shows nationally, sales of flood damaged homes happened most often in places where the population was more than 85 percent white.

2020 Puerto Rico Earthquake Sequence

Earthquakes detected between December 28, 2019 as of January 16, 2020. Subject to updates.

>300 M3+
earthquakes recorded*
since Dec. 28, 2019
(within 40km) strong
enough to be felt

10 M5+
earthquakes recorded*
since Dec. 28, 2019
(including M6.4) large
enough to do damage

* Data as of 2020-01-16 19:38:30 (UTC)

M5.0
10km S of Indios,
Puerto Rico
2019-12-29
01:06:00 (UTC)
486 Responses
Did You Feel It?

M5.8
13km SSE of Indios,
Puerto Rico
2020-01-06
10:32:18 (UTC)
934 Responses
Did You Feel It?

M6.4
8km S of Indios,
Puerto Rico
2020-01-07
08:24:26 (UTC)
2,420 Responses
Did You Feel It?

M5.9
13km SE of Guanica,
Puerto Rico
2020-01-11
12:54:45 (UTC)
1,302 Responses
Did You Feel It?

A special thanks to our Advanced National Seismic System (ANSS) partner, the Puerto Rico Seismic Network (PRSN) at University of Puerto Rico at Mayaguez.

Top left Scientist, Jim Smith, working on cabling inside of Lucchetti dam in Puerto Rico back in September 2019, assisting the Puerto Rico Strong Motion Program with Hurricane Maria recovery efforts.

Bottom middle: Jose Cancel of Puerto Rico Seismic Network (PRSN), Alena Leeds of USGS and Javier Santiago of PRSN install a temporary seismometer at Sabana Yeguas in southwestern Puerto Rico on Jan. 10, 2020.

Background and right: Puerto Rico damage January 2020.

SCIENCE IN ACTION



U.S. Department of the Interior
U.S. Geological Survey



M6.4 Earthquake Forecast Information www.usgs.gov/pr-2020



2,000 earthquakes
since Dec 28th, 2019



9 direct/indirect deaths



3,000 homes
destroyed or damaged



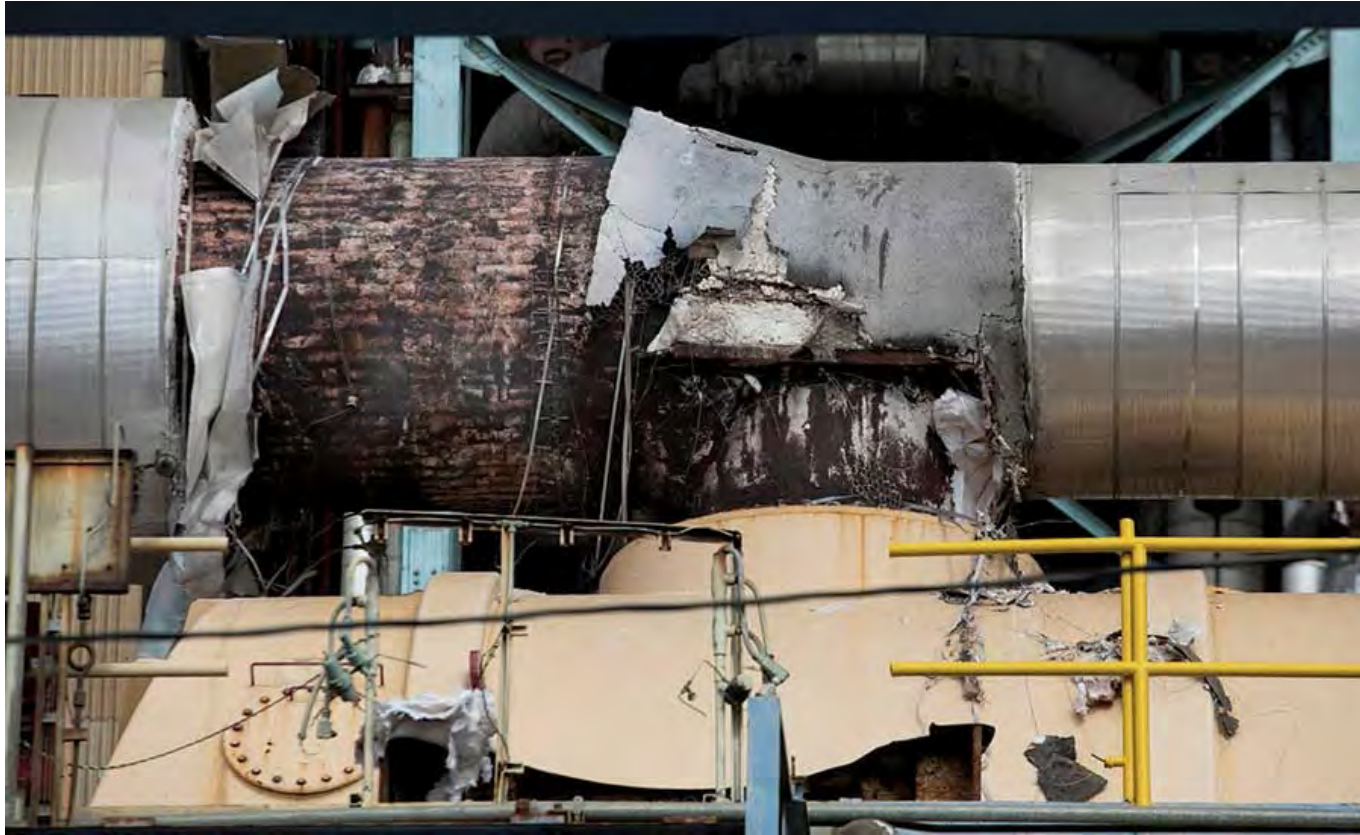
120 Landslides



\$3.1 billions losses



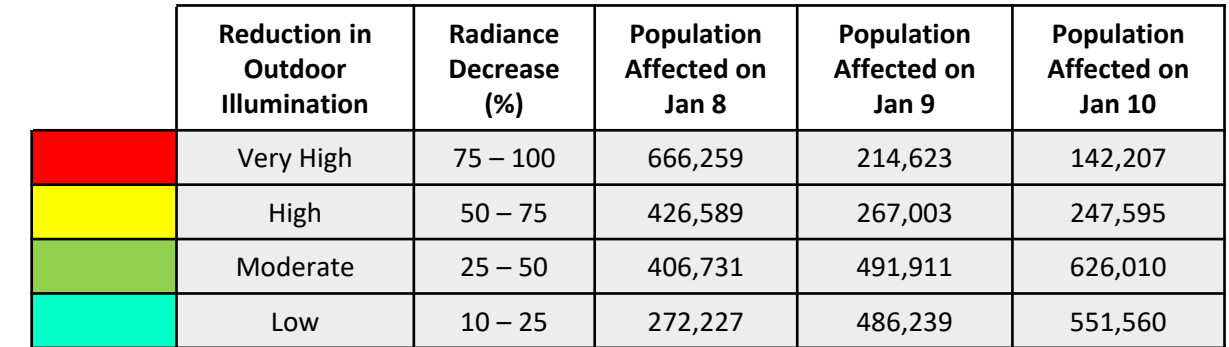
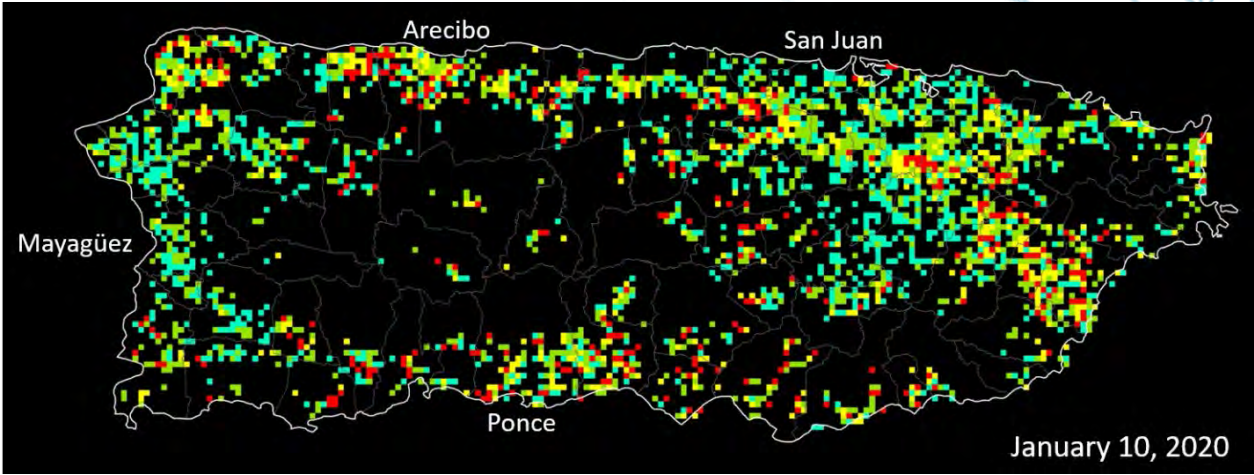
[Jan, 2020] Impacts of Series of Earthquakes in Puerto Rico By Numbers





Damages to Costa Sur Power Plant



6.4 Earthquake





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Community Coping with the Impact – Scared to go back to their homes



Prioritize high-risk people and populations.

Community Coping with the Impact – Scared to go back to their homes



"Our home is not habitable, because it might collapse if there is a bigger one."

COVID-19 Efforts: Doctors Without Borders



In San Juan, Puerto Rico, MSF doctor Jonathan Caldera and MSF nurse Rosa Cifrian walk through La Peninsula to provide home-based medical care for people who lack access to health services.



Advocacy Efforts



Boricuas Unidos en la Diáspora, VAMOS4PR and Oxfam America in Conjunction with Representative Nydia Velazquez invite you to a briefing:

Earthquakes in Puerto Rico: What is the Current Situation?

Wednesday, January 22

10am-12pm

2361 Rayburn House Office Building

Small Business Committee Room

Speakers



Víctor Huérfano (will participate remotely)
Director, Puerto Rico Seismic Network



Dave Applegate
Associate Director for Natural Hazards, United States Geological Survey (USGS)



Miguel Román
Founding Director, Earth from Space Institute, Universities Space Research Association (USRA)



Adi Martínez
Senior Policy Analyst for Puerto Rico, Oxfam America



Javier Cuebas
Executive Director, Vamos4PR

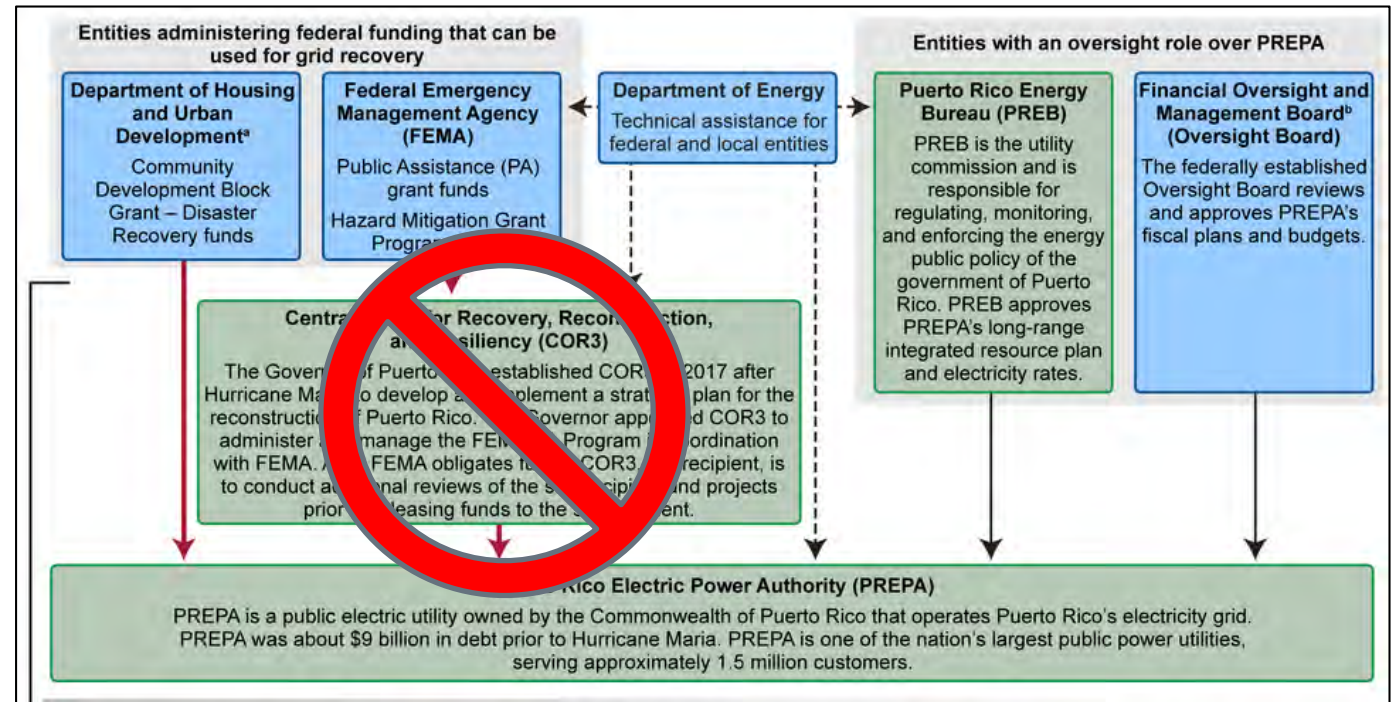


Moderator
Edil Sepúlveda
Co-founder, Boricuas Unidos en la Diáspora

[Oct, 2020] Puerto Rico's Senate Bill 1639 - Defeated



- Would have permanently established the Central Office for Recovery, Reconstruction and Resilience of Puerto Rico (COR3) with an appointment of its holder to 10 years.
- Would have consolidated PR's Health Insurance Administration (ASES) under the Department of Health.



[Nov, 2020] HR. 2914 Housing Survivors of Major Disasters Act – Passed



- Helps tens of thousands of Puerto Rican residents who have been denied housing assistance.
- Allows the presentation of electricity, water and credit card bills, and payroll payments that include a name and address to corroborate that a person owns a property.
- Provides financial assistance for land surveys and other costs associated with Disaster Housing Assistance Program's application process.

Building Urban Resilience

- Transparency in government services is central to achieving the SDGs.
- Prioritizing high-risk people and populations.
- Increasing focus on small-scale, recurrent, and “everyday” disasters.
- Strengthening local governance capabilities.
- Promoting and supporting the critical role of civil society.



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EfSI-2019 Symposium
Making Communities More Resilient to Extreme Flooding

For More Information

The Earth from Space Institute

www.usra.edu/efsi

Universities Space Research Association

www.usra.edu



Questions?

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