



GOVERNMENT OF PUERTO RICO
DEPARTMENT OF NATURAL AND ENVIRONMENTAL RESOURCES

PUERTO RICO PRIORITY CLIMATE ACTION PLAN

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Executive Summary

Puerto Rico, under the administration of the Department of Natural and Environmental Resources (DNER), received funding through the U.S. Environmental Protection Agency (EPA) Climate Pollution Reduction Grant (CPRG). The main purpose of the grant, awarded on November 16, 2023, is to develop a plan to reduce greenhouse gas (GHG) emissions and other harmful air pollution. The CPRG planning grant is composed of a Priority Climate Action Plan (PCAP), a Comprehensive Climate Action Plan and Status Report, over a four-year period. EPA requires that all PCAPs include a Greenhouse Gas Inventory, quantified the GHG reduction measures, a Low-Income Disadvantaged Communities Benefits Analysis, as well as a review of authority to implement proposed reduction measures.

The PCAP represents a significant step forward for climate action and pollution reduction planning at the state level. The Key Objectives are:

1. Emission Reduction Targets: Set ambitious targets to reduce greenhouse gas emissions, air pollutants, and other harmful pollutants.
2. Transition to Clean Energy: Accelerate the transition to renewable energy sources and promote energy efficiency measures across sectors.
3. Sustainable Transportation: Enhance public transportation infrastructure, promote electric vehicles, and incentivize low-carbon transportation modes.
4. Nature-Based Solutions: Implement nature-based solutions such as afforestation, reforestation, and sustainable land management to enhance carbon sequestration and biodiversity.
5. Circular Economy: Promote waste reduction, recycling, and circular economy principles to minimize pollution and resource consumption.

The Pollution Climate Action Plan (PCAP) represents a comprehensive and collaborative effort to address the interconnected challenges of pollution and climate change. With the recognition of the urgent need for action, this plan outlines a strategic framework to mitigate emissions, improve air and water quality, and safeguard ecosystems while fostering sustainable development.

The success of the PCAP relies on the collective commitment and action of all stakeholders. By implementing the strategies outlined in this plan, we can pave the way towards a cleaner, healthier, and more sustainable future for all. This executive summary provides a snapshot of the Pollution Climate Action Plan, highlighting its objectives, strategies, and anticipated outcomes in a clear and concise manner.

Introduction

The United States Congress provided tools to pursue greenhouse gas (GHG) pollution reductions, including the Climate Pollution Reduction Grants (CPRG) program, through the Inflation Reduction Act of 2022 (IRA). Under Section 60114 of the Inflation Reduction Act, provides grants to states, local governments, tribes, and territories. These grants help to develop and implement plans for reducing climate pollution.

The CPRG program is divided into two phases. Phase 1 of the CPRG is the planning process and Phase 2 is for the implementation. Phase 1 has three deliverables over a 4-year period, these deliverables are:

- ♦ Priority Climate Action Plan (PCAP) which includes priority short-term greenhouse gas reduction measures and is a prerequisite for the grant.
- ♦ Comprehensive Climate Action Plan (CCAP) includes all sectors and significant sources of Greenhouse Gases, including short- and long-term measures to reduce these gases.
- ♦ Status report that is the update and analysis of plans as well as progress and next steps for key metrics

This PCAP include, but not limited to, the following key elements for its development:

- ♦ GHG inventory;
- ♦ Quantified GHG reduction measures;
- ♦ Low-income and disadvantaged communities' benefits analysis; and,
- ♦ Review of authority to implement.

Pursuant to Executive Order 2018-045, DNER is in charge of leading the Multisectoral Working Group to Mitigate Climate Change, established to recommend public policy initiatives aimed at protecting the environment and mitigating climate change. The working group is composed of various public entities, as well as representatives of the Senate and House Environmental Health and Natural Resources Committees, representatives of non-profit organizations dedicated to environmental protection, and representatives of the private sector. Likewise, the existence of the CEACC should be leveraged for interagency and intergovernmental coordination during the implementation period of Puerto Rico's Climate Change Mitigation, Adaptation, and Resilience Plan (CCMARP).

An effective Pollution Climate Action Plan is essential for combating the detrimental effects of pollution on our climate and environment. The introduction to such a plan should outline the urgent need for action, acknowledging the severity of the challenges posed by pollution and climate change. It should also provide a brief overview of the plan's goals, strategies, and key stakeholders involved. Additionally, it should emphasize the importance of collaboration between government, businesses, communities, and individuals to achieve meaningful and lasting results. Finally, the introduction should inspire a sense of urgency and commitment to implementing concrete actions to reduce pollution and mitigate the impacts of climate change for current and future generations.

PCAP Overview and Definitions

Comprehensive Climate Action Plan (CCAP): a narrative report that provides an overview of the grantees' significant GHG sources/sinks and sectors, establishes near-term and long-term GHG emission reduction goals, and provides strategies and identifies measures that address the highest priority sectors to help the grantees meet those goals.

CPRG: Climate Pollution Reduction Grant

DNER: Department of Natural and Environmental Resources

GHG: Greenhouse Gas Emissions

Greenhouse Gas (GHG) Inventory: a list of emission sources and sinks, and the associated emissions quantified using standard methods.

IPCC: Intergovernmental Panel on Climate Change Sixth Assessment Report's (AR6) global warming potentials

Low Income Disadvantaged Communities (LIDACs): communities with residents that have low incomes, limited access to resources, and disproportionate exposure to environmental or climate burdens.

MSA: metropolitan statistical areas as defined by the U.S. Census 2020 MSA population.

Priority Climate Action Plan (PCAP): a narrative report that includes a focused list of near-term, high-priority, and implementation-ready measures to reduce GHG pollution and an analysis of GHG emissions reductions.

State: all 50 U.S. states, the District of Columbia and Puerto Rico. All other Tribes or U.S. territories (Virgin Islands, Guam, American Samoa, and the Commonwealth of the Northern Mariana Islands) should follow CRPG guidance for Tribes and Territories.

Scope of the PCAP

The PCAP includes the 78 municipalities of Puerto Rico. These municipalities include urban and rural areas. These municipalities are:

Table 1: Annual Estimates of the Resident Population for Puerto Rico

Annual Estimates of the Resident Population for Puerto Rico: April 1, 2020 to July 1, 2022				
Geographic Area	April 1, 2020 Estimates Base	Population Estimate (as of July 1)		
		2020	2021	2022
Puerto Rico	3,285,874	3,281,557	3,262,693	3,221,789
Adjuntas	18,020	18,010	18,026	17,905
Aguada	38,136	38,108	38,003	37,666
Aguadilla	55,101	55,046	54,632	53,931
Aguas Buenas	24,223	24,189	23,975	23,538
Aibonito	24,637	24,633	24,681	24,555
Añasco	25,596	25,570	25,414	25,026
Arecibo	87,754	87,637	87,144	86,090
Arroyo	15,843	15,817	15,607	15,289
Barceloneta	22,657	22,669	22,632	22,416
Barranquitas	28,983	28,981	29,071	28,944
Bayamón	185,187	184,954	183,960	181,577
Cabo Rojo	47,158	47,121	47,092	46,718
Caguas	127,244	127,072	126,604	125,136
Camuy	32,827	32,818	32,882	32,620
Canóvanas	42,337	42,326	42,145	41,637
Carolina	154,815	154,557	153,505	151,571
Cataño	23,155	23,113	22,811	22,364
Cayey	41,652	41,587	41,308	40,782
Ceiba	11,307	11,284	11,146	10,931
Ciales	16,984	16,972	16,938	16,742
Cidra	39,970	39,957	39,908	39,515
Coamo	34,668	34,603	34,352	33,887
Comerío	18,883	18,867	18,855	18,619
Corozal	34,571	34,551	34,582	34,322
Culebra	1,792	1,790	1,783	1,769
Dorado	35,879	35,902	35,934	35,663
Fajardo	32,124	32,087	31,819	31,375

Annual Estimates of the Resident Population for Puerto Rico: April 1, 2020 to July 1, 2022 (cont.)				
Geographic Area	April 1, 2020 Estimates Base	Population Estimate (as of July 1)		
		2020	2021	2022
Florida	11,692	11,682	11,667	11,538
Guánica	13,787	13,686	13,279	12,800
Guayama	36,614	36,474	35,624	35,262
Guayanilla	17,784	17,739	17,478	17,064
Guaynabo	89,780	89,758	89,721	89,057
Gurabo	40,622	40,589	40,488	40,061
Hatillo	38,486	38,447	38,382	38,021
Hormigueros	15,654	15,618	15,567	15,413
Humacao	50,896	50,824	50,524	49,924
Isabela	42,943	42,939	42,983	42,754
Jayuya	14,779	14,771	14,707	14,495
Juana Díaz	46,538	46,499	46,370	45,923
Juncos	37,012	37,030	36,993	36,672
Lajas	23,334	23,279	23,211	22,936
Lares	28,105	28,090	27,986	27,774
Las Marías	8,874	8,856	8,818	8,705
Las Piedras	35,180	35,179	35,143	34,814
Loíza	23,693	23,608	23,230	22,657
Luquillo	17,781	17,766	17,684	17,449
Manatí	39,492	39,451	39,258	38,751
Maricao	4,755	4,752	4,680	4,575
Maunabo	10,589	10,581	10,525	10,368
Mayagüez	73,077	72,843	71,917	70,609
Moca	37,460	37,455	37,500	37,279
Morovis	28,727	28,704	28,590	28,277
Naguabo	23,386	23,384	23,275	22,964
Naranjito	29,241	29,246	29,345	29,208
Orocovis	21,434	21,431	21,413	21,229
Patillas	15,985	15,937	15,804	15,524
Peñuelas	20,399	20,349	20,142	19,763
Ponce	137,491	137,149	134,754	132,138
Quebradillas	23,638	23,619	23,540	23,332
Rincón	15,187	15,206	15,335	15,316
Río Grande	47,060	47,005	46,575	45,840
Sabana Grande	22,729	22,701	22,632	22,351

Annual Estimates of the Resident Population for Puerto Rico: April 1, 2020 to July 1, 2022 (cont.)				
Geographic Area	April 1, 2020 Estimates Base	Population Estimate (as of July 1)		
		2020	2021	2022
Salinas	25,789	25,722	25,467	25,000
San Germán	31,879	31,824	31,572	31,174
San Juan	342,259	341,667	339,335	334,776
San Lorenzo	37,693	37,671	37,613	37,260
San Sebastián	39,345	39,312	39,279	38,969
Santa Isabel	20,281	20,269	20,114	19,822
Toa Alta	66,852	66,842	66,710	66,041
Toa Baja	75,293	75,092	74,189	72,783
Trujillo Alto	67,740	67,687	67,520	66,810
Utua	28,287	28,225	27,975	27,535
Vega Alta	35,395	35,367	35,205	34,786
Vega Baja	54,414	54,357	54,228	53,684
Vieques	8,249	8,236	8,172	8,043
Villalba	22,093	22,041	21,817	21,466
Yabucoa	30,426	30,329	29,945	29,305
Yauco	34,172	34,048	33,603	32,904

Note: The estimates are developed from a base that incorporates the 2020 Census and Vintage 2020 estimates. The estimates add births to, subtract deaths from, and add net migration to the April 1, 2020 estimates base. For population estimates methodology statements, see <https://www.census.gov/programs-surveys/popest/technical-documentation/methodology.html>. See Geographic Terms and Definitions at <https://www.census.gov/programs-surveys/popest/guidance-geographies/terms-and-definitions.html> for a list of the states that are included in each region. All geographic boundaries for the 2022 population estimates series are as of January 1, 2022.

Suggested Citation:
Annual Estimates of the Resident Population for Puerto Rico Municipios:
April 1, 2020 to July 1, 2022 (PRM-EST2022-POP)
Source: U.S. Census Bureau, Population Division
Release Date: March 2023

Reference: www.censo.estadisticas.pr/EstimadosPoblacionales

Priority Climate Action Plan Elements

Greenhouse Gas (GHG) Inventory

Puerto Rico *Climate Change Mitigation, Adaption, and Resiliency Law* (Act No. 33-2019) requires the Department of Natural and Environmental Resources (DNER) to produce and publish an annual inventory of greenhouse gas emissions, per type and source, and requires that by 2025 island-wide greenhouse gas emissions be no more than 26.7 million metric tons (MMT) of carbon dioxide equivalents (CO₂e) or 50 percent of 2005 levels.

The most recent Puerto Rico GHG Inventories Report includes the years 2019 and 2021. The Inventory report was developed by multiple expert groups that includes the Puerto Rico Inventory Project Team, Expert Panel, Puerto Rico Committee of Experts and Advisors on Climate Change (CEACC), Puerto Rico Department of Natural and Environmental Resources Staff.

The Inventory report considered the six greenhouse gases: carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs) and sulfur hexafluoride (SF₆) which are measured in tons of carbon dioxide equivalent (CO₂e).

- CO₂ is emitted through burning of fossil fuels, solid waste, biogenic materials, and through various industrial or chemical processes.
- CH₄ is emitted during the production, combustion, and transportation of fossil fuels. As well as from livestock, agricultural, and waste management practices.
- N₂O is emitted during agricultural, land-use, and waste management activities as well as combustion of fossil fuels.
- Fluorinated gases (SF₆, HFCs, PFCs) are emitted from household, commercial, and industrial applications and processes and are also used as substitutes for refrigerants made of ozone-depleting substances.

The Report calculates the net greenhouse gas emissions released in Puerto Rico in the years 2019 and 2021 and provides a 20-year projection of greenhouse gas emissions. This is the most recent inventory released on behalf of the Government of Puerto Rico since the 2014, Puerto Rico Greenhouse Gases Baseline Report (2014 Inventory).¹ It is designed with reference to the 2014 Inventory, the 2006 IPCC Guidelines for National Greenhouse Gas Inventories, and the 2019 Refinement to the 2006 IPCC Guidelines for National *Greenhouse Gas Inventories*. The Puerto Rico 2019 and 2021 GHG Inventories Report Inventory identifies specific sectors and subsectors, most relevant to Puerto Rico's economy, conducts greenhouse gas emissions calculations and

¹ Estado Libre Asociado de Puerto Rico. 2014. *Puerto Rico Greenhouse Gases Baseline Report*. Available at: <https://drna.pr.gov/wp-content/uploads/2017/05/Puerto-Rico-GHG-2014.pdf>.

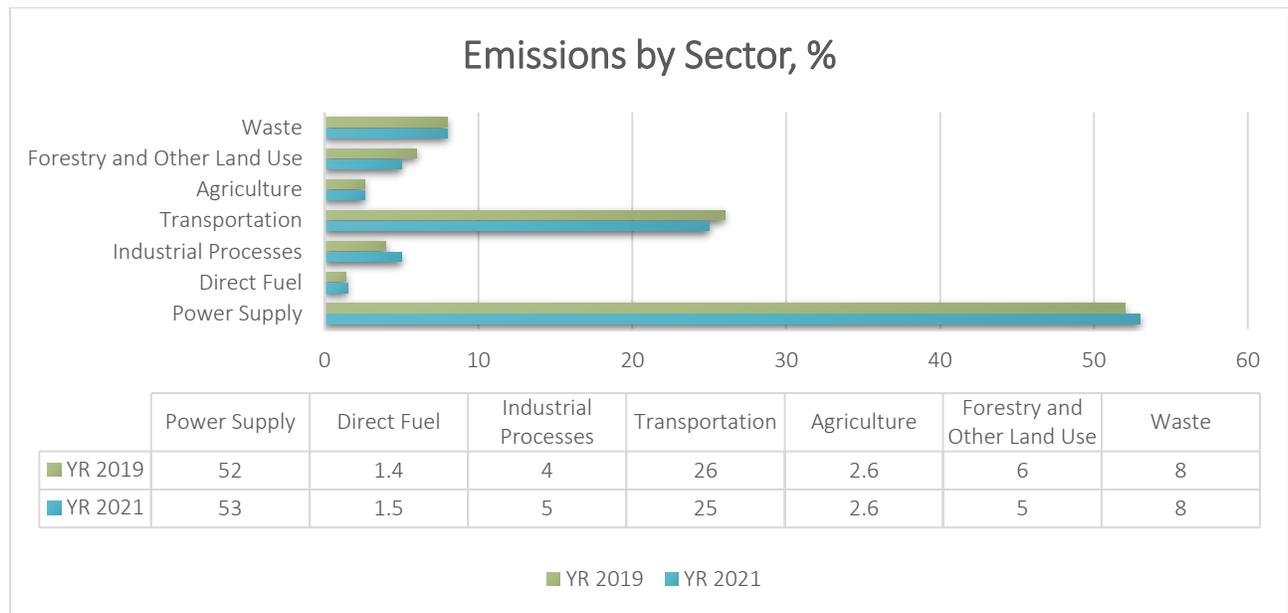
projections for each sector, and provides a summary of those results by sector and greenhouse gas presented in Table 1.

Table 1. Description of sectors and subsectors in the Puerto Rico 2019 and 2021 GHG Inventories Report

Sector	Subsectors	Greenhouse Gases	Description of Emissions
Power supply	Coal-, gas-, and oil-fired generation	CO ₂ , CH ₄ , N ₂ O, SF ₆	Fossil fuel combustion for power generation.
Direct fuel use	Residential, commercial, industrial, and institutional fuel use	CO ₂ , CH ₄ , N ₂ O	Fossil fuel combustion for uses other than power generation or transportation.
Industrial processes and product use	Cement production, semi-conductor manufacturing, and ozone-depleting substitutes use	CO ₂ , N ₂ O, HFCs, PFCs, SF ₆	Emissions from manufacturing processes Excludes emissions from industrial fuel combustion.
Transportation	On-road gasoline, on-road and off-road diesel, and jet fuel consumption	CO ₂ , CH ₄ , N ₂ O	Fossil fuel combustion from mobile combustion.
Agriculture	Cropland soil management, cropland carbon, livestock management via enteric fermentation, livestock management via manure management	CO ₂ , CH ₄ , N ₂ O	Emissions from cropland use, changes in crop soils, and livestock management.
Forestry and other land use	Above-ground carbon in live trees, below-ground carbon in live trees, forest fires, soil sequestration emissions	CO ₂	Emissions from the change in biomass carbon stocks in forests and other non-agricultural lands.
Waste management	Solid waste management and wastewater management	CO ₂ , CH ₄ , N ₂ O	Emissions from solid and liquid waste management systems.

Puerto Rico’s greenhouse gas emissions totaled 33.4 MMT CO₂e in 2019 and 34.3 MMT CO₂e in 2021 using the Intergovernmental Panel on Climate Change (IPCC) Sixth Assessment Report’s (AR6) global warming potentials (GWPs) and netting out emission sequestration from Forestry and Other Land Use (see Figure 1). Emission levels achieved in 2021 represent a 36 percent reduction in emissions from 2005 levels. With 14 percentage points and 4 years left to go, Puerto Rico must find another 7.7 MMT CO₂e to eliminate.

Figure 1. Emission levels achieved in 2021



Note: The “Forestry and Other Land Use” category includes both positive (i.e., increased) emissions from carbon releases and wildfires as well as negative (i.e., reduced) emissions from carbon sequestration gains (i.e., emission sinks). (Reference: Puerto Rico’s 2019 and 2021 Greenhouse Gas Inventories Report)

The sectors with the most GHG emissions are:

1. Power Supply
2. Transportation
3. Waste Management

Figures 2 and 3 shows the emission by gases, in which the carbon dioxide is the most emitter with 83 percent of total Puerto Rico GHG emissions in 2019 and 84 percent in 2021, follow by methane with 11 percent in both years.

Figure 2: 2021 Emissions by Gas

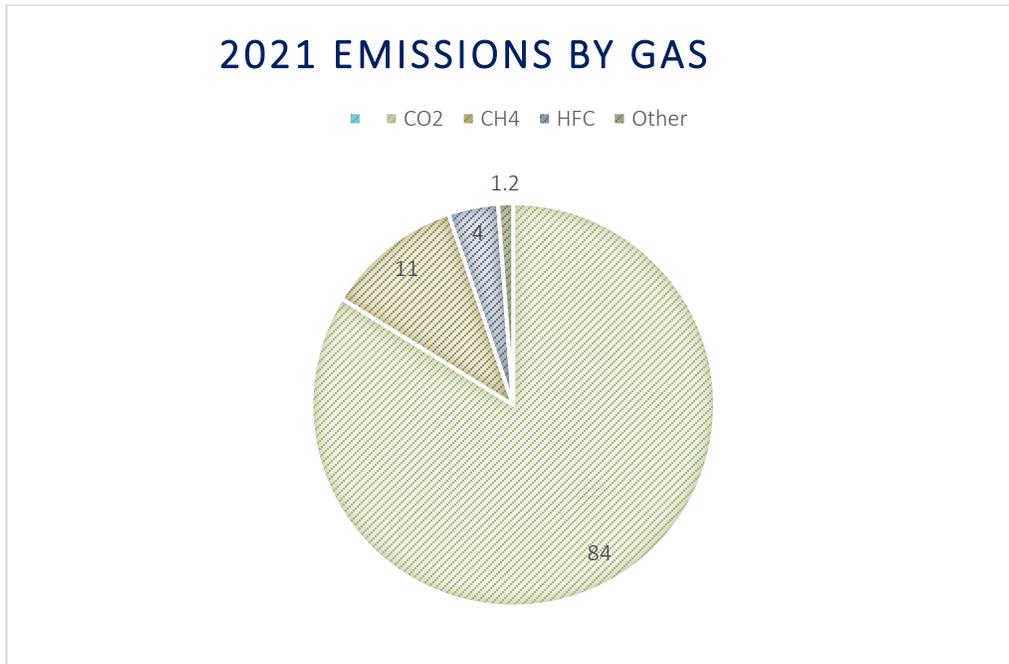
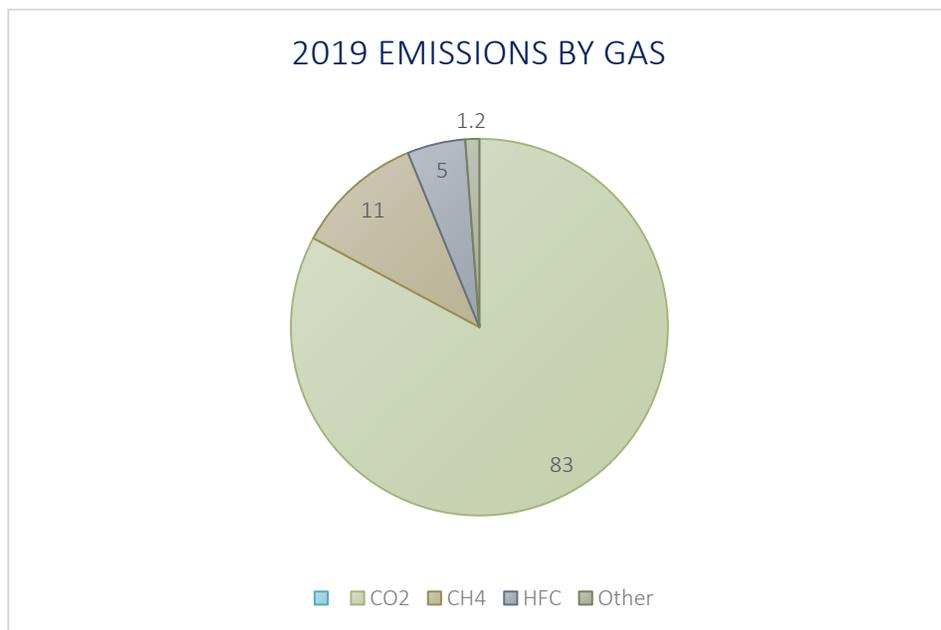
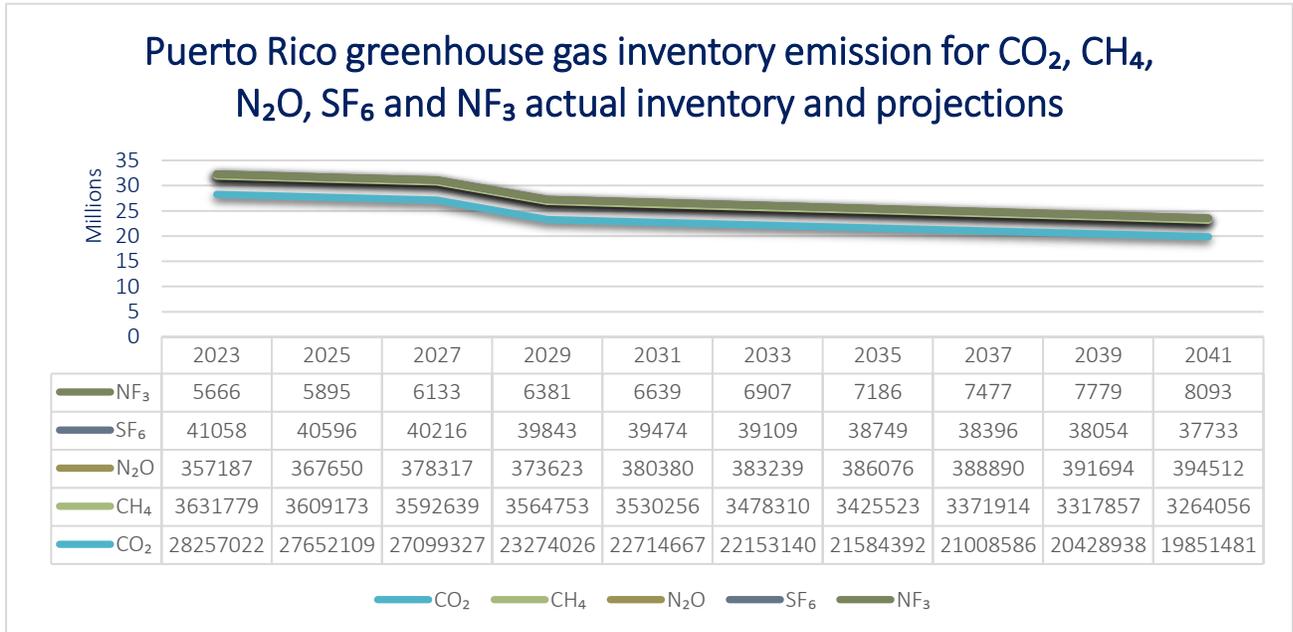


Figure 3: 2019 Emissions by Gas



GHG Emissions Projections

Figure 4: Puerto Rico greenhouse gas inventory for CO₂, CH₄, N₂O, SF₆ and NF₃ actual inventory and projections



GHG Reduction Measures

The *Puerto Rico Climate Change Mitigation, Adaption, and Resiliency Act* (Act No. 33-2019) was signed into law requiring the creation of public policies across all of Puerto Rico’s sectors to meet the IPCC goal of limiting global warming to 2 degrees Celsius. To adhere to the requirements set out in Act No. 33- 2019, Puerto Rico is tasked with implementing a series of emissions reduction and other climate planning measures in its various sectors.

The measures are grouped by several sectors: transportation, industrial, energy, agriculture, natural and working lands, and waste.

Energy Sector

Adopt measures aimed at the energy transition to a renewable or alternative energy model with the elimination of coal as an energy source, to direct the energy process to one that is neutral in greenhouse gas emissions, which reduces the vulnerability of the energy system and guarantees the access to energy as a common good.

Give priority to procurement processes of energy systems renewable that consider the broad public participation and accessible and encourage open projects development and profitable online with the obligatory path of Puerto Rico towards 100% renewable energy for 2050, as established by Law 82-2010 (Public Policy Law on Energy Diversification through Sustainable and Alternative Renewable Energy in Puerto Rico). For the Power Supply sector, meet a reduction on the use of fossil fuels and replace it with renewable energy generation to achieve 100 percent in 2050 and interim targets of 40 percent renewables by 2025 and 60 percent renewables by 2040.

Time Period, year	Percent
2023 to 2025	40
2026 to 2040	60
2041 to 2050	100

Transforming the energy generation system from fossil fuel-based to non-fossil fuels (e.g., green hydrogen) and renewable energy sources. Conduct a study on the use of green hydrogen for energy generation.

Establish an energy efficiency program. Considering the use of Rapid Start-style energy efficiency program in order to create immediate benefits for taxpayers, to achieve ten percent reduction in the energy demand by 2034.

Reduce the consumption of power supply in public facilities. Prioritize the use of existing resources (installed generation), energy efficiency, and existing infrastructure (rooftops, parking lots, warehouses, etc.).

Identify the most critical sectors that will be part of the microgrid program (hospitals and health centers, schools, businesses, industries, and agencies providing critical services), and to identify high-cost areas where grid services can be expanded with microgrids.

Require for the approval of a building permit for any new single-family home the inclusion of a solar water heater system that complies with the standards established through regulations.

Transportation Sector

The Transportation sector moves people and goods by cars, trucks, trains, ships, airplanes, construction and other vehicles. Puerto Rico is dominated by private vehicles and most transportation is focused on roads. It is important to set a standard to replace the government fleet to hybrid, electric, solar energy, hydroelectric and others by 2028, and establish charging areas among the Island for those vehicles.

Develop the required electrical infrastructure (generation and transmission/distribution) to support the energy demand resulting from the increase in the number of electric vehicles.

Improve and expand current public transportation system. Create collective transportation systems outside the Metropolitan Area of Puerto Rico to reduce the use of private cars. Establish collective transportation routes through exclusive lanes connecting different transportation systems and their respective regions. For example, a route connecting the Western Region (Aguadilla-Mayagüez) and, in turn, the main international connection nodes (Aguadilla Airport and Luis Muñoz Marín International Airport).

Promote the establishment and operation of intelligent transportation technology in mass transportation vehicles with the aim of creating an efficient transportation system and reducing emissions.

Forestry and other Land use Sector

Land conservation, restoration, and climate-adaptive ecosystem management will be critical for maintaining and enhancing resilient carbon sequestration on natural and working lands. Achieving these activities at sufficient pace and scale will require significantly scaled up technical assistance, research, and financial incentives.

Planting trees and restoring forests helps sequester carbon dioxide from the atmosphere, offsetting emissions from other sources. Promote reforestation by planting 500,000 native and endemic trees by 2025.

Waste Management Sector

Puerto Rico does not have a centralized waste management system and instead contracts out to private companies. Only 9 to 14 percent of waste is recycled. It has been facing a crisis as its landfills reach capacity with no plans for future waste acceptance. To mitigate the crisis, Puerto Rico must gradually reduce by 60 percent the amount of solid waste currently disposed of in landfills by 2030.

Develop and implement a solid waste inventory system in all municipalities. This system should provide data on:

- a. Recyclable materials,
- b. Construction materials,
- c. Compostable materials,
- d. Non-recyclable materials,
- e. Electronic materials,
- f. Special materials such as oils, batteries, and tires.

Implementing strategies like recycling, composting, and reducing food waste can mitigate emissions from landfills and waste incineration.

Capturing methane emissions from sources like landfills, agriculture, and wastewater treatment can prevent this potent greenhouse gas from entering the atmosphere.

Additional greenhouse gas (GHG) emissions reduction measures are:

Carbon Pricing: Implementing policies such as carbon taxes or cap-and-trade systems can incentivize businesses to reduce emissions by internalizing the cost of carbon pollution.

Industrial Process Improvements: Implementing cleaner production technologies and practices in industries can reduce emissions from manufacturing processes.

Educational Campaigns: Raising awareness about the impact of GHG emissions and promoting sustainable lifestyles can encourage individuals and communities to adopt emission-reducing behaviors.

These measures, when implemented together, can contribute to significant reductions in greenhouse gas emissions and help mitigate climate change. The expected outcomes reduction measures are:

- Reduction in greenhouse gas emissions and air pollutants, leading to improved public health outcomes.
- Enhanced resilience to climate change impacts, including extreme weather events and sea-level rise.
- Creation of green jobs and economic opportunities in the transition to a low-carbon economy.
- Preservation and restoration of ecosystems, biodiversity, and natural resources.

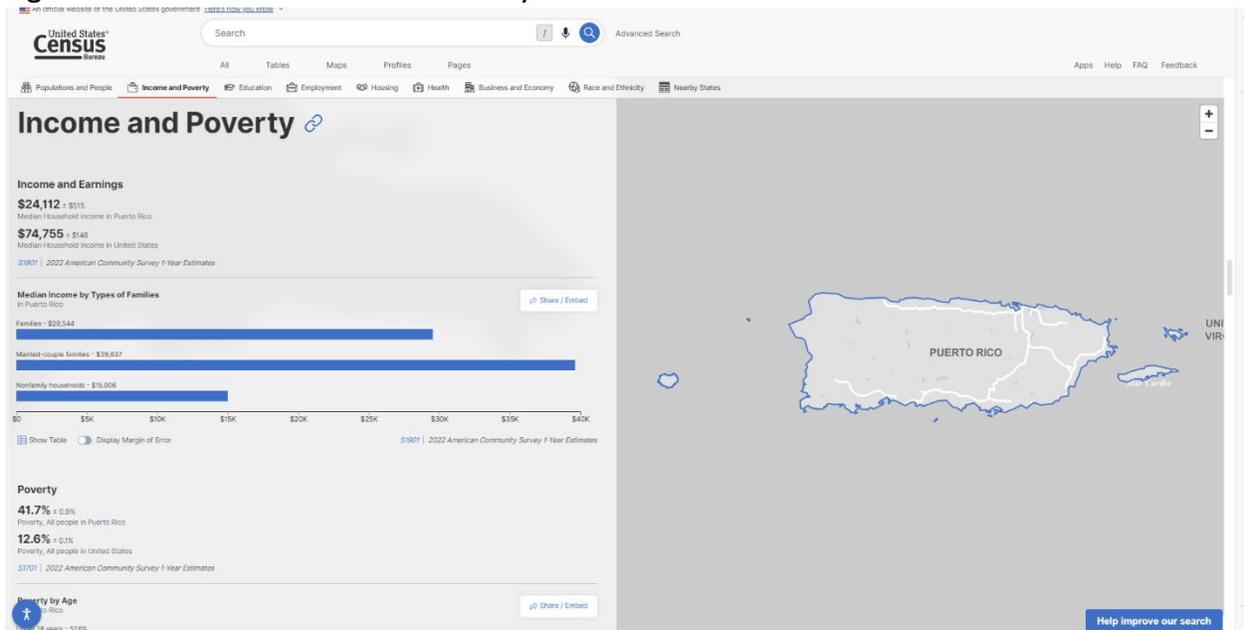
Low Income Disadvantaged Communities Benefits Analysis

PR DNER will report on investments and benefits of its GHG reduction efforts and other climate-related policies enacted after PR Climate Change Mitigation, Adaptation and Resilience Plan (CCMARP) approval. This report will be based on Climate Justice principles that the CMARP shall include, the Justice40 Initiative enacted by the Federal Government and a rigorous and comprehensive identification of the most vulnerable and disadvantaged communities in Puerto Rico.

The goal is a tracking report of investments and benefits of GHG reduction efforts and climate-related policies to disadvantaged and vulnerable communities. Improved understanding of the distribution of benefits of Puerto Rico climate policies and investments and the barriers and opportunities to ensure a just distribution of benefits.

In 2021, the median property value in Puerto Rico was \$111,800, and the homeownership rate was 68%. Most people in Puerto Rico drove alone to work, and the average commute time was 28.6 minutes. The average car ownership in Puerto Rico was 2 cars per household.

Figure 5: Puerto Rico Income and Poverty Census



Analyzing the benefits of environmental initiatives in low-income and disadvantaged communities in Puerto Rico involves several key considerations:

1. **Improved Health Outcomes:** Assessing the potential reduction in health risks associated with pollution and environmental degradation, such as respiratory diseases and exposure to toxins, which disproportionately affect low-income communities.
2. **Economic Opportunities:** Evaluating the potential for job creation and economic development through investments in renewable energy, energy efficiency, and sustainable infrastructure projects, which can provide employment opportunities and stimulate local economies.
3. **Equitable Access to Resources:** Ensuring that environmental initiatives prioritize equitable access to resources and services, such as clean water, affordable housing, transportation, and green spaces, which are essential for the well-being of low-income communities.
4. **Resilience to Climate Change:** Examining the resilience of low-income communities to climate change impacts, such as sea-level rise, hurricanes, and extreme weather events, and identifying strategies to enhance adaptive capacity and reduce vulnerability.
5. **Community Empowerment:** Promoting community engagement and participation in decision-making processes related to environmental planning and policy development, empowering residents to advocate for their needs and priorities.
6. **Social Justice and Equity:** Addressing systemic inequalities and injustices that contribute to environmental disparities, including historical patterns of environmental racism and discrimination, and advocating for policies that promote environmental justice and equity.

By conducting a comprehensive analysis of these factors, policymakers, researchers, and community stakeholders can better understand the benefits of environmental initiatives for low-income and disadvantaged communities in Puerto Rico and identify strategies to address environmental challenges in a holistic and inclusive manner.

Review of Authority to Implement

Puerto Rico Department of Natural and Environmental Resources is the authority to implement.

Puerto Rico agencies and authorities will review Puerto Rico's Climate Change Mitigation, Adaptation, and Resilience Plan Course of Actions and Strategies and indicate whether there is legal, regulatory and institutional capacity and feasibility in place for implementation. Act 33-2019 gives DNER and the Puerto Rico Committee of Experts and Advisors on Climate Change (CEACC) authority to take leadership to enact the public policy of the Government of Puerto Rico in climate change matters. Therefore, both DNER and CEACC shall lead the agenda-setting and stakeholder engagement process to achieve the full implementation of the plan to achieve Act 33-2019 dispositions and CCMARP targets.

The following governmental agencies are expected to be involved in the deliverable development process (e.g., intra- and/or inter-governmental coordination, subgrantees):

- ◆ 78 Municipal Governments of Puerto Rico
- ◆ Aqueducts and Sewage Authority (AAA)
- ◆ Authority for the Financing of the Infrastructure (AFI)
- ◆ Central Office for Recovery, Reconstruction and Resiliency (COR3)
- ◆ Department of Agriculture
- ◆ Department of Consumer Affairs (DACO)
- ◆ Department of Economic Development and Commerce (DDEC)
- ◆ Department of Education
- ◆ Department of Family Affairs
- ◆ Department of Health
- ◆ Department of Housing
- ◆ Department of Housing (DV)
- ◆ Department of Natural and Environmental Resources (DRNA)
- ◆ Department of Transportation and Public Works (DTOP)
- ◆ Department of Treasury
- ◆ Electric Power Authority (PREPA) / LUMA Energy
- ◆ Financial Oversight and Management Board for Puerto Rico
- ◆ General Services Administration (ASG)
- ◆ Highways and Transportation Authority (ACT)
- ◆ Institute of Puerto Rican Culture (ICP)
- ◆ Integrated Transportation Authority (ATI)
- ◆ Land Authority of Puerto Rico
- ◆ Metropolitan Bus Authority (AMA)
- ◆ Municipal Revenue Collection Center (CRIM)
- ◆ Office of the Commissioner of Financial Institutions (OCIF)
- ◆ Permits Management Office (OGPe)

- ◆ Public Buildings Authority (AEC)
- ◆ Puerto Rico Energy Bureau
- ◆ Puerto Rico Firefighters Corps
- ◆ Puerto Rico Institute of Statistics
- ◆ Puerto Rico Maritime Transportation Services Project (MARAD)
- ◆ Puerto Rico Medical Emergencies Corps
- ◆ Puerto Rico Planning Board (JP)
- ◆ Puerto Rico Ports Authority (APPR)
- ◆ Puerto Rico Public Broadcasting Corporation (WIPR)
- ◆ Puerto Rico State Agency for Emergency and Disaster Management (AEMEAD)
- ◆ Puerto Rico Telecommunications Bureau
- ◆ Puerto Rico Tourism Company
- ◆ Solid Waste Management Authority (ADS)
- ◆ State Energy Public Policy Bureau (OEPPE)
- ◆ State Historic Preservation Office
- ◆ University of Puerto Rico (UPR)

Expected Outcomes:

- Reduction in greenhouse gas emissions and air pollutants, leading to improved public health outcomes.
- Enhanced resilience to climate change impacts, including extreme weather events and sea-level rise.
- Creation of green jobs and economic opportunities in the transition to a low-carbon economy.
- Preservation and restoration of ecosystems, biodiversity, and natural resources.

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