



Puerto Rico Energy Policy

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Who are we?

- The Energy Affairs Administration (EAA) is the **state energy office** for the Government of Puerto Rico.
- Responsible for the **implementation of energy policies** in order to:
 - promote economic development
 - strengthen energy security
 - improve environmental quality





Legal Base

- Created by **Act 128 of June 1977** as the Office of Energy attached to the Governor's office.
- Pursuant to **Act 73 of May 2008**, EAA was assigned under the Department of Economic Development and Commerce.
- On **July 19, 2010, Act No. 82** "Energy Diversification Act" and **Act No. 83** "Green Energy Incentive Act" provided additional powers to EAA.





Energy Efficiency in PR

- **Residential Sector**

- Weatherization Assistance Program- Low Income Families
- State Energy Appliance Rebate Program (Energy Star)
- Development and Implementation of Energy Codes for residential units (IECC 2009)

- **Business Sector**

- Revolving loans for energy retrofits in small and medium size businesses
- State Energy Program- Building Retrofit Subprogram
- Development and Implementation of Energy Codes for Commercial Buildings (ASHRAE 90.1-2007)





Renewable Energy Integration

- We have pursued multiple strategies to integrate renewable energy in P.R.
 - Supported by ARRA funds and through the SEP and EECEBG we are promoting wind, solar and renewable energy in agriculture, specifically encouraging **distributed generation**.
 - Through renewable energy incentive programs, **EAA has enhanced their regulatory framework to ensure and preserve renewable energy market's integrity**.
 - Shifted public concerns through proper education, gained people's trust towards emerging renewable energy technologies.
 - Enacted two legislations which encompass Puerto Rico's Energy Reform execution.





Distributed Generation in PR

- **+ 4 MW** already installed of PV distributed generation
- **~ 1 MW** in progress this year through ARRA Programs.
- PV Systems are the main source of distributed generation according to installed systems in P.R.





RPS - Policy Overview

- Act # 82 July 19th, 2010 – Energy Diversification by means of an RPS Policy
 - Recognizes many sources of renewable energy utilizing various technologies.
 - Sets a hard target of **12%** renewable energy production **by 2015**, and **15% by 2020** with a requirement for retail energy providers to establish a plan to reach **20%** renewable energy production **by 2035**
 - Adopts **APX North American Renewable Registry** (NARR), an electronic platform to manage the issuance, tracking, and trading of RECs
 - **Creates a permanent Renewable Energy Commission** as an oversight entity focused solely on the **implementation of the Renewable Portfolio Standard (RPS)**

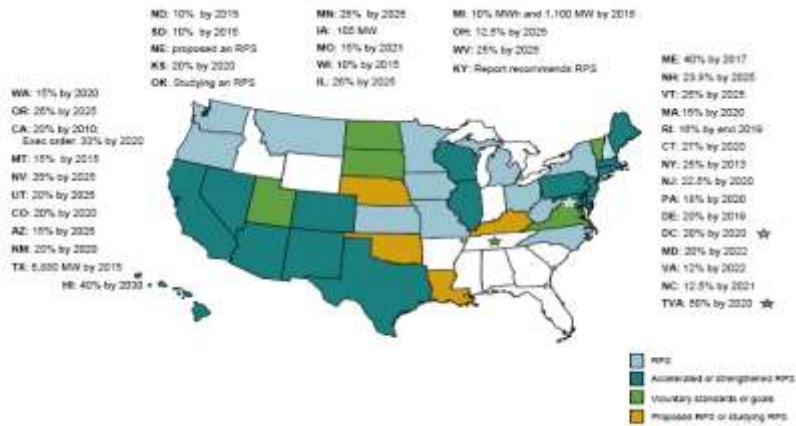




Renewable Portfolio Standard

What is an RPS?

- The Renewable Portfolio Standard (RPS) is a legal energy policy that requires an increment in renewable energy production through the use of wind, solar, biomass and geothermic among other technologies.
- Diversification is the key to reduce energy price
 - **Diversification** → Helps **stabilize, and thus reduce** electricity prices
 - 29 states and the District of Columbia have implemented an RPS





RPS Targets

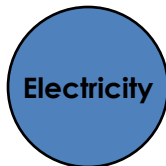
Utility Scale RPS Target Contribution Outlook

Renewable Energy Source (Sustainable & Alternate)	Number of Projects (independent of their respective status or progress)	TOTAL CAPACITY [MW]	Estimated Capacity Factor	Total Expected Annual Generation [MWh]	% Contribution to RPS (using FY 2009 as base)
Solar PV	6	172	18%	271,210	1.0%
Wind	5	225	25%	492,750	1.8%
Geothermal	0	0		0	0.0%
Biofuel	0	0		0	0.0%
Hydro (Eligible)	0	0		0	0.0%
Ocean (Kinetic)	0	0		0	0.0%
Ocean Thermal Energy Conversion (OTEC)	0	0		0	0.0%
Waste to Energy	5	206	85%	1,533,876	5.64%
Fuel Cells					
Distributed Generation					
Solar PV	Multiple	~6	18%	9,461	0.35%
TOTAL	14	609	N/A	2,297,836	8.8%



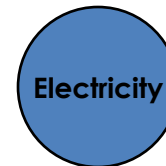
- Adopting a Compliance REC Market for RPS enforcement
 - **Renewable Energy Credit (REC)** – a **certificate** considered as an instrument with economic value that can be bought, sold or transferred between persons and that represents the equivalent of one (1) MWh of electricity generated from a renewable energy or alternate renewable energy source

Conventional Generation



1 Product

Renewable Energy Generation



2 Products



How much are RECs worth?

- **REC values will depend on a number of factors, including whether they are bought for RPS compliance or at voluntary markets.**
- REC prices will fluctuate according to demand and supply dynamics of the RPS Compliance Market.
- As stated on Article 2.9 of Act 82 of 2010, “The minimum value of an REC shall be the value provided on the national market at the time the REC is legally traded.”
- Alternative Compliance Payments (ACP) are ceiling prices established through many states in order to control compliance cost and avoid significant retail electricity price increase, while still encouraging the fulfillment of the RPS through supply and demand.
- Puerto Rico’s ACP, also referred to as penalty price, is defined within the Act, specifically in Article 2.12(g).

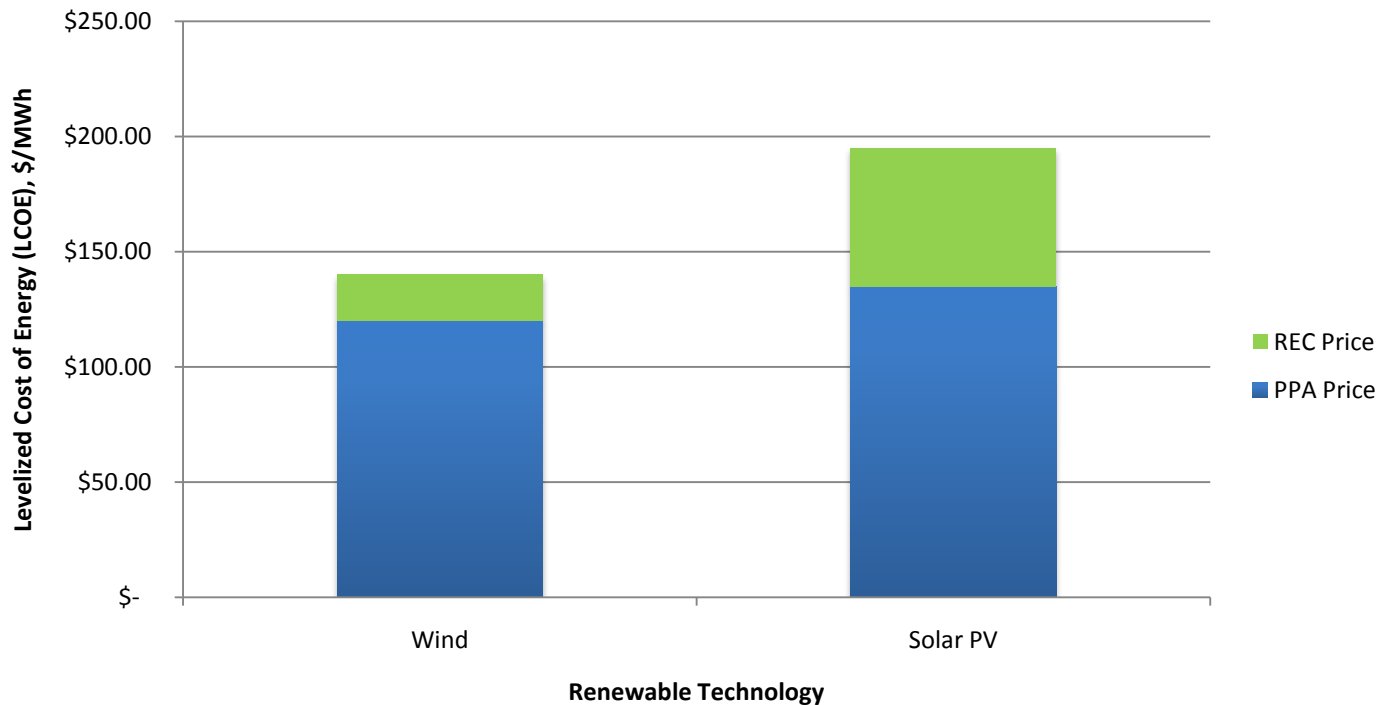




REC Market Regulations for RPS Compliance

Floor Pricing Concept

Example of REC Pricing





Green Energy – Incentive Overview

- Act #83 July 19th, 2010, also known as the “Green Energy Incentive Law”
 - Creates a **Green Energy Fund (“GEF”)** through which the government of Puerto Rico will co-invest **\$290 million** in renewable energy projects over the next 10-years; initially funding of \$20 million, beginning July 1, 2011.
 - GEF will provide flexibility for the government to establish new investment or incentive programs in the future.
 - For companies dedicated to the production of renewable energy on a commercial scale, the law also provides several tax benefits.





Green Energy Fund

- **Green Energy Fund (GEF) Creation**

- Starting on FY 2011-2012, funds will be collected from motor vehicles tax consistent with Sec. 2011 of the Internal Revenue Code of P.R.
- These funds will be received by the Dept. of Treasury (DT) and used for the purposes described in this Act, as follows:

Fiscal Year	Funds
2011-2012	\$20,000,000
2012-2013	\$20,000,000
2013-2014	\$25,000,000
2014-2015	\$30,000,000
2015-2016	\$35,000,000
2016-2020	\$40,000,000 (each year)
Total	290 Millions





Green Energy Fund – Incentives

Tier 1

(Small-Scale Projects)

- **Type of Incentive:** Up-Front Cost Rebate (CBI)
- **Project Size:** Less than 100kW
- **Impacted Market:** Residential / Commercial
- **Eligible Technologies (FY2011-2012):** Solar PV, and Small Wind Turbines (SWT)
- **Incentive Amount:** 50% of the total eligible project cost
- **Methodology:** Will be granted through a regulated first come, first serve basis.
- **Reference Cost:** \$7,000 per kW for Solar PV systems, \$6,500 per kW for SWT systems
- **Estimated Budget:** \$ 5M

Tier 2

(Medium-Scale Projects)

- **Type of Incentive:** Up-Front Cost Rebate (CBI)
- **Project Size:** 100 kW to 1MW
- **Impacted Market:** Commercial / Industrial
- **Eligible Technologies (FY2011-2012, Q1):** Solar PV Projects, and Wind Turbines (WT) Projects
- **Incentive Amount:** 50% of the total eligible project cost
- **Methodology:** Will be granted through a competitive scoring process to maximize funds, incentivizing more renewable projects, and achieving greater green energy production.
- **Targeted Cost:** \$6,000 per kW for Solar PV systems, \$6,000 per kW for WT systems
- **Estimated Budget:** \$ 12M - 15M





GEF Regulations

Where are we?

- **PREAA is near completion of the Regulation Final Draft** for Tier 1 and Tier 2 programs. We estimate LPAU process to begin in mid April.
- Specific details regarding provisions describing the competitive process, evaluation criteria, and selection process is currently being developed to fulfill requirements established by law.
- Applications will be completed through an **Online Rebate Application System**, under development as we speak, and capable of processing all applications, evaluations, approvals, monitoring and verification of Green Energy projects under the GEF.
- **Our objective is to implement a robust and efficient system platform capable of enabling the most effective operation of Renewable Energy (RE) project incentive in Puerto Rico.**





GREEN ENERGY FUND

GOVERNMENT OF PUERTO RICO

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The Government of Puerto Rico has created a Green Energy Fund (GEF), in order to provide economic incentives for the development of renewable energy projects in Puerto Rico.

Incentives provided herein, will foster the development of green energy projects on the island shall be aimed at promoting the use of renewable energy sources for residential, commercial and industrial purposes. By promoting that these sectors become more energy independent, we are fostering more sustainable development and a reduction of costs directly related to the fluctuations of the market.

This Act brings together under one law our existing economic benefits, in order to reform, organize and standardize incentives for the creation or utilization of sustainable and alternative renewable energy sources.



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ENERGY AFFAIRS ADMINISTRATION

Government of Puerto Rico

- **Tax Exemption**

- Furthermore, the Energy Bill creates a **special tax exemption** for companies with the primary purpose of **renewable energy generation**.
- These companies will have the advantage similar to those in Act 73 of 2008:
 1. A **fixed tax of 4%**
 2. A reduction on the property and municipal tax
- In addition, the lifespan of the decrees will be of 25 years, which is consistent with the expected life of a renewable energy equipment and their commercial agreements (e.g. PPAs)
- Other benefits include: super-depreciation of buildings, structures, machinery, and equipment; and eligibility for tax-credits related to the use of locally-manufactured products, job creation, and research and development.



Life of equipment:
25 years



Tax Decree: 25
years

Thank you!



ENERGY AFFAIRS ADMINISTRATION
GOVERNMENT OF PUERTO RICO

