

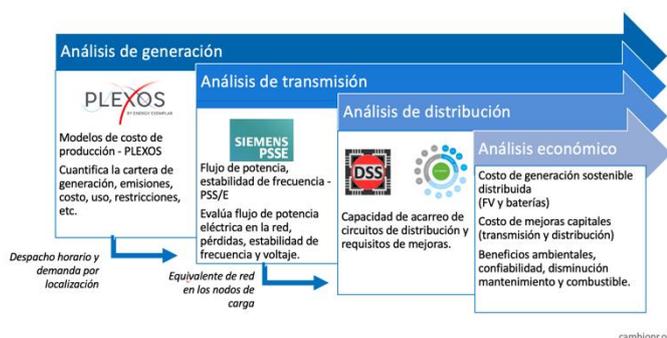
PUERTO RICO DISTRIBUTED SOLAR INTEGRATION STUDY

WHO

- The study models the **Queremos Sol** proposal at 2035 and was conducted by **CAMBIO**, in coordination with IEEFA, with experts in transmission, distribution, and electrical resource planning: Dr. Agustin Irizarry, Telos Energy, EE Plus and Energy Futures Group
- It was conducted in consultation with and with the participation of the labor, environmental and community organizations that proposed Queremos Sol (“We Want Sun”).
- Filantropia Puerto Rico provided financial support.

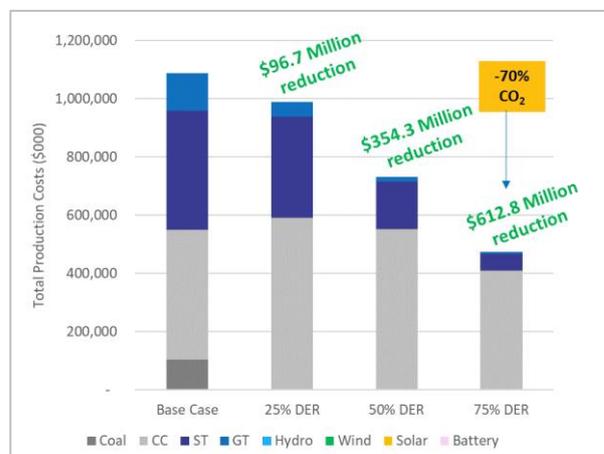
HOW

- The study used advanced modeling tools to make detailed simulations of the electrical grid.
- This is the first study of Puerto Rico’s entire distribution system.
- It presents an advanced energy model, in tune with the demands of the 21st century.



PRINCIPLE FINDINGS:

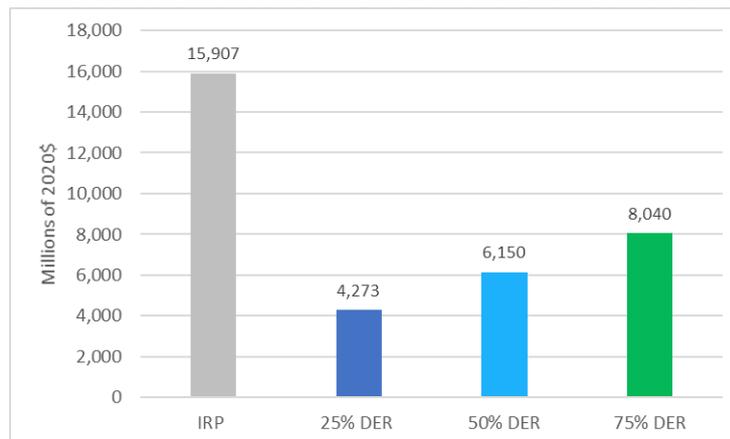
- **Puerto Rico could achieve 75% renewable energy in 15 years** and reduce fuel costs to \$430 million/yr. (fuel costs exceed \$1.4 billion in 2019 and 2020);
- **100% household resiliency can be achieved by 2035** with 2.7 kW rooftop solar systems and 12.6 kWh batteries and with commercial installations. This will reduce household and community vulnerability;
- **It is cost-effective to use \$9.6 billion in federal funds to implement this plan**, which would reduce electric system costs to less than 15 cents/kWh by 2035 (compared to 21 cents/kWh in 2019);
- **There is no need for investment in new fossil fuel-based power plants** or conversion of existing plants to natural gas, which are polluting and dangerous;
- **CO₂ emissions can be reduced nearly 70%**, placing Puerto Rico at the forefront of addressing climate change with urgency;
- **It is possible to retire fossil fuel-based generation**, starting with the AES coal plant and then the Palo Seco and Aguirre oil-fired plants. The remaining units would be used for very few hours out of the year, if at all, with 75% renewable energy. This



would reduce dependence on transmission, which has proven to be one of the current system's vulnerabilities;

- **With modest investments in the distribution system** - \$650 million – the grid can support the reliable integration of 75% rooftop renewable energy and battery storage;
- **The proposal is \$5 billion less** than PREPA's Integrated Resource Plan (ESM) and \$500 million/yr less than the cost of the current system;
- **PREPA provided no budget** for renewable energy in its 10-year plan for use of federal funds.
- **This modeled route ensures that no one is left behind** and that lower-income communities can also reap the benefits of renewable energy.

COMPARISON WITH PREPA'S INTEGRATED RESOURCE PLAN (ESM)



PRINCIPAL FINDING OF THE TRANSMISSION AND DISTRIBUTION SYSTEM ANALYSIS:

A grid with distributed generation based on rooftop solar and storage for homes and businesses **CAN OPERATE SAFELY AND RELIABLY, SAVING MONEY AND STABILIZING PRICES**. The distribution system can support high levels of penetration of such systems with minimal investment.

Reports available at cambiopr.org:

We Want Sun and We Want More--CAMBIO, IEEFA, Dr. Agustín Irizarry (Summary and analysis report)

Puerto Rico Distributed Energy Resource Integration Study--Achieving a Renewable, Reliable, and Resilient Distributed Grid – Telos Energy

Puerto Rico Distribution Modeling – EEPlus

Puerto Rico Distributed Energy Resource Integration Study – Load, Energy Efficiency, and System Cost— Energy Futures Group

CAMBIO promotes sustainable and responsible actions for Puerto Rico through research, design and implementation of policies and strategies that include education, capacity building and community support. For more information visit cambiopr.org.

The study was completed with support from:

