



PUERTO RICO ENERGY WEEK 2023

Energy Security Panel - Electric Power Generation Sector

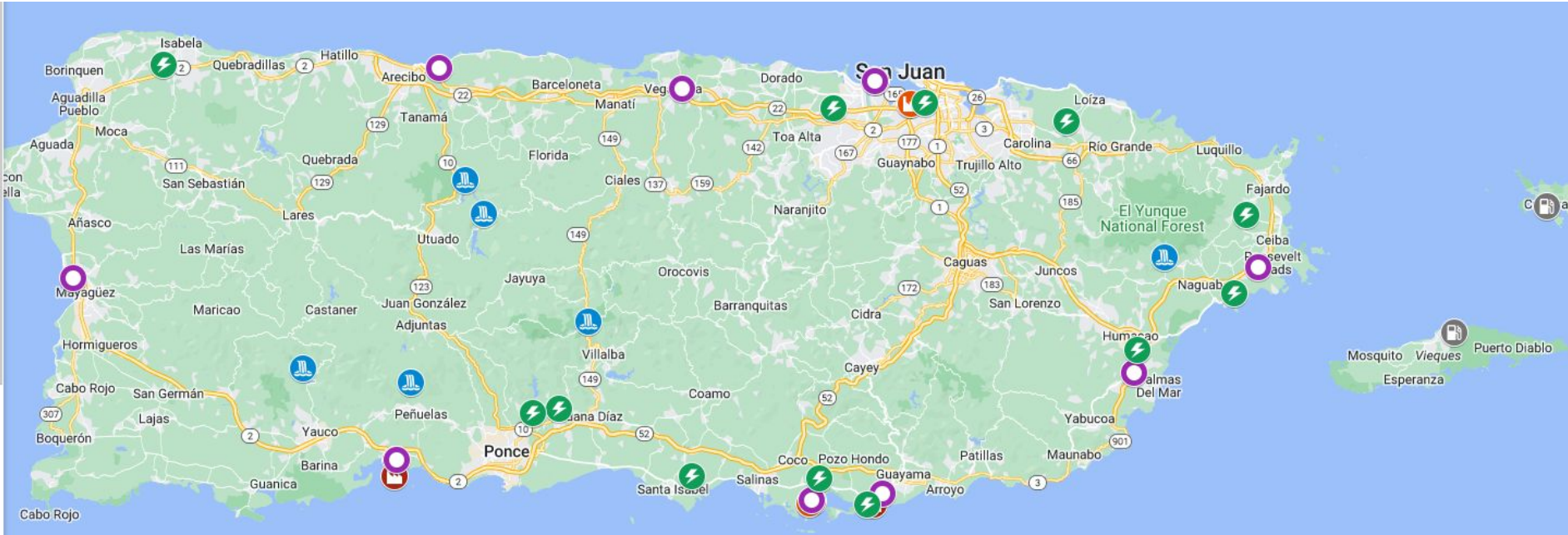
Pedro I Martínez, MS, CSP, CIH
Senior Health, Safety & Security Specialist



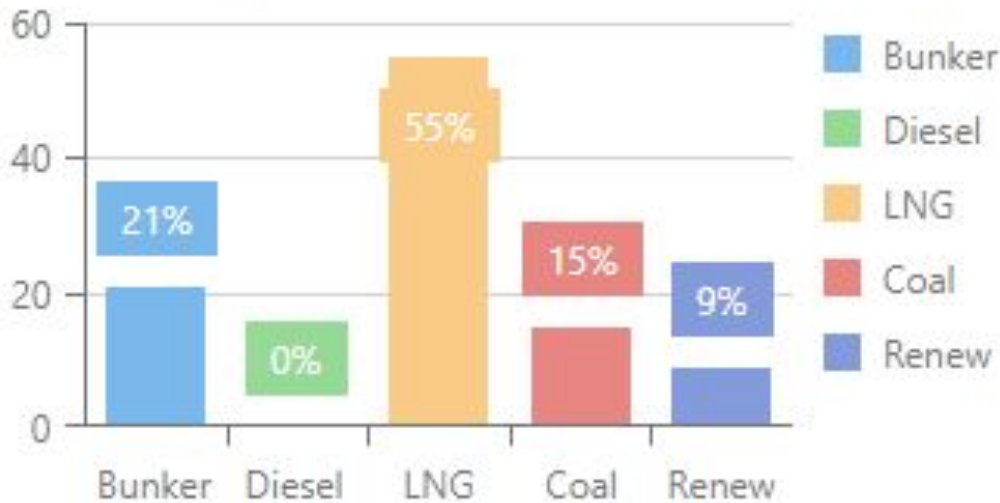
EcoEléctrica
"Un mejor ambiente con gas natural"



Key issue - PR Generation profile



Energía por Combustible



PR Electric Generation by Energy source

Source: PREPA (2023)

EcoEléctrica
 "Un mejor ambiente con gas natural"



PR Generation Key challenges

Climate Change / GHG / Decarbonization

Transition to renewables

Foundation for Transmission / Distribution Grid

Reliability, Availability, and Maintainability

Infrastructure obsolete / modernization

Key for all sectors integration cycle

Regulatory framework requirements

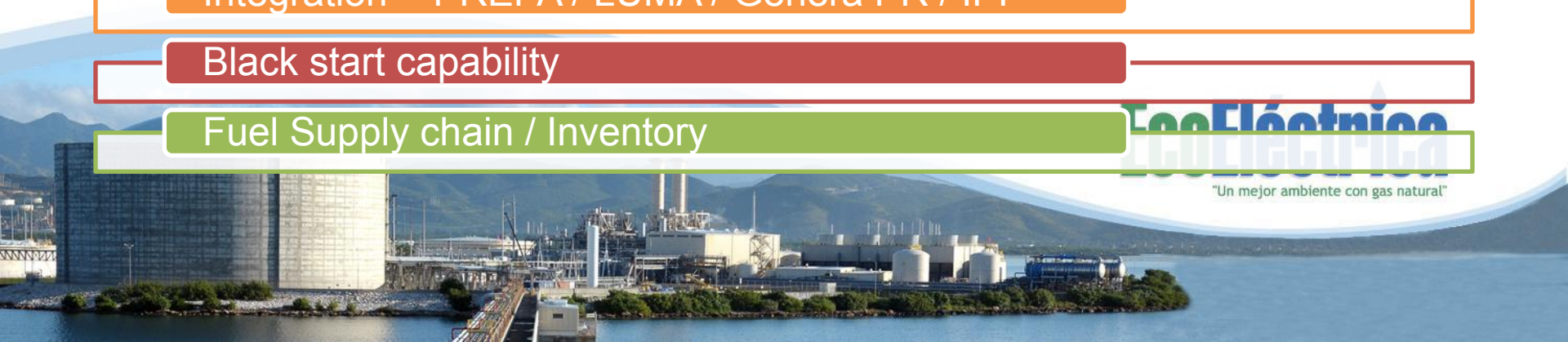
Environmental, Health, Safety & Security

Emergencies / Natural disasters

Integration - PREPA / LUMA / Genera PR / IPP

Black start capability

Fuel Supply chain / Inventory



Generation Benefits / Consequences



Combined Cycle Power Plant, LNG Terminal & Desalinization Plant

- 548 MW (Gross) / 534.4 MW (Net) – 2022 Performance & Efficiency
- AGC - Automatic Generation Control (54% to 96%) & manual regulation
- 230kV Transmission power line
- No Black start capability – Grid back feed power & Emergency diesel generators

448 LNG vessels unloaded lifetime

Natural gas supply pipeline to PREPA Costa Sur (2012)

LNG supply pipeline to Crowley / Naturgy Truck Loading Facility (2022): >2300 Tank trucks loaded.

LNG / Natural Gas is a clean energy alternative for transition to renewables

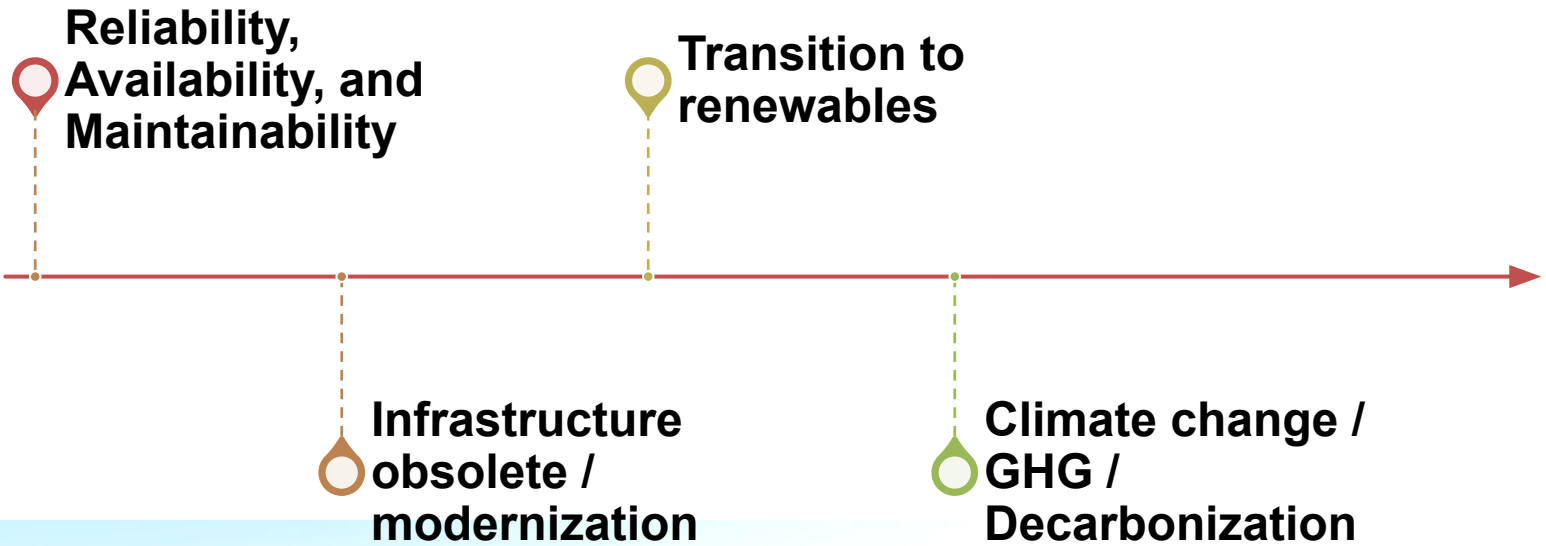
Environmental, Health, Safety & Security

- ISO 14001 & 45001 Management System
- Risk Assessment & Hierarchy of controls
- Facility Security Assessment / Vulnerability Analysis - Facility Security Plan
- Design based on Layers of protection – NFPA 59A
- Fire Protection – Prevention, Detection, and Suppression
- Multi Emergency / Incidents Plans – Incident Command System
- Biological Monitoring Program Plan – MOU with UPR Mayaguez University Campus, Marine Sciences Department

Corporate Social Responsibility Program



To achieve Puerto Rico's energy security goals, a critical obstacle to collectively overcome in 12 months is address the main electric generation challenges.



Thanks!!!

