# Long-Term Solution: Waste-to-Energy via Thermal Vortex Combustion

The cornerstone of the long-term solution in Puerto Rico is the deployment of a Waste-to-Energy (WtE) facility powered by Vortex Energy Group LLC's patented Thermal Vortex Combustion (TVC) system. This cutting-edge technology is the basis for our projects. In addition, the group has:

- ✓ Partnered with a group led by Renowned Kenninger Professor of Renewable Energy and Power Systems, Luciano Castillo, who has studied and identified the portions of the Eastern coast of Puerto Rico to deploy two WtE facilities that will address both landfill and sargassum crises.
- ✓ Researched and developed a strategy to ensure energy security, including having the WtE components housed in a Category 5 hurricane-proof building, buried transmission and power lines as needed, and reinforcing and hardening transmission poles and towers.
- ✓ Developed a solution to better manage the grid system, currently, and after modifications to the grid. This includes unique microgrid technology, as well as Smart Grid concepts and technology.
- ✓ Developed a program to dramatically reduce electric costs, helpful for the 80% of residents on the island that is categorized as low to moderate income (LMI).

## Benefits

Following are the typical benefits that can be provided for a complete WtE processing facility:

- ✓ Dramatically ***reduce the cost*** to generate electricity, which allows the customer to pay significantly less for their electricity.
- ✓ ***Reduces coastal and marine pollution***
- ✓ ***Aids in the sargassum mitigation*** process to avoid ongoing beach erosion
- ✓ ***Ensures energy security*** by the generation of renewable, sustainable baseload energy
- ✓ The entire energy infrastructure will be enclosed within a ***Category 5 hurricane-proof facility***
- ✓ ***Ensures resilience, energy security, and uninterrupted operation***.
- ✓ Creates ***year-round employment*** opportunities
- ✓ ***Multiple waste materials can be used***, even mixed and matched in the same process. This will dramatically help with the municipal solid waste (MSW) and numerous other waste materials.
- ✓ ***Manufacturing and installation, ready to go online in 12 months or less.*** *(Compared to up to 2 to 2 ½ years for current power plant construction)*