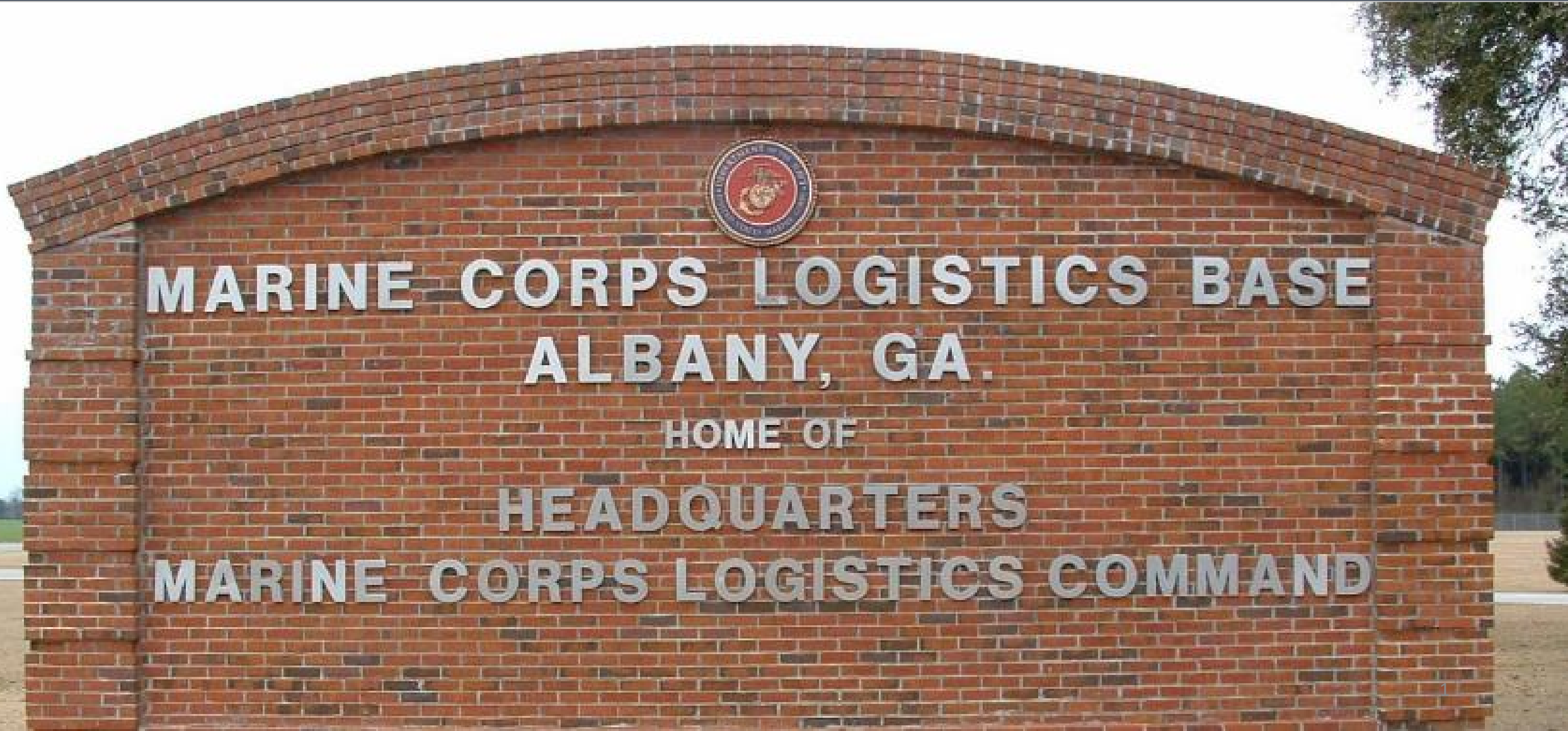


# ENERGY RESILIENCE AT MCLB ALBANY





# MARINE CORPS LOGISTICS BASE ALBANY IS:

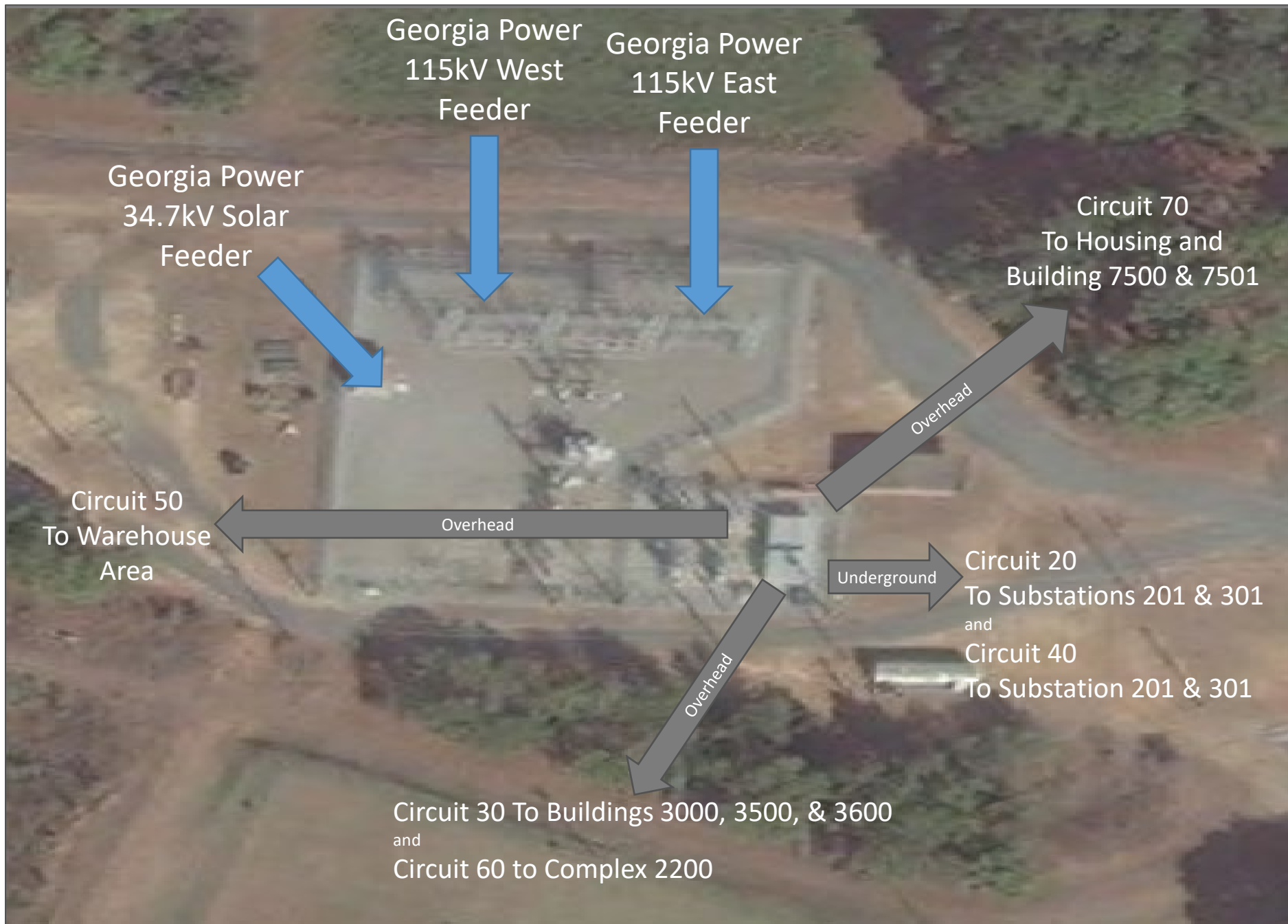
- Small but essential
- CRITICAL to supplying the Marine Corps mission
- The model installation for ENERGY RESILIENCY
- Soon to be energy NET ZERO

*What YOU do is IMPORTANT  
Everyday a MARINE'S LIFE  
will depend on it!*

NNER  
of the  
T. MASON  
WARD

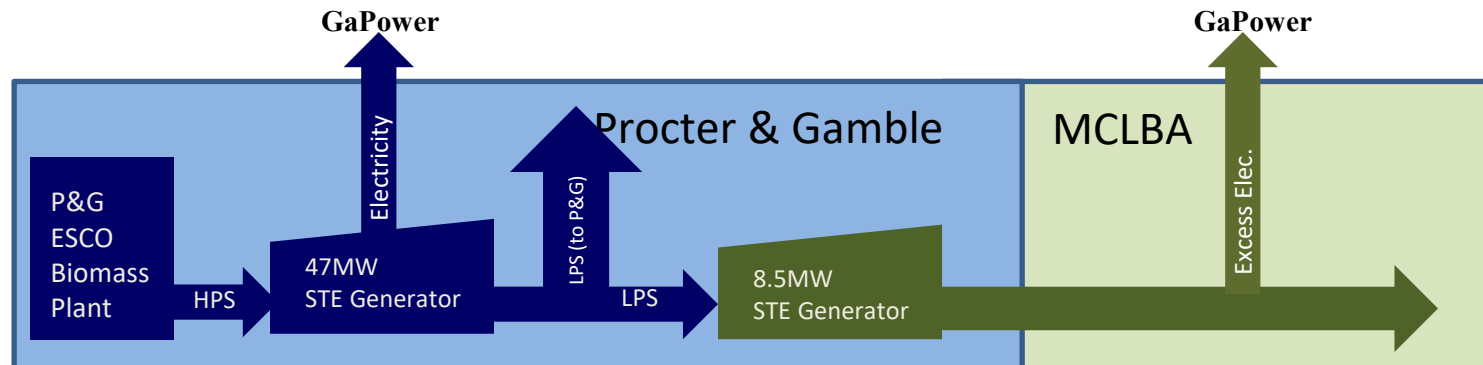






# ESPC Project in Partnership w/P&G Biomass Plant

- Net-Zero Base: Renewable energy (electrical only) produced on base equals/exceeds amount used
- Net-Zero Energy Project in partnership with neighbor Procter & Gamble
  - P&G ESCO Albany Green Energy (AGE) provides steam from their new plant to MCLBA ESCO Constellation New Energy (CNE) 8.5MW steam to electric plant producing electricity for the base.
  - Base receives electricity to meet needs (adds to other renewable generation to provide 100% of electricity from renewable generation)
  - Utility Company (GaPower) purchases electricity not used by the base.





# LANDFILL GAS-TO-ENERGY GENERATORS:

- Total 4 MW electricity
- Combined heat + power (CHP)
- Steam byproduct powers Production Plant Albany
- Gen. 1: 1.9 MW | ESPC | 2011
- Gen. 2: 2.1 MW | ECIP 2012 fund | ESPC 2017 activate/maintain







# PHOTOVOLTAIC ARRAY:

- Total 44 MW electricity
- On-base with own substation
- Possible capacity 3 to 4 MW to base via potential express feeder
- Working with Ga Power to perform study on connecting to MCLB grid

# DIESEL BACKUP GENERATORS:

- Total 7 MW electricity
- 27 generators situated across base
- Capacity helps cover servers, communications, family housing, HQ building, commissary
- In supply emergencies, brought online before landfill or grid





# ENERGY ASSETS

GPC FEEDER 1



GPC FEEDER 2



PHOTOVOLTAIC  
ARRAY 3 to 4 MW (Possible)



SUBSTATION 1



AGE BIOMASS  
GENERATOR



SUBSTATION 2



STEAM  
GENERATOR



DIESEL BACKUP  
GENERATORS



MARINE CORPS  
LOGISTICS  
BASE ALBANY



8.5 MW

7 MW

1.9 MW

2.1 MW

LANDFILL GAS  
GENERATOR #1



LANDFILL GAS  
GENERATOR #2



NATURAL GAS



LANDFILL GAS  
SOURCE



Max Load: 11 MW | Average Load: 5 MW

Onsite Generation



GPC Assets or Connections



Albany Green Energy Assets



City of Albany Assets



Dougherty County Assets



Backup Power Source



Excess Power Sold to GPC





# NORMAL OPERATIONS

GPC FEEDER 1



GPC FEEDER 2



PHOTOVOLTAIC  
ARRAY



AGE BIOMASS  
GENERATOR



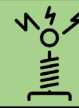
STEAM  
GENERATOR



SUBSTATION 2



SUBSTATION 1



DIESEL BACKUP  
GENERATORS



8.5 MW

MARINE CORPS  
LOGISTICS  
BASE ALBANY



1.9 MW

2.1 MW

LANDFILL GAS  
GENERATOR #1



LANDFILL GAS  
GENERATOR #2



NATURAL GAS



LANDFILL GAS  
SOURCE





# AGE GENERATOR OUTAGE

GPC FEEDER 1



GPC FEEDER 2



PHOTOVOLTAIC  
ARRAY



SUBSTATION 1



AGE BIOMASS  
GENERATOR



SUBSTATION 2



STEAM  
GENERATOR



MARINE CORPS  
LOGISTICS  
BASE ALBANY



DIESEL BACKUP  
GENERATORS



MICROGRID

LOAD-SHEDDING



3.5 MW

1.9 MW

2.1 MW

LANDFILL GAS  
GENERATOR #1



LANDFILL GAS  
GENERATOR #2



NATURAL GAS



LANDFILL GAS  
SOURCE





# SUBSTATION OUTAGE

GPC FEEDER 1



GPC FEEDER 2



PHOTOVOLTAIC  
ARRAY



SUBSTATION 1



AGE BIOMASS  
GENERATOR



SUBSTATION 2



STEAM  
GENERATOR



8.5 MW

MARINE CORPS  
LOGISTICS  
BASE ALBANY



DIESEL BACKUP  
GENERATORS



7 MW

1.9 MW

2.1 MW

LANDFILL GAS  
GENERATOR #1



LANDFILL GAS  
GENERATOR #2



NATURAL GAS



LANDFILL GAS  
SOURCE



An isometric illustration of a smart grid or microgrid system. It shows a network of buildings, including residential houses and commercial structures, connected by a system of yellow dashed lines representing power lines. A central control building is highlighted with a yellow dashed line. The system is integrated with various energy sources and infrastructure, such as a steam generator, a large wind turbine, and a solar panel array. The background features a green landscape with trees and a blue sky.

# SMART GRID / MICROGRID:

- Networking and SCADA controls
- Automated load-shedding
- Fault location and isolation
- Islanding capability with controlled DERs
- Energy monitoring and visualization
- Integrates steam generator, LFG generator, main substation, electric distribution, building generators, peak shaving generator