



Clean and Efficient Energy

### **ALOHA**

Bio-Economy Hawai'i Forum 2022

### "What we are working on now" Daily Balance



### **Supporting Hawai'i's Clean Energy Goals**

De-carbonization and 100% renewable generation by 2045. Support for "On Peak" generation from renewables.



#### **Grid Stability by Supporting Renewable Generation**

Providing firm capacity for intermittent wind, solar and battery storage "as available" supply during transition of technological enhancements. Lessons learned during pandemic.



### **Providing Essential Firm Capacity**

For over 30 years, provided grid stability with firm generation, addressing adequacy of supply issues and inclement weather.



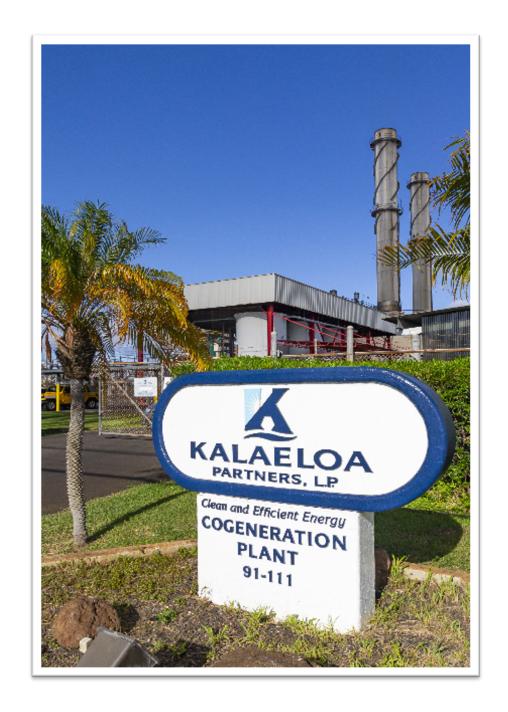
### **Powering Hawai'i's Future**

Continue to provide firm reliable capacity for next 10-15 years. Exploration of biofuel conversion and capitalization of the facility.



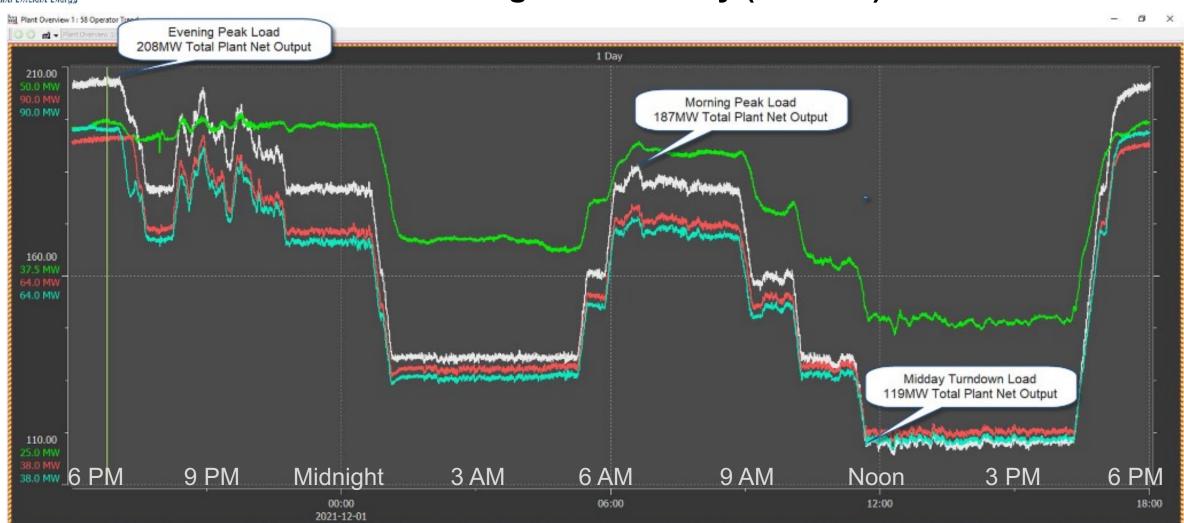
### **Meeting Hawai'i's Clean Energy Goals**

Ability to utilize biofuels pending upon utility and regulatory approval. Assessing options to secure competitively priced renewable fuels and implement conversion of facility.





## Supporting Hawai'i's Clean Energy Goals: Maintaining Grid Stability (Present)







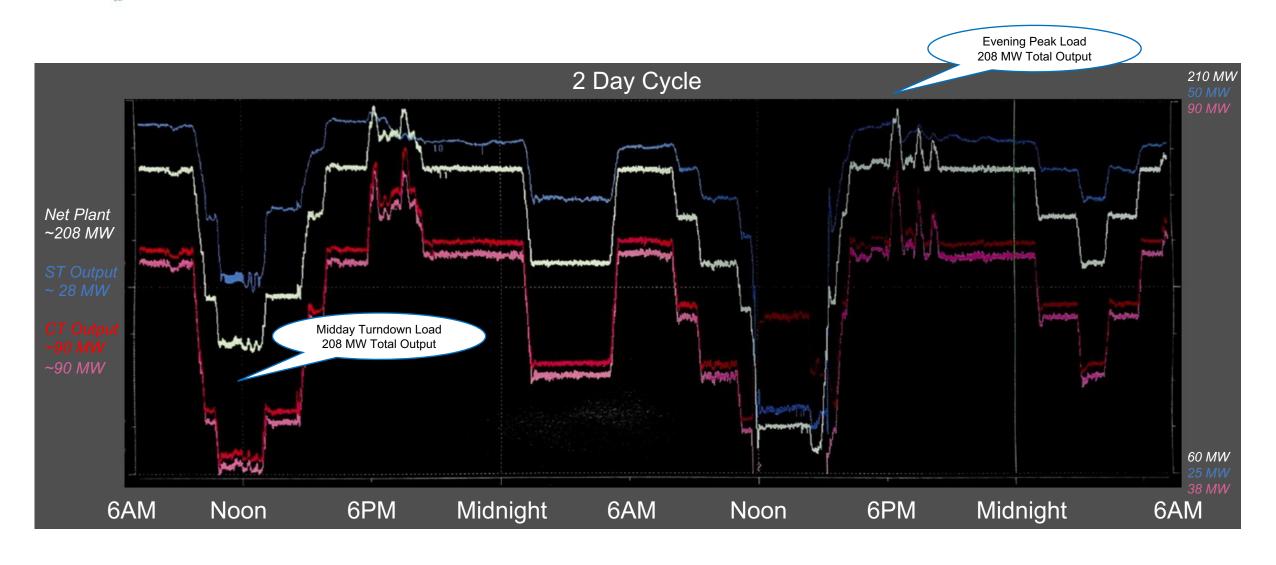








## Supporting Hawai'i's Clean Energy Goals: Maintaining Grid Stability (Future)





# Providing Essential Firm Capacity: Responding To Power Demand (Past and Present)

Provides stable power with future integration of renewable projects

**Grid** 

(Ratepayers)

Past 30 years, grid supply and demand has changed but gird stability remains critical

Utility

(Supply)

**Utility** 

(Demand)

Flexible delivery of 60-208 MW

**KPLP** 

Kalaeloa's design delivers firm capacity 24/7 and proven reliability during weather issues by utilizing existing operational design

The unique design of KPLP allows us to increase or decrease electric generation up to 10 MW per minute, which is critical for stability.

Flexibility enables KPLP to rapidly increase and decrease generation to align with the future grid renewable configurations.

### Supporting Hawai'i's Clean Energy Goals



#### Operation and Maintenance Feasibility Study (2019)

- Engineering & technical review of combustion turbines to utilize biofuels
- Findings: "No barriers to entry"

#### Biofuels Market & Fuel Sourcing Review (2019-2021)

- Fuel Selection and Study (2019)
- Assessed biofuel market availability, transportation, logistics, infrastructure, permitting, utility & regulatory approval
  - Short Term 2023: 3-5 years, 2026-2028
  - Long Term 2023: 5-10 years, 2028-2038

#### Infrastructure Study (Aug. 2021)

• Study of on-site logistics, preliminary engineering modeling scenario of import supply for biofuel

#### Next Steps

- PUC approval of Amended and Restated Power Purchase Agreement between HECO and Kalaeloa Partners
- PPA includes HECO option to request fuel conversion, subject to PUC approval









Clean and Efficient Energy

### **MAHALO**

Bio-Economy Hawai'i Forum 2022