



KAUAI ISLAND UTILITY COOPERATIVE

ENERGY STORAGE – YESTERDAY, TODAY, AND TOMORROW

WHO WE ARE

- Sole electric utility for the island of Kauai
- Not for Profit Rural Electric Co-op
- Over 37,000 meters
- Over 44% of power generated by renewables in 2017
- Goal of 50% renewable by 2023, 70% by 2030

KIUC INTERCONNECTION PROCESS

- KIUC publishes RFO for **land**
- KIUC publishes RFP for **EPC** Company
- KIUC Selects site and EPC
 1. Based on our grid needs, price, ability, etc.
 2. Negotiates directly with land owners; EPCs
- KIUC develops **infrastructure** (if needed)
- Co-op has access to low interest \$
- Fast execution
- Process results in lower cost Purchase Power Agreement (PPA)

YESTERDAY – STORAGE FOR STABILITY

- Three 1.5 MW / 1.0 MWh BESS – Extreme-Advanced Lead Acid
- 6.0 MW / 4.5 MWh BESS – Soft-Lithium Ion
- Sited near PV
- Minimal interconnection issues

TODAY – STORAGE FOR LOAD SHIFTING & CONTROL

- Tesla PV + BESS – May 2017
- AES Lawai PV + BESS – December 2018
- AES PMRF PV + BESS – November 2019





TOMORROW – STORAGE IS THE GRID

- Westside pumped storage + PV – 2022-2023 in service
- Over 80% of electricity generated from renewables
- Over 35% of daily electricity will be sourced by storage
- Storage “Units” will control the grid

SUMMARY

- KIUC Storage Interconnections have resulted or will result in:
 1. Low cost PPAs
 2. Fast implementation
 3. Improved substation infrastructure
 4. Improved customer satisfaction (Navy)
 5. Over 80% of island electricity generated by renewables

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