



# WEST KAUA'I ENERGY PROJECT

Hawaiian Homestead Commission Briefing

August 2021

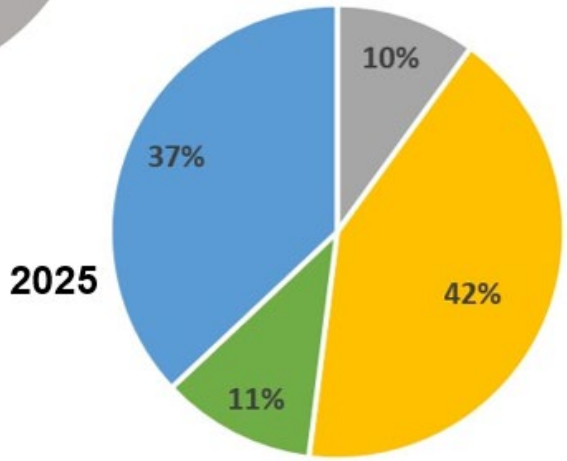
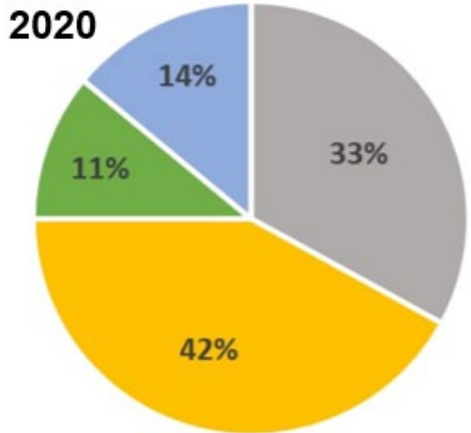
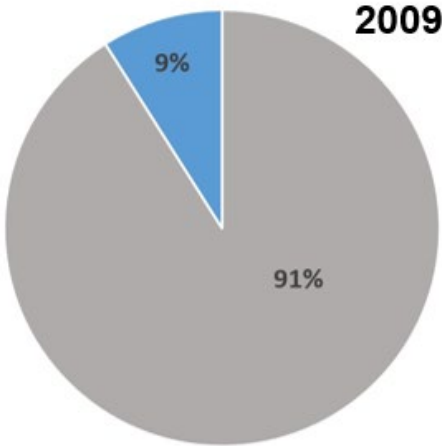
# Kaua'i's 100% Renewable Challenge

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- 100% of Kaua'i's daytime demand for electricity routinely met by renewables
- Solar and battery limitations
  - Sun dependent
  - Short duration storage
- Long-duration storage needed to achieve 100% renewable at night and during prolonged periods without solar



# KIUC Fuel Mix



■ Fossil Fuel ■ Solar ■ Biomass ■ Hydro

# WKEP Supports Existing HHC/DHHL Plans

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- Ho‘omalūō (2009): Energy Policy
  - Facilitate the use of diverse renewable energy resources
  - Pursue the leasing of those lands that are identified as suitable for renewable energy projects
  
- West Kaua‘i Regional Plan (2011): Priority Projects
  - Development of renewable energy projects compatible with agriculture
  - Maintain and rehabilitate Pu‘u ‘Ōpae reservoir and irrigation system
  
- Modified Petition for Reservation of Surface Water (2017)
  - 6.9.9 MGD from Kōke‘e Diversions for use in Waimea, Kaua‘i Hawaiian Home Lands
  
- Pu‘u ‘Ōpae Kuleana Homestead Settlement Plan
  - 1,421 acres on mauka Waimea lands
  - HHC accepts final EA in July 2020



# Waimea River Mediation Settlement

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- Petition filed in July 2013 by Earth Justice on behalf of Pō‘ai Wai Ola and West Kaua‘i Watershed Alliance
  - Complaint filed against ADC and KAA for alleged waste of water on ditch systems
  - Amend interim instream flows
  
- Parties: Pō‘ai Wai Ola and West Kaua‘i Watershed Alliance/Earth Justice, ADC, KAA, DHHL, and KIUC
  
- Mediation Settlement approved by Commission on Water Resource Management on April 18, 2017
  
- Unprecedented resolution of a water dispute in Hawai‘i

# Mediation Settlement Points

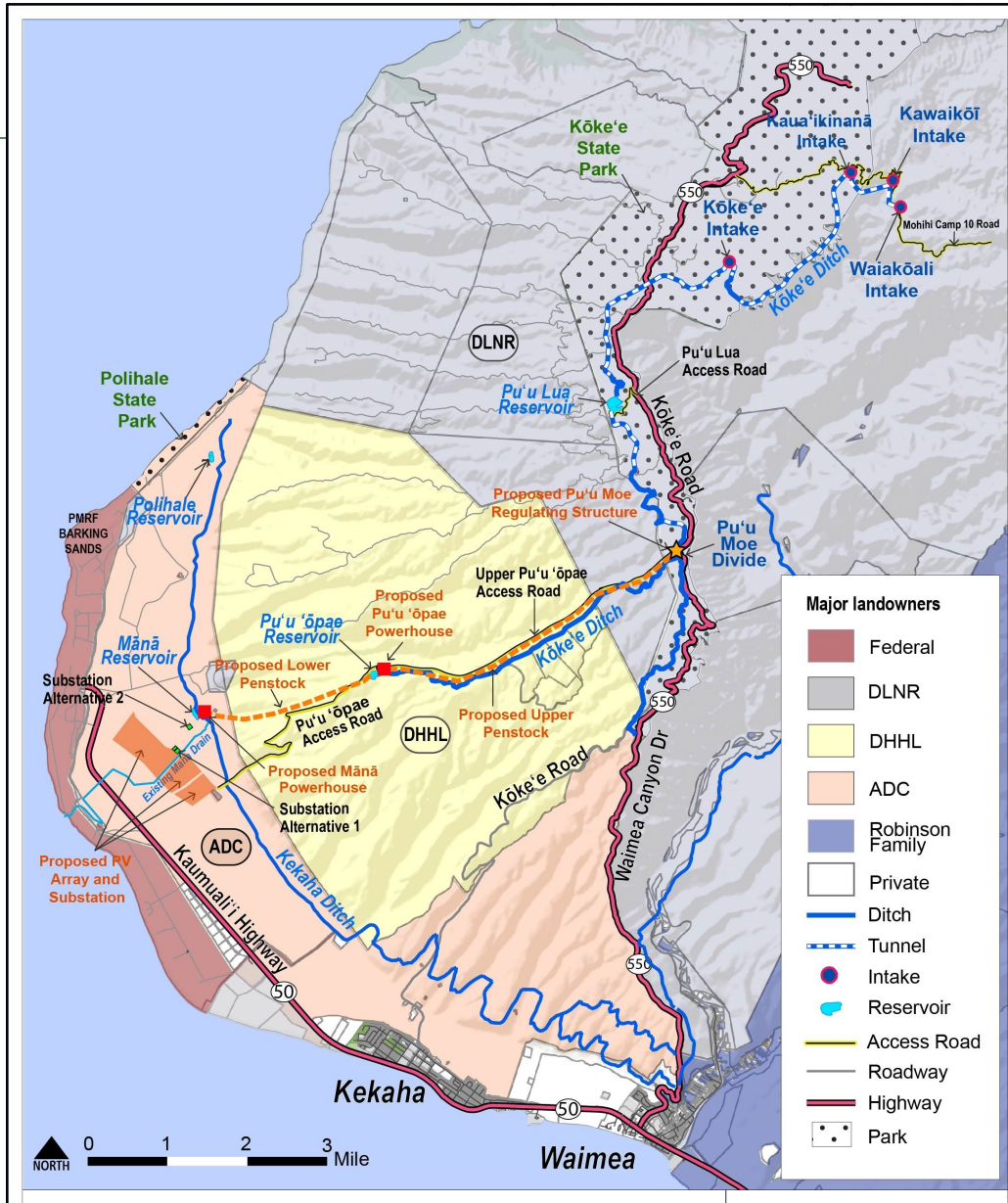
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- More water for streams and Waimea River
  - Required instream flow releases and modifications to diversions
    - Phase One IIFS
    - Phase Two IIFS
- Installation of monitoring equipment and stream flow data collection
- Water for DHHL lands
- Water for KIUC project
- Timeline with required action items

# Integrated Energy Project Proposal

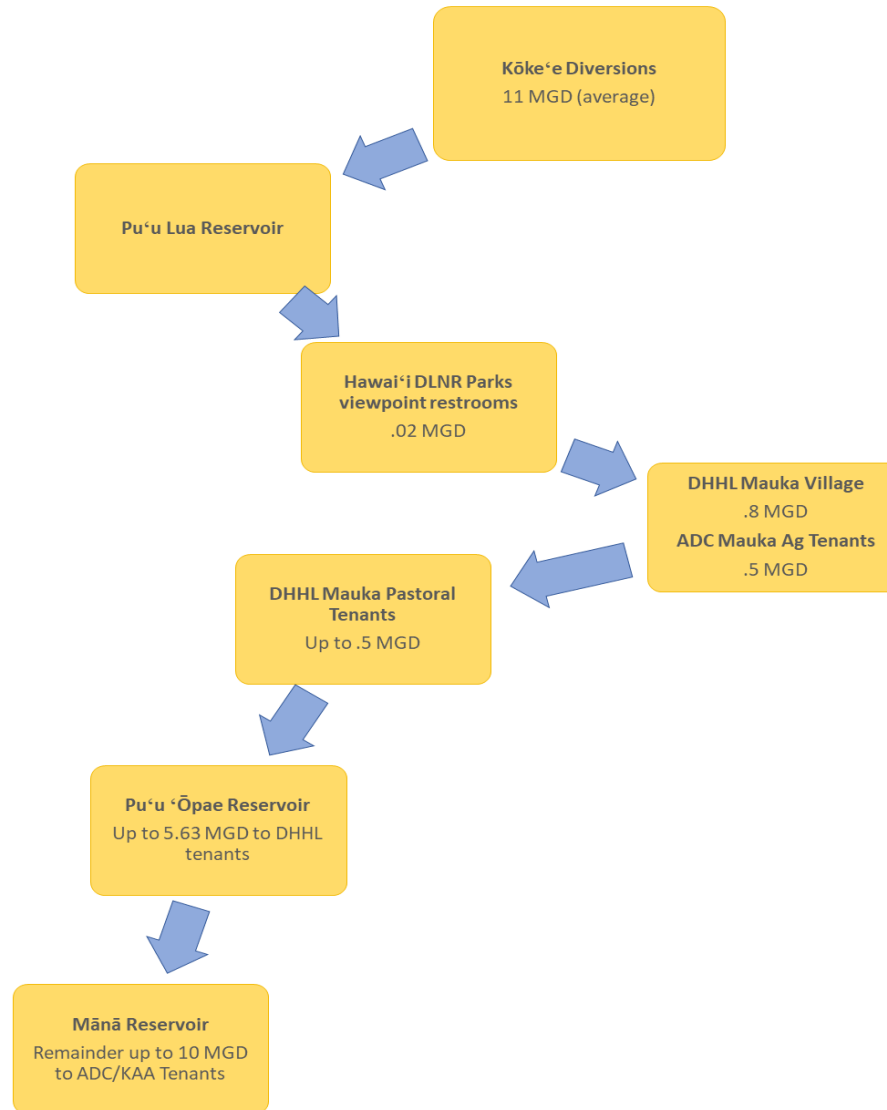
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- Renewable energy resource for island of Kaua‘i
  - 24 MW of pumped storage hydro
    - Solar used as power source for pumping
  - Store and release hydro
  
- Irrigation water delivered through ditch and project pipeline to DHHL lands and ADC/KAA
  
- Primary project components
  - Koke‘e ditch repairs and upgrades
  - Rehabilitation of Pu‘u Lua, Pu‘u ‘Ōpae, and Mānā reservoirs
  - Two new sections of buried pipeline
  - Two new powerhouses





Flow of water from Kōke'e diversions with volume use at various points on the system



# DHHL Benefits

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- ✓ Delivery of DHHL water reservation of 6.9 MGD to DHHL lands
- ✓ Enables the development of DHHL's Pu'u 'Ōpae Kuleana Homestead Settlement Plan
  - ✓ Water delivery
  - ✓ Road improvements and maintenance
  - ✓ Electrical power available at Pu'u 'Ōpae
- ✓ Water delivery and new storage tank for DHHL pastoral lots
- ✓ Water delivery to KHHA licensed area
  - ✓ KIUC provides pump, power for pump and repairs/replacement to pump
- ✓ Annual lease payments to DHHL

# DHHL Benefits

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- ✓ Rehabilitation and maintenance of Pu‘u Lua Reservoir
  - ✓ Provides irrigation storage buffer that will increase water availability to DHHL lands during the dry seasons.
- ✓ Repairs/upgrades and maintenance and operation of Koke‘e ditch
  - ✓ The only mechanism providing water to DHHL lands, improved and more reliable water delivery throughout the project life.
- ✓ Collaboration with KHHA on seed banking program and reserving wood for designated purpose
  - ✓ Koa tree located on dam embankment and must be removed for dam safety requirements
  - ✓ Will continue to collaborate with KHHA on wood use/purpose and seed banking
- ✓ Increased wildfire protection

# Benefits to KIUC Members

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- Partnership with DHHL and other agencies to reduce the impact of climate change by eliminating usage of more than 8 million gallons of fossil fuel per year with an estimated annual reduction of 80,000 tons of CO<sub>2</sub>e.
- Member-owned legacy project that provides long-duration storage, improved reliability and rate stability
- Capable of meeting up to 25% of island power needs
- Generates when solar isn't available
- Increased number of jobs available during the construction phase

# WKEP Project Status

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- 2013 – present: ongoing outreach with beneficiaries, beneficiary organizations and the community at large
- August 2017: Beneficiary consultation report accepted by HHC
- May 2018: Right of entry executed between KIUC and DHHL
- June 2020: 60% engineering complete, including repairs and new infrastructure on DHHL land; report shared with DHHL
- July 2020: HHC accepts final EA for Pu‘u ‘Ōpae Homestead Settlement
- December 2020
  - KIUC signed development/construction/operation agreement with AES
  - Power Purchase Agreement filed with Hawai‘i Public Utilities Commission



# WKEP Project Status

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- March –April 2021: Virtual Community Meeting and Open House held
- June 2021: DHHL offered pre-review of Draft EA and opportunity to comment
- July 2021: KIUC met with beneficiaries in Kekaha at invitation of DHHL
- August 2021: Draft WKEP EA to be published by OEQC
- September 2021: Monthly community outreach meetings to commence in Kekaha and Waimea

# Role of AES

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- Development/Construction/Operation
- AES is proven partner of KIUC
  - Presence in Hawaii for more than 25 years
- AES is a world leader in renewables; experience with similar projects
  - 6,379 MW of hydro capacity in Central and South America
- Financial risk shifted from cooperative to development partner
- AES can take advantage of federal and state tax credits; maintaining the cost of the project which translates into rate savings for KIUC members

# Pu'u Lua Reservoir - Current





# Pu'u Lua Reservoir after Rehabilitation





# Pu'u 'Ōpae Reservoir - Current





# Pu‘u ‘Ōpae Reservoir – During Sugar Operation

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# Mahalo and Questions

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KIUC meeting with  
DHHL/Beneficiaries July 2021

