

DOCKETED

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Waste to Energy proposal and microgrid

Additional submitted attachment is included below.

Environmental Investment Fund, LLC

Renewables to Energy

“We don’t burn biomass — we refine it into clean energy, high-value co-products, and a carbon-negative power supply.”

Kern County Renewable Baseload + Long Duration Storage Hybrid

Partners: Environmental Investment Fund (Lead Sponsor) + Recology + Lokus + BSD Builders + Compass Energy Storage Project

Prepared by Environmental Investment Fund, LLC — August 12, 2025

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1. Feedstock Source & Scale

Recology Kern County currently receives approximately 1,800 tons/day of woody biomass and green waste. Lokus pyrolysis units consume roughly 50 tons/day each, enabling up to 36 units to operate at full capacity. All feedstock qualifies as SB 1383 compliant organics diversion, meeting California’s landfill reduction mandates.

2. Technology Stack

- A. Lokus Pyrolysis Systems
 - Modular 2 MW electric output per unit, 50 TPD throughput.
 - Produces clean syngas for onsite gensets, liquid fuels, and biochar coproduct.
 - Dispatchable 24/7, renewable baseload.
- B. BSD Modular Power Units
 - 2.5 MW each, high-efficiency reciprocating engine platforms.
 - Fuel-flexible: natural gas, renewable syngas blends, or direct use of Lokus-derived liquid fuels (bio-oil/diesel fractions) after conditioning.
 - Provide “always-on” redundancy, black start capability, and rapid ramp-up for islanded microgrid operation.
- C. Compass Energy Storage Project
 - Utility-scale battery energy storage for peak-shaving, arbitrage, and ancillary services.
 - Pairs with baseload Lokus/BSD generation for true long-duration renewable resiliency.

3. Microgrid & Market Integration

- Island Mode: BSD units cover critical loads during outages or BESS recharge.
- Grid-Connected Mode: Lokus units run baseload → surplus stored in Compass BESS → discharged at peak demand for CAISO premium pricing.
- Fuel Optimization:
 - Daytime: Lokus → BESS + grid.
 - Evening peak: BESS + BSD (on Lokus-derived liquids or NG).
 - NG backup ensures dispatch commitment reliability.

4. Sponsoring Entity & Roles

- Environmental Investment Fund, LLC (EIF): Lead sponsor, financing, development, and program alignment with CEC/Kern County.
- Recology: Feedstock aggregation and long-term supply commitment under SB 1383 organics diversion.
- Lokus: Pyrolysis technology provider and performance guarantees for 50 TPD/2 MW modules.
- BSD Builders: Modular power units (NG/renewable liquid fuel), microgrid control, and O&M.
- Compass Energy Storage Project: BESS capacity, interconnection, and market operations.

5. Revenue Stack

1. Electricity Sales: Baseload and peak pricing via CAISO.
2. Tipping Fees: Recology offsets disposal cost by supplying feedstock.
3. Carbon Credits: LCFS + potential voluntary carbon offsets from biochar sequestration.
4. Byproduct Sales: Biochar, liquid fuels from Lokus units.
5. Resiliency Incentives: CEC Community Energy Reliability Program, EPIC funds, possible microgrid grants.

6. CEC Proceeding Fit

- 20-IEPR-04 Microgrids — direct category match.
- 22-ERDD-01 Community Energy Reliability — resiliency + decarbonization.
- 24-BSS-01 Battery Energy Storage Systems — BESS integration.
- 23-ERDD-07 Long Duration Energy Storage Program — hybrid renewable + storage.

7. Kern County Benefits

- Local jobs for system operation & maintenance.
- New grid revenue streams for the county.
- Compliance with SB 1383 organics diversion.
- Reduced wildfire risk through biomass removal.
- Energy independence for critical infrastructure.

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