

AABC Integrated Clean Energy Microgrid

A DOLA Funded Collaboration between Holy Cross Energy, RFTA, the Aspen/Pitkin County Airport and Pitkin County



Work Session Purpose

- Microgrid project implementation update
- Review draft partnership agreement
- Open discussion

Project Overview

Vision Create a regionally resilient and 100% clean energy system that balances production, storage and distribution across four distinct public facilities, generates additional clean energy to the community and create a model for net-zero, resilient public facilities across the state.

Why Lake Christine Fire exposed significant vulnerabilities in our public infrastructure. This project seeks to build resiliency for these core services, while simultaneously building a clean energy system for some of the highest energy consumers in the County.

Who

- (1) Aspen Pitkin County Airport
- (2) RFTA Aspen Maintenance Facility
- (3) Pitkin County Public Works
- (4) Holy Cross Energy electric system operations from Brush Creek Park n' Ride to the Aspen Substation.



Timeline

- 2018 - Lake Christine Fire - Resilience need identified
- 2019 - 2020 Energy Box and RMH studies identified projects to increase resiliency of our power
- 2019 - Pitkin County declared a climate emergency
- 2021 - White Paper completed
- 2022 - Final Feasibility
- 2023 - Design
- 2024 - Construction
- 2025 - Final Commissioning of BESS

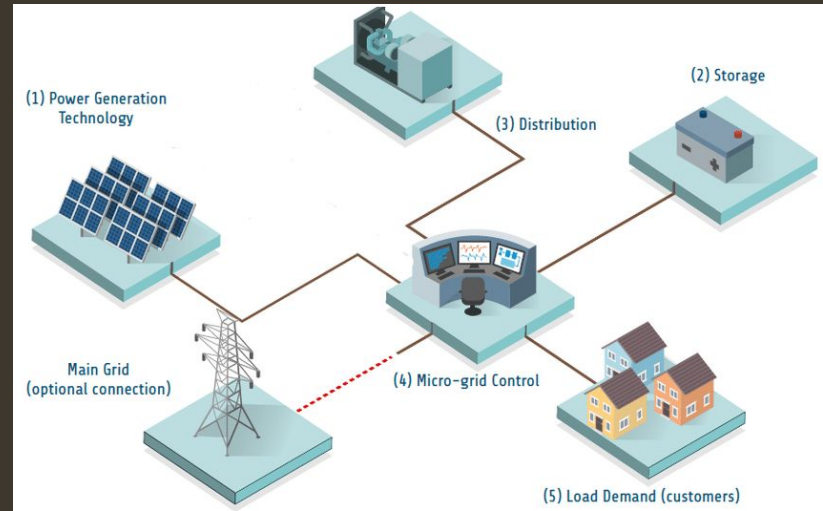


The Final Vision – AABC Integrated Clean Energy Microgrid

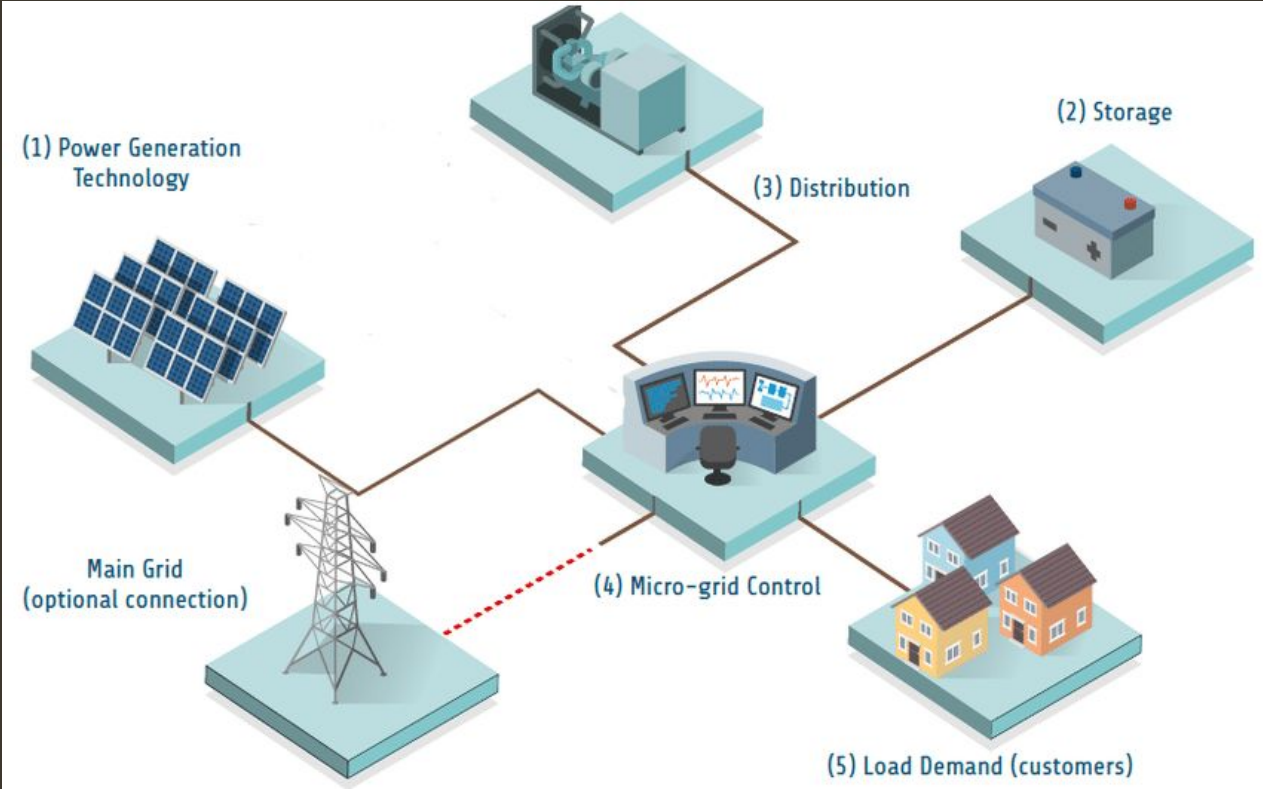
Integrate facilities in a micro-grid system that maximizes renewable energy use at the facilities and the surrounding community, and allows for optimized resiliency. Implement conservation measures and other technologies at later dates as funding opportunities become available and the redevelopment of facilities are complete.

Why?

- Microgrid can have the greatest impacts on meeting climate and resiliency goals
- Advantages of a modularly expandable design and it allows for the surrounding community to directly benefit
- The microgrid could be designed now - conservation measures and heating district are reliant on large scale facility retrofits



Microgrid Components



Where We Are Today

Completed:

- Battery energy storage system (BESS) site adjacent to Animal Shelter on Airport property
- 1.5 MW BESS with 3.6 MWh of storage
- Hiring WEG for ongoing operations and maintenance



Coming soon:

- Microgrid control equipment is being prepared for installation in early 2026
- Final draft of joint Agreement ready for review and adoption



5MW Solar Farm
←

Pitkin County
Public Works
Existing 104 kW
solar PV
Proposed new 100
kW solar PV

RFTA AMF
Proposed 300 kW
solar PV
Potential future
BESS site

BESS
Existing 3.6 MWh
Expandable to 8
MWh

Airport
Sustainable
airport design to
include addl clean
energy aspects



Agreement - RFTA

Agree to own, maintain, and operate as feasibility, priorities, and funding allows in the future:

- A proposed 300 kW PV array at the AMF facility
- A future 1.5MW 8MWH BESS 2



Agreement - Holy Cross Energy

- Install, own, maintain, and operate equipment associated with the BESS yard, as well as microgrid control systems on the grid side that are needed to operate the microgrid.
- Pay Pitkin County a credit of \$10.30/kW/Month for energy received from the BESS as part of the Microgrid Demand Response Pilot program.



Agreement - Pitkin County

- Project lead and fiscal sponsor
- Agree to install, own, maintain, and operate:
 - Existing 104 kW Solar PV array at Public Works
 - A future additional 100 kW Solar PV at Public Works
 - 1.5MW expandable to 8 MWh BESS
 - Property for the BESS and ancillary equipment
 - Enroll in HCE's Microgrid Demand Response Pilot program



Figure 1: Carport Conceptual Solar Layout

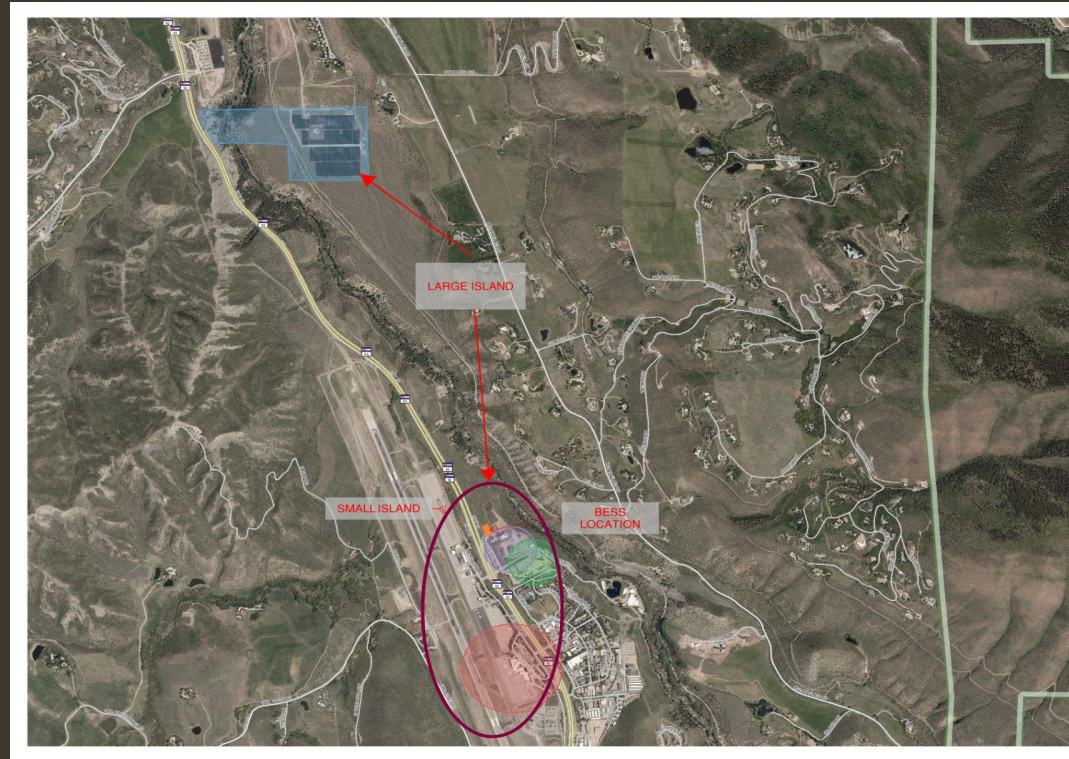
Agreement - Black Sky Operations

Small island

- Public Works, RFTA AMF, Airport, HCE infrastructure
- If Solar Farm is not operational
- BESS is the power source

Large island

- Small island plus the Solar Farm
- BESS and the Solar Farm provide power source



Agreement - Blue Sky Operations



The BESS needs to be 'exercised' and HCE has a need for peak demand energy

HCE Demand Response Pilot

- HCE requests to discharge the BESS to the grid
- Pitkin County voluntarily discharges the BESS
- Pitkin County receives a credit of \$10.30/kW/Month for energy received by HCE
 - Estimated to be approximately \$7,500 per month

Next Steps

- Formalize Agreement with project partners
- Case study and lessons learned
- Future phases
 - Expandable capacity at current BESS site
 - Energy conservation measures
 - 400kW solar at PW and RFTA
 - Geothermal investigation
 - Additional airport energy resiliency?



Staff Recommendation

A first reading of a resolution to sign the Partnership Agreement on December 3rd, 2025.