CLEAN & RELIABLE ENERGY

ACTION

CRE-9 **Pilot battery storage for critical County facilities.**

DESCRIPTION OF ACTION

Replacing fuel-based backup generators with solar power plus battery storage can move the County towards clean reliable technology. Battery storage can extend the benefits of the County's six on-site solar PV systems by storing clean energy when demand is low and supplementing the energy supply during peak use times or when grid energy supply is interrupted. This use case can help reduce the strain on utilities during extreme heat events and may be financially rewarded by the utility.

LEAD DEPARTMENT

Real Property Management

OVERALL TIMEFRAME

Long

SHORT = Less than 1 year
MEDIUM = 1 - 3 years
LONG = 3 years or more

Planning Considerations

IMPLEMENTATION STEPS	TIMEFRAME	KEY PARTNERS
1. Create an evaluation matrix and assess potential pilot facilities.	**SHORT**	• Office of Emergency Management • NV Energy or applicable co-op
2. Identify (and if necessary, isolate) critical energy loads in buildings selected for pilot.	**SHORT**	• Office of Emergency Management
3. Apply for funding/financing/budget appropriation. Consider expected savings and revenue to calculate project life cycle cost.	**MEDIUM**	• Administrative Services • Finance • NV Energy or applicable co-op
4. Procure, install, and interconnect projects.	**MEDIUM**	• Real Property Management • NV Energy or applicable co-op • Pilot department • Consultant
5. Track and report pilot project grid utility savings, energy generation, hours of operation, costs and revenues.	**MEDIUM**	• Office of Emergency Management

FINANCIAL AND TECHNICAL RESOURCES

FINANCIAL

- Building Resilient Infrastructure & Communities (2021), Federal Energy Management Agency

- Revolving Loans for Renewable Energy, Energy Efficiency, and Energy Conservation, NV Office of Energy

- Performance Contract Audit Assistance Program, NV Office of Energy

TECHNICAL

- About Microgrids, Montgomery County MD

- Kaiser Permanente Pioneers California's First Medical Center Microgrid, Better Buildings

- SolarResilient: A Sizing Tool for Solar PV and Battery storage systems, San Francisco Department of the Environment

- Solar+Storage For Resiliency, San Francisco Department of the Environment

- Financing Microgrids in the Federal Sector (2020), US Department of Energy

- Trio of Solar Project Approvals Brings Nevada Utility NV Energy up to 1,000 MW Storage Target, Energy Storage News

CONSIDERATIONS FOR COLLABORATION/ OVERCOMING BARRIERS

- In evaluation matrix (developed in step 1), identify locations that are critical facilities, prone to power outages, due for generator replacement or increase in backup capacity, can safely isolate batteries from the public, already have renewable energy at the location, or already have critical loads isolated.

- Consider at least one large and one small facility.

- Contact NV Energy or electrical co-op about partnering on a pilot project.

- Pursue collaboration with partners like the Public Utilities Commission, NV Office of Energy, University of Nevada – Las Vegas, and Clark County Career and Technical Education program.

- To maximize cost savings, work with electric utilities early to identify incentives, demand management/load interruption programs, and specialty tariffs.

- Ensure appropriate individuals are trained in operation of the solar plus storage/microgrid and identify individuals empowered to make demand response decisions on behalf of a facility.

MEASURING SUCCESS

OUTPUTS*	OUTCOMES*
• Solar plus storage pilot projects	• Reduced operational downtime at pilot facilities • Reduced emissions from energy use at pilot facilities

*An **output** describes what has been created through implementation of the action.
An **outcome** is the level of performance or achievement that occurred based on what was created.