



Basics of Battery Energy Storage

County officials are increasingly being asked to approve Battery Energy Storage Systems (BESS) projects in their communities. As such, the Center has deemed it prudent to increase awareness of current BESS ordinances and industry standards, whether for standalone facilities or accessory uses on existing solar and wind projects. Center staff has reviewed ordinances, where available, and third-party literature to present a brief guide for policymakers to help implement balanced BESS ordinances going forward.

BESS are a solution that allows energy to be stored for later use. Given the ability of many energy generation systems to produce excess power at specific points of the day, allowing that generation to be captured and stored for later use is a critical piece of today's energy and infrastructure system. BESS can draw from, store and discharge electricity to the grid, and while this might be a new concept to most communities, storing energy or other types of fuel is not a new concept. Like gas stations with underground storage tanks, grain silos, propane and ammonia tanks, we can safely and properly site BESS. Existing standards can inform land use treatment of BESS to mitigate risk, including use standards, setbacks, and integrated code safety standards.

To enhance grid stability and mitigate potential concerns of BESS projects, we have identified several areas local communities should consider:

1. Safety

Safety is the number one concern for communities when crafting an ordinance related to BESS. While BESS is a newer technology and will elicit new questions, policymakers and local officials manage safety issues on all types of development in their communities. These concerns are important and should be prioritized, but they are not unique to development overall.

To mitigate risk, policymakers should prioritize safety by incorporating regulations for BESS installations, including fire safety and response standards, hazardous materials handling, and emergency response protocols. Collaboration between fire departments, emergency responders

and the developer is vital to mitigate risks and ensure swift response in the rare case of an incident.

It is important to note that building, maintenance, and fire prevention are already governed under multiple national and international standards and codes, including the National Fire Protection Association Standard 855.

2. Setbacks and Siting

When considering setbacks for BESS, policymakers should consider the existing standards within the underlying zoning district. It is important to remember that all parts of the electrical grid can benefit from battery storage, and as such, projects should not be limited to a particular zoning district. BESS pair well with wind and solar systems or as standalone projects and can safely fit within existing or slightly modified setback guidelines. The National Fire Protection Association Standard 855 provides guidelines and recommendations.

3. Decommissioning Plan

Including a decommissioning process for BESS within the ordinance is an essential component. A proper decommissioning process will promote responsible stewardship of the system, mitigate environmental risks, and safeguard public health and safety. Outlining the decommissioning steps during the permitting process to include environmental testing, recycling options, financial assurance and site remediation will ensure a mutually beneficial life cycle of the project.

4. Technological Expertise

Local planners, engineers, and elected officials have plenty to manage and oversee. Becoming an expert in battery technology should not be a goal or requirement for a BESS to gain local approval. Understanding that developers follow strict national and international guidance and undergo rigorous testing and inspection before technological deployment is key. As a local leader, your responsibility is to ensure proper installation and integration of the project while verifying that the developer's expertise and the system's safety is in compliance with all international, federal, state and local standards and legal/regulatory approvals.

BESS projects can provide great benefit to communities, they ensure grid stability and provide grid operators a tool to enhance grid effectiveness. The Center stands ready to assist in the thoughtful study and analysis of local energy policies. Additionally, we maintain an ordinance database and a compendium of research to support community efforts. We have the resources and expertise to help ensure your community has balanced policies that will enable prosperity in this era of energy diversification.