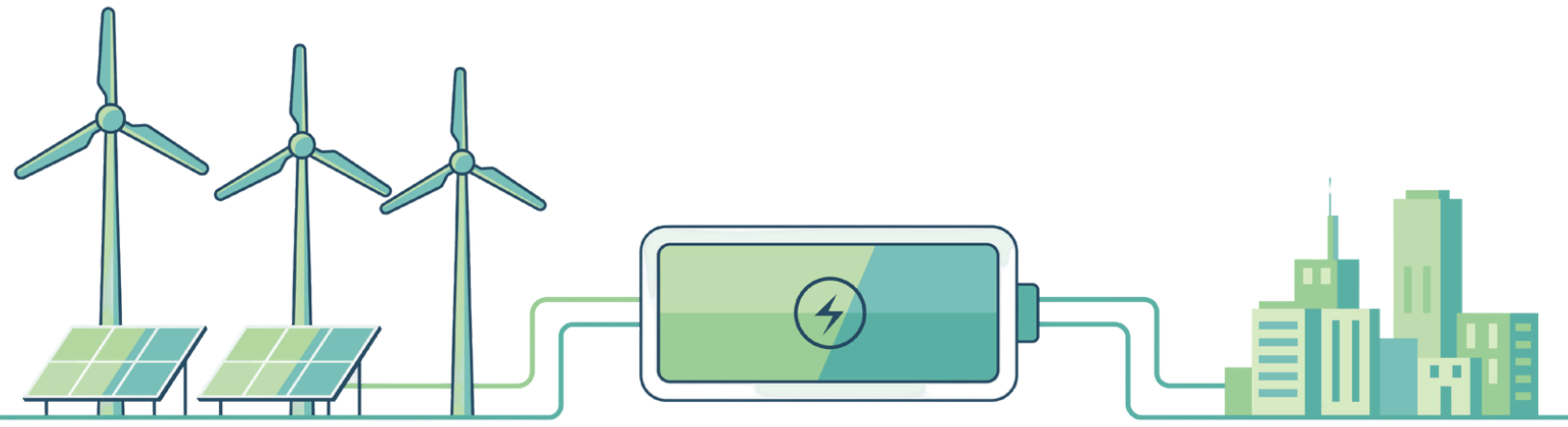
RENEWABLE NORTHWEST

BESS Opportunities and Challenges

Why BESS is becoming more common and what local leaders should consider

What is BESS?

Battery energy storage systems, often referred to as BESS, store electricity for later use. When electricity generation exceeds demand, electricity from all energy sources, including wind, solar, hydropower, geothermal, and natural gas, can be stored in batteries and discharged when additional power is needed.



Why BESS Matters Now

The Pacific Northwest is planning for a more complex energy future. Electricity demand is growing, extreme weather is placing new stress on the grid, existing infrastructure is aging, and utilities are working to maintain reliable and affordable service while bringing new energy resources online.

BESS is becoming more common because it helps address several of these challenges at once. It can store electricity when it is available and deliver it when it is needed most. It can help reduce strain on the grid during periods of high demand. It can support greater use of existing energy resources. It can also help utilities avoid or defer more expensive infrastructure investments, which may help reduce financial pressure on ratepayers over time.

BESS is not a replacement for generation, transmission, energy efficiency, or other grid investments. It is one tool in a broader set of resources needed to support a reliable, affordable, and resilient electric system.

The Opportunities

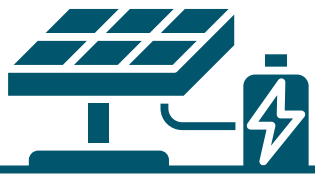
BESS can provide important benefits for communities, utilities, and the broader grid when projects are thoughtfully sited, responsibly designed, and safely operated.

Reliability	BESS can respond quickly when electricity demand changes, helping utilities balance supply and demand and support grid stability.
Affordability	By making better use of existing infrastructure and helping avoid or defer certain costly upgrades, BESS may help reduce upward pressure on future rates, depending on project purpose and utility planning.
Efficient use of energy resources	BESS can store electricity from a wide range of resources, including hydropower, wind, solar, geothermal, and natural gas, helping utilities use available power more effectively.
Local economic benefits	Depending on the project size, location, ownership, local tax structure, and project agreements, BESS projects may generate construction activity, local contracting opportunities, operations and maintenance work, and tax revenue that can support community priorities such as schools, roads, emergency response, public services, and other community priorities.
Resilience	In some cases, BESS can support backup power, critical services, or local reliability needs during disruptions, but only when the project is specifically designed and connected for that purpose.

The Challenges

BESS also raises real questions for local communities. These questions should not be dismissed or minimized. They should be addressed through clear information, strong standards, thoughtful project design, and meaningful engagement.

Siting	Location matters. Communities may have questions about proximity to homes, farms, roads, waterways, substations, transmission lines, and other local conditions. A good project should be able to explain why the site was selected and how the design responds to its surroundings.
Noise, lighting, and visual impacts	BESS facilities are generally low-activity once operational, but they can still raise concerns about sound, screening, lighting, and views. These impacts can often be addressed through site layout, setbacks, equipment selection, landscaping, and project-specific requirements.
Safety	Communities want to understand fire risk, emergency response, system monitoring, and how current safety standards apply. BESS facilities should be reviewed for compliance with applicable fire, electrical, building, and safety codes, including standards specific to energy storage systems.
Public trust	BESS is still unfamiliar to many people. When communities first hear about a project during a formal hearing or after opposition has already formed, it can be harder to build trust. Early, clear, and consistent communication helps residents understand what is proposed, what questions are being studied, and how concerns will be addressed.
Local capacity	Local governments are not expected to be technical experts on battery chemistry, grid modeling, or fire science. However, they do need enough information to ask the right questions, identify the right reviewers, involve first responders early, and make decisions grounded in adopted standards and community priorities.



Key Considerations for Decision-Makers

When reviewing a BESS proposal, local leaders do not need to become technical experts. They should expect clear information that connects the project's purpose, site design, safety standards, community benefits, and long-term responsibilities.

- ☐ **Need:** What grid or local reliability need is the project intended to serve?
- ☐ **Affordability:** How could the project help make better use of existing infrastructure or avoid more expensive upgrades?
- ☐ **Site fit:** Why was this location selected, and how will local impacts be addressed?
- ☐ **Safety:** How will the project meet current safety standards, and have local responders been engaged?
- ☐ **Community value:** What local benefits may result, and who is responsible for long-term operations and decommissioning?

The Bottom Line

BESS can help the Pacific Northwest meet growing energy needs while supporting reliability, affordability, and better use of existing infrastructure. But successful projects require more than technology alone. They require thoughtful siting, strong safety standards, clear communication, early coordination with first responders, and a review process that helps communities understand both the benefits and the tradeoffs.

When local leaders focus on facts, fit, safety, affordability, and outcomes, they are better positioned to guide BESS projects in ways that support future energy needs while protecting the priorities of the communities they serve.

Scan for sources

RENEWABLE NORTHWEST

BESS Opportunities and Challenges

SOURCES:

- American Clean Power (ACP): What is Energy Storage?
- National Renewable Energy Laboratory (NREL): Battery Storage for Resilience
- Electric Power Research Institute (EPRI): Energy Storage Roadmap
- Pacific Northwest National Laboratory (PNNL): Grid Energy Storage
- National Fire Protection Association (NFPA): Energy Storage Systems Safety Fact Sheet
- New York Battery and Energy Storage Technology Consortium (NY-BEST): Energy Storage Safety FAQ
- University of Michigan Center for EmPowering Communities, Planning & Zoning for Battery Energy Storage Systems: A Guide for Michigan Local Governments

QUESTIONS?

Contact renewables@renewablenw.org

