

# Case Study: Long-Term Asset Owner Ensuring economic viability in the early-development stage with Stem's Feasibility & Preliminary Design Service

As community solar experts, this Long-Term Asset Owner in Oregon was now ready to investigate the economic opportunities of adding storage to its existing solar projects across the Pacific Northwest. Seeking battery energy storage experts to validate the approach, they reached out to Stem to investigate project designs and support its economic evaluation. With our Feasibility & Preliminary Design service, we are helping to validate design approaches and evaluate economic viability for this specific project which will advise best practices for other projects going forward.



## Challenge

The Long-Term Asset Owner needs a customized solution for multiple configurations of this BESS to evaluate internally. Not only are they trying to optimize Oregon's four seasons. They are challenged with solar curtailment at this storage site already and are, therefore, particularly interested in the operational degradation of the BESS through its lifecycle. The economic optimization of their capital and operating costs is also a top priority to ensure the financial returns are maximized for the overall project.



## Solution

We take a consultative approach in our Professional Services. The delivery of our Feasibility & Preliminary Design service comes in two phases, meeting weekly with the Long-Term Asset Owner to make sure we're aligned on expectations, deliverables, and timeline. To help them optimize financial returns and revenue streams, we are providing multiple BESS sizes and corresponding hardware configurations - including OEM specifications - required to absorb excess PV energy and deliver that energy at economically advantageous times. We are advising on the considerations regarding the operational lifespan and degradation of the BESS as well as indicative capital and operating costs. And finally, we are guiding them on all analysis assumptions, hardware configurations, and BESS specifications evaluated based on the PV system behavior and cost-effectiveness. This all includes tailored details around the project's ideal equipment sizing, specifications, drawings, layouts, production estimates, and revenue results.



## Results

Taking a consultative – beyond just a transactional – approach empowers the Long-Term Asset Owner with options that best align with their project goals. Whether the BESS design is ideal for the highest revenue, lowest cost to enter the market, most conservative for hardware degradation, or most optimized over the year – for example – they can now evaluate their choices for the best return on investment. And as part of Stem's Professional Services throughout the project lifecycle, they can also leverage Stem's expertise through the Interconnection, Deployment, and Asset Operation stages as needed.

### Location

Oregon

### Project Size

Storage system with a  
240 MW PV system

### Stem Services

Feasibility &  
Preliminary Design

### Scope

- BESS sizing options
- Design optimization

### Utility Region

Pacific Northwest

### Stem Service Date

2024