

Project Name:

DECATUR ISLAND COMMUNITY SOLAR

Innovative and responsive co-op delivers benefits to LMI

Size:

1.0 MW_{DC}

Location:

640-876 Decatur Head Dr, Decatur Island, WA 98222

of LMI customers:

27

Project Website:

<https://energysavings.opalco.com/decaturn-island-community-solar/>

BEST PRACTICES

- State incentives
- State funding
- No cost land lease



Overview

Decatur Island Community Solar is operated by Orcas Power and Light Cooperative (OPALCO). The project is located on Decatur Island in the San Juan Islands, off the coast of Washington State and began operation in July 2018. The installation includes 2.6 MWh battery storage (lithium iron phosphate), which creates a microgrid that can provide four hours of power to approximately 500 households in the event of a power outage on the mainland. OPALCO's grid is connected via submarine transmission cables to mainland Washington State and its power supplier Bonneville Power Administration (BPA).

The five-acre parcel where the project is sited was acquired by OPALCO in the 1950s for a substation. In the first phase of construction at the site, a new BPA tap was added for redundancy on the system, and the substation was modernized. The community solar array was constructed in the second phase of the project and the energy storage module added in the third and final phase.

Subscribers receive monthly bill credits for their allocated solar production. Annual payments from Washington State Production Incentives (administered through Washington State University) were also paid and the fund is now exhausted. Because of the Washington State Incentives and a late breaking grant from the USDA Rural Energy for America Program (REAP), subscribers to this project can expect a return on investment in just under eight years.





Photo Credit: Orcas Video

An up-front investment in the form of a grant from the Bonneville Environmental Foundation was required for LMI to participate in the project, but the lowest initial investment was \$150. For signups, OPALCO first fulfilled requests at the lowest level, then larger allocations were processed in subsequent tranches. The project was sold out in less than a month. Subscriptions are for 20 years, and are transferable within the service territory, but must be forfeited if a subscriber moves out of the territory.

The Decatur Island Community Solar project has an LMI carve-out of 10%. In addition, OPALCO has offered the following low-income assistance programs since 2015:

- Energy Assist is a monthly bill credit (\$30-\$60/month) for qualified low-income households. It is funded through a non-voluntary line item on every members' bill and helps to bridge the income inequality gap within the co-op's territory. Members who are already qualified for other federal and state programs, including Project PAL at OPALCO, are eligible for the credit. Those who are not pre-qualified can complete a short application to

determine eligibility.

- Project PAL provides emergency help during the winter heating season with a once-a-year grant of approximately \$150 per household. Voluntary donations from OPALCO members fund this program.

The microgrid portion of the project was supported through a combination of federal, state, nonprofit, and private partnerships including: The [Bonneville Environmental Foundation](#) (B -E-F); The USDA REAP; and [Washington Clean Energy Fund](#) (CEF). This program funded 50% of the cost of the batteries, yet does not affect the community solar economics.

On-bill financing (OBF) helps LMI members to participate in a community solar program by eliminating any upfront costs and spreading the costs out over time. OBF was not available for this project but will be used on the future Bailer Hill Microgrid Project on San Juan Island in 2023. OBF is offered via the Rural Energy Savings Program, a part of the USDA Rural Utilities Service.

Innovative Approaches

State solar production incentives. The Washington state solar production incentives (now exhausted) played a large part in increasing the financial benefits transferred to LMI and participating members.

Low upfront cost. The equitable subscriber enrollment process allowed LMI members to own a portion of the project at an entry cost of \$150.

Donated funds eliminated the burden on ratepayers. By design, the project was funded by member investors and various grants, so that there were no increases in energy charges to ratepayers.

Adding on a microgrid. [Pacific Northwest National Laboratory's](#) (PNNL) helped OPALCO with initial economic analysis on the microgrid project and provided key lessons that helped to justify the microgrid project. The most valuable benefits were submarine cable replacement deferral and demand charge reduction.

Helping others during the pandemic. During the pandemic, some subscribers donated their solar production credits (for a time-limited period or permanently) to members in need. This was accomplished via a special COVID fund established by OPALCO.



Lessons Learned

OPALCO worked with project partners over many years; building long-term relationships that are being leveraged on future projects. These relationships led OPALCO to Bonneville Environmental Foundation (B-E-F), who helped create an even wider network for OPALCO. These relationships solved a problem of getting materials and crews to Decatur Island – they coordinated barges for transport; and during construction, the crew was housed and fed at a small family-owned store near the site.

As the project progressed, battery technology advanced, and OPALCO switched to newer technology during the project's duration. Not being locked into older technology allowed the project to have more relevance.

The project was new for OPALCO members, and trust had to be built. Education and outreach efforts went on for 12 months.

This case study is a part of the LIFT Toolkit initiative. To explore more case studies and best practices visit LIFT.Groundswell.org
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