



Case Study: On-Bill Financing and Rebates

Overview

The following case study reviews how Orcas Power & Light Cooperative uses on-bill financing and rebates to facilitate beneficial electrification.



Cooperative Profile

Orcas Power & Light Cooperative (OPALCO) is a member-owned, nonprofit cooperative that distributes electricity across 1,200 miles of electric lines to more than 11,000 homes and businesses located on twenty islands off the northwestern coast of Washington (see Figure 5.1). The co-op's power, which is delivered to its unusual service territory by submarine cables, comes mainly from hydro-electric plants operated by Bonneville Power Administration (BPA). BPA's fuel mix is 93 percent greenhouse-gas-free, making it ideal for the beneficial electrification of heating and transportation. However, many utilities in the Pacific Northwest appear intent upon exercising their rights to federal power resources such as BPA. With this in mind, OPALCO is transitioning toward a portfolio of appropriate renewable power that includes new local and regional sources. In the words of General Manager Foster Hildreth, "OPALCO's beneficial electrification program helps our members save money and reduce their carbon emissions."

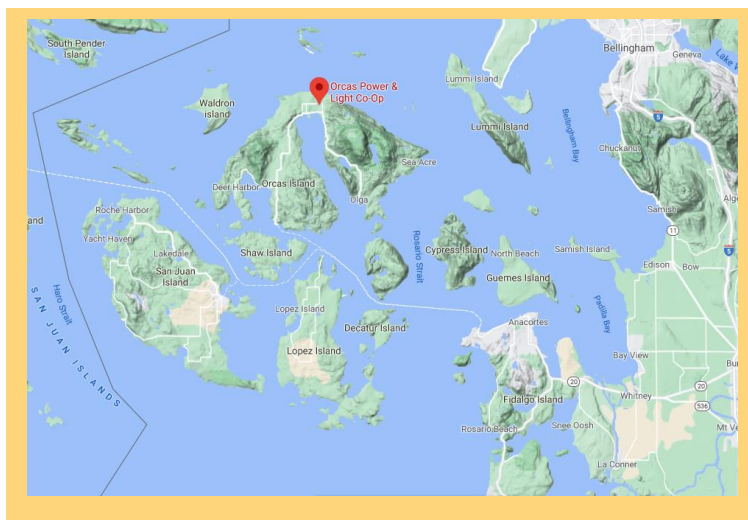


Figure 5.1:
OPALCO service area,
San Juan County, WA.
Map from Google

Driving Factors

OPALCO's move toward promoting beneficial electrification as a strategy embodies several underlying factors and drivers:

- Saving cooperative members money by lowering their total energy budget, not just their electric bills. The co-op sees the 'low-hanging fruit' to be electrification of heating and

transportation loads, which accounts for over 80 percent of a typical homes electric and fossil fuel energy use (see Figure 5.2).¹ OPALCO encourages its members to save on their total energy bill by switching away from gasoline, propane and inefficient baseboard heating. OPALCO estimates that switching to a ductless heat pump can save a member \$800 per year and switching to a clean and quiet electric vehicle can save up to \$1,000 per year.

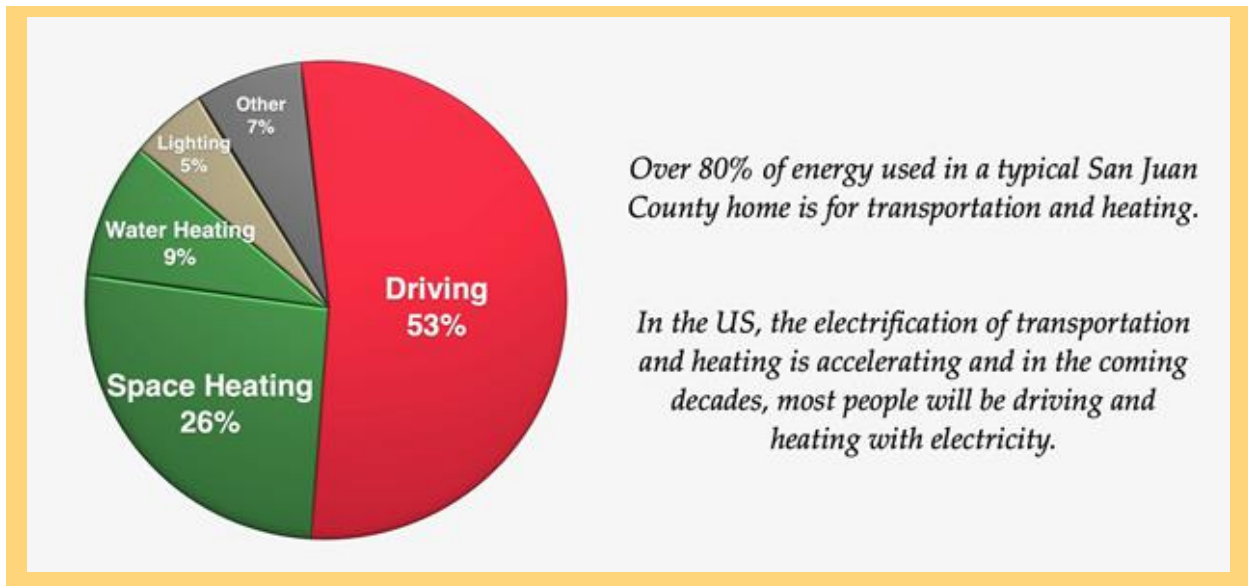


Figure 5.2: Average San Juan County Residential Primary Energy Use.

Image provided by OPALCO. Underlying data from Buildings Energy Data Book, US Department of Energy, US Department of Transportation and OPALCO.

- Taking further actions to reduce emissions into the atmosphere and de-carbonize the economy as carbon legislation in the region imposes new mandates and deadlines.
- Recognizing that the nationwide power grid is going through a transformative period of upgrading to accommodate renewable generation sources and dramatically reduce carbon-based fuels, with trillions of dollars needing to be invested.
- Understanding that renewable energy resources are approaching cost parity with conventional generation types, making electricity a more economical choice. In OPALCO's view, the more the co-op prepares its members for this transition, the better the remote, rural communities it serves will fare.

Financial reality is also at play here. Beneficial electrification enables slow-growth electric cooperatives such as OPALCO to maintain affordable rates by adding load that can be efficiently served. Hildreth succinctly summarizes, "Beneficial electrification is here to stay and our membership loves it. As we make the shift away from fossil fuels, our members depend on OPALCO to provide the tools and resources they need to get ready for a clean, sustainable and reliable energy future. We are being proactive."

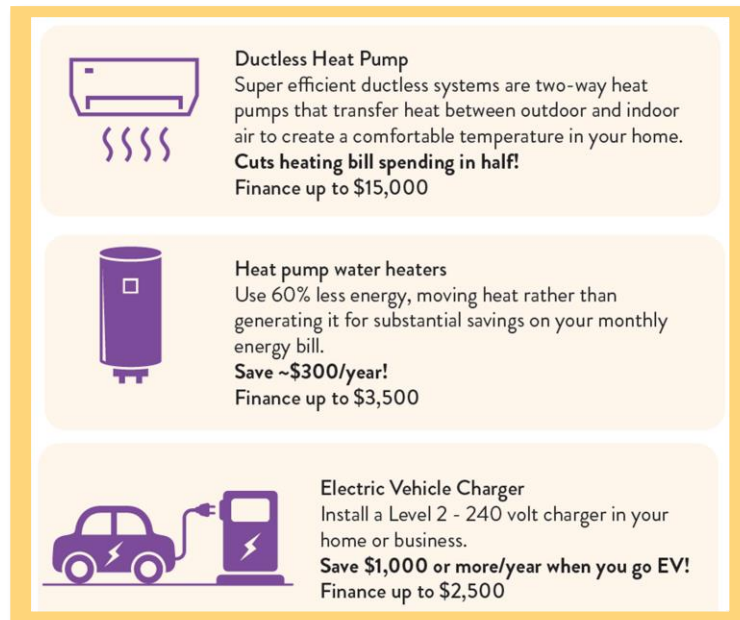
¹ Detailed energy usage and economic information can be found at: <https://www.opalco.com/wp-content/uploads/2017/07/Insights-Energy-Services-How-to-Reduce-Your-TOTAL-Energy-Bill.pdf>

Beneficial Electrification Programs

OPALCO offers two primary programs to reward and encourage beneficial electrification by its members. The first, *Switch it Up!*, is an on-bill financing program funded by the Rural Energy Savings Program (RESP) of the U.S. Department of Agriculture (USDA) Rural Utilities Service (RUS).² RESP provides rural electric cooperatives and other rural utilities with zero-percent loans to launch or expand energy-efficiency financing programs for their members. The infusion of capital from RESP has enabled OPALCO to accelerate beneficial electrification, underwriting co-op members' investments. The second is a program self-funded by OPALCO that provides rebates for ductless heat pumps and electric vehicle (EV) chargers, among other appliances and equipment. Members who use RESP funding under *Switch it Up!* to install a ductless heat pump while converting to electricity can take advantage of both programs.

Figure 5.3 provides examples of some of the opportunities OPALCO provides its members.

Figure 5.3:
Beneficial electrification opportunities highlighted in OPALCO's *Switch it Up!* program marketing materials



Switch it Up! Program

This program offers OPALCO members on-bill financing at a 2 percent interest rate. Adding 2 percent to the zero percent capital provided by RESP enables the co-op to cover administrative costs and thereby avoid cross-subsidization by other ratepayers. The *Switch it Up!* program offers financing for ductless heat pumps, heat pump water heaters, EV chargers and, thanks to a recent change, fiber-to-the-home (FTTH) when paired with an energy-saving measure or device.³ As of late 2020, the co-op had completed 145 beneficial electrification/energy efficiency projects with another 36 in the pipeline for a total investment of \$1.3 million.

² The program is capitalized by a \$5.8 million zero-interest loan from RESP. This initial capital was supplemented with a second RESP loan for \$15 million in 2019. <https://www.eesi.org/obf/case-study/OPALCO>

³ OPALCO subsidiary Rock Island Communications provides the FTTH high-speed Internet service.

Energy Efficiency Rebate Program

OPALCO's rebate program, mentioned earlier, covers a portfolio of energy efficient and end-device energy conversion opportunities, including a limited number of rebates for the following purchases (shown with rebate amounts):

- Advanced power strips (\$25-40).
- ENERGY STAR-qualified clothes washing machines (\$30).
- Ductless heat pumps (\$800).
- Performance Tested Comfort Systems (PTCS) ducted heat pumps (\$700-1600).
- Level 2 EV charging stations (up to \$500).
- ENERGY STAR-qualified clothes dryers (\$50).
- Fuel switching to electric heat.
- General electric efficiency measures.
- Heat pump water heaters (\$300-600).
- Insulation and energy-efficient windows and doors.

The list illustrates the convergence between OPALCO's longstanding energy efficiency program (targeting reduced kilowatt-hours, kWh) and its more recent beneficial electrification program (targeting kWh additions with high electrical efficiency). Similar lists are likely to be seen on electric cooperative web pages across the country within a few years.

Potential Challenges Ahead

While Hildreth sees beneficial electrification as an historic opportunity, he also perceives a possible threat to its success coming from resource inadequacies in the Pacific Northwest. "As more coal plants are closed, our region needs flexible resources to firm up the intermittent resources — on days when the sun isn't shining or the wind stops blowing." He adds that battery technology has developed to the point where it can firm up such intermittent resources for hours, but not days. "As consumers move away from gasoline and carbon-based fuels in favor of electricity, our grid needs to have even more capacity and become even more reliable, not less. EVs alone could add 30 percent to load growth." He continues, "The cost — and timeline — to develop renewable resources and upgrade aging infrastructure — including major transmission lines — is a heavy lift. During the transition, blackouts and power supply issues could hurt confidence in electrification." He notes that an advanced metering infrastructure is a prerequisite for meeting both member expectations under this new utility business model, as well as for complying with some legislative mandates.

What is Unique About OPALCO's Experience?

OPALCO's Hildreth believes that his cooperative has done something unique in setting up a tariff-based solution instead of a loan program for its members to take advantage of efficiency-related electrification opportunities. He has given it a lot of thought, "Being a lender is different than being a

utility. As a lender, you become subject to a number of bureaucratic regulations and laws such as Truth in Lending. Our tariff-based approach avoids this and each project is recorded with the deed so it goes with the house. Another reason our members are better off with no third-party lending institution involved. Financing rates would be higher under that model, perhaps as much as double the two percent we currently apply.” Unique is indeed a fair descriptor for what OPALCO’s program represents. This cooperative’s approach, which closely integrates energy efficiency and end-use electrification measures, has kept electrification costs out of rates and overcome access to capital limitations through its use of RESP funding. It is a sensible approach that has already gained wide acceptance among OPALCO’s members and one worth consideration by other electric cooperatives.

This Case Study is part of NRECA’s report: [Case Studies in Beneficial Electrification – Electric Cooperatives Develop Programs to Build Consumer Value and Meet Climate Change Goals](#), written by Eric Cody, Cody Energy Group, codyenergygroup@gmail.com.