Urban foresters have long worked with utility arborists on managing trees under utility lines to decrease interference and increase safety. More recently, utility companies have recognized that, planted in the right places, trees can reduce energy consumption. This, in turn, makes existing energy capacity go further, reducing the need for additional—and very expensive—new power plants. The partnership between the Idaho Department of Lands (IDL) and Idaho Power has increased the usage of trees as functional infrastructure to address critical issues and has engaged new partners “beyond the zone” tasked with managing these issues.

In 2013, Idaho Power initiated a new program using the Arbor Day Foundation’s (ADF) Energy Saving Trees (EST) web-based tool. Data from an Idaho Department of Land’s urban tree canopy assessment over the two most populous counties in Idaho identified tree planting sites west of homes—locations which provide the greatest energy conservation benefit. This enabled Idaho Power to target these customers and encourage them to sign up for the program, which provides up to two trees per household for planting in specific locations. Customers received 250 trees to plant within the first year.

Many other US utilities are involved in the EST program, but most use utility foundation, or soft dollars. The primary purpose of these efforts is to encourage tree planting for shade, as well as offer assistance for effective energy-saving measures. To support their program, Idaho Power is using funds through its Commission-approved Energy Efficiency Rider charged on customer bills. Doing so necessitates a detailed cost-benefit analysis—in order to sustain the program, the value of the energy saved must be higher than the cost of the program. If the analysis confirms that it is, Idaho Power will sustain the program as part of their corporate energy conservation strategies.

In 2014, IDL, working with Idaho Power and local partners, applied for and received a Landscape Scale Restoration (LSR) grant from the USDA Forest Service. The grant enabled Idaho Power and local partners to increase the trees given to homeowners to 3,000 per year, develop education materials, source trees locally, implement a field evaluation program to measure success, and engage a great network of partners.

To date, more than 7,500 trees have been distributed and planted, which will provide an estimated 5 million kilowatt-hours saved over the next 20 years. Additional evaluation will occur this summer, and completion of the cost-benefit analysis should be completed soon after.

Idaho Power’s Energy Saving Trees program model is focused on efficiency and effectiveness by using trees strategically to reduce energy use and thereby reducing the need to create additional capacity.

A detailed cost-benefit analysis of the program will determine the energy price point at which the value of energy saved exceeds the cost of the program. This data will inform Idaho Power’s desire to sustain and grow this program throughout their service area and will be useful for utilities across the country interested in similar initiatives. Beyond energy conservation, trees also improve air quality, reduce stormwater and increase public health.

For more information:
Idaho Department of Lands
Urban and Community Forestry
https://www.idl.idaho.gov/forestry/community-forestry/