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# eLab Accelerator Explores Resilience Options in Sun Valley

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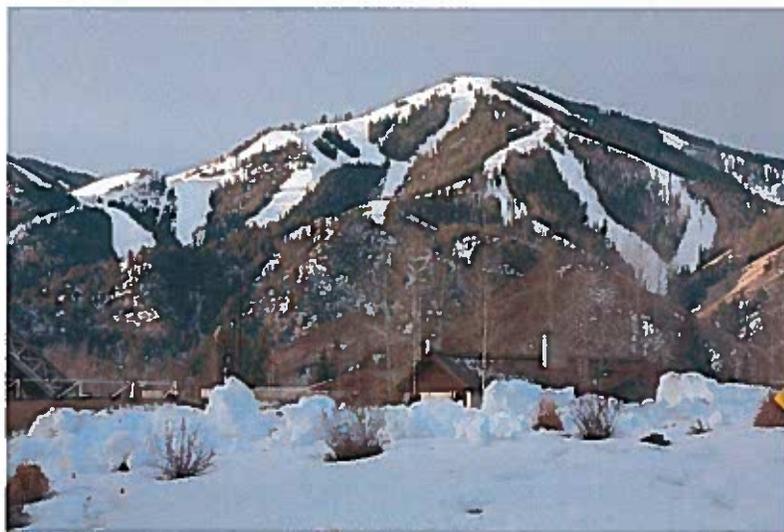
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The city of Ketchum (pop. 2,689) in central Idaho is one of the most popular tourist destinations in the western U.S. Besides the world-class skiing at neighboring Sun Valley, there is abundant fishing, hiking, and river rafting. The region also faces a critical energy and resilience challenge.

Ketchum and Sun Valley sit at the end of the long narrow Wood River Valley, and share many resources, including service from an aging single high-voltage transmission line, which in turn is fed by two transmission lines from outside the valley. When these lines go out of service, the community is without electricity to power its homes and businesses. For example, in 2009, icy weather conditions forced the two feeder lines out of service on Christmas Eve, leaving some areas of the **community without power** for 27 hours. Additionally, planned outages for maintenance of the single line result in short-term loss of energy service to the towns. Events like these expose the community's energy vulnerability.

The outage events caused some people in the community to think about ways to improve resilience "We asked, 'Is there a way to increase job creation and the environmental benefits we want as well as add greater reliability?'" says Aimée Christensen, founder and CEO of Christensen Global Strategies, a global energy and environmental advisory firm. So in 2013, Christensen started convening people in her office and researching options.

### THE NEED FOR RESILIENCE

While Christensen and her colleagues were researching energy options, the Ketchum City Council asked the group to advise the city on energy issues, leading to the establishment of the Ketchum Energy Advisory Committee (KEAC) in early 2014. The KEAC is working to increase the community's energy resilience to multiple risks including the outage described above, future energy price uncertainty, and climate change impacts that affect the ski and summer tourism economies upon which the local economy relies.

To better understand the desire for renewable resources, and work collaboratively with Wood River Valley residents, the local utility company, Idaho Power, launched the Wood River



Renewable Energy Working Group, with representatives from across the community to explore the feasibility of creating one or more new energy products. To inform that effort, the KEAC reached out to industry experts including NRG and NextEra as well as the National Renewable Energy Laboratory. In addition, to engage and inform the broader community on their energy future, the KEAC has held two town hall meetings on local energy resilience options including renewable energy, transmission, energy efficiency, and local energy product and service providers. When Christensen realized she was spending half her time volunteering to support the community's energy needs, the need for more human and financial resources along with the importance of the task led her to found the Sun Valley Institute for Resilience in the spring of 2015.

#### DESIGNING A RESILIENCE STRATEGY AT ELAB ACCELERATOR

In the fall of 2014, Christensen learned about RMI's eLab Accelerator and realized it was a great opportunity to help inform a strategy for resilience in the valley. The eLab team that came to the Accelerator in March was composed of Christensen; Rebecca Bundy, Senior Planner for the City of Ketchum; Dave Angell and Jared Hansen, Customer Operations Planning Manager and Principal Engineer from Idaho Power Company; Shawn Bennion, Electrical Supervisor of Sun Valley Resort (the largest power user in the valley); Scott Browne, Director of Emerging Technology and Business Strategy at NRG Renew; and Andrew Castellano from Earthshine Foundation, an engineer and member of the Ketchum Energy Advisory Committee.

"What was great about eLab Accelerator was being with representatives from Idaho Power and Sun Valley Company, and being able to understand better the issues of the other parties involved," says Bundy. "It was extremely effective in pushing us and helping us open up to the ideas of others in the group and we were able to come up with some commonalities."

At Accelerator, the team reviewed distribution system maps and load data, and explored a range of options to increase resilience, including energy efficiency, promoting more rooftop solar, and evaluating larger-scale renewable energy options including community solar, microgrids, and storage. To immediately benefit the community's energy resilience, the KEAC members are initiating an energy efficiency and rooftop solar program for homes and businesses including offering financing. Additionally, the team committed to explore the generation and grid requirements to meet four levels of electricity load.

- Critical loads—the fire and police stations and the hospital
- Property protection—so that if the power goes out water pipes won't burst in sub-freezing temperatures
- Summer peak load (about 27 MW)
- Winter peak load (about 60 MW)

"eLab Accelerator was the perfect chance to bring all the parties together with the same set of facts and to explore the resilience plan together," says Christensen. "It helped us make sure we were all on the same page."

#### ACCELERATING EFFICIENCY AND ROOFTOP SOLAR

Christensen believes a key next step for the community is to rapidly accelerate energy efficiency retrofits and rooftop solar installations for homes and businesses. The KEAC and the Institute will hold additional town hall meetings for residents and business owners to learn about the opportunity, and the Institute will also undertake trainings for builders and architects who can offer this service as part of their integrated approach to customers.

One key barrier is financing for retrofits and solar installations. Since companies like SolarCity and Sungevity that offer financing aren't active in the area, the Institute for Resilience is working with local lenders to offer financing. The City and the Institute are also working on a report to the Ketchum City Council on how to accomplish the city's energy goals of the city operations being supplied by 100 percent renewable energy, 50 percent per capita energy reduction, 50 percent local renewable energy generation, and 75 percent greenhouse gas reduction by 2030. "I'm working on helping the City reduce its energy consumption and doing outreach to get citizens to do the same," says City of Ketchum planner Rebecca Bundy. "I'm also working on expediting our solar permitting process and further incentivizing energy efficiency and solar installations through our city policies."

The eLab Team is analyzing the solar and other renewable energy potential of the area to determine how much energy the area can produce locally, and the Institute is focused on how to finance the project through a mix of public and private money. Since attending eLab Accelerator, Christensen and the Institute have also formalized their commitment to the project. At a recent Clinton Global Initiative meeting, the Institute announced a commitment to carry out a Community Energy Resilience Strategy for the Ketchum/Sun Valley area. The team from Accelerator has also continued to meet to refine the project goals and identify the best opportunities for immediate and longer-term investments in local, clean energy resources.

#### ANALYZING DATA AND EXPLORING OPTIONS

Idaho Power has provided energy efficiency program information and analyzed electricity consumption, the property protection power requirements, Ketchum's solar resource potential, and the electrical infrastructure necessary to support local generation and resilience. According to Angell, Idaho Power believes that local renewable generation solutions remain costly relative to other options at this time. "However," says Angell, "we agree that exploration of these solutions is worthwhile." The utility also introduced an updated proposal to reduce the cost to the community for a second transmission line in the valley to improve resilience.

Christensen and Bundy agree that the community can be a model for other communities who want to invest in resilience. "Sun Valley can be seen as a Petri dish. We are a highly visible community that cares deeply about resilience. We want to share our learnings with others and be a model for communities around the nation," says Christensen. And she emphasizes the importance of eLab in helping them reach their goals.

"eLab Accelerator was extremely important to help us get started, to get to know the other stakeholders, to hear from national experts, and to grow trust. Bringing the utility together with the community was key. Everyone should be doing eLab," she says. Hansen of Idaho Power adds, "Idaho Power's collaboration with local communities leads to better relationships and better electrical plans. It's a joint effort and the results are better when everyone is at the table, working together."

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