

100% Renewable Energy... When Can it Be Done?

Tahoe Region Tests the Question

by Susan Berry, MA, and Randall Thomas, PhD,
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On April 18 2017, South Lake Tahoe's City Council unanimously approved a resolution committing the city to 100 percent clean and renewable electricity by 2032. On August 10, Nevada City established a similar commitment with a target date of 2030, and on November 28, the Truckee Town Council unanimously approved its own 100% renewable electricity resolution. Each of these Sierra Nevada mountain towns has further committed that all of their energy will be sourced from renewables by 2050.

Ski resorts in the region are setting equally audacious goals. This summer, Squaw Valley Village is welcoming guests with a sky-high building banner that announces: "Squaw Valley Alpine Meadows - 100% Powered by Renewable Energy as Early as Dec 2018".

Work is in progress to achieve this goal through a new "Green Tariff" offering from Liberty Utilities. Squaw is also partnering with Liberty Utilities and Tesla on the 'Olympic Valley Microgrid,' which proposes to use a state-of-the-art battery storage system to store surplus energy – including from renewable sources -- , and deliver that energy to the utility's grid during power outages or periods of high use. Although this system will be sited at Squaw Valley, it will serve the residents and businesses of the entire Olympic Valley community.

Northstar, Kirkwood, and Heavenly (Tahoe region resorts in the Vail Corporation family) have committed to 'Zero Carbon Footprint' by 2030. This means aggressive energy conservation measures and waste recycling, as well as 100% net renewables electricity sourcing. The commitment also includes incentives for renewables-based transportation to/from/within the resorts, as well as forest, watershed, and habitat restoration.

In 2017, the Tahoe-Truckee Plug-In Electric Vehicle Readiness Plan (co-sponsored by Tahoe Regional Planning Authority and the Truckee Donner Public Utility District) described an ambitious platform to encourage electric vehicle use through improved vehicle-charging infrastructure, streamlined permitting, incentives, and public outreach.

Each of these initiatives has required leadership commitment, the backing of customers, collaboration with local residents and utilities, and negotiation with vendors and suppliers.

It's clear that many residents, businesses, and local government units in Sierra Nevada communities want clean, renewable power. Less obvious: How and when this goal can be realized.

John Friedrich, Tahoe Territory Manager for Business and Community Development at Liberty Utilities, believes that 100% renewable energy could be a near-term goal for the region. Liberty already generates and supplies about 25% of customer requirements through its Luning Solar Energy facility, near Hawthorn, NV. The Turquoise Solar facility (east of Reno/Sparks, NV) will soon come online, enabling Liberty to supply 100% of daytime requirements during many times of the year, and 30% of total energy demand from solar. Additional solar and/or battery energy storage projects are proposed for Markleeville (Alpine County) and other sites (pending regulatory approval). John notes:

“The easiest way to reach a goal of 100% renewable energy is to produce as much energy as you consume from renewable sources like solar... Our main priority is to get as many renewables as we can in our overall portfolio serving all customers, and the incentive there is the prices have come down so much that we can pass those along to customers so everyone benefits... The costs of solar panels have plummeted, wind turbine prices have come way down... It's getting to the point where you can have pollution-free sources of energy for less money [than fossil fuel sources], so what's not to love?”

Although Liberty has established aggressive renewables goals, John describes the development of a 100% Renewable Energy portfolio as akin to putting together a puzzle. One example: Solar sources may produce more electricity during the day than needed, but cannot generate energy at night. This means solar must be paired with battery storage or augmented with other renewable sources to supply 100% of customer energy needs at all times. Currently, Liberty adds to its portfolio through ‘no coal’ power purchase agreements with Nevada Energy.

The Olympic Valley Microgrid may soon become a model for additional commercial partnerships on clean, renewable energy. Liberty has applied to the California Public Utilities Commission to create a ‘Green Tariff’ enabling customers to purchase energy from 100% renewable sources, which in turn creates demand to build additional clean energy projects, further accelerating the shift to renewable energy.

“In this case you have customer demands aligning with [Liberty’s] corporate values and economic trends to create a Perfect Storm to ditch coal and other fossil fuel resources and move toward clean, renewable sources.”

Not all customers support this ‘Perfect Storm’. When attitudes are divided on the value of renewable energy, even proactive utilities may find it difficult to create a 100% renewable portfolio.

Jamie Simon, a renewables advocate and businesswoman with investment firm Truckee Ventures, recognized this issue and decided to act. Her vision: Collaboration between concerned community groups to unify regional support for 100% clean and renewable energy, rallying support for Liberty and local project sponsors to make this happen.

To take this vision into action, Jamie reached out to Matt Reardon, Executive Director of the Squaw Valley Institute (SVI), and Jenny Hatch, Executive Director of the Sierra Nevada Alliance (SNA). SVI presents inspirational programs that bring mountain community residents and visitors together to

create a stronger future. SNA unites regional conservation groups to protect natural resources and promote sustainable communities in the Sierra.

When the trio met in a coffee shop to explore the renewables challenge, Jamie advocated a regional campaign as a framework to unify individual projects. This kind of collaborative framework could break down silos, encourage common ground and goals, and leverage member group support for each other's efforts. Matt was soon on board:

“Within the first hour, we realized that I was planning something around resiliency and climate change that was going to overlap something she (Jennie) was already planning. Because there’s no one-stop shop umbrella where you can find out what everybody’s doing with their different initiatives, there’s a lot of overlap and people aren’t communicating as well as they should be even though everybody’s got the same common goal.”

Jenny brought recent success with climate action planning to the table, and also recognized the potential of a regional framework.

“I helped facilitate the South Lake Tahoe [100% Renewables Resolution] group...we started in January and had the resolution passed by Earth Day, by April. It was amazing how fast it moved, and it was such an exciting process, and I thought... ‘What if we duplicate this around the Sierra?’. We got three communities (South Lake, Nevada City and Truckee) all passed last year, and groups in Reno, the Carson Valley and Mammoth are now in process... The next step now is providing the resources to actually achieve the action plans for 100% in these jurisdictions.”

SNA is already building program capacity for climate work by raising funds for staff. One Americorps Civic Sparks position has been placed with the town of Truckee to work on its climate action plan. Another acts as a Climate Change Fellow for the Sierra Business council, supporting business and community education and action in the region. Two Civic Sparks Fellows will work with SNA itself, one coordinating and developing the South Lake Tahoe climate action plan, and one acting as a regional climate action coordinator. This leads

back to the coffee-shop discussion and agreements between Jamie, Matt, and Jenny. The team decided to focus initial regional efforts on North and South Lake Tahoe. As Jamie explains,

“Essentially when you look at a region, you have to look at a utility where the rate-payers are, so in a case like this, the regions are defined by a utility. We decided to focus on Liberty and Truckee Donner PUD rate-payers.”

Outreach began with a meeting of regional community, utility, local government, and business representatives on May 1, 2018. The purpose: Review regional renewables projects already in action, and explore goals for collaborative work. As the team explained in its meeting invitation:

“The first step is to pull together all the constituents in Truckee and Tahoe (as a pilot for the Sierras) who care about climate change and would like to support this regional framework. With a goal of going 100% renewable and reducing our carbon footprint, we can create an online platform for projects to gather input, provide support, and collaborate. If there is enough interest, we will draw up a campaign that supports all of these initiatives and provides a platform to grow the climate movement in our region.”

Three measurable outcomes were proposed:

¥100% renewable electricity by 2030 (or sooner).

¥80% Greenhouse Gas (GHG) reduction by 2050 for Liberty and Truckee Donner Public Utility District rate payers.

¥Pass a Green Tariff for both utilities (offering energy rates to support customers who want to source most, or all, of their electricity from clean, renewable sources like solar or wind).

At the May 1 kick-off meeting, as project after project reported its goals and progress, the room came alive with a sense of possibility and commitment. This response has fueled continuing expansion of the 100% Regional Renewables initiative. Follow-up meetings are building regional collaboration. A priority for incoming staff will be the collection of current, accurate, and unbiased

information on renewables, to set a baseline and determine what is needed to reach 100%. This information will enable project members to:

- ¥Identify regional renewables priorities;
- ¥Support related projects that balance environmental, social, and financial responsibility;
- ¥Encourage utility moves to promote renewables; and
- ¥Establish ways to measure and display progress as member groups take action and achieve results.

Plans are in place to roll out an enhanced portal and website for ‘Clean Energy Tahoe’ at the SNA Annual Conference, to take place in King’s Beach on August 15-17. This website will create a communication station to keep momentum growing, with channels to engage visitors, invite their feedback, and help them discover local clean energy programs. Those who attend the Conference can also find out more on the current action plan and opportunities to participate in realizing the Tahoe Region’s 100% renewables vision.

Your presence at the conference can be a vital contribution. As John Friedrich concludes,

“Community input makes a tremendous difference, and 100% resolutions are heard loudly and clearly by utilities. It’s possible to hit these goals on a more ambitious timeframe than previously thought, and you can partner with utilities to find the way.”

In a Box:

For Further Information:

Join Renewables Project discussions at the Sierra Nevada Alliance Conference taking place August 15-17, 2018 in Kings Beach, CA. Sign up here: <http://sierranevadaalliance.org/2018-conference/> .