

Chugach Electric Association Board Meeting July 25, 2018

Member Comment:

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In the recently concluded Board of Directors election, I campaigned for Chugach Electric to adopt a goal of 100% renewable power generation and develop a plan to accomplish this goal. While I was unsuccessful in my bid to gain a seat at the table, I did receive the votes of nearly 2,000 members who support maximizing the use of renewable energy as the only viable way to stabilize rates and lower the impact of fossil fuels on the environment. It is on behalf of these members that I come before you today, although I strongly believe that my proposal is in the best long-term economic interests of all members of the cooperative.

In my candidate statement I said: “While Chugach is moving in the right direction with projects like Bradley Lake, Fire Island and Community Solar, I want to accelerate the transition to renewable energy sources with an ultimate goal of zero emissions and no rate increases.” During the course of the campaign, I had the chance to meet with the Board and interact with other members and employees. I was actually quite surprised by the enthusiasm expressed for my statement. I expected more opposition from those with ties to fossil fuels and those who simply didn’t think it was possible to do in Alaska what the rest of the world is already doing.

In discussions with both supporters and skeptics of renewable energy, two questions were repeatedly raised. First, “What *exactly* does 100% renewable power generation mean?” And “How does Chugach get there?” These are important questions and I’d like to briefly attempt to answer them.

“100% renewable power generation” implies 100% generation of power for some load. But load demand varies minute to minute and month to month throughout the year. The average annual power generation is an accurate representation of the total power generated by Chugach each year. To achieve 100% renewable power generation means *the total capacity of all renewable power generation sources equals or exceeds the average annual load*. In simpler terms, it means that under best-case conditions, renewable energy sources alone could meet the average demand and zero emissions would be achieved.

In practice, this target is much easier to achieve than 100% *zero emissions* because of the best-case assumptions. The sun doesn’t shine at night and the wind doesn’t blow all the time, so the actual production of renewable energy sources will always be less than the total capacity. Also, peak power demand will, by definition, exceed renewable capacity and the shortfall will have to be supplied by fossil fuel generation - until the day when renewable production equals or exceeds 100% of peak demand. **That remains the long-term goal.**

To see what 100% renewable means for Chugach, I used data from the 2017 annual report to calculate average annual load. Total power sales for 2017 were 1,213,502 MWh. Dividing by 365 days and by 24 hours gives an average annual load of **138 MW**. For Chugach to achieve 100% renewable power generation means access to a total renewable capacity of 138 MW. It turns out that this can be accomplished by the modest expansion of **existing** renewable sources.

As an outline for a plan for Chugach to achieve 100% renewable generation, I offer the following observations and suggestions. On a recent visit to the Chugach Dispatch Control Center, Bradley Lake was generating 40 MW, Eklutna Lake 20 MW and Fire Island 10 MW. Together, these renewable sources were **generating** 70MW, which is more than 50% of the Chugach average load.

The **capacity** of these three sources is considerably greater and far exceeds the Chugach average load, which is the 100% renewable target. Bradley Lake has a capacity of 120 MW, Eklutna Lake is 40 MW and Fire Island is 17 MW for a total capacity of 177 MW in just these 3 **existing** railbelt projects.

Because Chugach owns different fractions of each of these projects, the Chugach share of this capacity is about 42 MW (14+16+12) and does not include the 20 MW capacity of Chugach's Cooper Lake plant. The total capacity available to Chugach from these 4 projects totals about 62 MW, or 45% of the average load. The significant conclusion is that Chugach is currently almost at 50% renewable capacity and that the renewable capacity from just 3 **existing** railbelt projects already far exceeds 100% of Chugach's average annual load.

Moreover, the three projects I've mentioned already have expansion plans which are either under construction (Bradley Lake), have engineering completed (Fire Island) or are seeking utility and regulatory support and approval to proceed (Eklutna Pumped Hydro). In the present environment, there are multiple ways to reach and surpass the 100% renewable target. This is why Chugach needs a commitment to develop a 100 % renewable plan.

The merger of Chugach with MLP offers a unique opportunity in the case of Eklutna Lake. Chugach, MLP and MEA are partners in the Eklutna project. The merger of Chugach with MLP will give Chugach majority ownership in the project and place Chugach in a leadership role for the expansion of Eklutna Lake capacity through the Pumped Hydro concept, which will be discussed later in this meeting. With respect to the merger, I urge Chugach management to carefully consider the implications and impact of financial decisions related to the merger on the ability to raise capital for the future development of renewable energy sources.

Up to this point, I have focussed solely on existing projects to make the point that renewable energy is already a significant and rapidly growing form of generation in the railbelt of Alaska. It's not a question of whether it can work in Alaska. It already is working in Alaska. When you consider new projects, such as wind farms in Cook Inlet or the Tanana Valley, or residential and commercial solar projects, which are already in use throughout the world, the question changes from "Can it work here?" to "Why aren't we doing this already?!"

In closing, I strongly urge the Board to adopt a goal of 100% renewable power generation and develop a plan for achieving this goal in 5 years or less. Thank you.