Looking For Power In All the Right Places

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It is the vision of CVEA to reduce or eliminate our dependence on fossil fuel and stabilize the Cooperative's cost of generation with regional, sustainable resources. It is with this vision in mind that the Cooperative continues to look for clean sources of power that are reliable and cost effective.

Our pursuit of additional sources is outlined in the Strategic Issues Paper 2011 that was provided to all CVEA members. The paper describes some of the areas we have been investigating: wind, tidal, geothermal, biomass, emerging technologies and hydropower.

There is no doubt that hydropower leads the charge (pun intended) at CVEA. Hydropower is clean, reliable and proven. CVEA is expanding its hydropower capacity with the addition of the Allison Creek Hydroelectric Project in the years ahead; however, the addition of Allison will not eliminate our need for fossil fuel.

For this reason, CVEA leadership will continue to evaluate opportunities that have a net benefit to reliability and cost, until the ultimate goal of zero fossil fuel usage is met.

Recently, your Cooperative dedicated extensive resources toward investigating wind and biomass. CVEA erected a Meteorological Tower in Valdez this summer and is now collecting wind data to determine the potential for wind power generation. Additional information and details of this project can be found in the September issue of Ruralite at cvea.org.

CVEA also conducted an extensive review of biomass. This review had a three-pronged effort: looking at the viability of biomass through an internal study, a literature search combined with expert testimony, and an independent consultant's analysis.

The key results of this review follow:

1. Wood biomass is plentiful in Alaska and plentiful in the Copper Basin but it is not abundant as an "opportunity fuel" in the Copper Basin. An "opportunity fuel" is normally a byproduct of a manufacturing process such as a saw mill or lumber company. It normally means the fuel is free or very cheap and its source is located close to the biomass facility, reducing or eliminating transportation costs. Most examples of successful biomass projects are located in the Lower 48 utilizing "opportunity fuel" biomass. Most examples of successful biomass projects rely mainly on heat revenues and not power production revenues.

2. There are only a few examples of successful biomass projects in Alaska. These projects rely heavily on state assistance and funding to make them successful. In some cases, biomass is an "opportunity fuel" such as recycling materials or biomass created by forest fire management in the Division of Forestry. None of these projects are currently producing power with biomass.

3. Given the lack of "opportunity biomass" in the Copper Basin, in order for CVEA to utilize biomass to produce power,

CVEA would need to purchase biomass, transport that biomass, store the biomass in a way to keep moisture down and then feed the biomass into a furnace. It is important to note that the more you handle this fuel, the more expensive it gets. Using realistic cost estimates, the independent consultant's analysis shows the cost of power for biomass at two to three times higher than the cost of power with diesel fuel.

4. The reliability of power created from a biomass furnace would be a problem for CVEA. A biomass furnace has a slow reaction time to changes in load and it takes several hours for startup and shutdown. A biomass generator does not have the capability to be started remotely under a power outage condition like the capability of our diesel generators.

5. It is unknown what emission rules will be in place after the project is built. The Environmental Protection Agency has a temporary deferral on biomass emission limits, but this temporary deferral will end in two years.

While there are initiatives in the Copper Basin that may benefit from biomass for heat, such as the proposed Glennallen and Kenny Lake school projects, the results of CVEA's biomass study concludes that it is not a viable option for CVEA to utilize for power production. Generating power from biomass at a commercial level would reduce reliability while increasing rates, and this is not in the best interest of CVEA members.

CVEA continues to look for clean, reliable, cost-effective power in all the right places, but as far as biomass is concerned, it is off the list for now.

For more information, visit cvea.org for a copy of the Independent Consultant's Analysis on Biomass and to review the Strategic Issues Paper 2011. ■

Top, wood chips at a biomass storage facility

Photo courtesy Colorado State University

Above, transportation significantly adds to the cost of this form of fuel

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