

Ferguson: Energy Matters

September 1, 2006

Tehachapi Money

Politicians generated a lot of media attention this week by passing bills to reduce greenhouse gas emissions responsible for global warming and to limit emissions from power plants. Now that the politicians have left town for the campaign trail, it's time to get real.

How will the state accomplish these lofty goals? By building clean energy projects like Tehachapi. That cannot happen until the utilities step up and start signing contracts for the electricity.

A project as big as the Tehachapi Wind Energy Project requires lots of capital. Estimates are in the neighborhood of \$10 billion. Before Wall Street coughs up that kind of dough, financiers need to know how it will be paid back.

That's where the details get important. Upgrades to California's high-voltage grid to enable it to accept this power are in the final planning stages and estimated to cost approximately \$800 million. If approved by the California Independent System Operator and the Federal Energy Regulatory Commission as expected, investment of this capital by Southern California Edison would be repaid by wholesale users of the grid through the transmission access charge.

So far so good.

Next comes the lower-voltage transmission lines that tie wind power generators to the grid—the gen-ties— with an estimated cost of perhaps \$200 million. Under FERC rules, the wind developers are responsible for funding these facilities. Their lenders would be repaid with the proceeds from selling power. For larger wind projects that connect individually to the grid, this should not be a problem.

Here's where the first problem comes in, though. Several smaller projects are located miles from the grid. It is neither cost-effective nor sensible to have each of these projects building individual gen-ties. The amount of wire strung over the hills of Tehachapi should be kept to a minimum. Therefore, some of the gen-ties will be communal, serving several projects. The financing of collective gen-ties gets more complicated, since no single generator can finance the facilities needed by all.

To avoid this problem, last year Edison filed a request with FERC asking that the collective gen-ties be treated as network facilities with costs recovered through the grid operator's transmission access charge. FERC said no—in no uncertain terms. One alternative now under discussion is another request to FERC to allow Edison's investment in the collective gen-tie facilities to be merely guaranteed by the grid operator, with generators taking over payments as they come on line and use the facilities. CAISO wholesale customers would be on the hook for costs only if the lines were underutilized.

A second alternative was put in place by the California Public Utilities Commission at the direction of the Legislature—a "backstop" funding mechanism now in Section

399.25 of the Public Utilities Code. Under this scheme, utility investments would be guaranteed by retail ratepayers. Unfortunately, there are many details left to be worked out by the CPUC, but if the first alternative fails to pass FERC muster, this backstop should make financing possible.

That adds up to \$1 billion of the \$10 billion.

The big money is the cost of the wind turbines themselves, a cost that has grown sharply in recent years. Three thousand large turbines will be installed by several different developers at a cost of perhaps \$2.5 million each. These machines are not your grandfather's windmills.

It should come as no surprise that the folks supplying the capital to buy these machines want evidence that developers can repay the money. In most cases, this will require power-purchase contracts with creditworthy buyers. Few developers have pockets deep enough to risk significant investment in a "merchant" project, one without a guaranteed customer.

To date, there has been little interest in contracts for Tehachapi wind power, since the grid is currently unable to accommodate it. But this must change when the network upgrades are approved by the grid operator. Once a commitment is made to expand the grid, it would be crazy not to use it.

Lawyers will have a field day arguing about the contract maze through which all this cash will flow. In the meantime, utilities need to get serious about buying the electricity that will be available from Tehachapi before long.

—*Dr. Rich Ferguson, Research Director, CEERT,*
rich@ceert.org.