

## **Ferguson: Energy Matters**

January 18, 2008

### **Promises, Promises, Promises**

The older I get, the less patience I have with grandiose plans. With my time running out, I much prefer to see real progress than to hear promises.

California has decreed that its electricity future will be quite different from its electricity past. Existing law requires utilities to obtain 20 percent of their electric energy supplies from renewable energy resources, for example. The initial deadline for doing so was the year 2020, which was accelerated to 2010 and then recently relaxed to 2013. In addition, further reductions in the use of fossil fuels to generate electricity are expected to be mandated by the Air Resources Board to limit climate change.

What are the chances that these goals will be achieved in my lifetime? Let's see....

Achieving the one fifth renewable energy goal will require the addition of a prodigious amount of energy from the sun, wind, geothermal, and biomass. According to my estimates, which assume that per capita consumption trends continue, the amount of renewable energy that must be *added* to the system is about equal to the total electric energy now provided by the state's nuclear power plants.

This is to be accomplished in less than six years—5 years, 11 months, and 13 days, to be exact.

Hundreds of contracts with renewable developers must be signed, projects permitted, financing arranged, and projects built. Even more daunting, major changes in the state's electric transmission system are needed, for which planning is just beginning. Permits are required, litigation is certain, and construction takes many years.

All this is to be accomplished in less than six years, if state law is to be obeyed.

Doing so by 2020 would be a stretch. Doing so by 2013 will be nothing short of heroic.

I remain optimistic enough—at least on my good days—to believe that the 2013 deadline can be met. But, it will take an unprecedented commitment from the myriad organizations involved. Sadly, these organizations don't seem to understand the magnitude of the challenge they pay lip service to nor the urgent need for immediate action.

Think about it! California's four humongous nuclear units, two each at Diablo Canyon and San Onofre, crank out about 34 billion kilowatt-

hours of electric energy a year. (One billion kWh is known in the trade as a terawatt-hour, TWh.) The state needs that much energy flowing into the grid from new renewable power plants to meet the 20 percent goals. In less than six years.

There simply isn't time to sit around fantasizing about futuristic energy from ocean waves or undersea transmission lines to British Columbia. There isn't time to wait for everyone to put PV panels on their roofs, replace their old windows, and buy a new fridge. All that good stuff certainly should be encouraged, but let's not kid ourselves about how fast it will happen.

The Renewable Energy Transmission Initiative (RETI) has taken on the task of figuring out what transmission facilities are needed to access California's renewable energy resource areas. To do so, decisions must be made about which areas will be developed. How much time will that take?

Then detailed designs of the transmission facilities must be developed and approved by the California Independent System Operator to ensure the lights stay on and permits to construct them must undergo California Environmental Quality Act review by the California Public Utilities Commission and multiple agencies. The CAISO must also get approval from Federal Energy Regulatory Commission to reform its interconnection process. How much time?

Equipment must be ordered and hundreds of miles of power lines built. How much time will that take?

While all this is going on, developers must sign contracts with utilities, obtain financing, and construct their projects.

It's a very, very tall order. Every organization involved has its own agenda, and operates under a different set of laws and jurisdictions. Environmental groups and the general public will have their say in the process as well.

For better or worse, the job of herding all these cats has been handed to RETI. An august group of experts has been assembled to form the RETI 'stakeholder steering committee, but progress to date has been agonizingly slow.

Today must be one of my good days, because I still think the task is doable. But it will take a monumental and concerted effort by everyone from the governor on down to pull it off.

On Tuesday, January 22, RETI will hold a public meeting in the SMUD auditorium at 9 AM to describe what has been done and what is coming up and to answer questions. Readers are encouraged to attend and urge the RETI participants on to success. For details, check the RETI web site at [energy.ca.gov](http://energy.ca.gov).

—Dr. Rich Ferguson, Research Director, CEERT, [rich@ceert.org](mailto:rich@ceert.org).

*Opinions expressed by DrF are not necessarily those of any organization  
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