



CALIFORNIA  
**Energy Circuit**  
AN INDEPENDENT PUBLICATION

## Overseer's Undercurrent: The Cost of Doing Good Things

March 09, 2007

Whenever I speak at conferences about California's novel and pioneering energy policies, someone invariably asks the question "Has anybody ever figured out how much this is going to cost?"

Often, it seems that person comes from the Pacific Northwest, or from a medium-sized municipal utility - places where fealty to "least-cost" utility operations and dogmatic belief in low-cost hydroelectricity as the benchmark for other options appear to be part of the job description for all employees.

Rather than trying to provide a dollar-figure answer, I usually confound the questioner by saying, "Well, our best estimates are that it's actually going to save people money in the long run."

Yes, there are always initial costs. The price is both in financial terms and in the psychological costs of trying to get people and institutions to do things differently. But when some of our best minds actually start putting pencil to paper (or, less poetically, keystrokes to spreadsheets), some of California's most ambitious energy policies are expected to provide net benefits compared to the costs of doing business as usual.

I have two prime examples: energy efficiency and renewable energy.

It is a matter of public record and regulatory policy that utility efficiency and conservation programs cost less to implement than the value of the energy that they will save. Just last month, California Public Utilities Commission president Mike Peevey updated lawmakers on current issues at the agency, touting the \$2 billion investment in efficiency that regulated utilities will make between 2006 and 2008 and promising a two-for-one payback for the investment.

A little over a year ago, consultants for the Center for Resource Solutions were asked to analyze what it would take for the state to increase its renewables portfolio standard (RPS) commitment to 33 percent. That amount is still not formal state policy, but regulators talk about it enough that many people outside the state assume that it is.

Even though an increasing number of us are concerned about the ability to meet the current 20 percent goals by 2010, that is more a matter of transmission system logistics, contracting hang-ups, and technology availability in the short term. The Center for Resource Solutions paper, issued in November 2005, looks past those near-term bumps in the road and finds a strong likelihood that "The RPS will result in small average rate increases through 2021, and beyond that will produce long-term rate savings."

From 2011 through 2020, the projected increased costs would amount to \$1.26 billion - about a half a percent rate increase. Then from 2021 through 2030, the initial capital expenses are offset by savings (compared to what would be expected without the renewables). Those savings result in a net benefit of \$175 million for the decade. Modest savings, yes, but as we are fond of saying in my household, "better than a poke in the eye with a sharp stick."

There are short-term costs, to be sure. Currently, some utilities are trying to capture those costs from prospective renewable resource developers. I just learned that Idaho Power has a proposal to ding wind generators by \$10.72/MWh for the costs of integration with its distribution system - compared to the wholesale power rate of about \$62/MWh. Idaho Power is trying to discount wind to \$51.28/MWh - paying wind producers \$10.72/MWh less than the \$62/MWh to offset higher costs of incorporating wind into the system.

That's just one of the many limitations the utility is seeking to impose on wind; another is restricting contracts to facilities with more than 10 MW of capacity.

Now, recognizing that Idaho Power is (a) in the Pacific Northwest and (b) about as conservative as

the potatoes that grow there using subsidized water and power, I would suggest that the utility is either (c) imposing unfair barriers to competition or (d) ripping off wind generators.

Not surprisingly, utilities and many regulators do not hold wind in particularly high regard as a resource because they value 24/7 types of generation, like coal and nuclear. Being intermittent by nature (there's an anti-slogan for you), wind is not always blowing when customers are consuming electrons and therefore the "firm" peak-load-meeting value of wind is practically nil.

But it still has value for displacing coal or natural gas. It has a recognized, but not yet fully quantified, value for producing zero carbon emissions. (CO2 has yet to be priced on a major scale.) Admittedly, there are costs associated with wind power beyond towers, turbines, and blades and building the needed transmission lines to access its oft-remote locations.

Over the past few years, there have been many studies to enumerate the integration costs of wind. One of the best and most thorough has been conducted by Xcel Energy, which arguably holds the nation's largest portfolio of wind power contracts. Recently, Xcel gave a presentation on the study that was prefaced with another not-always-recognized benefit of wind. According to the company, "Our customers want it and are willing to pay for it."

Bottom line of the analysis: at a 10 percent penetration rate (wind making up 10 percent of the utility's resource base), the incremental costs of wind - largely from increased need for grid regulation services, some noneconomic dispatch of other resources, and altered gas dispatching - amounted to \$3.51/MWh. At a 15 percent penetration rate, that rises to \$4.77/MWh.

Several other utility studies of a 10 percent scenario have estimated the costs at \$3 to \$4/MWh.

The utility is looking into a 20 percent wind penetration, and preliminary figures are higher in the \$8 to \$9/MWh range, but Xcel confessed that the incremental jump seemed suspicious, and the analysts are going back over the figures to see whether anything is amiss.

Now, Idaho Power says it has a 10 percent wind penetration rate, so at best they are double-charging the generators.

So there's another big difference between California and much of the rest of the world. Where they see costs and impositions, we see benefits and opportunities for gain.

Next time, we'll take on the prospective costs of achieving carbon reductions.

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