

Building a Green Economy: Green Jobs, Transmission Lines & Microgrids

Mon Aug 31, 2009 2:23pm EDT

By Peter Asmus

Imperial County, tucked away in the southeastern corner of California, has long suffered from perennial unemployment rates exceeding 20 percent.

Yet Imperial County is also home to the "crown jewel" of all geothermal steam resources in the U.S., making it a prime spot to showcase how renewable energy can help spur the new green economy so enthusiastically touted by the Obama Administration.

Late December, the California Public Utilities Commission (CPUC) approved the construction of the \$1.9 billion Sunrise PowerLink transmission line, which could send clean electricity from Imperial County to San Diego. However, the Center for Biological Diversity (CBD) petitioned the California Supreme Court last January to review this decision, citing San Diego Gas & Electric's (SDG&E) refusal to guarantee that the transmission project would be reserved exclusively for renewable energy resources.

Given that SDG&E is lagging far behind in meeting state mandates to boost renewable energy supplies, the utility's reluctance to commit itself to renewables was puzzling. Critics fear that SDG&E and its parent Sempra might have perverse motives. Among them: importing dirty power from Baja California, where Sempra co-owns a Liquefied Natural Gas (LNG) terminal.

Are Enviro Part of the Problem?

When talking about the big picture, environmentalists have always been strong advocates for displacing fossil fuels with renewable energy options. But they often emerge as key adversaries when specific projects are proposed near their favorite parks or other preserved habitats. In this case, they contend the Sunrise transmission line would damage precious habitat and endangered species as it traverses the Cleveland National Forest.

Being a long time environmentalist myself, I can appreciate why many environmentalists might reflexively oppose new transmission lines, even if they connect to renewable energy facilities. But I am also concerned about global climate change and the current economic crisis.

CBD has proposed to invest the \$1.9 billion in ratepayer funds to install new solar photovoltaic (PV) systems in San Diego itself, obviating the need to build the Sunrise transmission line at all. Since solar PV installations generate more jobs per dollars invested than any other renewable energy source, that might not seem like a bad idea. But solar PV is also the most expensive of all current supply choices, and PV systems only produce power for 5 to 7 hours per day.

It's All Good - Geothermal and Solar Power

The result of volcanic activity that traps hot liquids below the earth's surface, geothermal energy's main advantage over solar PV is that it can provide round-the-clock electricity that can directly displace that from dirty coal or natural gas power plants. Since geothermal costs less than a third of the cost of solar PV, ratepayers would be getting a better deal with development of geothermal resources in Imperial County rather than with rooftop solar PV in San Diego. As many as 20,000 jobs in Imperial County alone hang in the

balance.

The key to making a green economy work is diversity: diversity of renewable supply, diversity in the workforce, and diversity of regions tapped to deliver clean energy. A host of studies all project that California would rank No. 1 in the country in the creation of jobs under a federal program to respond to climate change by expanding reliance upon renewable energy.

But lately, bureaucratic complexity, foot-dragging utilities and the NIMBY syndrome have given California a black eye. Not only did we lose our national lead on wind power to Texas in 2006, but Iowa passed us last year.

Microgrids: The Ultimate Solution?

Ultimately, our power delivery system needs to shift to the local level. A key concept is the "microgrid," mini-islands of power fueled by distributed solar, wind and Combined Heat & Power (CHP) plants. There are some who say that transmission lines should be our least priority, and in many ways, I side with that argument. I recently spoke with a former San Diego Gas & Electric renewables expert who jumped ship to a new firm focused on microgrids. He argues that microgrids, which can pool smaller distributed resources into a bundle that can be "islanded" during times of grid outages, is a hedging strategy to move forward with renewables while waiting and seeing if any of the proposed transmission lines on the drawing boards ever get built.

While I think the microgrid will be the wave of the future - since they allow us to rely on our own solar PV, small wind turbines, fuel cells and CHP units when the larger grid goes down - this model faces its own resistance from utilities. At present, there is no coherent strategy or program to foster this sort of innovation at the distribution level.

Pushing Forward On All Fronts

The challenges facing us on the energy front are so grave, I think we need to push forward with all options, since politics, economics and unforeseen circumstances tend to derail even the best intentions.

If transmission lines similar to the Sunrise PowerLink are not built soon, California will never meet its global climate change goals or deliver on the promise of green jobs. The CBD lawsuit could put Sunrise on hold for years to come. But it also serves as a reminder that the only way to get buy-in from environmentalists for new transmission lines is to guarantee that these ratepayer investments serve the green economy, and not the vested interests of utilities perhaps looking to line their own pockets.

Reprinted with permission from Cleantechies

© Thomson Reuters 2009. All rights reserved. Users may download and print extracts of content from this website for their own personal and non-commercial use only. Republication or redistribution of Thomson Reuters content, including by framing or similar means, is expressly prohibited without the prior written consent of Thomson Reuters. Thomson Reuters and its logo are registered trademarks or trademarks of the Thomson Reuters group of companies around the world.

Thomson Reuters journalists are subject to an Editorial Handbook which requires fair presentation and disclosure of relevant interests.