

**Accelerating the Solar Economy
SolarTech/CALSEIA Solar Summit
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This was the first annual Solar Summit sponsored by SolarTech¹ and CalSEIA (California Solar Energy Industries Association)².

Miriam Horn, of the Environmental Defense Fund (EDF)³ and author of *Earth: the Sequel*⁴, warned the U. S. is falling behind in solar and clean-energy technologies. Of the top 30 leading companies in these categories worldwide, only six are American. We should lead, but it's getting not just scarier, as we've exceeded the scary part. California has gotten lot warmer and the fires there now burn longer and start earlier. (The current Santa Barbara fires are good examples.) The good news is that we have a White House that understands climate change; lots of money (\$150 billion) have been allocated for renewable energy; another \$150 billion over the next 10 years will be spent for education and training in renewable energy.

The most interesting efforts today are in high-efficiency, thin-film solar and creating solar fuels, like the efforts being undertaken by Dr. Daniel Nocera⁵ at MIT who is creating 'solar soup'. Sandia National Labs is working on hydrocarbons. Most important question now is, "How do you deploy solar fast enough?" In this regard, if you are not at the table, you are on the menu! The EDF, the University of Texas at Austin, a bunch of companies, and the City of Austin are working on innovative solutions—interconnects, solar-ready buildings, real-time monitoring of appliances, LEED-certified buildings, smart grid—to make Austin one of the most energy-efficient cities in the U. S.

California's PG&E is one of the most far-sighted utilities, thanks to the decoupling California adopted in 1982. California is also the most energy-conscious state in the U.S.: Per capita energy consumption in California over the past 30 years has remained steady, whereas it has increased by 50% for the U. S. in the same period and tripled since 1960.⁶ We should also accelerate the deployment of marine energy without detrimental effects. Applauding both SolarTech and the CALSEIA for their efforts, she said the groups have "done a lot of important groundwork" for the solar industry, so much so that the rest of the country benefits as a result. "I don't know what the U. S. would do without California."

Fong Wan, Senior V, PG&E, provided a summary of the utility's initiatives in clean energy:

- Three big plans—100 MW solar plant in the Mojave Desert; medium 1 MW to 20 MW plant and smaller than 1 MW plants being planned elsewhere
- Abiding by California's long-standing policies of lowering carbon footprint
- ~30 years of decoupling of rates
- Thirty states in the U. S. have RPS—renewable portfolio standards; 20% of California's energy comes from renewables, and it will exceed 30% soon
- PG&E continues to push into traditional energy sources (biomass, small hydro, geothermal, and wind) and exploring new sources (biogas, concentrating solar thermal, concentrating PV, and wave power)
- Since 2002, PG&E has committed to over 4,000 MW of renewable sources

¹ <http://www.solartech.org/>

² <http://calseia.org/>

³ <http://www.edf.org/home.cfm>

⁴ <http://earththesequel.edf.org/book>

⁵ <http://www.mit.edu/~chemistry/faculty/nocera.html>

⁶ http://www.masstech.org/renewableenergy/public_policy/DG/resources/2006-08_NARUC_Risser_Decoupling_CA-2-Decades.pdf

- Distributed vs. Utility Scale Solar

Photovoltaics

- Proven, commercially ready technology
- Costs are decreasing
- Modular/rapid deployment
- Project size avoids transmission upgrades
- Utilities now eligible for investment tax credits
- PG&E accounts for over 50% of all solar installations in the U. S., while serving only 5% of the U. S. population

Sue Kelly of CALSEIA summarized the regulatory landscape in California where solar markets are tied to legislation and regulation. CA has the most aggressive solar acts and codes and over 50 bills underway in Sacramento.

Gov. Arnold Schwarzenegger, one of the few Republicans who believe in climate change and global warming, called Silicon Valley the most innovative place in the world. Every time he flies over California in a helicopter, he said he sees blank roofs. "There should be no rooftop in California without a solar panel," he said. "Every

*"Over 90% of the Republicans in the U. S. Senate don't believe in climate change and global warming."
Sen. Barbara Boxer, D—CA*

rooftop I see without solar panels is a waste of space." He wants to make the Golden State the Solar State. He would also like to see consistent energy policies from the Federal government. Every time we hit an energy crisis, we talk about alternative energy sources (or go to a war). When the oil prices come down, we're back to our old habits (see sidebar).

Miscellaneous

Tom McCalmont, CEO, Real Goods Solar⁷, emphasized the need for consistency and standards in permitting processes. For instance, installing solar panels on roofs in some cities requires a simple inspection, whereas other cities require a detailed structural analysis, thus adding to hidden costs.

Eric Wesoff, Greentech Media⁸, mirrored Gov. Schwarzenegger's view: What is happening is not disruptive technologies, but disruptive policies.

Mayor Chuck Reed of San José said his aim is to morph Silicon Valley into Green Valley and make San José the innovation center of the world in cleantech/greentech. His goals are:

- To use 100% renewable energy
- Help in California having a million solar roofs
- Apply Moore's Law to solar energy
- Create 25,000 cleantech jobs in the private sector in San José.

Inconsistent policies? President Jimmy Carter had solar panels installed on the White House roof during his administration (1976-1980) and pushed for alternative energy sources. Then, when Reagan took over in 1981, he systematically had every solar panel uninstalled! They were purchased at pennies to the dollar at an auction by the University of Maine! Equally, Gov. Jerry 'Moonbeam' of California, who drove an old clunker (Plymouth) and not a gas-guzzling SUV, had established during his administration the Office of Appropriate Technology to explore conservation and alternative energy sources. His successor, Gov. George Deukmejian, a Republican, closed it down!

⁷ <http://www.realgoods.com/>

⁸ <http://www.greentechmedia.com/>