

Karen Telleen-Lawton » Serendipity: Tilting Toward Windmills

## Serendipity: Tilting Toward Windmills

The Lompoc Wind Energy Farm flips the switch on a new dynamic sweeping Santa Barbara County



Wind turbines dot the islands of the Swedish Archipelago. (Karen Telleen-Lawton photo)

By [Karen Telleen-Lawton](#), [Noozhawk Columnist](#) | Published on 03.29.2009

Now that the [Lompoc Wind Energy Project](#) has survived the [Santa Barbara County approval process](#), land near [Vandenberg Air Force Base](#) is set to become a 21st-century Solvang. Early settlers there used windmill energy for agricultural purposes, while giant wind turbines will provide the county with electricity for up to 40,000 homes. How did the old become new again?

We've been cognizant of the fossil fuel problem for decades now, but long-term projections are finally sinking into our psyches. In August, scientists from two San Diego universities published research showing that even if humans stopped generating greenhouse gases immediately, the world's average temperature would "most likely" increase by 4.3 degrees by 2100.

"We should be worried — really worried," said Richard Moss of [World Wildlife Fund](#).

[Environment California](#) has proposed a plan that “makes polluters pay for their pollution credits, and funnels the proceeds into solutions like wind and solar power, greener buildings, and a cleaner transportation system.”

Change is finally coming at the highest political level. [Energy Secretary Steven Chu](#) is on board with alternative energies.

“Coal is my worst nightmare,” he has said repeatedly. “It’s not guaranteed we have a solution for coal.”

Chu has pitched the idea of an interstate electricity transmission system to be paid for by ratepayers. The Energy Department estimates that wind farms could provide 20 percent of the nation’s electricity by 2030, adding 3 million jobs to the economy.



Are American landowners ready to expand into wind? As inhabitants of the Danish island of Samsø can tell you, it’s an attitude thing. In the late 1990s, residents weren’t very interested in energy — they just wanted to use it. According to the [New Yorker’s](#) Elizabeth Kolbert, they heated houses with tanker-delivered oil, brought electricity by cable, and had a coal-generated power plant emitting tons of carbon dioxide.

“Then quite deliberately,” Kolbert wrote, “residents set about changing: they formed energy cooperatives, organized seminars on wind power, and removed furnaces for heat pumps.”

By 2001, fossil-fuel use on Samsø was cut by half. In 2003, islanders began exporting electricity, and two years later they were producing from renewable sources more energy than using. The central cog in their new system is wind turbines, both land- and sea-based.

Lompoc’s turbines will be land-based, but they won’t be your grandma’s windmills. When complete, they are projected to provide nearly 10 percent of the county’s electrical needs.

“A typical wind turbine contains 8,000 parts — and 240 tons of steel, 20 tons of fiberglass, and a foundation of 460 tons of concrete,” according to the [Environmental Defense Fund](#). More than 3,000 large turbines came on line nationwide last year, resulting in substantial green job creation.

We’re low on the learning curve for wind turbines. Production grew 45 percent last year, costs dropped by half in the last dozen years, and the technology’s efficiency and reliability improved. Nevertheless, it provides less than 2 percent of American’s energy mix at the moment so far.

If all the costs are taken into account, including the cost of carbon emissions, wind power is competitive with coal. This is the point: the best alternative considering the lifecycle costs and benefits from pollution to bird hazard. One big advantage of wind energy, of course, is that the fuel itself is free. And Vandenberg residents can attest that their supply of fuel — wind — is endless.

— *Karen Telleen-Lawton’s column is a mélange of observations supporting sustainability. Graze her writing and excerpts from Canyon Voices: the Nature of Rattlesnake Canyon at [www.CanyonVoices.com](http://www.CanyonVoices.com).*