

Wind power isn't reliable enough to satisfy electricity needs

BY JAMES MCGOVERN

The record-breaking demand for electricity this summer taxed California's razor-thin, peak-load electrical generating capacity. Power failures were narrowly averted when Gov. Arnold Schwarzenegger ordered state agencies to reduce electricity consumption by 25 percent and many large industries and businesses agreed to voluntarily shut down.

If there is a benefit to emerge from California's escape from rolling blackouts, it is the growing recognition that we need to bring back the only source of energy that can provide large amounts of reliable electricity without polluting the air or contributing to global warming: nuclear power.

But before that happens, we will have to start embarrassing politicians who succeeded in shutting down California's Rancho Seco and San Onofre 1 nuclear power plants. Those two plants, which were closed prematurely more than a decade ago, had a combined generating capacity of 1,350 megawatts. If they were still operating, there would not have been an electricity emergency. Instead of nuclear energy, because of the political correctness of many politicians, the state has been relying more heavily on "renewable" energy sources, especially wind energy.

California's power shortage confirms that all of the hoopla over wind energy's credentials as a clean and renewable source of electricity is undercut by the reality of its unreliability. During an extremely hot week in August, when air conditioners were cranked up and the state was on the brink of rolling blackouts, how much help did the state get from its beloved 2,500 megawatts of wind power? Only 4 percent of its capacity, according to the California Independent System Operator, which is responsible for the state's electricity grid. Southern California Edison's 2,200 megawatts of wind capacity generated only 45 megawatts. In other words, wind energy works great — except when you need air conditioning. By comparison, the average capacity factor (plant actual operating time at full power vs. scheduled operating time) of nuclear power plants last year was 90 percent.

Wind energy has many virtues. It's clean. And the fuel is free. But no matter how you slice it, our complex society of millions of households, offices and businesses cannot rely heavily on wind farms to provide the electricity they need to keep air conditioners and factories running or, especially, their computers operating. They require virtually 100 percent reliability.

The Achilles' heel of wind power is its intermittence. Sometimes the wind blows, sometimes it doesn't. And on the hottest days, when air conditioning is most important, it usually doesn't. This fundamental flaw limits both wind energy's capacity value and its impact on reducing airborne emissions. If California, with all of its wind turbines, can't depend on wind energy, what state can?

Despite a massive investment in wind turbines — abetted by generous federal subsidies and mandates in 21 states that require a certain percentage of electricity to be provided by renewables — wind energy contributes only marginally to our nation's energy supplies. About 1 percent of all electricity in the United States comes from wind.

Wind energy is far more expensive and less reliable than its promoters claim. That's why opposition to new wind projects is growing — not just in California but in Massachusetts, Maine, Vermont, Virginia, Michigan, Kansas and New Jersey. Producing large amounts of wind energy is relatively costly, in part because it requires a vast amount of land and back-up power from fossil fuels on days when the wind is not blowing. Another problem is that wind turbines blight the view of landscapes and seashores. The latest models are twice as tall as the Statue of Liberty.

There is a role for wind energy in the United States. It can provide clean power when the wind is blowing and reduce the amount of fossil fuels that we have to burn. But we shouldn't kid ourselves that it can be counted on for the massive amounts of around-the-clock reliable power that makes our economy work. For that, we need energy technologies such as nuclear power and possibly clean coal that are proven sources of the industrial-size power that we require for our cities and factories. And in a heavily populated, industrial state like New Jersey, that need is particularly clear. We must act forcefully to head off a California-type crisis — and not just be blown by the wind.

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