

May 30, 2008

Climate Enters Debate Over Nuclear Power

By KATE GALBRAITH

BRATTLEBORO, Vt. — After part of a cooling tower collapsed last August at [Vermont's](#) only nuclear power plant, the company that runs it blamed rotting wooden timbers that it had failed to inspect properly. The uproar that followed rekindled environmental groups' hopes of shutting down the aging plant.

The proposed closing, albeit a long shot, has gained some support this year among Vermont politicians. The discussion is bringing into sharp relief a conflict between two objectives long held by environmental advocates: combating nuclear power and stopping [global warming](#).

Nuclear plants supply nearly 20 percent of the nation's electricity, and they do so without emitting the carbon dioxide that is the principal cause of global warming.

Vermont's 36-year-old plant, which feeds into the regional power grid, represents a third of the state's electrical generation.

Antinuclear groups that are arguing for closing the plant hope to replace the lost electricity with renewable generation from wind turbines, [solar power](#) and the combustion of plant material. Additionally, they cite the potential for cutting electrical demand by making homes and business more efficient.

Even so, some environmental advocates have reluctantly acknowledged that no combination of renewable power and improved efficiency can replace the plant, Vermont Yankee, at least in the near term. Instead, the state would probably have to tap the Northeastern grid — which derives more than half its energy from fossil fuels — for extra power.

"We'll likely have to go to the market, and that will mean an increase in Vermont's electricity portfolio that comes from fossil fuels," said Andrew Perchlik, director of Renewable Energy Vermont, a group that promotes clean power, speaking about the prospect of the plant's closing.

He faulted the state government and utilities for not focusing earlier on renewable energy, saying that if they had done so, "we wouldn't be in this predicament."

The Vermont debate comes as interest in nuclear power is increasing across the country, driven by rising demand for power as well as emissions concerns.

Like other plants nationwide, Vermont Yankee is seeking a 20-year extension of its operating license from the [Nuclear Regulatory Commission](#), the federal body that oversees the country's reactor fleet. A decision, which could allow the plant to keep operating until 2032, is expected later this year. Several utilities, encouraged by the federal government, are considering building nuclear reactors for the first time in three decades.

In Vermont, home to many people with a back-to-the-land viewpoint, surveys show that people want to move away from fuels like coal and oil that emit large amounts of carbon dioxide. They also support renewable energy.

But the same surveys show less consensus on nuclear power. At energy workshops last year, nearly two-thirds of participants said Vermont utilities should cease buying power from the nuclear plant — unless fossil fuels and out-of-state nuclear power were the alternatives, in which case more than half would continue with Vermont Yankee.

Not counting dams, another low-emission energy source that many environmental groups oppose, renewable power makes up 2.5 percent of the nation's electricity generation. That figure is higher in Vermont, 6 percent, but renewables are still a long way from supplying the bulk of the state's power.

Starting from these slim figures, many advocacy groups dream of achieving a nuclear-free mix burnished by local renewables. State researchers estimate that as much as 48 percent of Vermont's power could one day come from local renewables, including small hydropower projects.

"When you look at all the scenarios for climate change, nuclear is not a must-do," said James Moore, the clean-energy advocate for the Vermont Public Interest Research Group, a group that opposes the nuclear plant.

But utilities in Vermont, like their counterparts elsewhere in the country, argue that environmental advocates are mistaken if they believe a low-emission future can be achieved without nuclear power. They note the intermittency of power sources like windmills and solar panels, and argue that the nation needs more, not fewer, big power plants that emit no carbon dioxide.

"Vermont is in an enviable position right now," said Steve Costello, a spokesman for the state's largest utility, [Central Vermont Public Service](#). "We have arguably the cleanest power in the country from an air-emissions standpoint, and we have the lowest rates in the Northeast."

His utility is willing to build more renewables, he said, but closing Vermont Yankee would make maintaining clean and cheap power "much more difficult."

Even as some Vermonters argue for more renewable power, proposals to build it have hit snags.

Vermont has only one commercial wind farm, 11 turbines along a mountain ridge. They have less than 1 percent of the capacity of Vermont Yankee, a relatively small nuclear plant.

Other proposed projects have been stalled by local opposition. One wind project would infringe on bear habitat. Another won approval from state regulators, but a local group filed a court appeal to block it.

"Vermont is very protective of its environment regulation," said Mr. Perchlik of Renewable Energy Vermont. "It's not going to be done Texas-style, where you can get a permit in a month." He nonetheless hopes that wind turbines can provide 20 percent of Vermont's electricity by 2015.

Besides tapping into the Northeastern grid, Vermont could import more power from Hydro Quebec, a giant

dam system in Canada that already accounts for a third of Vermont's electricity, but that would probably help push up prices. Solar power is also costly. Burning wood chips or other plant material is one option — Burlington already has such a plant — but a large one would face pollution and other problems.

The best bet for reducing the state's emissions may be energy efficiency, in which Vermont already excels. Since 2000, an outfit called Efficiency Vermont has coaxed homeowners and businesses to change their light bulbs and buy more efficient appliances, like refrigerators. The state believes it has already cut power demand slightly this way.

Concerns about the Vermont Yankee nuclear plant, in the town of Vernon, focus on the disposal of spent nuclear fuel, a nationwide problem, and on local concerns about safety.

Last August, Vermonters were shocked to see images of water gushing out of a huge pipe onto a heap of collapsed wooden beams. A portion of one of the plant's two cooling towers had fallen in after decay weakened the wood. No radioactivity was released, but [Entergy](#), the plant's operator, labored to explain how it could have missed such an obvious problem.

Rob Williams, an Entergy spokesman, said the cooling tower collapse, along with other recent incidents, "certainly impacted reliability, but the safety was not at all impacted." Major repairs and improvements to both cooling towers have just been completed, he said, with crucial timbers replaced by fiberglass-reinforced plastic.

The Vermont Legislature has already voted to tighten plant oversight, and next year it is likely to take a vote on shutting down the plant, though whether the state would actually have the power to close the plant is unclear. The federal Nuclear Regulatory Commission licenses and regulates all reactors, and some experts predict lawsuits if Vermont tries a shutdown.

Matthew L. Wald contributed reporting from Washington.

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