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# Renewing the Push for Geothermal Energy

By Kent Garber

In an energy speech last week in Washington, former Vice President Al Gore might have surprised a few people by identifying [geothermal energy](#), along with wind and solar, as the one of the country's most promising [alternative energy sources](#).

Wind and solar are the most familiar answers. Halcyon images of wind farms and solar panels set against azure skies have become recurring themes in newspaper and television ads in recent months.

But geothermal energy, which has been heralded by some scientists over the years as a rich untapped resource, has garnered much less attention, particularly from politicians. Sens. John McCain and Barack Obama rarely mention geothermal energy when campaigning—except, perhaps, when visiting Nevada.

But when it comes to promoting renewable energies, the rocky fortunes of geothermal energy in Washington could offer the two candidates some insights about how to proceed.

Today, geothermal provides about 5 percent of the country's renewable energy, compared with about 3 percent for wind and 1 percent for solar. And there is some reason to be optimistic. Private investment is up, domestic use is steadily growing, and soaring energy prices have made previously prohibitive start-up costs economical.

But the current level of interest, experts say, is only a fraction of what it could be, because the geothermal industry has fallen victim to the harsh vicissitudes of Washington politics.

This struggle is most obvious in the Bush administration's attempt, two years ago, to cut the Department of Energy's geothermal program. The impact is still being felt today. During the program's heyday in the 1980s, it received about \$80 million in annual funding, money that financed research and salaries at national laboratories.

By the first part of this decade, the annual allotment had dropped to less than \$30 million. Then, looking to cut overall spending, the Bush administration began to eye geothermal programs, many of which are long term, as an easy target. In 2006, the White House requested no money for geothermal energy in its annual budget. "They were going to zero it out," says John Lund, director of

the [Oregon Institute of Technology's Geo-Heat Center](#). "They said we were a mature technology and that we didn't need support."

Congress eventually scraped together about \$5 million and saved the program from extinction. But cutbacks in the past year and a half have been unavoidable and widespread. Top researchers at national laboratories and universities have left the field. Research into new technologies has stalled. "A lot of the existing research structure has been put on hold or dismantled," says Karl Gawell, executive director of the [Geothermal Energy Association](#). "That has not yet turned around."

The industry has also had to fight Congress to get the same types of incentives that helped spark interest in other renewable energies. For wind technology, production tax credits go back at least a decade. Geothermal didn't get a similar deal from the government until 2005. "These tax credits have a huge impact," says Maria Richards, program coordinator for [Southern Methodist University's geothermal lab](#). "So many wind farms were created because the tax credit gave them a write-off. For geothermal, the credit seems like a small amount, but it really adds up."

There are plenty of reasons to be cautious about the potential of geothermal energy. Compared with solar and wind, the cost of commercializing geothermal is high. In most cases, expensive wells must be drilled deep into the ground to capture the energy released from the Earth's crust.

Geothermal power plants are still restricted to a handful of western states where the ground is more geologically active. Capturing geothermal energy elsewhere in the country and using it for electricity isn't impossible—in fact, hundreds of thousands of Americans use geothermal heat pumps to power their homes and businesses—but to do so on a commercial scale would require new technology.

There are also environmental concerns. Though geothermal is largely carbon free, the required drilling can disturb the surrounding area. Most geothermal reserves are located on government land under the jurisdiction of the Interior Department, which requires lengthy environmental assessments before allowing new drilling.

But geothermal energy does have some significant advantages, not only over traditional fossil fuels but also over other renewable energies. For one thing, unlike wind and solar power, geothermal power is generated constantly—24 hours a day, seven days a week.

A panel of scientists from the Massachusetts Institute of Technology found that [advanced geothermal technologies could potentially supply as much as 20 percent of the country's energy needs](#)—assuming someone coughs up \$1 billion to fund them. Some experts have cast doubt on the study's conclusions, but nonetheless there is a consensus that geothermal energy could contribute significantly to the country's future energy solution.

Rising energy prices are clearly working in geothermal's favor. After the funding cuts in 2006, Congress is expected to approve at least \$30 million in funding for geothermal this year. Most of the money will probably go toward enhanced geothermal systems, the technology advocated in the MIT study. For private investors, projects once considered too costly are now feasible, if not advisable, when viewed in light of \$130-per-barrel oil.

American companies—Merrill Lynch, for one—have started putting money into the industry. Foreign companies arguably are even more enthusiastic. A record number of leases for new drilling in the West have been sold off in the past two years, and more are on their way. Even some of the mammoth American petroleum and natural gas companies have started looking into geothermal as a way to reduce their operating costs or to make use of exhausted oil wells.

Industry observers are pleased with the surge in interest, but they know that government support in the past few years could have put them in a stronger position. "You've got to capture the interest when it's there," Gawell says. "We've lost some ground."

One particularly ripe concern at the moment: making sure Congress renews tax credits for geothermal energy and other renewable energy, many of which expire at the end of the year.



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