

# Old quarry near runway now saves airport \$430,000 a year

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An abandoned rock quarry near a runway at Nashville International Airport was thought of as a liability, so risky that authorities considered filling it in a decade ago. Now, the water-filled pit is enabling the airport to save \$430,000 a year.

By taking advantage of the quarry reservoir's year-round 50-degree temperature, the [airport](#) will be able to halve its cooling costs, said Christine Vitt, the airport authority's vice president of strategic planning and sustainability.

The geothermal system—the largest of its kind in North America—has been fine-tuned since it began operating in February, with results far beyond expectations, Vitt said at a dedication ceremony on Tuesday.

The system pumps hot [water](#) from the terminal's cooling plant to stainless steel heat exchangers submerged about 50 feet under the reservoir's surface. The [heat exchangers](#) are about the size of an SUV and work similarly to a car radiator. Water enters at about 79 degrees, is cooled by the surrounding reservoir water, and returns to the plant at about 63 degrees.

It's a closed-loop system, so the water never leaves the pipes, and the components should last a century or more, said environmental consultant David Rehse of Energy Systems Group, who worked on the system. And unlike solar panels, which are a visible sign that a building uses renewable energy, this geothermal system operates continuously

underground, rain or shine.

It's "the greatest project in Nashville you can't see," Rehse said.

The \$10.4 million project is financed through grants and a loan that is being repaid with money that would otherwise have gone to cooling costs, as part of a sustainability plan created with help from the Federal Aviation Administration.

"Our operating budget doesn't increase," Vitt said in an interview. "What was maybe a liability has become a wonderful asset for us."

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