



Local projects tap geothermal energy

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They're drilling for energy resources in Harvard's Radcliffe Yard.

But it's not for gushing wells of black crude oil.

Instead, Shawmut Design and Construction is drilling five wells for water more than 1,000 feet below the earth's surface, part of a new geothermal heating and cooling system for Radcliffe's Byerly Hall, now under renovation.

The sophisticated heating-and-cooling system will ultimately use the relatively constant temperature of the earth's underground water to provide Byerly Hall with most of its energy needs through winter, spring, summer and fall.

Though there are big upfront costs to such systems, geothermal energy is considered cheaper and cleaner in the long-run than standard heating and cooling systems, according to studies.

"We're very committed to geothermal energy," said Louise Richardson, executive dean of the Radcliffe Institute for Advanced Study, formerly known as Radcliffe College.

The Radcliffe drilling is just the latest geothermal project in the Boston area, as rising costs of oil and natural gas have made alternative-energy systems financially more attractive.

Concerns about climate change have also spurred new interest in alternative energy, such as geothermal systems.

Wisconsin-based Trane, a unit of American Standard, Inc., recently dug two 1,500-foot deep wells for a geothermal system at the Project Place headquarters in the South End.

The nonprofit Project Place's new building, which opened earlier this year, uses Trane's geothermal heating-and-cooling system, similar to the Byerly Hall system.

Trane is also eyeing more projects in Boston. Other developers are starting to use geothermal systems in Lawrence, Cambridge and elsewhere, according to industry officials.

“It was never truly viable in cost (terms) until recently,” said Brian Workman, a sales engineer at Trane. He said the systems became more attractive with rising oil and gas prices.

According to Workman, a geothermal system basically moves heat from the earth, via water, into a building in the winter and pulls heat from a structure and discharges it into wells during the summer.

Workman said the temperature of water 1,500 feet below the earth’s surface is “pretty constant,” at about 52 degrees, so it’s perfect to either help cool or heat a building.

Using an array of pipes, heat pumps and coils, hot or cool water flows through tubings in buildings, raising or lowering temperatures.

Some electricity is needed to run heat pumps and other equipment. But building owners can save from 10 percent to 40 percent on their utility bills using geothermal systems.

Robert Goldstein, a development consultant and manager for the Project Place construction, said he’s now looking to use geothermal systems for Hope House and other nonprofit groups who need to save money.

Richardson, whose Radcliffe Institute recently installed geothermal heat at its Radcliffe Gymnasium, said it’s not just about money.

“It’s more a philosophical decision than a financial decision,” she said of helping to reduce carbon pollution in the air.

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