

Tapping into the potential of geothermal

Sonic Drill Corp's president, Ray Roussy, says training drillers will be the key to the success of geothermal.

DEVELOPING geothermal as an alternative energy source has not been easy. Like any other emerging technologies, geexchange systems have experienced their own fair share of development issues. With a history of some early failures, the need for better training, quality assurance and other market transformations in Canada has become clear.

According to a 2006 report commissioned for GeoExchange BC, a community-based, non-profit organization based in Vancouver, Canada, a number of issues continue to act as barriers to full consumer and commercial adoption, including:

- Higher initial cost, compared to conventional systems.
- Low public awareness and recognition.
- Deficiencies in some past installations.
- Limited supplier capability.
- Lack of tracked information to support claims of value.
- Poor customer follow-through on servicing and/or repair.
- Design issues regarding some underground loops.
- Regulatory constraints.
- Lack of training, certification and support for installers and customers.

Fortunately, it is not all bad news. As energy prices rise and, with marketing support and product development, the geexchange industry is poised to increase dramatically.

Already, Canada has experienced a significant rise in consumer interest and commercial installations. With market share growth, it is reasonable to assume that the major manufacturers of heating, ventilation and air-conditioning equipment will soon embrace geexchange as a significant addition to their business.

Once geexchange goes mainstream, most industry members believe that exponential growth is possible.

FUTURE DEMAND

Ray Roussy, president of Sonic Drill Corporation, believes the future demand for geothermal systems will quickly outstrip the resources of suppliers.

"Globally, if we don't gear up for the coming boom in geothermal development, we haven't got a hope of meeting future demand," he says.

To ramp up, Mr. Roussy believes the issues regarding training and certification have to be addressed in order to build consumer confidence in geothermal installations.



A multi-million dollar home under construction in White Rock, BC, Canada receives a geothermal installation using sonic drilling.

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In addition, better project co-ordination or ‘one-stop shopping’ options have to be developed for consumers looking to go green.

“Right now, there is too much work involved for the residential consumer in trying to hire all the different contractors required to complete an installation from start to finish,” says Mr. Roussy.

While commercial installations rely on a project engineer to coordinate these contractors, it is often the residential consumer who is left in the dark on how to install a geexchange system for his home.

However, even more critical will be the future demand for drilling equipment and trained drillers to operate them if geothermal becomes a mainstream energy choice.

“Ultimately, we will need to ensure that enough drill rigs and trained drillers are available to actually put the holes in the ground,” says Mr. Roussy. “Right now, if people started to choose geothermal on a regular basis, there would not be enough equipment available to meet the demand.”

THOMAS EDISON (1847-1931)

“I’d put my money on the sun and solar energy. What a source of power! I hope we don’t have to wait ‘til oil and coal run out before we tackle that.”

GREATER EFFICIENCY

Encouraging greater energy efficiency and use of renewable resources, such as geothermal energy, are also key components in Canada’s response to climate change. In meeting this challenge, geexchange systems have the inherent ability to dramatically reduce energy consumption and GHG emissions, as well as foster business development, job creation and lessen any country’s overall dependency on fossil fuels. In fact, the figures speak for themselves. On average, geexchange systems:

- Use up to 70% less electricity than conventional systems.
- Save up to 70% in heating mode.
- Save up to 50% in cooling mode.
- Are 48% more efficient than the best gas furnace.
- Are 75% more efficient than oil furnaces.
- Save 30-50% on annual operating costs compared to natural gas systems.
- Create three times more jobs compared to conventional energy production.

Geothermal’s time has clearly come but, as Mr. Roussy asks, are we ready, as an industry, to answer the call?