



Property owner Ted Payne and son Donald beside the drilling rig.

Point Lonsdale residents are drilling into the earth and Saving energy

Jessica Craven

A POINT Lonsdale home is on its way to becoming one of the most sustainable in Australia by installing a revolutionary geothermal energy system.

The system will heat and cool the house by drilling deep into the earth.

The technology works by using a refrigeration compressor to transfer renewable heat energy from the earth.

In the summer, these systems reverse the cycle to exhaust unwanted heat into the earth.

It is the first time the technology has been used in Victoria and scientists say it has the potential to substantially decrease greenhouse gas emissions.

Donald Payne, a physicist at Melbourne University, is renovating the house with his father.

He said the technology had been in place in the United States for almost 20 years but had only recently come to Australia.

He said while cost of drilling was relatively expensive, at about \$1000 per bore, the cost was quickly recovered by the savings in energy bills.

"We're looking at an energy saving of about 70 per cent so there are significant savings to be made," he said.

"Most of our greenhouse gas emissions can be attributed to heating and cooling our homes."

Australian company EnergyCore is the sole distributor of the technology in Australia.

EnergyCore spokesman Russell Taylor said the technology was a cheap and easy way of using a renewable energy from the earth.

"The constant earth heat source is always available and is not dependent

upon sunlight hours or temperature climate due to the stable temperature of the earth," Mr Taylor said.

Mr Payne said the holes would be drilled diagonally and would be between 18-30m deep.

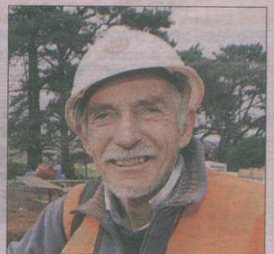
He said the technology could be used on smaller properties but the bores would usually be drilled horizontally.

The team has also installed solar panels and solar hot water systems at the house and is also looking at wind power.

"The house is situated on a 100-acre cattle farm and had been needing attention for two decades, so we decided we would renovate it and go all-out on making it as sustainable as possible," he said.

"We'd like the house to be a demonstration project for sustainable energy so that we can show people the new technology and the ways they can make changes in their own lives."

Mr Payne called on the State Government to set up a rebate system to encourage more people to go geothermal.



Ted Payne

Warming to a smart idea

RAINIE FRASER

POINT Lonsdale homeowner Donald Payne will be among the first Victorians to boast a home with a renewable heat source using the earth's stored energy.

Drilling for the installation of bore holes began this week and Mr Payne, who aims to make the Queenscliff-Portarlington Rd property entirely sustainable, said the "flagship project" was most likely the first of its kind on the Bellarine Peninsula.

"It's going to have solar panels, solar hot water, a

wind turbine... we've got a vision for it," he said.

Not only does the geothermal technology reduce heating and cooling costs, it can also produce energy savings of up to 75 per cent due to reduced electricity consumption and greenhouse gas emissions.

The EarthLinked system works by transferring heat in copper earth loops that are bored into the earth, with heat transferred from the ground through a flow control device to a compressor.

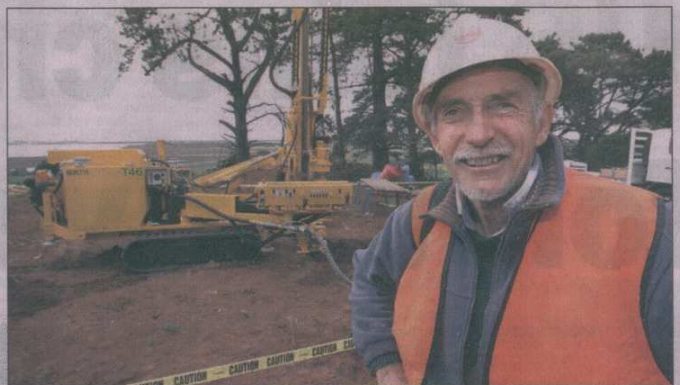
The refrigerant pressure and temperature are then raised, a hot vapor routed to a heat exchanger and heat

transferred to water, which is delivered to the hot water storage tank.

The system can heat water to up to 125°F and supplier Energy Core claims it can deliver up to 400 per cent electrical efficiency.

Mr Payne said the project on the 40-hectare property, which he owned with his father, would tie in with his recently completed PhD in Physics at the University of Melbourne.

"There's talk about doing quite a lot of projects over the next few years and looking to organise a rebate scheme (for the system)," he said.



OFF AND RUNNING: Property owner Ted Payne beside the rig that will drill the holes for the geothermal energy project on the Bellarine Peninsula. Photo: MIKE DUGDALE