

# Renewable energy case studies

## Case study 6

### Ground source heat pumps

#### Summary

When John Maxwell decided to build a house in Fintry he initially intended to install a conventional oil fired central heating system with radiators, until one of his neighbours told him about ground source heat pumps and the grant funding available from the Energy Saving Trust. At first, John thought this option would be too expensive but after investigating the options and finding out about the environmental benefits he decided to opt for a heat pump to supply heating and hot water.

As John was building a new house, the timing was ideal for the installation of a ground source heat pump, as he was able to install under floor heating and there was no established garden to be dug up. John and his chosen installer submitted an application to the Energy Saving Trust grant scheme and on receipt of the grant offer letter was able to order the required equipment.

The first stage was to install under floor heating, then a local contractor was engaged to dig the trenches for the three 200m ground loops. The loops were then laid in the trenches, pressure tested and connected up to the control unit. The installation took around five days in total and John was quite impressed it went so smoothly.

John has been pleased with the performance of his new system so far. He and his family have not been resident in their new home throughout a winter, so this coming winter will constitute the first real test. John particularly likes the fact that there is no flue, no fumes and the system is very quiet. He is also very pleased to have a large and constant supply of hot water.



Mr Maxwell's ground loops during installation

#### Key points

- Heat output: 11kW
- Type of ground loop: horizontal closed loop
- Electrical input to power heat pump: 2.5kW
- Proportion of heating met by pump: 100 per cent
- Fuel being replaced: oil
- Estimated fuel savings: approximately £290/yr
- Estimated carbon savings: approximately 2,400kg CO<sub>2</sub>/yr

#### Cost

Total installation: £10,577

The Energy Saving Trust grant: £3,173

#### Further information

In Scotland, the Energy Saving Trust (with funding from the Scottish Executive) offers homeowners grants of 30 per cent towards the cost of a renewable energy installation, up to a maximum of £4,000. Technologies eligible for funding include, but are not limited to, solar water and space heating, wind, hydro, heat pumps and automated wood fuelled boilers and stoves.

To obtain an application pack and further information contact the helpline on **0800 138 8858** or visit [www.est.org.uk/schri](http://www.est.org.uk/schri).

