



Chipping Community Energy Borehole

As part of the grant funded work being undertaken by Chipping Community Energy into the feasibility of a low carbon heating system for Chipping, the project has secured funding to install a test borehole in Chipping.

Q: Why develop a test borehole?

The purpose of the test borehole is to get actual information on the local ground conditions such type of rock, rock layers, where the ground water is. This information is very important to the design as it develops as it will inform the design team as to the level of energy that will be available from the rock for a ground source heat pump-based energy system and will also highlight local geology issues that the team should be aware of.

Q: What is involved in the work?

The work will be split into two phases. The first phase will involve:

- drilling the borehole;
- inserting a pipe that goes all the way to the base of the borehole and back up; and
- backfilling the borehole with a special grout to make sure that any water layers within the rock remain separated.

This first phase will normally take 2 – 3 days to complete. A typical borehole rig and set up can be seen in the photograph below.

The second phase will involve undertaking thermal load testing on the borehole to test how much heat can be extracted from the borehole.

The second phase will generally take 2 – 4 days but will need to be completed several weeks after the borehole has been drilled.





Q: Can the borehole be used for the eventual energy system?

The pipe that will be installed in the borehole will be capped off and left and will be available to form part of the energy network for the Chipping Community when it gets developed.

Q: Will it be noisy?

The borehole machine uses a compressor to turn the borehole drill, which is a rotary drill (and not a compressive drill). This means that the borehole machine will generate some noise from the compressor, but the drilling itself should not generate any significant noise.

Q: Will there be vibrations?

The borehole drilling equipment uses a rotary drill which does not generate high levels of vibrations.

Q: How does the process get rid of the spoil that will be created?

The borehole rig pumps water into the borehole as it is drilled which flows back out of the borehole carrying any of the spoil that is created. This is then filtered to remove the spoil, which is put into skip for removal and the water is reused for the drilling.

Q: Will the work take up lots of space?

The borehole machine and associated equipment will be delivered to site on a lorry trailer and will then be fenced off to ensure the safety of the local community. The team will try to limit any disruption to the local community by locating the equipment and fencing as sensitively as possible, given the operational constraints and requirements. The photo on the previous page is an example of the space that will be required.