

Ground Source Heat Pumps, Fyvie — Page 1 of 3

Your Osprey Housing home has a Ground Source Heat Pump (GSHP) installed. This system utilises solar energy stored in the ground, to heat your home and hot water. These systems were installed in 2014, which involved drilling boreholes into the car park area.

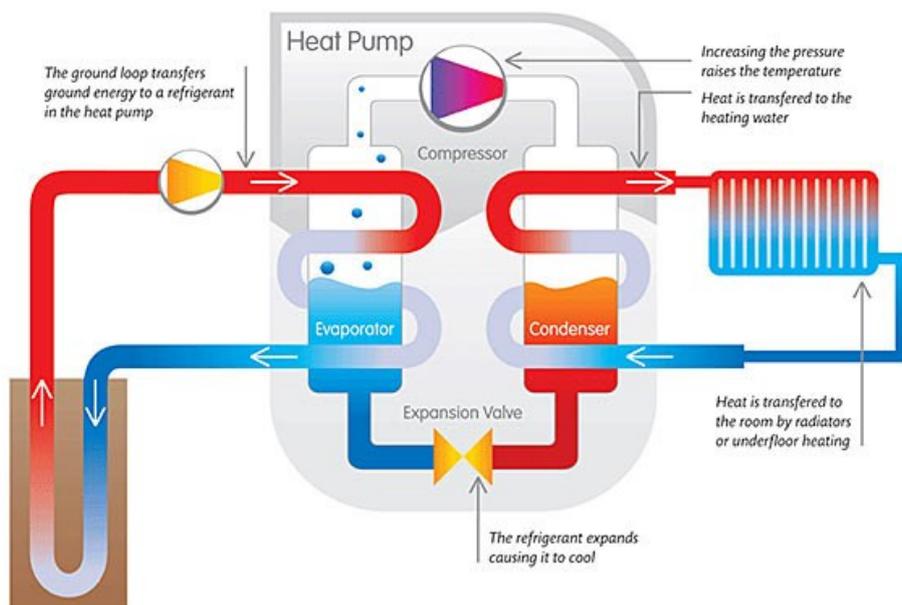
The GSHP in your home is an IVT Bosch (Greenline HE), installed by Ice Energy. Access will be required once per year for an annual service. If you ever have any problems with your heating system, please call us on 01224 548 000 and we can issue a works order to our heating contractor. A user guide will be included in your tenant handbook, if you do not have a copy, please contact us to request one.



How do GSHPs work?

The boreholes contain fluid-filled pipes, this fluid (a mixture of water and anti-freeze) absorbs heat from the ground. The temperature below the ground is constant all year round, and replenished by solar energy throughout the year. The fluid enters the GSHP unit in your home, and exchanges heat with refrigerant in the evaporator. The refrigerant is compressed, which

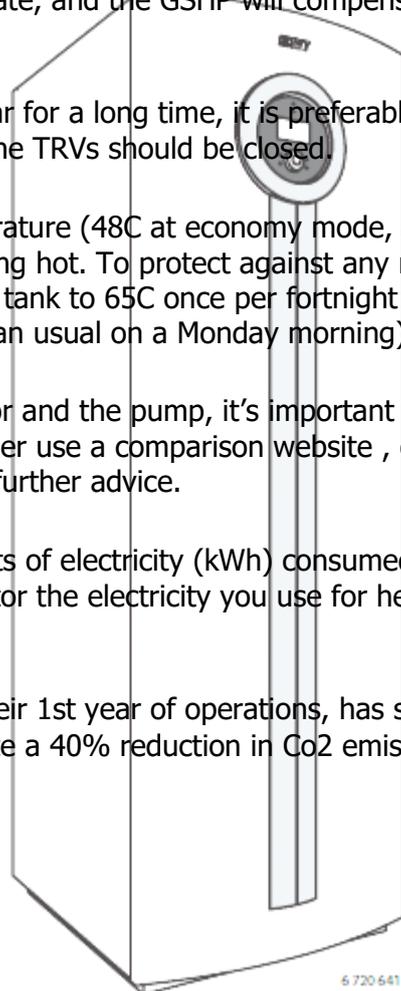
increases its temperature, it then enters the condenser, and exchanges heat with the water in your central heating system. The cooled fluid re-enters the borehole, to absorb more heat, in a continuous process.



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Getting the best from your GSHP system:

- The flow temperature (the heat of the water in the radiators) of a GSHP system is set at around 48C, which is lower than that of a standard oil or gas fired boiler system. This means the system is more efficient if it's on most of the time. The radiators, which are larger than usual, may not feel very hot to touch, but they will heat the room to the standard design temperature (21C in the lounge). Constantly switching the GSHP on and off means it will run inefficiently, and will struggle to keep the home warm.
- We recommend that you control the system using only the thermostat in the hall. The heat pump unit is set for optimum performance in economy mode. In this mode the unit will provide heating and hot water when required, until the outdoor temperature increases beyond 18C, when it will change to summer mode, and provide hot water only.
- The TRVs (thermostatic radiator valves – the adjustable knobs on radiators), should be fully opened (turned up as high as they can go), except for areas like bedrooms where a lower temperature is required. If they are closed, this will slow down the flow rate, and the GSHP will compensate with a higher flow temperature.
- When airing a room, rather than leaving the windows ajar for a long time, it is preferable to open the windows wide for a short period of time. If airing a room, the TRVs should be closed.
- The hot water tank stores water at a comfortable temperature (48C at economy mode, and 54C in comfort mode) — the water from your taps will not be scalding hot. To protect against any risk of legionella, the GSHP automatically heats the water in the hot water tank to 65C once per fortnight (this usually happens on a Sunday night, so your water may be hotter than usual on a Monday morning).
- Because your GSHP uses electricity to run the compressor and the pump, it's important to make sure you're on the best tariff for your household. You can either use a comparison website, or ask any Osprey staff member and we can refer you to Changeworks for further advice.
- The meter installed next to your GSHP measures the units of electricity (kWh) consumed by the heat pump only. This means if that if you wish, you can monitor the electricity you use for heating and hot water (as your bill will only show the total electricity used).
- Meter readings taken from the systems at Fyvie, from their 1st year of operations, has shown that these systems are on average 30% cheaper to run, and indicate a 40% reduction in Co2 emissions, compared to the previous oil boilers.



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Troubleshooting tips

- Check the thermostat in the hall, especially if there has been a power cut recently, or if you have a pre-payment meter that has run out of credit.

9.2.1 Room sensor CANbus LCD (accessory)

The control unit supports up to four room sensors.

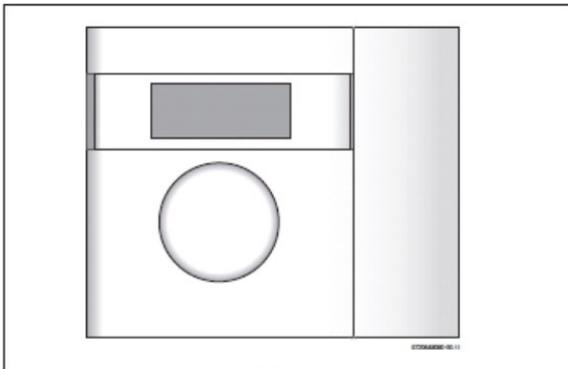
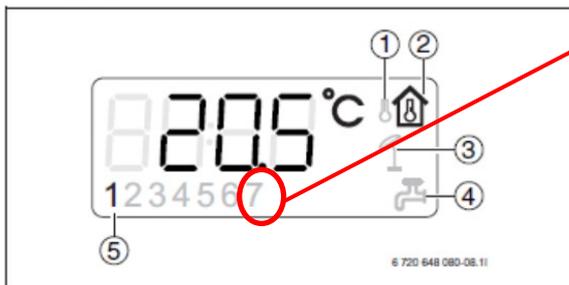


Fig. 20 Room sensor CANbus LCD

The display functions



If the power cuts out, the thermostat defaults to zone 7. The Fyvie properties only have one zone, so this needs to be set at 1 for the stat to be effective.

To reset the thermostat, press the reset button on the left side of the stat (you may need a paperclip or similar), when arrows appear on the screen, use the knob to change the zone to 1.

- If there is a lightning bolt symbol on the display of the GSHP unit, this means the boost function is in operation. This can be on for short periods of time in normal operation, but if it is on constantly, this can mean there is a fault with the unit, and it will be expensive to run!