

A Ground Source Heat Pump for Rockwool Woodland Centre for Learning, Bridgend



Rockwool Woodlands for Learning Centre is a community project Near Bridgend in the South Wales area. It consists of a timber building, constructed by volunteer labour, within the confines of the woods around the Rockwool factory.

A large proportion of the work was carried out by unskilled labour from the community, many of whom have some form of learning difficulty and it is a testament to their efforts that the building has proved very successful for lectures, seminars and general courses on woodland projects for schools and the wider community in general.

The Problem:

Rockwell Woodland for Learning Centre needed a low cost, low impact, relatively maintenance-free heating system for their building. They had been careful to make the building as sustainable as possible using wood for the build and even for a wood shingle roof.

Set well out in the countryside the use of mains gas for heating was not an option so they needed to find a solution which fitted with their ethos of sustainability.

The installation of an air source heat pump was discussed but there were no grants available at the time for the technology so it would not fit with the budget they had set aside for their heating system.

The Solution:

WDS suggested a **7kW ground source heat pump** which would supply the building with the required heat and would also be eligible for the grants available at the time. However, even though Rockwool Woodland for Learning Centre was situated in the countryside and set in far reaching woodland there was no space to install horizontal trenches for the heat pump.

The solution was to drill two eighty metre deep boreholes to abstract heat from the ground. A **7kW ground source heat pump** was installed in a small timber building adjacent to the learning centre, which was purpose built for the project, again from volunteer labour.

The Benefits:

With the installation of the **ground source heat pump system** and the copious amounts of insulation available from Rockwool the running costs for the learning Centre are extremely low and the entire project demonstrates the effectiveness of the renewable technologies for community projects.

A Low Carbon Buildings Project Phase II grant was obtained, with help from WDS Green Energy, which covered 50% of the system costs thus making it a viable and cost-effective solution.

