



Scottish Farm House, Have You Any Wool?

by [Randy Woods](#)

One of the tenets of green building is to secure sources of materials as close as possible to the building site to cut down on transportation costs and waste. A farm in southwestern [Scotland](#) took this [local sourcing](#) philosophy to heart when it came to building a new farmhouse. Not only did they build much of the house from nearby materials, they also looked to the sheep in the barns for their own personal contributions.

The farm, called [Three Glens](#), includes a five bedroom house, designed by [Mark Waghorn Architects](#) to incorporate local materials to help the building match the rugged landscape and to exceed the energy-efficiency standards required by the United Kingdom. One of the methods used is the harvesting of sheared [sheep's wool](#) from the farm's own animals for use as [wall insulation](#).



Three Glens in Scotland is built mostly from materials found on the farm. Image via Mark Waghorn Architects.

The wool insulation is just one of a number of strategies used to keep the residents warm in the pervasive Scottish wind and damp. A [heat-recovery ventilation](#) system spreads warmth from the radiant floor heating throughout the house, which is also partially sunken into the ground to take advantage of [thermal massing](#). Parts of the house are also heated by a "kachelofen," or clay brick stove, which burns [wood](#) efficiently and helps radiate heat evenly.



The oak paneling comes from trees on site and the wall insulation comes from the farm's own sheep's wool. Image via Mark Waghorn Architects.

On the [passive](#) side, one small room is encased in glass for solar drying of laundry, which saves electricity usage. Extensive use of [triple-paneled glass](#) also provides ample daylight to further reduce a reliance on the local power grids. A small [wind turbine](#) on the grounds provides more than enough power to run the appliances and energy-efficient lights, due to the many blustery days in the region, so excess electricity is sold back to the grid.



The walls come from locally found stone and the rooms are heated by a wood-fired kachelofen stove. Image via Mark Waghorn Architects.

Most of the stone walls on the interior and exterior of the house were gathered from the surroundings hills and were built to resemble the ancient, rough-hewn stone fences that mark the property. The oak panels that make up the cladding were also cut from trees that were harvested on the farm site. The sloping roof is also covered with [native turf](#) to help absorb stormwater and provide extra insulation.




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