



COMMUNITY RENEWABLE ENERGY AT LOCAL LEVEL

Kielder Garage



Kielder Garage is owned by Kielder Community Enterprise Ltd (KCEL), a local community business which aims to improve the quality of life of Kielder residents, by promoting job opportunities and village facilities. Among other activities, KCEL runs the local mini-bus service and campsite. Kielder Garage incorporates a small shop selling outdoor equipment and an office, as well as sales of petrol and diesel. Heating the shop was a continual problem.

REALL arranged and funded a feasibility study into wood fuel heating at Kielder Garage. A woodchip boiler was considered, but it was eventually decided that a wood pellet stove should be installed.

The stove at Kielder Garage is an Italian 5kW Preziosa, and is about 90% efficient, and very clean. By comparison, an open log fire is approximately 20% efficient. Similar stoves can be used in houses, village halls and other small businesses, and are available in modern and traditional appearances.

Wood pellets are made from compressed, clean sawdust, and are delivered to site in small sacks. They are easy to handle and store, and are considered to be carbon neutral. This is as long as any trees felled for fuel are replanted, because trees absorb carbon dioxide as they grow. Making pellets from leftover sawdust reduces waste and makes more efficient use of timber.

Pellets are emptied from a sack into an 11kg hopper at the top of the stove. The hopper automatically feeds the pellets into the stove as required. As the pellets burn a fan blows the hot air into the room. The heat output of the stove can be varied between 2kW and 5kW, allowing the stove to produce a low level of heat when required.

On a low setting, a hopper full of pellets will last several days before it needs to be refilled. There is very little ash produced, and it is stored in the stove's ash pan, which only needs to be emptied about once a month. When wood is burnt only 1% of it remains as ash, and this can be used as fertiliser.

These stoves need a flue to the outside, but not a chimney, so can be installed on most external walls.

The stove was installed and supplied by 3G Energi of Kelso, just over the Scottish border from Kielder. Average costs (2007)

for a pellet-burning stove are approximately £2,500 for the boiler, hearth and flue, and £1,500 for installation. Running costs vary widely and depend on usage, but on average, compared to electricity, this stove will save £165 per year, as well as adding a focal point to any room.

A pellet stove of this size, will, on average save 2,200kgs of carbon dioxide per year compared to heating with electric heaters.



CLEAN GREEN TECHNOLOGIES



Solar water heating

Over a year, solar water heating can provide about 60% of a typical family's hot water.

Solar photovoltaics

PV panels generate electricity from the sun, produce no CO₂ and are maintenance free.



Wood heating

Heating with wood is carbon neutral as growing trees lock up the CO₂ emitted by burning them.



Micro wind power

In an open location wind turbines make a useful contribution to electricity supply.

Hydro power

For buildings near a river, hydro can generate power with no pollution.



Ground sourced heat pumps

Heat from the ground for underfloor heating or extra large radiators. Uses electricity efficiently.

Funding for renewables and energy efficiency

There are various funding sources for renewable energy and energy efficiency at both local and national level. Advice on funding is available from your local rural community council:

Community Action Northumberland

Tower Buildings, 9 Oldgate, Morpeth
Northumberland NE61 1PY

Durham Rural Community Council

Park House, Station Road, Lanchester
Durham DH7 0EX

Tees Valley Rural Community Council

Queensway House, Queensway
Middlesbrough TS3 8TF

REALL was run by Community Action Northumberland and Durham Rural Community Council and operated in conjunction with partners. Funding has now come to an end, and Community Action Northumberland can no longer supply specialist renewable energy advice, although Community Action field workers are able to offer general guidance.

Funding for **REALL** was received from:

Community Action
Northumberland



The **SEED** Programme

Community Renewables Initiative

PB Power and RC Engineering

Further information

Further information about community ownership of renewable projects is available from the **Department of Trade and Industry**. www.dti.gov.uk/files/file15108.pdf.

Information about energy co-operatives - **Energy4All**

Tel: 01229 821028, Email: info@energy4all.co.uk
and web: www.energy4all.co.uk

Information about energy matters for communities may be obtained from **Café**.

Community Helpline 08701 261444, email café@est.org.uk and web www.est.org.uk/cafe

Small scale renewables may be seen on the **Tynedale Renewable Energy Trail** and there is an exhibition at Kielder Castle, open from Easter to October. www.tynedalerenewableenergy.org.uk