

# COMMUNITY RENEWABLE ENERGY AT LOCAL LEVEL

## Kielder Community Heating



It seemed sensible to try to use wood as fuel instead of oil, especially as burning wood is carbon neutral. A feasibility study for a district heating scheme was carried out by North Energy, followed by a fuel supply chain study funded by REALL. Kielder Regeneration worked with Tynedale Council and Kielder Community Enterprise Ltd (KCEL) to get the wood heating scheme installed for part of the village. Since it was fully operational the heating scheme has been run by KCEL.

The scheme provides heat for the Castle Visitor Centre, the school, the Youth Hostel, the Rivermead Workshops and six new homes built by Home Housing. Dry seasoned wood is chipped and made into fuel by the Forestry Commission at their depot nearby. It is delivered, depending on the heat demand, every one or two weeks, using a push-off trailer which discharges straight into the fuel store.

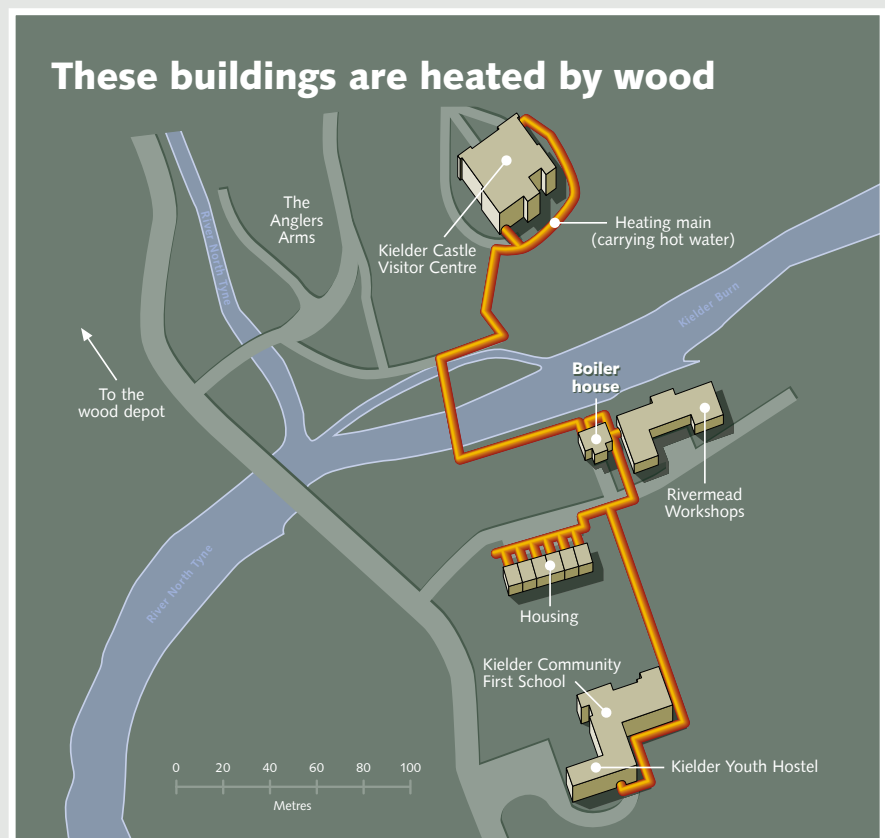
The system consists of a boiler house where hot water is produced from woodchips, a fuel store, a feed auger between the two and a network of insulated pipes to distribute the heat. Each property has a heat exchanger in place of the boiler, this transfers heat from the district heating water into the heating and hot water system of the building.

A modern robust Austrian Kob wood boiler burns thumbnail sized woodchips. It is very efficient, produces no smoke, just occasional steam if the wood is damp, and very little ash. The whole system is fully automated although one of its caretakers goes in each day to see that all is well. woodchip systems can be monitored and controlled by modem, but in Kielder it's a hands-on approach. Local

people plant, tend and fell the trees and produce the chips, local people check out the boiler and local people use the heat!

The capital cost of the whole installation was £600,000. The high cost was due to three things - the quality of the boiler-house building, the high quality boiler and the length and difficulty in laying heat pipes over the river and through the trees to get to the Castle. The running costs of the system have been higher than expected due to teething problems with the pipe-work installation and the high electricity cost of pumping water around the pipes. Heat is sold to the users at a slightly cheaper cost than the equivalent in oil.

The Kielder wood fired community heating saves, on average, 200 tonnes of CO<sub>2</sub> emissions per year, compared to heating with oil.



# 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 CO<sub>2</sub> and are maintenance free.



## Wood heating

Heating with wood is carbon neutral as growing trees lock up the CO<sub>2</sub> 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



## 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](http://www.dti.gov.uk/files/file15108.pdf).

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

Tel: 01229 821028, Email: [info@energy4all.co.uk](mailto:info@energy4all.co.uk)  
and web: [www.energy4all.co.uk](http://www.energy4all.co.uk)

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

Community Helpline 08701 261444, email [café@est.org.uk](mailto:café@est.org.uk) and web [www.est.org.uk/cafe](http://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](http://www.tynedalerenewableenergy.org.uk)

The **SEED** Programme

**Community Renewables Initiative**

**PB Power and RC Engineering**