

Fuelling Kielder's sustainability

This is a pilot project which makes a key contribution to developing supply chain opportunities by establishing new income streams from forestry, demonstrating the use of wood chip technologies in public buildings and encouraging community management of energy supply.

By demonstrating the potential of the project in England's most remote village, with the support of the Forestry Commission and North East Community Forests, it is hoped to build confidence for subsequent developments across Northumberland.

The Kielder Single Regeneration Budget Steering Group identified the opportunity to secure longer-term forestry employment, longer-term utility services and reduce fossil fuel use by using sustainable carbon neutral resources.

The proposal has been developed with close collaboration between public authorities - notably Northumberland County and Tynedale Councils and Forest Enterprise - social enterprises - Home Housing and Youth Hostel Association - and community representatives. Detailed feasibility work was commissioned from North Energy Associates in 2002, financed by Northumberland Rural Development Project, Forest Enterprise and Tynedale Council. More detailed specification work was carried out in 2003 through the Renewable Energy at Local Level project.

Tynedale Council will install the system and Kielder Limited, a community owned not for profit charitable company, will have a leading role in providing space heating and hot water to:

- Kielder Castle visitor centre
- Six new three bedroom social houses
- Rivermead Workshops
- Kielder Youth Hostel
- Kielder Community First School

There is confidence that heat will be produced at a competitive price for at least the first five years of the project.

Fuel depot and transfer

The fuel depot will be based at the Forest Enterprise compound at Kielder. This is simple to operate but has a significant capital cost to install. The depot will be around 4,000 sq. ft. and will have a maximum capacity of almost 425,000 cu. ft. Contractors will carry out chipping of timber every three or four months as required. Each week fuel will be transferred to the fuel store next to the boiler house in a specially adapted trailer.

Boiler

A 300kW boiler, capable of base load operation year round, will be installed to provide part of the school's heat requirements, with the existing boiler also operating for peak periods, as required. The total maximum heat load for the scheme would be over 500kW, however this peak is unlikely to occur.



Partners celebrating the launch of Kielder community biomass scheme.

Boiler house

The boiler house and fuel store are to be positioned adjacent to Rivermead Workshops on land owned by Kielder Parish Council. The boiler house will contain:

- A 300kW dry wood chip boiler
- Pumps and manifolds
- A pressure set
- De-ashing equipment
- Separate plant room for back up generator
- A thermal store ensuring efficient boiler operation at times of low heat demand

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District heating network:

Heating mains will be needed to run along the following routes:

- Boiler house to castle via footbridge
- Boiler house to Rivermead workshops
- Boiler house to school and hostel with T-junction to supply the six houses

Most of the network is located on Forestry Commission property and wayleaves will be granted. All clients will have heat meters for billing purposes.

Energy supply arrangements

The plant and equipment will be commissioned in January 2004. Energy will be supplied by the community company to the main customers: The Forestry Commission, tenants of Home Housing, Tynedale Council, Northumberland County Council and the Youth Hostel Association.

Before commissioning, ownership of the fuel store and transfer equipment will be transferred to Forest Enterprise. By 2005, ownership of the remaining plant and equipment will transfer to Kielder Limited which will be responsible for operating the scheme from commissioning. Both owners will enter legal agreements with Tynedale Council, assuring the future use of the plant and equipment for the scheme.

Finance

The project is being financed from a variety of sources including One NorthEast - through The Northumberland Strategic Partnership's Single Programme - European Regional Development Fund, Northumberland National Park Authority's sustainable development fund and Northumberland County and Tynedale Councils. The total cost to the point of commissioning is estimated to be around £600,000.



Wood chips from Kielder Forest will provide a sustainable source of power for the district heating scheme.

Tynedale

“ a beacon council for supporting the rural economy ”

FURTHER INFORMATION

If you would like to find out more, please contact Nicola Graham
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