

Biomass District Heating Scheme in Brynaman

In 2009, AAT worked with the Family Housing Association to install a biomass district heating system for 14 new bungalows in Brynaman. The project was one of the first schemes using wood fuel in Britain.

Biomass is classified by the UK government and international bodies as a renewable fuel. The reason for this is that burning wood is 'carbon neutral'. As trees grow, they absorb carbon dioxide. This is then emitted when wood is burnt. There is therefore no net increase in carbon in the atmosphere over the lifetime of the tree. This differs from fossil fuels which have locked carbon in the ground (in the form of coal or oil).

The woodfuel is in the form of granules or wood pellets. Pellets are small, cylindrical wood pieces, highly compressed with a length of about 3cm and a diameter of 0.6-0.8cm. They are generally manufactured from wood waste. The technology for wood pellets is well established, particularly in Scandinavian countries where the scale of production/use is over 1 million tonnes per year. A pellet production plant has been built at Bridgend which absorbs residues from the local wood-using-furniture making industries.

Wood granules are a form of fine wood-chip which has been produced using a particular chipping technology using clean, dry wood. The specification is tightly controlled, with minimum amounts of dust and oversized pieces. They can be used in boilers designed for wood pellets and therefore capital costs are lower than wood-chip systems. The granules are less dense than pellets and therefore storage bins will need to be larger.

The biomass boiler provides heating to residents in a disadvantaged village, Brynaman, which has been recognised by the Welsh Assembly as it is one of the most deprived areas in Wales. The scheme will deliver substantial carbon savings.

In terms of financial viability, the scheme guarantees cheaper fuel costs for the occupants, thereby reducing fuel poverty.

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Dan McCallum took part in a National Assembly Biomass Study Tour of Austria and Bavaria. It was fascinating to see the number of villages and towns heated by wood supplied by local forests and waste wood sources