Centre for Alternative Technology
Canolfan y Dechnoleg Amgen

Energy Trumps

Solid Biomass

Biomass, usually from forestry thinnings, willow plantations and high-yielding tall grasses such as miscanthus, can be grown for heating and electricity. They take a lot of space to grow, but can be stored and used as required.

Climate change CO_2e per kWh	40 grams (electricity) / 15 grams (heating)	Carbon dioxide photosynthesised by the biomass is added back to the atmosphere when it's burnt as a fuel Some energy used to harvest and process.
Impact on nature	Moderate/Good	Very large areas needed to supply much heat or electricity. Big local impact, but not usually for the worse as provides habitat, depends what replacing.
Risks	Very Low	Some local risks when planting and felling especially on slopes. Soil needs care. Diverting land from food crops could be a problem.
Visual impact	Moderate/High	Increased plantings of these crops would change the look of the countryside. Lot of lorries needed to transport crops.
Cost now	Low	Cost varies depending on site, size of area, ease of harvesting and processing.
Cost 20 years	Low	Costs might increase in future with competition between land uses or reduce with improved processing.
The UK resource	Moderate	Biomass crops may keep being regrown, but the rate of growth and land availability in the UK are limited.
Reliability/ flexibility	Excellent	Stores of biomass fuels are able to supply reliable steady heat and electricity as required.