

Wood pellets and briquettes are made by compressing dry sawdust or wood shreds under extremely high pressure until the lignin softens and binds the material together. The combination of low moisture content (typically below 10%) and highly compressed material gives pellets a very high volume energy density, typically three to four times that of wood chips. They are also clean, consistent and flow easily, making them particularly attractive in domestic applications. The significantly lower storage requirements compared with wood chips also make them attractive to urban applications such as city schools. Pellets for domestic and small scale applications are typically 6-8 mm diameter, while those for industrial applications may be 10-12 mm. Above 25 mm diameter they are known as briquettes and can resemble a firelog in appearance and function, though with improved storage, handling and combustion properties.



Poor quality pellets can crumble to sawdust, or produce more ash, so it is important that pellets have been manufactured to a recognized standard. The EU-wide CEN standard for solid biofuels, which includes wood pellets, is the CEN/TC EN 335 biomass standard.

For generic information on greenhouse gas balances of biomass and bioenergy systems see IEA Bioenergy Task 38, 'GHG impacts of pellet production from woody biomass sources in BC, Canada': www.ieabioenergy-task38.org/projects/task38casestudies

Currently installed wood pellet manufacturing plants in the UK

There are many other retailers and suppliers of pellets across the UK. Some websites include pellet heating case studies.

<p>Active Energy, Lincoln Tel: 0845 021 3333 sales@activenenergy.co.uk</p> <p>Arbuthnott Wood Pellets, Laurencekirk, Scotland Tel: 01561 320417 www.hotstovies.com keith@hotstovies.com</p> <p>Balcas Timber Ltd. Laragh, Enniskillen, Co. Fermanagh, Northern Ireland Tel: 028 663 23003 www.balcas.com info@balcas.com</p> <p>Bical Ltd., Cullompton, Devon Tel: 01884 35899 www.bical.net office@bical.net</p> <p>Biojoule Ltd., Oxford Tel: 01865 207001 www.biojoule.co.uk info@biojoule.co.uk</p> <p>Briquette and Pellet Co. Ltd., Lowestoft Tel: 01246 550119 www.briquetteandpellet.co.uk sales@briquetteandpellet.co.uk</p> <p>Clifford Jones Timber Ltd., Ruthin, Wales Tel: 01824 702157 www.cjtimber.com paul.clarke@cjtimber.com</p> <p>Coed Cymru, Nr. Newton, Powys Tel: 01686 650777 www.coedcymru.org.uk coedcymru@coedcymru.org.uk</p> <p>C Zero Energy Ltd., Nuneaton, Warwickshire Tel: 02476 320561 www.czero.co.uk info@czero.co.uk</p> <p>Ecowood Fuels Ltd., Cullompton, Devon Tel: 01823 680546 www.ecowoodfuels.co.uk fuel@brookridge.co.uk</p>	<p>Elford Biofuels Ltd., Wheaton Aston, Staffordshire Tel: 01785 841151</p> <p>Fast Forward Energy, Llandrindod Wells, Powys Tel: 01597 823835 p.arnshaw@btconnect.com</p> <p>Premier Group, Aykley Heads, Durham Tel: 0191 384 4000 www.dccwm.co.uk enquiries@premierwaste.com</p> <p>Puffin Pellets, Auchterless, Aberdeenshire Tel: 07818 417538 www.puffinpellets.com mail@puffinpellets.com</p> <p>Renewable Energy Suppliers Ltd., Retford, Notts. Tel: 01777 246749 www.koolfuel.co.uk info@koolfuel.co.uk</p> <p>The Renewable Fuel Company (UK) Ltd. Barking, Essex Tel: 07719 544287 www.renewablefuelcompanyuk.com info@renewablefuelcompanyuk.com</p> <p>Rural Energy Ltd. Oakham, Rutland Tel: 01664 454989 www.ruralenergy.co.uk info@ruralenergy.co.uk</p> <p>Scottish Biofuel, Clackmannan, Scotland Tel: 01259 733810 www.scottishbiofuel.co.uk info@scottishbiofuel.co.uk</p> <p>Welsh Biofuels Ltd., Bridgend Tel: 01656 729714 www.welsh-biofuels.co.uk sales@welsh-biofuels.co.uk</p> <p>Wood Pellet Energy UK Ltd., Chilton, Co. Durham Tel: 01388 72176 www.woodpelletenergy.co.uk enquiries@woodpelletenergy.co.uk</p>
--	---

Some web sites for woodfuel information, & wood pellet, stove and boiler suppliers

<p>The Log Pile website includes comprehensive listing of pellet suppliers in the UK Woodfuel availability in regions across the country www.logpile.co.uk</p> <p>Woodfuel in Wales www.woodfuelwales.org.uk</p> <p>Woodfuel in Scotland www.usewoodfuel.co.uk</p> <p>Renewable Energy Association www.r-e-a.net</p>	<p>European Pellet Centre www.pelletcentre.info incorporating Pellet @las Info sheets on pellet production www.coedcymru.org.uk/infosheets.htm</p> <p>Pelletbase www.pelletbase.com</p> <p>Boiler sizing worksheet www.swwf.info/woodfuel.htm</p>
---	--

Grants

For more see the BEC website

Bio-energy Capital Grants Scheme

www.defra.gov.uk/farm/crops/industrial/energy/capital-grants.htm

To support the installation of biomass heat and CHP projects. Round 4 expected end 2007.

Bio-energy Infrastructure Scheme

www.defra.gov.uk/farm/crops/industrial/energy/infrastructure.htm

Provides grants to help purchase specialist equipment for woodfuel producers, including pelleters. Second round to be launched late 2007.

Farm Business Development Scheme

www.sled.org.uk/ruralsup.htm

For farmers in Scotland to allow diversification into alternative agricultural production

Low Carbon Building Programme

www.lowcarbonbuildings.org.uk

For householders and community organisations to support the installation of low carbon and microgeneration technologies.



RDPE (Rural Development Programme for England)

www.defra.gov.uk/erdp/rdp07_13/index.htm

A £3.9 bn budget 2007-2013 to safeguard and enhance the rural environment and rural businesses. Woodfuel meets several criteria.

Scottish Community and Householder Renewables Initiative

www.est.org.uk/housingbuildings/funding/scotland

Provides grants, advice and project support for new community and household renewable schemes in Scotland.

Wood Energy Business Scheme

www.woodenergybusiness.co.uk

www.forestry.gov.uk/forestry/infd-5wresl

Scheme to encourage establishment of small to medium scale heat and CHP wood energy markets in Wales.

Some manufacturers of pelleting equipment

Amandus Kahl GmbH & Co. KG (Germany)

www.akahl.de info@amandus-kahl-group.de

Andritz Sprout A/S (Denmark/Austria)

www.andritz.com andritzsprout.dk@andritz.com

Farm Feed Systems Ltd.

Cinderford, Gloucestershire GL14 2PH Tel: 01594 825106

Larus Impianti s.r.l. (Italy)

www.pellet.it info@pellet.it

UK agent Manco Energy Ltd. (see above for details)

Minipell AB (Sweden)

www.minipell.com minipell@telia.com

Pelleting Technology Netherlands (PTN) (Netherlands)

www.ptn.nl info@ptn.nl

Salmatec International UK (UK/Germany)

www.salmatec-park.de sales@salmatec.co.uk

Sweden Power Chippers (SPC) AB (Sweden)

www.pelletpress.com info@pelletpress.com

UK agent Renewable Heat and Power Ltd. (see above)

Some prefabricated pellet storage options

Biobin, Emerald Composites

www.biobin.ie

Ecwoodfuels

www.ecwoodfuels.co.uk

JFC

www.jfc.ie

FlexiTank, Oekofen

www.oekofen.co.uk

Britestore, Balcas

www.balcas.com

GerKros Hoppers

www.gerkros.ie

GEObox, GEOTank

www.pelletstank.com

PELLETbox, PELLETtank

www.solarenergyireland.com

V-Mac pellet store, AMG

www.amgenergy.ie

Comparison between wood pellets and wood chips

Wood pellets	Wood chips
Low moisture content, typically <10%	Moisture content typically ~55% from freshly harvested wood; ~30% from seasoned wood (1 yr)
High volume energy density: 3-3.5 MWh/m ³ Much smaller fuel hopper can be used, and/or fewer deliveries	Relatively low volume energy density (<1 MWh/m ³ @30% MC) Large volume fuel storage required and regular deliveries
Expensive to produce. Requires consistent supply of feedstock so usually only suitable for commercial production	Woodfuel quality chippers expensive, but can be shared between users, or contracted as required, so suitable for self production
Clean, dry, low dust. Flow easily so suitable for pneumatic delivery (up to 30m) and easy fuel handling	Don't flow so readily. Delivery by tipper or chipping into store; fuel handling by auger feed
Standards important to avoid pellets crumbling to sawdust, or excessive ash content: CEN/TC335 solid biofuels	Standards vital to ensure moisture content suitable for boiler, and chip size and shape will not block fuel feed: CEN/TC 335, ONORM, DIN
Range of very sophisticated pellet boilers and stoves ideal for domestic applications. Larger pellet boilers good for urban applications like city schools with limited storage space	Chip boilers tend to be more appropriate for slightly larger applications, though small chip boilers are available, suited to agricultural type installations
Embodied energy higher than chips, especially if feedstock dried specially. Using clean, dry waste wood can divert it from landfill	Relatively low embodied energy
Typical costs (bulk): £140 - £180 per tonne	Typical costs (bulk): £40 - £80 per tonne
Summary <ul style="list-style-type: none"> ● Clean, pleasant, convenient fuel; sophisticated boilers ● Relatively compact storage requirements ● More expensive fuel 	Summary <ul style="list-style-type: none"> ● Bulky but cheap fuel, potentially suitable for self production ● Boilers tend to be better suited to larger or agricultural type applications