Information Sheet 1
Biomass Pellets and Briquettes

Wood pellets and briquettes are made by compressing dry sawdust or wood shreds under 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 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 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 fire-log 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 recognised standard. An EU-wide suite of standards for solid biofuels, including pellets, covering both the properties of the fuels, and also how they are to be evaluated, is being developed by CEN/TC 335. Specific fuel specifications and classes are defined in CEN/TS 14961. Pellets can be made from many different types of biomass, including straw, as well as wood. However, most of these non-wood pellets are not suitable for use in many pellet boilers or stoves, and certainly not most domestic systems. This is as a result of the ash properties which can give rise to clinker formation and sometimes corrosion of boiler parts.

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.

Some web sites for woodfuel information, & wood pellet, stove and boiler suppliers
The Log Pile website www.logpile.co.uk includes comprehensive listing of pellet suppliers in the UK and also suppliers of pellet boilers and stoves
Woodfuel availability in regions across the country www.eforestry.gov.uk/woodfuel
Woodfuel in Wales www.woodfuelwales.org.uk
Woodfuel in Scotland www.usewoodfuel.co.uk
Renewable Energy Association www.r-e-a.net
European Pellet Centre www.pelletcentre.info incorporating Pellet@Las

Other information on pellet production and use
Coed Cymru www.coedcymru.org.uk/infosheets.htm
Pelletbase www.pelletbase.com
Boiler sizing worksheet www.swwf.info/buyersguide.html
Currently installed biomass pellet manufacturing plants in the UK

This is a list of companies that we are aware of that are manufacturing biomass pellets in the UK, or have the capability to do so. There are many other suppliers of pellets in the UK and a full listing of woodfuel suppliers can be found on the Biomass Energy Centre website [www.biomassenergycentre.org.uk](http://www.biomassenergycentre.org.uk).

<table>
<thead>
<tr>
<th>Company Name</th>
<th>Contact Details</th>
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<tbody>
<tr>
<td>Activenergy</td>
<td>Lincoln&lt;br&gt;Tel: 0845 021 3333&lt;br&gt;<a href="mailto:sales@activenergy.co.uk">sales@activenergy.co.uk</a></td>
</tr>
<tr>
<td>Agripellets Ltd.</td>
<td>Stratford upon Avon&lt;br&gt;www.agripellets.com&lt;br&gt;Tel: 07739 225224&lt;br&gt;<a href="mailto:info@agripellets.com">info@agripellets.com</a>&lt;br&gt;(Straw pellets)</td>
</tr>
<tr>
<td>Arbuthnott Wood Pellets</td>
<td>Laurencekirk, Scotland&lt;br&gt;www.hotstovies.com&lt;br&gt;Tel: 01561 320417&lt;br&gt;<a href="mailto:keith@hotstovies.com">keith@hotstovies.com</a></td>
</tr>
<tr>
<td>Balcas Timber Ltd.</td>
<td>Invergordon, Scotland &amp; Enniskillen, NI&lt;br&gt;www.brites.eu&lt;br&gt;Tel: 07980 076599 (England)&lt;br&gt;07912 652040 (Scotland)&lt;br&gt;028 6641 1001 (NI)&lt;br&gt;<a href="mailto:brites@balcas.com">brites@balcas.com</a></td>
</tr>
<tr>
<td>Bical Ltd.</td>
<td>Cullompton, Devon&lt;br&gt;www.bical.net&lt;br&gt;Tel: 01884 35899&lt;br&gt;<a href="mailto:office@bical.net">office@bical.net</a>&lt;br&gt;(Miscanthus pellets)</td>
</tr>
<tr>
<td>Biojoule Ltd.</td>
<td>Oxford&lt;br&gt;www.biojoule.co.uk&lt;br&gt;Tel: 01865 207001&lt;br&gt;<a href="mailto:info@biojoule.co.uk">info@biojoule.co.uk</a></td>
</tr>
<tr>
<td>Briquette and Pellet Co. Ltd.</td>
<td>Lowestoft&lt;br&gt;www.briquetteandpellet.co.uk&lt;br&gt;Tel: 01246 550119&lt;br&gt;<a href="mailto:sales@briquetteandpellet.co.uk">sales@briquetteandpellet.co.uk</a></td>
</tr>
<tr>
<td>C Zero Energy Ltd.</td>
<td>Nuneaton, Warwickshire&lt;br&gt;www.czero.co.uk&lt;br&gt;Tel: 02476 320561&lt;br&gt;<a href="mailto:info@czero.co.uk">info@czero.co.uk</a></td>
</tr>
<tr>
<td>Clifford Jones Timber Ltd.</td>
<td>Ruthin, Wales&lt;br&gt;www.cjitimber.com&lt;br&gt;Tel: 01824 702157&lt;br&gt;<a href="mailto:paul.clarke@cjitimber.com">paul.clarke@cjitimber.com</a></td>
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<tr>
<td>Cornish Wood Fuels</td>
<td>Wadebridge, Cornwall&lt;br&gt;www.cornishwoodfuels.co.uk&lt;br&gt;Tel: 01726 890561&lt;br&gt;<a href="mailto:info@cornishwoodfuels.co.uk">info@cornishwoodfuels.co.uk</a></td>
</tr>
<tr>
<td>Dalkia</td>
<td>Staines, Middlesex&lt;br&gt;www.dalkia.co.uk/wood-pellet-fuel&lt;br&gt;Tel: 0800 980 8110&lt;br&gt;<a href="mailto:woodpellets@dalkia.co.uk">woodpellets@dalkia.co.uk</a></td>
</tr>
<tr>
<td>Duffield Wood Pellets</td>
<td>Ripon, N. Yorkshire&lt;br&gt;www.duffieldwoodpellets.com&lt;br&gt;Tel: 01765 640564&lt;br&gt;<a href="mailto:info@duffieldwoodpellets.com">info@duffieldwoodpellets.com</a></td>
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<tr>
<td>Ecowood Fuels Ltd.</td>
<td>Cullompton, Devon&lt;br&gt;www.ecowoodfuels.co.uk&lt;br&gt;Tel: 01823 680546&lt;br&gt;<a href="mailto:fuel@brookridge.co.uk">fuel@brookridge.co.uk</a></td>
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<tr>
<td>Elford Biofuels Ltd.</td>
<td>Wheaton Aston, Staffs.&lt;br&gt;Tel: 01785 841151</td>
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<tr>
<td>Fast Forward Energy</td>
<td>Llandrindod Wells, Powys&lt;br&gt;Tel: 01597 823835&lt;br&gt;<a href="mailto:p.arnshaw@btconnect.com">p.arnshaw@btconnect.com</a></td>
</tr>
<tr>
<td>Harvest Wood Fuels Ltd.</td>
<td>Guildford, Surrey&lt;br&gt;www.harvestwoodfuels.co.uk&lt;br&gt;Tel: 01252 794958&lt;br&gt;<a href="mailto:info@harvestwoodfuels.co.uk">info@harvestwoodfuels.co.uk</a></td>
</tr>
<tr>
<td>Jack Moody Biomass</td>
<td>Wolverhampton&lt;br&gt;www.jackmoodyltd.co.uk&lt;br&gt;Tel: 01922 417648&lt;br&gt;<a href="mailto:mark.beasley@jackmoodyltd.co.uk">mark.beasley@jackmoodyltd.co.uk</a></td>
</tr>
<tr>
<td>Liverpool Wood Pellets Ltd.</td>
<td>Liverpool&lt;br&gt;www.liverpoolwoodpellets.co.uk&lt;br&gt;Tel: 01512 369181&lt;br&gt;<a href="mailto:sales@liverpoolwoodpellets.co.uk">sales@liverpoolwoodpellets.co.uk</a></td>
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<tr>
<td>Neway Energy Ltd.</td>
<td>North Fleet&lt;br&gt;www.newayenergy.com&lt;br&gt;Tel: 01273 359031</td>
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<tr>
<td>Puffin Pellets</td>
<td>Auchterless, Aberdeenshire&lt;br&gt;www.puffinpellets.com&lt;br&gt;Tel: 07818 417538&lt;br&gt;<a href="mailto:mail@puffinpellets.com">mail@puffinpellets.com</a></td>
</tr>
<tr>
<td>Rainworth Fencing</td>
<td>Mansfield, Notts&lt;br&gt;www.rainworthfencing.co.uk&lt;br&gt;Tel: 01623 795066&lt;br&gt;<a href="mailto:sales@rainworthfencing.co.uk">sales@rainworthfencing.co.uk</a></td>
</tr>
<tr>
<td>Rural Energy Ltd.</td>
<td>Oakham, Rutland&lt;br&gt;www.ruralenergy.co.uk&lt;br&gt;Tel: 01664 454989&lt;br&gt;<a href="mailto:info@ruralenergy.co.uk">info@ruralenergy.co.uk</a></td>
</tr>
<tr>
<td>Strawsons Energy</td>
<td>Retford, Notts.&lt;br&gt;www.koolfuel.co.uk&lt;br&gt;Tel: 01777 248749&lt;br&gt;<a href="mailto:info@koolfuel.co.uk">info@koolfuel.co.uk</a></td>
</tr>
<tr>
<td>The Renewable Fuel Co (UK)</td>
<td>Barking, Essex&lt;br&gt;www.renewablefuelcompanyuk.com&lt;br&gt;Tel: 07719 544287&lt;br&gt;<a href="mailto:info@renewablefuelcompanyuk.com">info@renewablefuelcompanyuk.com</a></td>
</tr>
<tr>
<td>Verdo Renewables UK</td>
<td>Andover, Hants. &amp; Grangemouth, Scotland&lt;br&gt;www.verdorenewables.co.uk&lt;br&gt;Tel: 01264 342009&lt;br&gt;<a href="mailto:sales@verdorenewables.co.uk">sales@verdorenewables.co.uk</a></td>
</tr>
<tr>
<td>Wood Pellet Energy UK Ltd.</td>
<td>Chilton, Co. Durham&lt;br&gt;www.woodpelletenergy.co.uk&lt;br&gt;Tel: 01388 721767&lt;br&gt;<a href="mailto:enquiries@woodpelletenergy.co.uk">enquiries@woodpelletenergy.co.uk</a></td>
</tr>
<tr>
<td>WTL International Ltd.</td>
<td>Macclesfield, Cheshire&lt;br&gt;www.wtl-int.com&lt;br&gt;01260 223284&lt;br&gt;<a href="mailto:enquiries@wtl-int.com">enquiries@wtl-int.com</a></td>
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Grants
For more information, see the BEC website www.biomassenergycentre.org.uk

Bio-energy Capital Grants Scheme and the Bio-energy Infrastructure Scheme
Both of these schemes support private sector biomass development, either supporting boiler installation or supply chain equipment. The schemes are both closed at time of writing but check the grants page on the BEC website for more up to date information.

Farm Business Development Scheme
www.scotland.gov.uk/Publications/2004/09/19895/42622 For farmers in Scotland to allow diversification into alternative agricultural production

Low Carbon Buildings Programme
www.lowcarbonbuildings.org.uk For householders and community organisations to support the installation of low carbon and micro generation technologies.

RDPE (Rural Development Programme for England)

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.forestry.gov.uk/website/forestry.nsf/byunique/infd-7njq2e Scheme to encourage establishment of small to medium scale heat and CHP wood energy markets in Wales.

Some manufacturers of pelleting equipment
Alvan Blanch
www.alvanblanch.co.UK/biomass.htm
Amandus Kahl GmbH & Co.
Andritz Sprout Ltd.
Tel: 01482 825119
www.andritzsprout.com
steve.arnold@anditz.com
Bliss Industries Inc.
www.bliss-industries.com
Buhler Ltd.
Tel: 020 7055 6650
www.buhlergroup.com/uk
roger.adey@buhlergroup.com
CPM Europe
Tel: 01539 560093
www.cpmeurope.nl
ridgewellp@cpmeurope.freeserve.co.uk

Farm Feed Systems Ltd.
Tel: 01594 825106
Keep on Trucking
Tel: 0845 036 4444
www.keep-on-trucking.com
La Meccanica s.r.l.
www.lamec-pellets.com
Larus Impianti s.r.l.
www.pellet.it
UK agent Manco Energy Ltd.
Münch-Edelstahl GmbH
www.muench-edelstahl-gmbh.de
Construzioni Nazzareno SRL
Tel: 01226 360900
www.nazzareno.it
Olio Technology
www.oliotechnology.fr
PelHeat Ltd.
www.pelheat.com
contact@pelheat.com
Pelleting Technology Nederlands
www.ptn.nl
Pellet Pros
www.pelletpros.com
Radviliskis Machine Factory
www.factory.lt
Salmatec Machine Factory
www.salmatec.de/en/sales@salmatec.co.uk
Sweden Power Chippers (SPC)
www.pelletpress.com
UK agent Wood Energy Ltd.
Some prefabricated pellet storage options

- Britestore, Balcas [www.balcas.com](http://www.balcas.com)
- Biobin, Emerald Composites [www.biobin.ie](http://www.biobin.ie)
- Ecowoodfuels [www.ecowoodfuels.co.uk](http://www.ecowoodfuels.co.uk)
- FlexiTank, Oekofen [www.oekofen.co.uk](http://www.oekofen.co.uk)
- GEObox, GEOTank [www.pelletstank.com](http://www.pelletstank.com)
- JFC [www.jfc.ie](http://www.jfc.ie)
- MAFA Silos [www.mafa.se](http://www.mafa.se) (via Wood Energy Ltd.)
- PELLETbox, PELLETtank [www.solarenergyireland.com](http://www.solarenergyireland.com)
- UV-Silo, Silobau Steinecke [www.silobau-steinecke.de](http://www.silobau-steinecke.de)
- V-Mac pellet store, AMG [www.amgenergy.ie](http://www.amgenergy.ie)
- Wood pellet silo, A.B.S. [www.abs-products.de](http://www.abs-products.de)
- Prime Energy Solutions [www.primeenergysolutions.ie](http://www.primeenergysolutions.ie)

Comparison between wood pellets and wood chips

<table>
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<tr>
<th>Wood pellets</th>
<th>Wood chips</th>
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<tr>
<td>Low moisture content, typically &lt;10%</td>
<td>Moisture content typically ~55% from freshly harvested wood; ~30% from seasoned wood (1 yr.)</td>
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<tr>
<td>High volume energy density: 3-3.5 MWh/m³</td>
<td>Relatively low volume energy density (&lt;1 MWh/m³ @30% MC)</td>
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<tr>
<td>Much smaller fuel hopper can be used, and/or fewer deliveries. Many different designs of pellet store available off the shelf</td>
<td>Large volume fuel storage required and regular deliveries. Good design of chip store and fuel feed vital for ease of fuel delivery and reliable operation</td>
</tr>
<tr>
<td>Expensive to produce. Requires consistent supply of feedstock so usually only suitable for commercial production</td>
<td>Woodfuel quality chippers expensive, but can be shared between users, or contracted as required, so potentially suitable for self production</td>
</tr>
<tr>
<td>Clean, dry, low dust. Flow easily so suitable for pneumatic delivery (up to 30m) and easy fuel handling</td>
<td>Don’t flow so readily. Delivery by tipper or chipping into store; fuel handling by auger feed</td>
</tr>
<tr>
<td>Usually low ash &lt;1%</td>
<td>Can be low ash, but a high proportion of bark, or soil contamination can increase this significantly</td>
</tr>
<tr>
<td>Standards important to avoid pellets crumbling to sawdust, excessive ash content, or slagging problems: CEN/TC335 solid biofuels</td>
<td>Standards vital to ensure moisture content suitable for boiler, and chip size and shape will not block fuel feed: CEN/TC 335, ONORM, DIN</td>
</tr>
<tr>
<td>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</td>
<td>Chip boilers tend to be more appropriate for slightly larger applications, though small chip boilers are available, suited to agricultural type installations</td>
</tr>
<tr>
<td>Embodied energy higher than chips, especially if feedstock dried specially. Using clean, dry waste can divert wood from landfill</td>
<td>Relatively low embodied energy</td>
</tr>
<tr>
<td>Typical costs (bulk): £160 - £200 per tonne</td>
<td>Typical costs (bulk): £60 - £90 per tonne</td>
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</table>

Summary

Clean, pleasant, convenient fuel; sophisticated boilers, but is more expensive
Bulky but cheap fuel, potentially suitable for self production
Relatively compact storage requirements
Boilers tend to be better suited to larger or agricultural type applications