



liquidbiofuels



woodfuels



woodpellets



biogas



www.bioenergy.org.nz

Wood Fuel Classification

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Current Wood Fuel Market

- Variable quality
- You get what is delivered
- Sold on weight not quality or classification
- Good quality chip from the tree often contaminated through poor handling
- Inefficient processing and handling
- Low returns due to variable quality
- In any market uncertainty increases cost



Current Quality Fuel!!!!



Barrier to Growth in Biofuel Use

- Purchasers of fuel lack confidence in quality
- Purchasers not prepared to pay for low quality
- Risk to heat plant operators if wrong fuel is used
- Inability to secure contracts for supply of known quality
- High investment risk if unable to have long term fuel contract
- Good projects being held back because of fuel availability, quality and cost risk



Forest Owners

- Through the value chain 15-20% of forestry production is discarded as waste
- Any other manufacturer would look at how to utilise waste of this quantity
- Processing of residues would provide an additional revenue stream
- This is a forest owners problem so why aren't they working to increase value from their production



Rich Foresters Throwing \$\$\$ away



Fuel Users

- Want ease of securing fuel
 - Simple to specify
 - Simple to order
 - Ease of delivery
 - Known qualities
 - Reliable consistency
- Want to limit investment risk
- Want optimal plant operation



Wood Fuel Classification

- Assist sellers specify their product for sale
- To assist purchasers specify what they want
- To increase value to forest owners

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Classification Guidelines

- Industry based voluntary “standard”
- Simplicity
- Small number of classes
- Have been developed by BANZ Wood fuel Interest Group & EECA
- Available on the BANZ website
- A “work in progress”
- Requires feedback from users
- Classification - S30M35A1BD200ED25



Wood Chip

Size		S30	S50	S100
Coarse Fraction ≥ 20% of total by weight	Cross sectional area max, (cm ²)	3	5	10
	Length max (cm)	8.5	12	25
	Nominal mesh size – coarse screen (mm)	16	31.5	63
Main Fraction ≥ 60-100% by weight	Nominal mesh size – medium screen (mm)	2.8	5.6	11.2
Fine Fraction ≤ 5% by weight	Nominal mesh size – fine screen (mm)	1	1	1
Moisture % by weight				
M20	≤ 20%			
M30	≤ 30%			
M35	≤ 35%			
M40	≤ 40%			
M55	≤ 55%			
M65	≤ 65%			
Ash % by weight (dry basis)				
A.5	≤ .5%			
A1	≤ 1%			
A3	≤ 3%			
A6	≤ 6%			
A6+	> 6% - Actual Value Stated			
Bulk Density Kg/m³		Actual value stated		
Energy Density MJ/Kg		Actual Value Stated		



Wood Pellets

- Category A1 – 8% moisture content (ChCh & Nelson)
- Category A2 – 10% moisture content
 - **premium** pellets for use in any boilers
- Category B
 - **large premium** pellets for use in selected boilers
- Category C
 - **industrial grade** pellets for use in selected boilers subject to resource and boiler manufacturer consent



Other Classes

- Hog fuel
- Briquettes
- Demolition chip
- Firelogs
- Fire wood



Test Methods

Property	Technical Specification
Total moisture (as received)	Solid Biofuels: Methods for the determination of moisture content – Oven dry method – Part 1: Total moisture – Reference method (CEN/TS 14774-1)
Ash Content	Solid Biofuels: Methods for the determination of ash content (CEN/TS 14775)
Net calorific value	Solid Biofuels: Methods for the determination of calorific value (CEN/TS 14918)
Particle size distribution	Solid Biofuels: Methods for the determination of particle size distribution. Part 1: oscillating screen method using sieve apertures of 3, 15 and above (CEN/TS 15149-1)
Amount of fines	Solid Biofuels: Methods for the determination of particle size distribution. Part 2: Vibrating screen method using sieve apertures of 3, 15 mm and below (CEN/TS 15149-2)
Particle density	Solid Biofuels: Methods for the determination of particle density (CEN/TS 15150) to be published.
Bulk density	Solid Biofuels: Method for the determination of bulk density (prCEN/TS 15103), to be published.
Mechanical durability of pellets and briquettes	Solid Biofuels: Methods for the determination of mechanical durability of pellets and briquettes, to be published (CEN/TS 15210)
Water soluble chloride (Cl) content, sodium (Na) and potassium (K)	Solid Biofuels: Methods for determination of the water soluble content of chlorine, sodium and potassium, to be published.
Sulphur (S) and chlorine (Cl) content	Methods for the determination of sulphur and Chlorine content to be published.



Wood Fuel Trading Platform

Wood Fuels Trading Site

Welcome to our brand new Wood Fuels Trading Site. This is an online marketplace for sellers and buyers of various forms of wood fuels.

Wood fuels are carbon-neutral and offer a real opportunity for New Zealand to become greener and less dependent on fossil fuels. We grow trees as quickly as anywhere in the world but currently do not make full use of this valuable resource. Be part of the solution... list your wood fuel on this site or look for a good source of wood fuels to meet your needs.

Please click here to [login and create listings](#).

Please view the Wood Fuel Classifications Guideline [HERE](#) [346Kb].

Browse Classifieds Categories

- Wood Fuels Trading
 - 1. Wood Chips (2)
 - 2. Hog Fuel (0)
 - 3. Wood Pellets (0)
 - 4. Briquettes (0)
 - 5. C & D Timber (0)
 - 6. Firewood (0)
 - 7. Bin wood (0)
 - 8. Forest Residue (0)
 - 9. Sawmill Processing Waste (0)

Home

classifieds search

1. Wood Chips	Total items: 2
2. Hog Fuel	Total items: 0
3. Wood Pellets	Total items: 0
4. Briquettes	Total items: 0
5. C & D Timber	Total items: 0
6. Firewood	Total items: 0
7. Bin wood	Total items: 0
8. Forest Residue	Total items: 0



Stimulate the Wood Fuel Market

- Assist market players to understand the guidelines
- Encourage use of the classification guidelines in purchasing and selling
- Ensure ease of testing capabilities
- Further work on Quality and Standards
- Communications campaign with Councils to adopt Industry Standards for wood fuel



The Target

**25% of NZ consumer energy from
bioenergy by 2040**

