

**WELCOME from the BANZ Executive Officer -**

**- New Zealand Bioenergy Opportunities – there for our taking**



Welcome to the latest *Bioenergy News*.

In the Sept/Oct issue of the Wood Processors Association Newsletter the question was raised of whether bioenergy from wood residues was a threat or an opportunity to wood processors. It is good that wood processors are discussing bioenergy as they are currently the most significant user of wood fuel and a party best positioned to increase revenue from entering the wood fuel market. Wood processors are in the fortunate position where they can use wood fuel derived from their own processing activities, or they can purchase additional quantities of wood fuel derived from forest harvest residues. With a greater recognition of the value of wood energy the wood processors will also have the opportunity to sell excess process residue, or sell high grade process residue for say production of wood pellets and buy in lower grade harvest residues for combustion. A broadening wood fuel market can only provide opportunities for wood processors and forest owners to get greater value from the wood fuel they each produce. The market in wood fuel will only occur where:

- greater revenue can be obtained by selling residue as wood fuel.
- new users (non wood processors) can be encouraged to convert from coal to wood fuel
- forest harvest residues are processed to make quality grade wood fuel
- utilisation of currently discarded residues will lead to a reduction in the current costs of in-forest management and add revenues to a struggling industry

Overall members of the WPA should benefit from a broader use of wood fuel, especially those who embrace the opportunity.

Finally, a reminder about BANZ Membership fees. Invoices have been out for a while now. We rely on Membership fees to operate and lobby on your behalf so I encourage you to continue to support us. We have had a busy year with 2010 already looking even busier as interest in bioenergy is set to grow.

*Brian Cox, Executive Officer BANZ*

## This Issue

- Welcome to new BANZ Members
- News from the BANZ Board
- Bioenergy Options Project Profile
- Recent Public Submissions by BANZ
- Energy Outlook 2009 – Bioenergy disturbingly missing...
- BANZ Interest Groups – Update
- Pellets growth in New Zealand – residential and commercial – and where can I buy them?
- Wood Fuel Classification Guide – Version 4
- EECA Update – Wood Energy Programme and Renewable Schools Heating
- The Good Oil.....keeping up with bio-oil developments at AES
- BANZ Launches new Biogas web-site
- International News
- Events Calendar
- Featured Bioenergy Web-sites

## Welcome to new BANZ Members

Welcome to the following recent 'new' members of BANZ

**Ferg Lister (Firemakers t/a Parkwood Pellet Fires) – [www.parkwood.co.nz](http://www.parkwood.co.nz)**

**Steve Smith, (The Westervelt Company) – [www.westervelt.com](http://www.westervelt.com)**

## News from the BANZ Board

The BANZ Board meeting since the last Bioenergy News was 21 September 2009. The next Board Meeting is scheduled for Monday 30<sup>th</sup> November

BANZ Board Members are listed here: <http://www.bioenergy.org.nz/aboutus.asp>

The minutes from each of these meetings are on the BANZ web-site – Member's Only area as they are approved. They are available using this link: <http://www.bioenergy.org.nz/members/login.asp>

NOTE - The **2009 AGM will be held at 4pm on 8<sup>th</sup> February 2010** just prior to the Bioenergy Options Conference on the following day – 9<sup>th</sup> February 2010.

## Bioenergy Options Project

The Bioenergy Options for New Zealand project began in March 2007. This project was initiated to consider the potential contribution of bioenergy to New Zealand's energy future. The project was led by Scion Research and commissioned by FRST. It began by exploring the bioenergy potential of existing biomass resources, being the residues or wastes from a range of industries. The project concluded in October 2009 with a series of five reports that demonstrates how New Zealand can become self-sufficient in transport fuels produced from biomass grown in sustainably managed forests.

The 5 reports are as follows:

1. **Situation Analysis** - Biomass resources and conversion technologies
2. **Pathways Analysis** - Energy demand, pathways evaluation, Economics of purpose grown energy forests, Life cycle analysis of biomass resource to consumer energy
3. **Research and Development Strategy**
4. **Analysis of large-scale bioenergy from forestry** - productivity, land use and environmental & economic impacts
5. **Transition Analysis** - the role of woody biomass from existing plantation forests, species options & drivers for change in energy supply.

The importance of this project for NZ's bioenergy future cannot be underestimated. It's the basis from which we must now move forward and comprehensively plan the role of bioenergy in New Zealand's energy future.

In a nutshell, it sets out New Zealand's bioenergy resources and the potential role that bioenergy has to play in New Zealand. All 5 reports emerging from the Study are available [here](#) on the BKC web-site and a summary of all 5 reports produced under the study is available [here](#) on the BANZ web-site.

The Bioenergy Options Project will be the focus of a leading BANZ Conference on 9<sup>th</sup> February 2010 from which it is hoped that a **NZ Bioenergy Development Strategy** will be agreed.

**Bioenergy Options—Where to from here?**  
9<sup>th</sup> February 2010,  
Renouf Foyer, Wellington Convention Centre, Wellington.

Programme details coming

## Recent Public Submissions by BANZ

Since the last issue of Bioenergy News, BANZ has made the following submissions:

- **Climate Change (Emissions Trading Amendment Bill)**
  - Written Submission (Oct 2009)
  - Oral Submission (Oct 2009)
- **Sustainable Biofuel Bill**
  - Written Submission (Sept 2009)
  - Oral Submission (Oct 2009)

**Climate Change (Emissions Trading Amendment Bill)** - BANZ indicated its qualified support for an Emission Trading Scheme (ETS) in February 2009 provided that there are other complementary mechanisms to support the objective of reducing carbon emissions. It is critical that the ETS is structured to provide business with long-term surety of policy on which to base planning decisions. BANZ noted that this was not currently the case.

The written submission that BANZ made in February 2009 noted that bioenergy offers the following multiple benefits - regional and sustainable job creation, energy resilience, a healthier forestry industry, more carbon sequestration, lower embodied carbon in New Zealand exports, a lower cost base for New Zealand organisations etc.

Further BANZ noted that the ETS alone – as a “stick” mechanism – would not be effective in helping New Zealand to realise the multiple benefits that bioenergy can deliver. Complementary “carrot” mechanisms are also essential to achieving greater uptake. The three mechanisms BANZ favoured were:

- *A Contestable Grant Scheme*
- *Pilot Schemes*
- *Accelerated depreciation provisions for all renewable energy investment*

In its response to the Emissions Trading Amendment Bill, BANZ reiterated these original concerns and further added that the amendments now proposed also fail to deliver the following:

- **A strong Carbon Price Signal** - BANZ is concerned that the amendments do not provide the strong carbon price signal that is needed to encourage investment in new renewable generation generally and in bioenergy specifically.
- **Certainty needed for Investment** – BANZ is also concerned that the amendments do not provide the certainty that we believe is needed to encourage investment in new renewable generation. There appears to be little, if any, bi-partisan agreement, which compounds the uncertainty. This is a major concern for BANZ.
- **A consistent regulatory approach** – BANZ is further concerned that the amendments proposed appear to be somewhat out of step with the current review of the electricity market.

Only days after its written submission, BANZ was called upon to give its oral submission to the Finance and Expenditure Select Committee.

The original submission on the ETS can be found here:

- [BANZ Submission re ETS - February 2009](#)

And the submissions on the Amendments Bill- written and Oral can be found using the links following:

- "[BANZ Submission on Climate Change Response \(Moderated Emissions Trading\) Amendment Bill](#)" - October 2009
- "[BANZ Oral Submission on Climate Change Response \(Moderated Emissions Trading\) Amendment Bill](#)" - October 2009

**A legal summary of the events so far and impacts on various Sectors has been prepared by Buddle Findlay and is available on the BANZ web-site [here](#).**

**Sustainable Biofuel Bill** - BANZ made a submission on the Sustainable Biofuel Bill on 11 September 2009 and were invited to give an oral submission on 22 October 2009.

While BANZ whole-heartedly supports the principle of sustainability and in fact sees it as an essential 'badge' for the biofuels industry in New Zealand, BANZ does not believe that the Bill proposed is necessary. BANZ considers that implementation of the legislation would lead to higher costs and a reduced ability for the emerging industry to offer biofuels to market and to be able to compete with fossil fuels.

BANZ believes that a simple requirement for disclosure of feedstock source, along with simple methodologies for demonstrating sustainability, would provide the same level of protection without the cost that would be imposed by the proposed legislation.

In its submission BANZ noted that the Bill as written was unclear about a number of issues, specifically:

- *What did the Bill's sustainability reference relate to? It is assumed feedstocks.*
- *The lack of clarity around the definition of 'Sustainable' and 'Sustainably Grown'. Clarity was needed here to enable the sector to grow.*

BANZ emphasized the merits of a voluntary approach and noted the ability of consumers to influence how a company operates and the policies it adopts. Clearly, if a company acts in a manner not to the liking of the community then public pressure is brought to bear e.g. recently with Cadbury Chocolate over their use of palm oil.

BANZ was working actively with its Members to develop and put in place a voluntary system of disclosure—A *Code of Practice*. BANZ further noted that the imposition of regulations to prove sustainability could prove difficult at times if fuels were certified according to blends and would impose additional costs on an industry already struggling to succeed. It was important not to forget the benefits of biofuels and the potential to make use of a wealth of bioenergy resources in New Zealand.

Brian Cox, Executive Officer of BANZ noted to the select Committee that the liquid biofuels industry in New Zealand recognised that their delivery to market of a product that was without question sustainably produced (from the feedstock to the final product) was an essential component of the future success of liquid biofuels in New Zealand.

BANZ has committed to work with the industry and the government to ensure that **NZ biofuels** are recognised for their quality and sustainability.

Copies of the submissions are available on the Liquid Biofuels web-site ([written submission](#)) ([oral submission](#)).

## Energy Outlook – Bioenergy disturbingly missing

The BANZ Executive Officer attended the recent launch of the Ministry of Economic Development's Energy Outlook 2009 publication. Links to the Energy Outlook 2009 publications are [here](#).

The complete absence of a reference to bioenergy and the ongoing focus on electricity (with no mention of energy / heat) prompted BANZ to raise this with the NZ Forest Owners association and jointly a letter was sent to the Minister of Energy. The letter to the Minister noted:

*“Even today, bioenergy provides the same amount of process energy (heat) to industry as natural gas and makes up 8.5% of total consumer energy. This is a significant contribution considering the current relative economics of alternative energy resources.*

*The fact that bioenergy was completely overlooked seems difficult to comprehend and reflects badly on the quality of the analysis, and one can only surmise, on subsequent policy development.*

*Even under the base scenario one would expect that the current significant progress being made in the liquid biofuels arena, and in the commercial uptake of wood energy as a consequence of the EECA Wood Energy Programme, should at least be acknowledged. However a more robust response would be that a proper baseline energy scenario be developed which includes all energy sources and not just that of electricity.”*

The correspondence has also been copied to the Ministers of Climate Change and Forestry and BANZ has subsequently met with Officials who are working on scenarios that do recognise the role bioenergy already plays and the immense opportunities for wood energy and transport biofuels.

The Minister of Forestry has responded and invited BANZ to meet with him.

## BANZ Interest Groups – Update

The four BANZ Interest Groups are now well established with Committees meeting every couple of months.

### • Biogas Interest Group (BIG)

- BIG web-site launch (see also page 11)
- BIG Committee developing content for web-site
- Agreement to hold biogas event in May 2010 in partnership with EMANZ (Energy Management Association of New Zealand)
- Agreement to hold Biogas in transport event in November 2010

### • Liquid Biofuels Interest Group (LBIG)

- Completion of liquid biofuels sector overview and profiles for NZTE
- Submission on Sustainable Biofuel Bill
- Development of Vision, Activities and Priorities for 2010
- Development of April 2010 workshop in conjunction with the EECA April event.
- Development of a Sustainability Code of Practice
- Development of an Accreditations Scheme

### • Wood Pellets Interest Group (WPIG)

- Version 4 of the Wood Fuel Classification Guidelines is currently available on the BANZ web-site.
- The Interest Group is planning its February 2010 workshop with a key focus on retail promotion to support the uptake of pellet fires.
- BANZ is discussing ways with NZTE to promote NZ pellet potential overseas as BANZ continues to field international enquiries
- BANZ is discussing with EECA funding availability to facilitate Wood Pellet Boiler Operator Training, Wood Pellet Heater Installer training and the development of a Wood Pellet Conversion Guide – from Coal to Pellet fuel in 2010.

### • Wood Fuel Interest Group (WFIG)

- Version 4 of the Wood Fuel Classification Guidelines is currently available on the BANZ web-site.
- The Interest Group is planning its 2-day March 2010 sites visit/workshop in Dunedin and Otago.
- BANZ is pursuing funding to provide for Wood Fuel Testing in support of the Classification Guide
- BANZ EO will present to the National Air Quality Work Group (NAQWG) on 19 November.
- BANZ is discussing with EECA funding potential to establish an overview and profiles of key player in the Wood Fuel Sector

Further details on each of the Interest Groups can be found on the BANZ web-page and in the Member's Only Area. If you are interested in being a member of a specific Interest Group please contact [Connie.crookshanks@bioenergy.org.nz](mailto:Connie.crookshanks@bioenergy.org.nz) Also contact Connie if you need a reminder of your username and password for the Member's Only Area.

Membership of these Groups involves a fee for the 2010 period. See Membership details on page 16.

**Interest Group Committees and next Meetings:**

<b>Biogas</b>	<b>Liquid Biofuels</b>	<b>Wood Pellets</b>	<b>Wood Fuel</b>
Next meeting – 8 <sup>th</sup> Dec	Next Meeting – 10 <sup>th</sup> Dec	Next Meeting – 27 <sup>th</sup> Nov <b>(mid January 2010)</b>	Next Meeting – 15 <sup>th</sup> Dec
<b>Committee</b>	<b>Committee</b>	<b>Committee</b>	<b>Committee</b>
Guenter Wabnitz (Convener)	Andre Hamman (Convener)	Brian Cox (Convener) (temporary)	Rob Mallinson (Convener)
Bob Weston Jurgen Thiele Stephan Heubeck Tony Rhodes Rocky Renquist Humphrey Archer Andrew Thorp Attilio Pigneri Caroline Crosby	Andrew Simcock Attilio Pigneri Richard Gapes Gary Brockett Jurgen Thiele Simon Coughlan Tony Lough Jim Watson Tissa Fernando Peter Motion Sean Simpson Karl Mischewski Dave Bodger Roger Williams Andrew Campbell	Paul Coughlan George Escourt Peter Kernohan Bruce Clow Eduard Ebbinge Peter Butler Bevan Frost Ian Charity Andrew Wilson Trevor Hale Kirk Archibald Murray Cowan Ferg Lister	Allan Escourt Bruce Clow Duncan Mackenzie Eduard Ebbinge Richard Gapes Grant Smith Lyndon Haugh Kirk Archibald John McArthur Michael Jack Murray Cowan Peter Welr Peter Hall Philip Gedye Rens Bosman

## New Zealand News Briefs

**GULL BOOSTS LIQUID BIOFUEL MARKET IN NEW ZEALAND** - *Gull New Zealand announced on 19<sup>th</sup> October 2009 that an additional five sites will soon be selling Gull Regular Plus, a 91 octane petrol with up to 10 per cent bioethanol content. Gull Regular Plus, the next generation in petrol, extends Gull's biofuel range beyond the very successful Gull Force 10 and the current three sites selling Gull Regular Plus. With this roll out at Sel Peacock Drive in Henderson, Gull Regular Plus will be available at four Auckland sites – Kingsland, Albany Highway and Rosebank Road. Gull Regular Plus will also be available from Norton Road (Hamilton), Te Ngae Road (Rotorua), Tremaine Avenue (Palmerston North) and Victoria Avenue (Whanganui).*

**Ecodiesel to raise NZ\$4.5 million** - Ecodiesel Limited a leading player in the New Zealand liquid biofuels market is seeking to raise NZ\$4.5 million from New Zealand resident investors via a convertible notes issue. The funds will be used to complete New Zealand's largest biodiesel manufacturing plant and to provide working capital once the expanded plant commences operations in 2010. Ecodiesel's proven low-capital cost proprietary process allows any animal, vegetable or waste fat to be converted to high-quality biodiesel.

The convertible notes are being issued for five years to 30 September 2014, but may be repaid by Ecodiesel after two years. The notes are unsecured and rank equally with the convertible notes issued in March 2009 but are subordinated to all other debt and creditors. The interest payment on the notes (or coupon rate) is 15 percent per annum, payable quarterly in arrears. Upon repayment, noteholders will be able to convert some or all of their notes to fully paid ordinary Ecodiesel shares at NZ\$1.25 per share. The minimum subscription is NZ\$50,000, and thereafter in multiples of NZ\$25,000. The offer closes 20 November 2009.

A Combined Prospectus and Investment Statement (which was registered on 24 September 2009) is available from Brent Ogilvie at Pacific Channel [bogilvie@pacificchannel.com](mailto:bogilvie@pacificchannel.com) and see <http://www.goecodiesel.com/welcome-ecodiesel.html>

**New Zealand's First Trigeneration Project** – Courtesy of Entec at Christchurch City Council. Entec was engaged to design, supply, install and commission a trigeneration plant for the Council's new Civic Centre building in the Christchurch CBD. Trigeneration refers to the conversion of one energy input (in this case, landfill gas) into three energy outputs; electricity, heat and cooling. The heat recovered from the gas engine's jacket water and exhaust gas streams is to be used for both heating of the building, and to power an absorption chiller for air conditioning. More [here](#).

**WOOD ENERGY OPPORTUNITY - Delivered *P.muricata* fibre – Canterbury. Invitations for Expressions of Interest**

A unique opportunity exists for wood energy users to secure a source of long term fibre supply. *Matariki Forests is presenting approx 200,000 tonnes of fibre over the next 5 to 10 years to the market.* All requests for information should be made to James Treadwell, (09) 3579125 ([james.treadwell@rayonier.com](mailto:james.treadwell@rayonier.com))

**A deal on supplying \$1 billion New Zealand wood fibre to the US not what the media reported**

To correct the story for those who may only have seen one part. On 18 September the following story appeared in the media - <http://www.stuff.co.nz/business/industries/2876484/NZ-forester-signs-1b-deal-for-us-wood-pellets-reports> By 19 September the original story was corrected by information from the NZ party correcting the original story - [US claim angers forest firm.](#)

**Solray Energy and Aquaflow Bionomics Team up in new relationship thanks to NZTE** - Solray Energy, a joint venture between Invercargill engineering firm B L Rayner and Christchurch recycling company Solvent Rescue, signed an agreement with Christchurch company Aquaflow Bionomic in July to combine their respective technologies.

Solray has developed a reactor and extraction process to detoxify sewage algae and turn it into crude oil by applying pressure. The oil can then be refined into bio-petrol, bio-diesel, and aviation fuel. Aquaflow has developed low-cost, low-energy, technologies to harvest and store significant daily tonnages of micro algae. The Aquaflow technology is portable, which means the agreement will give Solray the technology it needed to grow and harvest sewage algae around the world. Thanks to negotiations with NZTE, both companies could see that their respective research was more complementary than competitive.

**Clean tech key factor in future NZ growth** – Sunday Star Times article promotes leading NZ companies including several bioenergy focussed ventures including Lanzatech and Aquaflow. More details [here](#).

**Miscanthus now growing at nine NZ sites since October** - Taharoa C has commenced planting of Miscanthus x Giganteus, the purpose grown energy crop which it has introduced into NZ. Nine sites have been planted, from the very far north down to South Canterbury, with a range of both climate and soil types. These will be used for long term crop yield data. Commercial scale plantings will commence in spring 2010. Further information from Ken Hulls 021 188 56533.

**New to Wood Fuel thanks to EECA assistance** – Two recent EECA funded conversions briefly summarized as follows:

<p><b>PH Kinzett – Greenhouse in Blenheim</b></p> <ul style="list-style-type: none"> <li>• 4 MW coal fired boiler converted to fire wood chips</li> <li>• Simple payback 3.2 years vs continued utilisation of coal</li> <li>• CO<sub>2</sub> reduction of 2100 tonnes PA</li> </ul>	<p><b>McCallum Laundries</b></p> <ul style="list-style-type: none"> <li>• Consolidated two laundry sites onto one and in the process switched from oil and LPG to wood</li> <li>• Installed a 3.4MW Vekos boiler with a wet scrubber</li> <li>• Simple payback 1.9 years vs continued use of oil and LPG</li> <li>• Scrubber water used to recover 250kW of heat from the flue gas</li> <li>• CO<sub>2</sub> reduction of 1400 tonnes PA</li> </ul>
--	---

**Wood pellets the last straw says NZ Forestry Owners Association** - Increasingly disillusioned forest owners say charges under the proposed ETS for big companies using wood pellets is the last straw. The Forest Owners Association said forestry was one of the industries that should benefit from the scheme but the ETS was less desirable than it was 12 months ago. Chief executive David Rhodes said

while the rest of the developed world was strongly encouraging sustainable biofuels including wood pellets over fossil fuels, the New Zealand government was not. Full article [here](#).

**ETA PE 15kW and 25kW pellet boilers on display in Christchurch** - Environment Canterbury has recently authorised the ETA PE 15kW and 25kW pellet boilers. These extremely efficient and clean-burning domestic pellet boilers are on display currently at the Heat Store in Christchurch if anyone is interested.

**Other NZ Bioenergy Company newsletters we know of:**

- **Spark Energy** – latest newsletter [here](#) (Wood Fuel Focus)
- **Entec** – latest newsletter [here](#) (biogas focus)

## Pellets growth in New Zealand – residential and commercial – and where can I buy them?

BANZ continues to promote the use of wood fuel and wood pellets in particular for residential and small commercial use. It's clear that for residential situations the competition from heat pumps is fierce. BANZ asks - is availability of pellets an issue that's being addressed?

**Residential Use** - In terms of appliances installed in New Zealand for residential use it's estimated that there are around 10,000 pellet fires installed in residential applications in New Zealand. It's further estimated that 8,000 of these are in the Canterbury Region. As the market is clearly more established there, and sales are higher, typically the availability of pellets is not an issue as retailers have a larger market to compete for. Pellets are available from service stations in these sorts of areas but generally, pellets are sold either direct from the producer, from Placemakers and Mitre10, and from hardware stores and heating specialists. Nature's Flame advise that as the product becomes a more mainstream commodity the tendency is more towards retailers, with about 80% of their product now sold through retail stores.

In terms of use of pellets to heat a residential home, original models in use in home situations used to indicate that 1.3-1.5 tonnes/year was normal, the average now seems to be a little under a tonne a year. This is in part probably due to a growing market in the North Island, where consumption tends to be less, about 0.75t/yr, but other factors could also be that there are an increasing number of fires in more modern homes (which are better insulated & require less heating), as well as in holiday homes which don't have a high level of occupancy.

So where can I buy Pellets? BANZ is currently updating the information it holds on its [www.woodpellets.org.nz](http://www.woodpellets.org.nz) web-site but here is a brief update in the table below. If you can help to make this table more accurate – please contact [Connie Crookshanks](#).

Who?	Contact Details
<b>Golden Strand Wood Fibre Products</b> P O Box 71-091, Rosebank Auckland, New Zealand Tel: +64 9 828 4859	info@pineshavings.co.nz <a href="http://www.pineshavings.co.nz/">http://www.pineshavings.co.nz/</a> product name is "HotShottzz"
<b>Inset Firelogs (NZ)</b> Hastings PO BOX 2401, Stortford Lodge Hastings Tel: +64 6 879 8151 Fax: +64 6 879 8151 Mobile: (025) 628 7891	Duncan Wattie firelog@xtra.co.nz
<b>Nature's Flame</b> Christchurch and Rotorua	Outlets include: - details of suppliers at: <a href="http://www.naturesflame.co.nz/">http://www.naturesflame.co.nz/</a> . 'Contact Us' direct bulk

Freephone: 0800 PELLETT (0800 735 538) Christchurch showroom at Hoskins Road, Rolleston	sales service, either online using the webstore or on the toll free number 0800 PELLETT (0800 735 538), <a href="http://www.naturesflame.co.nz/index.cfm/1.81.0.0.html/Contact-Us">http://www.naturesflame.co.nz/index.cfm/1.81.0.0.html/Contact-Us</a> and increasingly from retailers like Placemakers.
<b>Southern Wood Pellets</b> Aven Erskine Physical Address: 207 Branxholme-Makarewa Rd, Branxholme, Invercargill Orders: <a href="mailto:Erskine@whoosh.co.nz">Erskine@whoosh.co.nz</a> Tel: +64 3 235 8424	Outlets include: Direct from site. Mitre 10 in Southland and Otago.
<b>STARWOOD LTD</b> Allan Booth 54-58 Racecourse Road Washdyke, Timaru, 7941	Email enquiries: <a href="mailto:aboath@starwood.co.nz">aboath@starwood.co.nz</a> Pellets are available x our factory at this time in bulk and in bagged form; bag sizes are 20kg; brand name is "Biofuelz wood Pellets"
<b>The Green Lucifer Company</b> West Auckland <b>(UNCLEAR IF STILL IN OPERATION – at NOV 2009)</b>	Email enquiries: <a href="mailto:info@greenlucifer.co.nz">info@greenlucifer.co.nz</a> Email orders: <a href="mailto:order@greenlucifer.co.nz">order@greenlucifer.co.nz</a> Tel: +64 0800 451 081 Go to Website
<b>Wood Pellet Fuels</b> Huntly Bruce Clow <a href="mailto:brucec@pelletfire.co.nz">brucec@pelletfire.co.nz</a> Physical Address: 364 Lumsden Rd, Ohinewai, Huntly Freephone: 0800 4 PELLETS (0800 473 553). Tel: +64 7 826 4033 or +64 7 826 4040 Fax: +64 9 236 0057	Outlets include: <ul style="list-style-type: none"> <li>• Mitre 10 Mega Hamilton, 1 Maahaunga Dr., Te Rapa, Hamilton, ph 07-850-8700</li> <li>• Stihl Shop Pukekohe, 1 Seddon Lane, Pukekohe, 09-238-3723</li> <li>• Huntly Pet &amp; Stock Supplies, 196 Main St., Huntly, 07-828-7505</li> <li>• Morrinsville Mitre 10, 43 Moorhouse St., Morrinsville</li> <li>• Armstrong Plumbing, 3 Tangmere Pl., Greerton, Tauranga</li> <li>• Triangle Timber ITM Building Centre, 4 Campbell St., Tokoroa, 07-886-6611</li> <li>• Placemakers Mt. Maunganui, 25 MacDonald St., Mt. Maunganui</li> <li>• JH Brewsters Heating Ltd, 8 Crosbie St., Pukekohe, 09-238-8037</li> </ul> Wholesale direct from the factory. Deliveries by arrangement country-wide. Go to Website»

**Commercial Use** - In terms of small commercial use, according to EECA, there are currently around 40 schools on wood pellets, 27 of which have received EECA funding. Other commercial applications are more difficult to quantify unless EECA has been involved in funding them. Those that we are aware (5 in total) of include:

- Two of which EECA has funded – [www.bkc.co.nz](http://www.bkc.co.nz)
- Agresearch Invermay Wood fired boilers project <http://www.bkc.co.nz/Reports/Publications/BioenergycaseStudies/Monitoringreportoncapitalproject/tabid/168/Default.aspx> and
- Titoki Healing Centre - <http://www.bkc.co.nz/Reports/Publications/BioenergycaseStudies/TitokiHealingCentre/tabid/166/Default.aspx>

The others are:

- Radford Yarns– info on Radford Yarns is here - <http://www.eeca.govt.nz/node/3110> ,
- Department of Corrections, and
- University of Otago.

## Pellets on the International Stage

Note the following reports focussing on the significant potential of wood pellets:

**Sweden consumes more than 20% of the world's wood pellets and demand is growing** - The decision by EU to use a minimum of 20% renewable energy by 2020 has driven a rapid increase in wood pellet production in Europe. Sweden, Germany, Denmark and the UK are expected to have the fastest growth in consumption the coming 10 years, reports the Wood Resource Quarterly. Further details [here](#).

**"Wood Pellets – The Bioenergy Feedstock Solution?"**. Wood pellets are a form of renewable energy feedstock and a new talking point. This study presents the wood pellet industry and all the supply chain players offering an in-depth analysis of the global wood pellet market, industry and trade. It discusses wood pellet technology and production, describing the history and the outlook for the wood pellet markets and industry, analysing the entire supply chain, and discussing price trends. Report [here](#).

## Wood Fuel Classification Guidelines – latest Version – Version 4

The fourth version of the Wood Fuel Classification Guidelines is now available on the BANZ Web-site [here](#) and on the Wood Pellets web-site [here](#). The Guidelines cover the following forms of wood fuel:

1. Wood Chip
2. Hog Fuel
3. Wood Pellets
4. Brickettes
5. Construction and Demolition Timber
6. Firewood Logs
7. Firewood

The document also covers Fuel Testing. However EECA will be seeking assistance to confirm the appropriateness of the listed test methods in an RFP about to be issued.

**BANZ presented these Guidelines to the National Air Quality Working Group (NAQWG) at the Ministry for the Environment on 19<sup>th</sup> November.  
It is hoped that adoption at the Council level will assist with greater use of the Guidelines.**

If you have any comments on the Guidelines please address them to the [Executive Officer](#).

## The Good Oil.....keeping up with bio-oil developments at AES

The consortium testing a demonstration plant at Pukekohe in New Zealand says that it has made 800kg of bio-oil and 500kg of biochar - and has international customers lining up. The demonstration plant uses third-generation pyrolysis technology, developed by Advanced BioRefinery Incorporated of Canada.

New Zealand company Alternative Energy Solutions (AES) headed by Gavin Headley has the South-East Asia and Pacific rights for the technology. The demonstration plant is owned by a consortium of AES, Malaysian-owned forestry company Ernslaw One, and the government's energy efficiency conservation authority, EECA.

The process produces a bio-oil which is ideal for use in slow-turning diesel engines, such as those found in ships, and in oil-fired power stations. Gavin Headley has been quoted as saying, "You can't use it in ordinary cars, but you can use it to generate the electricity to run electric cars."

The plant can use a variety of feedstocks, including waste wood from the forestry industry and bamboo, but AES has a policy of not using food crops. Hedley says that the demonstration plant is creating a

great deal of regional interest, with customers from Japan, Malaysia, Australia and New Zealand. He hopes that manufacturing of the plant can be based in New Zealand.

The demonstration plant, producing around 1 tonne per day, is the proof of the technology, and will be used to explore reduction of water content in the finished product (from the present typical 20%, down to 3%).

More generally it seems that the facts around bio-oil stack up quite well.

Bio-oil can be made economically at scales from 100 tonnes/day or upwards. This is a similar scale to pellets manufacture, but the product has a much better bulk density of 1.2 kg/litre, compared to pellets with a bulk density less than 0.7 kg/litre. Further development in New Zealand, in association with overseas countries, is being carried out to reduce the water content of bio-oil. The resulting oil will not separate into phases over time, and will have half the energy density per litre of diesel fuel.

Bio-oil will be highly suitable for use in reciprocating engines, typically of sizes of 1-2 MW. The engines themselves would typically be at a fixed location, but the bio-oil plant is containerized, and can be moved from one forest landing to another, to gather the resource needed to run the engine at whatever load factor is desired. The capital cost of the bio-oil producer is at present estimated as two to three times the cost of the engine (excluding installation and grid connection costs). Thus it will not be economic in conventional terms until either or both carbon emissions and international oil prices rise above their present values.

The AES profile (part of the profiles funded by NZTE) on the BANZ web-site is available [here](#).

*[Editor notes – Gavin will update us all on the latest developments at our April 2010 Liquid Biofuels workshop.]*

## BANZ launches new Biogas web-site



As BANZ has focussed on the development of its Interest Groups over the past year the need for dedicated web-sites has become clearer and clearer. The new addition to the fold is a site dedicated to biogas in New Zealand. The site presents background details on biogas and its generation and uses in New Zealand. The site also provides information on NZ based experts in the following areas:

- Equipment Providers / Plant Design Engineers
- Consultants
- Generators
- Councils
- Research and Universities
- Industry (Waste Producers)

Brian Cox, Executive Officer of BANZ added, *“The biogas web-site is a great step forward for us as an Association. It’s a welcome addition to the resources that BANZ provides and further highlights the vast bioenergy resource in New Zealand. The site is very much a work in progress as further resources become available to develop the site and increase its content”.*

Most of the biogas that is utilised in New Zealand comes from landfills and waste water treatment plants. During the past year, new opportunities for anaerobic digestion have been identified in the food processing and farming industries and studies have been undertaken on chicken processing sludge and pig manure.

Currently, the main drivers for installing anaerobic digesters are the environmental effects of organic waste. Anaerobic digestion has the ability to effectively reduce the volume of organic waste and to turn it into valuable and environmentally acceptable fertiliser. The collection and combustion of methane has contributed to reducing New Zealand’s greenhouse gas emissions by about 3%.

The energy content of the biogas currently captured and utilised in New Zealand is about 1 PJ per year, mostly driving power generators with a capacity of about 40 MW. The potential from existing waste is estimated at 6 PJ per year. In comparison, the natural gas consumption in New Zealand is annually about 150 PJ.

Guenter Wabnitz, Convener of the Biogas Interest Group welcomed the launch of the web-site. *“The site is a good focal point for us as an Industry Group,”* Guenter said. *“We needed a means to develop a forum for the biogas industry in New Zealand and this web-site will help us here. The Biogas Committee is a representation of this Interest Group and has been meeting for about a year now. It’s work is summarised in the new Biogas web site, which will be an ongoing initiative and resource”.*

Guenter works for AECOM and leads its Gas and Clean Fuels business in New Zealand. He believes that biogas produced from crops can become a substitute for natural gas within a decade, when most of the gas reserves seem to be depleted in this country. Biogas is then likely to be the most economic and environmentally acceptable alternative to imported LNG or oil for the following reasons:

- biogas is carbon neutral and fits well into the mix of biofuels and renewable energy in New Zealand;
- the technology is readily available and well proven;
- New Zealand has an excellent gas transmission and distribution infrastructure that can be utilised for biogas;
- based on continuous growth of demand, LNG prices will increase along with oil prices;
- from New Zealand’s geographical perspective, the direct conversion of crops into fuel is more efficient than the indirect conversion via animals, food processing and international trade;
- a more balanced mix of animal and crop farming will improve the local environment and economic resilience of New Zealand.

The web-site can be accessed here at <http://www.biogas.org.nz/index.asp>



## INTERNATIONAL NEWS

**Plans Move on Biodiesel Plant in Australia (Moree, New South Wales)** - According to a report in the [Moree Champion](#) the biodiesel production is to be linked to a desalination project in the area. The report says that about a year ago CubicQED began talks with Moree Plains Shire Council over the desalination plant to reuse water from the Artesian Spa. The production system that takes the salt out of sea water uses algae ponds to aerate the biodiesel. The CubicQED hopes to produce up to 330,000 litres of biodiesel in the first year, which will be sold to local farmers.

**Paris Hosts 7th European Motor BioFuels Forum** - The use of biofuels has increased substantially over the recent years. The biofuels industry has grown up and turned into an industry that is being taken seriously. However biofuels have also been subject to criticism.

According to a European Commission report published last year titled [Biofuels in the European context: facts and uncertainties](#), ‘biofuels have been subject of a wide ranging societal and political debate. Questions of costs, security of energy supply, green house gas emissions, sustainability of production systems, impact on food production and on biodiversity are some of the many issues which have been associated with a renewed interest in that source of energy.’

To date this debate is still very current. These issues will therefore also be discussed soon during the 7th European Motor BioFuels Forum. This two day Forum will be held in Paris on 16 and 17 December 2009.

**Pulp and Paper International article – [Plugging into the Bright Future of Biofuels, Oct 2009](#)**

**A six month trial will look at running passenger buses on food waste at the East Midlands Airport** - Gasrec started the trial on 9<sup>th</sup> November and will use liquid biomethane fuel to power the buses between planes and the terminal. The fuel is made from decomposing organic waste, which when replacing diesel can create up to a 60% reduction in CO2 emissions. More [here](#).

**Ireland's energy minister Eamon Ryan has announced that the Government has approved legislation forcing suppliers to include an average of 4% of biofuels** - From July of next year, fuel suppliers in Ireland will have to include an average of 4% biofuels in their annual fuel sales, the minister announced this week. He said the biofuels used must produce 35% less greenhouse gases than their fossil fuel comparators and that 'stringent conditions' will also be introduced in relation to the source and type of biofuels used. More [here](#).

**British Bioenergy News – August 2009 issue** – (this newsletter is produced twice a year and can be accessed [here](#). Key articles of interest include:

- Strawsons Energy - the world's single largest grower and supplier of willow short rotation coppice (SRC).
- Wood Pellet Design Guide
- Cutting the UK's carbon emissions – Carbon Trust Goal - Advanced Bioenergy Accelerator programme which is currently focusing on two key areas of technology: pyrolysis and algae biofuels.
- Price trends in agricultural Commodities using bioenergy feedstocks

## EVENTS CALENDAR:

### New Zealand Events:

**Linking technology and Biomass - 2009 IEA Short Rotation Crops - 1 - 4 December 2009, Taupo** Task 30 Conference: For further details, flyer and booking forms click [here](#). The event is proudly supported by Scion and Pure Power. Event Media Release available [here](#).

## BANZ Events Programme for 2010

Event Focus	Date and Location
<i>Bioenergy Options Seminar – leading event for 2010</i>	Tuesday 9 <sup>th</sup> February 2010, Wellington
<i>Wood Pellets – Retailer focus</i>	Thursday 18 <sup>th</sup> February 2010, Rotorua
<i>Bioenergy for Engineers (EECA and IPENZ joint seminars) x 2</i>	February 2010 (dates to be clarified)
<i>Wood Fuels (2 day event)</i>	Wed/Thur 10 – 11 <sup>th</sup> March 2010, (Dunedin and Otago)
<i>Liquid Biofuels (back to back event with EECA Biofuels and electric vehicles conference on the preceding day)</i>	Thursday 22 <sup>nd</sup> April 2010, Wellington – BANZ Event Wednesday 21 <sup>st</sup> April 2010, Wellington – EECA Event
<i>Biogas from Municipal solid and liquid waste (with EMANZ)</i>	Wednesday 13 <sup>th</sup> May 2010, Christchurch
<i>Biogas as a transport Fuel</i>	November 2010 (provisional)

Details of these events will be available soon on the BANZ web-page. The Executive Officer will also send direct e-mails to advise of the details for each event . Please share with colleagues that may be interested.

## Update on Training - Pellets

**Wood Pellet Training Initiatives** – To meet interest and demand in the wood pellets sector BANZ has developed two wood pellets training initiatives:

- **Wood Pellet Heater Installer Course** - The Pellet Heater Installer Course is under development by BANZ and Waiariki Institute of Technology in Rotorua and will form part of a Diploma in Sustainable Energy. The Course Title is a “*Short Course Certificate in Wood Pellet Heater Installation*”.
- **Wood Pellet Boiler Operator Training** - A Wood Pellet Boiler Operator Course has been developed with a number of boiler manufacturers, fuel suppliers and consultants to assist Boiler Operators or Property Managers and to safely operate their boilers to get optimal energy from them. 4 courses have been run already with a focus on small scale boilers for schools. Subsequent courses in the planning for 2010 will focus on boilers in a range of locations (including schools, hospitals etc, small, medium and large scale).

In addition, a **Guide on the Conversion of Coal Boilers to Pellet Boilers** is in preparation and will be available soon.

Details on all of these initiatives will be available on <http://www.woodpellets.org.nz/training.asp>

## International Events

### **Bioenergy Australia 2009 - From Opportunity to Implementation**



Australia's premier bioenergy conference, **Bioenergy Australia 2009** will be held at the Radisson Resort Gold Coast, Queensland from **9 - 10 December 2009** with a **Technical Tour on 8 December 2009**.

This year's program will have over 85 presentations covering policies and programs, bioenergy projects and project development case studies and emerging opportunities. It will also consider many facets of bioenergy, including:

- Biomass sources and supply aspects
- Algae and other future feedstocks
- Heat and power
- Energy-from-waste
- Anaerobic digestion and livestock wastes
- Gasification
- Pyrolysis bio-oil and sequestration via bio-char
- First and second generation liquid biofuels
- Overarching aspects of bioenergy, such as life cycle emissions and sustainability.

Further details and bookings [here](#).

## Featured Bioenergy Web-sites

**Global Bioenergy Partnership (GBEP)** brings together public, private and civil society stakeholders in a joint commitment to promote bioenergy for sustainable development. The Partnership focuses its activities in three strategic areas: Sustainable Development - Climate Change - Food and Energy Security <http://www.globalbioenergy.org/>

**BIOMASS MAGAZINE – A World of Biomass at your fingertips**

<http://www.biomassmagazine.com/index.jsp>

**FRIDAY OFFCUTS** - the weekly electronic newsletter that goes out to New Zealand and Australian forestry, wood products and paper companies.

<http://www.fridayoffcuts.com/index.cfm>

**ETHANOL PRODUCER MAGAZINE – The World of Ethanol at your fingertips**

<http://www.ethanolproducer.com/>

**BIODIESEL MAGAZINE – The World of Biodiesel at your fingertips**

<http://www.biodieselmagazine.com/>

**BIOFUEL CITIES UPDATE** - information on developments in the field and from the Biofuel Cities European Partnership, the multi-stakeholder forum for the application of biofuels. <http://www.iclei-europe.org/index.php?id=7113>

**WOOD PELLETS IN NEW ZEALAND** - the portal for accessing information on wood pellets production, supply and heater and boiler equipment [www.woodpellets.org.nz](http://www.woodpellets.org.nz)

**BIOENERGY KNOWLEDGE CENTRE** – The portal for accessing information on wood energy fuel and utilisation [www.bkc.co.nz](http://www.bkc.co.nz)

**LIQUID BIOFUELS IN NEW ZEALAND** – the portal for accessing information on liquid biofuels opportunities in New Zealand. [www.liquidbiofuels.org.nz](http://www.liquidbiofuels.org.nz)

**BIOGAS IN NEW ZEALAND** – the portal for accessing information on biogas opportunities and activities in New Zealand - <http://www.biogas.org.nz/index.asp>

## BANZ Membership – Renewals and Details

It's that time of year again for Membership Renewable subscriptions – invoices (for the period 1 April 2009 – 31 March 2010) have gone out in the post in the last couple of weeks.

PLEASE NOTE – BANZ RELIES ON YOUR MEMBERSHIP FEES TO EXIST

Details on the BANZ web-site re Membership are as follows:

- Membership Benefits
- Interest Group Membership and upgrade form
- Who's Who – Protocol for Listing on the BANZ web-sites
- Summary of 2009 activities

All are available [here](#).



Energy Efficiency and Conservation Authority  
Te Tari Tiaki Pūngao



nature's flame  
Renewable fuel from Solid Energy



efi ENERGY FOR INDUSTRY



Waste Solutions  
Biotechnology Group



RCR Energy LanzaTech  
Spearheading Biofuel Production Technology



Gull



New Zealand  
TRADE & ENTERPRISE

The Bioenergy Association of New Zealand Inc. (BANZ) comprises companies, research organisations and individuals who have an interest in markets for converting biomass or biomass residues into energy. To receive this newsletter regularly contact the Executive Officer of BANZ for membership details by email: [info@bioenergy.org.nz](mailto:info@bioenergy.org.nz). Back issues of this E-zine are on the website, [www.bioenergy.org.nz](http://www.bioenergy.org.nz)