

WELCOME from the BANZ Executive Officer



Welcome to the latest Bioenergy News.

This issue has a feature on the BANZ Board – elected as of 1 November 2007 - who they are and what they do. BANZ is fortunate in having a Board experienced in most facets of bioenergy. People who are out there practicing what they promote.

BANZ has been active in responding to the Government's drive to get bioenergy firmly recognised within the New Zealand energy supply market. The Board has developed an Action Plan which is available to members on the Members Only part of the website. The Board is undertaking actions within a matrix of activities as set out below.

	Liquid Biofuels	Biogas	Large Scale Woody Biomass	Small Scale Woody Biomass (pellets/chip)
Lobby				
Research and Investigation				
Industry Information and Advice				
Networking and Workshops				
Membership				

The woody biomass activity areas are fortunate to have the funding from the FIDA Bioenergy Programme which has been instrumental in funding a range of projects that now mean that for the first time in two decades, relevant research into the investment in woody biomass fuelled is coming available.

A recent review of FIDA funded feasibility studies has indicated that further work is needed on the characterisation of wood residues and the establishment of residue trading mechanisms. Potential bioenergy projects are being constrained because of the lack of certainty of quality and cost of fuel supply. This is an area where work is expected to be undertaken in the coming year.

The Bioenergy Knowledge Centre www.bioenergy-gateway.org.nz is now well established as:

- a portal website to other internet based sources of information,
- a host for information not held elsewhere, and
- an access to experts who can provide face-to-face.

BANZ welcomes RCR Energy who has joined as a Corporate Member. www.rcrtom.com.au RCR Energy has recently rebranded from their previous name of RCR Easteel Energy Services.

A new website listing of 'Who's Who in the Bioenergy Industry' is being created on the BANZ website. Listing will be of Corporate and Associate Members only. Individual Members will not be listed so if you are an Individual Member and want a higher profile for your company, now is the time to upgrade your membership.

With the recognition by Government through the New Zealand Energy Strategy of the role that bioenergy can play in national energy, supply the BANZ Board is keen to lead the industry into the new year with a series of activities. The relative economics of bioenergy compared to other fuels is getting to the stage where bioenergy projects are about to come more cost effective. The BANZ Board wishes you a restful Christmas in preparation for what appears to be the start of a busy time for bioenergy.

Brian Cox, Executive Officer BANZ

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- New Zealand News Briefs
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News From the BANZ Board

The new BANZ Board was elected at the recent AGM held in Wellington. Board Members are listed below. A brief profile for each Board Member is set out at the end of the Newsletter.

- Mike Suggate (Energy for Industry) – Chair
- Jurgen Thiele (Waste Solutions)
- Andy Matheson (Natures Flame)
- Rob Mallinson (Living Energy)
- Shusheng Pang (Canterbury University)
- Gary Wilson (Garnet)
- Doug Pigou (Vortex Engineering)
- Philip Gedye (RCR Energy)

- Ex-officio - Pramesh Maharaj (EECA)

- Brian Cox – Executive Officer
- Connie Crookshanks – Assistant Executive Officer

The Board meets bi-monthly and the last meeting was 27 November 2007. Key issues discussed included:

- Update on the Executive Officer activities
- Action Plan for BANZ work going forward
- Update on the Interest Groups
- Proposed future workshops
- FIDA Bioenergy

The following agenda's reports are available to **paid-up** Members in the Members Area of the BANZ website.

- Board Meeting Agendas
- BANZ Financial Reports
- AGM Agenda and Minutes (AGM held on 1 November 2007)
- BANZ Annual Report from the Executive Officer (November 2007)

Interest Groups – BANZ is establishing three Interest Groups (**Wood Pellets, Liquid Biofuels, Biogas**). These Interest Groups will be open to all BANZ members and they will each have a specific focus of activities on topics of interest. This will allow BANZ to target more closely services to members related to the specific interests. If you are interested in being a member of a specific Interest Group please advise the Executive Officer.

Wood Pellets Interest Group

The first project for the Wood Pellets Interest Group is the development of a training course and accreditation for installers of wood pellet heaters.

Biogas Interest Group

MAF have a RFP for biogas projects. BANZ is considering a suitable project and welcomes views from members. This could be an opportunity to get biogas on the map.

A second biogas workshop is planned for March 2008.

Liquid Biofuels

BANZ is proposing to establish a website for those interested in the production of liquid biofuels.

New Zealand News Briefs

- November Forest Residue Workshop – event presentations
- Bioenergy Knowledge Centre (BKC) – Sawmillers Portal and Cost Analysis Tools
- EECA News – the FIDA Wood to Energy Funding Programme – supporting the use of wood residue
- Thames Timber up and running
- Wood pellet endorsement timely
- Wood pellet heater installer training and accreditation
- Heat Plant Database update
- Tropik Wood Power Project, Drasa, Fiji

Forest Residue Workshop – BANZ organised a very successful workshop on 1 November in Wellington around the presentation of recent research into the economics of forest residue as an energy source. The research had been funded by the FIDA Bioenergy Programme. The presentations from the workshop are now available on the BANZ website. <http://www.bioenergy.org.nz/workshops.asp#ForestResidue>. Many thanks to all attendees for their involvement in the workshop.

In addition a presentation was given into the research that was recently undertaken for EECA into the likely uptake by 2020 and 2030 of bioenergy as a source of energy for direct heating applications. A copy of the presentation is also on the website. <http://www.eeca.govt.nz/eeca-library/eeca-reports/neecs/report/assessment-of-possible-renewable-energy-targets-woody-biomass-07.pdf>

Bioenergy Knowledge Centre (BKC) – Sawmillers Portal and Cost Analysis Tools – The Sawmillers Portal of the BKC was implemented in December 2006 and the Call Centre - which provides access to experts in bioenergy - has been established. These components of the portal are now well-established and receiving consistent traffic and enquiries. A new portal addressing forest residue extraction is under development. As part of the Sawmillers Portal, a number of cost analysis tools for sawmill wood-waste streams were developed. This December a new range of tools has been launched with the aim of helping forest owners and managers to evaluate the value and cost of extracting their residues.

The following tools are available at <http://www.scionresearch.com/BKC/index.html>:

- ***Landing residue recovery calculator***

Estimates the amount of in-forest residue left at a landing site after a harvesting operation. Calculation based on type of harvesting and log-making system and crop quality.

- ***Cutover residue recover calculator***

Estimate the amount of in-forest residue left on cutover after a harvesting operation. Calculation based on type of harvesting system and crop quality.

- ***Residue recovery costing tool***

Comprehensive costing tool to determine the delivered cost of forest residue for a complete recovery operation. Results given in \$/GJ as well as \$/tonne.

- ***Residue transport cost calculator***

Simple tool to determine the transportation costs for various transportation schemes and machines. Results given in \$/GJ as well as \$/tonne.

In addition, an advanced FAQ, providing detailed information on common questions that have been received through the Call Centre, will be uploaded to the portal this December.

For more information contact the Call Centre at 0800 BIOENERGY or visit the portal at www.bioenergy-gateway.org.nz.

EECA News – The FIDA Wood to Energy Programme - Supporting the use of wood residue

The Bioenergy Initiative of the Forest Industry Development Agenda (FIDA) offers help, by way of funding and information, to those interested in using wood residue as an energy source. There are three key ways that EECA supports this initiative:

1. Providing financial assistance to businesses for demonstration projects (link to below)

2. Providing financial assistance to businesses for feasibility studies (link to below) that review the use of wood residue as a fuel
3. Provision of relevant information to sawmills, forestry owners, and the general public on the use of wood residues via the Bioenergy Knowledge Centre (www.bioenergy-gateway.org.nz).

The initiative is funded by Ministry of Agriculture and Forestry.

Funding available for demonstration grants

Capital grants for demonstration projects may be up to 40% of the capital cost of the project, with a minimum of \$10,000 and maximum of \$200,000. Funding is available for projects involving technologies that:

- Have the potential for widespread industry adoption
- Have an acceptable payback period or ROI

Applicants must be willing to have their project monitored by a third party and allow the results to be published to help promote the uptake of renewable energy.

Funding available for feasibility studies

Grants for feasibility studies are available provided that the company co-funds at least 25% of the feasibility study and are willing to have the results of the studies publicised as a case study.

Funding is available for feasibility studies involving technologies that:

- Have the potential for widespread industry adoption
- Are capable of saving energy or have potential for increased use of renewable energy

Applying for a grant for a demonstration or feasibility grant?

Applicants must submit a completed application form and a concise project plan with enough detail to give an overall picture of how the project is expected to run, and its benefits. [>> Download Wood Energy Grant Application Form here](#)

Project plans should be no more than three pages and include the following:

1. Brief project description
2. Expected timing from start to finish, including stages where relevant
3. Expected scheduling of stages where these are dependent on the decisions or actions of other parts of the business
4. Expected capital and operating costs for each stage of the project
5. Funding sources, including the grant you're applying for
6. Any risk or events that might affect the timing or completion of the project

Send completed application forms to:

FIDA Project Manager
 P O Box 37 444
 Auckland 1151
 Or email fida@eeca.govt.nz

Please contact EECA if you would like help completing your application form.

Thames Timber up and running - The largest wood-fired system to be installed in New Zealand for several years has recently been completed at Thames Timber. The project utilises 2 x 5.3MW two stage Bio-T Burners supplied by Visdamax, with 1,000m³ of fuel storage. The burners are designed in New Zealand to run on wet or dry fuels. The installation has gone smoothly with the gas boiler being decommissioned within 2 weeks of start-up. The system has successfully achieved the required particulate emissions of under 100mg/m³ with a cyclone-system, at the first attempt. For more details contact Living Energy (info@livingenergy.co.nz) who is the New Zealand agents for Visdamax.

Wood pellet endorsement timely - Scion's recent endorsement of wood pellet fires as a "simple, straightforward and immediate step" that homeowners can take to help improve their community's health by cleaning up the air, is good news for the wood pellet industry. This independent validation came from Dr Per Neilsen of Scion's Bioenergy Group, who was looking at home heating in Rotorua as part of research being undertaken by Environment Bay of Plenty, the regional council. It concluded that if all Rotorua homes used wood pellet fires, then particulate emissions would reduce by 92%. Particulates, also known as PM₁₀, is the very fine dust that can become trapped in people's lungs and over time harm their health through heart and breathing problems. Dr Neilsen also endorsed wood pellets' relative heat efficiency. The Scion report and associated media release generated good news coverage in the central North Island and, assuming good national media coverage, will have been favourably noticed by other regional councils around the country now considering how to tackle the requirements of the National Environmental Standards for air quality. The Scion report is available on the BANZ website.

Wood pellet heater installer training and accreditation - BANZ has commenced a project to establish a wood pellet heater installer training course and eventually an installer accreditation scheme. The course is being developed jointly with Waiariki Institute of Technology in Rotorua and Christchurch Polytechnic Institute of Technology.

Heat Plant Database update – BANZ has been contracted by the Ministry of Economic Development and EECA to undertake a national survey and update the Heat Plant Database that is maintained by BANZ on its website. The Heat Plant Database currently summarises all heat plant installed and operational in New Zealand over 1 MWth capacity. The database is separated into industrial sectors and includes the fuel used, age, and other information about the plant. A pdf version of the database is available for downloading from the public area of the BANZ website while members can download an Excel version for own analysis.

If anyone is aware of any errors in the database they are encouraged to contact the BANZ Executive Officer.

In the current update of the database the capacity of plant is being extended down to 100kW and information relating to the operation of the plant is also being collected, for example, operator training, opportunities for efficiency improvements, etc. It is expected that the updated version will be available in February.

Tropik Wood Power Project, Drasa, Fiji - RCR Energy Systems has delivered its first major project in the Fiji Islands. The boiler plant has been designed using 3-D modelling technology by the RCR Energy Systems team based in Hastings, NZ. The heart of the plant is a Babcock & Wilcox Towerpak superheated steam boiler plant. The plant is located at the Drasa sawmill complex of Tropik Wood and will be fired on bark, sawdust, and wood residues from the mill operations. Steam from the superheater is delivered at a flow rate of 35 tonnes per hour, 43 bar pressure and 400°C to two turbine generator plants capable of producing 12MW of electricity.

The client - project developer AJYNK - negotiated a Power Purchase Agreement with Fiji Electricity Authority (FEA) on behalf of the power plant owner, Tropik Wood, to deliver electricity supply to the national grid on Viti Levu, the main island of Fiji. The Fiji government has set FEA an ambitious goal of becoming a 100% renewable energy power utility by 2011. Fiji's electricity generation is primarily hydro power from a single 80MW power station at Monosavu. Until now, the balance (around 50%) of the national grid requirement has been produced by diesel-fired generators, costing the country dearly as electricity demand has risen, along with world oil prices. Diesel costs to FEA have dramatically soared by over 200% over the last 4 years. FEA has therefore fast tracked all renewable capital projects, including the Drasa project. The project was inaugurated in Sept 2006.

Feature News – “**BIOCHAR**” – what is it and why is it of interest?

What is it?

Biochar is a fine-grained charcoal high in organic carbon and largely resistant to decomposition. It is produced from pyrolysis of plant and waste feedstocks.

Biochar production systems use up to half the carbon in the biomass feedstock for bio-energy production, with the remainder captured in a fine-grain, porous char. This differs from other forms of bio-energy use that lack carbon capture and emit resulting carbon into the atmosphere.

As a soil amendment, biochar creates a recalcitrant soil carbon pool that is carbon-negative, serving as a net withdrawal of atmospheric carbon dioxide stored in highly recalcitrant soil carbon stocks. The enhanced nutrient retention capacity of biochar-amended soil not only reduces the total fertilizer requirements, but also the climate and environmental impact of croplands.

Char-amended soils have shown 50 - 80 % reductions in nitrous oxide emissions and reduced runoff of phosphorus into surface waters and leaching of nitrogen into groundwater. As a soil amendment, biochar significantly increases the efficiency of and reduces the need for traditional chemical fertilizers, while greatly enhancing crop yields. Renewable oils and gases co-produced in the pyrolysis process can be used as fuel or fuel feedstocks. Biochar thus offers promise for its soil productivity and climate benefits.

More details at: <http://www.biochar-international.org/home.html>

What's going on internationally?

September 8-10, 2008, in Newcastle-Gateshead, UK - The 2nd international conference on biochar will explore prospects for biochar as a stable means of soil carbon storage and the only carbon-negative biomass energy production system. The biochar production system promises to reduce the world's dependence on fossil fuels while restoring soil fertility, enhancing soil productivity, and reducing atmospheric concentrations of the greenhouse gases that cause global warming.

What is NZ doing?

In December 2006 the Government released *Sustainable Land Management and Climate Change: Options for a Plan of Action*. This discussion document set out the Government's wish to develop and implement sustainable land management and climate change policies for the agriculture and forestry sectors through a single *Plan of Action*. Three key policy 'pillars' emerged from the Plan of Action outlining where joint government-sector action might occur as follows:

1. Adapting to climate change.
2. Reducing emissions and creating carbon sinks.
3. Capitalising on business opportunities arising from climate change.

Further details can be found at:

<http://www.maf.govt.nz/climatechange/sustainable-land-management-poa/page-03.htm>

In particular note the reference to **biochar** in Pillars 2 and 3 – (see also <http://www.maf.govt.nz/climatechange/poa-investment-sheets/investment-sheet-biochar.htm>).

Note also the emergence of the Ministry of Forestry's engagement and interest in **bioenergy** and **energy efficiency** (<http://www.maf.govt.nz/climatechange/poa-investment-sheets/investment-sheet-bioenergy.htm>).

International News

- Australian biofuel refineries on hold
- Subsidising biofuels – is it really cost-effective?
- UK beet sugar fuel
- American biodiesel floods UK market
- UK's Business Case for the Development of Renewable Heat
- New UK agency to oversee biofuel regulations
- The Palm Oil debate
- UK's first biodiesel buses launched
- Biofuels set to transform the Global Economy
- Low grade waste wood powers UK Power Plant
- At what point is waste wood a waste and at what point a fuel?
- Biofuel Cities European Programme launch
- The future is Algae.

Australian biofuel refineries on hold – Production at two Australian Renewable Fuel (ARF) refineries is on hold while the company carries out a review of operations. ARF says it will turn its attention to the US market due to high feedstock prices and poor government support locally, echoing statements from Agri Energy when its Australian biodiesel operations were put on hold last month. <http://www.arfuels.com.au>

Subsidising biofuels – is it really cost-effective? – The European Union's support for biofuels may not be the most cost-effective way for the 27-country bloc to tackle climate change, a [new study](#) has concluded. Last year EU governments spent at least 3.7 billion euros (5.2 billion dollars) on subsidising biofuel production. Such support is likely to grow in the coming years because the Union has set a strategy of raising the quantity of road fuel generated from biofuels from its present level of 2 % to 10 % by 2010. But the [International Institute for Sustainable Development](#) (IISD) in Geneva has queried if allocating large amounts of public funds to biofuels is desirable. In a study published Oct. 3, it calculates that the cost of using ethanol from sugar beet to avoid emitting one tonne of carbon dioxide (CO₂) -- the main gas blamed for climate change -- ranges from slightly less than 600 euros to 800 euros (760 dollars to 1,000 dollars). More details at: <http://www.wbcsd.org/Plugins/DocSearch/details.asp?DocTypeId=32&ObjectId=MjY0OTg&URLBack=pc2Ftemplatepc2FtemplateWBCSD2pc2Flayoutpc2Easppc3Ftypepc3Dppc26MenuIdpc3DMzU0pc26doOpenpc3D1pc26ClickMenupc3DLeftMenu&URLBack=pc2Ftemplatespc2FtemplateWBCSD2pc2Flayoutpc2Ea>

UK beet sugar fuel – A world-beating beet sugar factory in Norfolk is producing a new “green and environmentally-friendly” fuel as part of a drive to reduce carbon emissions from transport. The £20m bioethanol plant at Wissington, near Downham Market, was officially opened by Defra's farming minister Lord Rooker in late November before an invited audience of 300 industry leaders. Sited next to the world's largest beet factory, the

plant will produce 70m litres of bioethanol which can be added to petrol and which will reduce carbon emissions by 60%. More details at <http://new.edp24.co.uk/search/story.aspx?brand=EDPOnline&category=News&itemid=NOED22%20Nov%202007%2021:32:21:090&tBrand=EDPOnline&tCategory=search>

American biodiesel floods UK market – Since the start of the year, American biodiesel groups have flooded the European markets with cheap fuel. The volumes are so large that US imports are thought to account for more than 50% of demand for biodiesel. Biofuels firms are demanding the British government and the European Union take action to stop American rivals exploiting subsidies to flood the European markets with cut-price fuel. The Renewable Energy Association, an industry group, contacted the Department for Business Enterprise and Regulatory Reform and European Union trade commissioner Peter Mandelson in recent weeks. The European Biodiesel Board is also lobbying the EU to protest to the US government. More details at http://business.timesonline.co.uk/tol/business/industry_sectors/natural_resources/article2557242.ece

UK's Business Case for the Development of Renewable Heat – International firm Ernst & Young were jointly commissioned by the UK's BERR (formerly DTI) and Defra to produce a report which considered the 'business case for the development of renewable heat. The terms of reference in producing this report were to 'assemble, examine and develop the evidence base; consider the market potential/barriers and cost-effectiveness of existing technologies (financial and in terms of carbon abatement potential); to use financial and economic modelling to enable future BERR/Defra work on the topic'. The report can be found at: [Renewable heat initial business case](#) BERR/Defra have also commissioned Ernst & Young to produce a study on potential mechanisms to support the development of renewable heat. This study contributes to open debate on the topic and can be viewed at: [Renewable heat support mechanisms](#)

Further details about the UK's Biomass Strategy and related work can be found at: <http://www.berr.gov.uk/energy/sources/renewables/policy/renewable-heat/page15963.html>

New UK agency to oversee biofuel regulations – A new agency has been created to oversee the introduction of regulations requiring **5%** of all fuel sold in the UK by 2010 to come from biofuels. *The Renewable Fuels Agency will be responsible for the day-to-day running of the Renewable Transport Fuels Obligation after it comes into force in April.* More details at:

The Palm Oil debate – a New Greenpeace Report warns that palm oil pose a serious threat to the environment. Greenpeace claim that forests are being burned and peat wetlands drained for plantations, causing huge releases of carbon dioxide into the atmosphere. Palm oil is an ingredient in foods and a bio-fuel added to diesel for cars. Greenpeace's "Cooking the Climate" report investigates the cultivation of the crop in Indonesian peat swamps, thought to be one of the most valuable stores of carbon in the world. More details at: <http://news.bbc.co.uk/2/hi/asia-pacific/7084306.stm>

UK's first biodiesel buses launched – The first trial of buses in the United Kingdom running on B100 was launched last week. In a pilot project, Argent Energy, the UK's first large scale biodiesel producer, is working with Stagecoach, one of the UK's biggest bus and coach operators, to supply the biodiesel made by recycling and processing tallow (animal fat) and used cooking oil – both by-products of the food industry. The environmentally-friendly fuel will be used to power eight buses serving the Kilmarnock area in Scotland in a trial which is expected to run for around six months. Passengers will be able to help fuel the buses by exchanging their used cooking oil for discounted bus travel under a unique environmental incentive scheme. More details at: http://www.biodieselmagazine.com/article.jsp?article_id=1879

Biofuels are set to transform the Global Economy – Harvard University economist Ricardo Hausmann claims they will lead to the demise of the price-setting power of OPEC and the end of agricultural protectionism. He argues that technology is bound to deliver a biofuel that will be competitive with fossil energy at something like current prices. The consequences of this will be that the large potential supply of biofuels will cap the price of oil because its supply is much more elastic. Professor Hausmann also argues that the large-scale biofuel production will cause increases in the price of agricultural land and of food that will relieve governments from the current political pressure to protect the agricultural sector. This, he says, will boost sustainable development in poorer nations. Can these predictions become reality? Which biofuels will become most widely used? What do such scenarios mean for carbon emissions and energy security? For these answers and more go to: http://www.ft.com/cms/s/0/ad770a0c-8c7d-11dc-b887-0000779fd2ac.html?nclick_check=1

Low grade waste wood powers UK Power Plant – The UK's first large power plant to provide a market for lower grade waste wood officially opened in November in Middlesbrough. The £60 million Wilton 10 biomass plant on the Wilton International manufacturing site was developed by Sembcorp Utilities UK. The plant will process 300,000 tonnes of wood a year, including 80,000 tonnes of recycled wood and 80,000 tonnes of offcuts from sawmills. It will also process 80,000 tonnes of forestry products per annum such as tree tops and 55,000 tonnes of short rotation coppice willow. The fuels are mixed together to create hot gases, which are then passed over water to produce steam which turns a turbine to create 30MW of electricity a year for power giant EON. More details at <http://www.sembutilities.co.uk/wilton10/index.html>

At what point is waste wood a waste and at what point a fuel? – To feed the Wilton 10 plant with recycled fuel, Sembcorp has a partnership with local firm UK Wood Recycling. The firm accepts all grades of non-hazardous wood such as kitchen units, pallets and doors from which it uses lower grade material to produce fuel. The company has already stockpiled 30,000 tonnes of material in anticipation of Wilton 10 opening and has received a lot of enquiries from firms eager to dispose of lower quality wood which currently had no other outlet than landfill. Sending waste wood to biomass will become increasingly important once the landfill tax escalator increases by £8 a tonne in April 2008. Despite the obvious opportunities significant barriers to building biomass plants elsewhere to help tackle the 7-8 million tonnes of waste wood sent to landfill in the UK each year still remain. The perception of recovered wood as a waste creates problems. The UK's environment watchdog – the Environment Agency - failed to re-define the point at which wood ceases to be a waste. Other players agree that work is needed to stop recycled wood being classed as a waste as at present all plants which burned it had to be compliant with the Waste Incineration Directive (WID) which sets strict emissions controls. Current UK regulations provide a perverse incentive for generating electricity from waste material - no matter how 'clean' the material is. Further, legislation sets targets even higher than coal fired power stations which actually make it tougher to use recycled wood instead of sending it to landfill.

Biofuel Cities European Programme launch – The Biofuel Cities European Partnership is a forum for the application of biofuels. Open to all stakeholders in the area of biofuels for vehicles, it offers www.biofuel-cities.eu - a one-stop-shop for information on biofuels application; online facilities, workshops and study tours to exchange and network with your peers and learn from experts; news, publications and tools to provide information, guidance and support.

The future is Algae – Algae are set to eclipse all other biofuel feedstocks as the cheapest, easiest, and most environmentally friendly means of producing liquid fuel for cars, homes and power generators, according to a report by market analyst Kiplinger. Some strains of algae contain over 50% oil and an average acre of algae grown today for food and pharmaceutical industries can yield around 19,000 litres of biodiesel, compared to just 265 litres for one acre of soya beans or 1,600 litres of ethanol for an acre of corn. However, the difficult part is creating an optimal environment for algae to grow. Open ponds can easily be infiltrated and contaminated by other species and parameters essential to growth, such as temperature, light and salinity levels, cannot really be controlled. Large-scale photobioreactors – enclosed systems that produce algae in layer upon layer of tubes or shallow ponds – can offer a solution to these problems, and, although they still come with a high price tag – from €3.5 million to €7 million – Kiplinger analysts consider that "super efficient production and higher oil yields help offset the costs". Further information at:

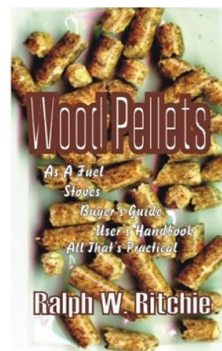
- Kiplinger's Biofuels Market Alert: [Algae: The Alternative-Energy Dream Fuel](#)
- Worldwatch Institute: [Better Than Corn? Algae Set to Beat Out Other Biofuel Feedstocks](#)

New Books

BANZ has recently bought the following Text –

“Wood Pellets – As a Fuel, Stoves, Buyers Guide, User's Handbook, All that's Practical” – Ralph W. Ritchie, ISBN:0939656-77-9

The book is available to borrow from the Energy Library.



Events Calendar

New Zealand Events:

University of Canterbury, Wood Technology Research Centre - WORKSHOP Biomass Gasification Technology and Biomass Energy

- Wednesday, 13 February 2008
- Room F3, Forestry School, University of Canterbury, Forestry Road, Christchurch

Biomass is a renewable resource for energy and fuels with the capability to mitigate CO₂ emission. Currently it contributes around 6% of the New Zealand's total primary energy supply with the largest proportion from the forest industry. Further increase of this contribution can be achieved by using cutting edge conversion technologies such as gasification with increased efficiency and reduced cost.

Workshop Objectives:

- To provide an overview on current and future potential opportunities of woody biomass in New Zealand energy supply.
- To provide information on the latest development of gasification technologies with emphasis on the progresses and achievements in the new gasifier development at the University of Canterbury.
- To provide results from energy demand studies for New Zealand wood processing industry and feasibility studies on construction of a gasification technology based energy plant in New Zealand.
- To exchange practical experiences in running the commercial gasifiers and biomass energy plants.

BANZ 2008 Events – advanced notice

- FIDA Feasibility Workshops - Implementing successful bioenergy projects – five case studies – **February 2008**, Rotorua – further details to come
- NZ Biogas – **March 2008**, Waikato – further details to come
- Wood Residue Trading – the potential in New Zealand – **June 2008**, Rotorua – further details to come

Several other topics are also likely to have a workshop focus – details will be available as the programmes are finalised.

Further details on all NZ events are at: http://www.bioenergy.org.nz/aboutus.asp#forthcoming_events)

International Events:

Asia Biofuels Conference and Expo 11 – 13 December, Singapore. Details at <http://www.asiabiofuels.com/>

Bioenergy World Europe 2008, 7 – 10 February 2008, Verona Italy. Details at: <http://www.bioenergy-world.com/europe/2008/>

World Biofuels Markets, 12 - 14 March 2008, Brussels, Belgium. Details at: <http://www.worldbiofuelsmarkets.com/>

Biofuel Summit and Expo for Sustainable Biofuels, 22 – 24 April 2008, Madrid, Spain. Details at <http://www.biofuelsummit.info/en/index.html>

World Bioenergy Conference and Exhibition, 27 – 29 May 2008, Sweden. Details at <http://www.elmia.se/worldbioenergy/>

Recent International Bioenergy Reports of General Interest:

United Nations biofuels report: The United Nations has released its first major report on bioenergy, *Sustainable Bioenergy: A Framework for Decision Makers*. They conclude that biofuels like ethanol can help reduce global warming and create jobs for the rural poor, but their benefits may be offset by environmental issues. The report is available from: <http://esa.un.org/un-energy/pdf/susdev.Biofuels.FAO.pdf>


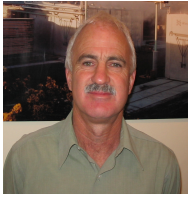

Biofuels in Australia – Issues and Prospects: A new report from the Rural Industries Research and Development Corporation (RIRDC) provides a synthesis of current knowledge on the biofuels industry. Issues covered include industry drivers, impacts on Australia’s rural sector and ways that the industry can be successfully developed to maximize benefits and minimize risk. The report is available at: <http://www.rirdc.gov.au>

Biogas handbook: *Running a Biogas Program* - A handbook by David Fulford describes the designs and uses of biogas plants, with technical appendices, for domestic and community plants. Likely economic and social effects of biogas programs are described from his experience, and advice is given on the problems of management. For more information and reviews see: http://developmentbookshop.com/product_info.php?cPath=15&products_id=126

Net energy balance for ethanol: A frank report of the concerns surrounding the growing bioethanol industry in the US is available at: http://www1.eere.energy.gov/biomass/net_energy_balance.html

BANZ Board Members’ Profiles

Mike Suggate, Chair of the BANZ Board		Mike is General Manager of Energy for Industry. He is a qualified mechanical engineer with extensive experience in project management, sales and marketing, and general management in the electricity, major manufacturing, automotive and distribution sectors. He also possesses considerable overseas experience, having worked or done business in Australia, Japan, Europe and North America. Energy for Industry is a Corporate Member of BANZ.
Brian Cox, Executive Officer BANZ		Brian Cox is Managing Director of East Harbour Management services Ltd. Brian Formerly Development Manager for the Electricity Corporation of New Zealand, Brian has over 30 years’ experience in identifying, investigating and developing commercial capital investment projects, particularly related to energy. He has a particular interest in renewable energy and commercial bioenergy projects. He is also the Executive Officer of the Solar Industries Association, a member of the Executive Committee of the Energy Federation of New Zealand, and has undertaken a number of projects for the Energy Efficiency and Conservation Authority (EECA) in relation to the Government’s Renewable Energy Policy.
Jurgen Thiele		Jürgen is a microbial biotechnologist and has lead the R&D team for Waste Solutions Ltd (WSL) for over 12 years. He holds a PhD in Microbial Biotechnology and has 30 years’ consultancy experience on process, system design and CDM (carbon credits) aspects of biogas production systems. Jürgen’s main interest in bioenergy are large scale biogas production systems, energy crops and liquid biofuels from biomass waste. Waste Solutions Ltd is a Corporate Member of BANZ.
Andy Matheson		Andy Matheson is General Manager, Renewable Energy for Solid Energy New Zealand Ltd, based in Christchurch. Andy has more than 20 years experience in energy marketing, at various times in electricity, gas, coal and renewable energy. He has been with state owned enterprise Solid Energy for 14 years. His current responsibilities include the company’s trio of renewable energy subsidiaries – Nature’s Flame (wood pellets and biomass), Switch (renewable heating solutions, including solar water heating and wood pellet central heating) and Biodiesel New Zealand. Nature’s Flame is a Sustaining Member of BANZ.
Rob Mallinson		Rob is the Managing Director of Living Energy. He has extensive experience in project management, having progressed from the “Channel Tunnel” to work for the worlds leading off-shore (oil rig) construction company, being based in the UK, Holland, and in the USA. Living Energy is an Associate Member of BANZ.
Shusheng Pang	[No picture]	Shusheng is Associate Professor and Director of the Wood Technology Research Centre at the University of Canterbury. His specific expertise and research interests include biomass gasification and pyrolysis for energy and liquid fuels. Canterbury University is an Associate Member of BANZ.

Pramesh Maharaj		Pramesh is an 'Emprove' Account Manager at EECA. As a qualified Engineer, he has over 17 years' experience in a broad range of project, sales and operations management roles in various industries from sugar refining, and chemicals to oil and gas. EECA is a BANZ Partner.
Gary Wilson		Gary has his own consulting business specialising in conceptual design and proposals for capital projects for select clients. He has experience and interest in Medium Density Fibreboard, wood waste processing, pneumatic conveying, emissions control, and wood pellets. Gary is an Individual Member of BANZ.
Doug Pigou		Doug is an engineer, and is Managing Director of Vortex Engineering Ltd. Vortex is a design and build contracting company with expertise in biomass storage and handling systems. Vortex also has involvement in biomass combustion systems through working with various associate companies. Vortex is an Associate Member of BANZ.
Philip Gedye	[No picture]	Philip has been with RCR Energy for 10 years, in a variety of sales, marketing and service management roles, culminating in his current position of Group Marketing Manager – Energy. RCR Energy is an energy plant EPC company, part of the ASX-listed RCR Tomlinson group of engineering businesses with offices across Australia and New Zealand. RCR Energy is a Corporate Member of BANZ.



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. Back issues of this E-zine are on the website, www.bioenergy.org.nz