BIOENERGY Australia

Newsletter

Bioenergy Australia is an alliance of organisations fostering biomass for energy and products

September

Bioenergy Australia 2005 Conference

The *Bioenergy Australia 2005* Conference will be held at Rydges Melbourne, in the central business district of Melbourne from **12-13 December 2005**.

An optional **technical tour** to bioenergy facilities is planned for **14 December**, as part of the conference. Tour destinations planned include the site of a biodiesel/synthetic diesel from waste plastic facility, the Werribee Waste Water Treatment Plant to view biogas and cogeneration developments, and Blue Circle Southern Cement near Geelong where waste and biofuels form part of the fuel mix. The tour group will be transported in a 100 percent ethanol fuelled bus, being sponsored by Ventura Bus Lines.

This year's conference is being coupled to an International Energy Agency Bioenergy Task meeting on 'Energy from integrated solid waste management systems'. Several international experts from this Task will give presentations at the conference, including the keynote address.

The conference program will have over 50 presentations, covering policies and programs, bioenergy projects and project development case studies, and will cover bioelectricity, liquid fuels, gasification and pyrolysis and their applications, anaerobic digestion, energy from waste, plus overarching aspects such as green house gas emissions and life cycle analyses of bioenergy systems. The Hon. John Thwaites, Victorian Minister for the Environment is lined up to provide the official opening of the conference. Our keynote speaker is Dr Juergen Vehlow, Institute for Technical Chemistry, Karlsruhe, Germany. The program will also include an extended panel discussion, facilitated by Assoc. Professor Ralph Sims of New Zealand's Massey University's Centre for Energy Research, on boosting the role of bioenergy in our future economy. The conference dinner speaker will be the Hon. Rob Jolly, of Greenworld Energy and a former Victorian Treasurer.

Poster presentations are still being sought for the conference. If interested, please contact Steve Schuck at sschuck@bigpond.net.au, Tel (02) 9416 9246.

The conference program and registration form is now available from both the Bioenergy Australia and the Conference Action websites:
http://www.bioenergyaustralia.org/documents/Registration_Document_2005.pdf &
http://www.conferenceaction.com.au/current/Bioenergyregdoc.pdf

Early bird registrations close on 31 October. For further information please contact Ms Emma Waygood of Conference Action at Tel: (02) 9437 9333, Fax: (02) 9901 4586, Email: emma@conferenceaction.com.au.

Bioenergy Australia Membership Update

Bioenergy Australia currently has 50 member organisations, from both the private and government sectors. Recent new members are: Fibrecell Australia Pty Ltd, Monash

University (Mechanical Engineering) and the Sustainable Energy Development Office of Western Australia. Bioenergy Australia wishes to further expand its membership and invites interested organisations to contact the Bioenergy Australia Manager, Dr Stephen Schuck on tel/fax (02) 9416 9246 or email: sschuck@bigpond.net.au if your organisation is interested in joining this bioenergy forum. Bioenergy Australia has specifically set up a membership tier to cater for universities and for organisations with an annual turnover of less than $2 million per annum.

Bioenergy Australia 2004 Conference CD

The CD ROM of the Bioenergy Australia conference program, delegate list (names and organisations), all the presentations from the entire conference (including the international pyrolysis bio-oil workshop) in PDF format, video presentations in MPG format, and several photos from the technical tour from the Bioenergy Australia 2004 conference, held in Adelaide, South Australia 29 November – 1 December 2004 are available for sale. The CD contains some 69 files. The cost is $66 each (including GST, postage and handling). For further details and orders please contact Steve Schuck on tel/fax: (02) 9416 9246 or email: sschuck@bigpond.net.au.

IEA Bioenergy Participation by Australia

Bioenergy Australia is the vehicle for Australia's participation in the International Energy Agency's (IEA) Bioenergy program. Bioenergy Australia is providing Australia's annual membership fees and other support for five Tasks, in which it is participating:

- Task 30-*Short Rotation Crops for Bioenergy Systems*
- Task 31-*Biomass Production for Energy from Sustainable Forestry*
- Task 32-*Biomass Combustion & Co-firing*
- Task 36-*Energy from Integrated Solid Waste Management Systems*
- Task 38-*Greenhouse Gas Balances of Biomass & Bioenergy Systems*

Subgroups from the Bioenergy Australia membership have formed to participate in these Tasks, with each Task selecting a National Team Leader (NTL) to co-ordinate involvement. National Team Leaders are: Task 30- Brendan George, NSW DPI, Task 31- John Raison, CSIRO Forestry and Forest Products; Task 32- Brett Corderoy, Delta Electricity; Task 36- Mark Glover, Waste Management Association; and Task 38- Annette Cowie, Forests NSW (DPI).

Should you or your organisation wish to obtain information on IEA Bioenergy or on participation in IEA Bioenergy Tasks, please contact Steve Schuck, the Bioenergy Australia Manager and Australia's representative on the Executive Committee of IEA Bioenergy. Tel/Fax: 02 9416 9246, or email: sschuck@bigpond.net.au. IEA Bioenergy Task information, the latest annual report with a special colour supplement on Anaerobic Digestion, and its Strategic Plan are available from web site: http://www.ieabioenergy.com .

IEA Bioenergy Meetings

Task 30 – *Short Rotation crops for Bioenergy Systems* and Task 31 – *Biomass Production for Energy from Sustainable Forestry* held there combined, annual meeting in Western Australia from 31 July - 5 August 2005. The meeting consisted of a two-day technical tour to visit

biomass and bioenergy facilities south and east of Perth, a two-day workshop entitled 'Multiple benefits from sustainable bioenergy systems', attended by up to 65 delegates, and a half day 'industry day' to engage a broader community with an interest in bioenergy. The field trip included visits to plantations of *Pinus radiata* and *P. pinaster* where harvest wastes are to be used to produce biomass, the Narrogin bioenergy plant and examples of potential bioenergy feedstocks such as phase farming with young tree and coppiced oil mallee plantings. The tour also visited a bauxite mine where cleared vegetation is being used for charcoal manufacture. Environmental issues, technology issues such as harvesting, and feedstock management were also included in the tour. It is expected that the Proceedings of this meeting will be published in *Biomass and Bioenergy*. Details of these Task meetings are on the Web at: http://forestry.tamu.edu/Links/IEA_Bioenergy_Task_31/Workshops.htm

Task 32 – *Biomass Combustion and Co-firing* – held its last meeting 16-18 March 2005 in Graz, Austria, where the meeting was held in conjunction with an international workshop on aerosols from biomass combustion. The proceedings of the aerosol workshop (in English) held on 18 March at Graz University of Technology, *Aerosols in Biomass Combustion* can be ordered from the BIOS website at: http://www.bios-bioenergy.at/ for the price of € 39 including shipping (exclusive VAT). A copy of these proceedings is also available for loan to Bioenergy Australia members from Steve Schuck. The next Task 32 meeting is to be held in conjunction with the *14th European Biomass Conference and Exhibition - Biomass for Energy, Industry and Climate Protection*. 17-21 October 2005.

Task 36 – *Energy from Integrated Solid Waste Management Systems* will be holding its next half yearly meeting in Melbourne, Victoria, Australia in conjunction with the annual Bioenergy Australia conference in December. Several participants in Task 36 will be giving presentations in a special parallel session within the conference, and will be holding their business meeting at Sustainability Victoria on 15 December.

Task 38 – *Greenhouse Gas Balances of Biomass & Bioenergy Systems*. Task 38 is planning to hold a combined meeting with IEA Bioenergy Task 40 (International Trade in Biomass) in April 2006 in Norway.

ExCo 56 (Executive Committee meeting) is scheduled to be held in Dublin, Ireland 11 – 13 October 2005.

IEA Bioenergy also provided a two-hour workshop on bioenergy within the IUFRO World Congress in Brisbane, on 9 August 2005. This involve Prof. Theo Verwijst, Task 30 Leader, Mr. Jim Richardson, Task 31 Leader, Prof. Jack Saddler, Task 39 Leader (Liquid Biofuels), Dr Annette Cowie, Task 38 National Team Leader, and Dr Stephen Schuck, Bioenergy Australia Manager. This session was attended by approximately 60 delegates and provided exposure of bioenergy to forest industry experts.

Launch of Low Emissions Technology Demonstration Fund

The Hon. Ian Macfarlane MP, Minister for Industry, Tourism and Resources and Senator the Hon. Ian Campbell, Minister for the Environment and Heritage are set to officially launch the Low Emissions Technology Development Fund on 11 October in Parliament House, Canberra. The *Low Emissions Technology Demonstration Fund* is a $500 million merit based grants program announced in the Australian Government's Energy White Paper *Securing Australia's Energy Future* in June 2004.

The objective of the fund is to demonstrate the commercial potential of new energy technologies or processes or the application of overseas technologies or processes to Australian circumstances to deliver long-term large-scale greenhouse gas emission

reductions. To be eligible for support under the Fund, technologies will have to be commercially available by 2020 to 2030 and have the potential to reduce Australia's energy sectors greenhouse gas signature by at least two percent per annum in the longer term. The measure will operate from 2005-06 to 2019-20, with the first competitive selection round to be held in 2005-06. Subsequent selection rounds are expected to be held in 2008-09 and 2011-12, subject to the outcome of Round One.

The *Low Emissions Technology Demonstration Fund* is to be delivered by AusIndustry which is the Australian Government's business program delivery division in the Department of Industry, Tourism and Resources. For further information about the *Low Emissions Technology Demonstration Fund* phone the AusIndustry hotline on 13 28 46 or email: hotline@ausindustry.gov.au.

MRET Treatment of Native Forest Biomass Decided

The Mandatory Renewable Energy Target (MRET) Statutory Review was inconclusive in its analysis of the use of native forest biomass for renewable energy, as it required consideration of factors outside its terms of reference, including National Forest Policy.

The Australian Government foreshadowed it would establish an expert panel to examine the issues around eligibility of native forest wood waste as a renewable energy source under MRET. The current criteria for inclusion under MRET reflect the Government's commitment that only wastes from sustainable forestry operations can be eligible to create Renewable Energy Certificates under the MRET scheme.

These criteria are designed to encourage more efficient use of existing resources, rather than promoting increased harvesting of native forests to supply wood wastes for electricity generation.

The Government has now indicated that it is confident these arrangements offer adequate safeguards and is not intending to make changes to the *Renewable Energy (Electricity) Act 2000* or the *Renewable Energy (Electricity) Regulations 2001* relating to the eligibility of native forest wood waste.

Therefore, the Government has decided not to proceed with the foreshadowed expert panel.

The Government's forest policy remains that sourcing of native forest wood waste for bioenergy is consistent with the sustainable management of Australia's forest resources and creation of additional value for forest industries and dependent communities.

For further information see: http://www.greenhouse.gov.au/markets/mret/update.html

Source: DEH – AGO

Biofuels Taskforce Report Released

As was noted in the June edition of the Bioenergy Australia Newsletter, the Prime Minister established a high level Biofuels Taskforce to examine the latest scientific evidence on the impacts of ethanol and other biofuel use on human health, environmental outcomes and automotive operations. Considering such impacts, and also considering the most recent economic analyses of fuel supply in Australia, the Taskforce was to assess the costs and benefits of biofuel production and to report to the Government by 31 July 2005.

The Taskforce's report has now been released, including some 47 conclusions spanning several areas. Of note is the conclusion that the national target of sourcing some 350 ML of biofuels by 2010 will not be reached under current conditions. The report has attracted significant media attention, with the Prime Minister having convened a meeting with oil companies to gain their cooperation for meeting the government target. The statutory fuel label for ethanol blended fuel is now likely to be modified and there is a move to allow five percent ethanol in fuel to be sold without the requirement for a specific label at the bowser.

The full report of the Biofuels Taskforce is now at http://www.pmc.gov.au/biofuels.

Axiom Energy Biodiesel and Synthetic Diesel Venture Launched

Melbourne based company, Axiom Energy has issued a prospectus to raise $37.6 million through an initial public offering (IPO) to fund a business to produce biodiesel and a synthetic low sulfur fuel based on waste plastics. The IPO closed at the end of September, with expected Australian Stock Exchange trading expected from 10 October. Part of the proceeds of the IPO will be used to acquire and upgrade an existing waste oil processing plant at Laverton, Victoria, to a biodiesel plant with a capacity to manufacture 100 million litres of biodiesel per year. The biodiesel plant is expected to be commissioned in July 2006 and fully operational in October 2006. The biodiesel plant will use waste vegetable oils, tallows and imported Palm Olein as feedstocks, and could be upgraded in the future to 200 million litres per year capacity. Axiom Energy has entered into an agreement with Emogin, a petro-chemical distributor for sale of up to all of its biodiesel production, which is expected to be blended with petroleum diesel.

The company will also construct two low sulfur diesel from waste plastic plants at the Laverton site, the first in Australia to use waste plastics as a feedstock. The conversion technology will be licenced to Axiom Energy from Ozmotech Pty Ltd, and is being used in ten plants currently operating in Japan. Axiom Energy has entered into an exclusive supply agreement with Visy Steel Products Pty Ltd for the supply of waste plastics, which are currently disposed of to landfill. The synthetic diesel plants are begin production in July 2006, and reach full capacity of 11.7 million litres per annum in September 2006. Axiom Energy is planning to build up to another 13 plants in Australia and New Zealand over the next five years.

The Laverton site is to be included in the Bioenergy Australia 2005 conference tour and David Vinson, Axiom Energy's Managing Director will be giving a presentation at the Bioenergy Australia 2005 conference on this venture. Steve Schuck, through Stephen Schuck and Associates Pty Ltd provided the independent expert report on aspects of biodiesel production and use for the prospectus. For further information see Axiom Energy's Website: http://www.axiomenergyltd.com.au.

Southern Biomass Trading Floor

A new venture, Southern Biomass Trading Floor is set to open for trading in a wide variety of biomass products in both the domestic and international markets from 1 October 2005. Supported by Airless Systems LLP (http://www.airless-systems.co.uk) and Green Planet (http://www.greenplanet.com), the biomass trading floor is promoted as creating an environment whereby suppliers can find markets, buyers can find product and governments can explore solutions. Southern Biomass Trading Floor advises that they currently have standing orders for, amongst other products, torrefied wood, municipal solid waste (MSW) and green waste. Southern Biomass Trading Floor has opened for registrations, advising that they have to date accepted a number of registrations from Asia, Europe, South America and

Australia, with the majority being suppliers. They are keen to accept additional registrations, especially from buyers. Registration, either as a buyer, associate, seller or full member is available on-line through http://www.southernbtf.com.

Babcock and Brown Dartmoor Project

Babcock and Brown in conjunction with National Power have been assessing the potential for a 35MW biomass cogeneration power plant adjacent to Green Triangle Forest Products' Dartmoor sawmill in Western Victoria. The project would provide 200 jobs during the construction phase, and some 20 permanent jobs upon completion, and would in addition provide a range of other benefits. If the project proceeds, construction could start in 12 months. Babcock and Brown previously announced that they were considering a bioenergy plant across the border in South Australia, but attention has now shifted to the Dartmoor project.

Biomass on the Internet

The Internet provides a valuable source of information on biomass and allied topics. Below are some Internet addresses to supplement the 1,300 odd addresses given in the previous 25 issues of the Bioenergy Australia newsletters. These lists are consolidated as electronic links on Bioenergy Australia's web page at http://www.bioenergyaustralia.org**.** Recently these links have been converted into an Excel file to allow interested persons to download the file and work with it off-line.

Benefits of Bioenergy IEA Report
http://www.ieabioenergy.com/library/179_BenefitsofBioenergy.pdf
IEA Bioenergy Task 33 (thermal gasification of biomass)
http://www.gastechnology.org/iea
Anaerobic Digestion
http://www.agwatertek.com
Biomass Development Company (Bradenton Florida)
http://www.biomassdev.com
Supercritical Water Gasification of Biomass
http://www.energy.iastate.edu/renewable/biomass/cs-water.html
Energy Products of Idaho FBC power plants
http://www.energyproducts.com/EPIEnergySystems.htm
Collex's Bioreactor technology
http://www.collex.com.au/innovations/bioreactor
European Biodiesel Board
http://www.ebb-eu.org
Community Power Gasifiers
http://www.gocpc.com
Gasifier summary paper – Paul Anderson
http://www.repp.org/discussiongroups/resources/stoves/Anderson/GasifierLAMNET.pdf
ThermalNet
http://www.thermalnet.co.uk
Charcoal making
http://www.rictec.com.sg/products/charcoal/charcoal-kiln-retort/
Charcoal making
http://www.carbo.nl/de%20ovens.htm
New Biocatalysts: Essential Tools for a Sustainable 21st Century Chemical Industry - Roadmap

http://www.ccrhq.org/vision/index/roadmaps/New%20Biocatalysts.pdf

Biotechnology Industry Organisation (USA)
http://www.bio.org/

Biodigestion/hydroponics
http://www.hydor.eng.br/Pag3-1.htm

Downdraft Gasification
http://www.inetlink.ca/a31ford/cgcmb/

Biodiesel industry directory (BBI)
http://www.biodiesel-directory.com

California Biomass Collaborative Cost Calculator
http://faculty.engineering.ucdavis.edu/jenkins/CBC/Calculator/index.html

Biodiesel.pl
http://www.biodiesel.pl

EthanolMarketplace.com
http://www.ethanolmarketplace.com

Institute for Sustainable Power (quality standards0
http://www.ispq.org

"Wood Gas For Engines" – free downloadable book
http://www.fao.org/documents/show_cdr.asp?url_file=/DOCREP/T0512E/T0512e00.htm

Grown Fuel (biodiesel)
http://www.grownfuel.com

Biodiesel manufacture (two stage process for self manufacture)
http://journeytoforever.org/biodiesel_aleksnew.html

Renewable Energy and Energy Efficiency Program
http://www.reeep.org

Nathaniel Energy Corporation (waste to energy)
http://www.nathanielenergy.com

DTU (Danish Technical University)
http://bgg.mek.dtu.dk/research/twostage/

Gasnet
http://www.gasnet.uk.net

Thermal Depolymerisation process to make bio-oil from turkey offal
http://www.discover.com/may_03/gthere.html?article=featoil.html

Ethanol resource manual for Iowa
http://www.iowaagopportunity.org/homepage.html

Oils and esters characteristics
http://journeytoforever.org/biodiesel_yield.html#oils_esters

University of Wisconsin Bioenergy Page
http://www.biotech.wisc.edu/jeffries/

Nishant Bioenergy Consultancy (India)
http://www.nishantbioenergy.com

Plug Power (methanol)
http://www.plugpower.com/home.cfm

Hemp as Biomass for energy paper
http://fuelandfiber.com/Hemp4NRG/

Downdraft woodchip gasifier
http://www.inetlink.ca/a31ford/cgcmb/

Australian National Chemical Reference Guide
http://www.deh.gov.au/chemicals-gateway

Eco Show (Sydney July 2006)
http://www.ecoshow.com.au

Biogas anaerobic digestion
http://www.biogas2energy.blogspot.com

Talbott's Biomass/Airturbine System

http://www.talbotts.co.uk/bgen.htm
Monash University Agribusiness Awards
http://www.agribis.net/
Gasifier – small scale with schematic
http://fmb.no/gas/
Biomass Development Company (US)
http://www.biomassdev.com
Utah Biodiesel links
http://www.utahbiodiesel.org/biodiesel_links.html
Gasification
http://www.repp.org/discussiongroups/resources/gasification/
Laimet Chipper from Finland
http://www.laimet.com/eng/chippers.html
Ash Recycling
http://www.recash.info
Australasian Bioplastics Association
http://www.bioplastics.org.au
Axiom Energy
http://www.axiomenergyltd.com.au
Small-Scale Biomass CHP Plant and District Heating
http://www.vtt.fi/inf/pdf/tiedotteet/2005/T2301.pdf

International Developments

UK Biomass Task Force Publishes Draft Conclusions and Recommendations

The Biomass Study Task Force, commissioned by the UK Department of Environment, Food and Rural Affairs (DEFRA) and the Department of Trade and Industry (DTI), has published a report with its emerging findings.

The Biomass Task Force was set up on 15 October 2004 to assist the British Government and the biomass industry in optimising the contribution of biomass energy to renewable energy targets and to sustainable farming and forestry and rural objectives. The 30 page interim findings contain 35 recommendations. The final report is due in October 2005.

The report, containing the draft recommendations to the Government, is available online at http://www.defra.gov.uk/farm/acu/energy/biomasstaskforce/index.htm.

BioOil to Synthetic Gas Demonstration

DynaMotive Energy Systems Corporation of Canada has recently announced the successful conversion of BioOil to Syngas following full-day gasification testing at the research institute Forschungszentrum Karlsruhe (FZK), Germany. The objective of testing DynaMotive's BioOil was to establish if it could be gasified and converted to Syngas within a tight technical specification.

The test results showed that DynaMotive Energy Systems Corporation's BioOil is suitable for Syngas production through demonstrating that a consistently good quality, industrial grade Syngas composition with low methane was achievable. With these very encouraging results, further testing and optimization of Syngas composition will be planned.

After BioOil has been directly converted to Syngas, it can be further reformed into synthetic diesel, methanol and other chemicals. Synthetic diesel, or Syndiesel, is a renewable

greenhouse gas neutral fuel that can replace diesel produced from crude oil. Syndiesel can be used in diesel engines without modification, including automobiles, trucks, buses and industrial diesel turbines.

The gasifier used for the tests processed 600 kg/h of BioOil and char mix on a continuous basis. Four tonnes of BioOil, enriched with 25% char were provided for the tests. After the BioOil/char mix was gasified, the resulting Syngas was analysed for composition.

Syngas production research conducted by FZK is part of the 'RENEW' project (http://www.renew-fuel.com), which concentrates its research on sustainable energy systems for transport. The project is a pan-European project supported under the European Commission's 6th Framework Programme. The mission of the project is to prove different concepts of fuel production from biomass.

Shell Partners with CHOREN in the World's First Commercial SunFuel Development

Shell Deutschland Oil GmbH has acquired a minority equity stake in CHOREN Industries GmbH, of Freiberg, Saxony in Germany. Shell's commitment sets the stage for construction of the world's first commercial facility to convert biomass into high-quality synthetic bio-fuel, already marketed by CHOREN as 'SunFuel'. A 15,000 t/a plant is planned for the production of SunFuel. This plant will be located at CHOREN's premises in Freiberg and will pave the way towards large-scale plants.

CHOREN Industries has developed its patented Carbo-V® Biomass-gasification process to become a leader in the field of converting biomass – such as woodchips – into ultra clean tar-free synthetic gas. This "syngas" can then be converted into synthetic biofuels using the same Shell Middle Distillate Synthesis (SMDS) technology that Shell has developed for Gas to Liquids (GTL) production (conversion of natural gas into synthetic oil products). Shell is a leader in Gas to Liquids technology with significant operating experience in the first commercial GTL plant of its type at Bintulu Malaysia. The synthetic GTL Fuel produced is an important component of Shell's 'V-Power Diesel' that is sold at Shell retail stations in several markets including Germany.

SunFuel is supported by carmakers such as Volkswagen and DaimlerChrysler because it can be used without modification in any diesel engine without compromising performance and with a substantial reduction in harmful emissions.

Greenhouse gas emissions from BTL Fuel are less than 10 percent of those from fossil fuels. Moreover, BTL fuel can either be used as a pure product or in a blend with conventional diesel fuel. Initially it will only be available in limited volumes until the technology progresses and larger plants can be built. In 2003 CHOREN became the first company to demonstrably produce BTL fuel outside of the laboratory environment. The unique Carbo-V® gasification technology is able to convert a broad spectrum of biomass feedstocks such as wood chips, straw or energy plants into a tar-free synthetic gas that may be converted into clean transport fuel using Fischer-Tropsch synthesis or alternatively for power generation.

Shell's stake in CHOREN is still subject to approval by the German cartel authorities.

Source: http://www.shell.com

Diesohol Demonstration Project in Denmark

A report on diesohol, (more commonly known as E-diesel in several parts of the world) entitled 'E-diesel - Demonstration Test in Denmark' describes a demonstration project in Denmark that was implemented by Akzo Nobel. This was the first demonstration test of E-diesel in Europe. The biofuel used was a mixture of 10% anhydrous bioethanol, 88% ultra low sulfur diesel, and 2% Beraid®, a solubiliser additive. Two types of heavy vehicles were used to monitor emissions and technical aspects such as engine performance, fuel consumption and oil analysis. Included was a Scania heavy duty tanker truck, which was run for 124,200 kilometres on E-diesel. The results from emission measurements showed that the emissions of particulate matters (PM), carbon monoxide (CO), and nitrogen oxides (NOx), were reduced by 31%, 29% and 5% respectively. The emission test also measured the total CO2 emission, which was reduced by about 3% compared to standard diesel. The specific fuel consumption measured is reported to have increased by 2.2%. The standard heavy-use diesel engine was shown to have run on diesel mixed with ethanol, without any form of modification and showed no extra wear-and-tear. The project group recommends using E-diesel in enclosed fleets of vehicles such as town buses, rubbish collection vehicles, small vans, lorries and taxis. An 11 page summary report can be downloaded from the Web at: http://www.novem.nl/default.asp?documentId=150182 Source: SenterNovem

USA Fuel-Cycle and Emission Study of Diesohol

A project entitled, 'Fuel-Cycle Energy and Emission Impacts of Ethanol-Diesel Blends in Urban Buses and Farming Tractors' was implemented by the Center for Transportation Research at the Argonne National Laboratory in the USA. The 41 page report describes the complete fuel cycle analysis concerning the energy and emissions effects of E-diesel mixtures, compared to petroleum diesel. The research concentrated on town buses and agricultural tractors used in the USA, since these groups form the first commercial application for E-diesel. The results show that using ED10 or ED15 can lead to additional total energy consumption, but can also lead to reductions in fossil-based energy consumption and significant reductions in petroleum consumption compared to conventional use of low-lead-based diesel. The greatest advantage for E-diesel is reported to be the petroleum reductions and the lower urban PM10 (particulate matter less than 10 microns) and CO emissions from the town buses. The report is now on the Web at: http://www.novem.nl/default.asp?documentId=150183 Source: SenterNovem

Proceedings of Ukrainian 'Biomass for Energy' Conference Available

A CD with the Proceedings of the Second International Ukrainian Conference on Biomass for Energy (held in September 2004 in Kiev) has been issued. Proceedings include unique materials of Ukrainian and foreign authors on the following topics:
- Biomass resources
- Research and development of bioenergy technologies
- Demonstration and market implementation of biomass-to-energy technologies
- Strategy and policy issues
- Economic and environmental issues of bioenergy technologies.

To order CD with Proceedings please fill in the form placed on web site www.biomass.kiev.ua/conf2 and send it to the address conference@biomass.kiev.ua. Price of one CD is 35 EUR or 40 USD.

The World Biomass Report 2004-2013

A relatively new report, the 'World Biomass Report 2004-2013' provides an overview of the historical development of biomass as a fuel source, explaining the market drivers behind the growing industry. The economic rationale for use of biomass and its evolution from conception to the present day are explained.

The World Biomass Report covers commercial scale biomass for the 2004-2013 period; providing an overview of the biomass business, the technology and a forecast of future global markets - together giving an in-depth insight into the industry. The report analyses historic and future biomass installations over the period 2000-2013 by region, and plant type. The report looks at the technologies involved in each sector of the biomass industry. The World Biomass Report uses a market model to generate forecasts of future installed capacity and expenditure over the future 10 year period in each region of the world.

Detailed analysis of the prospects shows future installed capacity and expenditure in each of the three main sectors: large-scale thermal, anaerobic digestion, and landfill gas. The report forecasts a US$18 billion, 12 GW market over the next ten years.

The World Biomass Report contains 224 pages, 60 figures and 121 tables. The price is US $4,050.00 and is available from:
http://store.securehosting.com/stores/sh205456/itemdetl.php?itemcode=80

An earlier issue of Bioenergy Australia Newsletter provided an article on the 251 page Australian report, 'Biomass Energy Production in Australia – status, costs and opportunities for major technologies' available from http://www.rirdc.gov.au for $60.

Forthcoming Events

- *Ninth Grove Fuel Cell Symposium*, Westminster, London, UK. 4-6 October 2005. Web: http://www.grovefuelcell.com
- Business Council for Sustainable Energy *MRET & REC Update 2005*. Sydney 5 October, Brisbane 7 October, Melbourne 20 October, Perth 25 October and Adelaide 27 October. Tel: (03) 9349 3077, Web: http://www.bcse.org.au.
- *6th Asia Pacific Roundtable for Sustainable Consumption and Production*. Melbourne, Australia, 10-12 October 2005. Web: http://www.6aprscp.com/ Email: 6aprscp@currentevents.com.au
- Corporation Builders' *New South Wales Capital Raising Forum*. 13 October 13:00-17:00. Willoughby City Council, Council Chambers, 31 Victor Street, Chatswood, NSW. Contact: Josh Wrafter, Tel: 1800 807 510, Email: jwrafter@cbglobal.com Web: http://www.cbglobal.com.
- *Residues to Revenues 2005*, Rotorua New Zealand 12-13 October and Melbourne 17-18 October 2005. Contact: Brent Apthorp email: bent.apthorp@innovatek.co.nz, Tel: +64 3 470 1902 Web: http://www.innovatek.co.nz
- *14th European Biomass Conference and Exhibition - Biomass for Energy, Industry and Climate Protection*. 17-21 October 2005, Palais des Congrès, Paris, France. http://www.conference-biomass.com. Contact: Angela Grassi Email: angela.grassi@etaflorence.it.
- *6th Biennial Residue-to-Revenue Residual Wood Conference*, 19-21 October 2005. Delta Vancouver Airport, Richmond, BC, Canada. Web : http://www.forestnet.com/woodconference/program.htm

- *CatCon 2005 Conference and Exhibition*, 'Catalysis for Future Energy and Fuel Demands', 25-26 October 2005, Wyndham Philadelphia at Franklin Plaza, Philadelphia, PA, USA, Web: http://www.catalystgrp.com/2005conferences/catcon2005/CatCon2005.html
- *Bioenergy 2005 International Nordic Bioenergy Conference,* 25-28 October 2005, Trondheim, Norway. Email: post@nobio.no Web: http://www.nobio.no.
- *Biodiesel Forum 2005*, 26 October 2005, Grosvenor Place, George Street, Sydney. Web: http://www.biodiesel.org.au/forums/Biodiesel_Forum_2005_flyer.pdf
- Biodiesel Quality and Testing Training Course, 27-28 October, Melbourne, Biodiesel Association of Australia. Contact: Adrian Lake Email: aplake@biodiesel.org.au Web: http://www.biodiesel.org.au/forums/Biodiesel_Testing_2005_flyer.pdf
- *Eurolipids*: International Trade Fair for Fats & Oil, 2-4 November 2005. Messe Frankfurt, Germany. Contact: Mrs. Caroline Curik, Tel: +49 (0) 611 – 951 66-28 Email: eurolipids@mfa.messefrankfurt.com Website: http://www.mfa.de.
- *Platts Biodiesel Investor Conference*, 3-4 November. Chicago, Illinois, USA. Web: http://www.platts.com/Events/PB540X/index.html
- *Bio-Fuels & Ethanol in Thailand 2005*. 3-4 November 2005, Shangri-La Hotel, Bangkok, Thailand. Web: http://www.abf-asia.com/project/703-bioenergyaustralia.pdf
- *BIO-Europe 2005*, 7-9 November 2005. Dresden, Germany. Organizer: Biotech Industry Organization/EBD Group. Contact: Tom Voigt, Email: tvoigt@ebdgroup.com. Web: http://www.ebdgroup.com/bioeurope/index.htm
- 2005 World Biofuels Symposium – China*: Biofuels: An Energy Solution* Beijing 13-15 November 2005. Web: http://www.worldbiofuelssymposium.com
- 3rd International Conference - *Fuels of the Future 2005*, 14-15 November 2005. UFOP-conference, International Conference Centre Berlin, Germany. Web: http://www.bioenergie.de/BKK/2005/EV_Einladung_BBE-UFOP_engl.pdf
- *Green Power Mediterranean*, 14-16 November, 2005, Rome, Italy. Web: http://www.greenpowerconferences.com/events/greenpowermed.htm.
- *16th Power and Electricity Congress*, Sydney Convention and Exhibition Centre, Darling Harbour 21-23 November 2005. Web: http://www.terrapinn.com/2005/apec_au.
- *World Renewable Energy Assembly*, 26 – 30 November 2005. Bonn, Germany. Web: http://www.wcre.org
- *Renewable Energy for a Sustainable Future*: 43rd Annual Conference of the Australian & New Zealand Solar Energy Society (ANZSES), 28-30 November 2005, University of Otago, Dunedin, New Zealand. Web: http://www.anzses.org
- *Cleantech Finance and Investment Forum*. 29 November 2005, Sofitel Hotel-Melbourne. Web: http://www.cleantechforum.com
- *Asia Biofuels Conference & Expo*. 6 December 2005, Philippines. Contact: Wendy Vincent, The Stratton Group, Inc. Tel: 0011 1 605 338 6829. Email: wendyv@thestrattongroup.com. Website: http://www.asiabiofuels.com/
- *Bioenergy Australia 2005*. 12-13 December, with conference tour on 14 December. Rydges Melbourne, Victoria, Australia. Program details at http://www.bioenergyaustralia.org. Posters being sought. Contact: Emma Waygood, email: emma@conferenceaction.com.au Tel: (02) 9437 9333
- The Pacific Rim Summit on Industrial Biotechnology and Bioenergy, 12-13 January 2006. Honolulu, Hawaii. Web http://www.bio.org/pacrim. Contact: Lauren Lamoureux, email: pacrim@bio.org.
- *National Biodiesel Conference and Exp 2006*. 5-8 February 2006, San Diego, Calfornia, USA. Web: http://www.biodiesel.org/expo2006/
- *Bioenergy World 2006*, 9-12 February 2006, Verona, Italy. Organizer: BioEnergy Events and Services. Contact: Paul Stuart Email: paulstuart@bees.biz Web: http://www.bioenergy-world.com
- *Biofuels Markets*, 16-17 February 2006, Brussels, Belgium. Web: http://www.biofuelsmarkets.com

- *11th Annual Renewable Fuels Association National Ethanol Conference*, 20-22 February 2006, Las Vegas, Nevada, USA. Email: info@ethanolrfa.org Web: http://www.ethanolrfa.org/nec.shtml
- *Bioenergy - I: From Concept to Commercial Processes*. 5-10 March, 2006, Tomar, Portugal. Web: http://www.engconfintl.org/6ae.html
- *3rd International Exhibition on New Energy and Energy Conservation 2006*, 16-18 March 2006. Intex Shanghai, Shanghai, PR China. Email: general@coastal.com.hk Web site: http://www.coastal.com.hk
- *Biofuels Markets in Latin America.* 27-28 March 2006. Rio de Janeiro, Brazil. Web: http://www.greenpowerconferences.com/Biofuels.htm
- GLOBE 2006, 29-31 March 2006. Vancouver, Canada. Web http://www.globe2006.com.
- 28th Symposium on Biotechnology for Fuels and Chemicals (The Society for Industrial Microbiology), 30 April - 3 May 2006 Nashville Airport Marriott Nashville, Tennessee, USA. Web: http://www.simhq.org/html/meetings.html.
- *BCSE National Conference and Exhibition*, 3-4 May 2006. Brisbane Hilton. Web http://www.bcse.org.au
- *Enviro 06 Conference & Exhibition*, 9-11 May 2006. Melbourne Exhibition & Convention Centre. Web: http://www.enviroaust.net/e6/
- *World Bioenergy*, 30 May - 1st June 2006, Jönköping, Sweden. Information and contact http://www.svebio.se
- *BioEnergy Conference and Exhibition*, International Conference on Bioenergy. 31 May – 1 June 2006, University of Northern British Columbia, Prince George BC Canada. In conjunction with Forest Expo 2006. Web: http://www.bioenergyconference.org
- *Eco Show Australia 2006*, 7-9 July 2006, Rosehill Gardens Exhibition Centre, Sydney. http://www.ecoshow.com.au.
- *3rd World Congress on Industrial Biotechnology and Bioprocessing*, 12-14 July 2006, Toronto Canada,. Web: http://www.bio.org
- World Renewable Energy Congress, 19-25 August 2006. Florence, Italy http://www.wrenuk.co.uk/downloads/WRECix1stcall.pdf
- "Biological Waste Management- From Local to Global" 5th International conference ORBIT 2006, in Weimar, Germany. 15-17 September 2006. Call for papers and other details at http://www.orbit2006.de.
- *Renewable Energy 2006*, 9-13 October, 2006, Makuhari Messe Japan, Web: http://www.re2006.org.

Residues

- Dr Stephen Schuck, the Bioenergy Australia Manager gave a presentation at the 2005 Environmental Engineering and Sustainability Conference, at the Powerhouse Museum, Sydney on 19 July. The title of the presentation was 'Bioenergy as a Sustainable Energy Source'.
- Steve Schuck provided a keynote presentation at the ASPACC '05 (Asia Pacific Combustion Conference) at the University of Adelaide on 20 July.
- Steve Schuck will be talking in a panel discussion at the 16th Power and Electricity Congress, Sydney Convention and Exhibition Centre, Darling Harbour 21-23 November 2005. The panel on 22 November is entitled 'Integrating renewable energy into the National Electricity Market.
- The latest IEA Bioenergy Task 31 newsletter is now available under Task News at: http://forestry.tamu.edu/Links/IEA_Bioenergy_Task_31/Task_News.htm
- Bimonthly issues of the Australian Emission Trading Forum Review are available for downloading. Go to www.aetf.net.au and click on "AETF Review".
- The vast majority of statistical publications on the Australian Bureau of Statistics website (http://www.abs.gov.au) are now free as a result of additional funding contained in the recent 2005- 2006 Federal Budget.

- A paper, "Improving the Public Perception of Bioenergy in the EU", by Harald Rohracher, et. al suggests that improving the public perception of bioenergy would lead not only to its wider use but also would bring down costs as a result of increased adoption rates and economies of scale. The paper is downloadable from the Web at http://europa.eu.int/comm/energy/res/sectors/doc/bioenergy/bioenergy_perception.pdf.
- A concise and readable Life Cycle Analysis (LCA) on biodiesel can be found at: http://www.lcacenter.org/library/pdf/PSME2002b.pdf.
- The US Department of Energy's Office of the Biomass Program website contains various project fact sheets. See: http://www.eere.energy.gov/biomass/project_factsheets.html.
- The FAO of the UN has a free downloadable book on its web site. See: "Wood Gas For Engines" – free downloadable book http://www.fao.org/documents/show_cdr.asp?url_file=/DOCREP/T0512E/T0512e00.htm
- Spain's first power plant based on olive agro industrial residues, of 12 MWe capacity, was commissioned in Cordoba province in 1996. The Web page, http://www.sodean.es/publicaciones/potencial%20y%20aprovechamiento.pdf provides a list of olive waste-fuelled power plants currently established in the Andalusian region of Spain.
- A directory of waste-to-energy facilities in the US is at http://environmental-industry.com/ebj/cw-wte.html. Each facility profiled includes information on name, location, days and hours of operation, area served, startup date, types of waste accepted, tipping fee charged, daily volume and the names and addresses of both the facility owner as well as facility operator.
- A status report on biodiesel in Germany is available at http://www.ufop.de/hilfe.html. The biodiesel market in Germany has been booming for the past decade, with production capacity expected to reach around 1.5 million tonnes per annum in 2005 with an additional 500,000 tonnes per annum capacity under construction for commissioning in 2006.
- In its budget proposals for 2006 the Dutch Cabinet has included plans for the use of biofuels in the Netherlands. In 2006, two percent biofuels are planned to be required to be added to petroleum fuels without price increases at the bowser. To achieve this, the government has allocated 70 million Euro in the form of duty exemption for biofuels. After 2006 the objective is to make it compulsory for fuel suppliers to achieve part of their turnover from biofuels. Source: GAVe-mail newsletter Nr. 10
- Venezuelan president Hugo Chavez is reported to have said that his nation will invest $US900 million over the next five years building sugar cane and ethanol processing infrastructure. This will involve planting some 300,000 hectares of sugar cane and building 15 ethanol processing plants, in the process creating 500,000 jobs.
- The US Army Corps of Engineers (USACE) has awarded four fixed-price contracts, each worth up to US$500 million for debris removal in areas affected by Hurricane Katrina. Included is ECC Operating Services, Inc. ECC Operating Services and two other contractors will perform debris removal in Louisiana, and another contractor will work in Mississippi. See: http://www.ecc.net.
- A report funded by the New Zealand Energy Efficiency and Conservation Authority (EECA) produced by Energy for Industry entitled 'Evaluation of opportunities for distributed electricity generation' estimates that up to 160 MW of electricity could be generated from the increasing amount of woodwaste that is becoming available in NZ. The report found prospects to include an 8 MW green woodwaste-fuelled plant in Canterbury, up to 25 MW of generation on the East Coast and a group of small projects totalling 25 MW in the southern North Island and Nelson-Marlborough.
- A biofuels four page fact sheet is available from the NZ Energy Efficiency and Conservation Authority, EECA Web page at: http://www.eeca.govt.nz/uploadedDocuments/72407%20EECA%20Biofuel.pdf

- A Woody biomass factsheet is available from EECA from: http://www.eeca.govt.nz/uploadedDocuments/Woody%20Biomass%20factsheet%200.pdf
- Green Energy Resources of the USA (http://www.greenenergyresources.com) has received an order for 250,000 tons of wood biomass in New York State beginning in 2007. The contract is part of a larger New England contract to supply nearly 500,000 tons to four biomass power plants in four US states. The agreement is a 10-year supply deal, totaling 5 million tons.
- ReFuel America and Advanced Biotechnology, have formed a joint venture company, Advanced Biotechnologies, to build and operate biodiesel plants in the south-east United States. The first biodiesel plant, which is to be built in Sandersville, Georgia, is planned to have the capacity to produce 226 million litres of biodiesel per year. It should be operational by late 2006, at which stage it will be the largest plant of its kind in the USA.
- It is estimated that the Philippines has a biomass potential equivalent to 300 million barrel/year of fuel oil that can be realised by 2008. The estimated capacity includes 900MW from sugar cane, rice husks and coconut residue projects.
- The South Australian Research and Development Institute, SARDI recently advertised that it is establishing a new biofuels program, initially focusing on biodiesel. They have advertised for a Principal Scientist Biofuels to develop biofuel feedstocks. The appointee will lead three sub-programs – agronomy, breeding and microalgae.
- Green Pacific Energy has reported a net loss for 2004-05 of almost $8.9 million compared with a net loss of $5.8 million the previous year. GPE has noted that it has spent considerable time and resources on fixing construction and fabrication issues as well as initial teething problem at its 5 MW green waste pilot plant at Stapylton on the Gold Coast, Queensland.
- An American Coalition for Ethanol 10 page report 'Fuel Economy Study - Comparing Performance and Cost of Various Ethanol Blends and Standard Unleaded Gasoline' is downloadable from: http://www.ethanol.org/documents/ACEFuelEconomyStudy.pdf
- The Australasian Bioplastics Association has been formed to promote plastics that are biodegradeable and based on renewable resources. See http://www.bioplastics.org.au.
- The September 2005 issue of Ethanol Producer Magazine reports that Primenergy will install a wood fired gasifier to replace natural gas and to reduce volatile organic compound emissions at the 79 million litre per year ethanol plant of the Central Minnesota Ethanol Co-op in Little Falls, Minnesota. The project will become the largest industrial biomass gasifier in North America and the second gasifier to generate electricity. Links: Ethanol Producer Magazine, September 2005 http://www.ethanolproducer-online.com/epm/200509/, PrimEnergy http://www.primenergy.com/ and Central MN Ethanol Co-op http://www.centralmnethanol.com/
- University of Sydney academics have criticised *Climate Change: Risk and Vulnerability Promoting an Efficient Adaptation Response in Australia*, a report prepared for the Australian Greenhouse Office by a leading consultancy. The Sydney University's media release is at http://www.usyd.edu.au/news/84.html?newscategoryid=15&newsstoryid=
- Chiptec Wood Energy Systems, a manufacturer of a fixed-bed, updraft (counter flow) gasifier have recently completed a conversion of a oil fired system to their gasification technology for the North Country Hospital in northern Vermont, USA. The hospital's web site has a small article on the project. See: http://www.nchsi.org/. Another article about the project can be found at: http://www.eere.energy.gov/biomass/pdfs/factsheets/fy04/north_country_hospital.pdf
- The Los Angeles Department of Water & Power in California has approved two long-term agreements to purchase 81,843 MWh of green power from landfill gas facilities. One agreement will be worth US$23.4 million over seven years; the second could be worth US$29 million over ten years.
- A good source of technical data on various gases is: http://www.engineeringtoolbox.com

- The AMFI Newsletter, August 2005 (issue 3/2005) has been prepared within the IEA Advanced Motor Fuels Agreement (Annex XXVIII). This new issue of AMFI Newsletter is available from the website: http://www.vtt.fi/virtual/amf/pdf/amfinewsletter2005_3august.pdf
- The penalty for businesses that fail to reach their greenhouse gas reduction benchmarks under of the NSW Greenhouse Gas Abatement Scheme has increased from $10.50 to $11.00 per tonne of carbon dioxide. The Independent Pricing and Regulatory Tribunal, IPART, says the increase, effective for the 2005 compliance year, is in line with the Consumer Price Index. For more information visit http://www.greenhousegas.nsw.gov.au.
- The city of Burbank in California is using ten 300kW Capstone and one 250kW Ingersoll-Rand microturbines to generate electricity from landfill gas. Burbank got a US$450,000 grant from the California Energy Commission for the Ingersoll turbine as an incentive. The city is paying US$90,000 for one year for operations and maintenance costs for the other turbines with Long Beach-based SCS Energy.
- Issue 2/2005 of the Danish Board of District Heating (DBDH) carries a three page article entitled, 'Gasification Breakthrough in Biomass' authored by Henrick Houmann Jakobsen, Managing Director of BioSynergi (http://www.biosynergi.dk/) and Mr, Torben Helge, Ramboll (http://www.ramboll.dk). The article reviews progress at Harboore, a small downdraft demonstration plant at Grested called Castor, and the proposed Skive plant that will use the Carbona fluidized bed. Harboore has some 16,000 hours of operation. Castor has 250 hours generating electricity. Construction has started at Skive and the plant should be in operation in mid 2006. The full article is at URL: http://www.dbdh.dk/pdf/ren-energy-pdf/side14-17.pdf. Source: Tom Miles
- A useful tool for evaluating the economics of a bioenergy project is the spreadsheet developed at the University of California, Davis for the California Biomass collaborative. Go to the California Biomass Collaborative site and select "Cost calculator": http://biomass.ucdavis.edu/
- Red Arrow Products Company manufactures and sells food additives derived from the controlled pyrolysis of wood. See http://www.redarrowusa.com/history.htm. They are one of the largest suppliers of liquid smoke flavorings and they manufacture and sell equipment to add these flavors to foods. They own pyrolysis based facilities built and operated by Ensyn that produce several products and pyrolysis oil. They hold patents and licensing rights to some of these processes. See: http://www.ensyn.com/who/ensyn.htm
- Panda Energy of the USA is to build a $US120 million, 390 million litre per year renewable fuel ethanol plant in Yuma, Colorado, powered by biogas derived from cattle manure. The feedstock for the ethanol process will be corn.
- The recent enactment of the US Energy Policy Act of 2005 expands the US government mandate for increased ethanol use in blended petrol to 7.5 billion gallons (28.4 Gl) per year by 2012, compared to fuel ethanol production in 2004 of 3.4 billion gallons. The US uses 530 billion litres of petrol per year.
- According to the US EPA's Landfill Methane Outreach Program (LMOP), there were 381 operational landfill gas electricity projects in the United States as of mid-2005, and more than 600 additional landfills were good candidates for energy development. Landfill gas generation projects generate about 9 billion kilowatt-hours of electricity annually, plus roughly 200 million cubic feet per day of landfill gas for direct use in boilers and other facilities.
- The Colorado Partnership for Biomass Utilization, Education and Bioenergy Production has received a US$100,000 grant from the Western Governors' Association (WGA). The grant will be used to boost the use of bioenergy and reduce excessive buildup of forest fuels that contribute to wildfires.
- UK firm Bronzeoak has announced the investment of $US100 million ($A132 million) to expand its bioenergy facilities in the Philippines. This involves 100MW and 30MW co-generation plants at Victorias Milling and Talisay.

- Fujitsu is about to launch the world's first commercial notebook computer casing made from corn-derived bioplastics. The use of corn starch in the manufacturing of the plastic saves around one litre of petroleum per notebook, while costing around three times as much as standard material. According to Fujitsu, the material results in a carbon dioxide reduction of around 15% across the entire product life cycle compared to using standard plastic.
- The Grains Research and Development Corporation and the CSIRO have entered into a Crop Biofactories Initiative joint venture to research and develop biobased products using renewable, crop based feedstocks. In the initial four year phase, CSIRO and GRDC will invest $13 million.
- US company Cargill plans to invest in a new 200,000 tonne per annum biodiesel plant in Mainz, Germany to complement its oilseed crushing and refining operations in the region.
- A biodiesel from tallow report from New Zealand is at http://www.eeca.govt.nz/pdfs/biodiesel_from_tallow.doc
- VTT Processes of Finland has just released a comprehensive report entitled 'Small-Scale Biomass CHP Plant and District Heating'. The body of the report is 129 pages with 7 pages of Appendices. The report considers in depth the market and technologies for combined heat and power units from biomass in the range up to 20 MW_e. Finland's potential for biomass CHP was found to be 80 MW_e and 214 MW_{th}. The full report is at: http://www.vtt.fi/inf/pdf/tiedotteet/2005/T2301.pdf.

Correction: In the last newsletter it was mentioned that the Novera Energy-Macquarie Bank joint venture has gained 100 percent ownership of the three Fibrowatt chicken litter power stations and also the Elean straw fired power station in the UK. These were acquired by only Macquarie Bank.

Opportunities Corner

The Bioenergy Australia Manager would like to assist and facilitate biomass and bioenergy projects and businesses by providing information and industry contacts to link project developers, resources, energy companies, sources of finance and other opportunities. If you or your organisation are interested in such assistance, please contact Steve Schuck for a free listing.

- The Fiji Electricity Authority (FEA) is requesting Expressions of Interest for the supply of services and equipment for a Biomass Power Generation Project. The Biomass Power Generation project for this EOI aims to utilize waste sawmill residue, primarily woody offcuts and forestry residues rather than sawdust or bark. The resource currently available totals around 30,000 t/year, but the project will be sized for 45,000 t/year, so the project aims to produce 30 GWh/year from a plant of approximately 4.5 MW_e. There is no heat or cooling load locally available, so maximum electricity production is required. There are three main components to the project: fuel storage and handling from the sawmill output; combustion of the fuel; and generation of power. FEA's preference is for a turnkey package for at least combustion and generation.

  FEA wishes to build this project as soon as possible to reduce diesel fuel consumption, and therefore requests Expressions of Interest for any one of the three components. As described in more detail in the Submitters Guidelines, this EOI process may assist in bringing project component suppliers together. Services to be supplied for any of the three components should include design, procurement and construction. Gasification or steam systems are acceptable.

  EOI forms can be found at http://www.fea-renewables.com. Further information is available in the Submitters Guidelines. EOI participants should fill out the two forms and email the completed forms to eoi@fea.com.fj. Should enquiries about the project be made, answers will be posted on http://www.fea-renewables.com during the EOI

process. The EOI runs from Wednesday 21st September to Friday 28th October. The EOI is not a pre-selection process for tenders, but FEA strongly encourages participation.

- The European Union is looking for top class Australian researchers to take part in its Marie Curie Fellowship program, a scheme which allows experienced non-European researchers to undertake a project with an institution in the EU. Apart from obtaining space, time and funding for their research, Marie Curie fellows also receive individual training in areas like management, ethics and communication. The EU has increased the budget allocation to the Marie Curie Outgoing International Fellowships to a total of €22 million for the 2005/06 round. The closing date for submission of application is 18 January 2006. For more information, go to: http://europa.eu.int/comm/research/fp6/mariecurie-actions/action/fellow_en.html
- LYNX Venture Training offers various training courses specifically tailored for budding and established entrepreneurs, to enable them to interact with venture capital providers. For further details contact Sharjeel A. Moutier, Tel : (07) 3269 7568 or email : mwe01677@bigpond.net.au
- Zhenyuan (Group) Co., Ltd. of Anyang City, Henan Provice, P.R.China is keen to link up with Australian companies to jointly develop biogas projects in China. Contact: Wang Lixin, Tel: +86 372 3956978, email: c00012497@hotmail.com.

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The Bioenergy Australia Newsletter is a complimentary service provided by Bioenergy Australia to stimulate interest and involvement in biomass and bioenergy in Australia. Email is the preferred way of distributing these newsletters. If you do not wish to receive future newsletters, please advise Steve Schuck.

Bioenergy Australia Newsletter is interested in your organisation's bioenergy related activities. Please send all press releases, article leads, and conference announcements to Steve Schuck. Fax: (02) 9416 9246 Email: sschuck@bigpond.net.au.

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Any comments, suggestions, articles and feedback are welcome. The views expressed in this newsletter are not necessarily those of the member organisations. Bioenergy Australia may be contacted at:

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