



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

Newsletter

August 2003

Bioenergy Australia Membership¹ Update

Recent new members of Bioenergy Australia are the National Association of Forest Industries (NAFI) and NSW Agriculture. 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 new membership tier to cater for universities and for organisations with an annual turnover of less than \$2 million per annum.

New Web Address for Bioenergy Australia

Bioenergy Australia has moved to a new Web address: <http://www.bioenergyaustralia.org>. The current address will remain operative in a transition period. Please update to the new address.

Bioenergy Australia 2003 Conference

The 'Bioenergy Australia 2003 - Sustainable energy for our future' conference will be held **8-9 December 2003**, with a technical tour on **10 December**. The Conference will be held at the Novotel Brighton Beach, Sydney. Conference Action (<http://www.conferenceaction.com.au>) have again been appointed as Bioenergy Australia's professional conference organiser. The conference program will be on their web site by the end of August. Early bird registration, providing a discount on the registration fee, will be open until 31 October.

This year's conference program includes over 40 sessions. Several international presenters from the International Energy Agency's Bioenergy Task 30 Short Rotation Crops for Bioenergy will give presentations, having been in New Zealand at a workshop for this Task. Professor Theo Verwijst, who heads Task 30 and is professor of short rotation forestry at the Swedish University of Agricultural Sciences will be the keynote speaker. Other international speakers will be from Brazil, New Zealand, Sweden, the UK and the USA. The conference will have considerable focus on the MRET review, the outcome of which should be known by the conference date. A panel and open forum will discuss the implications of the MRET Review on the future of bioenergy in Australia. The program will include sessions on policy and programs, case studies of various bioenergy projects, and there will also be sessions on wastes and residues, short rotation crops for bioenergy, new developments and sustainability.

¹ Founding members: RIRDC and the Australian Greenhouse Office. Membership now also includes DITR, BRS, CSIRO Energy Technology & Forestry and Forest Products, Delta Electricity, Macquarie Generation, Waste Service NSW, Brightstar Environmental & BEST, SEDA, Forestry Tasmania, State Forests of NSW, Western Power Corporation, Alstom Power, Stanwell Corporation, CS Energy, Tarong Energy, Country Energy, Rio Tinto R&TD, Babcock and Brown, CVC REEF, ForestrySA, CALM, CSIRO Sustainable Ecosystems, Carter Holt Harvey, Sugar Research Institute, Enecon Pty Ltd, Forest Products Commission of WA, Victorian Sustainable Energy Authority, WMAA, Ergon Energy, Resource NSW, MBAC Consulting Pty Ltd, Environment Australia, MLA Feedlot R&D Program, University of Newcastle, Oil Mallee Company Ltd, NAFI and NSW Agriculture.

An optional conference tour will visit an innovative biomass gasification plant and also a biodiesel plant north of Sydney. Last year's conference attracted over 150 delegates, and a similar number is anticipated this year. Bioenergy Australia is still seeking additional sponsors for the conference, as well as potential exhibitors at the trade/sponsors' exhibition and would welcome expressions of interest to display posters, related to bioenergy, at the conference. The dinner speaker this year will be Professor Syd Shea, Chairman of the Oil Mallee Company and professor of environmental management at Notre Dame University, Fremantle, Western Australia.

Please contact Stephen Schuck, Bioenergy Australia Manager, Tel:/Fax: 02 9416 9246, email: sschuck@bigpond.net.au regarding display of posters, or Steve Schuck/Emma Waygood of Conference Action (tel: 02 9437 9333, email: emma@conferenceaction.com.au) regarding sponsorship and exhibiting at the conference.

Biomass Technologies Roadmap Application

A consortium of bioenergy industry participants, facilitated by Bioenergy Australia, is making a submission to the Australian Government's Innovation Access Program, to develop a Biomass Technologies Roadmap for the Australian industry. The Roadmap will address: feedstock supply issues; processing to electricity, liquid biofuels and biobased products such as chemicals; sustainability; and industry development. The *Vision* for the Roadmap is to achieve a *carbon-neutral, sustainable future for Australia through bioenergy and biobased products*. Short term goals that are to be targeted within five-ten years are the doubling of biomass based electricity on the grids over current levels, initiating projects for five new biobased products, and increased use of sustainably produced biomass by at least 2 million tonnes per year. The Roadmap intends to also include a long term perspective, with goals of 50 percent of electricity and liquid fuels, 200 million tonnes of biomass used per annum for energy and biobased products and revitalisation of rural communities with 20 million hectares of new biomass plantations and energy crops within 50 years.

Bioenergy Australia is **urgently** seeking letters of support from bioenergy industry participants and stakeholder for the application, which will be submitted during the week ending 29 August. Such support will enhance the prospects of this application being successful. Please fax such letters of support to Bioenergy Australia member, Col Stucley of Enecon Pty Ltd, who is co-ordinating this application. Fax (03) 9817 6455. For further information contact Col on tel: (03) 9817 6255 or Steve Schuck tel: (02) 9416 9246.

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 current Tasks:

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

These specific Tasks run from 2001-2003. Subgroups from the Bioenergy Australia membership have formed to participate in these Tasks, with each Task selecting a National Team Leader to co-ordinate involvement. National Team Leaders are: Task 30- Don McGuire, Forestry SA, Task 31- John Raison, CSIRO Forestry and Forest Products; Task 32-

Peter Coombes, Delta Electricity; Task 36- Wesley Stein, CSIRO Energy Technology; and Task 38- Annette Cowie, State Forests NSW.

Bioenergy Australia is currently surveying its membership regarding task preferences for 2004-2006. 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 and its Strategic Plan are available from web site: <http://www.ieabioenergy.com>. With sufficient additional support, Australia could possibly also participate in additional Tasks, such as the Liquid Biofuels, Thermal Gasification of Biomass, Socio-Economic Drivers in Implementing Bioenergy Community Projects and/or Pyrolysis of Biomass Tasks.

IEA Bioenergy Meetings

Task 30 – *Short Rotation crops for Bioenergy Systems* – is planning to hold its annual meeting in New Zealand and Australia 1-5 December 2003, linking up with the Bioenergy Australia Conference, 8-9 December 2003.

Task 31 – *Conventional Forestry Systems for Sustainable Production of Bioenergy* – will be meeting in Flagstaff, Arizona, USA, 5-10 October 2003.

There will also be a combined Task 32, 33 and 36 meeting in Yokohama, Japan from 27-31 October 2003.

ExCo 52 is to be held in Campinas, Brazil on 28-31 October 2003.

Task 38 – *Greenhouse Gas Balances of Biomass & Bioenergy Systems*. The next IEA Bioenergy Task 38 Open Conference on "Efficient Use of Biomass for Greenhouse Gas Mitigation" will take place in Östersund, Sweden, on 30 September, 2003. There will also be an excursion to a large-scale biomass combined heat and power plant in Östersund on 1 October. This follows a joint BIOMITRE/Task 38 Project meeting 25-27 September and a Task 38 internal meeting on 29 September.

Energy Developments Suspends Work on SWERF® Pending Fresh Investment

Energy Developments Limited has announced that it will cease development expenditure on the waste gasification SWERF® plant at Whytes Gully, south west of Wollongong, New South Wales. They will continue the search for a new business partner for SWERF® to fund further development, commercialisation and global marketing of the technology. Energy Developments Limited will focus activities on its core energy businesses, including power generation from landfill gas. EDL believes that there are good prospects of attracting a new partner for the SWERF® business given the technical and commercial progress made to date. This includes positive test results from the utilisation of bio-oil as an energy source in both the primary gasifier and reciprocating engines.

Macadamia Nut Shell Bioenergy Plant Completed

Construction of the Ergon Energy 1.5 MW waste macadamia nut shell cogeneration power plant at Suncoast Gold Macadamias' Gympie, Queensland plant has been completed. The power plant uses conventional 1.5 MW steam turbine technology. The project incorporates a 350 tonne shell silo for the fuel supply and includes a 6 MW high-pressure boiler to provide steam to the turbine and process heat for the macadamia nut processing plant. Connection to the grid is via a new 11 kV connection. The plant is set to generate 9.5 GWh of renewable energy per year, displacing some 9,500 tonnes of greenhouse gases.

For more information, contact Shane Harkin of Ergon Energy on 0732288240 or 0408198318 or visit Suncoast Gold Macadamias (Aust) Ltd at <http://www.goldmacs.com.au>. Also see the Ergon Energy web site at http://www.ergon.com.au/environment/macadamia_power.asp

Clean Energy Future Scenarios Study

Bioenergy Australia has joined in a study, with other funding partners including the World Wide Fund for Nature (WWF Australia), the Business Council for Sustainable Energy (BCSE) and the Australian Gas Association, to create a technically coherent and attractive vision or visions of a clean energy future for Australia, that could be achieved by 2050 and to sketch the technical scenarios, policies and strategies required to reach such futures.

The purpose of the project is to show how a 50 percent reduction in GHG emissions is technically, economically and socially feasible, based on small improvements to existing technologies; and how an 80 percent reduction in GHG emissions is technically possible if one of several existing paths of technological development and institutional reform is successful, both technically and economically. The study is planned to be completed during 2003.

Meat Processing Anaerobic Digester Cogeneration

A J Bush & Sons is reported to have recently investigated the feasibility of cogeneration at their Sydney operations. The company operates a rendering facility which recycles meat and poultry co-products from abattoirs, retail butcher shops and meat processors, into high-grade protein meals and tallows catering for both the domestic and export markets at Riverstone, in western Sydney. The study, conducted through SEDA's Cogeneration Development Program found cogeneration to be viable at the site. As a result, A J Bush & Sons have called for expressions of interest for an energy performance contract (or build, own, operate) for a 85kW biogas fuelled cogeneration plant. For further information or for a copy of the expression of interest and accompanying report, contact Cam Wilkinson of AJ Bush & Sons on camwilk@bigpond.com, Tel: 02-9746-0356, Fax: 02-9746-1496.

Source: SEDA

Liquid Biofuels Incentives

The Federal Government announced on 25 July additional measures in support of the biofuels industry. Biofuel producers will receive \$37 million in new subsidies to help the biofuels industry reach the Government's goal of 350 megalitres of renewable fuel production by 2010. The subsidy will be provided for new or expanded capacity at a rate of 16 cents per litre to projects producing a minimum of 5 million litres per year of biofuel and grants will be limited to a maximum of \$10 million per project. The new grants supplement a 38.143 cent per litre biofuels subsidy which will be phased out over five years from 2008.

SEDA Funding Available from Renewables Investment Program

The NSW Sustainable Energy Development Authority (SEDA) is calling for project proposals for its Renewables Investment Program funding round. Funding may take the form of equity, grants or low interest loans. Over \$2 million is available for new renewable energy projects, including bioenergy. Applications close at 5 pm on 26 September 2003.

For further information on the Renewables Investment Program and to view the Guidelines, see http://www.seda.nsw.gov.au/ren_downloads.asp or Tel: (02) 9249 6100.

QSEIF Funding for Sustainable Energy Innovation

The Queensland Environmental Protection Agency is seeking project proposals for funding from round six of the Queensland Sustainable Energy Innovation Fund (QSEIF). Proposals can be for:

- development of new sustainable energy products and technologies that reduce adverse environmental impacts resulting from fossil fuel use
- development of industrial process improvements that enhance energy efficiency and/or reduce waste, pollution or water consumption
- creation of Centres of Expertise involving collaborative sustainable energy projects by industry, universities, TAFE colleges, research institutes or professional associations.

Applicants must be Queensland-based organisations, with the main activities of the project to be undertaken within Queensland. Funding of up to several hundred thousand dollars may be provided for any one project. Applicants are expected to make a significant contribution to the project.

Guidelines can be obtained by contacting Dr Martin Gellender on (07) 3224 8606 or email: martin.gellender@epa.qld.gov.au . Closing date for applications is 19 September 2003.

RIRDC Research Funding

RIRDC is currently inviting researchers, industry organisations and interested individuals to apply for funding support in 2004 - 2005. A new streamlined program structure has been designed together with three new categories of support for research and development. Prospective applicants for research funding can view the RIRDC Research Priorities at <http://www.rirdc.gov.au/researchpriorities> or by calling 02 6272 4819 to request a free printed copy. The closing date for applications is 26 September 2003.

Victoria Launches the Centre for Energy and Greenhouse Technologies (CEGT)

The Victorian Government has launched the Centre for Energy and Greenhouse Technologies in the Latrobe Valley. The Centre is aimed at assisting the commercialisation of new energy technologies for mitigating greenhouse gas emissions. The Victorian government is providing funding of up to \$14.25 million over three years for the Centre under its science, technology and innovation, and greenhouse strategies. The Centre has been established as a private company to encourage industry participation and co-investment in research, development, demonstration and commercialisation of energy-specific technologies. It will endeavour to bring together organisations representing the fossil fuel and renewable energy sectors, academics, researchers and environmental bodies. The Centre will fund energy research and development projects at the new and emerging pre-commercialisation stage, including renewables. The Centre will also establish and maintain a database of energy and greenhouse technologies and organise forums on energy technology issues. Government funding for seed capital would be leveraged by private investment in co-funding for projects, membership and general capital investment. The private sector will be expected to contribute at least 50 percent of the total cost of projects. It is expected that the Centre will eventually become self-funding, without the need for government financial support. Mr. Jan Dekker, formerly of SEDA has been appointed as the Centre's inaugural Managing Director.

Biofacts

The bulk densities of various biomass fuels, on a dry, ash free basis are tabulated below.

Biomass Type	Bulk Density (kg/m³ daf)
Wood	
Hardwood chips	227
Softwood chips	179-192
Pellets	556-625
Sawdust	161
Planer Shavings	97
Straw and Stover	
Loose	20-40
Chopped	20-81
Baled	111-204
Moduled	97-1250
Hammermilled	20-101
Cubed	323-667
Pelleted	556-714
Orchard Prunings-hammermilled	141-204

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 1,000 odd addresses given in the previous sixteen issues of the Bioenergy Australia newsletters. These lists are consolidated as electronic links on Bioenergy Australia's web page at <http://www.bioenergyaustralia.org> which includes an internal search feature.

Methanol Fuel from Trees article in Innovate Australia

http://www.innovateaustralia.com/newsletter/v2_2/methanol.htm

Wood for Alcohol Fuels - Using farm forestry for bioenergy - The JVAP Research Update Series No.7(03/018 EPL-2A) - Full report (1.37meg)

<http://www.rirdc.gov.au/reports/AFT/03-018.pdf>

Wood for Alcohol Fuels - Summary Report (8k)

<http://www.rirdc.gov.au/reports/AFT/03-018sum.html>

Methane Capture Workbook (AGO)

<http://www.greenhouse.gov.au/challenge/methane/index.html>

Renewable Electric Plant Information System (REPiS). US Department of Energy. Energy Efficiency and Renewable Energy Network.

<http://www.eren.doe.gov/repis>

Ti Tree bioreactor site

<http://www.titreebioenergy.com.au>

MicroGen Energy (micro CHP using Stirling engines)

<http://www.microgen.com>

Anaerobic Digestion – Polyethylene Digester (Royal College of Agriculture, UK)

http://www.royagcol.ac.uk/~francisco_aguilar/default.htm

Pig Power article (anaerobic digestion of pig manure ex Canada)

<http://www.producer.com/articles/20030522/news/20030522news21.html>
Community Power (USA 15 kW gasifier module)
<http://www.gocpc.com/>
Hydrogen (via biomass)
<http://www.stairwaytohydrogen.nl>
Algae as hydrogen fuel source article by Susan H Roschke
<http://csf.colorado.edu/envtecsoc/2002/msg00439.html>
Anaerobic Digester description (plug flow, 550 cows)
http://www.agrin.com/Dairy_Digester.htm
Anaerobic digester photos (AGRIN)
<http://www.agrin.com>
CRC for Carbon Dioxide Sequestration
<http://www.co2crc.com.au>
Nordic Bioenergy Conference and Exhibition 2003
<http://www.finbioenergy.fi/Bioenergy2003/etusivu.asp>
2nd World Conference and Technology Exhibition on Biomass for Energy, Industry and Climate Protection
<http://www.conference-biomass.com/>
Environment Australia ethanol paper
<http://www.ea.gov.au/atmosphere/transport/fuel/ethanol/petrol/index.html>
Los Angeles County Sanitation District (landfill gas)
<http://www.lacsd.org/swaste/Facilities/LFGas/Gas-To-EnergyFacilities.htm>
JF BioEnergy Inc (new address)
<http://www.jfbioenergy.com>
Indirect fired turbine proposal paper
<http://www.heuristicengineering.com/papers/Stockholm.pdf>
IEA Website Dealing with Climate Change
<http://www.iea.org/envissu/pamsdb/index.html>
GM Launches Japan's 1st Commercial Fuel-Cell Vehicle
<http://www.planetark.org/dailynewsstory.cfm/newsid/21459/story.htm>
IEA Renewable Energy Website
<http://library.iea.org/renewables/index.asp>
Flash Carbonization of Biomass report
http://www.hnei.hawaii.edu/flash_carb_biomass.pdf
Basel Agency for Sustainable Energies
<http://www.energy-base.org/>
Paul Harris' beginners guide to biogas (new address)
<http://www.ees.adelaide.edu.au/pharris/biogas/beginners.html>
Maui Times Weekly article on Biodiesel (ex USA)
<http://www.mauitime.com/v06iss44/index.html>
First Bio-diesel Car Rental Operation in the World (Hawaii)
<http://www.bio-beetle.com/>
Alternative Fuels in the Automotive market - CONCAWE Report 2/95
http://www.concawe.be/Download/Reports/Rpt_95-2.pdf
Energy and Greenhouse Gas Balance of Biofuels for Europe – an update – CONCAWE Report 2/02
http://www.concawe.be/Download/Reports/Rpt_02-2.pdf
Biofuels and Agriculture – A Factsheet for Farmers
<ftp://bioenergy.ornl.gov/pub/pdfs/farmerfactsheet.pdf>
Biomass appeal - Virent aims to supply cheap hydrogen power (Capital Times, Madison Wisconsin article)
<http://www.madison.com/captimes/business/stories/41653.php>
Fuel Cell Energy
<http://www.fce.com/>
Heating values and Fuel properties
http://www.woodgas.com/fuel_densities.htm

Asia Regional Cookstove Program
<http://www.arecop.org>

Earthpower Technologies (anaerobic digester at Camellia, NSW)
<http://www.earthpower.com.au/>

AnAerobics Inc.
<http://www.anaerobics.com>

Stirling Engines
<http://www.stmpower.com>

New Package to Support Uptake of Biofuels
<http://www.ea.gov.au/minister/env/2003/mr13may1103.html>

Fuel Tax Reform for the Future
<http://www.treasurer.gov.au/tsr/content/pressreleases/2003/031.asp>

Sustainable Technology (UK) – integration of AD with wind and gasifier
<http://www.sustainabletechnology.co.uk>

Irish Bioenergy Association
<http://www.irbea.org/>

International Federation Of Agricultural Producers (IFAP)
<http://www.ifap.org>

International Fertilizer Association
<http://www.fertilizer.org/ifa/>

European Energy Crops InterNetwork (EECI)
<http://www.eeci.net>

BTG home page
<http://www.btgworld.com>

Organic Waste Systems Dranco anaerobic digester
<http://www.ows.be/dranco.htm>

Forest and Wood Products R&D Corporation
<http://www.fwprdc.org.au>

Bioenergy Conversion Factors
http://bioenergy.ornl.gov/papers/misc/energy_conv.html

CRC Dryland Salinity
<http://www.crcsalinity.com>

British Biogen book on wood fuel for energy – Good Practice Guide
<http://www.britishbiogen.co.uk/gpg/wfgpg/wfgpgfront.htm>

Alcohol and cotton oil as alternative fuels for internal combustion engines
<http://www.fao.org/docrep/T4470E/t4470e08.htm>

Wood gas as engine fuel
<http://www.fao.org/docrep/t0512e/T0512e00.htm#Contents>

Nuvera Fuel Cells (ethanol)
http://www.ethanolrfa.org/leg_position_fcell.html

Ethanol Research Pilot Plant at Southern Illinois University
<http://www.ilcorn.org>

Portable straw-fuel gasifier cooker from China
<http://www.chinadepot.com/stoveberlin.html>

EcoIQ Energy gateway to bioenergy associations
<http://www.ecoiq.com/onlineresources/center/energy/biomass/assns.html>

Victron Energy (whispergen Stirling engine)
<http://www.victronenergie.com/Products/whispergen/whispergen.htm>

Asian Environment and Business Intelligence Resource Centre
<http://www.asianenviro.com>

Oil crops and biofuel characteristics and yields
http://journeytoforever.org/biodiesel_yield.html

E company (small wood gasifiers)
[http://www.econcompany.com/.](http://www.econcompany.com/)

Biomass gasification
<http://aewgasifiers.netfirms.com/chipcutter.htm>

Wood furnace
<http://www.naturesfurnace.com/explanation.htm>

Wood gasifying boilers
<http://www.envirofuel.co.uk>
<http://www.kuenzel.de>

TarWeb.Net site (BTG)
<http://www.tarweb.net>

Community Power Corporation (gasifiers)
<http://www.gocpc.com>

Wisconsin Focus on Energy Web page
<http://www.wifocusonenergy.com/renewable>

Woods Hole Research Centre Carbon Cycle tutorial
<http://www.whrc.org/science/carbon/carbon.htm>

Centre for the Analysis and Dissemination of Demonstrated Energy Technologies
<http://www.caddet-re.org/html/techbiomas.htm>

Screening and Crushing Services (NZ)
<http://www.rippervsc.com>

Plasma Arc conversion of waste to energy
<http://www.ste-energy.com/plasma.htm>
<http://www.mbm.net.au/wte/>

Austrian Biofuels Institute
<http://www.biodiesel.at>

Biodiesel – do it yourself kitchen chemistry
<http://www.woodgas.com/biodies.htm>

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

How Much Energy Does It Take to Make a Gallon of Ethanol (search for ethanol)
<http://www.carbohydrateconomy.org/>

Steam automotive technology
<http://www.greenhills.net/~apatter>

Solagro (France)
<http://www.solagro.org>

US Technology Roadmap for Plant/Crop-based Renewable Resources
<http://www.oit.doe.gov/agriculture/>

Co-firing test burn at TECO's Polk Power Station (USA)
<http://www.treepower.org/new.html>

Pig Power article
<http://www.canada.com/saskatoon/starphoenix/info/business/story.html?id=5C85F3B4-EA49-473A-A3A9-8FC6946F9019>

Mother Earth News article on pellet heated stoves
<http://www.motherearthnews.com/energy/energy176.pellet.shtml>

Canadian Renewable Fuels Association
<http://www.greenfuels.org/>

Ethanol production from synthesis gas
http://www.ethxx.com/news_press_march.asp?section=news&level=a

Wood to ethanol processes article
<http://www.pyr.ec.gc.ca/ep/wet/section16.html>

Biogas beginner's tour (ex Paul Harris)
<http://www.ees.adelaide.edu.au/pharris/biogas/beginners.html>

Transnational Technology LLC
<http://www.techtp.com>

List of Australian environment organisations registered with ATO
<http://www.ea.gov.au/pcd/ppu/reo/index.html#register>

Chiptec Wood Energy Systems
<http://www.chiptec.com>

International Developments

US Support for Renewables and Bioenergy

The US government has announced that its Department of Energy (DOE) will provide US\$17,390,442 for 187 energy efficiency and renewable energy projects in 48 states, the District of Columbia and one territory. Funding is being provided through DOE's State Energy Program Special Projects competitive grants program. Within the program, nine biomass projects will receive a total of US\$556,868. The cost-shared projects are to foster significant penetration of biomass-based technologies and products through: (a) outreach and information transfer to consumers, farmers, and industry; or (b) development of innovative state or local incentives to facilitate increased market penetration of bio-based products and biomass-based technologies. For more details see http://www.eren.doe.gov/buildings/state_energy/map.html.

Wood Fueled CHP Plant Commences Commercial Operation in Minnesota, USA

St. Paul Cogeneration LLC has announced that its combined heat and power (CHP) plant is now in full operation, providing 25 MW of electricity to Xcel Energy and hot water to District Energy. The new biomass plant, under construction since September 2001, has been operating in test mode since mid-February in preparation for permanent operations. The privately-financed facility is owned and operated by St. Paul Cogeneration, a company formed by Trigen-Cinergy Solutions of St. Paul, LLC and Market Street Energy Company, LLC an affiliate of District Energy St. Paul, Inc. Cinergy Solutions, Inc., responsible for the design and construction of this state-of-the-art facility, built the biomass-based combined heat and power plant in less than 18 months.

The plant is fueled primarily by clean wood waste, a plentiful, renewable local resource. Projected to burn 280,000 tons of wood waste annually, it is the largest wood-fired combined heat and power plant supplying a district energy system in the United States.

More information is available at <http://www.xcelenergy.com>

DynaMotive and Ontario Power Generation in Bio-oil Project

DynaMotive Energy Systems Corporation and Ontario Power Generation, a major North American electricity producer, have entered into an agreement for the proposed development of pyrolysis bio-oil renewable fuel projects in Ontario.

The two companies will be working together with other members of a consortium on an integrated 100 tonne/day biofuel and 2.5 megawatt combined heat and power facility in West Lorne, Ontario, Canada. The facility, the largest of its kind anywhere, will utilise wood residue from the operations of Erie Flooring and Wood Products. It will consist of wood conditioning equipment, a pyrolysis bio-oil plant, and a combined heat and power plant. The objective is to utilize DynaMotive's pyrolysis technology to establish a biofueled power generation plant on a commercial scale. Previously, DynaMotive successfully demonstrated the use of this technology to produce biofuel from wood in a 10 tonne/day pilot plant. This project will demonstrate an integration of the fuel production with its use in combined heat and power production in an industrial environment.

DynaMotive and Ontario Power Generation executed a Memorandum of Understanding in July 2002 to investigate opportunities to utilise DynaMotive's process to convert wood residue to BioOil. This is a renewable fuel that can be efficiently transported to other

facilities and could be used to replace fossil fuels to produce green power. A by-product of the process is a high quality char that has several potential commercial applications including as a partial replacement fuel for coal.

Ontario Power Generation's initial C\$200,000 investment in the project provides for the predevelopment work, including a project integration study by UMA Engineering Ltd. of Burnaby, British Columbia. Optional further investment by Ontario Power Generation will be subject to project feasibility. Ontario Power Generation has the right of first offer on future DynaMotive initiatives in OPG's trading areas and the right to partner with others.

Other participants in the project are: Magellan Aerospace division-Orenda Industrial, which is providing the power generation and fuel handling system utilizing BioOil; UMA Engineering; and Erie Flooring and Wood Products, which will supply wood residue for the project and receive electricity and process heat for its operations.

For more information <http://www.opg.com> and <http://www.DynaMotive.com>.

Meridian Energy and Massey University Investigate Biodiesel Option

Tallow, a by-product of New Zealand's meat processing industry, may power earthmoving machinery used in the construction of Meridian Energy's massive Project Aqua on the lower Waitaki River. Meridian is working with a Massey University team to develop an environmentally friendly fuel to power the bulldozers, scrapers and diggers used in the construction of the hydro project. This would be the country's first biodiesel plant and the first in the world to use animal tallow as the base product. See Web page <http://masseynews.massey.ac.nz/2003/masseynews/june/june16/stories/fuel.html>

UK to Spend £18.7 Million to Build Five Bioenergy Power Plants

The UK Government has announced that it is providing £18.7 million (\$47 million) to help build five biomass power plants in Staffordshire, Somerset, Wiltshire and Devon. The funding is being provided from the Bioenergy Capital Grants Scheme, established to encourage the development of biomass power generation plants. Recently the UK Government announced £7 million in funding for similar projects in Scotland and Northern Ireland. The five biomass power plants will produce enough heat and electricity to meet the needs of over 90,000 homes. The biomass plants will be fuelled by energy crops or forestry residues.

Britain's Energy White Paper commits to supply 10 percent of the UK's electricity requirements from renewable sources by 2010, as well as a 60 percent reduction in carbon emissions by 2050.

B9 Energy Biomass Ltd Rebrands Itself as Exus Energy Ltd

B9 Energy Biomass Ltd of Northern Ireland is rebranding itself with immediate effect, following a substantial new investment in the company. From now on, the company will be known and marketed under the new name, Exus Energy Limited, although it will remain associated with the B9 energy group. Previous Bioenergy Australia newsletters have highlighted their 200 kWe downdraft gasification technology supplying electricity to the local grid from wood fuel at the Blackwater Valley Museum in County Armagh.

The company has secured significant new funding to further develop and market its combined heat and power (CHP) technology. Investment by its owners has been supplemented by assistance from The Carbon Trust, Invest Northern Ireland and The Emerging Business Trust. The company regards this injection of around three quarters of a million pounds in total as a major vote of confidence in its product's future.

Exus Energy Ltd will continue to produce and refine wood-fuelled CHP units, in the UK and abroad, for large energy consumers.

More information on Exus Energy Ltd, and its products, can be obtained by visiting the company's new website at www.exusenergy.com or by contacting its headquarters at 27A Templemore Business Park, Derry, County Londonderry, Northern Ireland, BT48 0LD. Alternatively you can e-mail Exus at info@exusenergy.com.

Biomass Cofiring with Coal in the USA

Biomass cofiring projects continue at the following seven US power plants: Greenidge in Dresden, New York; Gadsden in Alabama; Ottumwa in Iowa; Dunkirk near Buffalo, New York; Polk near Tampa, Florida; Albright in West Virginia; and Willow Island in West Virginia. This list does not include plants where biomass cofiring at very small fractions - less than 2 percent heat input - is being conducted. The first six of these seven projects all involve combusting biomass along with coal in a coal-fired boiler. Five of the six coal combustion projects are in pulverized coal boilers. The Willow Island project is in a cyclone boiler, where the coal fed to the boiler is "ground," not "pulverized". The rapid complete burnout of this less-fine coal fuel is accomplished because the cyclone burners run at very high temperature and the ash in the coal becomes a molten, liquid "slag" rather than a dry solid ash.

The seventh project, conducted by TECO in Polk County, Florida, is a co-gasification product, rather than a co-combustion project. At Polk, the project is directed toward eventually co-gasifying a biomass fraction of approximately 5 percent of the fuel mass flow. The technology at Polk is integrated coal gasification combined cycle (IGCC).

IEA Renewables Information 2002

The International Energy Agency has produced a 160 page report on the use of renewable energy technologies and wastes in OECD countries. The book can be obtained free of charge from the IEA Bookshop at: books@iea.org. A PDF version can be downloaded at: <http://www.iea.org/stats/files/Ren2002.pdf>. For more information on *Renewables Information 2002* and other IEA publications: See <http://www.iea.org/public/index.htm>.

Forthcoming Events

- **Bioenergy Australia 2003 Conference**, Novotel Brighton Beach, 8-10 December 2003. Contact Stephen Schuck for further details and for expressions of interest to sponsor, exhibit or provide posters for display at the conference. The conference program and registration details will be on the Conference Action Website from late August. See: <http://www.conferenceaction.com.au>. Contact for registration is Emma Waygood, email emma@conferenceaction.com.au Tel: (02) 9437 9333 Fax: (02) 9901 4586.
- 2nd Australian Alternative Fuels Conference, 25-26 August 2003, Brisbane Marriott Hotel, Queensland. Contact IBC Conferences, Ph: 02 9080 4307 Web: <http://www.ibcoz.com.au/fuels>

- Bioenergy 2003, International Nordic Bioenergy Conference and Exhibition 2003, 2-5 September, Jyväskylä, Finland. Web: <http://www.finbioenergy.fi/bioenergy2003/>
- 3rd International Methane & Nitrous Oxide Mitigation Conference, Beijing, China, 14-19 September 2003. Designed for project developers, government officials, representatives from industry, and the financial, scientific, engineering and NGO communities, this event is co-sponsored by the IEA Greenhouse Gas R&D Programme. For the program see: <http://www.ieagreen.org.uk/>
- Eighth Grove Fuel Cell Conference 'Building Fuel Cell Industries', ExCeL, London Docklands, UK, 24-26 September 2003. Web <http://www.grovetfuelcell.com/register.htm>.
- Pellet Energy Association conference. 25-26 September 2003, Christchurch N.Z. Contact Rod Bailey, email: rod@pelletheaters.com.au Web: <http://www.pelletheaters.com.au> Tel: 02 66287477
- EPRI's Distributed Energy Resources and Renewables Conference – 2003, 15-17 October 2003. Intercontinental New Orleans, New Orleans, LA USA. Web: http://www.epri.com/attachments/292256_EPRIFOCDER03EventSheetRegistration.pdf
- International Solid Waste Association Congress 2003. Melbourne, 9-14 November 2003. Enquiries: Event Manager, Quitz Pty Ltd Tel: (02) 9410 1302 Web: www.iswa2003.net Email: quitz@bigpond.net.au.
- Solar 2003, 26-29 November 2003, University of Melbourne, Web: <http://www.destinationrenewables.com.au>
- UNFCCC COP-9, Ninth Conference of the Parties to the UN Framework Convention on Climate Change, 1-12 December 2003, Milan, Italy. Contact: UNFCCC Secretariat, Ph: +49-228-815-1000, Fax: +49-228-815-1999, Email: secretariat@unfccc.int Web: <http://www.unfccc.int/>
- 2nd International Workshop on Pyrolysis "Thermal Conversion Opportunities for New Wood Products through Research and Development". 15-17 December 2003, University of Notre Dame, Fremantle W.A. Tour of SIMCOA's charcoal plant 17 December. Contact: Dr Paul Fung, CSIRO Forestry and Forest Products.
- POWER-GEN Renewable Energy conference. 1-3 March, 2004, Flamingo Hotel, Las Vegas, Nevada, USA. Conference website: <http://pgre04.events.pennnet.com/>
- 2nd World Conference and Technology Exhibition on Biomass for Energy, Industry and Climate Protection, 10-14 May 2004, Rome, Italy. Preliminary Call for Papers - Deadline: 10 October, 2003. Web: <http://www.etaflorence.it>
- Second "World Renewable Energy Forum: Policies and Strategies" 30-31 May 2004, Bonn, Germany. Fax: +49-(0)-228-361213 or 361279 Email: info@wcre.org or inter_office@eurosolar.org. Web: <http://www.wcre.org> or <http://www.eurosolar.org>
- World Bioenergy 2004, *Conference and Exhibition on Biomass for Energy*, Jönköping, Sweden, 2-4 June 2004. Web: <http://www.elmia.se/bioenergy>
- World Energy Congress (WEC): *Delivering Sustainability*, Sydney 5- 10 September 2004. Web: <http://www.tourhosts.com.au/energy2004>

Residues

- The Bioenergy Australia Manager, Dr Stephen Schuck gave a presentation "Bioenergy as a Renewable Energy Source" at Terrapinn's 2nd Annual Renewable Energy conference in Sydney on 20 August. He also gave a presentation on bioenergy at the Renewable Energy Generators of Australia (REGA) Forum 26-27 June at Yarra Valley, Victoria.
- Steve Schuck has been invited by the Electricity Supply Association of Australia (ESAA) to give a lecture on bioenergy at the ESAA Power Engineering Residential Summer School at the University of Queensland on 6 February 2004.
- Camden Council near Sydney launches a biodiesel trial on 25 August under the Local Air Improvement Program funded by the NSW Government's Clean Air Fund.
- Iogen Corp in Ottawa has constructed the first fully operational demonstration plant for fully integrated production of fuel ethanol from cellulosic agricultural wastes. It is

successfully processing 25 tons of wheat straw per week into fermentable sugar and is on track to produce 320,000 liters of ethanol annually. See

http://www.canren.gc.ca/renew_ene/index.asp?CaId=47&PgId=325

- An International Energy Agency Web page contains Renewable Energy Policies and Measures in IEA Countries and details more than 120 legislative acts that support the development and market uptake of renewable energy sources. It is at <http://library.iea.org/renewables/index.asp>
- Another International Energy Agency Website “Dealing with Climate Change” features data on energy-related policies and measures taken or planned by the IEA’s 26 Member countries, to reduce greenhouse gas emissions. It contains more than 800 records collected between 1999 and 2002. See <http://www.iea.org/envissu/pamsdb/index.html>
- A patented tyre pyrolysis process with energy and by-product recovery, first demonstrated in a cement plant and subsequently in a full-scale 17 MW tyre-to-energy power plant is covered on the Web site: http://www.ens.dk/graphics/ENS_Forskningogudvikl/EU/Biomass_dansk_projektledelse/Tyre_Pyrolysis_Process_for_Cement_Manufacturing.htm
- A Danish project demonstrating a novel reactor system for the utilisation of unprocessed biomass and waste fuels to replace fossil fuels is noted on the web site http://www.ens.dk/graphics/ENS_Forskningogudvikl/EU/Biomass_dansk_projektledelse/Novel_Reactor_System_for_Utilisation_of_Unprocessed_Biomass.htm. The project's objective is to introduce a novel technology, which makes it possible to increase use of unprocessed biomass and solid waste fuels in high-energy consuming European industries.
- Calculation of amount of biogas from organic feedstock calculations are at <http://www.practicallygreen.com>
- Currently, more than 340 landfills in the United States harness landfill gas for energy. The combined greenhouse gas effect of this is the equivalent of eliminating the emissions from 12 million cars.
- A nine-page IEA fact sheet *Renewables in Global Energy Supply* provides concise insight into both the contribution of renewables to the total energy supply and the role that renewable energy plays in world electricity production. To download: <http://www.iea.org/leaflet.pdf>
- The jojoba plant, indigenous to the Sonoran Desert area of Mexico, California and Arizona, produces beans containing up to 50% their weight as oil. With a lower carbon and sulphur content than diesel, jojoba may be poised to join the list of feedstocks for biodiesel production.
- The British Biogen Good Practice Guide on Wood Fuel for Energy is available at: <http://www.britishbiogen.co.uk/gpg/wfgpg/wfgpgfront.htm>
- To subscribe to the Queensland EPA’s *The Compass* email newsletter, email: sustainable.industries@epa.qld.gov.au Web: http://www.epa.qld.gov.au/sustainable_industries/publications.html
- A comprehensive list of small scale stoves (including gasifier stoves) for cooking, using modern technology to improve performance and reduce fuel needs, has been compiled by Tom Miles: <http://www.trmiles.com/stoves/>
- A Brazilian hydroponics site has a tutorial section on anaerobic digesters and biofertilizers: <http://www.hydor.eng.br/Pag21-1.html>
- An international Fuel Cells Directory listing over 500 companies ranging from component suppliers to power/gas utilities, may be accessed at: <http://www.eyeforfuelcells.com/directory.asp>
- Two excellent sources of photo material for bioenergy and of dryland salinity-affected landscapes respectively are: <http://www.nrel.gov/data/pix/> and <http://www.clw.csiro.au/ImageGallery/>
- A 1995 report, *Estimating the Net Energy Balance of Corn Ethanol- An Economic Research Service Report*, by Hosein Shapouri, James A. Duffield and Michael S. Graboski is available at: http://www.ethanol-gec.org/corn_eth.htm

- Ofgem, the UK gas and electricity market regulator has accredited 14 large coal-fired power stations for co-firing biomass with coal, with fuels ranging from olive pulp to agricultural waste. Drax, the UK's largest power station, is looking at co-firing coal with milled palm nuts imported from Malaysia and Indonesia. See Web site <http://www.ofgem.gov.uk/ofgem/index.jsp>
- The CREST bioenergy gasification list has set up a discussion page on the Web to capture and refine a specification for a 200 kWe combined heat and power system. The draft specification includes Performance Requirements and Benchmarks; Major components; Sample Supplier System Specifications; Operating CHP Engine Systems examples; Gasification Systems and Suppliers; Performance Assessment and Testing; Economics; Publications and Research; and Steam and Other Small Power Systems. See: <http://crest.org/discussiongroups/resources/gasification/200kWCHP.html>
- The US Action Committee for Rural Electrification (ACRE), affiliated with the National Rural Electric Cooperative Association (NRECA) and the American Council on Renewable Energy (American Renewables or ACORE) have announced that they have resolved their ongoing dispute over the "ACRE" name. Last year NRECA and ACRE filed a law suit against the American Council for Renewal Energy alleging that it had infringed the "ACRE" trademark of the Action Committee for Rural Electrification. The American Council has agreed not to use "ACRE" as its acronym. The American Council has changed its full name to "American Council On Renewable Energy" and its short name to "ACORE." The now defunct Australian CRC for Renewable Energy also used the ACRE acronym.
- In Germany up to 2000 agricultural biogas plants are installed with 250 MW electrical capacity.
- Efficient anaerobic digestion of organic matter to produce biogas requires the Carbon:Nitrogen ratio to be in the range of 10 to 40.
- The world's first modular power generator using a Stirling-cycle Engine is now available. The Stirling-cycle engine enables generators to run on waste heat, biogas, and virtually any type of fuel. For more information, see: <http://www.staev.com.sg/waste-heat.asp> and <http://www.staev.com.sg/25kw-power-unit.asp>
- Engineers Australia maintains a searchable data base of some 500 conferences, courses and events around the world, including some that are related to bioenergy. This database is updated weekly. See: <http://www.engaust.com.au/conferences/default.htm>
- Electricity Restructuring Group (ERGO) based at UNSW's School of Electrical Engineering and Telecommunications conducts various appraisals which are placed in the public domain on the ERGO website <http://www.ergo.ee.unsw.edu.au>
- The JXQ-10A small gasification stove from China is designed for household use, being easy to operate and to add biomass conveniently. It speedily produces gas (in 1-2 minutes). It can gasify a variety of materials including wood shavings, corncobs, corn, wheat straw, wheat, rice and peanut husks. See <http://www.chinadepot.com/stoveberlin.html>
- Professor Tasios Melis of the University of California at Berkeley, along with researchers from the National Renewable Energy Laboratory discovered that depriving algae of sulfur and oxygen would enable it to produce hydrogen for sustained periods of time. See an article "Algae as hydrogen fuel source" article by Susan H Roschke on this subject at <http://csf.colorado.edu/envtecsoc/2002/msg00439.html>
- Construction of a US\$10.9 Million activated carbon-from-wood plant has begun in Estcourt, in western KwaZulu Natal, South Africa. It is scheduled to start production in January 2004, managed by Karbotek, an Italian/South African partnership. Karbotek will initially produce 8 000 tonne of carbon per year. The feedstock will be plantation timber, mainly wattle and eucalyptus.
- Canadian bio-oil company, Dynamotive estimates that the global market for their pyrolysis bio-oil plants in the pulp and paper sector alone exceed 160 full-scale BioOil plants. Each bio-oil plant would process 800 green tonnes of wood residue per day.
- The US Senate has approved a Bill requiring a doubling of ethanol use. Details: http://www.enr.com/news/2003-06-06/s_4827.asp

- The US Technology Roadmap for Plant/Crop-based Renewable Resources is available from Web site: <http://www.oit.doe.gov/agriculture/>
- Fuel Cell Energy, a major fuel cell company in the USA has been involved in a number of digester gas/fuel cell demonstration projects. See <http://www.fce.com/>
- CaFCP (California Fuel Cell Partnership) members commissioned and completed in October 2001 a fuel scenarios study through an independent consultant, examining the benefits and challenges of four different fuels for fuel cell vehicles - hydrogen, methanol, gasoline and ethanol. See <http://www.cafcp.org/>
- The US Department of Energy is investing the pretreatment and hydrolysis conditions that maximize biogas production from poultry litter. See http://www.eere.energy.gov/buildings/state_energy/projects/cfm/stateprojectdetail.cfm?pid=213
- The U.S. Department of Agriculture's Forest Service is funding an ongoing project in Auburn, Alabama that involves exploring cost-effective and environmentally-sound methods of harvesting, storing, and transporting forest biomass feedstocks. The project also aims to examine feedstock handling of woody crop systems at multiple operational scales. USDA is scheduled to contribute \$0.75 million to the project in financial year 2003 and \$0.85 million in financial year 2004.
- CSIRO Energy Technology is developing a database on wood and wood-derived products and their physical and chemical properties. See <http://www.det.csiro.au/science/energyresources/biomass.htm>
- The Biomass Transition project in the Netherland aims at a major breakthrough in the development of biomass as a resource for products, fuels and power. It is part of a larger energy transition project, organised by the Ministry of Economic Affairs, see <http://www.energietransitie.nl>
- A web based tour of a bioreactor cell is on the Web at Ti Tree Bioenergy site <http://www.titreebioenergy.com.au>
- Indcor, listed on the Australian Stock Exchange is proposing ethanol plants at Coleambally, NSW and Swan Hill, Victoria.
- A trial biodiesel plant, based on waste vegetable oil is set to proceed between Alternative Fuels and Energy, the Alternative Technology Association, Shire of Yarra Ranges, and Goldiesel and Fastfuel at Mount Evelyn, north-east of Melbourne. The modular trial plant will process 20,000 litres of spent oil per week. The Victorian government is reported to have provided a grant of \$50,000 towards this project.
- The Blair Fox Generation 10 MW chicken litter fired power plant, planned for Muchea WA has now received Ministerial approval. In December the WA EPA gave their approval. The plant, 70 km north of Perth will use 100,000 tonnes of chicken litter per year.
- A two stage evaluation of RIRDC's Agroforestry and Farm Forestry Program has been conducted. The following evaluation reports are available from the Web:
 Agroforestry and Farm Forestry Program: An overview of all projects - stage 1
 Full report (1.37 MB) <http://www.rirdc.gov.au/reports/AFT/03-041.pdf>
 Summary Report (8 kB) <http://www.rirdc.gov.au/reports/AFT/03-041sum.html>
 Agroforestry and Farm Forestry Program -An assessment of benefits - stage 2
 Full report (650 kB) <http://www.rirdc.gov.au/reports/AFT/03-042.pdf>
 Summary Report (24 kB) <http://www.rirdc.gov.au/reports/AFT/03-042sum.html>
- A very detailed and useful resource for fuel properties, such as heating values is at: http://www.woodgas.com/fuel_densities.htm
- Southern Company of the USA is now commercially using switchgrass and other local grasses, formed into small cubes to generate electricity. The grass cubes are mixed with coal and used at their Mitchell Plant near Albany, Georgia. Initial testing of switchgrass was conducted at Southern Company's Alabama Gadsden Steam Plant in 2001.
- The Japanese national biomass strategy (in English) is available on the Web at http://www.maff.go.jp/biomass/eng/biomass_honbun.htm
- A Web site that includes various photos of eucalyptus preparation for co-firing at the US TECO's Polk Power Station may be viewed at <http://www.treepower.org/new.html>. In

December 2002, whole eucalyptus trees were harvested and ground for biomass co-firing test burns (1 to 3% by energy contribution). The Polk Power Station is a 250 MW IGCC Coal Gasification Unit, which is a U.S. Department of Energy/EPRI sponsored clean coal project.

- The August/September issue of the *AETF Review* (Australian Emission Trading Forum) is now available for download. Go to www.aetf.net.au and click on Review.
- An article on biomass energy from the US based Natural Resources Defence Council at <http://www.nrdc.org/air/energy/fbiom.asp> expresses the view that biomass is poised to make a major contribution to domestic and international electricity and fuel needs while providing substantial environmental benefits.
- The Canadian Federal Government has also announced that it will require one-third of fuel sold in Canada to contain 10 percent ethanol by 2010, under its plan to comply with the Kyoto Protocol.
- Spanish utility Endesa SA has commissioned a 16MW, 21 million Euro, olive waste fueled power plant in Ciudad Real, Spain.
- A four page fact sheet, *Biofuels and Agriculture – A Factsheet for Farmers* is downloadable from: <ftp://bioenergy.ornl.gov/pub/pdfs/farmerfactsheet.pdf>. It covers raw materials for making biofuels, now and in the future, current biofuel production and growth opportunities, overall economic benefits, environmental benefits and a glimpse into the future.
- An International Energy Agency report ‘*Applying Portfolio Theory to EU Electricity Planning and Policy-Making*’, by Shimon Awerbuch with Martin Berger contributes to the debate on how to measure the cost of producing electrical power. The report can be downloaded from <http://www.iea.org/techno/renew/port.pdf>.
- A US company Smithfield Foods has created a company called Best Biofuel LLC to make biomethanol from methane produced from pig manure. The US\$20 biomethanol plant will be used to make biodiesel from pig rendering and other wastes. See: <http://www.bestbiofuels.com/news.html>
- Paul Harris’ (Adelaide University) beginner’s tour of biogas has been relocated to Web site: <http://www.ees.adelaide.edu.au/pharris/biogas/beginners.html>
- IPART, the NSW Independent Pricing and Regulatory Tribunal, has released a Q&A of the NSW Greenhouse Gas Abatement Scheme. The document includes an introduction to the scheme and greenhouse gas benchmarks, determining compliance with the scheme, calculation of benchmarks, and the abatement certificates scheme. See ‘Scheme Q&A Guide’ at <http://www.greenhousegas.nsw.gov.au>.
- Green Pacific Energy has acquired Energy Equipment Australia. This should now lead to the completion of the 5MW biomass fluidised bed combustor at Staplyton on the Gold Coast, Queensland. This project was suspended when former project partner, Envirostar Energy went into receivership earlier this year.
- BASE (Basel Agency for Sustainable Energies), a non-profit foundation and the UNEP (United Nations Environment Program) Collaborating Centre aim to mobilise investment in energy efficiency and renewable energy. BASE helps to build strategic partnerships between entrepreneurs and investors to finance sustainable energy in developing and industrialized countries. Web site is <http://www.energy-base.org/>
- An article ‘Salinity – the awakening monster from the deep’ at <http://www.science.org.au/nova/075/075key.htm> provides excellent coverage of dryland salinity in Australia.
- The Commonwealth has developed a proposed Australian biodiesel fuel quality standard which is likely to come into force before 18 September, the date when the new excise and production subsidy arrangements for biofuels come into force. The proposed standard is available on the Internet at: <http://www.ea.gov.au/atmosphere/transport/biodiesel/proposed-standard.html>
- A 10 MW biomass electricity plant, fueled by rice stalks and supplied by the Finnish arm of power company Foster Wheeler has been announced for the northern Malaysian state of Perlis.

- Five Caltex service stations in Cairns, in far northern Queensland are trialling E10 fuel (ten percent ethanol blend with petrol). The Queensland EPA is funding surveys of customer acceptance as part of a six month trial.

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, and sources of finance. If you or your organisation are interested in such assistance, please contact Steve Schuck for a free listing.

- Screening and Crushing Services Pty Ltd (NZ) offers the "Ripper" wood grinder, a self-contained unit incorporating shredder/grinder and screens. See: www.rippervsc.com
Contact: Brian Court, Managing Director, Screening & Crushing Systems Ltd, PO Box 6092, Christchurch, New Zealand, Ph: 643-359-1891, Fax: 643-359-1876, Email: info@scsnz.co.nz, Web: <http://www.screeningandcrushing.com>

Back Issues of Bioenergy Australia Newsletters – Downloadable from the Bioenergy Australia homepage: <http://www.bioenergyaustralia.org> (or from the old Webpage <http://www.users.bigpond.net.au/bioenergyaustralia>)

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Bioenergy Australia Newsletter is interested 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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Editor: Dr. Stephen Schuck, Bioenergy Australia Manager 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: Bioenergy Australia 7 Grassmere Rd, Killara, NSW 2071 Phone/Fax: (02) 9416 9246 Email: sschuck@bigpond.net.au Web: http://www.bioenergyaustralia.org
