



Biomass Taskforce

February 2000

Biomass Taskforce Membership¹ Update

The Biomass Taskforce has further expanded to 28 members, with recent new members being Great Southern Energy (Queanbeyan, NSW), Energy Equipment International Pty Ltd (North Sydney), Rio Tinto Research and Technology Development (Bundoora, Victoria) and the Queensland Forestry Research Institute (Gympie, Queensland). Thirty organisations now formally participate in the Biomass Taskforce, with the CSIRO Divisions of Energy Technology and Forestry and Forest Products sharing a membership, and Energy Developments Ltd being joined by their subsidiary, Biomass Energy Services and Technology. The Biomass Taskforce wishes to further expand its membership and invites interested organisations to contact the Biomass Taskforce Manager, Dr Stephen Schuck on tel/fax 02 9416 9246 or email: Steve.Schuck@bigpond.com in this regard.

IEA Bioenergy – Australia Participates in Five Tasks in 2000

The Biomass Taskforce is enabling Australia to participate in the International Energy Agency's (IEA) Bioenergy program. The Biomass Taskforce has been providing Australia's annual membership fee to the IEA Bioenergy Executive Committee, with the Biomass Taskforce Manager convening a group which has been participating in IEA Bioenergy Task 17, *Short Rotation Crops for Bioenergy* since the beginning of 1999. Subsequently the Biomass Taskforce has undertaken to participate in four additional Tasks in 2000. These new Tasks are:

- Task 18-*Conventional Forestry Systems for Bioenergy*
- Task 19-*Biomass Combustion*
- Task 23-*Energy from Thermal Conversion of MSW and RDF*
- Task 25-*Greenhouse Gas Balances of Bioenergy Systems*

Subgroups from the Biomass Taskforce membership have formed to participate in these Tasks, with each Task selecting a National Team Leader to co-ordinate involvement. The Biomass Taskforce recognises that there are persons and organisations that are not in a position to participate in IEA Bioenergy though membership of the Biomass Taskforce, yet whose participation is desirable. Scope exists to allow participation of such parties by invitation. National Team Leaders are: Task 18- Dr John Raison, CSIRO Forestry and Forest Products; Task 19- Peter Coombes, Delta Electricity; Task 23- Paul Wootton, Energy Developments Ltd; and Task 25- Dr Annette Cowie, State Forests NSW.

¹ Founding members: ERDC (replaced by DISR), RIRDC, Environment Australia (now the Australian Greenhouse Office), GRDC, BRS. Membership now also includes CSIRO Div of Energy Technology & Div of Forestry and Forest Products, FPA of NSW, Pacific Power, Delta Electricity, Macquarie Generation, Waste Service NSW, EDL & BEST, SEDA, SPM/CPM, Forestry Tasmania, State Forests of NSW, Western Power Corporation, ABB Power Generation Ltd, Western Sydney Waste Board, Stanwell Corporation, CS Energy, NRE -Forest's Service, the Northern Sydney Waste Board, AFFA, Tarong Energy, Great Southern Energy, Energy Equipment International Pty Ltd, Rio Tinto R&TD and QFRI.

Should you or your organisation wish to obtain information on IEA Bioenergy and possible participation in this program, please contact Steve Schuck, the Biomass Taskforce Manager and Australia's representative on the Executive Committee of IEA Bioenergy . Tel/fax: (02)-9416-9246, or email: Steve.Schuck@bigpond.com. The IEA Bioenergy has its home page at URL: <http://www.forestresearch.co.nz/ieabioenergy/home.htm> which provides links to the IEA Bioenergy Task sites and information such as its Annual Report and the Strategic Plan.

IEA Bioenergy - Australia to Host International Meetings in 2000

Two IEA Bioenergy Task meetings will be hosted in Australia in 2000.

Task 17 *Short Rotation Crops for Bioenergy* will be meeting in Western Australia from 5 - 10 March. This meeting consists of a number of field visits, focusing on native mallee eucalypts as a large-scale, short rotation tree crops for salinity control, bioenergy and co-products; effluent irrigated bluegum plantations; and bioenergy from forestry residues (plantations and native forests) plus formal sessions to consider the implementation of short rotation energy crops. This meeting will be attended by a number of international experts in this field from participating countries Denmark, the Netherlands, the USA, UK, Sweden, Canada, Croatia, Italy, and Australia, plus the European Commission. Country reports will be followed by specific technical presentations. Dr Lynn Wright of the USA's Oak Ridge National Laboratory will present 'Sustainability and Biodiversity', Jens Bonderup Kjeldsen of Denmark 'Water and Nutrient Use Efficiency', Kurth Perttu 'Vegetation Filters in Sweden', Lars Christersson and Leen Kuiper of Sweden 'Pest and Diseases' and Stig Ledin of Sweden 'Education and Courses'. The participants will assemble in Perth and travel through to Albany, the main meeting venue, before returning to Perth.

The meeting is being organised by CALM, Western Power Corporation, the Oil Mallee Company WA, Enecon Pty Ltd and the Biomass Taskforce. Contact John Bartle of CALM on tel: (08) 9334 0321, fax: (08) 9334 0327, email: johnb@calm.wa.gov.au.

Task 18 *Conventional Forestry Systems for Bioenergy* will be holding its annual workshop "Bioenergy from Sustainable Forestry: Principles and Practice" in south east Queensland and northern NSW from 16 to 20 October 2000. The technical sessions will be held at Coffs Harbour from Wednesday 18 to Friday 20 October. Task 18 is developing systems and guidelines for environmentally sustainable and economic production of biomass for energy from conventional forestry systems; and to promote their acceptance and use in relation to silviculture, forest management, harvesting and transportation. The meeting is being hosted by the Australian Biomass Taskforce and State Forests of NSW. Contact: Dr Annette Cowie, of State Forests NSW, email: annettec@sf.nsw.gov.au, tel: (02) 9872 0138.

IEA Bioenergy Task 25 Bibliography

The new, electronic edition of the Bibliography "Greenhouse Gas Balances of Bioenergy, Forestry, Wood Products, Land Use, and Land-Use Change" containing existing publications, unpublished reports and databases has been completed and contains about 1000 entries on 600 plus pages. This bibliography includes not only literature with reference to "bioenergy" and "greenhouse gases", but also work that deals with greenhouse gases as they relate to land use (eg agriculture, forestry) and land-use change. Information on the greenhouse gas implications of some selected fossil fuel based energy systems complements the collection as this is needed for a comparison with biomass energy systems. The updated version of the bibliography, with a full-text search facility, is available on the Task 25 homepage: www.joanneum.ac.at/iea-bioenergy-task25

Biomass Taskforce Review

The Biomass Taskforce was formed by its four founding members in July 1997 for an initial three year period. Membership has grown sevenfold since its formation, reflecting the level of interest in biomass energy. The Centre for International Economics has been engaged by RIRDC on behalf of the Biomass Taskforce members to conduct a review of the Biomass Taskforce. Issues being considered are its achievements, effectiveness, relevance, future activities and direction, membership structure, management and governance. An interim report has been provided to the Biomass Taskforce membership, with the final report to be presented at the March quarterly meeting of the Biomass Taskforce.

Cabinet Commits to Renewable Energy Target of 9,500 GWh/a by 2010

In a significant announcement at the end of 1999, the Federal Government confirmed that it would be moving to deliver on the Prime Minister's commitment to provide an additional two percent renewable energy by 2010. Cabinet has decided to provide certainty to industry by setting the target as an additional 9,500 GWh/a from 2010 and capping penalties for liable parties who fail to meet their obligation at \$40/MWh. The 9,500 GWh increase in renewable energy output is equivalent to approximately twice the output of the Snowy Mountains Scheme and will increase Australia's renewable electricity contribution from approximately 10.5% in 1996/97 to 12.5% in 2010. The measure will be phased in from 2001 to 2010 (subject to passage of the legislation) with the requirement for an additional 400 GWh in 2001, 1,100 GWh in 2002, and 1,800 GWh by 2003. The requirement of 9,500 GWh will be maintained from 2010 to 2020. The measure will cover wholesale purchasers of electricity on grids of greater than 100 MW capacity, with self-generators being excluded as liable parties. The wholesale buyers of electricity will be required to acquire an increasing number of renewable energy certificates, and acquit these to a Regulator who will oversee the measure. The renewable energy certificates will represent new renewable-based electricity which has been generated and consumed anywhere within Australia. Trading of certificates overcomes the need for each individual liable party to physically source renewable energy in order to meet their liability.

A wide range of renewable energy sources have been included as eligible for the 9,500 GWh target. Included are biofuels (landfill gas, biogas and biomass), specified wastes defined as 'biomass by-products of agricultural crops but excluding broad-scale land-clearing for agricultural purposes, biomass by-products of sustainably managed forestry operations, biomass by-products of food processing and production industries, sewage treatment, biomass component of mixed municipal wastes, and other biomass wastes as approved by the Regulator'. Co-firing renewables with fossil fuels and fuel cells using renewable fuels also qualify.

The measure is expected to generate at least \$2 billion in investment in renewable energy in Australia that would not otherwise have occurred. A review to assess the efficiency and effectiveness of the implementation option will occur three years after the introduction of the measure and be conducted independent of the Regulator. The legislation for the measure is expected to be presented to the Autumn session of Federal Parliament.

Information on the 9,500 GWh/a target may be found on the Australian Greenhouse Office's website at: www.greenhouse.gov.au/markets.2percent_ren/fs_boost.html.

Renewable Energy Commercialisation Program

The Australian Greenhouse Office administers this \$56 million, five year program, which provides grant funding through a competitive process. Grants under RECP are normally expected to be in the range of \$100,000 - \$1 million. The Australian Greenhouse Office encourages intending applicants to contact the Renewable Energy Team and to submit draft applications prior to making formal submissions. The fourth round, RECP4 is scheduled to open 7 March and close on 18 April 2000. Information on previous rounds and the current application form can be found on the AGO's web site www.greenhouse.gov.au.

As at 23 February two RECP3 funding grants have been formally announced. Mackay Sugar Cooperative's grant is for a commercial scale dewatering station at the Racecourse Sugar Mill using bulk bagasse from four mills. The project is to reduce water from bulk bagasse to 50% and to demonstrate bagasse as a year round renewable energy source. Thiess Environmental Services, Landfill Management Services, Newhope Coal Australia and CS Energy have received a grant to enable landfill gas from a bioreactor cell to be co-fired with coal at the Swanbank Power Station. Twelve projects in all have been granted \$9.2 million under RECP3. A full announcement is awaited with details to be provided as they come to hand.

Further information is available from the Australian Greenhouse Office. Contact Gillian McDonald, Program Manager, Renewable Energy Grants Programs, telephone 02 6274 1376 or the Renewable Energy Hotline on 02 6274 1880.

Greenhouse Gas Abatement Program (GGAP)

The Greenhouse Gas Abatement Program (GGAP) was part of the funding package negotiated by the Australian Democrats for greenhouse gas abatement measures as part of the agreement to implement the Goods and Services Tax. GGAP comprises \$400 million to be spent over four years on measures that will further assist Australia in meeting its commitments under the Kyoto Protocol. The program design has now been approved by the Government and incorporates measures under the following four themes:

- technology deployment;
- regional greenhouse partnerships;
- built environment and infrastructure; and
- greenhouse abatement facilitation.

The Australian Greenhouse Office (AGO) is working on detailed program guidelines and determining the selection and assessment criteria. It is anticipated that the AGO will seek detailed funding proposals on a competitive basis in April 2000. Funding allocations will be made after the commencement of the Program on 1 July 2000. For further details refer to the AGO's web site at <http://www.greenhouse.gov.au/ggap>

Fourth Paper Released on Emissions Trading

The Australian Greenhouse Office has released the fourth and final discussion paper on Emissions Trading. The first paper *Establishing the Boundaries* was released in March 1999 and discussed the comprehensiveness of a national emissions trading system within Australia, focusing on the greenhouse gases and sectors of the economy that could be covered. The second paper *Issuing the Permits* covered issues related to the allocation of permits, including grandfathering, auctioning, and recognition of early abatement action, permit duration, and the transition towards possible emission trading within Australia. The third discussion paper, *Crediting the Carbon* was released in September 1999 and describes how carbon sinks could

be incorporated into a national emissions trading system by issuing a 'carbon credit' for the change in carbon stock of carbon dioxide equivalents sequestered over a commitment period. The fourth discussion paper entitled *Designing the Market* has now been released. It provides an overview of submissions to the first three papers and addresses the technical and compliance issues that would need to be resolved to meet the requirements set out in the Kyoto Protocol.

The Australian Greenhouse Office is seeking comment and submissions on the discussion paper by 25 February. All four papers are available on the Internet at <http://www.greenhouse.gov.au/emissionstrading> or request copies by phoning the AGO on 02-6274 1888. Email: emission.trading@greenhouse.com.au.

Emerging and Renewable Energy Action Agenda Progresses

The Federal Government's Industry, Science and Resources department is co-ordinating the development of the 'Emerging and Renewable Energy Action Agenda' for and with industry. The Emerging and Renewable Energy Leadership Group is being chaired by Mr Greg Bourne, Regional President of BP Australia Ltd and is formed from chief executives from industry, with representation by the Chief Executive of the Australian Greenhouse Office, Gwen Andrews and Division Head, Patricia Kelly of DISR. The Leadership Group also includes industry association advisers and includes the Biomass Taskforce Manager, Dr Stephen Schuck. A Strategic Planning group has been convened, meeting in December and February to provide input and support to the Leadership Group, which has also met twice. It is expected that the Minister for Industry, Science and Resource, Senator Nick Minchin will receive the final report of the Leadership Group in March or April. Information on the Action Agenda may be found on the web at: www.isr.gov.au/agendas.

Queensland Sustainable Energy Innovation Fund (QSEIF)

Subsequent to the last issue of the Biomass Taskforce newsletter, the Queensland Minister for Mines and Energy announced 19 projects to be granted funding through the Queensland Sustainable Energy Innovation Fund. Three biomass projects were approved for funding:

- Racecourse Mill Bagasse Management - Development of technology for storing, handling and dewatering bulk bagasse so that sugar mills can optimise power generation and export to the grid. \$80,000. Contact Mackay Sugar Cooperative Association, Mackay, Mr John Peake, Tel: (07) 4953 8280.
- Biogas for Boiler Fuel at AMH Meatworks at Dinmore - Modification of the boiler at the meatworks to use biogas collected by a new recovery system installed on an anaerobic waste pond. \$91,000. Contact Quantum Power Pty Ltd, Brisbane, Mr Lionel Freedman, Tel: (07) 5564 9333.
- Methanol Production from Biogas - Development of a pilot scale reactor to convert biogas from landfill into methanol (for motor fuel or chemical use) and trial the unit at a landfill site. \$94,500. University of Queensland, Brisbane. Contact Assoc. Professor Max Lu, Tel: (07) 3365 3735.

It is expected that project proposals for a second round of funding will be solicited in early March 2000. Contact the Office of Sustainable Energy, Tel: (07) 3247 5436.

Western Australia's Green Power Policy

The State Government of Western Australia has announced its Green Power Policy which is expected to see electricity generation from renewable energy sources rise from under one per cent at present to around 4.5% by 2010. From March Western Australians will be able to

choose to pay a premium of 3c/kWh for Western Power Corporation's *NaturalPower* offering. The WA Government will match dollar-for-dollar the extra money paid by consumers for electricity from renewable energy sources (including from *NaturalPower*) and provide this money, up to \$1 million per year, into the Sustainable Energy Development Fund to assist independent power producers establish new renewable energy projects. Under the policy, Western Power Corporation will be required to competitively source at least 50% of its *NaturalPower* electricity from independent producers. From 30 September 2000 independent power producers with renewable generation projects will be able to use the Western Power Corporation's grid to sell 'green' electricity direct to large commercial customers using more than 300MWh per year. Also, renewable energy generators will be able to sell up to 100 kW of green electricity 'over the fence' to customers immediately adjacent to their premises without using Western Power's distribution system.

Biomass Related Legislation in NSW

The NSW *Plantations and Reafforestation Act*, which comes into force in mid-2000 is aimed to attract significant private sector investment in tree planting in NSW with consequent environmental, economic and employment benefits for rural NSW by providing a one-stop shop for plantation approvals. The objectives of this Act are to facilitate reafforestation of cleared land, to codify existing environmental protection standards for the establishment and harvesting of plantations, and to make provision relating to regional transport infrastructural expenditure in connection with timber plantations. A key feature of the legislation is the development of a comprehensive Code of Practice that will provide development standards for all plantation operations. Environmentally sensitive areas will be excluded from the operation of the Act. An independent Office of Private Forestry is to be established in NSW to facilitate private sector investment and provide information to potential investors and private landholders.

The *Natural Resources Legislation Amendment (Rural Environmental Services) Act* provides for amendments to the Forestry Act 1916, the Mining Act 1992 and the Electricity Supply Act 1995. The amendment to the Forestry Act reflects the shift to provision of environmental services by State Forests NSW, such as carbon sequestration rights and dealing in such rights. Amendment to the Mining Act will facilitate and encourage planting of forests as part of mine rehabilitation. This will boost plantation development in regions such as the Hunter Valley, where up to 30,000 hectares of land suitable for plantation development was indicated during introduction of the legislation. Amendments to the Electricity Supply Act come into force from July 2000 and encourage carbon sequestration and forest biomass electricity to meet greenhouse gas mitigation requirements under this Act.

Copies of the above legislation are available on the Web from: www.parliament.nsw.gov.au.

Department Of Industry Science & Resources - Technology Diffusion Program (TDP)

DISR offers funding through a range of programs to assist organisations, institutions and consortia to access the latest innovative technologies to increase business competitiveness. The Industrial Research Alliances component of the TDP facilitates international industrial research collaborations and international technology diffusion workshops held in Australia.

Further information is available on the Web at <http://www.ausindustry.gov.au/tdp>. Applications are assessed on a continuous basis.

Wood Waste Trial by NSW Waste Boards

The NSW Waste Boards are running a trial at the Kurnell landfill where wood waste is being stockpiled and high volume end-use markets for wood waste materials are being assessed. Part of this work includes the development of processed wood waste specifications for targeted markets, including energy generation.

RIRDC Convenes Biomass Planning and Development Workshop

The Rural Industries Research and Development Corporation, the Biomass Taskforce's lead organisation convened a two day workshop on 10 and 11 February to formulate and develop a national research and development framework for biomass production. The forum was attended by approximately 40 invitees. The group developed the scope and objectives for six projects to be submitted as proposals for funding to the Joint Venture Agroforestry Program, which RIRDC manages. The six projects are:

- Biomass energy production alternatives in Australia: status, costs and future opportunities for major technologies
- An atlas of Australian biomass resources for sustainable energy generation
- Analysis of the potential for renewable energy, including bioenergy and other biomass products, and identification of the biomass resource sectors most likely to fill this demand
- Principles and guidelines for the sustainable development of an Australian biomass resource
- Decision aids to guide investment in farm forestry options with bioenergy potential
- Development of commercial biomass systems integrated with agriculture for large-scale sustainable production of energy and other products.

RIRDC's media release on the meeting can be found on the Web at:

http://www.rirdc.gov.au/pub/media_releases/9feb00.html and the project descriptions may be found at: <http://www.rirdc.gov.au/99comp/aft6.htm#ssc-2a>. For further information contact RIRDC's Dr Roslyn Prinsley, Tel: (02) 6272 4033.

USA Plantation Fueled Power Plant

The Minnesota Public Utilities Commission has approved a power purchase agreement between Northern States Power and EPS/Beck for a 25 MW power plant using farm grown trees. The power plant will be located near St. Peter, Minnesota, which is 80 kilometres southwest of Minneapolis. Approximately 25,000 acres of hybrid poplar and willow will be planted in 80 acre plots and harvested on a five year cycle. The project will use the patented 'Whole Tree Energy' technology and includes the planting and harvesting machines and a deep, three-stage, fixed bed combustor. Harvested trees are stored in a drying dome for one month and then transported on a ratcheted drag conveyor to the combustor where they are trimmed to 20 ft batches, fed to a ram driven charge chamber, and onto the deep fuel bed which is supported by a water cooled grate. The deep bed of tree segments has a very high heat release rate due to high flow rate of preheated air. The extensive reducing zone in the bed and the extended overfire air system is said to maintain low NO_x, while a wet scrubber captures the particulates. The steam cycle is similar to a conventional coal-fired power plant.

Startup of the EPS/Beck Whole Tree Energy power plant is planned for mid 2003. NSP has the option to expand the power purchase agreement to 50 MW or 75 MW within six months.

(source: CREST email list)

DynaMotive Technologies Corporation - Fast Pyrolysis BioOil™ Development

Canadian company, DynaMotive is currently commercialising its fast pyrolysis process trade named BioTherm. The company operates a 2 tonne per day capacity pilot plant in Vancouver BC. The plant produces high quality pyrolysis oil on a daily basis. DynaMotive is currently evaluating project opportunities in Europe, North America, and Brazil and is engineering commercial demonstration plants of 10-25 tpd capacity to be built in targeted markets. Once these plants are commissioned, the company plans to move to full scale commercial plants of 100-200 tpd. BioOil can be used directly in gas turbines or diesel engines for power generation. The company is also developing a range of derivative BioOil products including blended fuels, slow release fertilizers and specialty chemicals.

BioOil from DynaMotive's pilot plant is currently being tested by Orenda Aerospace and other engine manufacturers to generate "green" power in stationary diesel engines, gas turbines and boilers. In addition, Stone & Webster, Inc. has released a technical and operational due diligence report on DynaMotive's proprietary BioOil production technology which concluded that the technology is "reliable and scalable."

More detailed information on DynaMotive's technology, products and commercialisation program can be found at <http://www.dynamotive.com>

(source DynaMotive Technologies Corporation)

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 addresses given in the previous nine issues of the Biomass Taskforce newsletters. These lists are consolidated as electronic links on the Biomass Taskforce's web page at [http:// www.users.bigpond.com/Steve.Schuck/ABT](http://www.users.bigpond.com/Steve.Schuck/ABT)

RIRDC background paper on biomass production projects

<http://www.rirdc.gov.au/99comp/aft6.htm#ssc-2a>

RIRDC Media release on biomass projects

http://www.rirdc.gov.au/pub/media_releases/9feb00.html

DynaMotive Technologies Corporation, Bio Oil business unit

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

Perunding AME - Consulting Engineers (palm oil)

<http://www.oilpalm.net/ame>

Oil Palm Process Synopsis (3 volume handbook on palm oil processing)

<http://www.netpostbox.com/noel>

Gasifier site

<http://members.tripod.com/highforest/woodgas/woodgas.html>

Delft University of Technology, Dept. of Thermal Power Engineering.

<http://dutw444.wbmt.tudelft.nl/ev/>

Cotton Research and Development Corporation

<http://www.crdc.org.au/>

G.A.S. Energietechnik

<http://www.gas-energie.de/>

CSIRO effluent irrigation project wins gold medal for 1999

<http://www.csiro.au/news/medals/medals2.htm>

Caddet article 'Biomass offers integrated solutions in Australia'

<http://www.caddet-re.org/html/399art1.htm>

14th International Symposium on Analytical and Applied Pyrolysis (Pyrolysis 2000)

<http://www.irnase.csic.es/py'2000/index.html>

Gasification of charcoal, University of Hawaii, HNEI (Dr. Antal)
<http://www.eng.hawaii.edu/ME/faculty/antal.html>

Distributed generation using fuel cells
http://www.nrel.gov/research/industrial_tech/refinery.html,
<http://www.ONSICORP.com/solution/waste/index.shtml>,
<http://www.gemicrogen.com/about.html>
<http://www.plugpower.com/product/>
<http://www.ecogas.com/>

Climate Change Fuel Cell Program
<http://www.dodfuelcell.com>

Information and Advisory Services on Appropriate Technology (anaerobic digestion)
<http://gate.gtz.de/biogas/toc.html>

Downdraft gasifier photos showing fuel (pine blocks) transition to char (.jpg format)
<http://members.xoom.com/whitools/>

Department of Land Management, Laboratory for Forest, Nature and Landscape Research, Catholic Uni Leuven (Belgium)
http://www.agr.kuleuven.ac.be/lbh/lbnl/lbnl_home_en.htm

AD-NETT is a network of professionals working in anaerobic digestion of agro-industrial wastes in Europe and Canada.
<http://www.ad-nett.org/>

Anerobic Digestion -US Agstar program shows dairy and pork producers how to manage manure profitably
<http://yosemite.epa.gov/methane/home.nsf/pages/agstar>
<http://www.epa.gov/agstar>

IEA's Renewable Energy Working Party report *The Evolving Renewable Energy Market*
<http://ww.iea.org/new/releases/1999/renew.htm>

IEA Bioenergy Task 25 homepage
<http://www.joanneum.ac.at/iea-bioenergy-task25>

The Role of Boreal Forests and Forestry in the Global Carbon Budget Conference
<http://www.nofc.forestry.ca/carbon>

Sustainable Energy: New Challenges For Agriculture And Implications For Land Use Conference
<http://www.sls.wau.nl/congresme>

II International Symposium on Anaerobic Digestion of Solid Waste (II ISAD-SW)
<http://www.II-ISAD-SW.ub.es>

Woody Biomass as an Energy Source - Challenges in Europe Conference
<http://www.efi.fi/events>

Torrefied Wood
<http://solstice.crest.org/renewables/biomass-info/carbon.shtml>

Changing World Technologies (bio-oil, specialty chemicals)
<http://www.changingworldtech.com/>

Sydney Future Exchange Carbon Trading
<http://www.carbontrading.com.au>

USA straw merchants association
www.agfiber.org

CREST Renewable Carbon web site
<http://www.crest.org/renewables/biomass-info/carbon.shtml>

Resource Development Associates (Philip Lusk -anaerobic digestion)
<http://www.biogasworks.com>

Bureau of Rural Sciences Climate Change Newsletters
<http://www.brs.gov.au/publications/ccn/index.html>

ANZSES Solar 2000 Conference
<http://www.icms.com.au/solar2000/>

Resource Efficient Agricultural Production-Canada
<http://infosys.agrenv.mcgill.ca/~reap>

IEA Bioenergy Task 29. Socio-Economic Aspects of Bioenergy Systems

<http://sunce.eihp.hr/english/bioen/Task29/task29-e.htm>
 Bioenergy Information Network (US Oak Ridge National Laboratory)
<http://bioenergy.ornl.gov/>
 Pittsburgh Coal Conference (Sept 2000, includes session on biomass co-firing)
<http://www.engrng.pitt.edu/~pccwww/> .
 Ag Fiber Technology News
<http://www.agrotechfiber.com/>
 American Society of Agricultural Engineers
<http://asae.org/>
 ACT Greenhouse Strategy
<http://www.act.gov.au/envirom/greenhouse>
 25 Years of TERI in India
<http://www.teriin.org/25years/>
 "Combustion of Biomass Derived LCV Gas" thesis summary (Hoppesteyn)
<http://solstice.crest.org/renewables/biomass-info/LCVgas.htm>
 CREST gasification references page
<http://solstice.crest.org/renewables/biomass-info/gasref.shtml>
 MSNBC bioenergy article
<http://www.msnbc.com/news/357476.asp>
 American Society for Testing and Materials (ASTM) (biomass standards)
<http://www.astm.org>
 Chariton Valley Biomass Project
<http://www.cvrcd.org/biomass.htm>
 REPP report on significant economic and social benefits from renewable energy industry development
<http://www.repp.org/articles/mesaDSol/index.htm>
 Agro-Tech Communications
<http://www.agfibertechnology.com>
<http://www.agrotechfiber.com>
 Biogas and anaerobic digestion
http://gate.gtz.de/isat/at_info/biogas/AT_biogas.html
 Biobased Products and Bioenergy Coordination Office (USA)
<http://www.bioproducts-bioenergy.gov>
 Pyromid Inc.
<http://www.pyromid.net>
 CREST Stoves Webpage - charcoal and activated carbon
http://www.ikweb.com/enuff/public_html/Stoves.html
 Rice Straw Demonstration Project Fund (California)
<http://www.arb.ca.gov/rice/ricefund/ricefund.htm>
 Prairie Lands Bioproducts, Inc
<http://www.cvrcd.org/plbp,inc.htm>
 Understanding Anaerobic Treatment -- 2/00, Pollution Engineering
<http://www.pollutionengineering.com/archives/2000/pol0201.00/pol0200c2583.htm>
 Cooperative digesters in Denmark
<http://www.biogasdk.dk>
 Anaerobic Digestion
<http://www.ad-nett.org>
<http://www.anaerobicdigestion.com>
 US DOE report ' Emission and Reduction of Greenhouse Gases from Agriculture and Food Manufacturing'.
<http://www.oit.doe.gov/agriculture>.
 Whitfield Bio Logic wood pellet combustors
<http://www.whitfield.com>
 US Association of Air and Waste Management
<http://www.swma.org/>
 New Uses Council's Bioproducts Directory

<http://newuses.org/BPD/>
EIDN publications (e.g. *Biomass in the Energy Cycle*)
<http://www.energypublications.com.au>
Warren Centre for Advanced Engineering
<http://www.warren.usyd.edu.au>
The Carbon Store Pty Ltd (Mark Jackson)
<http://www.thecarbonstore.com>
Emission factors for wood combustion (US EPA)
<http://www.epa.gov/ttn/chief/ap42c1.html>
Bion Technologies anaerobic digestors
<http://www.biontech.com>
Biomass Co-firing with coal
http://www.eren.doe.gov/biower/cofire_techdesc.html
<http://www.techtp.com/cofire/Co-firing.htm>
Renewing India (biomass/bagasse)
<http://www.renewingindia.org/>
Renewable Energy Plant Information System (REPiS) - 113 GW grid connected plant
<http://www.eren.doe.gov/repis/>
Forest and Wood Products R&D Corporation (now relocated to Melbourne)
<http://www.fwprdc.org.au/>
CZ BIOM - Czech Association of Biomass
<http://www.vurv.cz/czbiom>

URL's for various chippers and recycling granulators

<http://www.morbark.com/wtc.htm>
http://www.vermeer.com/eq_brush_chippers.html
http://www.vermeer.com/eq_tub_grinders.html#Anchor-TG400A
http://www.forestind.com/northlandchippers/chippers.html#hand_fed_chippers
<http://www.nwmaschine.com/inventory/>
<http://www.nwmaschine.com/inventory/>
<http://www.norsol.com/glacierintl/prod01.htm>
<http://reductiontechnology.com/grinders3.html>
<http://reductiontechnology.com/grinders4.html>

Forthcoming Events

- IEA Bioenergy Task 17 *Short Rotation Crops for Bioenergy* meeting. 5-10 March, 2000, Perth and Albany W.A. Contact John Bartle, WA Department of Conservation and Land Management, email: johnb@calm.wa.gov.au, tel: (08) 9334 0321.
- IEA Bioenergy Task 18 *Conventional Forestry Systems for Bioenergy* meeting. 16-20 October, 2000, Brisbane and Coffs Harbour. Contact Dr Annette Cowie, State Forests of NSW, email: annettec@sf.nsw.gov.au, tel: (02) 9872 0138.
- Renewable Energy for the New Millennium (combining the 6th ESAA Renewable Energy Technologies & Remote Area Power Supplies Conference, 2nd World Solar Electric Buildings Conference, and Solar Thermal 2000 International Conference). 8-10 March 2000, Sydney. Contact The Meetings Manager Pty Ltd, tel: 02 9241 5354, fax: 02 9241 2955, Web: <http://www.esaa.com.au>. (Paper by Biomass Taskforce Manager in *Markets for Renewable Energy Products* session)
- 5th International Conference on Thermochemical Biomass Conversion, Tyrol, Austria, 17-22 September 2000. **Note revised date!** Main topics to be covered are: Feedstock Preparation, Pretreatment, Conversion, Products, Applications, and Systems. Deadline for one page abstracts is 31 January 2000. Contact: Prof. Tony Bridgwater, Bio-Energy Research Group, Aston University, Birmingham, B4 7ET, UK. Fax: +44 121 359 6814, Email: a.v.bridgwater@aston.ac.uk or ahrendtn@aston.ac.uk
- 1st World Conference and Technology Exhibition on Biomass for Energy and Industry, 5-9 June, 2000. Seville, Spain. A joint millennium event of the 11th European Conference

- on Biomass for Energy and Industry and the Biomass Conference of the Americas. Contact EnergiaTA-Florence, Piazza Savonarola 10, I-50132 Florence. Fax +39-055 573425. Web: <http://www.etaflorence.it> & <http://www.wip-munich.de>
- 'The Changing Land of Europe - The First European conference of Renewable Energy and Agriculture', 12 -14 March 2000, Leeuwenhorst Congress Centre, Noordwijkerhout, The Netherlands. An Altener conference (Program of the European Commission DGXVII), supported by Novem. Details from European Media Marketing, email: sustain@emml.co.uk, Fax: +44181 289 8484. Web http://www.emml.com/changing_land
 - Internet Conference on 'Material Flow Analysis of Integrated Bio-Systems, March - October 2000. The Institute of Advanced Studies of the United Nations University (Tokyo) (<http://www.ias.unu.edu>) and the UNU/IAS Integrated Bio-Systems Network (<http://www.ias.unu.edu/proceedings/icibs/ibs/ibsnet>), in cooperation with other organisations. Scope is municipal biodegradable solid recycling and conversion systems; wastewater treatment and utilisation systems; integrated aquaculture systems; small farming systems; large plantations, farms and feedlots; constructed building complex, greenhouse and eco-house systems; industry and eco-industrial parks; resource utilisation and conservation in sustainable eco-systems; small islands, community villages and cities; global issues related to food security, environment and climate change; and tools and methodology for design and analysis of integrated bio-systems. Abstracts for papers are currently being sought. Contact Mr Jacky Foo on email at foo@swipnet.se, fax: +46-8-314620.
 - Fifth Australian Waste Convention/Enviro2000, 9-13 April 2000. Tel: 02-9410 1302, email: quitz@dot.net.au.
 - Cogen 2000, 22-24 March 2000, Brisbane Convention and Exhibition Centre. Australian Cogeneration Association. Conference secretariat tel: 03 9530 6777, fax: 03 9530 6526, email: services@profconferences.com.
 - International Workshop on Sustainable Construction: Use of Incinerator Ash, 20-21 March 2000, Dundee, Scotland, UK. Contact Professor R K Dhir, email: r.k.dhir@dundee.ac.uk.
 - ISES 2001 Solar World Congress, Nov/Dec 2001, Adelaide. Web: <http://www.unisa.edu.au/ises2001congress>
 - 15th Australian Biotechnology Association Conference, ABA2000, Brisbane 2-6 July 2000. Contact ABA2000 secretariat, tel 07 3369 0477, fax: 07 3369 1512. Web: www.aba2000.im.com.au.
 - The Australian Review's Third Annual Emissions Forum, 30-31 March 2000. Parkroyal, Sydney. Call 02 8235 5300.
 - (USA) National Conference on Ethanol Policy and Marketing, 22-24 March 2000, San Francisco. Sponsored by the Renewable Fuels Association. Contact: Nicole Graf, tel: 0011-1-719-942 4353, email: bbincole@ris.net
 - The Australian Greenhouse Conference, Enviro2000, 9-13 April 2000, Sydney. Contact: tel: 02 9410 1302 fax: 02 9415 1599. Web: www.enviro2000.awwa.asn.au.
 - Global Energy Exposition and Energex 2000, 23-28 July 2000, Las Vegas, Nevada, USA. Web site: www.globex.com. Email: clydon@ntsdev.com.
 - Australian Forest Growers 2000 Conference, 4-6 September 2000, Cairns, Queensland. Web: www.afg2000.com.
 - Fifth International Conference on Greenhouse Gas Control Technologies, Cairns Convention Centre, 13-16 August, 2000. Contact Colin Paulson, tel: 02-9490 8790, fax: 02-9490 8819, email: c.paulson@det.csiro.au.
 - 23rd IAEE International Conference , Energy Markets and the New Millennium: economics, environment, security of supply. Sydney, 7-10 June 2000. Email: r.bartels@econ.usyd.edu.au.
 - 14th International Symposium on Analytical and Applied Pyrolysis (Pyrolysis 2000), 2-6 April 2000, Seville, Spain. Contact: F.J. Gonzalez-Vila, Vice Chairman, Instituto de Recursos Naturales y Agrobiología de Sevilla-CSIC, PO Box 1052, 41080-Seville, Spain. Tel: +34 95 462 47 11; Fax: +34 95 462 40 02; Email: fjgon@irnase.csic.es; Web: www.irnase.csic.es/py'2000/index.html

- 'Green-Tech 2000', International Conference & Exhibition on Sustainable and Renewable Raw Materials. 3-5 April 2000, Royal Dutch Jaarbeurs, Utrecht, The Netherlands. Web: www.europoint-bv.com/events/greentech2000/index.html
- 'Gasification 4 the Future'. 11–13 April 2000, Huis Ter Duin Hotel, Noordwijk, nr Amsterdam, The Netherlands. Contact: Miss Jennie Black, (Gasification 4), IChemE Conference Department, 165-189 Railway Terrace, Rugby, Warwickshire CV21 3HQ, United Kingdom. Tel: +44 1788 578 214; Fax: +44 1788 577 182; Email: jblack@icheme.org.uk
- International Science Conference on 'The Role of Boreal Forests and Forestry in the Global Carbon Budget', 8–12 May 2000, Edmonton, Alberta, Canada. Contact: Carbon Conference Co-ordinator, 5320-122 Street, Edmonton, Alberta, Canada, T6H 3S5. Fax: +1 780 435 7356; Email: carbon@nofc.forestry.ca; Web: www.nofc.forestry.ca/carbon
- 'Sustainable Energy: New Challenges for Agriculture and Implications for Land Use'. 18-20 May 2000, Wageningen University, Wageningen, The Netherlands. Web: <http://www.sls.wau.nl/congresme>
- 'II International Symposium on Anaerobic Digestion of Solid Waste (II ISAD-SW)', 15–18 June 2000, Barcelona, Spain. Contact: II-ISAD-SW, Apdo. Correos 30124, E-08080 Barcelona, Spain. Tel: + 34 929 920 591; Fax: + 34 919 751 180; Email: congres@waste.qui.ub.es Web: <http://www.II-ISAD-SW.ub.es>
- 'Woody Biomass as an Energy Source - Challenges in Europe', 25-27 September 2000, Joensuu, Finland. Contact: Ms. Brita Pajari, European Forest Institute, Torikatu 34, FIN-80100 Joensuu, Finland. Tel: +358 13 252 0223; Fax: +358 13 124 393; Email: brita.pajari@efi.fi; Web: www.efi.fi/events
- Solar 2000, 38th Annual Australia and New Zealand Solar Energy Society Conference. November 29 - 1 December, Griffith University, Brisbane. <http://www.icms.com.au/solar2000/> Email: mailto:solar2000@icms.com.au

Residues

- The Biomass Taskforce is set to release a six page glossy brochure entitled *Biomass - Energy and Products* to inform a wider community what biomass is and what opportunity it affords. The brochure provides a general introduction on biomass, and covers biomass conversion technologies and the benefits of biomass energy. The brochure is being printed on behalf of the Biomass Taskforce by RIRDC and should now be available in March.
- Australian Independent Power, the newsletter of the Australian Cogeneration Association, of which the Biomass Taskforce is a reciprocal member, reproduced two pages of the November Biomass Taskforce Newsletter in its November/December edition.
- The Biomass Taskforce Manager, Stephen Schuck, delivered a presentation on biomass energy to the Australian and New Zealand Solar Energy Society's annual conference in Geelong in December.
- An article by the Biomass Taskforce Manager entitled 'Waste to Energy - the Opportunity for Australia' appeared in the October issue of WMAA News.
- *Streamline* database is the national database of natural resources R&D supported by the Land and Water Resources R&D Corporation and the Water Services Association of Australia. Streamline is on the Web and is one of three databases on the Agriculture and Natural Resources Online (ANRO) service at www.infoscan.com.au. If you would like to receive an email brochure on Streamline and the ANRO products and services email Infoscan Pty Ltd at infoscan@acslink.aone.net.au.
- CADDET Australia, the Australian contractors for the IEA Centre for the Analysis and Dissemination of Demonstrated Energy Technologies' implementing agreement has moved to Tasmania. CADDET disseminates a number of reports on energy efficiency

and renewable energy, mainly at no charge to recipients. CADDET Australia may be contacted by email: CADDET@auroraenergy.com.au, tel: (03) 6273 3355. Web contact is: <http://www.isr.gov.au/resources/netenergy/domestic/CADDET>.

- ABARE's forestry publication 'Forest Plantations on Cleared Agricultural Land in Australia' is available from the web at <http://www.abare.gov.au/pubcat/forestry.htm>. The study looks at factors which influence the profitability of plantations, but excludes newer potential end uses such as biomass energy due to lack of cost and revenue data.
- The CSIRO Forestry and Forest Products Division's Wagga effluent irrigation project was awarded CSIRO's top honour for 1999 - the Chairman's Medal for 1999 plus \$25,000. For more information and the citation see web sites: <http://www.csiro.au/> (check press release Effluent Irrigation Wins Gold).
- *Fuel for the Future* video. This 50 minute video includes examples of applications of biomass for energy from several countries. These include Miscanthus and transport fuels in the Netherlands, wood fuel heating in Scandinavia, biodiesel in Austria, and algae production with solar lighting in Japan. It has recently been released and is available from Rob Swanenburg, NPS, Netherlands, Fax: +31 35 677 4023, Email: rob.swanenburg@nps.nl or Maximilian Lauer, Joanneum Research, Austria, Fax: +43 316 876 1320; Email: max.lauer@joanneum.ac.at
- British BioGen's web site www.britishbiogen.co.uk contains a number of industry *Good Practice Guidelines* and 'Bioenergy, 21st century Fuel', which provide a good all-round introduction to bioenergy, along with British Biogen's policy documents dealing with the numerous issues surrounding development of bioenergy in the UK.
- The Danish Institute of Agricultural And Fisheries Economics at the University of Southern Denmark has recently published a report on anaerobic digestion entitled "Centralised Biogas Plants". Contact Kurt Hjort-Gregersen, Niels Borhs Vej 9, DK - 6700 Esbjerg, Denmark. Tel: + 45 65 50 41 67 Fax: + 45 65 50 10 91.
- A report on 'The Evolving Renewable Energy Market' has recently been published by the IEA's Renewable Energy Working Party. The report is available from the IEA website at www.iea.org/new/releases/1999/renew.htm.
- Royal Dutch Shell is has indicated renewables could account for 50 percent of world energy demand by 2050. It is investing US\$500 million in biomass and solar energy, and is investigating possibilities for wind power.
- The Danish government has mandated that 35 percent of the country's total power consumption be produced from renewable resources by 2030. In addition, Danish consumers will be required to purchase 20 percent of their power needs from renewable sources by 2003.
- The UNDP, UN Department of Economic and Social Affairs and World Energy Council are preparing a "World Energy Assessment" report. The second draft can be found on the web at URL: <http://www.undp.org/seed/eap/activities/wea/drafts-frame.html>. The draft notes that after 2020 all energy scenarios move away from their current reliance on conventional oil and gas. The report also suggests that crude oil supply will peak around the year 2010.
- President Clinton is reported to be requesting Congress to provide US\$439 million in the 2001 fiscal year to fund research and grants to assist the development of biomass energy and other products from agricultural waste in the USA. This is more than twice the amount for the previous year.
- On 1 February the British government set its electricity industry a target requiring 10 percent of its output be supplied from renewable sources by 2010. Under the government's Utilities Bill, renewable-generated electricity and heat will be exempt from a planned climate change levy.
- FAOSTAT is an on-line database of the United Nations' Forestry and Agriculture Organisation, useful for assessing biomass resources in different countries. It currently contains over one million time-series records covering international statistics in the following areas: Production; Trade; Food; Fertilisers and Pesticides; Land Use and Irrigation; Forest Products; Agricultural Machinery. Web: <http://apps.fao.org>.

- The American Society for Testing and Materials' (ASTM) Committee on Biotechnology (E48) has a subcommittee on Biomass Conversion (E48.05) which develops standard testing methodologies for biomass. Web: <http://www.astm.org>
- Suncor, one of Canada's largest oil companies will invest \$100 million (Canadian) in renewable energy projects over the next five years. It will initially focus on biomass, conversion of municipal solid waste to energy, methane from landfills and carbon sequestration. Suncor is in a joint venture in Australia with Southern Pacific Petroleum/Central Pacific Minerals, a member of the Biomass Taskforce.
- A new US technology company, Agro-Tech Communications has announced the launch of a new website - www.agfibertechnology.com, to provide farmers, processors and manufacturers timely information about agricultural fibers and their role in emerging biobased industries. Biobased products are non-food, non-feed products produced from natural, agricultural materials. The web site is set to operate from 1 March 2000. President Clinton's fiscal year 2001 Budget proposal includes US\$976 million in tax incentives over five years and \$ 2.1 billion over ten years to accelerate the development and use of biobased technologies which convert crops, and other biomass into a vast array of fuels and consumer products. Agricultural biomass includes; corn stover, cotton residues, rice straw, wheat straw, and new crops that will create added revenue streams to farmers and rural economies. Email: fiber@netten.net Tel: (1-901) 757-1777.
- Baled switchgrass, a prairie grass native to the USA is set to be co-fired with coal at Alliant Energy 's Ottumwa Generating Station in south-eastern Iowa from May. The baled switchgrass is being supplied by Prairie Lands Bioproducts, Inc., a non-profit cooperative of 60 growers who are working with the Chariton Valley Biomass Project (<http://www.cvrcd.org/biomass.htm>) and Alliant Energy to test the feasibility of supplying the power station with 200,000 tons of switchgrass per year.
- The National Dryland Salinity Program of the Land and Water Resources R&D Corporation (LWRDC) has commissioned a study 'Now and Beyond 2025: Transitions to the Bio-alcohol Economy using Bio-ethanol and Bio-methanol'. The study is being conducted by Barney Foran of the CSIRO Resource Futures Program (Division of Wildlife and Ecology) and Chris Mardon, a Melbourne based consultant.
- IEA CADDET has published a 159 page book, 'Learning from experiences with Alternative Fuels in Electric Power Generation' by Rene Venendaal and Patrick van Haren. Much of the book is focussed on biomass and assesses a variety of fuels, conversion routes, technologies and looks in some depth at 18 demonstration projects. The book is part of IEA CADDET's Analyses Series No. 26, ISBN 90-72647-44-0. It is available from CADDET Australia, email: CADDET@auroraenergy.com.au, tel: (03) 6273 3355 at a cost of \$33.00.
- The USA Department of Energy has recently released a report *Emission and Reduction of Greenhouse Gases from Agriculture and Food Manufacturing*. The report states that agriculture and forest products producing and using biobased products could help substantially in reducing greenhouse gases by the year 2010. This report is the first comprehensive analysis of the impact of U.S. agriculture and forestry in the production and mitigation of greenhouse gases. The report finds the greatest impact of agricultural emissions is from nitrous oxide and methane. The total U.S. agricultural and forestry emissions represents ten percent of all greenhouse gases in the United States. The report supports accelerating the development of biobased products to reduce greenhouse gases, with benefits of increased economic opportunities for rural areas, decreased dependence on foreign oil, and the expansion of the sustainable use of energy in a variety of industries. The report is on the Web at <http://www.oit.doe.gov/agriculture>.
- The former Energy Research and Development Corporation's (ERDC) reports are now available from the Environment Industries Development Network (EIDN). See web at <http://www.energypublications.com.au>.
- Bioelettrica S.p.A. is building a biomass-fuelled, 14 MW_e integrated gasification combined cycle plant near Pisa, Italy. Commissioning is expected in mid 2001. Contact Henk de Lange, Technical Manager, email: delange@bioelettrica.it

Opportunities Corner

The Biomass Taskforce would like to assist and facilitate biomass and bioenergy projects by providing information and industry contacts to link project developers, resource managers, energy companies, and sources of finance. If you or your organisation are interested in such assistance, please contact Steve Schuck for a free listing.

- Tony Photiou, a Geelong chicken grower has contacted the Biomass Taskforce Manager seeking industry contacts with a view to developing a chicken litter fueled power project. Chicken litter production in the Geelong area is approximately 30,000 t/a, with a similar amount being generated in the Bendigo area, and about four times this amount around Melbourne. Contact Tony on tel: 03 5264 1290.
- Melbourne University's Associate Professor Neville Pamment is seeking industry and other partners to form a consortium to participate in the International Energy Agency's Bioenergy Task *Biotechnology for the Conversion of Lignocellulosics to Ethanol* from 2001. This IEA Bioenergy Task has been underway for several years and focuses on technologies for the conversion of lignocellulosic materials, such as wood, straw and bagasse to ethanol. A number of countries, including the USA, Canada, Sweden and others have been actively participating in this collaborative Task. This is a field in which rapid advances have occurred in recent years, with the first commercial-scale lignocellulose to ethanol plant currently being commissioned in the USA and a pilot plant going ahead in Australia. The focus of this IEA Bioenergy Task is commercialisation of this emerging technology. If interested please contact Assoc. Professor Neville Pamment, Dept Chemical Engineering, University of Melbourne, tel: 03 9344 6627, email: pamment@chemeng.unimelb.edu.au or the Biomass Taskforce Manager, Dr Stephen Schuck.

Back Issues of Biomass Taskforce Newsletters – Downloadable from the Biomass Taskforce's homepage: <http://www.users.bigpond.com/steve.schuck/abt>

The Biomass Taskforce Newsletter is a complimentary service provided by the Biomass Taskforce to stimulate interest in biomass and bioenergy in Australia. Email is the preferred way of distributing these newsletters. **Should you have received your copy by post, and you have email, it would be appreciated if you would inform Steve Schuck** (email: Steve.Schuck@bigpond.com) **of your email address.**

Editor: Dr. Stephen Schuck, Biomass Taskforce Manager

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

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