

BIOENERGY NEWS

March 2007



FEATURE ARTICLE:

Mobiles switch on with biofuels

Fuel derived from cotton and a shrub said to relieve constipation could soon power mobile networks across India.

The crops will be used to generate biodiesel to fuel mobile base stations in unconnected rural areas, without access to electricity.

One third of Indian homes are not connected to the power grid and demand for mobile phones is growing rapidly.

A pilot scheme in west India has been set up by mobile firms and industry body the GSMA development fund.

"It is about connecting the unconnected," said Dawn Hartley, development fund manager at the GSMA.

Mobile phone use has exploded across India. In 2003 there were just 13 million mobile phone subscribers. Today, there are nearly 130 million.

Much of this take-up has been in urban areas where there is a comprehensive mobile network.

But outside the major towns, where approximately three-quarters of India's 1.2 billion people live, mobile coverage is fragmented.

This is in-part because the electricity network, used to power the mobile network infrastructure, is often unreliable and does not cover the whole of the country.



"As GSM operators expand their network coverage into new areas, one of the biggest challenges is to overcome operational issues associated with the lack of basic infrastructure," said Mats Granryd, managing director, Ericsson India.

Remote base stations, which transmit and receive information from handsets, are already powered by conventional fuel generators.

But these can be dirty and require a lot of maintenance.

They can also be expensive to run requiring weekly deliveries of fuel. Ericsson estimates that half of the cost of a remote base station goes on fuel.

The pilot scheme, put forward by the GSMA and mobile firms Idea Cellular and Ericsson, hopes to overcome some of these problems by using mobile base stations that use generators running on biodiesel.

The fuel is created by combining plant oils with alcohol, in the presence of a catalyst to speed up the process.

The scheme in India will use oil derived from plants such as cotton, a mahogany-like tree called neem and jatropha.

Jatropha trees are already widely grown across India, specifically as a biofuel crop. The seeds of the plant are a traditional remedy for constipation.

Biodiesel has a lower environmental impact than conventional fuels and crucially, can be grown and processed locally.

Although at pilot stage, the scheme hopes to have up to 10 base stations operating in Pune, in the Maharashtra region of west India, by mid-2007.

The projects build on other GSMA projects operating in Lagos, Nigeria, where the biofuel is derived from groundnuts.

NEWS BRIEFS:

UK Bioenergy 2006

The REA event was held on 6 & 7 September at the Winter Gardens in Weston-Super-Mare, England.

The REA was pleased with the excellent attendance to the two-day event, with over 360 attendees around double the number of delegates of the year before. The wide range of speakers and highly informative and debate provoking presentations received positive feedback from many delegates.

Highlights included a positive introduction to the potential for bioenergy, from Climate Change and Environment Minister Ian Pearson MP, authoritative and informed chairmanship from Lord Whitty of Camberwell and a rousing afternoon session on day one with Sir Ben Gill's whirlwind appearance as chairman and commentator. At least one delegate requested that he appear at all future REA conferences...

Richard Crowhurst of Enagri magazine summed up with "if the first day's programme was anything to go by, this really has been one of the benchmark events for the renewables and energy agriculture sectors".

Day two provided three parallel conferences on biomass heat, renewable transport fuels, and co-firing. These included presentations from a huge range of industry players, including project developers, equipment manufacturers, fuel and feedstock producers and suppliers, power generators, government and industry representatives, and a range of service providers to the bioenergy industry.

Amongst other recurring themes were the large amount of knowledge that can read-across from agriculture into co-firing, in particular on health and safety and material handling techniques. The Industry Regulation Policy Advisor of the Environment Agency revealed that the EA was simplifying or removing the requirements currently applying to the trialling of new WID-exempt biofuels at coal fired power stations.

Download the presentations from:

www.r-e-a.net/article_default_view.fcm?articleid=1648

Australian Biofuels Report

The burgeoning local ethanol industry took a hit recently with a new report questioning its suitability in Australian vehicles. The report 'Setting a Quality Standard for Fuel Ethanol'

dashes hopes of a high ethanol blended fuel in the Australian fleet for the near future and reinforces the current 10% ethanol cap introduced in July 2003, claiming only specially-designed flexible fuel vehicles could use ethanol in higher percentages.

Government research also shows that only about 60% of cars currently on Australian roads, some 7.6 million, are compatible with the 10% ethanol blend. Despite the low ethanol blend and the potential unpopularity of the fuel the Queensland Government still plans to introduce an ethanol mandate by 2010.

The federal Fuel Tax Credit provides an on-road tax rebate for petroleum of 18.5 cents per litre for vehicles over 4.15 tonnes, while for biodiesel it is 14.8 cents per litre. The government has stated this will drop further to 11.1 cents this July. Incentives in the mining sector are even less, with a zero off-road tax rebate for biodiesel and an attractive 38.1 cents per litre for petroleum diesel.

Higher Biodiesel Blends in France

Taking advantage of Biodiesel's significant CO₂-saving potential French car producers are reacting offensively in the present hot debate of climate change and the role of transport fuels.

Recognising the quite significant saving potential of biodiesel as a fuel produced from renewable sources, Peugeot and Renault have issued new warranties for diesel car fuels containing up to 30 % biodiesel, as shown at the the Geneva car show.

Thus B-30 cars can reduce CO₂-emissions by 40 to 45 g per km. With this strategy the car producers are getting closer to meet the envisaged reduction of greenhouse gas emission max. 120 g CO₂-emissions /km, as suggested by the European Commission, as its so far non-commitment target.

MSW Plant for Sydney

A 90,000 tonne per year plant under construction at "Jacks Gully" in Suburban Sydney, Australia, is to open in 2008. This ArrowBio plant is the "Mixed Waste Processing Facility" component of the "Macarthur Resource Recovery Park" sponsored by WSN pty. This follows an earlier ArrowBio system based on anaerobic digestion of the Upflow Anaerobic Sludge Blanket (UASB) type, located at the Tel Aviv transfer station, which processes 35,000 tpy of mixed, unsorted, MSW.

Green Waste to Fuel

Melbourne-based energy company Renewable Oil Corporation (ROC) has settled negotiations with the Darwin City Council and will begin building a \$70 million renewable energy project that will turn the city's green waste into oil and avoid waste to landfill.

The plant to be based at Shoal Bay will use Canadian technology to produce diesel fuel, which can be used at remote mine sites to generate electricity.

According to ROC, the fuel produced at the plant would be sufficient to replace 15ML of diesel each year and does not produce any CO₂ or waste. It is also a cheaper method of fuel generation than biodiesel.

ROC chief Colin Stucley said pyrolysis uses heat to break green waste or other wooden material down into oil or charcoal.

From 100,000 tonnes of green waste, 45,000 tonnes of green oil can be produced and converted to 7MW of electricity.

Pig Manure

Ameren Illinois, in conjunction with the Illinois Environmental Protection Agency and the University of Illinois-Chicago, are studying the feasibility of using biogas from pig manure to generate heat and power.

The Ameren renewable energy group is looking at several renewable energy options, but pig manure is the first to be studied. If the results are favourable, work on the anaerobic digester will start by the end of 2008. At present the plans suggest a potential to produce between 200 and 400kW.

The plan is to put the generation where the manure is created but Ameren could use ensuing renewable energy credits – or CO₂ offset credits – towards future government initiatives.

UK bioenergy research gets £23m boost

An extra £20m, which will more than double the budget for research into green bioenergy, was announced at the start of the UK's National Science and Engineering Week by Alistair Darling, Secretary of State for Trade and Industry and the Biotechnology and Biological

Sciences Research Council (BBSRC) (8th March).

The initiative by BBSRC which will take total public funding to £36m over the next five years was launched at Imperial College in London. It will support the build up of research capacity into how bioenergy can help replace fossil fuels with renewable, low-carbon alternatives.

The UK already has some of the leading experts in photosynthesis - the exploitation of energy from plants and microbes from sunlight. The funding will look at expanding the capacity and skills base allied to turning laboratory excellence into products and processes. Universities and eligible institutions are being asked to come up with proposals for new research centres, collaborative research programmes or new research networks.

Meanwhile, an extra £3m is to be spent on schemes to create energy out of "biomass" like wood and waste products, the Scottish Executive revealed. The plan was announced by Deputy First Minister Nicol Stephen, who said the money would take the value of an Executive grant scheme to £10.5m in total.

He announced the extra cash after inaugurating a woodchip boiler system at a school in Aboyne, Aberdeenshire.

Brazil and U.S. Sign Memo on Ethanol

Brazil and the U.S. signed a strategic alliance to promote biofuels, declaring the step important for the environment and global security. US Secretary of State Condoleezza Rice and Brazilian Foreign Minister Celso Amorim signed the memorandum of understanding to cooperate in promoting ethanol on the sidelines of President Bush's five-nation Latin American tour. Bush and Brazilian President Luiz Inacio Lula da Silva described the pact as significant for both the environment and global security.

The memo maps out bilateral cooperation to promote ethanol on global markets and addresses the issue of transfer of technology to other countries wanting to produce the fuel. Brazil and the United States want to standardise the definition of ethanol so it can be traded on global markets the same way oil.



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

EVENTS CALENDAR:

Ethanol 2007, Melbourne, 17- 20 April

Website: www.ethanol2007.com

EECA Biofuels Conference 2007



**Museum of New Zealand Te Papa,
Tongarewa Soundings Theatre, Level 2
Cable Street, Wellington, Tuesday 24 April**

Key note speakers will give a global perspective on biofuels, and there will also be presentations on current and emerging biofuels technologies in New Zealand.

Key note speakers: Rick Zalesky: Vice President, Biofuels and Hydrogen, Chevron, United States. José Edison Parro: President, Brazilian Automotive Engineering Association, Brazil. The Minister of Energy, Hon. David Parker, will speak at the conference, and government officials will provide an update on the Biofuels Sales Obligation.

One-day conference: \$150 (plus GST) Email: biofuelsconference@eeca.govt.nz

15th European Biomass Conference & Exhibition, Berlin, 7-11 May

Theme "Biomass for Energy, Industry and Climate Protection - From Research to Market Deployment."

Website www.conference-biomass.com

23rd International Fuel Ethanol Workshop, St Louis, 26-29 June

Website <https://www.fuelethanolworkshop.com>

International Training Workshop on Technology and Utilisation Biomass Gasification, Yingkou, China, , 1-20 September

Yongzhi Ren, Biomass Gasification Department, Liaoning Institute of Energy Resources (LIER), Yingkou, Liaoning Province, P.R. China.

Website: <http://gasifiers.bioenergylists.org/yinkougasworkshop07>

International Bioenergy, Jyväskylä, Finland, 3-6 September

The main organizer is FINBIO - The Bioenergy Association of Finland.

Website: <http://seminaarit.ohoi.fi/default.asp?seminarID=6>

Renewable Energy Association, Bioenergy 2007, Oxford, England, 20-21 September

20th World Energy Congress, Rome, 11-15 November, 2007

Theme "Energy Future in an Interdependent World"