

FEBRUARY 2014



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# Policy Initiatives

## India

### **Proposals for higher ethanol blend in India need to be discussed**

The Maharashtra state government in India has agreed in principle to discuss a move to E10 petrol to help boost the sugar industry. The current ethanol blend is set at 5% but the call has support from local farmer organizations as they could make better yields from sugarcane crops. Maharashtra officials also confirmed the blend proposal will be taken up at union government level.

[www.biofuels-news.com/industry\\_news.php?item\\_id=729](http://www.biofuels-news.com/industry_news.php?item_id=729)

## North America

### **The New York to launch biomass heating initiative**

New York Government released its agenda for 2014, which includes plans to launch a biomass heating initiative in the state. The agenda describes Renewable Heat as a long-term commitment to help the high-efficiency and low-emission biomass heating industry reach scale.

The program is also being designed to facilitate workforce training and manufacturer support for field testing, equipment certification and early stage product development. It is to begin with issuance of a state policy roadmap for accelerating the use of biomass for heating using the most efficient, low-emission technologies, and will identify pilot projects that are ideally suited for biomass conversion.

Along with this whole plan, the agenda would also work toward modernizing New York's outdated power grid infrastructure, via the launch of \$40 Million community grids for areas with approximately 40,000 residents each.

[www.biomassmagazine.com/articles/9885/new-york-to-launch-biomass-heating-initiative](http://www.biomassmagazine.com/articles/9885/new-york-to-launch-biomass-heating-initiative)

## Europe

### **EU proposal sets renewable energy targets, ignores biofuels**

The European Commission has proposed new clean energy and GreenHouse Gas (GHG) emission reduction objectives. By 2030, the commission has proposed a GHG emission reduction of 40 % below the 1990 level, along with an EU-wide 27 % binding target for renewable energy. The commission is also proposing to establish a new governance system and a set of new indicators to ensure a competitive and secure energy system.

The new targets build upon previously established targets that are to be attained by 2020. According to information issued by the European Commission, the EU is on track to meet those goals. The 2020 goals include a 20% GHG reduction, 20% renewable energy goals and 20% energy inefficiency improvements.

[www.biomassmagazine.com/articles/9943/eu-proposal-sets-renewable-energy-targets-ignores-biofuels](http://www.biomassmagazine.com/articles/9943/eu-proposal-sets-renewable-energy-targets-ignores-biofuels)

### **AD and biomass CHP escape subsidy competition**

Anaerobic Digestion (AD) and dedicated Combined Heat and Power (CHP) biomass plants will not have to compete for Government green energy subsidies under new proposals from the Department for Energy and Climate Change (DECC).

[www.mrw.co.uk/news/ad-and-biomass-chp-escape-subsidy-competition/8657816.article?blocktitle=Latest-news---recycling-and-waste-management&contentID=2182](http://www.mrw.co.uk/news/ad-and-biomass-chp-escape-subsidy-competition/8657816.article?blocktitle=Latest-news---recycling-and-waste-management&contentID=2182)

## **Africa**

### **Milestone for biofuels as pricing rules issued**

The Department of Energy has published a paper regarding pricing regulations as a final step for getting potentially South African biofuels industry. The government has decided to use sorghum and soybeans as biofuel and biodiesel feedstock respectively.

[www.bdlive.co.za/business/energy/2014/01/17/milestone-for-biofuels-as-pricing-rules-issued](http://www.bdlive.co.za/business/energy/2014/01/17/milestone-for-biofuels-as-pricing-rules-issued)

## Business & Market

### India

#### **Demonstration of trucks run on biofuels**

Bangalore-based Maltose Agri Products Pvt Ltd (MAPPL), in collaboration with Carbon Masters India Pvt Ltd, has recently established a waste-to-energy plant in Doddballapur. Biogas produced in this plant is purified and bottled and can be utilized as fuel in trucks. A demonstration of vehicles running on purified biogas was showcased on BBMP premises.

[www.newindianexpress.com/cities/bangalore/Now-Trucks-Run-on-Biogas/2014/01/14/article1999495.ece](http://www.newindianexpress.com/cities/bangalore/Now-Trucks-Run-on-Biogas/2014/01/14/article1999495.ece)

#### **20 firms from Argentina for BioAsia**

The province of Santa Fe, Argentina will be leading a government delegation to BioAsia to be held here during February 17-19. About 20 biotech companies from Santa Fe would be participating in Andhra Pradesh's flagship biotech event to explore collaboration with Indian companies/institutions in pharma and bioenergy.

The event is being organised by Federation of Asian Biotech Associations, Government of Andhra Pradesh and Pharmaceuticals Export Promotion Council along with Andhra Pradesh Industrial Infrastructure Corporation. India and Santa Fe can work together in the development of new pharmaceutical and biopharmaceuticals, biomedical tests, new seeds, new products and processes to improve food industry and agricultural chains value and improvement of biofuel production.

[www.thehindubusinessline.com/news/states/20-firms-from-argentinafor-bioasia/article5583110.ece](http://www.thehindubusinessline.com/news/states/20-firms-from-argentinafor-bioasia/article5583110.ece)

#### **Clean E-India, GFFD to manage e-waste collection, recycling**

Clean E-India initiative has collaborated with Guide Foundation for Development (GFFD) here to implement "safe and responsible" waste collection and recycling of electronic and electrical goods in Hyderabad.

Clean E-India initiative was jointly launched in April 2013 by International Finance Corporation (IFC), a member of the World Bank Group, and Attero, an asset management and recycling company.

Launched in Hyderabad along with three other cities namely Ahmedabad , Mumbai and New Delhi , the initiative is supported by a growing number of leading electronics producers, including Wipro, Samsung, Voltas , Acer, Videocon and Haier.

[www.business-standard.com/article/pti-stories/clean-e-india-gffd-to-manage-e-waste-collection-recycling-114012101030\\_1.html](http://www.business-standard.com/article/pti-stories/clean-e-india-gffd-to-manage-e-waste-collection-recycling-114012101030_1.html)

### North America

## **Canola for biodiesel contract signed in Washington**

Pacific Coast Canola, a subsidiary of US-based crop processor Legumex Walker, has signed a six-month contract to deliver canola oil to biofuels company Imperium Renewables. Imperium's Hoquaim facility is believed to be the world's largest BQ-9000 certified biodiesel refinery, capable of processing up to 100 million gallons of B100 a year.

[www.bioenergy-news.com/index.php?/Industry-News?item\\_id=7310](http://www.bioenergy-news.com/index.php?/Industry-News?item_id=7310)

## **Biomass ventures to help Novozymes remain buoyant**

Novozymes, a producer of industrial enzymes, says 2013 financial results saw organic sales grow by 7% and net profit by 9%. The company is confident that 2014 will show a continuation of these upward trends, an outlook which includes the expected financial impact from its BioAg Alliance with US-based chemical and biotechnology company Monsanto.

This alliance aims to 'boost research and commercialization of sustainable microbial technology that can help farmers increase productivity of their crops'.

[www.bioenergy-news.com/index.php?/Industry-News?item\\_id=7317](http://www.bioenergy-news.com/index.php?/Industry-News?item_id=7317)

## **REG enters industrial biotech sector with \$61.5m LS9 acquisition**

Iowa-based Renewable Energy Group has entered the industrial biotech sector with the acquisition of chemical technology developer LS9 for \$61.5m.

[www.newenergyworldnetwork.com/investor-news/renewable-energy-news/by-technology/biofuel-biomass/reg-enters-industrial-biotech-sector-with-61-5m-ls9-acquisition.html](http://www.newenergyworldnetwork.com/investor-news/renewable-energy-news/by-technology/biofuel-biomass/reg-enters-industrial-biotech-sector-with-61-5m-ls9-acquisition.html)

## **New biodiesel storage partnership signed in US**

Epic Midstream and fuel company US Oil have signed a 10-year partnership so the latter can begin the supply and marketing of biodiesel at four of Epic's terminals. Location of the four terminals are split evenly between the states of Alabama and Georgia.

Epic will make tank and rack improvements at each of the receiving facilities to support the new products. In addition to biodiesel, US Oil also has the option to supply and market ultra-low sulphur diesel and dyed diesel.

Houston-based Epic currently offers 65 tanks, for over 1.8 million barrels of product storage, throughout the US.

[www.biofuels-news.com/industry\\_news.php?item\\_id=7340](http://www.biofuels-news.com/industry_news.php?item_id=7340)

## **California joint venture to recycle waste cooking oil into biogas**

California based Encina Wastewater Authority announced the award of a contract to J.R. Filanc Construction and partnership with Liquid Environmental Solutions to build an alternative fuel receiving facility that will recycle waste cooking oil and other food wastes. These organic materials that would otherwise be sent to landfill will be used to produce renewable energy to help the EWA achieve energy independence.

[www.biomassmagazine.com/articles/9919/california-joint-venture-to-recycle-waste-cooking-oil-into-biogas](http://www.biomassmagazine.com/articles/9919/california-joint-venture-to-recycle-waste-cooking-oil-into-biogas)

## **Bonds authorized to finance export facility**

The Port of Pascagoula in Mississippi is one step closer to constructing a pellet export facility for the proposed Green Circle Bio Energy Inc. pellet plant. Jackson County supervisors recently authorized a bond issue for up to \$24 million to support construction of the export facility.

Construction on the \$30 million export facility is expected to start in early 2014, with completion scheduled for next year. Once complete, the facility will serve a 500,000-ton-per-year facility under development by Florida-based Green Circle Bio Energy. The \$115 million wood pellet manufacturing facility is expected to be built at the George County Industrial Park in Lucedale, Mississippi.

[www.biomassmagazine.com/articles/9936/bonds-authorized-to-finance-export-facility](http://www.biomassmagazine.com/articles/9936/bonds-authorized-to-finance-export-facility)

## **Industry awakens to climate change: Coca-Cola, other MNCs now see global warming as economically disruptive**

Coca-Cola had always been more focused on its economic bottom line than on global warming, but because of a serious water shortage there in 2004, things began to change. After a decade of increasing hits to Coke's balance sheet as global droughts dried up the water needed to produce its soda, the company has embraced the idea of climate change as an economically disruptive force.

[www.economictimes.indiatimes.com/news/international/business/industry-awakens-to-climate-change-coca-cola-other-mncs-now-see-global-warming-as-economically-disruptive/articleshow/29300350.cms](http://www.economictimes.indiatimes.com/news/international/business/industry-awakens-to-climate-change-coca-cola-other-mncs-now-see-global-warming-as-economically-disruptive/articleshow/29300350.cms)

## **Europe**

### **Germany's RWE planning for coal-to-biomass conversion**

RWE's plans to convert its 400-MW Lynemouth power station in Northumberland, England from coal to biomass. RWE owns 99 MWe/683 MWth of biomass cogeneration capacity in operation in Germany and 72 MWe of biomass plant under construction in the UK and Italy.

The majority of the LS9 team, including the entire R&D leadership group, will join the newly named REG Life Sciences which will operate out of LS9's headquarters in South San Francisco, California.

Lynemouth is one of nine UK projects defined as provisionally affordable by the Department of Energy and Climate Change. The projects have received draft investment contracts for 'Final Investment Decision Enabling' subsidies.

[www.platts.com/latest-news/electric-power/london/germanys-rwe-very-positive-about-uk-lynemouth-26628762](http://www.platts.com/latest-news/electric-power/london/germanys-rwe-very-positive-about-uk-lynemouth-26628762)

### **Forth Energy announces government approval for biomass CHP plant**

Forth Energy, a joint venture between Forth Ports Ltd. and SSE plc, confirms that the Scottish government has granted consent for a wood fueled renewable Combined-Heat-and-Power (CHP) plant at the Port of Rosyth.

The upcoming plant requires capital investment of £325 million creating 300 construction jobs, peaking at 500 during parts of the build process; then around 70 operational jobs, running the plant and handling the fuel. It is forecast to deliver around £26m of annual economic benefit to the area.

[www.biomassmagazine.com/articles/9965/forth-energy-announces-government-approval-for-biomass-chp-plant](http://www.biomassmagazine.com/articles/9965/forth-energy-announces-government-approval-for-biomass-chp-plant)

### **83MW Romanian biomass plant complete**

Egger, an Austrian wood company, has finished building a large-scale biomass-fired power plant in Radauti, Romania. The €35 million plant generates 83 MW of heat and energy from waste wood

materials. This is the largest biomass facility till date in Romania.

[www.bioenergy-news.com/index.php?/Industry-News?item\\_id=7277](http://www.bioenergy-news.com/index.php?/Industry-News?item_id=7277)

### **Ulster Bank supports phase two Newry biomass project**

React Energy, an energy infrastructure developer and operator with a focus on the production of clean energy in the UK and Ireland, has received approval from Ulster Bank Ireland for the funding of the second phase of its joint venture biomass gasification project in Newry, Northern Ireland.

It took around 12 months in testing and optimizing performance of the 2MW phase one of the project. It will now continue the project to its full capacity of 4MW after approval from Ulster Bank.

[www.bioenergy-news.com/index.php?/Industry-News?item\\_id=7339](http://www.bioenergy-news.com/index.php?/Industry-News?item_id=7339)

### **Audi partners with bioenergy provider**

Audi is launching a strategic partnership with Global Bioenergies as the premium carmaker and the biotechnology company are developing the drop-in biofuel Audi e-gasoline.

Audi will work with the French biotechnology company to promote the development of non-fossil fuels.

Audi is already operating a research facility for the production of e-ethanol and e-diesel with its partner Joule in Hobbs, New Mexico. The Audi e-gas plant in Werlte began feeding into the grid a few months ago. Synthetically produced gas is used here to store electric surplus energy.

In addition to the Audi e-gas and e-diesel projects, the research into e-gasoline is part of Audi's efforts to find alternative fuels.

[www.inautonews.com/audi-partners-with-bioenergy-provider#.Uv39e6wkiho](http://www.inautonews.com/audi-partners-with-bioenergy-provider#.Uv39e6wkiho)

### **Camco Clean Energy completes acquisition of Idaho facility**

London-based Camco Clean Energy plc recently announced that it completed the acquisition of a 2.1MW biogas facility in Twin Falls, Idaho. The facility is located less than 30 miles from the company's 4-MW biogas plant near Jerome, Idaho.

The acquisition was first announced in late June. According to information released by Camco Clean Energy at that time, it had agreed to purchase the dairy biogas-to-power facility for up to \$3.2 million which is now revised to \$2.9 million.

The plant was commissioned in 2008 and was being operated by the same contractor that manages Camco Clean Energy's Jerome facility. The facility's power purchase agreement with the local utility is currently set to expire in 2020 but is eligible to be extended at published rates at the time of extension.

[www.biomassmagazine.com/articles/9859/camco-clean-energy-completes-acquisition-of-idaho-facility](http://www.biomassmagazine.com/articles/9859/camco-clean-energy-completes-acquisition-of-idaho-facility)

### **Boeing sees potential in 'green diesel' as sustainable jet fuel**

'Green diesel' made from oils and fats could be used to fuel aircraft, according to new research by Boeing. The company says green diesel, a renewable fuel used in ground transportation and chemically different to biodiesel, could provide a significant new source of sustainable aviation biofuel that emits at least 50% less carbon dioxide than fossil fuel over its lifecycle.

Working with the US Federal Aviation Administration and other stakeholders, Boeing is seeking to gain approval for aircraft to fly on the fuel, which could be blended directly with traditional jet fuel if approved.

Enough green diesel production capacity already exists in the US, Europe and Singapore to supply as much as 1%, or about 600 million gallons of global commercial jet fuel demand. The wholesale cost is competitive with petroleum jet fuel at around \$3 a gallon with US government incentives.

[www.bioenergy-news.com/index.php?/Industry-News?itemid=7294](http://www.bioenergy-news.com/index.php?/Industry-News?itemid=7294)

## Africa

### **Renewable energy and biomass plants set for Africa**

DP Cleantech partners with Cambridge Industries, based at Addis Ababa to facilitate the rollout of biomass and waste-to-energy projects in Africa. The first project, in consortium with China National Electrical Engineering (CNEE) has been secured, and will deliver a waste-to-energy plant in Ethiopia. DPC will be technology partner for the project on turnkey basis for Ethiopian Electric Power for the production of clean electricity.

The plant will be located adjacent to the Reppie landfill site, the largest site of its kind in Ethiopia, and will use that available feedstock as its source of renewable energy. Design and preparatory work has reportedly already begun, while further projects in Djibouti, Senegal, Uganda, Kenya and Ethiopia are at planning stages.

[www.bioenergy-news.com/index.php?/Industry-News?item\\_id=7336](http://www.bioenergy-news.com/index.php?/Industry-News?item_id=7336)

## Asia

### **New agreements to assess biomass for sustainable jet fuel signed**

Aircraft manufacturer Airbus signed a Memorandum of Understanding with 'Key Malaysian partners' to assess local solutions for sustainable biomass production in the country. The aim is to provide sustainable solutions for future jet fuel production. The first assessment is expected to be completed by December 2014. Other partners include the Aerospace Malaysia Innovation Centre, the Malaysian Industry-Government Group for High technology, Universiti Putra Malaysia (UPM), French research centre CIRAD and Malaysian biotechnology company BioTech.

[www.bioenergy-news.com/index.php?/Industry-News?item\\_id=7352](http://www.bioenergy-news.com/index.php?/Industry-News?item_id=7352)

### **RusForest opens Arkhangelsk pellet mill**

RusForest, a Swedish forestry company with operations in Russia, has put its wood pellet production facility at Arkhangelsk. The construction of the pellet plant in Arkhangelsk is close to completion, with it now in the test-production phase. Full capacity is expected by the end of March. The total cost of the plant was approximately €12 million and its annual capacity of up to 100,000 tonnes. These pellets will be exported to Europe.

[www.bioenergy-news.com/index.php?/Industry-News?item\\_id=7323](http://www.bioenergy-news.com/index.php?/Industry-News?item_id=7323)

### **Biomass supply chains developed by VTT speed up use of bioenergy in Vietnam**

VTT Technical Research Centre of Finland has developed efficiency in the biomass supply and use for energy in Vietnam's Mekong Delta as part of the Energy and Environment Partnership Programme of the Ministry for Foreign Affairs. VTT's task in Vietnam was to develop efficient and reliable biomass supply chains for multi-fuel CHP power plants and industrial boilers.

The project (Development and demonstration of multi-fuel supply chains for power plants and

industrial boilers in Vietnam) was realized through collaboration between VTT and the Institute of Energy in Hanoi.

[www.phys.org/wire-news/151936541/biomass-supply-chains-developed-by-vtt-speed-up-use-of-bioenergy.html](http://www.phys.org/wire-news/151936541/biomass-supply-chains-developed-by-vtt-speed-up-use-of-bioenergy.html)

### **Boeing to help commercialize biofuels in the United Arab Emirates**

Boeing announced partnership with Etihad Airways, Abu Dhabi Oil refinery Takreer and Energy Maker Total to develop and commercialize biofuels in the United Arab Emirates. The objective was to build on its commitment to expand the development of sustainable fuels.

Boeing and Etihad Airways are also among the founding partners of the Sustainable Bioenergy Research Consortium, which has been researching and developing salt-tolerant plants for the development of renewable fuel.

[www.foxbusiness.com/industries/2014/01/20/boeing-to-help-commercialize-biofuels-in-united-arab-emirates/](http://www.foxbusiness.com/industries/2014/01/20/boeing-to-help-commercialize-biofuels-in-united-arab-emirates/)

### **New biodiesel plant set for Saudi Arabia**

Portugal-based engineering company IncBio has just secured an agreement to supply Bio Renewable Energy Factory (BREF) with a 40,000 million tonne a year capacity biodiesel plant.

The facility will incorporate IncBio's ultrasonic technology to produce biodiesel from animal fats collected from rendering plants in the Saudi market.

The partnership expects the plant to be complete by the last quarter of 2014 and this kind of project is reportedly the first of several planned by BREF for the region over the coming years.

[www.biofuels-news.com/industry\\_news.php?item\\_id=7351](http://www.biofuels-news.com/industry_news.php?item_id=7351)

## Finance & Investment

### India

#### **Reliance Industries to invest in Algae.Tec and fund its first India Plant**

Reliance Industries Limited (RIL) has announced an investment in Australian algae fuel developer Algae.Tec's first Indian biofuel plant. The Indian Market represents a possible huge market for the Perth-based company and many companies are eyeing setting up shop here.

The first pilot plant is designed to test the feasibility of the present technology to suit the local conditions. RIL and Algae.Tec in future will come up with commercial plants in India. Reliance Industries has the edge as it has exclusivity over the technology in the India market.

[www.indiaprwire.com/pressrelease/oil-energy/20140124285930.htm](http://www.indiaprwire.com/pressrelease/oil-energy/20140124285930.htm)

### North America

#### **New York Green Bank receives initial funding**

An initial funding of \$210 million (€88 million) will be invested into the NY Green Bank, a new initiative designed to accelerate green energy projects. This funding is approved by the Public Service Commission, and the Regional Greenhouse Gas Initiative.

The NY Green Bank will partner with private sector institutions by providing financial products such as credit enhancement, loan loss reserves and loan bundling to provide security and build secondary markets. These products will support economically viable clean energy projects that cannot currently access financing due to market barriers, such as federal policy uncertainty, insufficient performance data and the lack of publicly traded capital markets for clean energy.

[www.bioenergy-news.com/index.php?/Industry-News?item\\_id=7275](http://www.bioenergy-news.com/index.php?/Industry-News?item_id=7275)

#### **CCEM funds 51 cleantech projects**

Alberta-based Climate Change and Emissions Management (CCEM) now supports 51 renewable energy projects with \$213 million (€157 million) in funding after adding 12 new projects between 2012 and 2013.

The 51 projects the organisation currently supports have a combined value of more than \$1.56 billion. They will reduce GHG emissions by an estimated 10.2 megatonnes by 2020 – the equivalent to taking more than 2 million cars off the road.

[www.bioenergy-news.com/index.php?/Industry-News?item\\_id=7318](http://www.bioenergy-news.com/index.php?/Industry-News?item_id=7318)

#### **Sonoco invests \$75 million in biomass boiler facility**

Sonoco, a global provider of industrial products, consumer packaging, protective solutions and packaging services, has dedicated the new biomass facility at its Hartsville, S.C., plant. The biomass boiler is part of a \$100 million investment in the Darlington County compound.

[www.biomassmagazine.com/articles/9915/sonoco-dedicates-75-million-biomass-boiler-facility](http://www.biomassmagazine.com/articles/9915/sonoco-dedicates-75-million-biomass-boiler-facility)

## Europe

### **Verbio receives funding for biomethane from straw project**

Virbio Energy, a biofuel producer, has received over €22 million in EU funding to demonstrate its technology for the production of biomethane from straw. The €22.3 million grant was awarded under the NER300 initiative, which provides funding for demonstration projects for technology related to renewable energy over a five year period. The project has been launched and it is intended that biomethane produced solely from straw will be fed-in at the Verbio plant in Schwedt, Germany later this year.

[www.bioenergy-news.com/index.php?/Industry-News?item\\_id=7344](http://www.bioenergy-news.com/index.php?/Industry-News?item_id=7344)

### **£20M investment in UK Bioenergy**

The Biotechnology and Biological Sciences Research Council (BBSRC) announced £20 million for research into green bioenergy. The initiative by BBSRC, comprises of total public funding of £36 million over the next five years, was launched at Imperial College in London. The aim is to build up the research capacity to replace fossil fuels with renewable, low-carbon alternatives. The funding will look at expanding the capacity and skills base allied to turning laboratory excellence into products and processes.

[www.pwemag.co.uk/index.php?page=303&showsub=1&record=153](http://www.pwemag.co.uk/index.php?page=303&showsub=1&record=153)

## Africa

### **IDB approves \$125m loan for Brazil's Banco Pine**

The Inter-American Development Bank (IDB) has approved a \$125m loan for Brazil-based Banco Pine in order to expand access to financing for environmentally sustainable projects such as biofuels and renewables.

The IDB will provide an unsecured loan of some \$125m to Banco Pine for working capital and long-term loans in these sectors, as well as to finance capital expenditures.

The partnership is expected to increase Pine's green portfolio by \$6000m in the next five years, which in turn will contribute toward achieving the government's goal of refocusing Brazil's energy matrix on more environmentally friendly sources by 2021.

[www.newenergyworldnetwork.com/investor-news/renewable-energy-news/by-technology/biofuel-biomass/idb-approves-125m-loan-for-brazils-banco-pine.html](http://www.newenergyworldnetwork.com/investor-news/renewable-energy-news/by-technology/biofuel-biomass/idb-approves-125m-loan-for-brazils-banco-pine.html)

## Asia

### **Pellet and biomass power plant planned for Korea**

Global Logix of South Korea is to invest \$20 million (€14.6 million) in a new wood pellet production factory and 10,000MW biomass power plant in Siak, Riau province, according to reports.

Global Logix and the Siak regional administration signed a memorandum of understanding for the processing of oil palm fruit bunches and kernel shells – an underutilised feedstock in the country.

Under the agreement, Siak Pembangunan dan Energi, a company run by the administration, will provide this waste. Construction could begin in April, with operations due to commence at the beginning of 2016.

[www.bioenergy-news.com/index.php?/Industry-News?item\\_id=7336](http://www.bioenergy-news.com/index.php?/Industry-News?item_id=7336)

# Research & Development

## North America

### **UW-Madison researchers are building better biofuels**

Researchers at UW-Madison Lab have set up a biomass reconstruction reactor. The project's next phase is the construction of a bioreactor that will be able to produce 1 liter of the sugar solution instead of just milliliters.

[www.jsonline.com/business/uw-madison-researchers-are-building-better-biofuels-b99190278z1-241974641.html](http://www.jsonline.com/business/uw-madison-researchers-are-building-better-biofuels-b99190278z1-241974641.html)

### **OU Research team selected by DOE to develop a novel biomass conversion process**

Researchers from University of Oklahoma have been selected to develop a novel biomass conversion process to obtain a bio-oil compatible with refinery operations. The approach proposed by OU provides significant improvement over existing commercial and previously proposed technologies.

The project was funded by the DOE's Energy Efficiency and Renewable Energy, Bioenergy Technology Office through its Carbon, Hydrogen and Separation Efficiencies in Bio-Oil Conversion Pathways program.

[www.newswise.com/articles/ou-research-team-one-of-four-in-the-nation-selected-by-doe-to-develop-a-novel-biomass-conversion-process](http://www.newswise.com/articles/ou-research-team-one-of-four-in-the-nation-selected-by-doe-to-develop-a-novel-biomass-conversion-process)

### **Iogen announces new drop-in cellulosic biofuel from biogas**

Ottawa-based Iogen Corp. announced it has developed and patented a new method to make drop-in cellulosic biofuels from biogas using existing refinery assets and production operations.

The company estimates there is refining capacity in place to incorporate 5 to 6 billion gallons per year of renewable hydrogen content into gasoline and diesel fuel.

Iogen Corp. has operated a demonstration-scale cellulosic ethanol plant in Ottawa for nearly 10 years. Its first commercial-scale plant is under construction in Brazil and is expected to begin operations later this year. The \$100 million project is a joint venture between Iogen Energy and Raízen Energia Participacoes S/A. The 10 MMgy plant is being built adjacent to Raízen's Costa Pinto sugar cane mill in Sao Paulo. Raízen, Brazil's leading manufacturer of sugarcane ethanol, is a \$12 billion joint venture between Royal Dutch Shell and Brazilian ethanol company Cosan S.A.

[www.biomassmagazine.com/articles/9950/iogen-announces-new-drop-in-cellulosic-biofuel-from-biogas](http://www.biomassmagazine.com/articles/9950/iogen-announces-new-drop-in-cellulosic-biofuel-from-biogas)

### **OSU lands \$1 million grant for bioenergy study**

Oregon State University received \$1 million from the U.S. Department of Agriculture for a study that could help increase the productivity of trees used for bioenergy. OSU will partner with Portland-based Greenwood Resources and researchers at West Virginia and Portland State Universities on the

study.

[www.gazettetimes.com/news/local/osu-lands-million-grant-for-bioenergy-study/article\\_83ac09d2-7283-11e3-b686-0019bb2963f4.html](http://www.gazettetimes.com/news/local/osu-lands-million-grant-for-bioenergy-study/article_83ac09d2-7283-11e3-b686-0019bb2963f4.html)

## Europe

### **Waste to biofuel enzyme developer expands laboratory in Netherlands**

Jupiter, a biotechnology company that develops enzymes for use in bioenergy applications expanded their research laboratory in the Netherlands. The company has increased its scientific staff by 40% in 2013 and plans to hire molecular biologists, enzymologists and fermentation specialists through 2014.

[www.waste-management-world.com/articles/2014/01/waste-to-biofuel-enzyme-developer-expands-laboratory-in-netherlands.html](http://www.waste-management-world.com/articles/2014/01/waste-to-biofuel-enzyme-developer-expands-laboratory-in-netherlands.html)

## Africa

### **South Africa demonstrates algae-to-energy technology**

Innovative technology that uses algae to convert waste coal dust into a clean, high-quality coal which can readily be processed into biofuel was publicly demonstrated at the Nelson Mandela Metropolitan University in Port Elizabeth on Monday.

The pioneering technology has been developed by the university over the past three years with funding from the Department of Science and Technology, and plans are afoot for its products to be commercialized, the university said in a statement ahead of Monday's showcasing event.

[www.southafrica.info/about/science/coalgae-300114.htm#.UwchmKwkiho](http://www.southafrica.info/about/science/coalgae-300114.htm#.UwchmKwkiho)

## Asia-Pacific

### **Biomass pellets help lower mercury emissions**

A study by Chinese researchers has revealed that mercury emissions released from burning biomass are significantly reduced when in densified pellet form compared to raw biomass. A study published in ACS journal conclude that mercury levels varied greatly depending on the type of biomass used. High mercury emissions were found when raw wood such as Chinaberry and Chinese pine were burned. Pellets, however, made from cornstalks and pinewood released much lower levels of mercury.

[www.bioenergy-news.com/index.php?/Industry-News?item\\_id=7286](http://www.bioenergy-news.com/index.php?/Industry-News?item_id=7286)

### **Research boosts NZ biofuel industry**

Lincoln University researchers trying to boost the biofuel industry in this country have found ways to lift yields of crops that can be turned into fuels, at the same time as reducing inputs.

Their work has focused mostly on canola, which is turned into biodiesel, but the researchers are also looking to do work on a type of giant grass that can be turned into a product called renewable diesel. During a six-year project, with funding from the government and Chevron, the research team evaluated 15 different plant types, before concentrating largely on canola.

[www.stuff.co.nz/business/industries/9667453/Research-boosts-NZ-biofuel-industry](http://www.stuff.co.nz/business/industries/9667453/Research-boosts-NZ-biofuel-industry)

# Climate & Environmental Change

## India

### **India and France jointly building 3rd satellite for climate change studies**

India and France are working on building the third Indo-French satellite designed for climate change studies, a senior French official said today. The new satellite being built jointly by India Space Research Organization and National Centre for Space Studies (CNES) of France would be a state-of-the-art satellite for earth observation for climate change.

The satellite is expected to give France and India a complete spectrum of data which could be shared with already existing Indian and French satellites like SPOT-7, which will be launched on India's Polar Satellite Launch Vehicle rocket this year.

[www.articles.economictimes.indiatimes.com/2014-0123/news/46514126\\_1\\_climate-change-india-and-france-india-francois-richier](http://www.articles.economictimes.indiatimes.com/2014-0123/news/46514126_1_climate-change-india-and-france-india-francois-richier) **Black carbon pollution is two to three times worse in India & China**

### **Govt plans Rs 5,000 crore green energy push**

With traditional power sector hamstrung by fuel shortage and climate change getting top billing at World Economic Forum summit in Davos the government has lined up a Rs 5,000-crore, or \$800 million, push to promote green energy capacity. The ministry of new and renewable energy proposes to raise the authorized share capital of Indian Renewable Energy Development Agency from Rs 1,000 crore at present to Rs 6,000 crore through this infusion.

[www.timesofindia.indiatimes.com/business/india-business/Govt-plans-Rs-5000-crore-green-energy-push/articleshow/29270851.cms](http://www.timesofindia.indiatimes.com/business/india-business/Govt-plans-Rs-5000-crore-green-energy-push/articleshow/29270851.cms)

### **India ranks 155 on environmental performance index**

India has been ranked 155 out of 178 countries on the 2014 Environmental Performance Index (EPI) released by the Yale University.

According to the university, India's air quality is among the worst in the world, tying China in terms of the proportion of the population exposed to average air pollution levels exceeding World Health Organization thresholds.

[www.financialexpress.com/news/india-ranks-155-on-environmental-performance-index/1221101](http://www.financialexpress.com/news/india-ranks-155-on-environmental-performance-index/1221101)

### **First Climate Change theatre opened in India**

[www.jagranjosh.com/current-affairs/first-climate-change-theatre-opened-in-india-1390311664-1](http://www.jagranjosh.com/current-affairs/first-climate-change-theatre-opened-in-india-1390311664-1)

## North America

### **IPCC publishes wealth of detail on climate change**

The UN's Intergovernmental Panel on Climate Change (IPCC) has taken the unprecedented step of publishing earlier drafts of its latest report on global warming and all 54,677 written contributions by expert and government reviewers.

The latest report was published as climate activists expressed outrage over revelations that the US National Security Agency was spying on participants in the annual UN climate conferences.

[www.irishtimes.com/news/world/us/ipcc-publishes-wealth-of-detail-on-climate-change-1.1674301](http://www.irishtimes.com/news/world/us/ipcc-publishes-wealth-of-detail-on-climate-change-1.1674301)

### **Six decades of climate change visualized by NASA**

NASA's Goddard Institute for Space Studies (GISS) released a report and stunning visualization last week that demonstrates how warm our Earth has become over the last six decades. Their scientists found that 2013 fell in line with a long-term trend of rising global temperatures.

The average temperature in 2013 was 14.6°C, tying last year with 2009 and 2006 for the seventh warmest year since 1880. The average temperature in 2013 was also 0.6°C warmer than the mid-20th century baseline, according to the report.

[www.o.canada.com/technology/environment/six-decades-of-climate-change-visualized-by-nasa/](http://www.o.canada.com/technology/environment/six-decades-of-climate-change-visualized-by-nasa/)

## Europe

### **Davos summit calls for cleaner energy, focus on climate change**

Leaders gathered in the Swiss ski resort of Davos are pushing for nations worldwide to shift to cleaner energy sources as the best way to contain global warming and re-energize the global economy.

UN climate chief Christiana Figueres, reflecting the top billing that climate change has in Davos this year, said the world economy is at risk unless a binding deal is agreed to Paris in 2015 to lower heat-trapping carbon emissions from coal and oil.

[www.theglobeandmail.com/news/world/davos-summit-calls-for-cleaner-energy-focus-on-climate-change/article16457713/](http://www.theglobeandmail.com/news/world/davos-summit-calls-for-cleaner-energy-focus-on-climate-change/article16457713/)

## Other Countries

### **Climate change threatens future Winter Olympics venues**

Global warming is progressing at such a rate that scientists say many previous sites of Winter Olympics would be too warm to host a Winter Games by the last half of this century. At the rate the Earth continues to heat up, only six of the last 19 Winter Olympics locations would be cold enough by the end of this century to stage the Games, the joint Canadian-Austrian study says.

The research was conducted by the University of Waterloo and Austria's Management Centre Innsbruck.

[www.cbc.ca/news/technology/climate-change-threatens-future-winter-olympics-venues-1.2508146](http://www.cbc.ca/news/technology/climate-change-threatens-future-winter-olympics-venues-1.2508146)