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#### HIGHLIGHTS

##### **Business & Market**

Commercial use of wood energy is heating up...

##### **Policy Initiatives**

India to formulate a "Renewable Energy Act"...

##### **Finance & Investment**

University of Illinois plant researchers awarded funding...

##### **Research & Development**

Capturing carbon to feed the world...

##### **Climate & Environment Change**

NRI billionaire Manoj Bhargava pledges...



# India

## Business & Market

### [Global healthcare company commissioned 3MW co-generation plant in Goa, India](#)

The plant was developed as part of a company-wide climate protection programme, and will generate electricity and steam for the pharmaceutical and chemical production operations in Goa. The co-generation unit uses shells of cashews and coconuts, two crops that are farmed in the region, as biomass fuel to generate power while reducing CO<sub>2</sub> emissions by around 11,500t.

Additionally, the €3m facility will ensure reliable energy supply and can operate independently of the public power grid.

[www.cospp.com/articles/2014/11/3-mw-biomass-power-plant-commissioned-in-india.html](http://www.cospp.com/articles/2014/11/3-mw-biomass-power-plant-commissioned-in-india.html)

### [Three restaurants in Bengaluru switch over to biogas](#)

As a part of a pilot project, from the past one month three restaurants in Bengaluru have been using compressed biogas (CBG) produced from wet waste generated by 80 restaurants in North Bengaluru.

While Konark Residency on Residency Road and Konark Kanteerava on Kasturba Road rely completely on CBG using 85 kg and 50 kg a day respectively, the third restaurant, Adiga Residency, has substantially replaced liquefied petroleum gas (LPG) with CBG in its kitchen.

Maltose Agri Pvt. Ltd. picks up wet waste from restaurants, processes it into slurry and sells the organic manure. And, Carbon Masters India Pvt. Ltd., a UK-based carbon management company, bottles the CBG generated from the waste at its Doddaballapur plant, and supplies it to the r

[www.thehindu.com/news/cities/bangalore/three-restaurants-in-bengaluru-switch-over-to-biogas/article6627591.ece](http://www.thehindu.com/news/cities/bangalore/three-restaurants-in-bengaluru-switch-over-to-biogas/article6627591.ece)

### [IISc in big biofuel boost](#)

Bangalore-based Indian Institute of Science (IISc) and the National Centre for Biological Sciences (NCBS) are set to play crucial roles in a major Indo-US initiative to expand the research and knowledge base on biofuel generation. This is with an eye on boosting biofuel production within India to close the increasing demand-supply gap for fossil fuels which have proved to be environmentally degrading.

The initiative, with the blessings of Union department of biotechnology, kick-started in the USA

with the launching of the Indo-US Advanced Bioenergy Consortium (IUABC), led by Indian Institute of Technology (IIT)-Powai (in Mumbai), Jawaharlal Nehru University (JNU) and University of Washington-St Louis (UWSL).

[www.bangaloremirror.com/bangalore/others/IISc-in-big-biofuel-boost/articleshow/44951758.cms](http://www.bangaloremirror.com/bangalore/others/IISc-in-big-biofuel-boost/articleshow/44951758.cms)

## BMC to educate citizens on waste segregation, disposal

In order to make to implementation of Swachh Bharat Abhiyan more effective, the Brihanmumbai Municipal Corporation (BMC) has decided to enlighten residents on disposal of waste as refuse.

As part of this effort, it has appealed to residents to seek its services, the corporation's solid waste management department will apprise them on ways to dispose refuse at source.

[www.dnaindia.com/mumbai/report-bmc-to-educate-citizens-on-waste-segregation-disposal-2039048](http://www.dnaindia.com/mumbai/report-bmc-to-educate-citizens-on-waste-segregation-disposal-2039048)

## Power sector can attract \$250bn by 2019: Goyal

Speaking at the World Economic Forum's India Economic Summit 2014 Mr. Piyush Goyal, Minister of Power, Coal and New and Renewable Energy said, "Over the next five years, the Indian power sector would provide an investment potential of \$250bn of which \$100bn will come into the renewable.

[www.thehindubusinessline.com/economy/power-sector-has-250bn-investment-potential-over-next-5-years-piyush-goyal/article6570253.ece](http://www.thehindubusinessline.com/economy/power-sector-has-250bn-investment-potential-over-next-5-years-piyush-goyal/article6570253.ece)

### Policy Initiatives

## India to boost biofuels efforts

India is planning to increase the promotion of biofuels to reduce its crude oil import bill. Current estimates suggest India has the potential to produce 1,200,000mn tonnes, but at present the country only produces 60,000 tonnes, of which 80% is exported. To lift this figure, the country will encourage the production of non-edible oil seeds that lead to biofuel production.

Increasing the use of biofuels is expected to bring down India's crude oil import bill and also lower pollution, as biofuels emit less carbon dioxide.

[www.biofuels-news.com/industry\\_news.php?item\\_id=8483](http://www.biofuels-news.com/industry_news.php?item_id=8483)

## Oil ministry circulates Cabinet note on allowing 5% blending of biofuels

The oil ministry has circulated a Cabinet note for inter-departmental consultation on allowing 5% blending of biofuels in diesel that would be consumed by bulk users such as the railways and defence establishments. India imports 80% of crude oil it processes and its last year's petroleum import bill was over \$155bn.

[www.articles.economicstimes.indiatimes.com/2014-11-06/news/55835735\\_1\\_bio-diesel-project-bio-diesel-use-bio-diesel-association](http://www.articles.economicstimes.indiatimes.com/2014-11-06/news/55835735_1_bio-diesel-project-bio-diesel-use-bio-diesel-association)

## Bio-fuels should be cost-effective for Railways: DV Gowda, Minister of Railways

[www.thehindubusinessline.com/news/biofuels-should-be-costeffective-for-railways-says-gowda/article6571095.ece](http://www.thehindubusinessline.com/news/biofuels-should-be-costeffective-for-railways-says-gowda/article6571095.ece)

## India to formulate a "Renewable Energy Act" to attract more capital

India has been taking notes from Germany to achieve its mega RE targets. As per Mr. Upendra Tripathy - Secretary, Indian Ministry of New and Renewable Energy, Renewable Energy Act or a National Renewable Energy Policy is in the making. It is expected to be ready and perhaps in place by February next year before India organises its first Renewable Energy Global Investors Meet and Expo (RE-INVEST).

The proposed Renewable Energy Act will not only help in streamlining many aspects of renewable energy, like power generation, supply and tariff, grid usage, etc., but also help attract much-required capital investment. It would boost investors confidence by presenting a vision rather than just targets which are set in a project mode.

[www.cleantechnica.com/2014/11/03/india-formulate-renewable-energy-act-attract-capital/](http://www.cleantechnica.com/2014/11/03/india-formulate-renewable-energy-act-attract-capital/)

## Revise bioenergy power tariffs to equal diesel, coal

To boost the scope of renewable energy, India should revise tariffs generated from biomass energy (a renewable source) such that their pricing is equivalent to those of coal and diesel, D. Radhakrishna, chairman of Urja Gyan Foundation and founder of Indian Biomass Association told to reporters.

[www.zeenews.india.com/news/eco-news/revise-bioenergy-power-tariffs-to-equal-diesel-coal\\_1505287.html](http://www.zeenews.india.com/news/eco-news/revise-bioenergy-power-tariffs-to-equal-diesel-coal_1505287.html)

## India ranked fourth among 55 developing countries in clean energy investment: Study done by Inter-American Development Bank

[www.businessinsider.in/India-Named-As-One-Of-The-Best-Countries-For-Clean-Energy-Investment-Ranks-Fourth-Among-55-Developing-Countries/articleshow/44981052.cms](http://www.businessinsider.in/India-Named-As-One-Of-The-Best-Countries-For-Clean-Energy-Investment-Ranks-Fourth-Among-55-Developing-Countries/articleshow/44981052.cms)

## USAID administrat announces water and sanitation, clean energy and financial inclusion commitments in india following prime minister modi and president obama's recent dialogue

US Agency for International Development (USAID) Administrator Rajiv Shah announced USAID will support the Government of India's efforts to strengthen water and sanitation, expand access to clean energy, and increase access to banking services for Indians. The announcements totalled up to \$71mn in initial support for the initiatives.

Acknowledging the immense challenge of securing energy access for 1.25 billion Indians, Dr. Shah also signed a memorandum of understanding (MOU) to formalize a partnership between USAID and Clean Energy Access Network (CLEAN) resource partners including Germany's GIZ, the Shakti Sustainable Energy Foundation, and the Netherlands' ICCO. The partnership helps to bring together leadership within the Government of India with international and national actors.

[www.usaid.gov/news-information/press-releases/nov-5-2014-usaid-administrator-shah-announces-water-and-sanitation-clean-energy](http://www.usaid.gov/news-information/press-releases/nov-5-2014-usaid-administrator-shah-announces-water-and-sanitation-clean-energy)

## Climate & Environment Change

### [NRI billionaire Manoj Bhargava pledges Rs 500 crore for Uttarakhand development](#)

The contribution of Rs 500 crore, a part of foundation's 'Uttarakhand 2020' project to be given to the state over a period of six years, is set to be ploughed into works to significantly improve the quality of low-income communities in the state.

The project focuses on malnourishment, disease prevention, clean drinking water, effective agricultural programmes in villages, primary healthcare services, education and environment regeneration with introduction of smokeless stove in every household villages by 2020.

[www.financialexpress.com/article/industry/companies/nri-billionaire-manoj-bhargava-pledges-rs-500-crore-for-uttarakhand-development/](http://www.financialexpress.com/article/industry/companies/nri-billionaire-manoj-bhargava-pledges-rs-500-crore-for-uttarakhand-development/)

### World's largest biopower plant to be build in Belgium

The port of Ghent in Belgium will see the construction of the largest biomass power plant in the world. The electricity and gas company, Belgian Eco Energy (Bee), is to develop the largest commercial plant in the world of new construction in Ghent (Belgium), which will produce 215 MW of electricity, being one hundred percent of the raw material biomass (wood chips and agro-residues). The amount of the project will exceed €315mn. Abengoa will be responsible for the engineering, design and construction of the plant.

[www.ihb.de/wood/news/Biomass\\_power\\_plant\\_Belgium\\_Abengoa\\_39159.html](http://www.ihb.de/wood/news/Biomass_power_plant_Belgium_Abengoa_39159.html)

### Sabah bio-pellets could fire Belgium's coal power plants

[www.therakyatpost.com/business/2014/11/26/sabah-bio-pellets-fire-belgiums-coal-power-plants/](http://www.therakyatpost.com/business/2014/11/26/sabah-bio-pellets-fire-belgiums-coal-power-plants/)

### Eco2 sells third biomass plant in £160mn deal

Welsh renewable energy company Eco2 has sold its 44.2MW straw-fired biomass plant in Snetterton, East Anglia to BWSC PCL in a £160mn deal. BWSC PCL is a joint venture between Burmeister & Wain Scandinavian Contractor and Pension Danmark.

The Snetterton Renewable Energy plant will be primarily fuelled using locally sourced straw and will generate enough electricity to meet the needs of approximately 82,000 homes. It will result in an annual CO2 emissions reduction of approximately 300,000 tonnes.

[www.bioenergy-news.com/index.php?/Industry-News?item\\_id=8552](http://www.bioenergy-news.com/index.php?/Industry-News?item_id=8552)

### Pellet exports from US South continue to grow

Total shipments of wood pellets from North America to Europe plateaued in 2014 after almost four years of continuous increases. During the first two quarters of 2014, exportation from Canada and the US were just over 1.3mn tons in each of the two quarters. There are multiple factors which are likely to increase pellet shipments from the U.S. South to Europe in the second half of 2014. These factors include continued interest from governments in Europe in shifting from fossil fuels to renewable energy sources, the approaching winter, with its increased demands for fuel to heat homes, and the soaring tensions between Ukraine and Russia, which have implications for energy security for Europe.

[www.biomassmagazine.com/articles/11150/pellet-exports-from-u-s-south-continue-to-grow](http://www.biomassmagazine.com/articles/11150/pellet-exports-from-u-s-south-continue-to-grow)

### German Pellets: New bond for up to €130mn

German Pellets GmbH, one of the world's largest manufacturers and traders of wood pellets, is

issuing a new corporate bond in the Prime Standard for corporate bonds segment at the Frankfurt Stock Exchange. In the context of a public offer, German Pellets will issue a corporate bond in the volume of up to €100mn with an option to increase by up to €30mn to €130mn. This includes also a voluntary exchange offer for the 2011/16 €80mn corporate bond due on 1 April 2016.

German Pellets is planning to use the net proceeds firstly for refinancing the 2011/16 corporate bond, secondly for further growth in the context of internationalisation of the production capacities for wood pellets in the USA, and lastly for building-up the sawmill capacities and sorting capacities at the US sites, so as to attain new stages of value-creation in wood-processing.

[www.ihb.de/wood/news/German\\_Pellets\\_bond\\_39191.html](http://www.ihb.de/wood/news/German_Pellets_bond_39191.html)

## Switzerland: Price of wood pellets registers another increase in November

In November, the price of wood pellets in Switzerland continued to rise after the increase registered in October. Currently, the average price for a ton of ENplus A1 pellets is 408.6 CHF (339.37 EUR), or 0.46% more than last month. But compared with November 2013, the price is still lower by -1.8%: a year ago it stood at 410.40 CHF (333.60 EUR).

[www.ihb.de/wood/news/Switzerland\\_wood\\_pellets\\_price\\_November\\_39192.html](http://www.ihb.de/wood/news/Switzerland_wood_pellets_price_November_39192.html)

## German Pellets, ZG Raiffeisen Energie form joint venture

The pellet producer German Pellets GmbH and ZG Raiffeisen Energie GmbH, a Baden, Germany-based trading and service company organized as a cooperative, have founded a joint venture for the sale of wood pellets. The aim is to group together the operations in south-west Germany's pellet market to a greater extent in the future and to further expand the sale of wood pellets to end-customer. The name of the joint subsidiary company will be "best:Pellets Handelsgemeinschaft."

[www.biomassmagazine.com/articles/11185/german-pellets-zg-raiffeisen-energie-form-joint-venture](http://www.biomassmagazine.com/articles/11185/german-pellets-zg-raiffeisen-energie-form-joint-venture)

## Northeast's record-breaking wood pellet demand peaks heading into winter season

In the US, the Northeast is demanding record amounts of wood pellet heating fuel from the biomass industry. "Last winter was especially cold and long, particularly in the Northeast, and many pellet fuels consumers are planning ahead to be prepared for this season," said Jennifer Hedrick, Executive Director of PFI. Across the US, well over one million homes across the country have installed pellet heating appliances, and approximately 2.5mn homes heat primarily with wood.

[www.biofuelsdigest.com/bdigest/2014/11/03/northeasts-record-breaking-wood-pellet-demand-peaks-heading-into-winter-season/](http://www.biofuelsdigest.com/bdigest/2014/11/03/northeasts-record-breaking-wood-pellet-demand-peaks-heading-into-winter-season/)

## Helsingin Energia, Vapo agree on pellet deliveries in Finland

[www.biomassmagazine.com/articles/11255/helsingin-energia-vapo-agree-on-pellet-deliveries-in-finland](http://www.biomassmagazine.com/articles/11255/helsingin-energia-vapo-agree-on-pellet-deliveries-in-finland)

## Vencor to manufacture torrefied wood pellets

[www.woodworkingnetwork.com/wood-market-trends/woodworking-industry-](http://www.woodworkingnetwork.com/wood-market-trends/woodworking-industry-)

[news/production-woodworking-news/Vencor-to-Manufacture-Torrefied-Wood-Pellets-283393641.html#sthash.sTFYnaUB.dpbs](http://news/production-woodworking-news/Vencor-to-Manufacture-Torrefied-Wood-Pellets-283393641.html#sthash.sTFYnaUB.dpbs)

## Kitwe firm invests K1m in biomass pellet production

A ZAMBIAN company has started production of biomass pellets on the Copperbelt at a cost of K1 million to replace charcoal as an alternative energy source. The factory, which is located in Kitwe, has a production capacity of 3,000 tonnes of fuel pellets per year.

The pellets are produced using sawdust, straw and grass which are converted into high-grade fuel, used in special stoves. Annually, Zambia loses about 300,000 hectares of forest due to the production of charcoal for cooking, thereby contributing to global warming and the destruction of ecosystems and habitat.

[www.daily-mail.co.zm/?p=11413](http://www.daily-mail.co.zm/?p=11413)

## Germany: Prices of wood pellets in November at summer level due to warm autumn

According to a current survey of the German Energy Wood and Pellet Association eV (DEPV), the price for a tonne (t) of wood pellets is slightly lower in November and now amounts to €251.26/ton. This represents a 0.4% decrease over the previous month and more than 13% below November 2013. Compared to fuel oil prices, pellets in Germany still have a high price advantage of 29.3%.

[www.ihb.de/wood/news/Germany\\_wood\\_pellets\\_price\\_39287.html](http://www.ihb.de/wood/news/Germany_wood_pellets_price_39287.html)

## Pellet, cogen plants could be “driver for change” on First Nation

Whitesand First Nation is progressing on a proposed wood pellet and biomass-fed cogeneration plant to create local jobs and prosperity for the northwestern Ontario community.

In addition to creating power and heat for the community located near Armstrong, the plant will have a pellet mill equipped to produce 60,000 tonnes annually of residential-grade wood pellets. Both the pellet facility and a cogeneration power plant will rely on wood waste from a sawmill, yet to be constructed, that is also part of the project.

[www.northernontariobusiness.com/Industry-News/forestry/2014/11/Pellet,-cogen-plants-could-be-%E2%80%9Cdriver-for-change%E2%80%9D-on-First-Nation.aspx](http://www.northernontariobusiness.com/Industry-News/forestry/2014/11/Pellet,-cogen-plants-could-be-%E2%80%9Cdriver-for-change%E2%80%9D-on-First-Nation.aspx)

## Viridis Energy reports revenue growth in Q3 earnings results

Viridis Energy Inc. reported another quarter of progressive revenue growth, according to Christopher Robertson, CEO of Viridis. Revenue for the quarter ended Sept. 30 was \$7.6mn, an increase of \$4.6mn from \$3mn in last year’s comparative quarter. Total revenue for the nine-month period ended Sept. 30, is \$19.9mn compared to \$7.8mn for the same period in 2013.

This increase is primarily attributed to sales from the Scotia Atlantic facility, which only operated one month of the comparative periods last year. The revenue added from the facility totaled \$8.4mn for the nine months this year.

[www.biomassmagazine.com/articles/11225/viridis-energy-reports-revenue-growth-in-q3-earnings-results](http://www.biomassmagazine.com/articles/11225/viridis-energy-reports-revenue-growth-in-q3-earnings-results)

## Massena wood pellet plant setting production records and still can't keep up with demand

The Curran Renewable Energy wood pellet plant is running at capacity and can't keep up with demand in its sixth year of operation.

Curran is producing about 27% more pellets this year than last, but the production facility began this season without any surplus inventory due to the long stretch of cold weather last spring, according to co-owner Pat Curran. That has meant some retailers have had to wait to receive their shipments of pellets.

[www.northcountrynow.com/news/massena-wood-pellet-plant-setting-production-records-and-still-cant-keep-demand-0129775](http://www.northcountrynow.com/news/massena-wood-pellet-plant-setting-production-records-and-still-cant-keep-demand-0129775)

## Commercial use of wood energy is heating up

Biomass heating has become an economically viable option for municipal, school and business operations. New Hampshire's recently released 10-year energy strategy acknowledged an ongoing fact of life for the state's commercial and residential sectors: New Hampshire imports 100 percent of its fossil fuels and natural gas. According to the NH Wood Energy Council, New Hampshire pays more than \$1 billion annually to import heating oil, with a large chunk of that paid for by businesses, since the state's commercial sector is the second most dependent on heating oil in the nation, just behind Maine.

"For almost all businesses, how they heat their building is more important than electricity prices because heating can account for as much as 40 percent of their operating costs," said Charlie Niebling of the New Hampshire Wood Energy Council, a private-public nonprofit that advocates for biomass heating alternatives. "Wood chips or pellets are a less expensive and locally produced renewable resource. They keep fuel dollars circulating in our economy."

[www.nhbr.com/November-28-2014/Commercial-use-of-wood-energy-is-heating-up/](http://www.nhbr.com/November-28-2014/Commercial-use-of-wood-energy-is-heating-up/)

## Lauritzen Bulkens signs eight year contract on transportation of wood pellets

Lauritzen Bulkens has signed longest contract ever with US based Green Circle Bio Energy involving transportation of 600,000 tonnes of wood pellets from the US to the UK and the European continent over the next eight years.

[www.en.portnews.ru/news/190532/](http://www.en.portnews.ru/news/190532/)

## Arkansas biomass industry expecting big growth

According to the U.S. Energy Information Administration, wood pellet exports from the U.S. nearly doubled last year, from 1.6 million short tons (approximately 22 trillion Btu) in 2012 to 3.2 million short tons in 2013. More than 98% of these exports were delivered to Europe, and 99% originated from ports in the southeastern and lower Mid-Atlantic regions of the country.

Given the fact that the European Commission wants to reduce EU GHG emissions by 20% from 1990 levels, increase the renewable portion of EU energy consumption by 20%, and improve EU

energy efficiency by 20%, and the large amount of woody biomass Arkansas offers to help meet those goals – an estimated 19.8 billion kilowatts (kwh) of electricity that could be generated using renewable biomass from the state – it's no wonder the biomass future looks so bright in Arkansas. [www.domesticfuel.com/2014/11/13/arkansas-biomass-industry-expecting-big-growth/](http://www.domesticfuel.com/2014/11/13/arkansas-biomass-industry-expecting-big-growth/)

## Free biomass boiler scheme

A leading Cornish energy efficiency specialist has launched a multi-million pound initiative to provide free biomass boilers to selected households in the Duchy. Happy Energy is aiming to help households in Cornwall that are off the mains gas network and spend £1,500 a year or more on heating and hot water by offering a free biomass boiler system, installed and maintained for the next seven years.

[www.businesscornwall.co.uk/latest-news/free-domestic-biomass-boiler-scheme-123](http://www.businesscornwall.co.uk/latest-news/free-domestic-biomass-boiler-scheme-123)

## Moy Park invests in biomass technology

UK - Poultry meat and food processor, Moy Park, has got financial backing for new biomass technology and long term biomass fuel supply to improve sustainable fuel efficiency. Renewable energy specialists Land Energy and Cofely and fund manager SDCL backed by the UK Green Investment Bank are to invest in 86 biomass boilers being installed at the company's farm base in England by the end of 2015.

[www.thepoultrysite.com/poultrynews/33672/moy-park-invests-in-biomass-technology](http://www.thepoultrysite.com/poultrynews/33672/moy-park-invests-in-biomass-technology)

## Ergon Biofuels to restart Mississippi ethanol plant in May

With nearly 60mn gallons of annual production capacity, Ergon BioFuels is one of the largest ethanol producers in the southeastern United States. Upon restart, the facility will purchase feedstock from local suppliers, providing substantial new market opportunities for the region. The plant will also add approximately thirty new high paying jobs to a community Ergon has operated in for decades.

[www.ethanolproducer.com/articles/11652/ergon-biofuels-to-restart-mississippi-ethanol-plant-in-may](http://www.ethanolproducer.com/articles/11652/ergon-biofuels-to-restart-mississippi-ethanol-plant-in-may)

## Digestion strategy in shipworms holds potential for biofuels

An international research team led by Dan Distel, director of the Ocean Genome Legacy Center of New England Biolabs at Northeastern University, has discovered a novel digestive strategy in shipworms. The breakthrough, the researchers say, may also be a game-changer for the industrial production of clean biofuels.

[www.ethanolproducer.com/articles/11655/digestion-strategy-in-shipworms-holds-potential-for-biofuels](http://www.ethanolproducer.com/articles/11655/digestion-strategy-in-shipworms-holds-potential-for-biofuels)

## UNICA reports continued prioritization of ethanol production

UNICA, the Brazilian sugarcane industry association, has released an updated sugarcane harvest report, reporting ethanol production for the current harvest season is up 5.11% through the first

half of November when compared to the same period of last year.

[www.ethanolproducer.com/articles/11688/unica-reports-continued-prioritization-of-ethanol-production](http://www.ethanolproducer.com/articles/11688/unica-reports-continued-prioritization-of-ethanol-production)

## UN report outlines growing biofuels role in developing economies

Biofuels now account for 1% of global energy use, a new report from the United Nations Conference on Trade and Development finds. "The State of the Biofuels Market: Regulatory, Trade and Development Perspectives" provides a sweeping global overview of the development of liquid biofuels. It is an update of the UN agency's initial 2006 report done as part of its biofuels initiative.

[www.ethanolproducer.com/articles/11658/un-report-outlines-growing-biofuels-role-in-developing-economies](http://www.ethanolproducer.com/articles/11658/un-report-outlines-growing-biofuels-role-in-developing-economies)

## LanzaTech the world's hottest bioenergy firm: United States-based publication Biofuels Digest

[www.nzherald.co.nz/business/news/article.cfm?c\\_id=3&objectid=11357235](http://www.nzherald.co.nz/business/news/article.cfm?c_id=3&objectid=11357235)

## Buster Biofuels to employ Viesel Fuel enzymatic biodiesel process

A 5 MMgy plant under construction in San Diego, Buster Biofuels, will be producing biodiesel using the latest process technology of enzymatic production.

Buster Halterman, CEO of Buster Biofuels, told Biodiesel Magazine that his company is working with Stuart, Fla.-based Viesel Fuel LLC to install Viesel Fuel's unique adaptation of enzymatic biodiesel process technology in his southern California plant. Halterman said this will allow the company to quickly scale beyond 5 MMgy once up and running. Viesel Fuel is partnered with liquid enzyme maker Novozymes.

[www.biodieselmagazine.com/articles/235824/buster-biofuels-to-employ-viesel-fuel-enzymatic-biodiesel-process](http://www.biodieselmagazine.com/articles/235824/buster-biofuels-to-employ-viesel-fuel-enzymatic-biodiesel-process)

## Louisiana biofuels projects help spur nationwide green jobs growth

Louisiana added 225 jobs in the biofuels industry during the third quarter, ranking alongside states such as Texas and Connecticut for clean energy job growth, according to the latest Environmental Entrepreneurs report. Louisiana's clean energy jobs are linked to two planned biofuels projects: Cool Planet Energy Systems' \$56mn plant in Alexandria and a \$60mn Virdia plant in Lafourche Parish.

[www.nola.com/business/index.ssf/2014/11/louisiana\\_biofuels\\_projects\\_he.html](http://www.nola.com/business/index.ssf/2014/11/louisiana_biofuels_projects_he.html)

## Iowa biofuel producers urge swift passage of extenders package

[www.ethanolproducer.com/articles/11671/iowa-biofuel-producers-urge-swift-passage-of-extenders-package](http://www.ethanolproducer.com/articles/11671/iowa-biofuel-producers-urge-swift-passage-of-extenders-package)

## IRFA reminds diesel users biodiesel can stretch supply

Following Iowa Gov. Terry Branstad's emergency proclamation to allow for more transport of diesel products, the Iowa Renewable Fuels Association reminded diesel users and suppliers that using cleaner-burning, homegrown biodiesel ranging in blends of 5 to 20 percent can help stretch tight supplies.

[www.biodieselmagazine.com/articles/247484/irfa-reminds-diesel-users-biodiesel-can-stretch-supply](http://www.biodieselmagazine.com/articles/247484/irfa-reminds-diesel-users-biodiesel-can-stretch-supply)

## Tulsa man leverages biodiesel to change food truck industry image

Tulsa, Oklahoma based food truck entrepreneur Wil Braggs, known as The Cheese Guy, is working to change people's perceptions of the food truck industry by going green.

He has a Kickstarter crowd funding campaign to assist with buying a new gourmet green energy food truck called the Mean Green Purple Machine, which will utilize solar energy to power appliances such as refrigerators and freezers, and biodiesel from used cooking oil to run the truck engine and generator.

[www.biodieselmagazine.com/articles/235227/tulsa-man-leverages-biodiesel-to-change-food-truck-industry-image](http://www.biodieselmagazine.com/articles/235227/tulsa-man-leverages-biodiesel-to-change-food-truck-industry-image)

## Appalachian Biofuels to build plant using TransBiodiesel enzymes

A new startup company has plans to build an enzymatic biodiesel production facility in Russell County, Va., with state government assistance. Appalachian Biofuels LLC is investing \$3.5mn to manufacture biodiesel from waste feedstocks using immobilized enzymes.

[www.biodieselmagazine.com/articles/230645/appalachian-biofuels-to-build-plant-using-transbiodiesel-enzymes](http://www.biodieselmagazine.com/articles/230645/appalachian-biofuels-to-build-plant-using-transbiodiesel-enzymes)

## E2: Nearly 850 advanced biofuel jobs announced during Q3

Environmental Entrepreneurs (E2) has released third quarter clean energy jobs report, reporting that more than 18,000 clean energy and clean transportation jobs were announced in 23 states during the quarter. This includes approximately 850 jobs in the advanced biofuel sector, which is the second-highest quarterly performance for the sector since E2 began tracking jobs in 2011.

[www.ethanolproducer.com/articles/11684/e2-nearly-850-advanced-biofuel-jobs-announced-during-q3](http://www.ethanolproducer.com/articles/11684/e2-nearly-850-advanced-biofuel-jobs-announced-during-q3)

## IGPC Ethanol reaches 1bn liters of ethanol production

For over six years of operation, IGPC Ethanol has been a significant contributor to Canada's domestic supply of ethanol, producing in excess of 170mn liters of corn-based ethanol per year.

[www.ethanolproducer.com/articles/11631/igpc-ethanol-reaches-1-billion-liters-of-ethanol-production](http://www.ethanolproducer.com/articles/11631/igpc-ethanol-reaches-1-billion-liters-of-ethanol-production)

## REG holds ceremony to celebrate Geismar plant grand opening

Renewable Energy Group Inc. celebrated the grand opening of its Geismar biorefinery, which is producing renewable hydrocarbon diesel (RHD) in commercial-scale quantities.

The event marked the successful start-up of the 75 MMgy nameplate capacity plant that REG acquired in June. Beginning production on Oct. 14, REG Geismar LLC has already produced more than 4.7mn gallons of renewable fuel.

[www.biodieselmagazine.com/articles/242491/reg-holds-ceremony-to-celebrate-geismar-plant-grand-opening](http://www.biodieselmagazine.com/articles/242491/reg-holds-ceremony-to-celebrate-geismar-plant-grand-opening)

## The stoves used by millions in developing countries are a silent killer

As many as 4 million people in developing countries die every year from illnesses caused by smoke and other pollutants that fill their homes every time they fire up the stove to cook a meal for their families. Radha Muthiah, executive director of the Global Alliance for Clean Cookstoves, called the pollution, which is caused by using solid fuels like wood, coal, charcoal and dung, the "silent killer." Women and children are most at risk.

Nearly half the world's population, 3 billion people, uses polluting stoves to cook every day, and household air pollution is the fourth biggest health risk in developing countries, after heart disease, stroke and chronic obstructive pulmonary disease.

China and India have some of the highest death rates from household air pollution, according to figures from the alliance. About 45% of China's population relies on solid fuels, leading to more than 1 million deaths a year. In India, 63% of the population relies on solid fuel, which also accounts for more than 1 million yearly deaths. In Uganda, 97% of people rely on solid fuels, and 13,000 die from related diseases annually.

In 2013, 11.7 million stoves were distributed in seven countries by partners of the alliance. The group is aiming to have 100 million homes adopt clean cooking by 2020.

[www.newsweek.com/stoves-used-millions-developing-countries-are-silent-killer-285969](http://www.newsweek.com/stoves-used-millions-developing-countries-are-silent-killer-285969)

## Philips and SNV collaborate to increase access to clean, efficient cooking solutions

Royal Philips and the SNV Netherlands Development Organisation, will be working together to improve access to clean cooking solutions in Africa by introducing clean and efficient household cook stoves to rural communities across the continent. The partnership aims to improve the health and well-being and income of rural populations while having a direct positive impact on the environment and will include research, community education and access to financing for adopting clean cooking technologies.

The collaboration between SNV and Philips will initially focus on Kenya and Ghana (West Africa); an official Memorandum of Understanding (MoU) between SNV Netherlands Development Organisation and Philips will be signed on 20 November 2014 during the assembly of the Global Alliance for Clean Cookstoves (GACC) in New York.

[www.businessghana.com/portal/news/index.php?op=getNews&id=201798](http://www.businessghana.com/portal/news/index.php?op=getNews&id=201798)

## Renewable energy continues to receive massive UK support

Results from the latest public attitudes tracking survey conducted by the UK Department of Energy & Climate Change again show overwhelming support for the country's renewable energy industry.

[www.cleantechnica.com/2014/11/05/renewable-energy-continues-receive-massive-uk-support/](http://www.cleantechnica.com/2014/11/05/renewable-energy-continues-receive-massive-uk-support/)

## Kenya: Five Kenyan firms win clean energy challenge

Five Kenyan Firms Win Clean Energy Challenge. They join a list of 22 winners from Liberia, Ghana, Nigeria, Ethiopia and Tanzania who beat a field of nearly 300 entries and will also receive grants of \$100,000 each.

The Off-Grid Challenge is part of Power Africa, a President Obama initiative to increase access to reliable, affordable, cleaner and more sustainable power in Sub-Saharan Africa.

[www.allafrica.com/stories/201411040174.html](http://www.allafrica.com/stories/201411040174.html)

## Frytol boss wins top Global Brand Excellence Award

Wilmar Africa's General Manager-Commercial, Fatima Alimohammed has emerged winner of the 2014 Brand Builder of the Year at the 23rd edition of the World Brand Congress held in Singapore. Mrs. Alimohammed has also been named amongst Top 50 Chief Marketing Officers in the world by World Marketing Congress – Malaysia.

[www.ghanaweb.com/GhanaHomePage/business/artikel.php?ID=333894](http://www.ghanaweb.com/GhanaHomePage/business/artikel.php?ID=333894)

## Georgia ranks third in the nation for its conversion of woody biomass into renewable energy

[www.wabe.org/post/georgias-forests-leftovers-becoming-major-source-renewable-energy](http://www.wabe.org/post/georgias-forests-leftovers-becoming-major-source-renewable-energy)

## Denmark announces 100% renewable goal

[www.justmeans.com/blogs/denmark-announces100-renewable-goal](http://www.justmeans.com/blogs/denmark-announces100-renewable-goal)

## The organization that runs Efficiency Vermont is beginning a new kind of energy-saving venture

Vermont Energy Investment Corporation has plan to spend more than \$50mn over the next five years to conserve energy in buildings used for low-income housing and other public purposes.

[www.digital.vpr.net/post/new-efficiency-firm-looks-put-50-million-public-purpose-buildings](http://www.digital.vpr.net/post/new-efficiency-firm-looks-put-50-million-public-purpose-buildings)

### EPA reconsidering biomass

The Environmental Protection Agency signaled that it may be more open to considering timber byproducts and other biomass as an energy source that fits within the Obama administration's efforts to reduce carbon emissions.

In a memo to all of the agency's regional air directors, Janet G. McCabe, acting assistant administrator for the Office of Air and Radiation, wrote that the agency is developing a framework to evaluate the carbon dioxide emissions from biomass, with the expectation there will be climate policy benefits to using biomass to generate energy.

[www.bendbulletin.com/localstate/2604170-151/epa-reconsidering-biomass?entryType=0#](http://www.bendbulletin.com/localstate/2604170-151/epa-reconsidering-biomass?entryType=0#)

### OPA reveals developers qualified to bid in Renewables RFP

The Ontario Power Authority (OPA) has qualified companies, including about 20 wind developers, to bid in an upcoming call for 565MW of new renewables under the province's large renewable procurement (LRP) program.

The OPA says it received 70 applicants and qualified 42 after two months of review. The chosen entities will be eligible to submit bids under the LRP I request for proposals (RFP), which will seek up to 300 MW of wind, 140 MW of solar, 75 MW of hydropower and 50 MW of bioenergy.

[www.nawindpower.com/e107\\_plugins/content/content.php?content.13614](http://www.nawindpower.com/e107_plugins/content/content.php?content.13614)

### GRFA: Fossil fuel subsidies discourage investment in renewables

The International Energy Agency has released its annual World Energy Outlook, revealing that fossil fuel consumption subsidies reached \$550bn in 2013. According to the IEA these subsidies are failing to help those around the world who lack access to energy and are discouraging investment in energy efficiencies and renewables.

The Global Renewable Fuels Alliance reacted, stating that biofuels offer environmental and economic benefits but require the right policies to be enacted by governments to increase their production and consumption. "Fossil fuel subsidies are theoretically intended to increase energy access, but according to the IEA these subsidies are failing while discouraging investment in energy efficiencies and renewables", asked Bliss Baker, spokesperson for the GRFA.

[www.ethanolproducer.com/articles/11649/grfa-fossil-fuel-subsidies-discourage-investment-in-renewables](http://www.ethanolproducer.com/articles/11649/grfa-fossil-fuel-subsidies-discourage-investment-in-renewables)

### Gov. Nixon to chair Governors' Biofuels Coalition in 2016

Gov. Jay Nixon will serve as the 2015 vice chairman of the Governors' Biofuels Coalition. The 33-state bipartisan organization was founded more than 20 years ago to increase the use of ethanol based fuels, decrease the nation's dependence on imported energy resources, improve the

environment and stimulate the national economy. Nixon would become chairman of the group in January 2016. Gov. Terry Branstad of Iowa will serve as chair in 2015.

[www.ethanolproducer.com/articles/11632/gov-nixon-to-chair-governorsundefined-biofuels-coalition-in-2016](http://www.ethanolproducer.com/articles/11632/gov-nixon-to-chair-governorsundefined-biofuels-coalition-in-2016)

## Why ethanol exports are vital to U.S. producers

The US Grains Council has partnered with USDA's Foreign Agricultural Service, Growth Energy and the Renewable Fuels Association to assess how best to promote ethanol exports as part of overseas market development efforts.

[www.ethanolproducer.com/articles/11685/usgc-video-why-ethanol-exports-are-vital-to-u-s-producers](http://www.ethanolproducer.com/articles/11685/usgc-video-why-ethanol-exports-are-vital-to-u-s-producers)

## New US sanctions against Russia impact US biofuels companies

The US federal Government has recently imposed sanctions against Russian individuals and companies in response to Russia's military action in Ukraine. These new sanctions may have adverse consequences for US biofuels companies that wish to transact business in Russia or with Russian companies in various industry sectors.

[www.biodieselmagazine.com/articles/235731/new-us-sanctions-against-russia-impact-us-biofuels-companies](http://www.biodieselmagazine.com/articles/235731/new-us-sanctions-against-russia-impact-us-biofuels-companies)

## Community Energy partnership qualifies to submit proposals for renewable energy biomass projects

Guelph Municipal Holdings Inc. announced that GIME Energy, a team made up of Envida Community Energy Inc., a subsidiary of Guelph Municipal Holdings Inc., and a number of equity partners including EllisDon Corporation and Index Energy Canada Corporation has been qualified by the Ontario Power Authority to submit proposals for renewable energy biomass projects that would feed electricity into the provincial grid under any future Large Renewable Procurement (LRP) Requests for Proposals that may be issued by the Ontario Power Authority.

The Ontario Power Authority Large Renewable Procurement (LRP) is a competitive process for procuring large renewable energy projects. Qualified applicants were evaluated based on their ability to meet a set of mandatory requirements focused on past development experience and financial capability.

[www.exchangemagazine.com/morningpost/2014/week45/Monday/14111013.htm](http://www.exchangemagazine.com/morningpost/2014/week45/Monday/14111013.htm)

## US Government achieves renewable energy goals

The US General Services Administration (GSA) announced that it is on track to achieve the Obama Administration's 2020 renewable energy goals after awarding a competitive power supply contract.

[www.triplepundit.com/2014/11/u-s-government-achieves-renewable-energy-goals/](http://www.triplepundit.com/2014/11/u-s-government-achieves-renewable-energy-goals/)

Alliance Media Group Holdings, Inc. announces a new name - ("Alliance BioEnergy + Inc.") to reflect its singular and dedicated

focus on bioenergy, biofuels & bioplastics

[www.cospp.com/marketwired/2014/11/6/update-alliance-media-group-holdings-inc-announces-a-new-name-alliance-bioenergy-inc-t.html](http://www.cospp.com/marketwired/2014/11/6/update-alliance-media-group-holdings-inc-announces-a-new-name-alliance-bioenergy-inc-t.html)

China and the US announce a secretly negotiated deal to reduce their carbon emissions

[www.theecologist.org/blogs\\_and\\_comments/commentators/2635335/uschina\\_climate\\_deal\\_at\\_last\\_the\\_big\\_players\\_are\\_talking\\_the\\_right\\_language.html](http://www.theecologist.org/blogs_and_comments/commentators/2635335/uschina_climate_deal_at_last_the_big_players_are_talking_the_right_language.html)

CREW sues EPA for documents regarding 2014 RFS

Citizens for Responsibility and Ethics in Washington is suing the U.S. EPA for failing to provide documents regarding oil industry efforts to influence the 2014 renewable fuel standard (RFS).

[www.biodieselmagazine.com/articles/219292/crew-sues-epa-for-documents-regarding-2014-rfs](http://www.biodieselmagazine.com/articles/219292/crew-sues-epa-for-documents-regarding-2014-rfs)

US-China climate deal: at last the big players are talking the right language

[www.theecologist.org/blogs\\_and\\_comments/commentators/2635335/uschina\\_climate\\_deal\\_at\\_last\\_the\\_big\\_players\\_are\\_talking\\_the\\_right\\_language.html](http://www.theecologist.org/blogs_and_comments/commentators/2635335/uschina_climate_deal_at_last_the_big_players_are_talking_the_right_language.html)

## Finance & Investment

Montana DNRC awards Bridger Bowl a \$20,000 grant for boiler

The intent of the Montana DNRC Wood Product and Biomass Utilization Grants is to support increased and improved utilization of forest products, including biomass, in Montana.

[www.biomassmagazine.com/articles/11183/montana-dnrc-awards-bridger-bowl-a-20-000-grant-for-boiler](http://www.biomassmagazine.com/articles/11183/montana-dnrc-awards-bridger-bowl-a-20-000-grant-for-boiler)

Proposals sought for wood Heat Program in Windham County

The Vermont Clean Energy Development Fund has allocated \$1.6mn to develop a wood-pellet heating industry in Windham County. The funding group has put out a call for proposals to design and run the program. The funds are part of a final \$5.3mn clean energy payment from Entergy Vermont Yankee, which is closing at the end of the year. At least \$2.6mn of that is earmarked for Windham County, the region expected to be hardest hit economically by the closure.

[www.digital.vpr.net/post/proposals-sought-wood-heat-program-windham-county](http://www.digital.vpr.net/post/proposals-sought-wood-heat-program-windham-county)

University of Illinois plant researchers awarded funding

Two University of Illinois crop sciences researchers interested in improving plant feedstocks for bioenergy production were selected to receive funding by the US Department of Agriculture (USDA) and the U.S. Department of Energy (DOE) as part of a larger Obama administration effort to diversify the nation's energy portfolio and accelerate development of new clean energy.

Erik Sacks and Pat Brown, assistant professors in plant breeding and genetics in the College of Agricultural, Consumer and Environmental Sciences, each are leading two of 10 projects from around the country that were awarded the funding aimed at accelerating genetic breeding programs to improve plant feedstocks for the production of biofuels, biopower and biobased products.

[www.agriview.com/news/crop/university-of-illinois-plant-researchers-awarded-funding/article\\_9b1c5403-9c84-5575-9907-3586dfef1a8e.html](http://www.agriview.com/news/crop/university-of-illinois-plant-researchers-awarded-funding/article_9b1c5403-9c84-5575-9907-3586dfef1a8e.html)

## Golf club secures funding to cut energy costs

A Berkshire golf club is set to cut its energy costs in half after securing funding from Lombard. Temple Golf Club in Hurley, which is looking to reduce its heating bills and improve its green credentials, has installed a biomass boiler with financial support from Lombard.

Company and club secretary Keith Adderley said the boiler, which burns wood pellets and will provide heating and hot water for the clubhouse, could result in a 40-50 per cent reduction in energy costs.

[www.insidermedia.com/insider/south-east/127062-golf-club-secures-funding-cut-energy-costs/](http://www.insidermedia.com/insider/south-east/127062-golf-club-secures-funding-cut-energy-costs/)

## Research & Development

## New process transforms wood, crop waste into valuable chemicals

University of Wisconsin-Madison scientists have disclosed a new method to convert lignin, a biomass waste product, into simple chemicals. The innovation is an important step toward replacing petroleum-based fuels and chemicals with biorenewable materials, says Shannon Stahl, an expert in "green chemistry" at the University of Wisconsin-Madison.

[www.ethanolproducer.com/articles/11608/new-process-transforms-wood-crop-waste-into-valuable-chemicals](http://www.ethanolproducer.com/articles/11608/new-process-transforms-wood-crop-waste-into-valuable-chemicals)

## Xylome, Wisconsin Alumni Research Foundation reach deal on yeast

Xylome Corp. has signed licensing and equity agreements with the Wisconsin Alumni Research Foundation to develop and market unconventional yeasts with the power to transform tough biomass into sustainable fuels and chemicals.

[www.ethanolproducer.com/articles/11654/xylome-wisconsin-alumni-research-foundation-reach-deal-on-yeast](http://www.ethanolproducer.com/articles/11654/xylome-wisconsin-alumni-research-foundation-reach-deal-on-yeast)

## Buster Biofuels to employ Viesel Fuel enzymatic biodiesel process

A 5 MMgy plant under construction in San Diego, Buster Biofuels, will be producing biodiesel using the latest process technology of enzymatic production.

[www.biodieselmagazine.com/articles/235824/buster-biofuels-to-employ-viesel-fuel-enzymatic-biodiesel-process](http://www.biodieselmagazine.com/articles/235824/buster-biofuels-to-employ-viesel-fuel-enzymatic-biodiesel-process)

## Genomics adds a new dimension to LNG and biofuels

Genomics is a relatively new tool to the bioenergy sector but one that may be a game-changer when applied to operations, risk assessment and environmental monitoring. Genome BC is funding two research projects, led by the University of British Columbia's Steven Hallam in collaboration with Sean Crowe and Uli Mayer, entitled Microbial community structure and function in hydraulic fracturing fluids associated with BC shale gas reservoirs, and Microbial community structure and dynamics associated with controlled biofuel release in laboratory settings, that seek to address sustainable development challenges from the perspective of the microbial world.

[www.oilandgaseurasia.com/en/tech\\_trend/genomics-adds-new-dimension-Ing-and-biofuels](http://www.oilandgaseurasia.com/en/tech_trend/genomics-adds-new-dimension-Ing-and-biofuels)

## Ethanol and heterogeneous catalysts for biodiesel production

Chemical engineer Inés Reyero Zaragoza proposed the substitution of methanol by ethanol for the production of biodiesel and the use of a heterogeneous catalyst, which will "result in a reduction of costs and in the environmental impact associated with the production of this biofuel." One of the novel contributions of her research has been the synthesis and identification of a new compound the characteristics of which make it "a very good candidate for developing heterogeneous catalysts."

[www.phys.org/news/2014-11-ethanol-heterogeneous-catalysts-biodiesel-production.html](http://www.phys.org/news/2014-11-ethanol-heterogeneous-catalysts-biodiesel-production.html)

## ISU researchers develop bio-adhesives from glycerine

Researchers at Iowa State University are working to prove that adhesives made from a byproduct of biodiesel production can offer consumers a cheaper, more environmentally friendly alternative to the acrylic adhesives currently on the market.

[www.biodieselmagazine.com/articles/246908/isu-researchers-develop-bio-adhesives-from-glycerin](http://www.biodieselmagazine.com/articles/246908/isu-researchers-develop-bio-adhesives-from-glycerin)

## New ethanol distillation technology tests show 75% energy savings

A new distillation technology is ready to be tested at pilot scale, according to Dick Burton, CEO of Distillation Technologies Inc. A Midwest Research Institute white paper describes the cost savings and purity level attained with the system, Burton said. The distillation system operates at 104 degrees Fahrenheit, producing 99.5% alcohol in one pass with an energy savings calculated at 75.6% better than standard distillation systems.

[www.ethanolproducer.com/articles/11690/new-ethanol-distillation-technology-tests-show-75-energy-savings](http://www.ethanolproducer.com/articles/11690/new-ethanol-distillation-technology-tests-show-75-energy-savings)

## KSU Biodiesel Initiative gives students hands-on experience

[www.biodieselmagazine.com/articles/247304/ksu-biodiesel-initiative-gives-students-hands-on-experience](http://www.biodieselmagazine.com/articles/247304/ksu-biodiesel-initiative-gives-students-hands-on-experience)

## Capturing carbon to feed the world

LanzaTech, the revolutionary carbon recycling company, together with a research team from the IOC-DBT Center for Advanced Bio-Energy Research (an entity co-funded by India's Department of Biotechnology and Indian Oil Corporation Limited) have developed a remarkable process that recycles CO<sub>2</sub> emissions into

omega-3 rich fatty acids.

"LanzaTech and the team from IOC-DBT have demonstrated the tremendous potential of carbon recycling," LanzaTech CEO Dr. Jennifer Holmgren says. "A platform that can produce sustainable food and fuels economically and at scale turns the issue of food vs fuels on its head. LanzaTech has long focused on increasing energy access and today we are a step closer to increasing access to affordable nutrition for all."

Dr. D K Tuli, Executive Director and Centre Coordinator of IOC-DBT Centre, says, " This project can be a game changer for production of omega-3 fatty acids and oil from algae in an economically viable method."

[www.cospp.com/marketwired/2014/11/3/capturing-carbon-to-feed-the-world.html](http://www.cospp.com/marketwired/2014/11/3/capturing-carbon-to-feed-the-world.html)

## NREL: Reviving algae from the (almost) dead

Tucked away in darkness and almost dead, algae can emerge from a frigid and foggy environment to live again—and perhaps even become the seeds for a new beginning that can provide biofuel for a clean energy future.

A gallon of fuel made from algae currently costs about quadruple the cost of a gallon of conventional diesel. But looking long term, algae are an inexhaustible resource that if used as a substitute for fuels would slash the amount of carbon dioxide in the atmosphere—and costs are dropping.

[www.biomassmagazine.com/articles/11161/nrel-reviving-algae-from-the-almost-dead](http://www.biomassmagazine.com/articles/11161/nrel-reviving-algae-from-the-almost-dead)

## Projecting pollinator response to bioenergy production

Bioenergy policies based strictly on economic or energy considerations that lack attention to biodiversity impacts will likely have serious consequences for the conservation of wild bees and their pollination services, according to a newly published scientific journal paper.

The new research explores how bees might respond to two contrasting bioenergy production scenarios: annual row crops such as corn or soybeans, and perennial grasslands such as switchgrass or diverse prairie. The projections are strikingly different – pollinators are expected to have a highly favorable response to grassland bioenergy production and an unfavorable reaction to increasing amounts of annual row crop production.

Findings suggest that the expansion of annually planted bioenergy crops could reduce bee abundance by as much as 71% and bee diversity by as much as 28%. In contrast, converting annual crops on marginal soils to perennial grasslands could increase bee abundance by as much as 600 percent and bee diversity by as much as 53 percent.

[www.msutoday.msu.edu/news/2014/projecting-pollinator-response-to-bioenergy-production/](http://www.msutoday.msu.edu/news/2014/projecting-pollinator-response-to-bioenergy-production/)

## Bioenergy and birds can coexist

"What would it do for the birds?" This simple question spurred scientists from the University of Wisconsin-Madison and the Wisconsin Department of Natural Resources to investigate whether it's possible to grow economically viable amounts of biomass to generate bioenergy and, at the same time, provide habitat for bird populations, including rare grassland birds.

The results of their study have recently been published in the journal PLOS One and may have far-reaching effects on land use for growing biomass crops in Wisconsin and the entire Midwest.

"Corn is right now the dominant bioenergy plant, but we know it's not a good habitat for birds. In fact, it's like a desert for birds." said Dr. Peter Blank, a post-doctoral fellow with Dr. Monica Turner in the Department of Zoology, and lead author of this study said.

One alternative to corn for bioenergy production is growing perennial grasses, such as switchgrass and big bluestem. The research team found three times as many bird species in diverse grasslands compared to cornfields. While lower than the yields from corn or grass monoculture fields, the biomass yields from the mixed grasslands in this study represent plausible, future, commercial-scale grassland biomass yields according to the authors.

**[www.host.madison.com/daily-cardinal/science/bioenergy-and-birds-can-coexist/article\\_55ebf542-648c-11e4-bb60-df2378a751b4.html](http://www.host.madison.com/daily-cardinal/science/bioenergy-and-birds-can-coexist/article_55ebf542-648c-11e4-bb60-df2378a751b4.html)**