

August 2015



**HIGHLIGHTS**

**Policy Initiatives**

San Francisco mayor says city fleet to use...

**Business & Market**

Thermax acquires 33% stake in First Energy...

**Finance & Investment**

\$5mn invested in stove startup...

**Research & Development**

BTEC to release draft of thermal efficiency...



# India

## Business & Market

### An innovative project to bring electricity to rural India receives a boost

An Imperial student has received a Fellowship to support her project to deliver affordable electricity to rural communities in India.

In 2014, Clementine Chambon, a postgraduate from Imperial's Department of Chemical Engineering, co-founded the start-up company Oorja: Empowering Rural Communities with Amit Saraogi, an Indian social entrepreneur, to develop mini power plants that use biomass such as crop waste as a resource to produce energy for communities in India that are not on the energy grid.

Now, Chambon has been awarded a highly competitive and coveted Fellowship from Echoing Green, an organisation that invests in early-stage social entrepreneurs. The Fellowship will provide seed funding, mentoring and leadership opportunities to further assist Chambon to build mini power plants in rural India.

These plants will also produce biochar, a natural soil additive which could be used by villagers to improve soil fertility and act as a way of storing harmful carbon safely in the soil to mitigate the effects of climate change.

The team aims to install the first biomass plant in the upcoming year and, by building further plants, they hope to reach one million individuals over a five year period.

Ultimately, the team hope their project could allow villages to produce their energy independently. It could also help communities to reduce their exclusion from activities enjoyed by urban communities such as increased usage of technology and better access to education and health services.

[http://www.domain-b.com/technology/20150710\\_innovative\\_project.html](http://www.domain-b.com/technology/20150710_innovative_project.html)

### Thermax acquires 33% stake in First Energy

Energy and environment major Thermax has acquired 33% stake in First Energy, an alternative energy solutions company, to expand green offerings. Thermax signed an agreement with First Energy for a stage-wise acquisition of the company over the next four to six years and have a majority stake in the company of 65% to 70%.

<http://www.financialexpress.com/article/industry/companies/thermax-acquires-33-stake-in-first-energy/101832/>

## Aemetis company expanded its presence in the market of biofuels in India

The company's management took this step in connection with the decision of the Indian government changed the rules for the implementation of biodiesel in the domestic market.

In October 2014 the Government of India has ceased to pay fuel subsidies, the total volume of which amounted to about 11 billion US dollars, to producers and in January 2015 were taken the next steps towards the development of national biofuel industry. In particular, biodiesel producers were able to sell their products directly to consumers, bypassing one of the three national fuel companies.

According to Eric MakAffi, chairman of Aemetis, these measures are the Indian market for biodiesel producers, the total production capacity of about 95 decaliters of fuel per year. Overall, the annual sales volume of diesel fuel in India reaches 950 hectoliters, well above the level of implementation of gasoline is 190 hectoliters per year.

Today Aemetis company is a leader of biodiesel production in India and it is able to offer local consumers about 190 million liters of fuel per year. Provided full load of the plant, located on the east coast of the country, is able to bring a profit of 180 million US dollars annually.

Recently, the company has expanded the range of customers of products, among which the main ones are the Indian railways, bus and truck fleet and diesel generator power.

<http://pellets-wood.com/aemetis-company-expanded-its-presence-in-the-market-013567.html>

## Cactus could help fuel our drought-stricken world

<http://www.gizmodo.in/news/This-Humble-Cactus-Could-Help-Fuel-Our-Drought-Stricken-World/articleshow/47963377.cms>

# Global

## Policy Development

### Capital actions for Pellet Fuel: Several regulatory schemes in the US should perk up pellet producers' ears

<http://www.biomassmagazine.com/articles/12128/capital-actions-for-pellet-fuel>

### Group urges FG to invest N7.9bn in clean cookstoves production

Nigeria Alliance for Clean Cookstoves has urged the Federal Government to invest the remaining N7.9bn intervention fund into domestic clean cooking energy production and distribution. It would be recalled that immediate past administration had under the National Cookstoves Scheme, approved N9.2 billion for the purchase of 750,000 units of clean cook stoves as well as 18,000 wonder bags.

<http://nationalmirroronline.net/new/group-urges-fg-to-invest-n7-9bn-in-clean-cookstoves-production/>

### Define biomass sustainability

The bioeconomy is rising up the political agenda. More than 30 countries have announced that they will boost production of renewable resources from biological materials and convert them into products such as food, animal feed and bioenergy. Non-food crops, such as switchgrass (*Panicum virgatum*), are the main focus, as well as agricultural and forestry residues and waste materials and gases.

<http://www.nature.com/news/policy-define-biomass-sustainability-1.18058>

### DoE seeks nominations for biomass advisory committee

The U.S. Department of Energy's Office of Energy Efficiency and Renewable Energy is soliciting nominations for candidates to fill vacancies on the Biomass Research and Development Technical Advisory Committee. Nominations are due Aug. 14.

<http://ethanolproducer.com/articles/12449/doe-seeks-nominations-for-biomass-advisory-committee>

### 3 bioenergy-related House bills introduced in late July

During the final week of July, several pieces of legislation were introduced that aim to impact the biorefining industry. Two of the bills aim to benefit bioenergy technologies, while a third would limit the U.S. EPA's ability to set cellulosic mandates.

<http://www.ethanolproducer.com/articles/12491/3-bioenergy-related-house-bills-introduced-in-late-july>

### DoE seeks input on use of biofuels blends in small engines

In late June, the US Department of Energy released a request for information (RFI) seeking stakeholder input on several topics related to the use of biofuel blends in small engines. Responses are due Aug. 30.

The RFI, issued by the DoE Office of Energy Efficiency and Renewable Energy's Bioenergy Technology Office, aims to solicit input on the potential to optimize and/or modify small engines to utilize ethanol blends greater than 10%. It also seeks input on the technical hurdles associated with designing, developing and/or modifying small, internal combustion engines to improve compatibility when operated with high-octane biofuel blends. The DoE is also soliciting stakeholder input on the market impact of increasing the consumption of biofuels in the small engine market and mechanisms for addressing the technical and non-technical hurdles of using biofuels in small engines.

<http://www.ethanolproducer.com/articles/12410/doe-seeks-input-on-use-of-biofuels-blends-in-small-engines>

## OECD-FOA Agricultural Outlook features ethanol forecast

The Food and Agricultural Organization of the United Nations and Organization for Economic Co-operation and Development have published a new agricultural outlook predicting that ethanol and biodiesel use will continue to grow over the next decade, although at a slower pace. According to the report, titled "OECD-FAO Agricultural Outlook 2015-2024," the level of biofuel production is expected to be dependent on policies in major producing countries.

<http://www.ethanolproducer.com/articles/12401/oecd-foa-agricultural-outlook-features-ethanol-forecast>

## USGC presents ethanol export promotion strategy to delegates

An ethanol export promotion strategy developed in consultation with industry partners and the USDA was presented to U.S. Grains Council members from throughout the grains sector at USGC's 55th Annual Board of Delegates Meeting in Montreal, Canada.

<http://www.ethanolproducer.com/articles/12486/usgc-presents-ethanol-export-promotion-strategy-to-delegates>

## San Francisco mayor says city fleet to use renewable diesel

San Francisco Mayor Edwin M. Lee announced that his city will leapfrog its efforts to protect the climate from harmful effects of diesel emissions by phasing out the use of petroleum diesel in the municipal fleet and replacing it with renewable diesel by the end of this year.

"By changing our fleet's fuel from petroleum to renewable diesel, we're taking action that is good for the global climate, and at the same time promotes environmental justice in our community by leading to cleaner, healthier air for some of our most vulnerable neighborhoods," said Lee.

<http://www.biodieselmagazine.com/articles/457020/san-francisco-mayor-says-city-fleet-to-use-renewable-diesel>

## NBB to EPA: 2017 biodiesel standard should be 2.7 billion gallons

On July 27 the National Biodiesel Board called on the U.S. EPA to strengthen its proposal for biodiesel volumes under the renewable fuel standard (RFS).

<http://www.biodieselmagazine.com/articles/462423/nbb-to-epa-2017-biodiesel-standard-should-be-2-7-billion-gallons>

## Senate committee passes 2-year biodiesel tax credit extension

The Senate Finance Committee has passed a tax extenders package that includes two-year extensions of tax credits for biodiesel, renewable diesel and cellulosic biofuels. The next step for the legislation is consideration by the full U.S. Senate, which has not yet been scheduled.

The bill would extend incentives for biodiesel and renewable diesel for two years, through 2016. The extension would apply to the \$1-per-gallon credit for biodiesel and renewable diesel, and the 10-cent-per-gallon small agri-biodiesel producers credit.

<http://www.biodieselmagazine.com/articles/456937/senate-committee-passes-2-year-biodiesel-tax-credit-extension>

## Ethanol working to benefit Brazil, America, the world

Brazil and the U.S. have a responsibility to collaboratively build a global biofuels market, writes Leticia Phillips of UNICA, following a visit between Brazilian President and President Obama. This column appears in the August issue of EPM.

<http://www.ethanolproducer.com/articles/12425/ethanol-working-to-benefit-brazil-america-the-world>

## EU Agricultural Council adopts ILUC biofuel rules

The Agricultural and Fisheries Council of the European Union has officially adopted the new rules to address indirect land use change (ILUC) impacts associated with biofuels. The directive was accepted by the European Parliament in late April.

<http://www.ethanolproducer.com/articles/12435/eu-agricultural-council-adopts-iluc-biofuel-rules>

### Business & Market

## FutureMetrics rebuts wood pellet myths

In a recent report, FutureMetrics aims to debunk two common myths regarding the use of wood pellets as a substitution for coal: that they release more carbon dioxide during combustion, and that they create a carbon debt that takes decades to repay.

Author William Strauss discusses the comparative moisture content (MC) of wood and coal, which, on a dry weight basis, yield similar results in terms of CO<sub>2</sub> produced when combusted. He points out that while wood does not have zero MC, but neither does coal—in fact, lignite coal can possess up to 39% MC.

Wood pellets at 6 percent MC result in significantly less CO<sub>2</sub> emissions from combustion than all grades of coal under the same circumstances, Strauss points out.

Strauss concludes by deeming anti-biomass literature as wrong on wood pellets, as the combustion of wood pellets releases less CO<sub>2</sub> than coal combustion, and states that as long as there are sustainability criteria that make sure the aggregate stock of carbon in working forests isn't lowered, there is no carbon debt.

<http://biomassmagazine.com/articles/12154/futuremetrics-rebuts-wood-pellet-myths>

## Aurora Wood Pellets making headway on proposed plant in Canada

Four years ago, Aurora Wood Pellets Ltd. began the development of a 200,000-metric-ton pellet plant in the Northwest Territories of Canada. With two Forestry Management Agreements in hand, CEO Brad Mapes hopes to purchase the site's land this month.

<http://biomassmagazine.com/articles/12146/aurora-wood-pellets-making-headway-on-proposed-plant-in-canada/>

## Biomass: Denmark April wood pellet imports dip to 5-month low

Denmark's imports of wood pellets fell to a five-month low of 213,806 mt in April, 6% lower than March but 20% higher than a year earlier, according to StatBank Denmark data Thursday. Total Danish pellet imports in the first four months of 2015 were 932,118 mt, a 2% increase from the corresponding 2014 period.

Latvia nosed ahead as the largest pellet supplier to Denmark this year, delivering 77,469 mt in April, up 58% on the month and 14% higher on-year.

<http://www.platts.com/latest-news/electric-power/london/biomass-denmark-april-wood-pellet-imports-dip-26144279>

## Soon, animal fat, farm waste to power flights

A United Airlines flight will take off from Los Angeles International Airport bound for San Francisco using fuel generated from farm waste and oils derived from animal fats.

<http://timesofindia.indiatimes.com/home/science/Soon-animal-fat-farm-waste-to-power-flights/articleshow/47904651.cms>

## Southern wood pellets feed Europe's power plants, spark environmental debate

As the European Union works to reduce carbon emissions by moving from coal-fired power plants to renewable fuel sources, countries are increasingly looking to the United States' southern forests for part of the answer.

Wood pellet mills are sprouting up across the South, including one in Bastrop, turning trees into fuel that is then shipped overseas.

The production of wood pellets, which are then transported from transit centers like the one that recently started operation in Port Allen, rose from 2.8mn tons in 2008 to 19.9 mn tons in 2013, according to the U.S. Forest Service. It's expected that number could get as high as 25.9mn tons by 2020.

<http://theadvocate.com/news/12837828-123/southern-wood-pellets-feed-europes>

## Wood-pellet industry good for environment, economy: John Keppler, Chairman and Chief Executive Officer, Enviva

In response to the June 18 Point of View "The wood-pellet industry and the harm it's causing": Our energy company is creating hundreds of jobs and investing hundreds of millions of dollars in Eastern North Carolina while making an environmentally sustainable product that protects Southern forests. And our wood pellets – a small, seemingly ordinary product – bring big reductions in climate change around the world.

Agencies like the U.S. Department of Agriculture and the U.S. Environmental Protection Agency, and researchers at Duke University and N.C. State University agree: Wood pellets are good for forests, the environment and the economy.

<http://www.newsobserver.com/opinion/letters-to-the-editor/article26607151.html>

## German Pellets begins phase 2 construction of Louisiana plant

German Pellets, one of the biggest producers and providers of wood pellets in the world, completes the commissioning of the first construction phase of the American plant in Urania, Louisiana. Work on the second construction phase has now started. The financing for the capacity increase of the plant from the current capacity of 578,000 to 1,156 million metric tons per year has been raised in full.

<http://biomassmagazine.com/articles/12208/german-pellets-begins-phase-2-construction-of-louisiana-plant>

## Viridis Energy's Okanagan pellet company begins plant upgrades

Viridis Energy's wholly owned subsidiary, Okanagan Pellet Company Inc. ("OPC"), has commenced a major one to two year plant upgrade that will be conducted in three phases, as the company said in the press release received by Lesprom Network.

The OPC plant upgrades are intended to address new regulatory requirements for safe storage and management of wood pellets and ensure the plant complies with National Fire Protection Association and BC Fire Safety code.

The OPC has entered into a new credit facility with the Royal Bank of Canada for \$875,000. The Lease line will be used, in conjunction with OPC cash flow, to fund the first two phases of the upgrade.

[http://www.lesprom.com/en/news/Viridis\\_Energys\\_Okanagan\\_Pellet\\_Company\\_begins\\_plant\\_upgrades\\_68934/](http://www.lesprom.com/en/news/Viridis_Energys_Okanagan_Pellet_Company_begins_plant_upgrades_68934/)

## Straw offers 2nd paycheck to growers near biomass plant

A second harvest is underway in some western Kansas fields to remove the stubble left after wheat is cut and provide extra income for farmers. Straw is widely used for livestock bedding, but farmers within a 100-mile radius of Abengoa's biomass plant in Hugoton have another option for its use.

Abengoa estimates it will pay about 200 area farmers \$15 a ton for their crop residue, to be used at its Bioenergy Biomass of Kansas plant. At full capacity, the company expects the plant to process 1,000 tons of biomass a day, or roughly 350,000 biomass bales a year. That will produce up to 25 million gallons of cellulosic ethanol and 21 megawatts of electricity.

[http://www.islandpacket.com/2015/07/06/3825528\\_straw-offers-2nd-paycheck-to-growers.html?rh=1](http://www.islandpacket.com/2015/07/06/3825528_straw-offers-2nd-paycheck-to-growers.html?rh=1)

## New report sheds light on the wood pellets market that is projected to reach USD 20,073.1mn by 2023

Wood pellets production has increased substantially in the past few years, owing to the stringent emission norms in Europe and North America. High energy density and easy availability are some of the advantages of wood pellets that facilitate their international trade.

<http://www.whatech.com/market-research/green-technology/80200-new-report-sheds-light-on-the-wood-pellets-market-that-is-projected-to-reach-usd-20-073-1->

## [million-by-2023](#)

### Biomass: UK May wood pellet imports dip on lower US supply

The UK's imports of wood pellets in May dipped 14% on the month to 454,769 mt, with a substantial increase in Canadian material only partially offsetting lower supply from the US, according to customs data. However, May imports were 13% higher than the year-earlier period. Pellet deliveries in the first five months of 2015 increased to 2.2 million mt, 55% higher than the corresponding 2014 period.

The UK took receipt of 200,418 mt of US origin pellets in May -- a 14-month low -- 37% lower on the month and 26% down on-year.

<http://www.platts.com/latest-news/electric-power/london/biomass-uk-may-wood-pellet-imports-dip-on-lower-26147634>

### Growth in electricity production from bioenergy

The amount of electricity generated from bioenergy in the UK rose by a quarter in 2014, according to the Department for Energy and Climate Change (DECC).

The department's latest annual UK energy statistics show that renewable sources accounted for 19.1% of total electricity generation in the UK in 2014, up from 14.8% in 2013 (chart, below). DECC says the conversion of a coal firing unit to biomass at the Drax power plant in 2014 was the most significant single factor in the increase in bioenergy production. Bioenergy, which includes biomass and landfill gas, accounted for 72% of the total renewable energy production.

<http://www.mrw.co.uk/news/growth-in-electricity-production-from-bioenergy/8686994.article>

### Drax Earnings Rise 18% as biomass offsets carbon costs

Drax Group Plc, the utility converting the biggest U.K. coal station to burning wood pellets, said first-half earnings rose about 18% as its biomass investments shielded it from rising carbon prices.

<http://www.bloomberg.com/news/articles/2015-07-28/drax-earnings-rise-18-percent-as-biomass-offsets-carbon-costs>

### Biomass Boiler helps Dewar's Distillery cut CO2 by 90%

Dewar's, which is part of the Bacardi group of companies, estimates that under the current production schedule, it will reduce its carbon emissions from fossil fuel sources by up to six thousand tons per year of carbon dioxide at the Aberfeldy Distillery. To pay for the biomass boiler, Dewar's raised £1.2mn through the UK Green Investment Bank, with the rest of the funds coming from the private sector.

Across its five malt distilleries, Dewar's says it has achieved a 34 percent reduction in greenhouse gas emissions since 2006; a 46 percent reduction in water use since 2009; and a 30% reduction of waste to landfill since 2010.

[http://www.sustainablebrands.com/news\\_and\\_views/waste\\_not/mike\\_hower/bacardi-owned\\_scottish\\_distillery\\_cuts\\_co2\\_90](http://www.sustainablebrands.com/news_and_views/waste_not/mike_hower/bacardi-owned_scottish_distillery_cuts_co2_90)

## Genera Energy named in top 10 of biofuels digest feedstock supply rankings

Genera Energy, Inc., a leading biomass supply company, has been ranked the eighth hottest company worldwide in Feedstock Development and Supply by Biofuels Digest. The rankings, which recognize innovation and achievement in feedstock development, production, and supply, were announced in June at the first annual Advanced Bioeconomy Feedstocks Conference. Genera was the top biomass supply chain management company in the entire ranking.

<http://www.itbusinessnet.com/article/Genera-Energy-Named-in-Top-10-of-Biofuels-Digest-Feedstock-Supply-Rankings-3969875>

## ACE: Ethanol providing a few extra bucks in people's pockets

More drivers in the United States are expected to hit the road for the long 4th of July holiday weekend than any time in the past eight years, and they should notice an extra benefit after they fill up at the pump—more money left over to spend on food, fireworks and beverages.

"People are traveling more because gas prices are about a dollar a gallon less than last year," says ACE Senior Vice President Ron Lamberty, "American drivers are paying \$11 billion a month less at the pump. That's almost \$40 bucks a month for every man, woman and child in the U.S. Lamberty says ethanol production gains made possible by the renewable fuel standard (RFS) are a big help in lowering the price of gas.

<http://www.ethanolproducer.com/articles/12396/ace-ethanol-providing-a-few-extra-bucks-in-peopleundefineds-pockets>

## Pacific Ethanol completes Aventine merger

Pacific Ethanol Inc., the leading producer and marketer of low-carbon renewable fuels in the western United States, announced it completed its merger with Aventine Renewable Energy Holdings Inc.

"In addition to more than doubling our ethanol production capacity, this synergistic transaction expands our geographic footprint, leverages our existing infrastructure to reach new markets and customers and enhances our overall scale and co-product diversification. We look forward to working with the Aventine employees to achieve a smooth integration and accelerate the growth of our combined company", Neil Koehler, the company's president and CEO stated.

<http://ethanolproducer.com/articles/12394/pacific-ethanol-completes-aventine-merger>

## Company to develop \$175mn waste-to-diesel plant in Florida

BioPower Operations Corp. has announced that its wholly owned subsidiary Green3Power Operations Inc. (G3P) has won an award to build a \$175mn renewable energy facility that will convert waste into ultra-low sulfur synthetic green No. 2 diesel fuel using G3P's exclusively licensed gasification technology and the Fischer-Tropsch process, which has been in use for 90 years turning gas into fuel. The facility will be built at the existing St. Lucie County Solid Waste Management Facility in Florida, and extend the life of the landfill while reducing environmentally harmful greenhouse gas emissions.

<http://www.biodieselmagazine.com/articles/439207/company-to-develop-175-million-waste-to-diesel-plant-in-florida>

## EIA predicts increased ethanol consumption in short-term outlook

The U.S. Energy Information Administration has issued the July edition of its Short-Term Energy Outlook, predicting ethanol production, which averaged 935,000 barrels per day last year, will remain near current levels in 2015 and 2016. A similar prediction was made in the June STEO. <http://www.ethanolproducer.com/articles/12405/eia-predicts-increased-ethanol-consumption-in-short-term-outlook>

## Volkswagen renewable diesel evaluation program completed

Volkswagen of America Inc. announced the successful completion of its Renewable Diesel Evaluation Program in collaboration with Solazyme Inc. and Amyris Inc., two of the world's leaders in renewable fuels and products. Beginning in 2012, Volkswagen measured the environmental impacts from the use of pre-commercial renewable diesel formulas with TDI Clean Diesel technology found in the 2012 Passat TDI (which uses a NOx storage system) and 2012 Jetta TDI (SCR system).

Initial analysis found that advanced renewable fuels in the test offered comparable performance to standard crude-based diesel fuel blends while producing less CO2 emissions on average. <http://www.biodieselmagazine.com/articles/435133/volkswagen-renewable-diesel-evaluation-program-completed>

## Pinnacle plugs into the new power of wood

Pinnacle Renewable Energy Inc. is in the energy business. But it can also be considered a forestry company, because it has created an extra link in the value-added chain for the B.C. lumber industry. <https://www.biv.com/article/2015/7/pinnacle-plugs-new-power-wood/>

## Pellets industry discusses current legal framework and market outlook

Some 250 attendees from 27 nations flocked to Munich to join international experts from the pellets industry in discussing global markets, current framework conditions, the ENplus certification as well as the efficient and sustainable production of pellets.

No region in the world produces and burns as many wood pellets as Europe. In Italy alone, over 2.2 million pellet stoves are now heating homes, with 200,000 new systems adding to this figure every year according to estimates by Annalisa Paniz from the Italian association AIEL (Associazione Italiana Energie Agroforestali). The second largest European market for pellet stoves is France, where over 90,000 units were sold in 2013 and 2014, respectively. For Germany, the German Wood Fuel and Pellet Association (DEPV) puts the market volume of pellet heating systems at over 40,000 for 2015. Manufacturers and industry associations therefore expect the European market to remain stable, or even grow.

Although the pellets industry, and also the entire heating market, saw sales fall over the last two warm winters, experts believe the signals point to long-term growth across Europe. For example, the revamped market incentive program (MAP) for renewable heat should give the German market a tangible boost. Other European markets too are also picking up. Since the introduction of a heat tariff for private heating systems using renewable energy by the British government, the number of newly installed biomass heating systems each year has increased from 275 to 5,400. In Austria, too, both the central and state governments have raised subsidies for replacing fossil heating systems with pellet heating systems – the federal subsidy alone, for example, has risen from €1,400 to €2,000.

<http://www.renewableenergyfocus.com/view/42634/pellets-industry-discusses-current-legal-framework-and-market-outlook/>

## Enviva provides second quarter earnings, development update

On July 30, Enviva Partners LP released its second quarter financial results, reporting revenue of \$109.7 million, an increase of 60% over the corresponding quarter in 2014, on sales of 560,000 metric tons of pellets.

<http://biomassmagazine.com/articles/12248/enviva-provides-second-quarter-earnings-development-update>

## Lee Enterprises Consulting, Zeton announce strategic alliance

Lee Enterprises Consulting, the world's largest alternative and renewable fuels consulting group, is pleased to announce its strategic alliance with Zeton Inc. The consulting group has five divisions, with over 50 experts in biodiesel, ethanol, emerging technologies, wind and solar, and alternative fuels business and finance. With Zeton as the recognized world leader in the design and fabrication of lab scale systems, pilot plants, demonstration plants and small modular production plants, both companies agree that the alliance is perfectly timed and mutually beneficial.

<http://www.ethanolproducer.com/articles/12463/lee-enterprises-consulting-zeton-announce-strategic-alliance>

## Pacific Ethanol produces corn oil at Columbia plant

Pacific Ethanol Inc., a leading producer and marketer of low-carbon renewable fuels in the United States, has begun commercial production of corn oil utilizing Valicor's corn oil recovery system at its Columbia ethanol plant located in Boardman, Oregon. With the completion of this two-year initiative, all four of the western Pacific Ethanol plants are now producing corn oil.

<http://www.ethanolproducer.com/articles/12478/pacific-ethanol-now-producing-corn-oil-at-columbia-plant>

## A 66 Mmgy Dakota Spirit AgEnergy ethanol facility completes commissioning

<http://ethanolproducer.com/articles/12468/dakota-spirit-agenergy-completes-commissioning>

## UPS makes deals with Neste, REG, Solazyme for renewable diesel

UPS announced on July 29 agreements for up to 46 million gallons of renewable fuels over the next three years, constituting a 15-fold increase over prior contracts and making UPS one of the largest users of renewable diesel in the world.

The agreements with three leading suppliers of renewable fuels, secure access to an advanced renewable diesel fuel in order to meet the company's objectives for alternative fuel utilization. UPS has previously announced a goal of driving one billion miles with alternative fuel and advanced technology vehicles by the end of 2017.

<http://www.biodieselmagazine.com/articles/464341/ups-makes-deals-with-neste-reg-solazyme-for-renewable-diesel>

## Biodiesel producer takes control of distribution, diversifies

Diversification of operations and controlling distribution has helped keep one biodiesel producer's

doors open amid tough market conditions.

<http://www.biodieselmagazine.com/blog/article/2015/07/biodiesel-producer-takes-control-of-distribution-diversifies>

## Pacific Biodiesel Technologies, Big Island Biodiesel unite

<http://www.biodieselmagazine.com/articles/448499/pacific-biodiesel-technologies-big-island-biodiesel-unite>

## REG announces \$31mn upgrade to Danville, Illinois, biodiesel plant

Renewable Energy Group Inc. announced July 17 that it will invest \$31mn to upgrade and enhance the company's Danville, Illinois, biodiesel refinery.

REG officials gathered in Danville with local and area leaders to break ground on the project. The most notable upgrade will be the addition of biodiesel distillation capabilities to the 45 MMgy nameplate capacity biorefinery. Other planned upgrades include pretreat capacity improvements, along with storage, logistics and other optimization enhancements.

<http://www.biodieselmagazine.com/articles/451982/reg-announces-31m-upgrade-to-danville-illinois-biodiesel-plant>

## Utah-based biodiesel firm launches crowdfunding campaign

Logan, Utah-based Argo Fuels announced it is launching an Indiegogo crowdfunding campaign July 21 to raise money for the purchase of feedstock and preparation for large-scale biodiesel production using its NanoCatalyst fuel processor.

The company describes its NanoCatalyst fuel unit as a distilling processor utilizing a high-pressure, supercritical solid metal catalyst reactor that reaches full reaction in minutes and make biodiesel for one-third the cost of traditional reactors using high-FFA feedstock such as brown grease.

<http://www.biodieselmagazine.com/articles/451819/utah-based-biodiesel-firm-launches-crowdfunding-campaign>

## IncBio to supply 22.5 MMgy biodiesel plant to Colombia

Portugal-based IncBio has secured an agreement to design and build a 75,000-ton-per-year (22.5 MMgy) biodiesel plant for Biocosta Green Energy S.A. in Santa Marta, Colombia.

The plant will produce biodiesel from locally sourced crude palm oil blended with palm acid oil and palm fatty acid distillate (PFAD). The process is being designed to convert feedstock with total free fatty acid content up to 25 percent and will include pretreatment, acid esterification with IncBio's solid catalyst technology, transesterification, dry wash using ion exchange resin and distillation. It will incorporate IncBio's ultrasonic technology in all stages of the plant, the company stated.

<http://www.biodieselmagazine.com/articles/447173/incbio-to-supply-22-5-mmgy-biodiesel-plant-to-colombia>

## Gevo announces first pump sales of isobutanol-blended gasoline

Gevo Inc. has announced that Express Lube of Fredericksburg, Texas, is the first U.S. service station to sell gasoline blended with Gevo's renewable isobutanol at the pump. This is anticipated to be the first of many retail locations to offer Gevo's product as the company rolls out its isobutanol to the marina, outdoor equipment and off-road gasoline markets.

<http://ethanolproducer.com/articles/12483/gevo-announces-first-pump-sales-of->

## [isobutanol-blended-gasoline](#)

### Carbon capture is a mirage for poor nations

The International Energy Agency (IEA) says that carbon emissions are still growing in Asia as well as in Sub-Saharan Africa, and this is unlikely to abate in the coming decades. To meet urgent emissions reduction targets and curb global warming, the IEA recommends the large-scale use of carbon capture and storage technology (CCS).

When combined with the use of bioenergy\*, CCS falls into the category of the so-called negative emissions technologies, designed to suck greenhouse gases out of the atmosphere.

<http://www.scidev.net/global/energy/scidev-net-at-large/carbon-capture-mirage-for-poor-nations.html>

### Largest ever freight shipment of renewable fuel biomass arrives in UK

What is said to be the largest ever single shipment of biomass docked and discharged this week at Associated British Ports' (ABP) Humber International Terminal (HIT) at the Port of Immingham after a 34 day voyage from Pinnacle Pellet's Westview Terminal in Prince Rupert, British Columbia. The freight consisted of nearly 60,000 tonnes of wood pellets bound for the Drax power station.

[http://www.handyshippingguide.com/shipping-news/largest-ever-freight-shipment-of-renewable-fuel-biomass-arrives-in-uk\\_6519](http://www.handyshippingguide.com/shipping-news/largest-ever-freight-shipment-of-renewable-fuel-biomass-arrives-in-uk_6519)

### Blume Distillation announces sale of biorefinery to Numbitrax

Blume Distillation LLC, the leading provider of appropriate-scale biorefinery systems for the production of bioethanol and related high value alcohol-based end and coproducts, recently announced sale of its first African-based biorefinery. Numbitrax LLC, based in Touwsriver, Western Cape, South Africa, has completed a purchase agreement and fund transfer for a Blume biorefinery system. The purchase represents a several million-dollar investment for Numbitrax, which plans to produce alcohol fuel (bioethanol) as well as additional high-return offtake products, derived from local and readily available resources.

<http://www.ethanolproducer.com/articles/12460/blume-distillation-announces-sale-of-biorefinery-to-numbitrax>

### ECOWAS holds workshop on renewable energy efficiency

The ECOWAS Centre for Renewable Energy and Energy Efficiency (ECREEE), has organised a five-day training workshop for Anglophone West African entrepreneurs and technicians in the clean cooking industry.

The workshop, which started on Monday, was organised through the West African Clean Cooking Alliance (WACCA) to bring clean, safe, affordable cooking energy solutions to the entire ECOWAS population by 2030 in line with the overall objective of ECREEE, to promote energy access, renewable energy and energy efficiency within the region.

<https://www.ghanabusinessnews.com/2015/07/26/ecowas-holds-workshop-on-renewable-energy-efficiency/>

### \$5mn invested in stove startup

A Dumbo-based startup received a shock of socially conscious capital, with BioLite announcing \$5 million in funding and financing, the company announced.

The funding round was led by the charity investment fund Acumen, with additional investment by the nature and adventure-leaning fund White Road Investments, as well as RRE Ventures and Rose Park Advisors. BioLite also raised funds in the round through debt and grant money.

<http://technical.ly/brooklyn/2015/07/29/biolite-funding-round/>

### UK's largest biomass plant secures funding

Plans for 'the largest biomass power station in the UK' are close to being finalised after the project secured investment from Australia.

The Tees Renewable Energy Plant (Tees REP) is set to be built at Teesport, near Redcar, after Australian investment firm the Macquarie Group agreed to support biomass facility developer MGT Power's £650-million project.

<http://resource.co/article/uk%E2%80%99s-%E2%80%98largest-biomass-plant%E2%80%99-secures-funding-10295>

### Sheffield biomass plant secures £15m from Green Investment Bank

Green Investment Bank and Equitix Energy Efficiency Fund provide £30m to support construction of 6.5MW biomass plant.

The plant, which is billed as Combined Heat and Power (CHP) ready, is expected to provide over 6.5MW of power capacity, while also supplying heat to more than 6,700 homes and businesses in the local area.

<http://www.businessgreen.com/bg/news/2418251/sheffield-biomass-plant-secures-gbp15m-from-green-investment-bank>

### US DoE injects \$18mn into algae technology development

Arizona State University will receive up to \$1mn for atmospheric carbon dioxide capture, enrichment, and delivery to increase biomass productivity.

The US DoE announced that six projects will receive up to \$18mn in funding to reduce the modeled price of algae-based biofuels to less than \$5 per gasoline gallon equivalent (gge) by 2019. This funding supports the development of a bioeconomy that can help create green jobs, spur innovation, improve the environment, and achieve national energy security.

<http://biodieselmagazine.com/articles/443282/us-doe-injects-18-million-into-algae-technology-development>

### Firm gets \$40mn to commercialize biofuels

Joule Unlimited recently received another injection of \$40mn in financing to further its effort to commercialize an alternative fuel production process currently under development at a facility in Hobbs.

<http://www.abqjournal.com/609655/biz/biz-most-recent/hobbs-biofuels-firm-gets-40-million-investment.html>

## United Airlines announces investment in biofuels

United Airlines announced that it is making a \$30mn investment in California-based alternative fuels company, Flucrum BioEnergy, which converts municipal waste into biofuels. The airline intends to use the alternative jet fuel it receives (a mixture of farm waste, oils derived from animal fats, and traditional jet fuel) to power its regular passenger flights, making it the first domestic airline to do so, reported The New York Times. This marks the largest investment a domestic airline has made in alternative fuels.

<http://www.hydrogenfuelnews.com/united-airlines-announces-investment-in-biofuels/8522650/>

## Methes Energies raises \$1.25mn in direct stock offering

Methes Energies International Ltd. announced that it has closed on a \$1.25mn registered direct placement of common stock with a small group of institutional investors.

<http://www.biodieselmagazine.com/articles/442623/methes-energies-raises-1-25-million-in-direct-stock-offering>

## Green light for 700 Teesside jobs as MGT Power sign finance deal for £650mn plant

The UK's largest biomass plant at Teesport has almost cleared its final hurdle - giving the green light for hundreds of Teesside jobs. Work on MGT Power's "landmark" £650mn plant at Teesport could start by the end of the year, after investment firm Macquarie Group signed a deal to finance the scheme.

The long-awaited Teesside Renewable Energy Plant (REP) at Teesport will create 600 construction and 100 permanent jobs. Tees REP will generate enough electricity to supply 600,000 homes.

<http://www.gazettelive.co.uk/business/business-news/green-light-700-teesside-jobs-9607496>

## MGT Power, Macquarie sign agreement on Teesside bioenergy plant

Macquarie Capital and Macquarie's Commodities and Financial Markets group have signed an agreement to support MGT Power Limited in the financing of the 299 MWe Teesside Renewable Energy Plant, which has received a U.K. government-supported contract for difference (CfD).

<http://biomassmagazine.com/articles/12171/mgt-power-macquarie-sign-agreement-on-teesside-bioenergy-plant>

## NCGA invests an additional \$500,000 in Prime the Pump

NCGA announced the investment of an additional \$500,000 to an innovative program called Prime the Pump, which seeks to expand fueling infrastructure capable of delivering higher blends of ethanol fuel to American consumers. This increases the NCGA commitment to \$2 million in the last year.

<http://www.ethanolproducer.com/articles/12458/ncga-invests-an-additional-500-000-in-prime-the-pump>

## Ecobank Disburses CBN's N50mn facility to boost SMEFunds' Clean Energy Innovations

Today, SMEFunds, Africa's foremost Social Enterprise based in Nigeria is first to receive N50 million (approx. \$300,000) from the Central Bank of Nigeria (CBN) through Ecobank Ltd. into its Cellulosic Bio Ethanol Gel for Clean Cook Stoves and Pay-As-You-Go Solar Smart Mini-Grid Electricity Projects. This facility is aimed at delivering clean, safe and affordable energy for more than 1 million low income small businesses and households across Nigeria.

<http://www.pr.com/press-release/630484>

### Research & Development

## Can a high-tech wood stove save the world?

<http://www.bloombergview.com/articles/2015-07-16/can-a-high-tech-wood-burning-stove-save-the-world->

## New Holland, SUNY partner on biomass research

Following the U.S. Department of Energy's announcement to award State University of New York up to \$3.5mn to fund a research project that seeks to develop ways to reduce the cost of delivering biomass for refinement, New Holland Agriculture announced plans to assist SUNY researchers in this project.

<http://www.ethanolproducer.com/articles/12465/new-holland-suny-partner-on-biomass-research>

## BTEC to release draft of thermal efficiency test method

The Biomass Thermal Energy Council has announced plans to release a draft of the first thermal efficiency test method designed specifically for commercial-sized boilers that utilize solid biomass as a fuel stock (including pellets, chips, briquettes, and cordwood). The project responds to concerns that a lack of reasonable testing standards for biomass systems can make it difficult for specifiers to provide the owner of a biomass system with a clear distinction between the performance of high-efficiency, low-emission equipment and less satisfactory performers.

The project has already garnered \$175,000 in committed support from the U.S. Endowment for Forestry and Communities, the West Penn Power Sustainable Energy Fund, and the Massachusetts Department of Energy Resources.

<http://biomassmagazine.com/articles/12240/btec-to-release-draft-of-thermal-efficiency-test-method>

## WBA releases thermochemical gasification of biomass factsheet

In June, World Bioenergy Association launched a factsheet on thermochemical gasification biomass—the eighth in a series of publications. The factsheet overviews the technology, basics of gasification, feedstock and current global use.

WBA President Heinz Kopetz states in the factsheet that thermochemical gasification of biomass is an important technology for converting agriculture and forestry products and residues into various forms of energy. "This technology has immense potential in industrial and developing countries for providing easily accessible and affordable electricity and heat," Kopetz said. "It is important to publicize this technology and present science based facts for increasing its uptake and this factsheet aims to do just that."

Thermochemical gasification of biomass is a high temperature process—700 to 1,600 degrees Celsius (1,292 to 2,912 degrees Fahrenheit) in the presence of a gasification medium—that converts biomass into a clean fuel gas called producer gas or synthesis gas (syngas). Biomass feedstock typically includes cellulosic biomass, such as wood chips, pellets or wood powder, or agricultural byproducts like straw or husks. The process involves air, oxygen, steam or a mixture of these media. Gasifiers used range from just a few kilo-watts (kW) up to a couple of hundred MW.

<http://www.biomassmagazine.com/articles/12234/wba-releases-thermochemical-gasification-of-biomass-factsheet>

## Symposium at OARDC to look at what's ahead for U.S. bio-based economy

A multistate research team aimed at developing America's bio-based industry – including bio-based products and bioenergy - will meet in northeast Ohio next month to determine what might be blocking the road and ways to move ahead.

The group, whose members come from nearly three dozen U.S. land-grant universities, including The Ohio State University, will hold a symposium called Stakeholder Perspectives on the Bioeconomy at the Ohio Agricultural Research and Development Center Aug. 11.

<http://www.porknetwork.com/news/symposium-oardc-look-what%E2%80%99s-ahead-us-bio-based-economy>

## Scientists study ways to integrate biofuels and food crops on farms

In collaboration with the farming community of the Indian Creek Watershed in central Illinois, Argonne researchers are finding ways to simultaneously meet three objectives: maximize a farmer's production, grow feedstock for bioenergy and protect the environment.

<http://phys.org/news/2015-07-scientists-ways-biofuels-food-crops.html>

## Perennial biofuel crops' water consumption similar to corn

A recent study from the Great Lakes Bioenergy Research Center and published in Environmental Research Letters looks at how efficiently "second generation" biofuel crops—perennial, non-food crops such as switchgrass or native grasses—use rainwater and how these crops affect overall water balance.

The study, led by Michigan State University professor of ecosystem ecology and GLBRC scientist Stephen Hamilton, is the first multi-year effort to compare the water use of conventional corn crops to the perennial cropping systems of switchgrass, miscanthus, native grasses, restored prairies and hybrid poplar trees.

<http://ethanolproducer.com/articles/12406/perennial-biofuel-crops-water-consumption-similar-to-corn>

## Argonne National Lab finds butanol is good for boats

In an effort to reduce boating's environmental impact, the U.S. Department of Energy's Argonne National Laboratory has teamed with industry to investigate alternative fuels for recreational marine applications.

The laboratory, in collaboration with industrial partner Bombardier Recreational Products, and with support from the marine industry, including the National Marine Manufacturers Association and

American Boat and Yacht Council, has demonstrated the safety and effectiveness of a blend of fuel that includes 16% butanol for use in watercraft.

This demonstration has culminated in the approval of the fuel by the NMMA, a development sure to make waves in the boating arena. The newly approved fuel has the potential to serve as an alternative to the 15 percent ethanol blend for much of the recreational boating fleet.

<http://ethanolproducer.com/articles/12482/argonne-national-lab-finds-butanol-is-good-for-boats>

## Pacific Northwest National Lab to help small, 'green' businesses

Pacific Northwest National Laboratory has been tapped as one of five national laboratories to lead the US DoE's new Small Business Vouchers Pilot. SBV will help small clean energy firms get technology assistance from world class scientists, engineers and facilities within the DoE national laboratory system.

<http://www.biodieselmagazine.com/articles/447227/pacific-northwest-natl-lab-to-help-small-green-businesses>

## UAI: Removing ethanol from gasoline increases toxic emissions

Many gas stations are promoting E0, or gasoline with zero percent ethanol. It not only costs more than regular gasoline that contains 10% ethanol, new data shows it also burns dirtier in your engine which then puts more toxic emissions into the air.

<http://www.ethanolproducer.com/articles/12479/uai-removing-ethanol-from-gasoline-increases-toxic-emissions>

## New algae study 'sheds light' on importance of IBS light availability

A new study has been published in Biotechnology for Biofuels by several university researchers from Europe and China that investigates the effect of initial-biomass-specific (IBS) light availability on batch microalgal triacylglycerides (TAGs) for *Nannochloropsis* sp. cultivated in vertical and horizontal outdoor tubular reactors at different initial biomass concentrations for the TAG accumulation phase, during two distinct seasons (high and low light conditions).

<http://www.biodieselmagazine.com/blog/article/2015/07/new-algae-study-sheds-light-on-importance-of-ibs-light-availability>

## State-of-the-art Algae Photobioreactors

<http://www.biodieselmagazine.com/articles/456920/state-of-the-art-algae-photobioreactors>

## Aston turning hard-to-treat waste into energy: Pyrofab module fits into shipping container

Aston University in Birmingham, UK, is testing its new Pyrofab module, designed to produce energy from hard-to-treat waste such as domestic waste, agricultural waste, industrial waste and even baby wipes.

The Pyrofab module has been designed and built at Aston's European Bioenergy Research Institute (EBRI). It is small enough to fit inside two standard shipping containers, meaning that it is easily transportable. It is designed to convert carbon from a wide range of locally-available sources of waste and biomass that would otherwise be sent to landfill.

<http://www.tcetoday.com/latest%20news/2015/july/aston-turning-hard-to-treat-waste-into-energy.aspx#.Vb87Ovmqqko>