

June 2015



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# India

## Business & Market

### Algae.Tec delivers PBR to Reliance's Jamnagar oil refinery

Algae.Tec announced May 5 that it has shipped its first algae photobioreactor to Jamnagar province in India as part of its contract with Reliance Industries to build an 84-gallon-per-day pilot plant at the world's largest oil refinery.

The pilot plant is part of contractual arrangements that are fully funded by Reliance, Algae.Tec stated.

<http://biodieselmagazine.com/articles/376650/algae-tec-delivers-pbr-to-reliances-jamnagar-oil-refinery>

### Biomass pellets stove comes to Assam

A smokeless stove fuelled by biomass pellets that converts into heat replacing LPG gas cylinders was introduced in Assam. Demonstrating the functioning of the stove, Monmi Das, Director of Blue Bird Express promoting the stove in the Northeast, said the environment-friendly stove would replace the toxic effects of traditional open-fire stoves.

"Our attempt is to offer an alternative to the traditional stoves with a more efficient one which uses local, stable materials", Das said. The pellet fuels are made from compressed organic matter or biomass, including industrial waste and co-products, food waste, agricultural residues, energy crops and virgin lumber, she informed.

She said the pellets cost Rs 22 per kg while a 14.2 kg non-subsidised domestic gas cylinder cost Rs 48 per kg and a 19 kg non-subsidised commercial gas cylinder cost Rs 95 per kg. On the pellet producing plant coming up near Guwahati, the cost of the pellets would be Rs 8 per kg as in Gujarat where they are produced and now transported to Assam, Das added.

The metal cylindrical stove is fitted with a slotted rack on the top for holding the pellets and another tray below for additional pellets for uninterrupted cooking and a blower fan below, she said. The blower is operated by an AC/DC adapter that can be charged electrically or by solar energy and is fitted to a knob in the stove to control the flame. The smallest size of the stove that can cook for five to six people cost Rs 2000, Das said.

[www.business-standard.com/article/pti-stories/biomass-pellets-stove-comes-to-assam-115051400875\\_1.html](http://www.business-standard.com/article/pti-stories/biomass-pellets-stove-comes-to-assam-115051400875_1.html)

### Going green: Infosys will spend Rs 400 crore to become carbon neutral

Infosys will spend about Rs 400 crore over the next four years to achieve carbon-neutrality on commuting and travel by its nearly 1.8 lakh employees and in doing so deepen its commitment to sustainability, a senior executive at India's second-largest software services company said.

The Bengaluru-based company will have to offset 3.74 lakh tonne of carbon dioxide attributed to employees' travel, and it will spend Rs 70 crore this year on initiatives such as installing solar projects for rural electrification, biogas plants and distribution of smokeless cook-stoves in villages, besides afforestation.

Infosys has also announced that it is joining RE100, an elite club of global corporations such as GE, SAP, Nestle and BT with a commitment to go fully green.

[http://articles.economictimes.indiatimes.com/2015-05-19/news/62368935\\_1\\_ramadas-kamath-infosys-solar-capacity](http://articles.economictimes.indiatimes.com/2015-05-19/news/62368935_1_ramadas-kamath-infosys-solar-capacity)

## Policy Initiatives

### [Parliamentary panel calls for multi-pronged strategy to protect Taj Mahal](#)

Amidst reports pointing at the discolouration of Taj Mahal, a parliamentary panel has recommended that a "multi-pronged" strategy be adopted to preserve the "pristine beauty" of the monument and asked the Archeological Survey of India to submit at the earliest an action plan for the same. The committee for Demands for Grants (2015-16) for Environment Ministry also asked the government to "vigorously" implement a long-term strategy for developing and environmentally preserving the Yamuna river catchment area around Taj and check vehicular pollution in the historic city

The committee, headed by former Union Minister Ashwani Kumar, also recommended that afforestation should begin forthwith in the area surrounding the iconic mausoleum. The committee took note of a study conducted by two IIT, Kanpur, scientists which states that discolouration of Taj Mahal was taking place due to particulate carbon and dust deposits arising from combustion of fossil fuels and biomass.

<http://www.india.com/news/india/parliamentary-panel-calls-for-multi-pronged-strategy-to-protect-taj-mahal-379004/>

### India's forgotten energy resource: The conversion of biomass into a safe and efficient energy form can fire a socio-economic transformation

Even if India meets all the stated energy sector targets, non-commercial energy will still be its third largest energy resource even in 2031-32 and hence warrants greater attention. The biomass produced by our farmer and his livestock could help deliver adequate, affordable and safe energy for household and productive use.

Most non-commercial biomass use follows unsafe practices, with conversion efficiencies that typically are one third to half of technically feasible levels.

Converting this biomass to safer fuels such as pellets and gas that permit higher end use efficiency could potentially release up to half the non-commercial biomass currently in use. This biomass energy released through pure efficiency gains could, based on currently available technologies, fire electricity generation and/or productive use at the point of need.

[www.thehindubusinessline.com/opinion/columns/indias-forgotten-energy-resource/article7261066.ece](http://www.thehindubusinessline.com/opinion/columns/indias-forgotten-energy-resource/article7261066.ece)

How Envirofit is improving the lives of rural women and mitigating climate change

<http://social.yourstory.com/2015/05/envirofit/>

## Global

### Business & Market

#### Biomass power play at risk: Industry is pushing province for more secure access to wood fibre

B.C.'s biomass energy sector believes it has a unique opportunity in the aftermath of the mountain pine beetle infestation that has ravaged 18 million hectares of provincial forests, but it needs a little help from Victoria.

Gordon Murray, the executive director of the Wood Pellet Association of Canada, which makes fuel for biomass power, says he can sense the industry's opportunities stalling out because of delays in policy-making related to forest industry fibre supplies.

[www.vancouversun.com/business/Biomass+power+play+risk/11088307/story.html](http://www.vancouversun.com/business/Biomass+power+play+risk/11088307/story.html)

#### SRS expanding biomass power plant

A new boiler at Savannah River Site's biomass power-generating plant will help prevent a loss of steam and electricity production during extreme cold weather.

<http://beta.mirror.augusta.com/latest-news/2015-05-11/srs-expanding-biomass-power-plant>

#### Burning issue for Brigg's new biomass power plant

Local farmers have declined to tender for selling straw to the Renewable Energy Biomass Plant set to open later this year at the old Brigg Sugar Factory site.

[www.marketrasenmail.co.uk/news/business/business-news/burning-issue-for-brigg-s-new-biomass-power-plant-1-6739697](http://www.marketrasenmail.co.uk/news/business/business-news/burning-issue-for-brigg-s-new-biomass-power-plant-1-6739697)

#### Bioenergy Association support for heat plant operators

The New Zealand Bioenergy Association is increasing its support for wood fuelled heat plant operators and maintenance staff to help plant owners improve the operation of their plant and encourage others to move from coal to wood fuel.

"The amount of wood fuel replacing coal is growing each year and we want to ensure heat plant operating and maintenance staff are well supported," says the Association's Executive Officer Brian Cox.

<http://www.scoop.co.nz/stories/SC1505/S00090/bioenergy-association-support-for-heat-plant-operators.htm>

#### Prep school swaps fossil fuels for wood pellets

A Warwickshire preparatory school has taken 'a huge step towards zero-carbon' by swapping its old oil-boilers for biomass systems. The Croft School's biomass boiler generates 700,000 Kwh of

heat every year, burning locally-sourced wood pellets.

The switch will save 20,000kg of CO2 a year for the Croft School in Stratford-upon-Avon. "This is a marvellous addition," said the school's director of project development Barney Thornton.

<http://www.edie.net/news/16/Prep-school-swaps-fossil-fuels-for-wood-pellets-biomass-boilers-croft-school/>

## [America's newest energy export: Wood pellets](#)

Wood pellets are taking the place of coal in many European power plants to reduce carbon dioxide emissions. The United Kingdom, for example, is relying on the use of wood pellets in co-firing with coal or in dedicated biomass power plants as part of its plan to reduce greenhouse gas emissions. In the United Kingdom's plan, renewable energy must supply 15% of the country's energy demand by 2020. As a result, large coal-fired power plants in the UK have either been retrofitted to co-fire with wood pellets or have been converted to dedicated biomass plants.

Electricity generation in the UK from plant-based biomass, including wood pellets, increased by 47 percent between 2013 and 2014—from 8,933 gigawatthours in 2013 to 13,138 gigawatthours in 2014. The main user of the wood pellets is the Drax power plant in north-central England, which is being converted from coal to biomass—the largest such project in Europe. The Drax plant is composed of six units that total almost 4 gigawatts of capacity. The first unit was converted to a dedicated biomass unit in 2013; a second unit was first co-fired and then converted to a dedicated biomass unit in 2014; and a third unit's conversion is planned for 2015/2016. Only 2.8 percent of Drax's wood pellet supply is produced in the UK. In 2014, 58 percent of the Drax plant's wood pellets was supplied by the United States, followed by Canada providing 22 percent. The remaining wood pellet supply came from other countries in Europe and South Africa.

Drax Biomass, a wholly owned subsidiary of the Drax Group, owns and operates several pellet manufacturing mills in the southern United States. Two such mills—Amite Bioenergy and Morehouse BioEnergy in Mississippi and Louisiana, respectively—have a combined annual capacity of almost 1 million short tons. Drax Group is expected to build more pellet mills in the United States in the future.

Since 2012, the United States has been the world's largest exporter of wood pellets, relegating Canada to the number two spot. Wood pellet exports from the United States increased from 3.2 million short tons in 2013 to 4.4 million short tons in 2014—an increase of almost 40 percent. In 2014, 92 percent of U.S. wood pellet exports were delivered to Europe with the UK receiving the lion's share (73 percent). According to the U.S. International Trade Commission, U.S. wood pellet exports accounted for more than \$500 million of trade in 2014.

According to Biomass Magazine, there are 184 wood pellet plants in the United States with a capacity of 21,889 billion short tons. Global demand for wood pellets is expected to more than double over the next decade—from an estimated 23 million metric tons in 2014 to 50 million metric tons in 2024—and more wood pellet mills are expected in the United States, particularly in the southeastern states. The U.S. South has about 40 percent of the country's timberland, which supplies the lumber, pulp, and paper industries.

<http://canadafreepress.com/index.php/article/71742>

## [Scotland receives first Windhager DuoWIN in the UK](#)

The very first U.K. installation of Windhager's new hybrid technology DuoWIN boiler has been completed in Scotland. The wood pellet and log fired combined boiler has been installed at the new headquarters of Inverness-based installers, McInnes Plumbing & Heating and McInnes Renewables.

The company has installed a 56-kW DuoWIN boiler, a combination of Windhager's LogWIN Klassik log gasification boiler and BioWIN2 wood pellet boiler, to heat its new premises whilst providing an ideal demonstration system to its customers.

<http://biomassmagazine.com/articles/11970/scotland-receives-first-windhager-duowin-in-the-u-k>

## Worldwide pellet production increased to 27mn tonnes

At this year's Argus European Biomass Trading conference in mid-April the latest figures on the development of the international pellet market were announced. Therefore in 2014, 27 million tonnes of pellets were produced worldwide. Of this, around 20 million tonnes were used in Europe as a renewable fuel.

About half of the pellets produced were consumed by power plants or heating plants, while the other half was used in pellet stoves or pellet boilers. Around half of the pellets produced worldwide are produced in Europe. The biggest exporters are currently the United States with 3.9 million tons, followed by Canada with 1.6 million tons, Latvia with 1.2 million tons and Russia with 880,000 tons. The biggest importers are the United Kingdom (4.6 million tons), Denmark (1.9 million tonnes) and Italy (1.9 million tons). Austria was the fourth largest producer in Europe last year with a production of 945,000 tonnes.

Given the criticism of environmental organizations on the use of pellets from North America in UK power plants, the proof of sustainability is currently a central theme of the international pellet industry. One proof is the use of certification in forestry, such as PEFC and FSC. The other is the reduction of greenhouse gas balance, which certainly is impressive: for example, pellets from the US used in UK power plants contribute with an 80% reduction in greenhouse gases. Also, the domestic use of pellets is another proof: compared to fuel oil, pellets are more efficient in greenhouse gases reduction by 97 percent.

[http://www.ihb.de/wood/news/International\\_pellet\\_market\\_production\\_41765.html](http://www.ihb.de/wood/news/International_pellet_market_production_41765.html)

## German Pellets improves turnover in 2014, despite tough market conditions

Despite being faced with somewhat difficult market conditions caused by the mild weather and the fall in the price of oil, the German Pellets Group finished the 2014 business year with an increase in turnover and operating results. The world's largest producer and trader of wood pellets benefited from more favourable production costs in the USA and from the expansion of sales in essential European core markets. Sales revenues in the 2014 business year rose to €593 million (2013: €556.9). The earnings before interests, taxes, depreciation and amortisation (EBITDA) increased to €50.2 million (2013: €49.3 million). At the same time, the net income for the year amounted to €7.9 million (2013: €4.5 million).

In addition to its sales activities on the private and commercial heating market, German Pellets markets its own wood pellets as well as commodities on the industrial and power plant market throughout the whole of Europe. German Pellets has increased its trading activities in 2014. Demand on the European industrial and power plant market increased to a total of 10 million tons (2013: 9 million tons) last business year. German Pellets concluded two new medium-term to long-term supply contracts with European energy companies, including the supply of wood chips for the very first time.

The plant in Woodville, Texas, operated by the German Pellets Group, reached full capacity in 2014, therefore contributing towards the increase in turnover and operating results. The group will also see benefits from the more favourable costs of raw materials and energy prices in the second

American plant in Urania, Louisiana. The factory was commissioned at the start of 2015, and is gradually increasing its production capacities.

[http://www.ihb.de/wood/news/German\\_Pellets\\_production\\_financial\\_results\\_41722.html](http://www.ihb.de/wood/news/German_Pellets_production_financial_results_41722.html)

## Objections mount up to straw pellet plant near Ely

[http://www.elystandard.co.uk/news/objections\\_mount\\_up\\_to\\_straw\\_pellet\\_plant\\_near\\_ely\\_1\\_4091289](http://www.elystandard.co.uk/news/objections_mount_up_to_straw_pellet_plant_near_ely_1_4091289)

## Northeast Wood Products plans third pellet plant

US-American pellet producer Northeast Wood Products plans to build a pellet plant with annual capacity of 125,000 t at a site in Jasper (Tennessee, USA). Together with the two existing US pellet plants of NWP in Peebles (Ohio) and Ligonier (Indiana), the company's third plant and further expansion investments will bring total production capacity to more than 400,000 t/year.

Each of the plants in Peebles and Ligonier currently boasts production capacity of 65,000 t/year. In September and November 2014, NWP had taken over the pellet-production assets of Tennessee Hardwood Pellets and of Anderson Hardwood. Those lines, with capacities of 120,000 t and 35,000 t/year respectively, are to be dismantled, transferred to the other two sites and recommissioned.

<http://www.euwid-wood-products.com/news/roundwoodsawnwood/single/archive/2015/may/Artikel/northeast-wood-products-plans-third-pellet-plant.html>

## Dong Energy progresses on Studstrup Power Station conversion to wood pellets

The Danish energy company Dong Energy reports that the conversion of Studstrup Power Station near Aarhus is has now reached an important milestone. A large-scale storage silo capable of holding 65,000 tonnes of wood pellets is ready to go into the second phase.

Dong Energy expects that the conversion of Studstrup Power Station will be completed during the summer of 2016 so that the switch to wood pellets instead of coal can be realised in autumn 2016.

According to the company's statements, the conversion from coal to biomass is contributing significantly to the Danish city Aarhus' goal of becoming CO2 neutral by 2030.

[www.ihb.de/wood/news/DONG\\_Energy\\_conversion\\_bio\\_41987.html](http://www.ihb.de/wood/news/DONG_Energy_conversion_bio_41987.html)

## Swedish BillerudKorsnas to exit Latvian pellets producer SIA Latgran

<http://renewables.seenews.com/news/corrected-swedish-billerudkorsnas-to-exit-latvian-pellets-producer-sia-latgran-477892>

## Can businesses help banish the shadow of black carbon?

<https://www.greenbiz.com/article/can-businesses-help-banish-shadow-black-carbon>

## Large-scale fire causes heavy damages to Shank Pallet in Greencastle

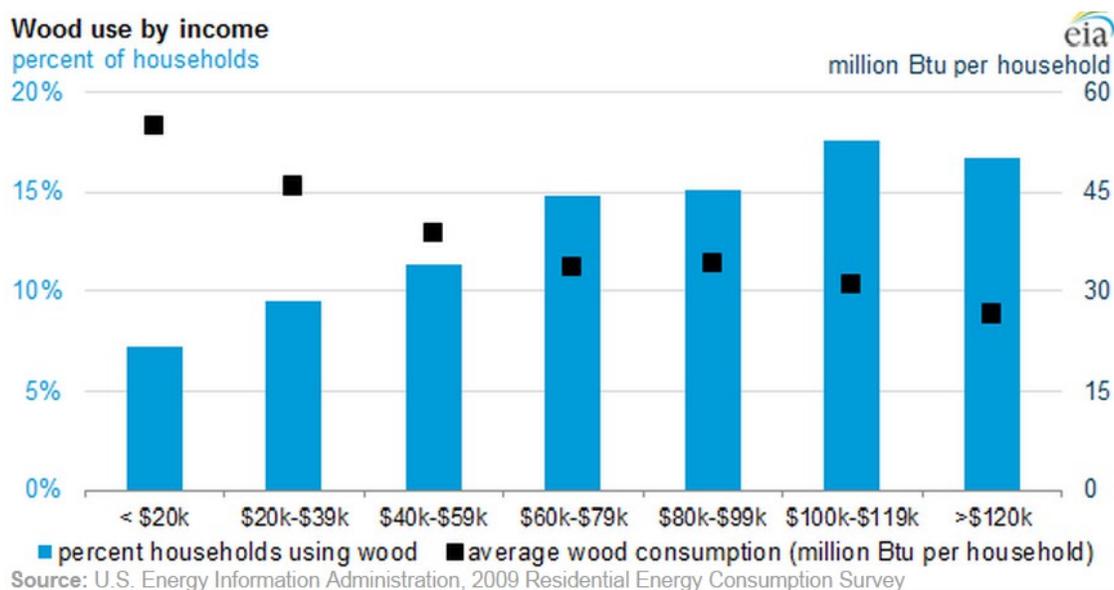
<http://www.your4state.com/story/d/story/large-scale-fire-causes-heavy-damages-to-shank-pal/35816/dlMrCtDVm02B0AoXISPOvw>

## Wood carves out a bigger share of US energy market

Wood is the U.S. second largest renewable energy source, thanks in part to rising demand for wood pellets for space-heating stoves.

That might seem a throwback to yesteryear, when wood was the number one fuel almost everywhere. But the United States is now the world's largest exporter of compressed and dried wood pellets, a byproduct of the nation's lumber mills. Most of these pellets are being shipped to Europe.

Closer to home, however, wood-pellet stoves have also gained popularity, especially in the Northeast, where some of the region's wealthiest households are likely to heat with wood:



Wood remained the nation's second-largest renewable energy source, with recent growth driven in part by demand for wood pellets, the Energy Information Administration said this week. Hydroelectric power remains No. 1. between 2005 and 2012 there was at least a 50% jump in the number of households that rely on the fuel as their main source of heat in all nine states in New England and the Mid-Atlantic census divisions, the EIA said.

About 2.5 million households, or 2% nationwide, use wood as their main fuel for home heating, up from 1.9 million households, or 1.7%, in 2005. An additional 9 million households, or nearly 8%, use wood as a secondary heating fuel. Most people relying on wood as a heat source burn it in heating stoves, while fireplaces are the most common choice for secondary wood heating, the EIA said.

<http://www.marketwatch.com/story/wood-carves-out-a-bigger-share-of-us-energy-market-2015-05-29>

## South Arkansas wood pellet mills still on schedule for 2016 start

Two full-scale biomass plants in South Arkansas are still scheduled to come online by the end of 2016, just in time for the wood pellet market to gain steam in Europe as industrial power generators switch from coal to renewable fuels.

Top officials for both Highland Pellets LLC in Pine Bluff and Zilkha Biomass Energy in Monticello

told Talk Business & Politics that their respective companies are moving forward with land acquisition, environmental permitting and other preparations for Arkansas' first high-profile entries into the burgeoning renewable energy sector.

<http://ualrpublicradio.org/post/south-arkansas-wood-pellet-mills-still-schedule-2016-start>

## Renewable energy entrepreneurs in Longport start wood pellet production

Engineers are hoping to eradicate fuel poverty by developing a combustible source of energy from environmental waste.

Staffordshire Environmental Energy Networks (SEEN) is now manufacturing its first wood pellets using treetops and branches discarded during logging and felling operations.

<http://www.stokesentinel.co.uk/Renewable-energy-entrepreneurs-Longport-start/story-26479890-detail/story.html>

## BTEC partners for new course on small, biomass heating systems

Heatspring Learning Institute, in partnership with the Biomass Thermal Energy Council and instructor John Siegenthaler, will launch a shortened rendition of their 10-week online course, hydronic-based biomass heating systems on May 11.

Specifically, the course is focused on entire building systems that use wood gasification and pellet-fired boilers. The course pulls together multiple elements—fuel sources, energy cost comparisons, boiler sizing and selection, venting, thermal storage, auxiliary heat source integration, control concepts and low temperature hydronic distribution systems—into several different combisystem designs.

<http://biomassmagazine.com/articles/11902/btec-partners-for-new-course-on-small-biomass-heating-systems>

## Renmatix acquires former Mascoma production unit

Renmatix Inc., the global leader in affordable cellulosic sugars for renewable chemicals and fuels markets, announced that it has acquired existing assets of the former Mascoma Corp.'s 56,000 square foot manufacturing facility in Rome, New York. The new feedstock processing facility (FPF) is dedicated to the first step in conversion to cellulosic sugar (from different types of biomass materials) utilizing proprietary Plantrose process conditions. The FPF opened officially on April 20, as the third U.S. location for Renmatix. This move creates a secure supply for Renmatix and its development partners at the IPC in Kennesaw, Georgia, where the second step in production of Plantro sugars is performed.

<http://www.ethanolproducer.com/articles/12197/renmatix-acquires-former-mascoma-production-unit>

## Ethanol industry contributes \$2.34 billion to Minnesota economy

Minnesota's ethanol industry accounted for \$2.34 billion of the state's gross domestic product (GDP) in 2014, according to a new study by ABF Economics.

The study, which examines the ethanol industry's economic impact in Minnesota in 2014, concludes that the industry generated \$7.6 billion in gross sales for Minnesota businesses and supported 18,630 full time jobs in the state last year.

This in turn generated \$1.74 billion in household income in Minnesota in 2014 as well as \$132 million to state and local government tax rolls.

[www.ethanolproducer.com/articles/12214/ethanol-industry-contributes-2-34-billion-to-minnesota-economy](http://www.ethanolproducer.com/articles/12214/ethanol-industry-contributes-2-34-billion-to-minnesota-economy)

## Pacific Ethanol installs upgrades at Madera plant

Pacific Ethanol is completing upgrades at its 40 MMgy ethanol plant in Madera, California. The company recently announced corn oil production at the plant has commenced. In addition, an industrial scale membrane system is scheduled to be installed at the facility later this year.

On May 7, Pacific Ethanol announced commercial production of corn oil has begun at the Madera plant utilizing Valicor's proprietary VFRAC corn oil recovery system.

<http://www.ethanolproducer.com/articles/12205/pacific-ethanol-installs-upgrades-at-madera-plant>

## ADM reports strong Q1 earnings, in spite of weak ethanol margins

Archer Daniels Midland Co. reported solid earnings for the first quarter, even though its corn processing segment was down due to tight ethanol margins. ADM's soybean processing segment experienced extraordinarily good margins in the first quarter, increasing by \$153 million and more than making up for the corn processing sector's reduced earnings of \$124 million.

Overall, ADM reported adjusted earnings per share of 77 cents for the first quarter of the year, up from 55 cents in the same period last year. Adjusted segment operating profit was \$883 million, up 12 percent from \$789 million in the year-ago period. Net earnings for the quarter were \$493 million and segment operating profit was \$855 million.

<http://www.ethanolproducer.com/articles/12194/adm-reports-strong-q1-earnings-in-spite-of-weak-ethanol-margins>

## Aemetis reports improved margins, demand following first quarter

Aemetis Inc. has released first quarter financial results, reporting revenues of \$34.7 million for the quarter, compared to \$60.7 million during the same period of the prior year. Gross loss for the quarter was \$200,000, compared to a gross profit of \$15.6 during the first quarter of 2014. The company attributed the decrease in revenues and gross profit to a decline in the per-gallon price of ethanol as well as lower per-ton prices for wet distillers grains (WDG). According to Aemetis, WDG pricing suffered from reduced dairy production in California along with lower overall feed prices in the market.

The company reported an operating loss of \$4 million for the quarter, compared to operating income of \$12.7 million for the same quarter of 2014. Net loss was \$8.6 million, compared to net income of \$7.7 million during the first quarter of the previous year. Adjusted EBITDA was a loss of \$2.7 million, compared to adjusted EBITDA of \$14.2 million during the same three-months of 2014.

<http://www.ethanolproducer.com/articles/12216/aemetis-reports-improved-margins-demand-following-first-quarter>

## FEW expected to attract record number of ethanol producers

<http://www.ethanolproducer.com/articles/12191/few-expected-to-attract-record-number-of-ethanol-producers>

## The Andersons report lower Q1 earnings at 14 cents per share

<http://www.ethanolproducer.com/articles/12199/the-andersons-report-lower-q1-earnings-at-14-cents-per-share>

## Biofuel industry reacts to API, AFPM letter to EPA

<http://ethanolproducer.com/articles/12215/biofuel-industry-reacts-to-api-afpm-letter-to-epa>

## March ethanol corn crush up from February, lags behind January

<http://ethanolproducer.com/articles/12188/march-ethanol-corn-crush-up-from-february-lags-behind-january>

## BIO analysis illustrates impact of RFS delays on investment

The Biotechnologies Industry Organization released an analysis that shows delays in renewable fuel standard (RFS) rulemaking by the U.S. EPA over the past two years have chilled investment in advanced and cellulosic fuels. BIO estimates the biofuel industry has experienced a \$13.7 billion shortfall in investment due to the delays.

[www.ethanolproducer.com/articles/12192/bio-analysis-illustrates-impact-of-rfs-delays-on-investment](http://www.ethanolproducer.com/articles/12192/bio-analysis-illustrates-impact-of-rfs-delays-on-investment)

## Gevo, Alaska Airlines sign renewable jet fuel agreement

Gevo Inc. has signed a strategic alliance agreement with Alaska Airlines to purchase Gevo's renewable jet fuel and fly the first-ever commercial flight on alcohol-to-jet fuel (ATJ).

The demonstration flight is expected to occur after Gevo receives ASTM International certification for its fuel, sometime in mid to late 2015.

## Novozymes releases Q1 results, announces deal with St1 Biofuels

Novozymes recently issued its interim financial report for the first quarter of 2015 and announced a deal to supply enzyme technology to St1 Biofuels' proposed cellulosic biofuel plant in Finland. The St1 Biofuels project in Kajaani, Finland, will be colocated at a sawmill site. The commercial-scale project will use sawdust from softwood as feedstock to produce cellulosic ethanol.

According to Novozymes, the process uses steam-explosion to open up the cellulosic structures of the sawdust, followed by enzymatic hydrolysis to extract the sugars for ethanol fermentation. St1 Biofuel's proprietary pretreatment process is called Cellunolix.

<http://www.ethanolproducer.com/articles/12193/novozymes-releases-q1-results-announces-deal-with-st1-biofuels>

## Cargill joint venture to install FQPT systems in Brazilian plant

SJC Bioenergia, a joint venture between Cargill and Group USJ, has purchased Fluid Quip Process Technology's systems to integrate corn ethanol production at its sugar-cane ethanol facility located in Quirinopolis, Brazil.

SJC Bioenergia will utilize FQPT's SGT milling, BOS front-end corn oil, Fiber Separation, and MSC Protein Recovery technologies. The combined patented and patent-pending systems produces a corn based starch slurry stream which gives high yields of ethanol and coproducts while allowing the sugar cane mill to utilize existing fermentation, distillation, and evaporation.

<http://www.ethanolproducer.com/articles/12201/cargill-joint-venture-to-install-fqpt-systems-in-brazilian-plant>

Murphy USA reports production, yield increase for Hereford plant

<http://www.ethanolproducer.com/articles/12198/murphy-usa-reports-production-yield-increase-for-hereford-plant>

REG Q1 report 'reflects challenging market conditions,' Oh says

<http://www.biodieselmagazine.com/articles/377412/reg-q1-report-reflects-challenging-market-conditions-oh-says>

Start-up snapshot: 'Biofueling' change in Nigeria with clean energy cooking

<http://www.howwemadeitinafrica.com/start-up-snapshot-biofueling-change-in-nigeria-with-clean-energy-cooking/48669/>

New Selma mill to provide alternate energy source

The mill will be Zilkha Biomass Energy's largest mill, and one of the largest producers of advanced pellets in the world. They will manufacture black pellets. Black Pellets are an alternative energy source. They are like traditional white pellets, made of wood, except these are denser and are waterproof. Consequently, they cost less to transport because there's no need for special handling. The black pellets have more heat and energy, and can be burned alongside coal, or replace it all together as an energy source.

<http://www.wsfa.com/story/29070582/new-selma-mill-to-provide-alternate-energy-source>

Viridis Energy reports continued revenue growth in Q1 results

On May 27, Viridis Energy Inc. released its first quarter 2015 results, reporting a revenue increase of 55% to \$8.8 million from 2014 quarter one. The increase represents the fifth quarter of sequential growth, up 5 percent from last quarter.

The increase in revenue reported during the quarter from the comparable period in 2014 is primarily attributable to an increase of \$3.1 million in recorded sales from Viridis Merchants, which includes intercompany sales of \$1.1 million from Okanagan Pellet Company. Viridis Merchants has experienced growth in its sales to the U.S. Northeast market.

Besides the Northeast, market growth is occurring in the U.K. During the investor call, Rebiere attributed the increased demand to the region's long-term financial support program the renewable heat incentive (RHI).

<http://biomassmagazine.com/articles/11996/viridis-energy-reports-continued-revenue-growth-in-q1-results>

BDI successfully completes biodiesel retrofit project in Spain

BDI-BioEnergy International AG has successfully completed the expansion of a biodiesel plant in Spain. With implementation of BDI's high-FFA esterification technology, low-grade oils and fats will be converted into second-generation, standards-compliant biodiesel.

[www.biodieselmagazine.com/articles/384210/bdi-successfully-completes-biodiesel-retrofit-project-in-spain](http://www.biodieselmagazine.com/articles/384210/bdi-successfully-completes-biodiesel-retrofit-project-in-spain)

Rentech CEO keen about progress at Atikokan, Wawa  
<http://atikokanprogress.ca/2015/05/21/rentech-atikokan-q1-2015/>

## Alstom signs contract for Tilbury biomass plant in the UK

When complete, the 45MW biomass power station is expected to generate 300 GWh of green electricity every year.

[www.renewableenergyfocus.com/view/42253/alstom-signs-contract-for-tilbury-biomass-plant-in-the-uk/](http://www.renewableenergyfocus.com/view/42253/alstom-signs-contract-for-tilbury-biomass-plant-in-the-uk/)

## Regional Energy enjoys healthy turnover increase

A Yorkshire-based renewable energy company specialising in biomass technology has increased its turnover by 50% in its second year.

<http://www.bqlive.co.uk/2015/05/26/regional-energy-enjoys-healthy-turnover-increase/>

## Cement plant converts kilns for waste fuel

Around 80,000 tonnes of waste-derived fuel per year is to be used to power two kilns at the "largest" cement plant in the UK

<http://www.letsrecycle.com/news/latest-news/cement-plant-converts-kilns-for-waste-fuel/>

## Thailand set to become regional bioenergy hub Technology transfers to Asean in five years

<http://www.bangkokpost.com/business/news/576547/thailand-set-to-become-regional-bioenergy-hub>

### Policy Development

## Wood boiler changeover gathers steam in Chester

The town Municipal Complex will be under a state spotlight as it swaps oil for wood pellets to heat the building on state Route 9. Officials in the Adirondack Park are also pushing for a state law change to give municipalities more breathing room when borrowing money for biomass projects.

Chester's 1930s-era building currently uses oil to fuel its boilers in a steam heating system, so when officials wanted to switch to wood pellets, that created a unique project. The New York State Energy Research and Development Authority sees it as a demonstration project for the rest of the state and is funding the bulk of the cost.

[http://poststar.com/news/local/wood-boiler-changeover-gathers-steam-in-chester/article\\_5208db3f-308a-5883-9ac0-007263216abe.html](http://poststar.com/news/local/wood-boiler-changeover-gathers-steam-in-chester/article_5208db3f-308a-5883-9ac0-007263216abe.html)

## Biomass Heating

Seasonal heating costs can be unpredictable for the 325-plus Nebraska nursery greenhouse operations with enclosed plant-growing structures. With that in mind, the Nebraska Forest Service is promoting woody biomass heating as a eco-friendly, cost-effective alternative to fossil fuels that

is both eco-friendly and cost-effective.

Offering technical and financial assistance through the TREES Heat Nebraska program, the forest service is working with facilities to explore wood-heating opportunities. This renewable energy option uses wood chips, wood pellets or cordwood to produce hot water that is piped to structures and used to create hot air.

[http://norfolkdailynews.com/news/briefs/biomass-heating/article\\_b61e2450-f346-11e4-ba99-1b00505dbf85.html](http://norfolkdailynews.com/news/briefs/biomass-heating/article_b61e2450-f346-11e4-ba99-1b00505dbf85.html)

## Final hearing on biomass ordinance

A proposed ordinance that would strictly regulate — and in some cases ban — large-scale wood-burning power plants and other waste-to-energy plants in Greenfield will be the subject of a joint public hearing on Tuesday.

The town's Planning Board and Town Council Economic Development Committee will hold the hearing in 20 Sanderson St. If passed, the ordinance would prohibit waste-to-energy facilities and industrial wood-burning "biomass" plants like the one that was proposed for the industrial park in 2009, but the law would still allow anaerobic digesters and residential wood stoves.

[www.recorder.com/home/16796087-95/final-hearing-onbiomass-ordinance](http://www.recorder.com/home/16796087-95/final-hearing-onbiomass-ordinance)

## Oversized biomass boilers soaking up domestic renewable heat payments

The majority of domestic renewable heat incentive (d-RHI) funds are being used to subsidise the installation of biomass boilers in larger-than-average properties across the UK.

Figures published by the Department of Energy and Climate Change (DECC) show that biomass boilers account for more than half of all measures installed under the (d-RHI); more than three times the number of solar thermal installs supported under the scheme.

Writing exclusively for Solar Power Portal's sister site, Next Energy News, Stuart Elmes revealed that the average size biomass boiler installed under the domestic renewable heat incentive is 27kW. Elmes points out that the Institute of Domestic Heating & Environmental Engineers recommends that an 8kW boiler would serve a typical detached house in the UK.

[http://www.solarpowerportal.co.uk/news/oversized\\_biomass\\_boilers\\_soaking\\_up\\_domestic\\_renewable\\_heat\\_payments](http://www.solarpowerportal.co.uk/news/oversized_biomass_boilers_soaking_up_domestic_renewable_heat_payments)

## The Urban Air initiative partners in clean fuels Omaha campaign

The Urban Air Initiative joined with a broad cross section of public and private interest groups supporting the call for more aggressive regional pollution control measures in the Omaha-Council Bluffs area. Working together as Clean Fuels Omaha, the campaign was launched to support measures outlined this week by the Metropolitan Area Planning Agency.

The Metropolitan Area Planning Agency is a coordinating organization for government officials of the region to address a range of issues. One of the programs of MAPA is the Little Steps-Big Impact Air Quality Initiative, which is an annual campaign to educate the public on the impacts of ground level ozone on air quality, and the steps that can be taken to reduce emissions.

Gasoline and diesel produce particulates that are classified as ozone precursors. In addition, these particulates are carriers of airborne toxics that are linked to a wide range of health concerns ranging from asthma to autism. Just this week the American Lung Association released its annual

state of the Air Report and concluded that more than 138 million people in the U.S. are living in areas classified as unhealthy or as having poor air quality.

<http://www.ethanolproducer.com/articles/12187/urban-air-initiative-partners-in-clean-fuels-omaha-campaign>

## Democratic senators tell EPA to set strong biodiesel RFS standard

U.S. Sens. Heidi Heitkamp, D-N.D., Dick Durbin, D-Ill., Maria Cantwell, D-Wash., Amy Klobuchar, D-Minn., Jeanne Shaheen, D-N.H., and Al Franken, D-Minn., called on the U.S. EPA May 7 to set strong renewable volume obligations (RVOs) required under the renewable fuel standard (RFS) that provides long-needed certainty to farmers and workers in the biodiesel industry while helping domestic producers grow. They also pressed the EPA to live up to its legal obligation of ending its years-long delay of setting RVOs.

[www.biodieselmagazine.com/articles/378552/democratic-senators-tell-epa-to-set-strong-biodiesel-rfs-standard](http://www.biodieselmagazine.com/articles/378552/democratic-senators-tell-epa-to-set-strong-biodiesel-rfs-standard)

## DOT rule includes new tank car standards, retrofit schedule

The U.S. Department of Transportation has released a final rule unveiling a new enhanced tank car standard and risk-based retrofitting schedule for older tank cars carrying crude oil and ethanol. While certain tank cars in crude oil service must be retrofitted as soon as 2017, the initial retrofit requirements for tank cars carrying ethanol don't begin until 2023.

[www.ethanolproducer.com/articles/12189/dot-rule-includes-new-tank-car-standards-retrofit-schedule](http://www.ethanolproducer.com/articles/12189/dot-rule-includes-new-tank-car-standards-retrofit-schedule)

## Call to make heating a part of building law

Scottish Renewables has called for a change in planning rules in Glasgow to force developers to consider low cost communal heating systems.

The trade organisation, which has 300 members, says the move would slash the number of city households living in fuel poverty.

London, Manchester, Birmingham and Liverpool councils already require those building homes or offices to first consider affordable, low carbon alternatives to gas boilers or electric heaters. This can include district heating systems which distribute heat generated in a centralized location using fuel like wood pellets. The Scottish Government has set a target that 11 per cent of heat should come from renewables by 2020 – the figure is at present 3%.

[www.scottishhousingnews.com/3310/call-to-make-heating-a-part-of-building-law/](http://www.scottishhousingnews.com/3310/call-to-make-heating-a-part-of-building-law/)

## New RSB standard proposed to certify low-risk ILUC biomass

It may soon be possible to certify that biomass is not only sustainably sourced, but also considered low-risk for indirect land use change (ILUC). The Roundtable on Sustainable Biomaterials released its draft standard titled "Low iLUC Risk Biomass Criteria and Compliance Indicators."

The add-on certification module to the RSB standard for biofuels and bioproducts is based on the low indirect impact biofuels methodology developed in collaboration with World Wide Fund for Nature (WWF) and Ecofys, a sustainable energy consultancy headquartered in the Netherlands. The standards include a set of criteria and compliance indicators that producers can use to demonstrate their operations are at low risk for land use change from one of four approaches: yield increase, unused or degraded land, use of waste or residues and integrated sugarcane and

cattle production.

The new standards, aimed primarily at the European Union regulations for sustainable biomaterials, were released April 29 for review and will be finalized at the RSB general assembly meeting June 1 in Geneva.

<http://www.ethanolproducer.com/articles/12185/new-rsb-standard-proposed-to-certify-low-risk-iluc-biomass>

## DOE previews 2016 Billion-Ton Update in webinar

A recent U.S. Department of Energy webinar included preview of the 2016 U.S. Billion-Ton Study update, which is currently scheduled for release in June 2016. The event, titled "A Changing Market for Biofuels and Bioproducts," was presented by DOE's Bioenergy Technologies Office.

<http://ethanolproducer.com/articles/12282/doe-previews-2016-billion-ton-update-in-webinar>

## Wyden introduces bill to boost biomass energy

Sen. Ron Wyden, D-Ore., has introduced a bill that would spur the use of low-carbon biomass energy to heat and power homes and businesses, while reducing the risk of wildfires and creating jobs in rural areas.

The BioEnergy Act of 2015 would establish a competitive, cost-share grant program at the U.S. Department of Energy to improve technologies for drying and compressing woody biomass, which improves fuel quality and allows biomass producers to more easily transport wood products from forested areas to market.

The program would also help establish new technologies, from new power plant designs to neighborhood heating systems, for using biomass for heat and power. By expanding uses for the small trees that overcrowd forests and worsen the risks of wildfires, the bill will also help restore healthier and more resilient forests in Oregon and across the country.

<http://biomassmagazine.com/articles/11923/wyden-introduces-bill-to-boost-biomass-energy>

## Wood pellet power: A climate threat

<http://www.forbes.com/sites/tomzeller/2015/05/18/wood-pellet-power-a-climate-threat/>

## EPA RFS proposal gives biodiesel a modest trajectory of growth

The U.S. EPA released its much-anticipated proposed volume requirements for the renewable fuel standard (RFS) May 29, which, unlike its volume proposal issued in late 2013, set out a trajectory of growth for both biomass-based diesel and advanced biofuel categories.

The proposal calls for 1.63 billion gallons of biomass-based diesel for 2014, 1.7 billion gallons for 2015, 1.8 billion gallons for 2016 and 1.9 billion gallons for 2017. Biomass-based diesel was the only category in RFS given a proposal for 2017.

<http://www.biodieselmagazine.com/articles/402523/epa-rfs-proposal-gives-biodiesel-a-modest-trajectory-of-growth>

## Latest SE4All Initiative to encompass Bioenergy

The Sustainable Bioenergy High-Impact Opportunity (HIO) was launched at the 2nd UN SE4All

Forum to facilitate the development and deployment of sustainable bioenergy solutions. On that occasion, Partners for Euro-African Green Energy (PANGEA) and the Alliance for Rural

Electrification (ARE) presented lessons learnt by their members on how to effectively implement innovative models that utilise bioenergy technologies for electrification purposes through their latest information paper. The paper looks at inclusive business models, value addition and provides policy makers with policy recommendations to encourage the uptake of biomass as part of decentralised energy production.

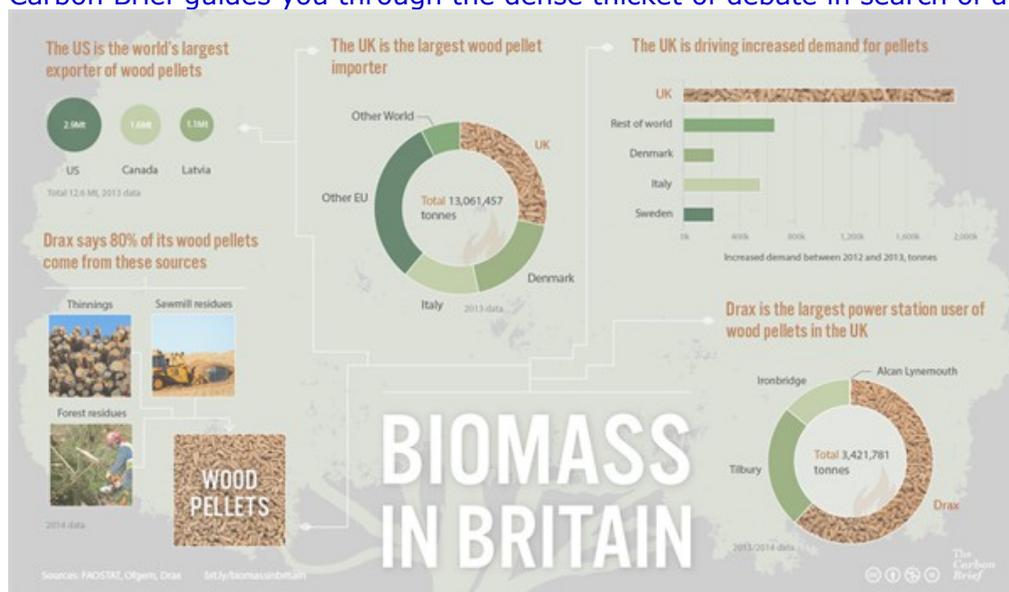
[www.sunwindenergy.com/bioenergy-press-releases/latest-se4all-initiative-to-encompass-bioenergy](http://www.sunwindenergy.com/bioenergy-press-releases/latest-se4all-initiative-to-encompass-bioenergy)

## Investigation: Does the UK's biomass burning help solve climate change?

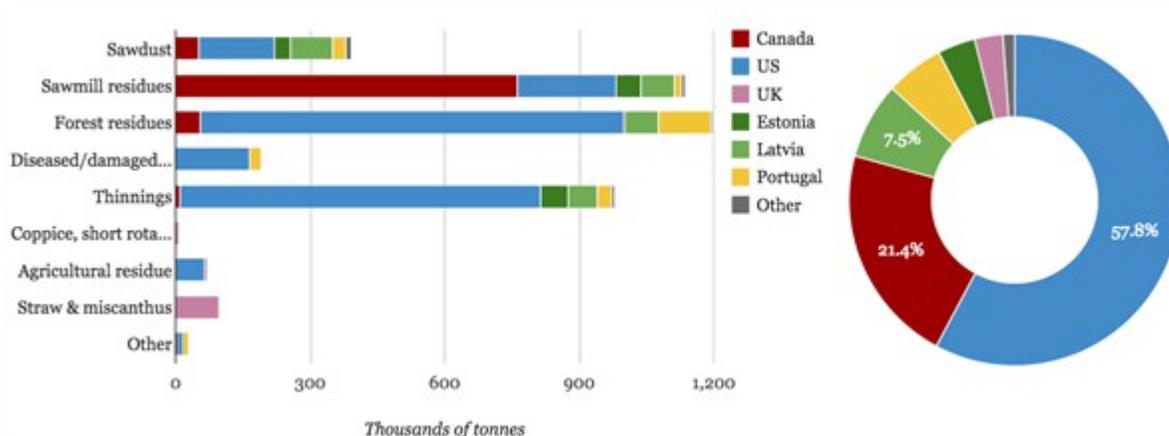
In the name of tackling climate change, the UK has become the largest importer of wood pellets in the world in just five years. The UK's demand for wood pellets is set to break five million tonnes this year and perhaps 10 million within a few years, fuelling a growing global trade and vociferous debate between energy firms and NGOs.

Accounting methods mandated by government show burning wood in place of coal is shaving millions of tonnes off UK emissions, yet NGOs say separate government research shows the opposite.

So, does the UK's growing use of biomass for power generation help solve climate change or not? Carbon Brief guides you through the dense thicket of debate in search of answers.



The UK is the world's largest wood pellet importer and its increasing demand is fuelling a growing global trade in pellets. Drax power station, the largest UK user of these pellets, says most of its biomass comes from thinnings and residues. Source: Drax biomass supply report 2014, Ofgem figures and Carbon Brief analysis of UN Food and Agriculture Organization figures. Credit: Rosamund Pearce, Carbon Brief.



The sources of biomass burnt by Drax in 2014, according to the company's first ever biomass sustainability report. Charts by Carbon Brief.  
[www.carbonbrief.org/blog/2015/05/investigation-does-the-uks-biomass-burning-help-solve-climate-change/](http://www.carbonbrief.org/blog/2015/05/investigation-does-the-uks-biomass-burning-help-solve-climate-change/)

## Unlocking clean cooking and heating solutions key to reaching sustainable energy goals

Nearly 2.9 billion people in the developing world still use polluting fuels like wood, coal and charcoal to cook and heat their homes. The estimated health, environmental and economic cost of this continued use of solid fuels is a staggering US\$123 billion annually. Accelerating efforts to increase access to clean, modern cooking fuels is essential for achieving the Sustainable Energy for All (SE4All) goals.

[www.worldbank.org/en/news/feature/2015/05/19/unlocking-clean-cooking-and-heating-solutions-key-to-reaching-sustainable-energy-goals](http://www.worldbank.org/en/news/feature/2015/05/19/unlocking-clean-cooking-and-heating-solutions-key-to-reaching-sustainable-energy-goals)

### Finance & Investment

## Kenya: Equipment for women's group

Entrepreneurs were yesterday given Sh2.3 million machinery to scale up production of locally manufactured efficient cooking stoves. The Global Alliance for Clean Cook Stoves and the Global Village Energy Partnership distributed machines to five entrepreneurs and two women's groups in Kibuye market.

<http://allafrica.com/stories/201505061401.html>

## EDF Energy funds £1m for heating in Manchester

EDF Energy is investing £1million to fund energy efficient heating measures in three Manchester tower blocks.

The funds will be put towards the installation of low carbon biomass district heating systems across 192 apartments called the "Tribe".

<http://www.energylivenews.com/2015/05/25/edf-energy-funds-1m-for-heating-in-manchester/>

## Indonesia President signs palm export levy to fund biodiesel

<http://thejakartaglobe.beritasatu.com/business/indonesia-president-signs-palm->

[export-levy-fund-biodiesel/](#)

## Dyadic receives funding for new advanced biofuels program

Dyadic International Inc., a global biotechnology company focused on the discovery, development, manufacture and sale of enzymes and other proteins for the bioenergy, biobased chemicals, biopharmaceutical, food and feed industries, has announced details regarding 2G BIOPIC, a new advanced biofuels project funded by the European Commission's Horizon 2020 program.

In the 2G BIOPIC project, Dyadic's subsidiary Dyadic Netherlands B.V. will work in collaboration with Compagnie Industrielle de Matiere Vegetale and five other industry partners to develop, construct and operate a large demonstration-scale facility that produces ethanol from biomass.

<http://www.ethanolproducer.com/articles/12242/dyadic-receives-funding-for-new-advanced-biofuels-program>

## Nigeria Government releases over \$25mn for clean stove project for rural women

<http://en.starafrika.com/news/nigeria-govt-releases-over-25m-for-clean-stove-project-for-rural-women.html>

The Nigerian Government has released N5 billion (about \$25.6m) to the Ministry of Environment for the purchase of clean cook stoves for rural women, the Minister of Environment Laurentia Mallam, has said.

Speaking during an inspection visit to the Velodrome at the National Stadium, Abuja, where some of the 750,000 stoves were being assembled on Monday in Abuja, Mrs. Mallam said that the stoves would be distributed to women in the rural areas through the state ministries of environment. She explained that the contractor, Messrs Integra Renewable Energy Services Limited, had been given part of the money released by the government.

According to the minister, the clean cook stoves will help to discourage the use of firewood for cooking, which is one of the causes of desertification in the North of the country. "We started in the northern parts of the country because of the challenges we are facing there with the desert encroaching into the country and people still cut down trees. "Now, the President wants it to spread throughout the country and so we have this project," she said. She disclosed that President Jonathan would inaugurate the project before he leaves office on May 29, 2015 and that by 2020, most women in the rural areas would have access to the stoves.

### Research & Development

## Report explains how bioenergy supports sustainability goals

According to an international report on bioenergy and land use, informed management of bioenergy crops can actually alleviate factors contributing to food insecurity, as well as provide practical avenues to significantly reduce greenhouse gas emissions, promote sustainable energy production, and preserve biodiversity.

The Scientific Committee on Problems of the Environment (SCOPE), an international nongovernmental organization, published the SCOPE Bioenergy and Sustainability Report, titled Bioenergy and Sustainability: Bridging the Gaps, in April 2015. The Bioenergy Technologies Office (BETO) funded the work of several national laboratory researchers who contributed to the report.

<http://www.ethanolproducer.com/articles/12200/report-explains-how-bioenergy-supports-sustainability-goals>

## Waste to Wisdom Project launches new website focusing on its innovative forest biomass research

The newly launched website for the Waste to Wisdom project highlights the 3-year effort and its objective to make better use of forest residues from timber harvests and thinning.

Waste to Wisdom (W2W) is funded by a \$5.88 million grant from the U.S. Department of Energy and is led by Humboldt State University with assistance from 15 regional partners. The grant is part of the Biomass Research and Development Initiative, a collaborative effort between the Department of Energy and the U.S. Department of Agriculture that supports renewable energy research in the rural United States.

A key focus of the new website is to outline how the project addresses a core problem surrounding forest residues. This material is typically piled and burned in the forest due to the high cost of collecting, converting, and transporting it. W2W is exploring new equipment, operations, and technologies that can turn the biomass into valuable bioenergy and bio-based products. Utilizing this woody biomass has the potential to reduce U.S. dependence on foreign oil, lower greenhouse gas emissions, and promote economic development in rural parts of the United States.

[www.virtual-strategy.com/2015/05/07/waste-wisdom-project-launches-new-website-focusing-its-innovative-forest-biomass-research#axzz3Zp5HjYLQ](http://www.virtual-strategy.com/2015/05/07/waste-wisdom-project-launches-new-website-focusing-its-innovative-forest-biomass-research#axzz3Zp5HjYLQ)

## D-Lab scales up cleaner cooking solutions

Under the leadership of Dan Sweeney, D-Lab Biomass Fuel and Cookstove Group researches and tests clean cooking products for the developing world.

<https://newsoffice.mit.edu/2015/scaling-cleaner-cooking-solutions-d-labs-dan-sweeney-0507>

## The downside of biodiesel fuel

The oil industry believes biodiesel is not to blame for problems that Norwegian car owners are experiencing. But the nature of the fuel means that it has to be handled differently than regular petroleum-based diesel, a Norwegian researcher says, especially in colder climates or if it is stored for longer periods.

All auto diesel fuel sold in Norway contains as much as 7 per cent biodiesel. The blend is intended to help reduce CO2 emissions, because in principle biofuels are climate neutral. The biodiesel/petrodiesel fuel blend requirements are based on EU product standards that stipulate detailed fuel characteristics under various conditions.

<http://phys.org/news/2015-05-downside-biodiesel-fuel.html>

## Dumeignil honored with 2015 Glycerin Innovation Award

Dr. Franck Dumeignil, a professor at Lille University in France, has been honored with the 2015 Glycerin Innovation Award for his work to overcome industrial processing issues for mass production of high-value chemical products from glycerin.

With the rapid growth of global biodiesel consumption leading to significant amounts of glycerin being added to the market, a French researcher's work to turn that glycerin glut into high value-added products was honored at the 2015 Annual Meeting of the American Oil Chemists' Society.

<http://www.biodieselmagazine.com/blog/article/2015/05/dumeignil-honored-with-2015-glycerin-innovation-award>

## Biomass advisory committee to meet in May

The U.S. Department of Energy has published a notice announcing an open meeting of the Biomass Research and Development Technical Advisory Committee on May 20-22 in Washington, D.C.

According to the DoE, the purpose of the meeting is to provide advice and guidance that promotes research and development leading to the production of biobased fuels and biobased products. The tentative agenda includes an update on respective USDA and DOE research and development activities, an update of the biomass research and development initiative, an overview of biomass interagency working groups and a panel on bioenergy activities

<http://www.ethanolproducer.com/articles/12248/biomass-advisory-committee-to-meet-in-may>

## Research highlights potential of double-cropping for food, fuel

Much attention has been given to dedicated, perennial bioenergy crops to meet the revised renewable fuel standard (RFS) mandating production of 36 billion gallons of biofuel by the year 2022. Even so, concern remains over the impending need to convert as much as 30 million acres of U.S. crop land, which would include food crops, to land for perennial energy crops in order to meet that demand.

Researchers realize that biomass feedstocks will need to come from many different sources, including crop residues, forest residues, and municipal waste, for example, said Marty Williams, a University of Illinois crop scientist and ecologist with the USDA-Agricultural Research Service. The use of double-cropping systems—a winter annual biomass crop is grown then harvested in the spring, followed by a summer annual crop—has been suggested as an additional option.

<http://www.ethanolproducer.com/articles/12240/research-highlights-potential-of-double-cropping-for-food-fuel>

## 18 pilot and demonstration DoE bioenergy projects, reviewed

In Washington this June 25th, the Department of Energy will publish its annual 2015 Project Peer Review final report, at its annual Program Management Review, which immediately follows the BETO annual conference, themed Bioenergy 2015: Opportunities in a Changing Energy Landscape (which is June 23-24). This year's review features 190 projects across seven key technology areas, representing a combined value of approximately \$403 million from Fiscal Years 2013-2014.

[www.biofuelsdigest.com/bdigest/2015/05/17/18-pilot-and-demonstration-doe-bioenergy-projects-reviewed/](http://www.biofuelsdigest.com/bdigest/2015/05/17/18-pilot-and-demonstration-doe-bioenergy-projects-reviewed/)

## DOE hosts webinar on biofuel affordability

The event, titled "A Changing Market for Biofuels and Bioproducts," will address research related to biomass supply.

<http://ethanolproducer.com/articles/12275/doe-hosts-webinar-on-biofuel-affordability>

## 8 Hot targets in advanced bioeconomy R&D

[www.biofuelsdigest.com/bdigest/2015/05/27/7-hot-targets-in-advanced-bioeconomy-rd/](http://www.biofuelsdigest.com/bdigest/2015/05/27/7-hot-targets-in-advanced-bioeconomy-rd/)

## ORNL researchers contribute to bioenergy, sustainability report

ORNL researchers Keith Kline and Virginia Dale contributed to a major United Nations report on bioenergy and sustainability.

The major multinational report on bioenergy and sustainability released in April concludes the sustainable production of bioenergy can be an important tool for addressing climate change. The documents offers science-based evaluations of bioenergy issues including food and energy crop production and bioenergy as a climate change mitigation strategy.

[www.ethanolproducer.com/articles/12146/ornl-researchers-contribute-to-bioenergy-sustainability-report](http://www.ethanolproducer.com/articles/12146/ornl-researchers-contribute-to-bioenergy-sustainability-report)

## Pyrolysis to be assessed in uk biomass pre-processing programme

The Energy Technologies Institute (ETI) has selected consultancy E4tech to lead a consortium that will deliver the latest project in its bioenergy programme – a techno-economic assessment of biomass pre-processing.

This 11 month project will provide an assessment of the economic and performance trade-offs associated with pre-processing options, and the value they provide compared with more conventional technology improvement approaches.

Pre-processing technologies assessed will include drying, blending, chipping, pelleting, torrefaction and pyrolysis, amongst others. The consortium for this project includes ICON, the consulting arm of Imperial College London, PSE, a supplier of Advanced Process Modelling Technology, CMCL innovations, software developers and consultants for the engineering & technology sector, engineering consultancy Black & Veatch, as well as bioenergy experts at the University of Sheffield.

[www.waste-management-world.com/articles/2015/05/pyrolysis-to-be-assessed-in-uk-biomass-pre-processing-programme.html](http://www.waste-management-world.com/articles/2015/05/pyrolysis-to-be-assessed-in-uk-biomass-pre-processing-programme.html)

## New laboratory in Ghana to test Cookstoves

A new laboratory for facilitating research and training in designing improved cookstoves for enterprise development in Ghana has been commissioned. The facility was created in response to the lack of research into improving cookstoves in Ghana.

According to Paolo Dalla Stella, a sustainable development analyst at the Ghana office of the United Nations Development Programme (UNDP), a study last year showed that 47% of Ghanaian manufacturers lack facilities to test their cookstoves. "KNUST has all the credentials and now the tools to become a centre of excellence for clean cookstoves."

The Cookstove Testing and Expertise Laboratory resulted from a partnership involving UNDP Ghana office, US-based International Development Innovation Network, Ghana Energy Commission and the Technology Consultancy Centre (TCC) of the Kwame Nkrumah University of Science and Technology (KNUST), which is hosting the facility.

The laboratory, which was commissioned on 31 March in Kumasi, Ghana, aims to carry out efficiency, performance, emissions levels and heat content tests on locally-produced and imported cookstoves.

[www.scidev.net/sub-saharan-africa/energy/news/laboratory-ghana-cookstoves-aid-rd.html](http://www.scidev.net/sub-saharan-africa/energy/news/laboratory-ghana-cookstoves-aid-rd.html)

EcoZoom cooks up new solution for food preparation

<http://smallbiztrends.com/2015/05/ecozoom-cook-stove.html>