



The United States and Biofuels and Biobased Products Newsletter August 2012

To our readers: We, the Office of Agricultural Affairs U.S. Embassy France, would appreciate you informing us of your upcoming visits to the United States, as we can provide assistance with administrative procedures and organizing meetings. Please do not hesitate to share your comments with us, as we are here to facilitate these exchanges.

Disclaimer: The articles in this newsletter are from a variety of sources, and some may not represent official US. Government positions.

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1. U.S. Biofuels Policy

July/August 2012 – Severe Drought in the U.S. Raises Debate About Renewable Fuels Standards

New York Times Op-Ed: Corn for Food, not Fuel, by Colin A. Carter and Henry I. Miller¹ :

“By suspending renewable-fuel standards that were unwise from the start, the Environmental Protection Agency could divert vast amounts of corn from inefficient ethanol production back into the food chain, where market forces and common sense dictate it should go.”

American Feed Industry Association Urges President Obama to Waive the Ethanol Blending Mandate Under the Renewable Fuel Standard²:

“With present drought conditions impacting the cost and availability of corn supplies, AFIA believes that food security should command the same priority as energy security and that the Administration must immediately use the RFS waiver to mitigate disaster.”

Lawmakers request RFS drawdown³ :

“More than a hundred House Republicans and Democrats are calling on the federal government to reduce its production mandate for corn-based ethanol in an effort to bring down prices for the grain that have become much more expensive for livestock producers during the drought that grips much of the country.”

Position in Union of Concerned Scientists’ Blog: Biofuels Policy Flexible Enough to Weather the 2012 U.S. Drought⁴ :

“Ultimately, to build a biofuels industry that reduces oil use and global warming pollution, conflicts between food and fuel must be minimized. Short-term adjustment of the mandates can help, but in the longer term we need to transition from depending on corn to more diverse sources of biofuel that look beyond food-based fuels.”

Livestock and Poultry Coalition urges waiver of RFS because of drought⁵:

“As drought conditions become the worst in 50 years and corn yields are expected to drop significantly, a coalition of meat and poultry organizations asked the U.S. Environmental Protection Agency to waive the federal mandate for the production of corn ethanol.”

National Corn Growers Association’s statement on the call for an RFS waiver⁶:

“NCGA stands firm in its support of the Renewable Fuel Standard and will strongly oppose legislation to alter or repeal the RFS. Likewise, we believe it is premature for a waiver of the RFS provisions at this point. In addition, the ethanol industry now has a significant surplus of ethanol and RFS credits that can greatly offset ethanol’s impact on the corn supply. However, we recognize the severe impact of the drought on our farmers and our customers, here and abroad, with livestock, poultry, ethanol and other processing facilities, and we believe the flexibility of the RFS does work, and will work. NCGA also supports the waiver process that is embodied in the current RFS, and respects the right of those that may file a waiver petition to do so.”

¹ http://www.nytimes.com/2012/07/31/opinion/corn-for-food-not-fuel.html?_r=1&ref=drought

² http://www.afia.org/AFIA/NewsAndPress/NewsReleases/2012ArchivedNewsReleases/2012SingleNewsPage/12-07-20/afia_urges_president_obama_to_waive_the_ethanol_blending_mandate_under_the_renewable_fuel_standard.aspx

³ http://www.agriculture.com/news/policy/lawmakers-request-rfs-drawdown_4-ar25593

⁴ <http://blog.ucsusa.org/biofuels-policy-flexible-enough-to-weather-the-drought/>

⁵ <http://www.nppc.org/2012/07/coalition-urges-waiver-of-rfs-because-of-drought/>

⁶ <http://www.ncga.com/news-stories/604-ncga-statement-on-the-call-for-an-rfs-waiver/>

Renewable Fuels Association responds to RFS waiver petition⁷:

“A waiver of the RFS would simply reward oil companies that have long sought to repeal this very important and successful program. The RFS has reduced our dependence on imported oil and saved consumers at the pump. Waiving the RFS won’t bring the type of relief the livestock groups are seeking, nor will it result in significantly lower feed prices. In fact, because ethanol plants also produce a high protein feed, limiting ethanol production will only further complicate drought-related feed issues and costs.”

July 2012 – USDA and DOE Announce New Investments to Drive Innovations in Biofuels and Biobased Products⁸

The U.S. Departments of Agriculture (USDA) and Energy announced a \$41 million investment in 13 projects that will drive more efficient biofuels production and feedstock improvements.

Through the joint **Biomass Research and Development Initiative** (BRDI), USDA and the Energy Department are working to develop economically and environmentally sustainable sources of renewable biomass and increase the availability of renewable fuels and biobased products. The five projects announced will help to diversify the nation's energy portfolio and replace the need for gasoline and diesel in vehicle, and include:

- Quad County Corn Cooperative (\$4.25 million – Galva, Iowa).
- Agricultural Research Service's National Center for Agricultural Utilization Research (\$7 million - Peoria, Illinois).
- Cooper Tire & Rubber Co. (\$6.85 million - Findlay, Ohio).
- University of Wisconsin (\$7 million - Madison, Wisconsin).
- University of Hawaii (\$6 million - Manoa, Hawaii).

The Energy Department and USDA are also announcing \$10 million for eight research projects aimed at applying **biomass genomics to improve promising biofuel feedstocks and drive more efficient, cost-effective energy production**. These projects will use genetic mapping to advance sustainable biofuels production by analyzing and seeking to maximize genetic traits like feedstock durability, how tolerant feedstocks are to various environmental stresses, and the potential for feedstocks to be used in energy production.

July 2012 - U.S. Navy, USDA and DOE Announce Funding Available for Commercial Scale Advanced Drop-In Biofuels; DOE Announces Additional Biofuel Investments to Drive Cost Reductions and Technological Breakthroughs⁹

U.S. Secretary of the Navy Ray Mabus, Secretary of Agriculture Tom Vilsack and Secretary of Energy Steven Chu announced new funding available to pursue new innovations in biofuels technologies, increase production of U.S. biofuels, and strengthen American energy security. The U.S. Department of Agriculture (USDA), Navy and Department of Energy are announcing \$30 million in federal funding to match private investments in commercial-scale advanced drop-in biofuels. The Energy Department is also announcing a total of \$32 million in new investments for earlier stage research that will continue to drive technological breakthroughs and additional cost reductions in the industry.

Advancing Commercial-Scale Drop-In Biofuel Substitutes for Diesel and Jet Fuel

In his [Blueprint for a Secure Energy Future](#) released in March 2011, President Obama set a goal of reducing oil

⁷ <http://www.ethanolrfa.org/news/entry/rfa-responds-to-rfs-waiver-petition/>

⁸

http://www.usda.gov/wps/portal/usda/usdahome?contentid=2012/07/0251.xml&navid=NEWS_AUSUMS&navtype=RT&parentnav=ENERGY&edeployment_action=retrievecontent

⁹

http://www.usda.gov/wps/portal/usda/usdahome?contentid=2012/07/0217.xml&navid=NEWS_AUSUMS&navtype=RT&parentnav=ENERGY&edeployment_action=retrievecontent

imports by one-third by 2025 and laid out an all-of-the-above energy plan to achieve that goal by developing domestic oil and gas energy resources, increasing energy efficiency, and speeding development of biofuels and other alternatives. As part of that effort, the Blueprint directed the Navy, USDA and DOE to collaborate to support commercialization of "drop-in" biofuel substitutes for diesel and jet fuel. Made possible through the Defense Production Act (DPA), this funding opportunity enhances national security by supporting the creation and commercial viability of a defense-critical domestic biofuels industry to advance alternatives to petroleum.

Investments in Biofuels Research, Development and Demonstration to Drive Cost Reductions, Technological Breakthroughs

The Energy Department is announcing new investments in earlier stage biofuels research that complement the commercial-scale efforts announced today by the Navy and USDA. Totalling \$32 million, these early-stage, pre-commercial investments are the latest steps in the Obama Administration's efforts to advance biofuels technologies to continue to bring down costs, improve performance, and identify new effective, non-food feedstocks and processing technologies.

The funding announced by DOE includes:

- \$20 million to support innovative pilot-scale and demonstration-scale biorefineries that could produce renewable biofuels that meet military specifications for jet fuel and shipboard diesel using a variety of non-food biomass feedstocks, waste-based materials and algae. These projects may support new plant construction, retrofits on existing U.S. biorefineries or operation at plants ready to begin production at the pilot- or pre-commercial scale.
- \$12 million to support up to eight projects focused on researching ways to develop biobased transportation fuels and products using synthetic biological processing. These projects will develop novel biological systems that can enhance the breakdown of raw biomass feedstocks and assist in converting feedstocks into transportation fuels.

The projects will be led by small businesses, universities, national laboratories and industry and will seek to overcome various technical and scientific barriers to cost-competitive advanced biofuels and bioproducts.

June 2012 - Agriculture Secretary Announces Funding for Projects to Boost Renewable Energy Production, Reduce Energy Consumption¹⁰

Agriculture Secretary Tom Vilsack announced that USDA has selected for funding 450 projects nationwide that are focused on helping agricultural producers and rural small businesses reduce energy consumption and costs; use renewable energy technologies in their operation; and/or conduct feasibility studies for renewable energy projects. Funding is made available through the Rural Energy for America Program (REAP), which is authorized by the 2008 Farm Bill.

The announcement includes \$412,304 in grant funding to 20 agricultural producers and rural businesses to conduct feasibility studies for renewable energy systems. REAP offers funds for farmers, ranchers and rural small businesses to purchase and install renewable energy systems and make energy-efficiency improvements. These federal funds leverage other funding sources for businesses.

¹⁰

http://www.usda.gov/wps/portal/usda/usdahome?contentid=2012/06/0207.xml&navid=NEWS_AUSUMS&navtype=RT&parentnav=ENERGY&deployment_action=retrievecontent

AAAS Report - R&D Budget and Policy Program – Research and Development FY2013¹¹

President Obama’s proposed budget for fiscal year (FY) 2013 makes major investments in advanced manufacturing and clean energy. Overall federal investment in research and development (R&D) would increase slightly from FY 2012, in spite of the spending caps established in the Budget Control Act.

- **The proposed federal R&D portfolio in FY 2013 is \$142.2 billion, an increase of 1.2 percent or \$1.7 billion over FY 2012 levels.** Defense R&D spending would decrease by \$1.5 billion (1.9 percent), but this would be offset by a \$3.1 billion (5.1 percent) increase in nondefense R&D spending. In total dollars, agencies with the biggest increases in R&D investment include the Department of Energy (DOE; \$884 million increase to \$11.9 billion), the National Science Foundation (NSF; \$258 million to \$5.9 billion)
- **Total federal support of research (basic and applied) would increase 2.7 percent to \$65.3 billion, while federal development spending, however, would decrease 1.7 percent to \$74.1 billion.**
- **Clean energy is a clear R&D priority in the FY 2013 budget.** DOE’s energy programs would receive a 16.2 percent increase in R&D funding (\$369 million) to a total of \$2.6 billion, primarily due to gains in efficiency and renewables, and at the Advanced Research Projects Agency-Energy (ARPA-E).
- **The U.S. Department of Agriculture’s (USDA) R&D investment would decrease by 1.5%.** However, this is largely due to the end of a biomass R&D initiative that may still be reauthorized in the 2012 Farm Bill.

USDA BioPreferred Program¹²

The purpose of the USDA BioPreferred[®] program is to promote the increased purchase and use of **biobased products**. The program is expected to promote economic development, create new jobs and provide new markets for farm commodities. To the extent that the BioPreferred program achieves its purpose, the increased purchase of biobased products will also be expected to reduce petroleum consumption, increase the use of renewable resources, better manage the carbon cycle, and may contribute to reducing adverse environmental and health impacts.



USDA Certified Biobased Product Label

Manufacturers and vendors who have obtained the rights to use the BioPreferred[®] label on a product have submitted to USDA test evidence of the biobased content of the product or package. USDA has established minimum biobased content standards for many **product categories**. A product must meet or exceed the minimum biobased content percentage in its given category in order to use the Certified Biobased Product label. Product categories for which biobased content standards have not been established must contain 25% biobased content.

BioPreferred[®] Program Overview: http://www.biopreferred.gov/files/45174_BP_Fact_Sheet_HR.pdf

¹¹ <http://www.aaas.org/spp/rd/rdreport2013/>

¹² <http://www.biopreferred.gov/Default.aspx>

2. Energy and Biofuels Economics

June 2012 – U.S. Energy Information Administration: Annual Energy Outlook 2012¹³

The *Annual Energy Outlook 2012* includes 29 alternative cases which show how different assumptions regarding market, policy, and technology drivers affect projections of energy production, consumption, technology, and market trends and the direction they may take in the future. Key results include:

The rate of growth in energy use slows over the projection period (by 0.3 percent annually through 2035), reflecting moderate population growth, an extended economic recovery, and increasing energy efficiency in end-use applications. Existing Federal and State energy requirements and incentives play a continuing role in requiring more efficient technologies.

U.S. dependence on imported petroleum and other liquids declines, primarily as a result of rising energy prices; growth in domestic crude oil production to more than 1 million barrels per day above 2010 levels in 2020; an increase of 1.2 million barrels per day crude oil equivalent from 2010 to 2035 in the use of biofuels, much of which is produced domestically; and slower growth of energy consumption in the transportation sector as a result of existing corporate average fuel economy standards.

Much of the growth in natural gas production results from the application of recent technological advances and continued drilling in shale plays with high concentrations of natural gas liquids and crude oil, which have a higher value than dry natural gas. Shale gas production increases from 5.0 trillion cubic feet per year in 2010 (23 percent of total U.S. dry gas production) to 13.6 trillion cubic feet per year in 2035 (49 percent of total U.S. dry gas production). As a result of the projected growth in production, U.S. natural gas production exceeds consumption early in the next decade.

Although the current trend toward increased use of natural gas and renewables appears fairly robust, there is uncertainty about the factors influencing the fuel mix for electricity generation.

Two graphs on biofuels from the EIA Outlook 2012 :

Figure 111. U.S. production of petroleum and other liquids by source, 2010-2035 (million barrels per day)

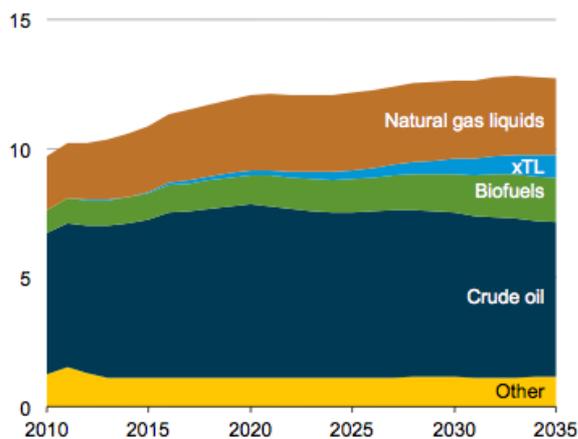
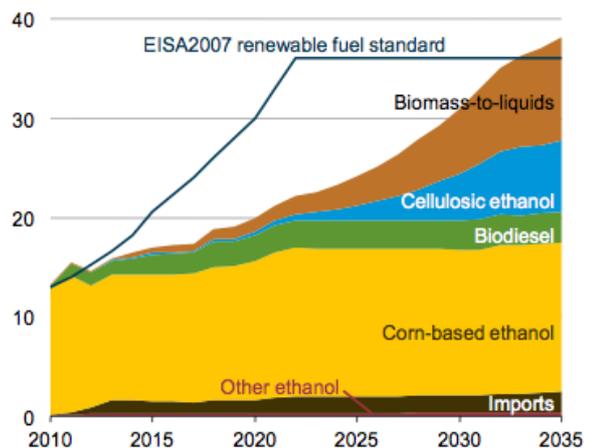


Figure 115. EISA2007 RFS credits earned in selected years, 2010-2035 (billion credits)



¹³ <http://www.eia.gov/forecasts/aeo/>

May 2012 – Iowa State University - The Impact of Ethanol Production on U.S. and Regional Gasoline Markets¹⁴

Over the period of January 2000 to December 2011, the growth in ethanol production reduced wholesale gasoline prices by \$0.29 per gallon on average across all regions. The Midwest region experienced the biggest negative impact of \$0.45/gallon, while the regions of East Coast, West Coast, and Gulf Coast experienced negative impacts of similar magnitudes around \$0.20/gallon. Based on the data of 2011 only, the marginal impacts on gasoline prices are found to be substantially higher, given the increasing ethanol production and higher crude oil prices. The average effect across all regions increases to \$1.09/gallon and the regional impact ranges from \$0.73/gallon in the Gulf Coast to \$1.69/gallon in the Midwest.

3. Biofuels Science

December 2011 - DOE Researchers Achieve Important Genetic Breakthroughs to Help Develop Cheaper Biofuels¹⁵

Researchers at the U.S. Department of Energy's (DOE's) Joint BioEnergy Institute (JBEI) announced a major breakthrough in engineering systems of RNA molecules through computer-assisted design, which could lead to important improvements across a range of industries, including the development of cheaper advanced biofuels. Scientists will use these new "RNA machines", to adjust genetic expression in the cells of microorganisms. This will enable scientists to develop new strains of Escherichia coli (E. coli) that are better able to digest switchgrass biomass and convert released sugars to form three types of transportation fuels – gasoline, diesel and jet fuels.

While the work at JBEI remains focused on the development of advanced biofuels, JBEI's researchers believe that their concepts may help other researchers to develop many other desired products, including biodegradable plastics and therapeutic drugs. For example, some researchers have already started a project to investigate how to use the "RNA machines" to increase the safety and efficacy of medicine therapies to treat diseases, including diabetes and Parkinson's.

December 2011 – USDA/Economic Research Service - Research Investments and Market Structure in the Food Processing, Agricultural Input, and Biofuel Industries Worldwide¹⁶

Meeting growing global demand for food, fiber, and biofuel requires robust investment in agricultural research and development (R&D) from both public and private sectors. This report highlights the major findings of a study examining global R&D spending by private industry in seven agricultural input sectors, food manufacturing, and biofuel and describes the changing structure of these industries. In 2007 (the latest year for which comprehensive estimates are available), the private sector spent \$19.7 billion on food and agricultural research (56 percent in food manufacturing and 44 percent in agricultural input sectors) and accounted for about half of total public and private spending on food and agricultural R&D in high-income countries.

¹⁴ <http://www.card.iastate.edu/publications/synopsis.aspx?id=1166>

¹⁵ <http://energy.gov/articles/doe-researchers-achieve-important-genetic-breakthroughs-help-develop-cheaper-biofuels>

¹⁶ <http://www.ers.usda.gov/Publications/EIB90/EIB90.pdf>

In R&D related to biofuel, annual private-sector investments are estimated to have reached \$1.47 billion worldwide by 2009, including:

- \$340 million spent by agricultural seed and biotechnology companies to improve biofuel feedstocks;
- \$1.03 billion spent by companies in the energy sector to improve the efficiency of biofuel process manufacturing as well as to develop new types of biofuel feedstocks, such as algae;
- Enzyme and equipment manufacturers supplying inputs to energy companies for biofuel processing accounted for the remaining \$71 million.

It is clear from industry sources that most of these R&D investments have arisen since 2000. The largest driver of private biofuel R&D is the expectation of rising demand for alternative energy sources. This demand is sparked by the rising cost of fossil fuels relative to that for biomass-derived fuels and public concerns about national energy security and greenhouse gas emissions from fossil fuels. While Government subsidies and regulations have helped stimulate demand for biofuel, public-sector investments in biofuel R&D now appear to be considerably less than private-sector investments. Moreover, business spending on biofuel R&D appears to be almost entirely from private capital: Government subsidies for private-sector biofuel R&D in the United States, historically the country with the largest Government biofuel R&D program, amounted to only \$24.4 million in 2009.

Contact us:

U.S. Embassy: <http://france.usembassy.gov>
Office of Agricultural Affairs: <http://www.usda-france.fr>

Analyst: Marie-Cécile Hénard
Marie-Cecile.Henard@fas.usda.gov ou HenardMC@state.gov

Tel: (33-1) 43 12 23 68

Fax: (33-1) 43 12 26 62

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