

APRIL 2012

ADVANCED BIOFUELS BRIEFING: WASHINGTON UPDATES AND FORTHCOMING GOVERNMENT OPPORTUNITIES

The first quarter of 2012 delivered a significant amount of activity in the advanced biofuels sector, with initiatives at the Department of Defense (DOD), the Department of Agriculture (USDA), and the Department of Energy (DOE) continuing to unfold. Following a 2011 Request for Information¹ that formally launched the tri-agency Memorandum of Understanding (MOU) to utilize the Defense Production Act (DPA) authority for supporting drop-in biofuels, each agency continues to implement a variety of programmatic efforts that directly or indirectly support the MOU. The following update provides a summary of current and forthcoming opportunities in the biofuels sector, as well as the implications of recent DOD announcements and USDA activities.

Department of Defense Initiates Second Comment Period and Notifies Industry of Forthcoming Solicitation

Most directly related to the DPA initiative, on March 29, 2012, the DOD issued a Special Notice² indicating its anticipated issuance of a Broad Agency Announcement (BAA) that would request proposals for advanced drop-in

biofuel production projects. The notice contains specific guidance related to eligibility, project costs, and project activities, and invites comments to the announcement until May 31. The specific guidance provided therein includes the following key provisions:

- **Domestic production requirement:** The proposed integrated biorefinery must be located within the United States or Canada *and* use a domestically produced feedstock. Feedstock produced in Canada satisfies this eligibility provision, but feedstock imported from outside the United States or Canada will not be considered.
 - **Lifecycle emissions compliance:** Biofuels must comply with Section 526 of the Energy Independence and Security Act (EISA) of 2007, which requires biofuels to have lifecycle greenhouse gas emissions that are less than or equal to those of conventional petroleum-derived fuels, as defined by a 2005 petroleum baseline.³
 - **Feedstock limitations:** Biofuels must come from an "acceptable feedstock," meaning the feedstock must be produced
- in the United States or Canada and meet the definition of "renewable biomass"⁴ or be categorized as biomass that is segregated from municipal solid waste (MSW) or municipal sewage sludge (MSS or biosolids). The notice specifies that plant-based materials generally intended for use as food will not be considered acceptable feedstock. Corn starch and sugars derived from sugarcane or beets, as well as oils derived from soy, canola, sunflowers, or peanuts, are considered ineligible. The determining factor will be the typical use of the material in commerce.
 - **Military use requirements:** Proposed applicants must ensure that produced biofuels are or will be approved and certified JP-5, JP-8, and F-76 equivalents by the time a commercial-scale biorefinery is operational. This includes meeting the DOD specifications and having the capability to deliver fully blended fuel for DOD purchase and use.
 - **Production capacity requirements:** The proposed integrated biorefinery must

¹ For more information, please see the WSGR Alert titled "Departments of Navy, Agriculture, and Energy Release Request for Industry Feedback on \$510 Million Biofuels Opportunity," available at <http://www.wsgr.com/WSGR/Display.aspx?SectionName=publications/PDFSearch/wsgralert-biofuels-opportunity-RFI.htm>.

² The Special Notice can be accessed at https://www.fbo.gov/index?_cvview=0&id=e95eb37a21ff0be1eeb7679515490e3d&mode=form&s=opportunity&tab=core.

³ The 2005 baseline was established in a November 2008 report published by the DOE National Energy Technology Laboratory titled "Development of Baseline Data and Analysis of Life Cycle Greenhouse Gas Emissions of Petroleum-Based Fuels," available at <http://www.netl.doe.gov/energy-analyses/pubs/NETL%20LCA%20Petroleum-Based%20Fuels%20Nov%202008.pdf>.

⁴ "Renewable biomass" is defined as: (A) materials, pre-commercial thinning, or invasive species from National Forest System land and public lands (as defined in Section 103 of 43 U.S.C. 1702) that (1) are byproducts of preventive treatments that are removed to reduce hazardous fuels, reduce or contain disease or insect infestation, or restore ecosystem health; (2) would not otherwise be used for higher-value products; and (3) are harvested in accordance with applicable law and land management plans and the requirements for old growth maintenance, restoration, and management direction of the applicable sections of the Healthy Forests Restoration Act of 2003 (16 U.S.C. 6512); or (B) organic matter that is available on a renewable or recurring basis from non-federal land or land belonging to an Indian or Indian tribe that is held in trust by the United States or subject to a restriction against alienation imposed by the United States, including (1) renewable plant material, including organic material grown for the purposes of being converted to energy, and algae; and (2) waste material, including crop residue (including cobs, stover, bagasse, and other residues), other vegetative waste material (including wood waste and wood residues), animal waste and byproducts (including fats, oils, greases, and manure), and food waste and yard waste.

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produce at least 10 million gallons of neat biofuel per year. Applicants must have effective teaming and business arrangements that encompass all aspects of a fully integrated value chain (from feedstock to blending to delivery) to produce this quantity of military fuels.

- **Cost share requirements:** The government requires at least a 50 percent cost share for the projects. The notice indicates that this is a critical criterion for proposal consideration.
- **Technology maturity:** Applicants should have sufficient technical and economic performance data to validate commercial readiness and reduce scale-up risks. The production scale-up factor will be an important proposal evaluation criterion.

The notice further outlines that DPA projects are expected to be implemented in two phases, with Phase I consisting of feasibility studies, planning, and initiation of regulatory approvals, and Phase II consisting of construction and facility commissioning. Feedback from federal officials suggests that three to six projects will be supported in Phase I, and up to two projects will be supported in Phase II. ***DOD invites industry to comment on the information presented in the Special Notice. Comments will be accepted until May 31, 2012.*** The BAA then is expected to be issued sometime after June 2012, and it is expected to have a 60-day response window.

In the next few months, interested applicants should consider commenting on the information provided in the Special Notice in addition to pursuing integrated teaming arrangements that address the government's continuously stated objective of fostering regional, integrated supply chains that lead to commercially viable biorefineries with drop-in biofuels production suitable for military use.

USDA Remains a Key Partner in DPA and Announces New Funding for Integrated Supply Chain Development

On March 30, 2012, the USDA coordinated the first of three industry days unofficially

related to the DPA initiative. Federal officials and companies convened for an afternoon session that was intended to begin facilitating partnerships between agricultural producers of energy feedstocks and biorefineries. The second industry day will be held on May 18, 2012, when the USDA, the DOE, and the Department of the Navy will co-host an industry roundtable at which next steps for pursuing the production of aviation biofuels and marine diesel will be discussed. Topics will include production, distribution, contracting, and best practices. A third industry day is under discussion and may be announced in the future.

Separate from the DPA initiative, on March 22, 2012, the USDA announced the availability of \$35 million for new projects under the Biomass Research and Development Initiative (BRDI) program, which is administered jointly with the DOE and is one of the few funding initiatives that specifically seeks projects spanning multiple steps of the value chain (from feedstock development to biofuel and bio-product production facilities). For fiscal year 2012, BRDI seeks applications for integrated projects that propose scientific and engineering research in the following three technical areas:

- **Feedstock development:** Research, development, and demonstration activities for improving biomass feedstocks and their supply, including the harvest, transportation, pre-processing, and storage necessary to produce biofuels and bio-based products
- **Biofuels and bio-based products development:** Research, development, and demonstration activities that support cost-effective technologies to increase the use of cellulosic biomass in the production of biofuels and bio-based products. Funding also will support the development of a wide range of technologies to produce various bio-based products, including animal feeds and chemicals that can potentially increase the economic viability of large-scale fuel production in a biorefinery.

- **Biofuels development analysis:** Projects that develop analytical tools to better evaluate the effects of expanded biofuel production on the environment and to assess the potential of using federal land resources to sustainably increase feedstock production for biofuels and bio-based products

USDA strongly encourages integrating multiple technical areas. Proposals with collaborative approaches to identifying and addressing knowledge gaps and those that facilitate the formation of research consortia are scored favorably. Fiscal year 2012 funding is expected to support five to seven projects over three to four years. **Applications are due April 23, 2012.** A description of the solicitation, eligibility requirements, and application instructions is available at <https://www.fedconnect.net/> and <http://www.grants.gov/> under Reference Number DE-FOA-0000657.

Additional Biofuels Funding Opportunities Expected to Be Announced by DOE

The DOE Office of the Biomass Program has released two funding opportunities in 2012 to date, including the aforementioned BRDI program and a \$14 million solicitation for advancements in sustainable algae production, both of which are designed to support early-stage research and development. A third solicitation announced the availability of \$15 million for bio-oil stabilization and commoditization projects, under which applicants must propose either an algae or thermochemical conversion pathway to produce a bio-oil feedstock that can be utilized at one or more insertion points within a petroleum refinery. The solicitation indicates that applications proposing to blend a bio-oil feedstock only at the beginning of the refining process with the crude oil, or only at the end of the refining process as finished fuels (i.e., blending), will not be considered responsive. Furthermore, the solicitation states that projects proposing gasification or biodiesel (FAME) conversion technologies will not be considered responsive. **Notices of intent are due May 1, and applications**

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are due May 29, 2012. More information on the bio-oil stabilization solicitation can be found at <https://eere-exchange.energy.gov/#1b1e6241-0135-4e0f-8a39-874cfac2566f>.

Information from DOE officials indicates that up to three additional solicitations are currently in development and will be released in the next few months. Most notably, one of the opportunities is expected to resemble the structure of the biorefinery assistance grants previously awarded by the DOE in 2009, which supported the development of pilot and demonstration-scale biorefinery projects. The upcoming solicitation is expected to fund projects that utilize algae or other feedstocks in the production of renewable jet fuel applications. This is expected to be the only mechanism of its kind for the foreseeable future that could provide funding to support the development of demonstration-scale projects.

Conclusion

With these various initiatives across the DOD, the USDA, and the DOE, the biofuels landscape in 2012 continues to hold promise despite the hurdles originally associated with these efforts. Moreover, we believe these initiatives provide significant opportunities for companies reaching a crucial tipping point in commercialization.

Wilson Sonsini Goodrich & Rosati's government initiatives team members have experience preparing funding applications as well as advising companies on partnership and project-development strategies for pursuing government programs. For more information, please contact Taité McDonald (tmcdonald@wsgr.com), Sara Hochman (shochman@wsgr.com), or Chris Groobey (cgroobey@wsgr.com).



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