

# BIOMASS RESEARCH AND DEVELOPMENT INITIATIVE

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**Modified: September 26, 2011**

***FY 2011 Request for Full Applications***

**APPLICATION DEADLINE: November 22, 2011**

**Funding Opportunity Number: USDA-NIFA-9008-003540**



**U.S. Department of Agriculture**

**National Institute of Food and Agriculture**

**\*\*\*\*\* PLEASE READ \*\*\*\*\***

**IMPORTANT CHANGES IN THE USDA BRDI 2011 RFA**

**PLEASE NOTE:**

- Applicants must register with Grants.gov in a timely manner to meet the published deadline of this RFA. The registration procedure for applicants intending to submit a grant application through Grants.gov requires several steps and must be finished prior to submitting an application. Grants.gov requires all applicants to update their registration on an annual basis; therefore it is the responsibility of the applicant to ensure their registration is updated and correct at the time of submission. The registration process can take as much as one month to complete, so it is critical that applicants begin this process as soon as a decision to submit an application to this program is determined. Failure by an applicant to register or verify their registration with Grants.gov in time for the submission will result in the application being excluded from review.
- All attachments in the application must be submitted in the Portable Document Format (PDF) and be consistent with other attachment requirements in Part III 3.1 of the NIFA Grants.gov Application Guide. Applications that do not follow the guidelines for attachments will not be reviewed.
- Throughout the RFA, the following is specified, —Attachment Format – (PDF Format is Required).” Applicants should note that the attachments must be in the correct PDF format and must not be password protected. It is the responsibility of the applicant to correctly submit the attachments in the correct format. PLEASE NOTE: Grants.gov will not check the application for adherence to this requirement at the time of submission. Password protected PDF files will not be reviewed.
- Applicants must ensure that all PDF attachments and sub-award budget forms are correctly completed before submission to Grants.gov. PLEASE NOTE: The –Check Package for Errors” button does not check for compliance of required PDF attachments and will not check the sub-award budget forms. Applicants should note that the sub-award budget forms will not be checked by Grants.gov at the time of submission and it is the responsibility of the applicant to correctly submit the sub-award budgets in the correct format. Applications that do not meet these requirements will be excluded from review.
- Applicants must ensure that the abstract and project narrative attachments meet the required page limits regardless of whether the document is single or double spaced. Applications that exceed required page limits will be excluded from review.
- PDF documents submitted as a part of the application must also adhere to the following guidelines or risk being excluded from review:
  1. Margins not less than 1” or 2.5 cm on all sides;
  2. Type no less than 12 point font size regardless of whether it is single or double spaced;

3. Font type should be —Times New Roman, Geneva, Helvetica, or Arial”; and
4. Tables and graphics may be included; text for captions, headings and graphic explanations must not be smaller than 9 point and must be the same font type as the rest of the application.
5. PDF files must not be password protected.
6. PDF file names must not contain any special characters.

It is recommended that applicants submit their completed application at least two days (48 hours) prior to the deadline, which will allow time to address any technical problems associated with uploading forms to Grants.gov. USDA NIFA will rarely accept late applications. Exceptions are made for delays due to natural disasters or technical problems experienced by Grants.gov that impact the entire applicant community.

**NATIONAL INSTITUTE OF FOOD AND AGRICULTURE; U.S. DEPARTMENT OF AGRICULTURE AND GOLDEN FIELD OFFICE; U.S. DEPARTMENT OF ENERGY- JOINT COMPETITIVE GRANTS PROGRAM**

**BIOMASS RESEARCH AND DEVELOPMENT INITIATIVE – Phase II**

**INITIAL ANNOUNCEMENT**

**CATALOG OF FEDERAL DOMESTIC ASSISTANCE:** This Program is listed under the Catalog of Federal Domestic Assistance (CFDA) 10.312 for the Department of Agriculture. The Program is listed under CFDA 81.087 for the Department of Energy.

**DATES:** Applications must be received by close of business (COB) on **November 22, 2011 (5:00 p.m. Eastern Time)**. Applications received after this deadline will not be considered for funding. Comments regarding this request for applications (RFA) are requested within six months from the issuance of this notice. Comments received after that date will be considered to the extent practicable.

**STAKEHOLDER INPUT:** The National Institute of Food and Agriculture (NIFA) is requesting comments regarding this RFA from any interested party. These comments will be considered in the development of the next RFA for the program, if applicable, and will be used to meet the requirements of section 103(c)(2) of the Agricultural Research, Extension, and Education Reform Act of 1998 (7 U.S.C. 7613(c)(2)). This section requires the Secretary to solicit and consider input on a current RFA from persons who conduct or use agricultural research, education and extension for use in formulating future RFAs for competitive programs. Written stakeholder comments on this RFA should be submitted in accordance with the deadline set forth in the DATES portion of this Notice.

Written stakeholder comments should be submitted by mail to: Policy and Oversight Division; Office of Grants and Financial Management; National Institute of Food and Agriculture; USDA; STOP 2299; 1400 Independence Avenue, SW; Washington, DC 20250-2299; or via e-mail to: [RFP-OEP@nifa.usda.gov](mailto:RFP-OEP@nifa.usda.gov). (This e-mail address is intended only for receiving comments regarding this RFA and not requesting information or forms.) In your comments, please state that you are responding to the Biomass Research and Development Initiative (BRDI) RFA.

**EXECUTIVE SUMMARY:** NIFA and DOE – Golden Field Office announce the availability of grant funds and request applications for BRDI for fiscal year (FY) 2011 to competitively award grants to eligible entities to carry out research, development, and demonstration of (A) biofuels and biobased products; and (B) the methods, practices and technologies for the production of biofuels and biobased products. Approximately \$30 million is available to fund applications under this solicitation. In FY 2011 DOE administered Phase I (pre-applications). USDA-NIFA is administering Phase II (full applications). Only applications from successful FY 2011 BRDI Phase I applicants are invited under this BRDI Phase II solicitation.

This notice identifies the objectives for BRDI projects, the eligibility criteria for projects and applicants, and the application forms and associated instructions needed to apply for a BRDI

grant. Additionally, NIFA and DOE – Golden Field Office request stakeholder input from any interested party for use in the development of the next RFA for this program.

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## **PART I—FUNDING OPPORTUNITY DESCRIPTION**

### **A. Legislative Authority and Background**

This section of the Request for Applications (RFA) contains information on the Department of Energy (DOE) and United States Department of Agriculture (USDA) programmatic objectives, administrative roles, and areas of interest addressed by this RFA.

Section 9001(a) of the Food, Conservation, and Energy Act of 2008 (FCEA) (Pub. L. 110-246), re-authorized the Biomass Research and Development Initiative (BRDI) competitive grants program by amending section 9008 of the Farm Security and Rural Investment Act of 2002 (FSRIA), as amended, (Pub. L. 107-171) (7 U.S.C. 8108). Collaboration between DOE and USDA on BRDI is directed under section 9008(e)(1) of FSRIA, as amended. Additionally, DOE provides funds guided by certain administrative provisions of the Energy Independence and Security Act of 2007 and the Energy Policy Act of 2005. Section 9008(e)(3) of FSRIA provides direction and guidance on the technical areas as described in BRDI. The technical areas are: (A) Feedstocks development, (B) Biofuels and biobased products development, (C) Biofuels development analysis. For this solicitation, USDA-NIFA is interested in projects that address Farm and Industrial Demonstration(s) of Improved Ethanol Production Systems. These areas are described further below.

**For fiscal year (FY) 2011 BRDI requires that funded projects integrate all three legislatively mandated technical areas.** These areas include (A) Feedstocks development, (B) Biofuels and biobased products development, and (C) Biofuels development analysis. The intent of requiring integration is to encourage a collaborative problem-solving approach to all studies funded under BRDI, to facilitate formation of consortia, identify and address knowledge gaps, and accelerate the application of science and engineering for the production of sustainable biofuels, bioenergy and biobased products.

Applicants may propose a single non-integrated project that is specific to Farm and Industrial Demonstration(s) of Improved Ethanol Production Systems.

For FY 2011 DOE anticipates funding awards and NIFA anticipates funding from five to eight awards. Anticipated award size ranges from \$3 million to \$7 million per award.

### **B. Purpose and Priorities**

BRDI requires USDA and DOE to competitively award grants, contracts, and financial assistance to eligible entities to carry out research and development (R&D), or demonstration of biofuels and biobased products; and the methods, practices, and technologies, for the production of biofuels and biobased products. Research and development projects may be submitted as a research project only or a development project only.

The objectives of BRDI are to accomplish the following:

1. develop technologies and processes necessary for abundant commercial production of biofuels at prices competitive with fossil fuels;
2. develop high-value biobased products to:
  - a. enhance the economic viability of biofuels and power;
  - b. serve as substitutes for petroleum-based feedstocks and products; and
  - c. enhance the value of coproducts produced using the technologies and processes; and
3. develop a diversity of economically, environmentally, and socially sustainable domestic sources of renewable biomass for conversion to biofuels, bioenergy, and biobased products.

### **Technical Topic Areas – Detailed Descriptions**

Applications are being solicited for the Joint Biomass Research and Development Initiative under the following technical topic areas.

***In FY 2011, applications must integrate all three of the following technical topic areas to be considered for funding:***

**(A) Feedstocks Development** – Research, development and demonstration activities regarding feedstocks and feedstock logistics (including harvest, handling, transport, preprocessing, and storage) relevant to production of raw materials for conversion to biofuels and biobased products.

The lack of logistics systems capable of handling and delivering sufficiently high tonnage of feedstocks year round to support the rapid escalation of cellulosic biofuels production has been identified as a significant barrier to the expansion of a sustainable domestic biofuels industry. Feedstocks or combinations of feedstocks that will be considered include: agricultural residues, energy crops (switchgrass, miscanthus, energycane, sorghum, poplar, willow, etc.), forest resources (forest thinnings, wood chips, wood wastes, small diameter trees, etc.), and urban wood wastes. Other feedstocks that will be considered include oilseed crops, industrial starches, animal waste and algae. Projects should include the use or development of the following:

- Dedicated biofuel or industrial product crops with desired features, including enhanced productivity, broader site range, low requirements for chemical inputs, and enhanced processing characteristics;
- Advanced crop production methods and management technologies and systems to achieve optimal yields while conserving soil and water resources;
- Innovative equipment designs and systems for harvest, handling, preprocessing, transport, and storage that will be compatible with the biomass conversion technology;



- Innovative uses of alternative waste streams that increase the cost, environmental impacts, greenhouse gas footprint or complexity of renewable energy systems for farm or small commercial applications;
- Compatibility of the selected feedstock with potential conversion systems;
- Strategies for integrating feedstock production into existing managed land;
- Generation of data that can contribute to a best management practices database; and
- Development of tools that land managers and community developers can use to evaluate the technical and economic viability of biomass production systems; tools should integrate management, harvesting, and processing technologies and methods with economic analyses of utilization options for biofuels, bioenergy and biobased products.

**(B) Biofuels and Biobased Products Development** - Research, development and demonstration activities to support:

- (i) Development of diverse cost-effective technologies for the use of cellulosic biomass in the production of biofuels and biobased products; and
- (ii) Product diversification through technologies relevant to production of a range of biobased products (including chemicals, animal feeds, and cogeneration power) that potentially can increase the feasibility of fuel production in a biorefinery.

The DOE Biomass Program has been focused on developing, demonstrating, and deploying cellulosic ethanol to enable a 2012 goal of making cellulosic ethanol cost-competitive with corn-based ethanol. Over the last two decades, research and development has led to significant progress in the biochemical processes used to convert cellulosic biomass to ethanol. First-generation technology for cellulosic ethanol production is now in the demonstration phase. USDA and DOE will support other advanced biofuels, such as biobutanol, hydrocarbons and Fischer-Tropsch gasoline and diesel, which are still in the early stages of investigation in terms of production technologies, cost-effectiveness, and performance characteristics.

For FY 2011, DOE and USDA have identified areas of particular interest for BRDI. These areas of interest will not be given a priority over applications that address other technologies and are not intended to deter submission of applications that address other technologies. Areas of particular interest include, but are not limited to, research, development and demonstration of technologies that would address:

- Small scale gasification and pyrolysis R,D&D to address issues of local and on-farm production of biofuels from cellulosic feedstocks;
- Gasification of animal manure – manures from each major livestock and poultry species (beef, dairy, swine and poultry) have different characteristics and therefore each will have specific requirements for thermochemical energy recovery; direct combustion of livestock manure will not be included in this FOA.
- Research and development of local-scale woody biomass-to-energy conversion with a major thrust focusing on the simultaneous generation of electricity and useful heat;
- Conversion, via biological, thermal, catalytic or chemical means, of acceptable feedstocks into advanced biofuels and/or biobased products including intermediate and end-use products;

- Improvement of the production and performance or commercial viability of biobased products and co-products;
- Improvement of the potential for developing rural based processing and manufacturing of biofuels and/or biobased products;
- Demonstration of commercial relevance of the technology, its expected marketability, and its potential commercial viability for processing and manufacturing biobased products; and
- Demonstration of biobased products to evaluate functional and environmental performance and to facilitate amending or developing industry standards and specifications.

Areas of particular interest for Biochemical, Thermochemical, and Chemical conversions, based on known barriers to successful commercialization, include, but are not limited to, research, development and demonstration of technologies that would address:

#### Biochemical Conversions

- Pretreatment technologies
- Hydrolysis and saccharification technologies that enhance advanced biofuels production
- Fermentation technologies for advanced biofuels
- Advanced bioprocessing technologies

#### Thermochemical Conversions

- Gasification
- Pyrolysis

#### Chemical Conversions

- Tolerance to inhibitory compounds
- Exothermic reactions for waste heat
- Reduction of cellulosic components at mild conditions with recycle of reactants
- Selective dehydrations without side reactions
- Catalyst development for cleaving C-O and C-C bonds
- Cleavage of C-N bonds while preserving molecular structure

**(C) Biofuels Development Analysis** – This technical area addresses methods to quantify the proposed technology and/or the project’s positive impact on sustainability and on the environment; therefore, successful applications will consider the life-cycle (cradle-to-grave) impacts including environmental, social, and economic implications that are attributable to the project. As appropriate, the proposed project should include one or more of the following:

- (i) *Strategic guidance – The development of analysis that provides strategic guidance for the application of renewable biomass technologies to improve sustainability and environmental quality, cost effectiveness, security and rural economic development.*
- (ii) *Energy and Environmental Impact – Development of systematic evaluations of the impact of expanded biofuel production on the environment (including forest land) and on the food supply for humans and animals, including the improvement and development of tools for life cycle analysis of current and potential biofuels*
- (iii) *Assessment of Federal land – Assessments of the potential of Federal land resources to increase the production of feedstocks for biofuels and biobased products,*

*consistent with the integrity of soil and water resources and with other environmental considerations.*

To integrate Technical Area (C) with (A) and (B), the proposed project should consider the full life-cycle of the technology, which can be characterized by the following stages, and where appropriate, Biofuels Development Analysis projects should generate, geographically specific, primary, social, economic, and environmental data that can be made publicly available to be used in local, state, regional, and national analytical tools and models.

- Biomass feedstock development and cultivation;
- Feedstock harvesting and preparation;
- Feedstock logistics (handling, storage, and transportation);
- Waste stream logistics (handling, storage and transportation);
- Biomass pre-processing (as appropriate);
- Biomass conversion;
- Production of biofuels/bioenergy/biobased products;
- Product logistics and distribution;
- Product consumption; and
- End of useful life.

**(D) Use of Biodiesel for the Production of Grain or Cellulosic Ethanol**

In FY 2011, USDA is interested in funding projects that specifically address the demonstration and analysis of farm-based and commercial operations that use biodiesel for the production of grain or cellulosic ethanol. These demonstration and analysis projects should inherently integrate the three technical areas (A), (B), and (C) described above. This area of interest will not be given priority over applications that address other technologies and analyses, and is not intended to deter submission of applications that address other technologies.

In the 2008 Farm Bill, Section 9008 (e)(4) –“Additional Considerations” expands upon the three technical areas:

- (A) To create continuously expanding opportunities for participants in existing biofuels production by seeking synergies and continuity with current technologies and practices.
- (B) To maximize environmental, economic, and social benefits of production of biofuels and derived biobased products on a large scale.

To meet the intent of this section, USDA will support demonstration project(s) that will quantify the economic, environmental, and social benefits of using biodiesel across the ethanol supply chain. Demonstration(s) will engage farming operations as key factors for potentially improving sustainable production of ethanol as well as promoting the use of biodiesel. Ethanol production facilities should consider using biodiesel as well as biodiesel coproducts in appropriate applications. The demonstration(s) are not intended to be paper studies, but actual farm-based and commercial processing facility operations that utilize biodiesel to the maximum extent practical. Objectives are to improve the sustainability footprint of ethanol production, to determine the benefits of using biodiesel over petroleum diesel and other fossil energy sources, and to update data and assumptions currently used in economic and environmental models, in the

context of sustainability that includes social benefits and impacts.

Factors to be taken into consideration for demonstration include the following:

- Biodiesel must be specification-grade based on most current ASTM standard and/or BQ 9000 certified.
- Determining the cost of replacing petroleum diesel with biodiesel, including changes in equipment performance, maintenance, and storage.
- Generating primary (directly collected) data to measure and analyze life-cycle:
  - environmental, social, and economic impacts;
  - energy balance;
  - crop production and/or crop residue removal best management practices, including tillage and crop rotations; and
  - analysis parameters include agricultural production, harvest, handling, storage, transportation, and ethanol plant mechanical operations.

## PART II—AWARD INFORMATION

Applications received under this Announcement will be considered for funding by either DOE or USDA; however, applicants *may not* request to be funded by a particular organization and must prepare their application in accordance to this USDA RFA.

### A. Application Process

**A two-phase technical evaluation process is used for applications submitted to BRDI in FY 2011. PLEASE NOTE: DOE administers Phase I (pre-applications). USDA-NIFA is administering Phase II (full applications). Only applications from successful FY 2011 BRDI Phase 1 applicants are invited under this BRDI Phase II solicitation. Other applications submitted under this solicitation will not be reviewed.**

- **Phase 1 – Pre-applications**

The first phase required the applicant to submit a preliminary application (pre-application) to the funding opportunity announcement (FOA) released on April 15, 2011. As a result of this preliminary review, applicants were either requested to submit a full application package or removed from further consideration. In either case, copies of reviews, including a summary of the panel comments, but not the identity of panel reviewers, have been provided to each applicant. The review of pre-applications was conducted in accordance with the DOE’s merit review guidance (10 CFR 600), and consistent with USDA-NIFA’s standards for competition as outlined in Subparts B and C of 7 CFR 3430.

- **Phase 2 – Full applications**

The second evaluation phase will consist of a scientific peer review of full application packages submitted by invitation to submit as a result of the Phase I – Pre-applications competition. Applications submitted that were not invited, or do not expand on successful Phase I proposals will not be reviewed. Successful Phase I applicants invited to submit may not significantly change the scope or focus of the original Phase I proposals. The review and evaluation of full applications will meet standards for competition as outlined in Subparts B and C of 7 CFR 3430.

1. Type of Award Instrument

- Grants

2. Estimated Funding

There is no commitment by USDA or DOE to fund any particular application or to make a specific number of awards.

- DOE funding is subject to annual appropriations. BRDI funding made available to USDA is mandatory through FY 2012 pursuant to 7 U.S.C. 8108 (h)(1). All figures below should be treated as estimates.

Anticipated Federal Funding:	\$30 million
FY 2011 USDA-NIFA Federal Funding Amount:	\$25 million

Anticipated FY 2012 DOE Federal Funding Amount:	\$5 million
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3. Maximum and Minimum Award Size

- Ceiling (i.e., the maximum amount for an individual award made under this announcement): \$7,000,000 (total, not per year)
- Floor (i.e., the minimum amount for an individual award made under this announcement): \$3,000,000 (total, not per year)

4. Expected Number of Awards

- DOE anticipates funding 1-2 awards in FY 2012.
- USDA-NIFA anticipates funding 5-6 awards in FY 2012.

5. Anticipated Award Size

- The average award size is anticipated to be approximately \$5.8 million. Section 9008(e)(6) of FSRIA, as amended, (7 U.S.C. 8108(e)(6)) requires that not less than 15% of the available funds for BRDI be awarded under each of the 3 legislatively mandated technical areas.

6. Period of Performance

- DOE and USDA-NIFA anticipate making awards up to a 4 year project period.

7. Type of Application

In FY 2011, applications must be submitted to the Joint Biomass Research and Development Initiative Program as the following type of request:

- New application. This is a project application that has not been previously submitted to the Joint Biomass Research and Development Initiative Program. All new applications will be reviewed competitively using the selection process and evaluation criteria described in Part V—Application Review Requirements.

8. Project Types

BRDI may fund only two project types:

- a. Research and/or Development; or
- b. Demonstration

The project types are limited to research and development (see definition, Part VIII, E.) or demonstration of biofuels and biobased products; and the methods, practices, and technologies, for the production of biofuels and biobased products.

**The applicant must explicitly define that the project is either —Research and Development” or —Dmonstration” and budget accordingly.**

## **PART III—ELIGIBILITY INFORMATION**

### **A. Eligible Applicants**

All entities listed under Section 9008(e)(5) of FSRIA, as amended (7 U.S.C. 8108(e)(5)), are eligible to apply. Eligible entities are:

- (A) an institution of higher education;
- (B) a National Laboratory;
- (C) a Federal research agency;
- (D) a State research agency;
- (E) a private sector entity;
- (F) a nonprofit organization; or
- (G) a consortium of 2 or more entities described in (A) through (F) above.

Applicants are encouraged to form consortia so that a range of capabilities is available to address all aspects of the three technical areas. Institutions of higher education are defined in VIII. E. of this solicitation. Private sector entities include companies, corporations, farms, ranches, cooperatives, and others that compete in the marketplace.

Award recipients may subcontract to organizations not eligible to apply provided such organizations are necessary for the conduct of the project. An applicant's failure to meet an eligibility criterion by the time of an application deadline will result in NIFA not accepting the application, or even though an application may be reviewed, will preclude NIFA from making an award.

### **B. Cost Sharing**

#### **Cost Share 20% and/or 50%**

The recipient is required to cost share. The non-Federal share of the cost of a research or development project under BRDI shall be not less than 20 percent of the total allowable project cost. The non-Federal share of the cost of a demonstration or commercial project under BRDI shall be not less than 50 percent of the total allowable project cost. The total allowable project cost is equal to the sum of Federal funds requested and non-Federal matching funds. Applicant cost share must come from non-Federal sources unless otherwise allowed by law. No blending of research and development, and demonstration cost share will be permitted. The applicant must explicitly define that the project is either "~~Research and Development~~" or "~~Demonstration/Commercial~~" in the Budget Justification [SF 424 (R&R) Budget Fed & Non-Fed, Field K].

The sum of the Government share, including Federally Funded Research and Development Center (FFRDC) contractor costs if applicable, and the recipient share of allowable costs equals the total allowable cost of the project. If an FFRDC is involved as either the prime applicant or as a collaborator or Co-Project Director (PD), cost share will still be based on the total project cost and the source of cost share must come from non-Federal sources.

Applicable cost sharing requirements for DOE are included in 10 CFR Part 600.

The term “~~d~~emonstration” is defined as demonstration of technology in a pilot plant or semi-works scale facility, including a plant or facility located on a farm.



### **C. Indirect Costs**

Section 7132 of the Food, Conservation, and Energy Act of 2008, amended the National Agricultural Research, Extension, and Teaching Policy Act of 1977 (7 U.S.C. 3310(a)), limiting indirect costs to **22 percent of the total Federal funds provided under each USDA NIFA award**. Therefore, when preparing budgets, applicants should limit their requests for recovery of indirect costs to the lesser of their institution's officially negotiated indirect cost rate or the equivalent of 22 percent of total Federal funds awarded.

### **D. Multiple Principal Investigators**

The assignment and use of multiple Principal Investigators (PIs)/project directors (PDs) for projects submitted to this RFA is allowed. Additionally, PIs may collaborate on as many projects as they choose. As a part of the FY 2011 BRDI Phase I – Pre-Application process, the applicant, whether a single organization or team/partnership/consortium, was required to indicate if the project includes multiple PIs. If multiple PIs are designated, the Applicant must identify in the application the Contact PI/Project Coordinator. Each PI's roles and administrative, technical, and scientific responsibilities for the project should be described in the application.

## PART IV—APPLICATION AND SUBMISSION INFORMATION

### A. Electronic Application Package

Only electronic applications may be submitted via Grants.gov to NIFA in response to this RFA.

Prior to preparing an application, it is suggested that the project director (PD)/principle investigator (PI) first contact an Authorized Representative (AR) (also referred to as Authorized Organizational Representative or AOR) to determine if the organization is prepared to submit electronic applications through Grant.gov. If the organization is not prepared, the AR should see [http://www.grants.gov/applicants/get\\_registered.jsp](http://www.grants.gov/applicants/get_registered.jsp) for steps for preparing to submit applications through Grants.gov.

The steps to access application materials are as follows:

1. In order to access, complete and submit applications, applicants must download and install a version of Adobe Reader compatible with Grants.gov. This software is essential to apply for NIFA Federal assistance awards. For basic system requirements and download instructions, please see [http://www.grants.gov/help/download\\_software.jsp](http://www.grants.gov/help/download_software.jsp). To verify that you have a compatible version of Adobe Reader, Grants.gov established a test package that will assist you in making that determination. Grants.gov Adobe Versioning Test Package: <http://www.grants.gov/applicants/AdobeVersioningTestOnly.jsp>.
2. The application package must be obtained via Grants.gov, go to <http://www.grants.gov>, click on “Apply for Grants” in the left-hand column, click on “**Step 1: Download a Grant Application Package and Instructions,**” enter the funding opportunity number, **USDA-NIFA-9008-003540**, in the appropriate box and click “Download Package.” From the search results, click “Download” to access the application package.

Contained within the application package is the “NIFA Grants.gov Application Guide: A Guide for Preparation and Submission of NIFA Applications via Grants.gov.” This Guide contains an introduction and general Grants.gov instructions, information about how to use a Grant Application Package in Grants.gov, and instructions on how to complete the application forms.

**If assistance is needed to access the application package** (e.g., downloading or navigating Adobe forms), refer to resources available on the Grants.gov Web site first (<http://www.grants.gov/>). Grants.gov assistance is also available as follows:

Grants.gov customer support

Toll Free: 1-800-518-4726

Business Hours: 24 hours a day, 7 days a week. Closed on [Federal Holidays](#).

Email: [support@grants.gov](mailto:support@grants.gov)

See <http://www.nifa.usda.gov/funding/electronic.html> for additional resources for applying electronically.

## **B. Content and Form of Application Submission**

Electronic applications should be prepared following Part V and VI of the document entitled —A Guide for Preparation and Submission of NIFA Applications via Grants.gov.” This guide is part of the corresponding application package (see Section A. of this Part). The following is **additional information** needed in order to prepare an application in response to this RFA. If there is discrepancy between the two documents, the information contained in this RFA is overriding.

**Note the attachment requirements (e.g., portable document format) in Part III section 3. of the Guide. ANY PROPOSALS CONTAINING NON-PDF DOCUMENTS WILL BE AT RISK OF BEING EXCLUDED FROM NIFA REVIEW. DO NOT password protect PDF documents – NIFA cannot access any PDF with password protection. Partial applications will be excluded from NIFA review. With documented prior approval, resubmitted applications will be accepted until close of business on the closing date in the RFA. If you do not own PDF-generating software, Grants.gov provides online tools to assist applicants. Users will find a link to —Convert Documents to PDF” on <http://grants.gov/assets/PDFConversion.pdf>.**

### **1. SF 424 R&R Cover Sheet**

Information related to the questions on this form is dealt with in detail in Part V, 2. of the NIFA Grants.gov Application Guide.

### **2. SF 424 R&R Project/Performance Site Location(s)**

Information related to the questions on this form is dealt with in detail in Part V, 3. of the NIFA Grants.gov Application Guide.

### **3. R&R Other Project Information Form**

Information related to the questions on this form is dealt with in detail in Part V, 4. of the NIFA Grants.gov Application Guide.

PLEASE NOTE: The Project Summary/Abstract shall not exceed **two pages** of single or double-spaced written text. This maximum has been established to ensure fair and equitable competition. The Project Summary/Abstract must include all of the following:

#### **a. Field 7. Project Summary/Abstract.**

The project summary must contain a summary of the proposed activity suitable for dissemination to the public. It must include:

- Name of Applicant Organization – enter the single entity that will be the primary recipient.
- Collaborating and/or Partner Organizations – if more than one organization or entity is participating in the project, list the other organizations here.
- Contact PI/Project Director – the PI who will serve as the single point of contact for the project. See Section III.D.

- Other Principal Investigator(s) – if multiple PIs are included in the project, list the other PIs here.
- Project Title – enter the project title.
- City, state, and zip code where the project will be managed – use the location that best describes where the project will be managed/coordinated.
- Federal Funds Requested – enter the dollar amount being requested.
- Cost Share Provided – enter the dollar amount being contributed by the applicant(s). (Please Note: USDA does not consider the cost share provided during the peer review process).
- Total Project Cost – enter the total project cost. This should be the sum of the Federal Funds and the Cost Share.
- Does the project address all three Technical Areas? Put an X by either “Yes” or “No.”
- TA 1 – Feedstocks Development: List the Proposed Feedstock(s) and Advanced Crop Production Method – this refers to Technical Area 1. Please provide a list of proposed feedstock(s) and method(s) that will be used by the project.
- TA 2 – Biofuels and Biobased Products development: List the Proposed Conversion Technology(s) – this refers to Technical Area 2. Please provide a list of technologies that will be used by the project.
- TA 3 – Biofuels Development Analysis: State the Proposed Sustainability Approach – this refers to Technical Area 3. Please state very briefly.
- Provide an Abstract.

b. Field 8. Project Narrative.

PLEASE NOTE: The Project Narrative shall not exceed **30 pages** of written text regardless of whether it is single or double spaced including charts, graphs, maps, photographs, and other pictorial presentations. This maximum (30 pages) has been established to ensure fair and equitable competition.

The Project Narrative must include all of the following:

1. Title Page. Cover page should include the name and type of organization, the RFA title, the project title (Note this page does not count against the narrative’s specified page limit.)
2. Table of Contents. Table of contents should include page numbers corresponding to the elements outlined in these guidelines. (Note the table of contents does not count against the narrative’s specified page limit.)
3. Project Objectives. This section should provide a clear, concise statement of the specific objectives/aims of the proposed project.
4. Merit Review Criterion Discussion. This section should be formatted to address each of the merit review criterion and sub-criterion listed below. Provide sufficient information so that reviewers will be able to evaluate the application in accordance with these merit review criteria (this information is repeated in Part V.B.) DOE and USDA will evaluate

and consider only those applications that address separately each of the merit review criterion and sub-criterion below:

Criterion 1: Technical Relevance and Merit (Weight: 35 percent)

Specific considerations are:

- Relevance and alignment of the project objectives to the Technical Area goals;
- Effective integration of the three technical areas for biofuels and/or bioenergy and/or biobased products; and
- Novelty, innovation, uniqueness, and originality of the project objective.

Criterion 2: Technical Approach/Work Plan (Weight: 25 percent)

Specific considerations are:

- Clarity, reasonableness, and feasibility of the technical approach to achieve project goals;
- Viability, adequacy, and relevance of the proposed task structure, milestones, schedule, and performance measures and deliverables;
- Likelihood that the project will achieve near-term (4 years or less) commercialization of the proposed product or technology;
- Adequacy and viability of the tools and management capabilities to mitigate project uncertainty and risks; and
- Status of environmental permitting (note: this bullet is applicable to invited full applications only, and not pre-applications).

Criterion 3: Rural Economic Development & Energy Efficiency (Weight: 25 percent)

Extent to which the proposed project demonstrates the following criteria based on preliminary data specific to this proposal:

- Promotion of enterprise and community self-sufficiency, rural economic development, job creation; inclusion of community stakeholders;
- Quantification of life-cycle economic and environmental benefits, e.g. impacts and benefits to public safety, the environment, and land sustainability in rural areas. In particular, collection of data that can be used to gauge improvements in key sustainability areas, specifically soil quality, water quality/water use, generation/reduction of hazardous/toxic substances, air emissions; wastewater discharges; reductions in use of pesticides, herbicides and fertilizer, etc.;
- Quantification of projected energy efficiency and/or petroleum displacement benefits and include any assumptions used; and
- For advanced biofuels, compatibility of the proposed technology or product with existing infrastructure and end use applications.

Criterion 4: Technical, Management, and Facility Capabilities (Weight: 15 percent)

Specific considerations for this criterion are:

- Credentials, capabilities, experience (technical and managerial), availability and performance record of key personnel;
- Type, quality, availability, and appropriateness of facilities, equipment, and supplies; and
- Definition of roles and responsibilities of key personnel.

5. **Relevance and Outcomes/Impacts.** This section should explain the relevance of the effort to the objectives in Part I., B. and the expected outcomes and impacts. Outcomes are observed changes in knowledge, adoption of new and more efficient technologies, change of practice, or behaviors. Impacts are the measurable results of outcomes such as increased biofuel production, improved cost effectiveness, or adoption of new feedstocks and technologies.
6. **Project Timetable.** This section should outline as a function of time, year by year, all of the important activities or phases of the project, including any activities planned beyond the project period. Successful applicants must use this project timetable to report progress.
7. **Evaluation Phase.** This section must include a plan and quantifiable measures to be used to assess the success of the project.

**c. Field 9 Bibliography & Cited References - (PDF Format is Required)**

Provide a complete list of all references cited in the application. For each reference, provide the complete name for each author, the year of the publication, full title of the article, name of the journal or book published, volume, and the page numbers. The references should be listed in alphabetical order using the last name of the first author.

**d. Field 10 Facilities & Other Resources - (PDF Format is Required)**

Describe the types, location, and availability of instrumentation and physical facilities necessary to carry out the work proposed. See field 12 item (1).

**e. Field 11 Equipment Documentation - (PDF Format is Required)**

Describe the types, location, and availability of equipment necessary to carry out the work proposed. Items of equipment to be purchased must be fully justified under section 6; Field K – Budget Justification.

**f. Field 12 Other Attachments - (PDF Format is Required)**

Additional documentation that may be required for your application should be grouped in this section.

- (1) **Use of Facilities or Equipment –** If university facilities, private facilities, or government laboratories are being used, there must be a letter in the application from the authorized organizational representative of the university, private facility, or government laboratory describing the arrangement and testifying that the facilities will be subject to the exclusive use and control of the applicant.

(2) Letters of Support – General letters of support from potential end-users of the technology or from individuals/organizations that want to express support for the application.

#### **4. R&R Senior/Key Person Profile (Expanded)**

Information related to the questions on this form is dealt with in detail in Part V, 5. of the NIFA Grants.gov Application Guide. A Senior/Key Person Profile should be completed for the PD/PI and each co-PD/PI, senior associate, and other professional personnel.

- a. Attach Biographical Sketch – **PDF Attachment. 2-Page Limit (excluding publications listings) per PD/PI, co-PD/PI, senior associate, and other professional personnel.** Title the attachment as ‘\_Biographical Sketch’ in the document header and save file as ‘\_Biographical Sketch – person name’.
- b. Attach Current and Pending Support – **PDF Attachment. No Page Limit.** Title each attachment as ‘\_Current and Pending Support’ in the document header and save file as ‘\_Current and Pending Support – person name’. Individual Current and Pending Support information should be completed for the PD/PI and each co-PD/PI.

A suggested template for the Current and Pending Support can be found at:

[http://www.nifa.usda.gov/funding/templates/current\\_pending.doc](http://www.nifa.usda.gov/funding/templates/current_pending.doc).

Current and Pending Support information is only required for personnel with PD/PI or co-PD/PI indicated as their Project Role on the R&R Senior/Key Person Profile. All applications must contain a list of all Current and Pending Support detailing public or private support (including in-house support) to which personnel identified in the application have committed portions of their time, whether or not salary support for person(s) involved is included in the budget, see template. **Please note that the project being proposed should be included in the pending section of the form. Total project time listed for each PD/PI should be indicated as a percent effort and not exceed 100% for concurrent projects.**

**5. R&R Personal Data** – As noted in Part V, 6. of the NIFA Grants.gov Application Guide, the submission of this information is voluntary and is not a precondition of award.

#### **6. SF 424 (R&R) Budget Fed & Non-Fed**

Information related to the questions on this form is dealt with in detail in Part V, 7. of the NIFA Grants.gov Application Guide. This form (accompanied by the required Budget Justification attachment (see Field K on the Form)) contains the itemized listing and description of your project’s budget. Applicants must complete one SF 424 (R&R) Budget Fed & Non-Fed Form for each 12-month period, plus a cumulative budget form for the entire project.

**The Budget Justification must define the amount (and percent) of federal funds that will be allocated to activities related to each of the three technical areas defined in Section I.B. The budget justification should also include a brief breakdown of the distribution of funds among collaborators (by amount and percent of federal funds) and the geographic**

**distribution of funds by state based on project activity, if project team members reside in different states.**

Cost Sharing:

The recipient is required to cost share. The non-Federal share of the cost of a research or development project under BRDI shall be not less than 20 percent of the total allowable project cost. The non-Federal share of the cost of a demonstration or commercial project under BRDI shall be not less than 50 percent of the total allowable project cost. The total allowable project cost is equal to the sum of Federal funds requested and non-Federal matching funds. Applicant cost share must come from non-Federal sources unless otherwise allowed by law. No blending of research and development, and demonstration cost share will be permitted. The applicant must explicitly define that the project is either “Research and Development” or “Demonstration/Commercial” in the Budget Justification (see Field K on the Form).

Applications shall include written verification of commitments of matching support (including both cash and fair market value of in-kind contributions) from third parties (non-Federal sources) in an amount not less than 20 percent of costs for R&D projects, not less than 50 percent of costs for demonstration/commercial projects. Written verification means:

For any third party cash contributions, a separate pledge agreement for each donation, signed by the authorized representative of the donor organization and the applicant organization, which must include: (1) the name, address, and telephone number of the donor; (2) the name of the applicant organization; (3) the title of the project for which the donation is made; (4) the dollar amount of the cash donation or the fair market value of in-kind contribution; and (5) a statement that the donor will provide the cash or in-kind contribution during the grant period.

The sources and the amount of all matching support from the applicant organization and outside the applicant organization shall be summarized on a separate page and placed in the application as a part of the Budget Justification attachment (see Field K on the Form SF 424 (R&R) Budget Fed & Non-Fed). Include the matching amount, the budget category for the match, and detail how the matching support, *from each source*, will be used (e.g., salary and position supported). Additionally, all pledge agreements must be included as a PDF attachment in Field K as well.

The value of applicant contributions to the project shall be established in accordance with the applicable cost principles. Applicants should refer to OMB Circulars A-21, Cost Principles for Educational Institutions; A-87, Cost Principles for State, Local, and Tribal Governments; A-122, Cost Principles for Non-Profit Organizations relocated to 2 CFR Parts 220, 225, and 230; 2 CFR Part 215, Uniform Administrative Requirements for Grants and Agreements With Institutions of Higher Education, Hospitals, and Other Non-Profit Organizations (OMB Circular A-110); and the cost principles in the Federal Acquisition Regulation at 48 CFR 31.2 for further guidance and other requirements relating to matching and allowable costs.

This form (accompanied by the required Budget Justification attachment) contains the itemized listing and description of your project’s budget. Complete all applicable fields. Information



related to the questions on this form is dealt with in detail in Part V. 7 of the NIFA Grants.gov Application Guide.

**R&R Subaward Budget Attachment - (PDF Format is Required)**

If the project has sub-contracts, applicants will need to complete this form for each sub-contractor. Applicants should reference the NIFA Application Guide to complete this form. Applicants should also note that the sub-award forms will not be checked when the “Check Package for Errors” button is clicked. The sub-award budget forms will be checked when submitted to Grants.gov and it is the responsibility of the applicant to ensure that these forms are completed correctly.

**7. Supplemental Information Form**

Information related to the questions on this form is dealt with in detail in Part VI, 1. of the NIFA Grants.gov Application Guide.

- a. Field 2. Program Code. Enter the program code name **“Biomass Research and Development Initiative”** and the program code **“BRDI”**.

**C. Submission Dates and Times**

**Instructions for submitting an application are included in Part IV, Section 1.9 of the NIFA Grants.gov Application Guide.**

Applications must be received by Grants.gov by COB on **November 22, 2011 (5:00 p.m. Eastern Time)**. Applications received after this deadline will not be considered for funding.

Correspondence regarding submitted applications will be sent using e-mail. Therefore, applicants are strongly encouraged to provide accurate e-mail addresses, where designated, on the SF-424 R&R Application for Federal Assistance.

If the AR has not received correspondence from NIFA regarding a submitted application within 30 days of the established deadline, please contact the Program Contact identified in Part VII of the applicable RFA and request the proposal number assigned to the application. **Failure to do so may result in the application not being considered for funding by the peer review panel. Once the application has been assigned a proposal number, this number should be cited on all future correspondence.**

**D. Funding Restrictions**

- 1. For Applications invited to be funded by DOE:
  - a. Cost Principles. Costs must be allowable in accordance with the applicable Federal cost principles referenced in 10 CFR Part 600. The cost principles for commercial organization are in FAR Part 31.
  - b. Pre-award Costs. Recipients may charge to an award resulting from this announcement pre-award costs that were incurred within the ninety (90) calendar day period immediately

preceding the effective date of the award, if the costs are allowable in accordance with the applicable Federal cost principles referenced in 10 CFR part 600. Recipients must obtain the prior approval of the contracting officer for any pre-award costs that are for periods greater than this 90 day calendar period.

- c. Pre-award costs are incurred at the applicant's risk. DOE is under no obligation to reimburse such costs if for any reason the applicant does not receive an award or if the award is made for a lesser amount than the applicant expected.
2. For Applications invited to be funded by NIFA:

- a. Indirect Costs

Section 7132 of the Food, Conservation, and Energy Act of 2008, amended the National Agricultural Research, Extension, and Teaching Policy Act of 1977 (7 U.S.C. 3310(a)), limiting indirect costs to 22 percent of the total Federal funds provided under each award. Therefore, when preparing budgets, applicants should limit their requests for recovery of indirect costs to the lesser of the total indirect costs calculated with the institution's officially negotiated indirect cost rate or the equivalent of 22 percent of total Federal funds awarded. An applicant may elect not to charge indirect costs and, instead, use all grant funds for direct costs. If indirect costs are not charged, the phrase "None requested" should be written in this space.

The maximum allowed indirect cost of 22 percent may be claimed under the Federal portion of the award, or the maximum allowed indirect cost of 22 percent may be claimed as matching contributions (if no indirect costs are requested). However, the maximum allowed indirect cost of 22 percent may not be claimed on both the Federal portion of the award and as matching contributions (Note: An awardee may, as an example, request 11 percent of indirect costs on both the Federal portion of the award and as matching contributions. Or, an awardee may request any other, similar percentage combination that, when combined, does not exceed the 22 percent maximum indirect cost allowed.) Nevertheless, the total combined percent of requested and contributed matching indirect costs cannot exceed 22 percent. In-kind support from non-Federal sources in the form of unrecovered indirect costs *may not* be used to meet the matching requirements. **Budgets with indirect costs that exceed 22% will be considered for funding by DOE only.**

**Special Notices:**

1. NIFA will withhold all funds for a BRDI award to an applicant requesting indirect costs if the applicant has not negotiated an indirect cost rate with its cognizant federal agency.
2. If a grantee is in the process of negotiating an indirect cost rate with its federal agency, NIFA will withhold all funds from that grantee until the indirect cost rate has been established.
3. If an institution's indirect cost rate has expired or will expire in the near future, a clear statement on renegotiation efforts must be included in the application. (See Part IV, B.6. SF 424 (R&R) Budget Fed & Non-Fed).
4. It is incumbent on all applicants to have a current indirect cost rate or begin negotiations to establish an indirect cost rate prior to the BRDI submission deadline. Because it may take several

months to obtain an indirect cost rate, applicants needing an indirect cost rate are encouraged to start work on establishing these rates well in advance of submitting a BRDI application.

5. In lieu of requesting indirect costs (if the applicant does not have a negotiated rate), an applicant may prepare a budget in which all charges in the budget are included as direct costs.

b. Pre-award Costs

Recipients may charge pre-award costs that were incurred within the ninety (90) calendar day period immediately preceding the effective date of the award, if the costs are allowable in accordance with the applicable Federal cost principles referenced in Section VI. C. of this announcement. Recipients must obtain the prior approval of the USDA Authorized Departmental Officer (ADO) for any pre-award costs that are for periods greater than this 90 day calendar period.

Pre-award costs are incurred at the applicant's risk. NIFA is under no obligation to reimburse such costs if for any reason the applicant does not receive an award or if the award is made for a lesser amount than the applicant expected.

c. Building Construction or Renovation

Funds made available under this subpart shall not be used for the construction of a new building or facility of the acquisition, expansion, remodeling, or alteration of an existing building or facility (including site grading and improvement, and architect fees).

d. Fixed Equipment

No funds will be awarded for equipment that is permanently fixed in place.

**E. Other Submission Requirements**

The applicant should follow the submission requirements noted in the document entitled –A Guide for Preparation and Submission of NIFA Applications via Grants.gov.”

Described below are the requirements for successful submission of an application, all of the following steps must be met for an application to be considered for peer review:

1. Meeting the deadline: To electronically send the application to Grants.gov the submit button is hit, which triggers a date and time stamp on the application. The date and time stamp is used to determine whether the application was received by Grants.gov before the deadline, which is prior to close of business (5:00 p.m. Eastern Time) on **November 22, 2011**. An application submitted or resubmitted after the deadline is late. Consideration of late applications is only given in extenuating circumstances (e.g., natural disasters, confirmed Grants.gov outage) with proper documentation and support of the Agency Contact (see Part VII). The occurrence of one of these situations does not automatically ensure that a late application will be accepted. If an applicant wants a late application considered under an extenuating circumstance, the applicant should contact the Agency Contact accordingly.
2. Successful Grants.gov validation: The Grants.gov system performs a limited check of the application, and applicants are notified by Grants.gov of the outcome of the initial review.

Applications meeting Grants.gov requirements are made available to the funding agency for further processing. Applications that fail Grants.gov validation may be resubmitted to Grants.gov if the original agency deadline has not passed. (Note that the Grants.gov system may allow applications to be submitted after the deadline has passed, but the application is considered late by NIFA.)

3. Successful Agency validation: NIFA staff performs precursory review of the application. The agency validation process includes, for example, meeting eligibility requirements and following agency application guidelines (e.g., formatting, page limitations, limits on budget requests). Applicants are notified by NIFA of the outcome of this review.

## **F. Central Contractor Registration and Universal Identifier Requirements**

In accordance with the Office of Management and Budget guidance published in the Federal Register (FR), 75 FR 55671, on September 14, 2010, “Financial Assistance Use of Universal Identifier and Central Contractor Registration,” awardees must comply with the requirements of this award term.

### **Requirement for Central Contractor Registration (CCR)**

Unless exempt from this requirement under 2 CFR 25.110, the recipient must maintain current information in the CCR until submitting the final financial report or receiving the final payment, whichever is later. This requires reviewing and updating the information at least annually after initial registration, and more frequently if required by changes in information or award terms.

### **Requirement for Data Universal Numbering System (DUNS) Numbers**

If you are authorized to make subawards under this award, you:

1. Must notify potential subrecipients that no entity (see definition in paragraph C of this award term) may receive a subaward from you unless the entity has provided its DUNS number to you.
2. May not make a subaward to an entity unless the entity has provided its DUNS number to you.

### **Definitions**

For purposes of this award term:

1. *Central Contractor Registration (CCR)* means the Federal repository into which an entity must provide information required for the conduct of a business as a recipient. Additional information about registration procedures may be found at the CCR Internet site (currently at <http://www.ccr.gov>).
2. *Data Universal Numbering System (DUNS) number* means the nine-digit number established and assigned by Dun and Bradstreet, Inc. (D&B) to uniquely identify

business entities. A DUNS number may be obtained from D&B by telephone (currently 866-705-5711) or the Internet (currently at <http://fedgov.dnb.com/webform>).

3. *Entity*, as it is used in this award term, means all of the following, as defined at 2 CFR part 25, subpart C:
  - a. A Governmental organization, which is a State, local government, or Indian Tribe;
  - b. A foreign public entity;
  - c. A domestic or foreign nonprofit organization;
  - d. A domestic or foreign for-profit organization; and
  - e. A Federal agency, but only as a subrecipient under an award or subaward to a non-Federal entity.
  
4. *Subaward*:
  - a. This term means a legal instrument to provide support for the performance of any portion of the substantive project or program for which you received this award and that you as the recipient award to an eligible subrecipient.
  - b. The term does not include your procurement of property and services needed to carry out the project or program (for further explanation, *see* Sec .210 of the attachment to OMB Circular A-133, “Audits of States, Local Governments, and Non-Profit Organizations”).

## **PART V—APPLICATION REVIEW REQUIREMENTS**

### **A. General**

Each application will be evaluated in a 2-part process. First, each application will be screened to ensure that it meets the administrative requirements as set forth in this RFA. Second, applications that meet these requirements will be technically evaluated by a review panel.

Reviewers will be selected based upon training and experience in relevant scientific, extension, or education fields, taking into account the following factors: (a) The level of relevant formal scientific, technical education, or extension experience of the individual, as well as the extent to which an individual is engaged in relevant research, education, or extension activities; (b) the need to include as reviewers experts from various areas of specialization within relevant scientific, education, or extension fields; (c) the need to include as reviewers other experts (e.g., producers, range or forest managers/operators, and consumers) who can assess relevance of the applications to targeted audiences and to program needs; (d) the need to include as reviewers experts from a variety of organizational types (e.g., colleges, universities, industry, state and Federal agencies, private profit and non-profit organizations) and geographic locations; (e) the need to maintain a balanced composition of reviewers with regard to minority and female representation and an equitable age distribution; and (f) the need to include reviewers who can judge the effective usefulness to producers and the general public of each application.

### **B. Evaluation Criteria**

The evaluation criteria below will be used in reviewing applications submitted in response to this RFA:

Applicants will be required to describe the integration of all three Technical topic areas and whether they are proposing a Research and Development, or Demonstration project. The following criteria will be used to evaluate full applications. Weight percentages for each area are as follows:

Criterion 1: Technical Relevance and Merit (Weight: 35 percent)

Specific considerations are:

- Relevance and alignment of the project objectives to the Technical Area goals;
- Effective integration of the three technical areas for biofuels and/or bioenergy and/or biobased products; and
- Novelty, innovation, uniqueness, and originality of the project objective.

Criterion 2: Technical Approach/Work Plan (Weight: 25 percent)

Specific considerations are:

- Clarity, reasonableness, and feasibility of the technical approach to achieve project goals;
- Viability, adequacy, and relevance of the proposed task structure, milestones, schedule, and performance measures and deliverables;

- Likelihood that the project will achieve near-term (4 years or less) commercialization of the proposed product or technology;
- Adequacy and viability of the tools and management capabilities to mitigate project uncertainty and risks; and
- Status of environmental permitting (note: this bullet is applicable to invited full applications only, and not pre-applications).

**Criterion 3: Rural Economic Development & Energy Efficiency (Weight: 25 percent)**

Extent to which the proposed project demonstrates the following criteria based on preliminary data specific to this proposal:

- Promotion of enterprise and community self-sufficiency, rural economic development, job creation; inclusion of community stakeholders;
- Quantification of life-cycle economic and environmental benefits, e.g. impacts and benefits to public safety, the environment, and land sustainability in rural areas. In particular, collection of data that can be used to gauge improvements in key sustainability areas, specifically soil quality, water quality/water use, generation/reduction of hazardous/toxic substances, air emissions; wastewater discharges; reductions in use of pesticides, herbicides and fertilizer, etc.;
- Quantification of projected energy efficiency and/or petroleum displacement benefits and include any assumptions used; and
- For advanced biofuels, compatibility of the proposed technology or product with existing infrastructure and end use applications.

**Criterion 4: Technical, Management, and Facility Capabilities (Weight: 15 percent)**

Specific considerations for this criterion are:

- Credentials, capabilities, experience (technical and managerial), availability and performance record of key personnel;
- Type, quality, availability, and appropriateness of facilities, equipment, and supplies; and
- Definition of roles and responsibilities of key personnel.

**PRIORITY CONSIDERATIONS**

The peer review panel shall give priority consideration to applications that:

1. Involve a consortia of experts from multiple institutions;
2. Encourage the integration of disciplines and application of the best technical resources; and
3. Increase the geographic diversity of demonstration projects.

The peer review panel will not take the offer or availability of matching funds into consideration (7 U.S.C. §7613(a)).

**Other Selection Factors: Post Peer Review**

For full applications, DOE and USDA-NIFA will conduct independent program policy factor reviews. DOE's will be conducted by DOE Headquarters for consideration by the DOE Selection Official.

*For applications selected for award by DOE, additional program policy factors will include:*

- Balance of the overall portfolio of DOE investments in biomass research and development and relevance to the specific DOE barriers and pathways as outlined in the Program Multi-year Program Plan: ([http://www1.eere.energy.gov/biomass/pdfs/biomass\\_program\\_mypp.pdf](http://www1.eere.energy.gov/biomass/pdfs/biomass_program_mypp.pdf))
- Projects that best leverage DOE resources.

*For applications selected for award by USDA-NIFA, additional program policy factors will include:*

- Involve a consortia of experts from multiple institutions;
- Encourage the integration of disciplines and application of the best technical resources;
- Diversity of funded feedstocks and conversion technologies;
- Geographic diversity of research and/or development projects; as well as demonstration projects; and
- Balance among the value chain components (e.g., feedstock development and growth; feedstock harvesting and preparation; feedstock logistics and transportation; feedstock storage and handling; biomass pre-processing (as appropriate); biomass conversion; production of biofuels/bioenergy/biobased products; product logistics and handling; product delivery and distribution.

### **C. Conflicts of Interest and Confidentiality**

During the peer evaluation process, extreme care will be taken to prevent any actual or perceived conflicts of interest that may impact review or evaluation. For the purpose of determining conflicts of interest, the academic and administrative autonomy of an institution shall be determined by reference to the current Higher Education Directory, published by Higher Education Publications, Inc., 6400 Arlington Boulevard, Suite 648, Falls Church, Virginia 22042. Phone: (703) 532-2300. Web site: <http://www.hepinc.com>.

Names of submitting institutions and individuals, as well as application content and peer evaluations, will be kept confidential, except to those involved in the review process, to the extent permitted by law. In addition, the identities of peer reviewers will remain confidential throughout the entire review process. Therefore, the names of the reviewers will not be released to applicants.



#### **D. Organizational Management Information**

Specific management information relating to an applicant shall be submitted on a one time basis, with updates on an as needed basis, as part of the responsibility determination prior to the award of a grant identified under this RFA, if such information has not been provided previously under this or another NIFA program. NIFA will provide copies of forms recommended for use in fulfilling these requirements as part of the preaward process. Although an applicant may be eligible based on its status as one of these entities, there are factors which may exclude an applicant from receiving Federal financial and nonfinancial assistance and benefits under this program (e.g., debarment or suspension of an individual involved or a determination that an applicant is not responsible based on submitted organizational management information).

## **PART VI—AWARD ADMINISTRATION**

### **A. General**

Within the limit of funds available for such purpose, the awarding official of NIFA shall make grants to those responsible, eligible applicants whose applications are judged most meritorious under the procedures set forth in this RFA. The date specified by the awarding official of NIFA as the effective date of the grant shall be no later than April 30, 2012. It should be noted that the project need not be initiated on the grant effective date, but as soon thereafter as practical so that project goals may be attained within the funded project period. All funds granted by NIFA under this RFA shall be expended solely for the purpose for which the funds are granted in accordance with the approved application and budget, the regulations, the terms and conditions of the award, the applicable Federal cost principles, and the Department's assistance regulations (parts 3015 and 3019 of 7 CFR).

### **B. Award Notice**

The award document will provide pertinent instructions and information including, at a minimum, the following:

1. Legal name and address of performing organization or institution to whom the Director has issued an award under the terms of this request for applications;
2. Title of project;
3. Name(s) and institution(s) of PDs/PIs chosen to direct and control approved activities;
4. Identifying award number assigned by the Department;
5. Project period, specifying the amount of time the Department intends to support the project without requiring recompetition for funds;
6. Total amount of Departmental financial assistance approved by the Director during the project period;
7. Legal authority(ies) under which the award is issued;
8. Appropriate Catalog of Federal Domestic Assistance (CFDA) number;
9. Applicable award terms and conditions (see <http://www.nifa.usda.gov/business/awards/awardterms.html> to view NIFA award terms and conditions);
10. Approved budget plan for categorizing allocable project funds to accomplish the stated purpose of the award; and

11. Other information or provisions deemed necessary by NIFA to carry out its respective awarding activities or to accomplish the purpose of a particular award.

### **C. Administrative and National Policy Requirements**

The regulations at 7 CFR Part 3430 apply – USDA-NIFA Competitive and Noncompetitive Nonformula Federal Assistance Programs - General Award Administrative Provisions. However, other regulations (listed below) may also be applicable. These include, but are not limited to:

2 CFR Part 220—Cost Principles for Educational Institutions (OMB Circular A-21).

2 CFR Part 225—Cost Principles for State, Local, and Indian Tribal governments (OMB Circular A-87)

2 CFR Part 230 – Cost Principles for Non-profit Organizations (OMB Circular A-122).

7 CFR Part 1, subpart A—USDA implementation of the Freedom of Information Act.

7 CFR Part 3—USDA implementation of OMB Circular No. A-129 regarding debt collection.

7 CFR Part 15, subpart A—USDA implementation of Title VI of the Civil Rights Act of 1964, as amended.

7 CFR Part 331 and 9 CFR Part 121—USDA implementation of the Agricultural Bioterrorism Protection Act of 2002.

7 CFR Part 3015—USDA Uniform Federal Assistance Regulations, implementing OMB directives (i.e., OMB Circular Nos. A-21, A-87, and A-122, now codified at 2 CFR Parts 220, 225, and 230) and incorporating provisions of 31 U.S.C. 6301-6308 (formerly the Federal Grant and Cooperative Agreement Act of 1977, Pub. L. No. 95-224), as well as general policy requirements applicable to recipients of Departmental financial assistance.

7 CFR Part 3016—USDA Implementation of Uniform Administrative Requirements for Grants and Cooperative Agreements to State and Local Governments.

7 CFR Part 3017—USDA implementation of Governmentwide Debarment and Suspension (Nonprocurement) and 7 CFR Part 3021—Governmentwide Requirements for Drug Free Workplace (Grants).

7 CFR Part 3018—USDA implementation of Restrictions on Lobbying. Imposes prohibitions and requirements for disclosure and certification related to lobbying on recipients of Federal contracts, grants, cooperative agreements, and loans.

7 CFR 3019—USDA Implementation of OMB Circular A-110, Uniform Administrative Requirements for Grants and Other Agreements with Institutions of Higher Education, Hospitals, and other non-Profit Organizations (2 CFR Part 215).

7 CFR Part 3021—Governmentwide Requirements for Drug-Free Workplace (Financial Assistance)

7 CFR Part 3052—USDA implementation of OMB Circular No. A-133, Audits of States, Local Governments, and Non profit Organizations.

7 CFR Part 3407—USDA procedures to implement the National Environmental Policy Act of 1969, as amended.

29 U.S.C. 794 (section 504, Rehabilitation Act of 1973) and 7 CFR Part 15b (USDA implementation of statute) —prohibiting discrimination based upon physical or mental handicap in Federally assisted programs.

35 U.S.C. 200 et seq. —Bayh Dole Act, controlling allocation of rights to inventions made by employees of small business firms and domestic nonprofit organizations, including universities, in Federally assisted programs (implementing regulations are contained in 37 CFR Part 401)

#### **Special Terms and Conditions and National Policy Requirements.**

The DOE Special Terms and Conditions for Use in Most Grants and Cooperative Agreements are located at [http://management.energy.gov/business\\_doe/business\\_forms.htm](http://management.energy.gov/business_doe/business_forms.htm) under Award Terms. The National Policy Assurances to DOE requires that costs be incorporated as award terms are located at [http://management.energy.gov/business\\_doe/business\\_forms.htm](http://management.energy.gov/business_doe/business_forms.htm) under Award Terms.

#### **Intellectual Property Provisions.**

Financial assistance intellectual property provisions for DOE and USDA-NIFA will be specified in the award documents for each project. The standard DOE financial assistance intellectual property provisions applicable to the various types of recipients are located at [http://www.gc.doe.gov/financial\\_assistance\\_awards.htm](http://www.gc.doe.gov/financial_assistance_awards.htm).

Intellectual property regulations applicable to USDA-NIFA awards are described at <http://www.nifa.usda.gov/business/awards/intellprop.html>, including USDA/CREES use of Interagency Edison for the disclosure of inventions.

PLEASE NOTE: All technical reports are held confidential for a period covering four years after the termination of the project. As such, proprietary information should be included in all reports when necessary to provide the USDA Staff adequate information to evaluate the outcome of the project. If proprietary information is provided by an applicant in an application, which constitutes a trade secret, proprietary commercial or financial information, confidential personal information or data affecting the national security, it will be treated in confidence, to the extent permitted by law. This information must be clearly marked by the applicant with the term “confidential proprietary information,” including the legend described in 7 CFR 3430.21 (see Part VI.

Any other legend may be unacceptable to the Government and may constitute grounds for removing the application from further consideration without assuming any liability for inadvertent disclosure. The Government will limit dissemination of such information to within official channels. USDA, by law, is required to make the final decision as to whether the information is required to be kept in confidence. Information contained in unsuccessful applications will remain the property of the applicant. However, USDA will retain for three years one file copy of all applications received; extra copies will be destroyed. Public release of information for any application submitted will be subject to existing statutory and regulatory requirements. However, any application which is funded will be considered an integral part of the award and normally will be made available to the public upon request through the Freedom of Information Act, except for designated proprietary information.

The inclusion of proprietary information is discouraged unless it is necessary for the proper evaluation of the application. If proprietary information is to be included, it should be limited, set apart from other text on a separate page, and keyed to the text by numbers. It should be confined to a few critical technical items which, if disclosed, could jeopardize the obtaining of foreign or domestic patents. Trade secrets, salaries, or other information that could jeopardize commercial competitiveness should be similarly keyed and presented on a separate page. Applications or reports that attempt to restrict dissemination of large amounts of information may be found unacceptable by USDA.

### **Expected Program Outputs and Reporting Requirements for USDA NIFA Awards**

Grantees are to submit initial project information and annual and summary reports to NIFA's electronic, Web-based inventory system that facilitates both grantee submissions of project outcomes and public access to information on Federally-funded projects. The details of these reporting requirements are included in the award terms and conditions.

Projects selected for funding by USDA will be requested to allow for a 3<sup>rd</sup> party site visit and review near the termination of the grant. The results of the third party evaluation will be integrated into USDA NIFA's BRDI program evaluation framework and reported to USDA, OMB, and Congressional leadership.

Reporting requirements for DOE awards are identified on the Federal Assistance Reporting Checklist, DOE F 4600.2, attached to the award agreement. The proposed Checklist for this program is available at [http://management.energy.gov/business\\_doe/business\\_forms.htm](http://management.energy.gov/business_doe/business_forms.htm).

### **Use of Reported Information**

Please note the vital importance of preparing well written progress and technical reports. NIFA's electronic, Web-based inventory system that facilitates both grantee submissions of project outcomes and public access to information on Federally-funded projects. Information reported into this system is used extensively by NIFA for describing the work NIFA funds, in planning and assessing its programs, and communicating project results.

## **PART VII—AGENCY CONTACT**

Applicants and other interested parties are encouraged to contact Carmela Bailey; National Program Leader – Agricultural Materials; telephone: (202) 401-6443; e-mail: [cbailey@nifa.usda.gov](mailto:cbailey@nifa.usda.gov).

OR

Peter Arbuckle, Program Specialist for Energy and Biobased Products, (202) 401-5741, [parbuckle@nifa.usda.gov](mailto:parbuckle@nifa.usda.gov)

## **PART VIII—OTHER INFORMATION**

### **A. Access to Review Information**

Copies of reviews, not including the identity of reviewers, and a summary of the panel comments will be sent to the applicant PD/PI after the review process has been completed.

### **B. Use of Funds; Changes**

#### **1. Delegation of Fiscal Responsibility**

Unless the terms and conditions of the award state otherwise, the awardee may not in whole or in part delegate or transfer to another person, institution, or organization the responsibility for use or expenditure of award funds.

#### **2. Changes in Project Plans**

a. The permissible changes by the awardee, PD(s)/PI(s), or other key project personnel in the approved project shall be limited to changes in methodology, techniques, or other similar aspects of the project to expedite achievement of the project's approved goals. If the awardee or the PD(s)/PI(s) is uncertain as to whether a change complies with this provision, the question must be referred to the Authorized Departmental Officer (ADO) for a final determination. The ADO is the signatory of the award document, not the program contact.

b. Changes in approved goals or objectives shall be requested by the awardee and approved in writing by the ADO prior to effecting such changes. In no event shall requests for such changes be approved which are outside the scope of the original approved project.

c. Changes in approved project leadership or the replacement or reassignment of other key project personnel shall be requested by the awardee and approved in writing by the ADO prior to effecting such changes.

d. Transfers of actual performance of the substantive programmatic work in whole or in part and provisions for payment of funds, whether or not Federal funds are involved, shall be requested by the awardee and approved in writing by the ADO prior to effecting such transfers, unless prescribed otherwise in the terms and conditions of the award.

e. The project period may be extended by NIFA without additional financial support, for such additional period(s) as the ADO determines may be necessary to complete or fulfill the purposes of an approved project, but in no case shall the total project period exceed any applicable statutory limit or expiring appropriation limitation. Any extension of time shall be conditioned upon prior request by the awardee and approval in writing by the ADO, unless prescribed otherwise in the terms and conditions of award.

f. Changes in Approved Budget: Unless stated otherwise in the terms and conditions of award, changes in an approved budget must be requested by the awardee and approved in writing by the

ADO prior to instituting such changes, if the revision will involve transfers or expenditures of amounts requiring prior approval as set forth in the applicable Federal cost principles, Departmental regulations, or award.

### **C. Confidential Aspects of Applications and Awards**

When an application results in an award, it becomes a part of the record of NIFA transactions, available to the public upon specific request. Information that the Secretary determines to be of a confidential, privileged, or proprietary nature will be held in confidence to the extent permitted by law. Therefore, any information that the applicant wishes to have considered as confidential, privileged, or proprietary should be clearly marked within the application. The original copy of an application that does not result in an award will be retained by the Agency for a period of three years. Other copies will be destroyed. Such an application will be released only with the consent of the applicant or to the extent required by law. An application may be withdrawn at any time prior to the final action thereon.

### **D. Regulatory Information**

For the reasons set forth in the final Rule related Notice to 7 CFR part 3015, subpart V (48 FR 29114, June 24, 1983), this program is excluded from the scope of the Executive Order 12372 which requires intergovernmental consultation with State and local officials. Under the provisions of the Paperwork Reduction Act of 1995 (44 U.S.C. chapter 35), the collection of information requirements contained in this Notice have been approved under OMB Document No. 0524-0039.

### **E. Definitions**

Please refer to [7 CFR 3430, Competitive and Noncompetitive Non-formula Grant Programs-- General Grant Administrative Provisions](#), and Subpart K of 7 CFR 3430 for the applicable administrative regulations and definitions for this NIFA grant program.

Additional BRDI specific definitions include:

—**Commercial**” means, for the purposes of this program, a project that is commercially viable, but the technology is implemented in a new or novel way

—**Consortium (plural consortia)**” means a group of organizations or individuals that have chosen to submit a single Application in response to a Funding Opportunity Announcement.

—**Federally Funded Research and Development Center (FFRDC)**” means a research laboratory as defined by Federal Acquisition Regulation 35.017.

—**Peliminary data**” means data and results generated by prior research, development, and demonstration and/or unstructured and structured interviews and literature reviews.

—**Pimary data**” means data observed or collected directly from research, development, and demonstration activities.



## **APPENDIX A: Federally Funded Research and Development Center (FFRDC) Contractors**

### DOE/NNSA National Laboratory Contractors and Other Federally Funded Research and Development Center (FFRDC) Contractors.

A DOE National Laboratory Contractor is eligible to apply for funding under this announcement if its cognizant contracting officer provides written authorization and this authorization is submitted with the application. If a DOE National Laboratory Contractor is selected for award, the proposed work will be authorized under the DOE work authorization process and performed under the laboratory's Management and Operating (M&O) contract. The following wording is acceptable for the authorization:

–Authorization is granted for the \_\_\_\_\_ Laboratory to participate in the proposed project. The work proposed for the laboratory is consistent with or complementary to the missions of the laboratory, will not adversely impact execution of the DOE assigned programs at the laboratory, and will not place the laboratory in direct competition with the domestic private sector.”

FFRDC contractors may be proposed as team members on another entity's application, subject to the following guidelines:

Authorization for non-DOE FFRDCs. The Federal agency sponsoring the FFRDC contractor must authorize in writing the use of the FFRDC contractor on the proposed project and this authorization must be submitted with the application. The use of a FFRDC contractor must be consistent with the contractor's authority under its award.

Authorization for DOE FFRDCs. The cognizant contracting officer for the FFRDC must authorize in writing the use of a DOE FFRDC contractor on the proposed project and this authorization must be submitted with the application. The following wording is acceptable for this authorization:

–Authorization is granted for the \_\_\_\_\_ Laboratory to participate in the proposed project. The work proposed for the laboratory is consistent with or complementary to the missions of the laboratory, will not adversely impact execution of the DOE assigned programs at the laboratory, and will not place the laboratory in direct competition with the domestic private sector.”

Value/Funding. The value of, and funding for, the FFRDC contractor portion of the work will not normally be included in a DOE award to a successful applicant. Usually, DOE will fund a DOE FFRDC contractor through the DOE field work proposal system and other FFRDC contractors through an interagency agreement with the sponsoring agency. NIFA awards will strictly follow all applicable cost principles referenced in Part VI. C. of this announcement.

Cost Share. The applicant's cost share requirement will be based on the total cost of the project, including the applicant's and the FFRDC contractor's portions of the effort.

### FFRDC Contractor Effort:

- For projects funded by DOE, the scope of work to be performed by the FFRDC contractor

may not be more significant than the scope of work to be performed by the applicant.

- For projects funded by DOE, the FFRDC contractor effort, in aggregate, shall not exceed 100% of the total estimated cost of the project, including the applicant's and the FFRDC contractor's portions of the effort.

Responsibility. The applicant, if successful, will be the responsible authority regarding the settlement and satisfaction of all contractual and administrative issues, including but not limited to, disputes and claims arising out of any agreement between the applicant and the FFRDC contractor.