

# **Request for Applications**



## **2008 Biomass Feedstock Logistics**

**North Central Sun Grant Center  
Regional Competitive Grants Program**

**All 5 Sun Grant Regions Eligible**

**Pre-Proposal Due: July 23, 2008**

## The Sun Grant Initiative

World-wide energy demand is increasing. America's consumption of oil and dependency on imported oil to satisfy its needs continue to grow. Agriculture and forestry can reduce America's reliance on imported petroleum by providing domestic feedstocks for the manufacture of biobased products, fuels, and power. The Sun Grant Initiative was authorized by Congress in 2004 as a national network of land grant universities partnering with U.S. federal agencies to build a biobased economy. The authorizing legislation establishes the mission of the Sun Grant Initiative as:

1. to enhance national energy security through the development, distribution, and implementation of biobased energy technologies;
2. to promote diversification in, and the environmental sustainability of, agricultural production in the United States through biobased energy and product technologies;
3. to promote economic diversification in rural areas of the United States through biobased energy and product technologies; and
4. to enhance the efficiency of bioenergy and biomass research and development programs through improved coordination and collaboration between federal agencies and the nation's land-grant colleges and universities.

Five land-grant universities serve as regional Sun Grant centers for the land-grant network. The Sun Grant Regional Centers are located at South Dakota State University (North Central), Oklahoma State University (South Central), the University of Tennessee (South East), Cornell University (North East), and Oregon State University (West). These regional centers are charged with making significant advances in biobased industries and emphasizing research, extension, and educational programs on renewable energy technology. Such activities are to promote the development of biobased industries in rural communities. These Sun Grant Centers will facilitate ongoing and proposed federally funded research, extension and education programs in their respective regions. These programs will embrace the multi-state, multi-function, multi-disciplinary integrated approach that is at the heart of the land-grant mission and methodology for developing science-based solutions to national challenges.

## Current Regional Grant Program

The North Central Sun Grant Center expects to receive funding from the U.S. Department of Energy (DOE) Energy Efficiency and Renewable Energy's Office of Biomass Programs. Through these DOE funds the NC-SGC Regional Competitive Grants Program will have approximately \$3 M to distribute for research projects related to biomass feedstock logistics. These funds will be released through an application process (Request for Applications, RFA) describe below. We seek both large (up to \$700,000) and small (up to \$80,000) project applications for projects 2 to 3 years in duration. **Funding of all proposals is subject to availability/receipt of federal funds.**

## Eligibility for Current RFA

Principal investigators must be employed by an eligible institution (described below). Principal investigators and key personnel must demonstrate competency to implement and complete a

comprehensive research project, provide fiscal accountability, prepare project reports and demonstrate a willingness to share information with researchers and other interested parties.

All institutions with land-grant status (1862, 1890, and 1994) are eligible to submit an application. Other individuals, businesses, non-profit entities or educational institutions may participate through partnership with a land-grant institution. Partnerships among universities, industries, national laboratories, and other appropriate groups are strongly encouraged.

### **Required Cost Share**

Successful applicants must provide a 20% cost share. For example, if the total project cost is \$100,000, then the NC Sun Grant Center will provide \$80,000 and \$20,000 must be provided as cost share. Grantees may provide funds through in-kind contributions including faculty salaries, facilities, or from state, local, non-profit or private funds. No federal funds may be used as cost share.

### **Priority Areas for this RFA**

The priority area for this request, as identified by the North Central Sun Grant Center and the U.S. Department of Energy, is biomass feedstock logistics directly relevant to future biomass utilization in the North Central Sun Grant Region. Feedstock logistics is being defined to include biomass harvesting, handling (field operations), transportation, storage (including degradation & transformations), and densification. Biomass feedstocks of interest for this RFA include woody and herbaceous crops suitable for commercial production in the North Central Sun Grant Region and herbaceous crop residues (for example corn and small grain crop residues) produced in the NC Region. Forest residues will not be considered in this request. Each proposal should include a component on economics.

### **Application Process and Requirements**

**Pre-Proposal: (Submission Deadline July 23, 2008)** a pre-proposal is required and should be submitted using the online proposal submission system located on the NC Sun Grant website at <http://ncsungrant.sdstate.org>. You must register as a “user” if you had not done so for previous NC Sun Grant applications. Users from Sun Grant regions outside the North Central Region will have to register as a new user even if they have previously registered on their home Sun Grant Regional WEBNIBUS system. Please follow the instruction available on the site. Pre-proposals should contain:

1. A descriptive title for the proposed project
2. What problems or opportunities are to be addressed and why it is important
3. The names of key personnel and their institutions
4. A brief statement of the proposed project objectives and a general description of the research methods to be used (12,000 character limit)
5. An outline of deliverables and potential impacts of the work
6. An estimate of total project cost

Pre-proposals submitted by July 23 will be screened and those selected will be asked to submit a full application by the to-be-determined application deadline.

**Full Application:** Investigators invited to submit a full application will be requested to do so via an online system located on the North Central Sun Grant website at <http://ncsungrant.sdstate.org>. Proposal submission instructions are available on the site. Details on the application materials are as follows:

1. Proposal Summary: Complete information as requested by the proposal submission system.
2. Project Narrative: This section will be uploaded into the online system as an Adobe pdf file. The Project Narrative should use 12 point Times New Roman font, single spaced and 1 inch margins. The Project Narrative should include the following sections and information:
  - a. Non-technical abstract: A short (250 words or less) non-technical abstract. This abstract will be for a general audience and will be used in public descriptions of the Sun Grant research portfolio.
  - b. Description of Proposed Project - 20 page limit and must include:

**Introduction:** A clear statement of the long-term goal(s) and supporting objectives or research questions of the proposed project should be included. Summarize the body of knowledge or other past activities that substantiate the need for the proposed project. Describe ongoing or recently completed significant activities related to the proposed project including the work of key project personnel. Preliminary data/information pertinent to the proposed research should be included in this section. All works cited should be referenced.

**Rationale and Significance:** Concisely present the rationale behind the proposed research. The specific relationship of the project's objectives to one or more of the Sun Grant's goals should be explicit. Any novel ideas or contributions that the proposed project offers should also be discussed in this section.

**Approach:** The activities proposed or problems being addressed must be clearly stated and the approaches being applied clearly described. Specifically, this section must include:

- A description of the activities proposed and their sequence
- Methods to be used in carrying out the proposed project, including the feasibility of the methods
- Expected outcomes
- Means by which results will be analyzed, assessed, or interpreted
- How results or products will be used
- Pitfalls that may be encountered
- Limitations to proposed procedures; and
- A full explanation of any materials, procedures, situations, or activities related to the project that may be hazardous to personnel, along with an outline or precautions to be exercised to avoid or mitigate the effects of such hazards

**Deliverables:** Clearly articulate the expected outcomes and products of the proposed research.

**Key Personnel:** Clearly describe the roles and responsibilities of the project director, co-directors, and/or collaborator(s).

**Facilities and Equipment:** Facilities and Equipment needed for execution of the proposal should be described here.

Literature Cited. All work cited should be referenced in this section of the application. All references to works cited should be complete, and should conform to an acceptable journal format. References should be listed in numerical order corresponding to their appearance in the text. References can be uploaded into the system as a separate pdf file under file attachments if necessary.

3. Collaborative Agreements (*include as separate attachments under file attachments*). If it will be necessary to enter into formal consulting or collaborative arrangements with others, such arrangements should be fully explained and justified. If the consultant(s) or collaborator(s) are known at the time of application, a vitae or resume should be provided in the key personnel section. In addition, evidence (e.g., letter of support) should be provided that the collaborators involved have agreed to render these services. These documents are to be uploaded into the proposal system as pdf attachments. The applicant also will be required to provide additional information on consultants and collaborators in the budget portion of the application.
4. Budget: The requested budget for the project will be entered through a series of sheets provided by the online system. The budget program will calculate a cumulative budget page and a breakdown for each year of the project. Please follow the on-screen instructions. The budget sheets will include items such as:
  - Salaries and wages for all senior personnel, post-doctoral research associates, graduate students, secretarial and technical workers, etc.
  - Costs of fringe benefits
  - Nonexpendable items with an itemized list and cost for each item
  - Materials and supplies
  - Travel
  - Publication costs
  - Computer costs
  - Any other direct costs, with an explanation
  - Indirect costs
  - Cost share
  - Total costs
5. Budget Justification —All budget categories for which support is requested must be completed in this section.

**Indirect Costs:** Institutions are allowed to charge indirect costs at their standard federal negotiated rate. Please attach your institutions rate schedule in the file attachment section.

### **Program Preferences**

Applications must meet the minimum requirements of eligibility and 20% (of total project costs) non-federal cost-share to be considered. Applications with multi-state partnerships and a cost-share commitment greater than the required 20% are highly encouraged. The application ranking process will allocate points based on these factors. Scientific merit and regional relevance, however, will have a greater influence on ranking.

### **Proposal Review Information**

The following criteria will be used to evaluate the submissions:

1. Scientific Merit of the Application for Research (50%)
  - a. Novelty, innovation, uniqueness, and originality
  - b. Conceptual adequacy of the research, as applicable
  - c. Clarity and delineation of objectives
  - d. Adequacy of the description of the undertaking and suitability and feasibility of methodology
  - e. Demonstration of feasibility through preliminary data
  - f. Probability of success of project
2. Qualifications of Project Personnel, Adequacy of Facilities, and Project Management (25%)
  - a. Qualifications of applicant (individual or team) to conduct the proposed project
  - b. Demonstrated awareness of previous and alternative approaches to the problem identified in the application
  - c. Institutional experience and competence in subject area
  - d. Adequacy of available or obtainable support personnel, facilities, and instrumentation
  - e. Planning and administration of the proposed project, including: time allocated for systematic attainment of objectives, project administration and maintenance, and dissemination of information for multi-institutional projects over the duration of the project
  - f. Level of partnership and collaborative efforts with other educational institutions, non-profits, small business, and/or industry
3. Project Relevance (25%)

Documentation that the proposed research is directed toward biomass feedstock logistics and the specific priority areas identified for this program and stated preferences.

Final selection will include consideration of topic area balance in the final research portfolio. Research portfolio balance will only be used as a deciding factor when proposals of equal merit are under consideration.

### **Award Administration**

**Program Management:** Administration of the program will be handled by the North Central Sun Grant Center. The NC-SGC Director and Advisory Committee are responsible for selection of the awards and determination of funding priorities for the region. Contracts and payments for the awards will be written and distributed from South Dakota State University. Reports and reviews will be collected and maintained by North Central Sun Grant Center at South Dakota State University.

**Award Notification:** Notification of awards will come from the North Central Sun Grant Center. Notification is expected to be made by the end of September 2008.

**Reporting Requirements:** A quarterly report of progress must be submitted by each funded project to be considered for continuation of funding. Successful applicants will be given detailed guidelines for reporting.

It is also important to disseminate information from NC-SGC funded projects. At least one Experiment Station or Extension bulletin is required for all funded projects and at least one peer-reviewed article is expected. Investigators must acknowledge US-DOE and the NC-SGC in related publications and presentations. If available, PIs will also be invited to present research findings during the North Central Sun Grant Center's Regional Conference.

**Continuation of Funding:** Continuation of funding beyond the first year will be determined by first year performance, as well as continued funding from the United States Department of Energy.

**Contact Person:**

For questions on proposal development and submission or general information on the North Central Sun Grant Center:

James J. Doolittle, Ph.D.  
Director and Professor  
North Central Sun Grant Center  
South Dakota State University  
815 Medary Avenue, Suite 210  
Brookings, SD 57006  
605-696-7870  
James.doolittle@sdstate.edu