

FCIC to Fund Projects to Improve Biomass Handling

By Feedstock-Conversion Interface Consortium | January 02, 2018

To accelerate innovation and adoption of new practices and technologies to determine the root cause of biomass handling failures and designing solutions, the Feedstock-Conversion Interface Consortium is overseeing a directed funding opportunity (DFO) call. Interested industrial and academic partners wanting to collaborate with research experts and leverage unique technology capabilities at the U.S. Department of Energy's national laboratories are encouraged to apply.



Lignocellulosic biorefineries' development and operation have suffered from failing to account for the complexity and variability of feedstock properties and composition, lack of fundamental understanding of the physics and chemistry of biomass derived feedstock preprocessing and subsequent deconstruction, poor equipment design, and flawed integration. Understanding the potential range of desired biomass specifications will enable effective handling strategies and will lead to predictable conversion performance in lignocellulosic industrial biorefineries.

A successful bioeconomy is imperative for reducing dependence on foreign sources of energy, increasing global market competitiveness, enabling agricultural development, securing environmental sustainability, and producing domestic jobs toward an affordable and resilient bioeconomy.

In response to this need, the DOE Bioenergy Technologies Office, part of the Office of Energy Efficiency and Renewable Energy, established the FCIC, a consortium of DOE national laboratories with expertise in driving research and development in biomass feedstocks supply, preprocessing, and conversion technologies. As part of the FCIC program, the participating national laboratories apply technical competence and unique capabilities for early to mid-stage research dedicated toward commercializable solutions to challenges that impede integrating unit operations in 2nd generation biorefineries to produce biofuels and bioproducts from lignocellulosic biomass.

The purpose of this DFO is to facilitate focused R&D to understand the root causes of feed handling failures and develop integratable technologies to increase the on-stream operational reliability of biorefineries by providing industry partners with access to the FCIC resources network. Interested industry or academia are encouraged to submit research proposals, in collaboration with national labs, to address the most pressing industrial feedstock handling, preprocessing, and conversion challenges related to feedstock chemical, physical, and mechanical variability.

Industrial and academic partners will team with FCIC researchers on collaborative projects and provide cost share of at least 30 percent of the project total. Federal funds will be awarded for selected projects to cover FCIC network laboratory contributions. Project awards are anticipated between \$500,000 and \$2,000,000 for a project duration of 12 to 18 months.

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It is anticipated that the DFO may include the following topic areas:

Topic Area 1: Biomass Quality Evaluation and Optimization

Topic Area 2: Biomass Preprocessing, Feed-Handling, and Conversion Process Integration

Topic Area 3: System Readiness Evaluation through Techno-Economic Analysis and Process Control Development



FCIC envisions awarding multiple awards under this DFO. Teams should identify technical challenges that could benefit from this DOE national laboratory directed funding opportunity to accelerate their research and development, and market deployment. Selected projects will (1) be partnerships between industry and one or more FCIC member national laboratories with the most compelling relevant capabilities and expertise and (2) enter into an FCIC DFO agreement pre-negotiated by FCIC member national laboratories.

This Notice of Intent is issued so that interested parties are aware of the FCIC's intention to issue this DFO in the near term. All information contained in this Notice of Intent is subject to change. Once the DFO is released, FCIC will provide opportunity for potential applicants to submit questions.

FCIC plans to issue the DFO via the FCIC website: fcic.inl.gov. Applicants who wish to receive official notifications and information from FCIC regarding this DFO should send an email to fcic@inl.gov to be added to a distribution list. When the DFO is released, applications will be accepted only through the FCIC website application system at fcic.inl.gov.