Holland & Knight

New and Upcoming Funding Opportunities in the Bioeconomy

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Now that we are firmly into the third quarter of the federal fiscal year, the U.S. Department of Energy (DOE) continues to announce attractive funding opportunities in support of the bioeconomy through its various program offices. These new and upcoming funding opportunity announcements (FOA) have the capacity to support biofuels, bioproducts, and biopower technologies along the entire value chain. What follows is an overview of two high-value grant funding opportunities along with Holland & Knight's programmatic insight.

EERE's "Project Definition for Pilot and and Demonstration Scale Manufacturing of Biofuels, Bioproducts, and Biopower" FOA

After much anticipation and delay, the DOE's Office of Energy Efficiency and Renewable Energy (EERE) has just announced a Notice of Intent (NOI) to issue a FOA entitled "Project Definition for Pilot and and Demonstration Scale Manufacturing of Biofuels, Bioproducts, and Biopower" that aims to support the design and potential construction of pilot- and demonstration-scale integrated biorefineries. The first inklings of this FOA date back to late 2014 and, in part due to internal agency obstacles and due diligence, is only now about to come to fruition. With an expected release date in May, this FOA is likely to exceed the $25 million in available funding originally alluded to a couple years ago.

This FOA aims to support the manufacture of drop-in hydrocarbon biofuels, bioproducts, or intermediates and is envisioned in two phases: including an initial design phase extending approximately 1-2 years followed by a down-select review and the possibility to continue onto a second construction and operations phase. The NOI has identified three priority technology areas:

- Pilot scale production of biofuels from high impact cellulosic, algal, or biogas feedstocks
- Demonstration scale production of biofuels from high impact cellulosic, algal, or biogas feedstocks
- Production of biopower or biofuels from biosolids and other waste streams

As this has every potential to be the biggest grant funding opportunity in the bioeconomy this year, proactively readying for the application would be prudent. In advance of the official FOA release, prospective applicants can attend to certain administrative tasks including registering on the EERE Funding Opportunity Exchange, obtaining a Dun and Bradstreet Data Universal Numbering System (DUNS) number, and registering or updating their registration with the System for Award Management.

For more information on this upcoming FOA, visit the EERE Funding Opportunity Exchange.

ARPA-E's "Rhizosphere Observations Optimizing Terrestrial Sequestration" (ROOTS) FOA

The DOE's Advanced Research Projects Agency-Energy (ARPA-E) advances high-potential, high-impact energy technologies that are too early for private-sector investment. Unlike EERE, which often supports companies trying to overcome an incremental technological hurdle—so called "screw driver engineering work"—ARPA-E specifically seeks out technologies that are "one miracle away"

from transforming an existing market. Indeed, once EERE begins funding a technology, ARPA-E usually deems the technology too advanced or non-transformative enough for ARPA-E.
The recently released “Rhizosphere Observations Optimizing Terrestrial Sequestration” (ROOTS) FOA is thus right in ARPA-E’s wheelhouse as it aims to develop new integrated technologies to sequester carbon in the soil while improving the sustainability and resiliency of industrial agriculture. With $30 million in funding for approximately 8-10 awards varying between $250,000 and $10 million each, ARPA-E is pursuing technologies that increase the precision and throughput of crop breeding for improved root-soil biogeochemical function. Specifically, ARPA-E seeks these technologies:

- **Sensors** – Advanced sensors and imaging technology for characterization of roots and soils.
- **Models** – Predictive and extensive models of plants and soils to accelerate breeding programs.
- **Genetics and Environment** – Genetic resources and characterization of germplasm performance in multiple environments and/or management regimes for phenotypes that address ROOTS biogeochemical goals.

ARPA-E prefers project proposals that address all three technological components but will consider submissions that only address the first component, sensors. ARPA-E believes that such technologies could significantly improve soil carbon accumulation and storage, decreased N2O emission, and improve water efficiency. This FOA is likely to most appeal to feedstock providers in the bioeconomy, as this long-term project opportunity intends to provide a more sustainable feedstock production base.
Key dates:

- First deadline for questions: 5/19/16, 5:00pm ET
- Concept Papers due: 5/26/16, 5:00pm ET
- Full Applications due: TBD

It has been the experience of Holland & Knight’s energy advisors that competitive applicants are typically very clear about what impact they can achieve in under 3 years of funding. Further, such applicants possess demonstrable market awareness with respect to how a technological breakthrough is both economically practical and could have a transformative impact. Most importantly, given the highly competitive nature of ARPA-E funding opportunities, successful applicants usually fit exactly within the parameters of the solicitation. Finally, we strongly encourage applicants to voluntarily participate in the related Teaming Partner List, which could potentially facilitate strategic partnerships that could strengthen an application.

For more information and to apply online, visit ARPA-E’s Funding Opportunity Exchange.

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