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$120 Million in Grants Available for Transformational Manufacturing

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Publication Date: July 28, 2011

Summary. The Department of Energy ("DOE") announced it has made $120 million in grants available through its Industrial Technology Program for "transformational manufacturing processes and technologies" that will help double energy productivity in U.S. industry (DE FOA-0000560). The "Innovative Manufacturing Initiative" will support research and development projects to improve energy productivity and energy performance in the manufacturing sector, with the emphasis being on "new processes and materials that are revolutionary and can be commercialized within the next five to seven years" (p. 8 of Funding Opportunity Announcement, or "FOA"). *This Client Alert* discusses the types of projects likely to be funded, who is eligible to apply, and steps needed to craft a competitive application for funding.

Two Technical Topic Areas of Interest, both focusing on increasing the output per unit of energy used. In order to promote increasing energy productivity, the DOE focuses on two Topic Areas in its FOA: Topic Area 1, "Innovative Manufacturing Processes" and Topic Area 2, "Innovative Materials." Applications must identify which Topic Area the proposed project falls under, as well as the SubTopic Area, as discussed below.

Innovative Manufacturing Processes focus on projects that promote "low temperature, energy efficient" processing (p. 8). Relevant SubTopics under this area include: (1) Reactions and Separations; (2) High-temperature Processing; (3) Waste-Heat Minimization and Recovery; and (4) Sustainable Manufacturing. So, for example, a relevant project under this Topic Area could be any project that (a) improves energy efficiency for an existing manufacturing process; (b) develops or produces either more energy-efficient materials or lower-energy or non-thermal alternative processes to current manufacturing; or (c) finds a way to retrieve waste heat, reduce water usage, or otherwise reduce the energy footprint of manufacturing.

Innovative Materials focuses on the development of inputs in the industrial process that cost less, last longer, and improve industrial performance (p. 9). Relevant SubTopics under this area include: (1) Thermal and Degradation Resistant Materials; (2) Highly Functional, High-Performance Materials; and (3) Lower Cost Materials for Energy Systems. So, for example, a relevant project under this Topic Area could be any project that (a) promotes the production of advanced ceramics, coatings and/or nanomaterials; (b) develops and deploys advanced composites, hybrid materials, and/or engineered polymers; or (c) develops manufacturing materials at a lower cost and with improved functionality.

A Path to Commercialization: Applications must show how the Project will eventually transition into Commercial Markets. While the FOA provides two Topic Areas for funding, any project that falls under either Area *must be on a path to commercialization* - within five to seven years, as noted above. The DOE uses the "Technology Readiness Level," or "TRL," approach to define the project from concept to commercialization. TRL has nine levels of progression for a project, discussed below, and the FOA focuses on projects within TRL Numbers 2 through 6.

The Technology Readiness Level (TRL) approach - from concept to commercialization in nine levels:

- TRL 1 Basic Research
- TRL 2 Applied Research
- TRL 3 Critical Function or Proof of Concept Established
- TRL 4 Laboratory Testing/Validation of Component(s)/Process(es)

- TRL 5 Laboratory Testing of Integrated/Semi-Integrated System
- TRL 6 Prototype System Verified
- TRL 7 Integrated Pilot System Demonstrated
- TRL 8 System Incorporated in Commercial Design
- TRL 9 System Proven and Ready for Commercial Deployment

The FOA will fund projects at TRL 2 - TRL 6; however, there is no pre-determined goal of projects to be awarded by TRL.

Who is eligible to apply? Almost anyone. Under the FOA, eligible applicants include (1) institutions of higher education; (2) national laboratories; (3) nonprofit and for-profit private entities; (4) state and local governments; (5) consortia of entities (1) through (4) (p. 12).

Information on cost share, award size and expected number of awards. Under the FOA, the cost share (i.e., local match) for a project is 20 percent or higher. Also, "the maximum DOE share for a TRL 2-3 project is not to exceed $1,000,000 and the maximum DOE share for a TRL 4-6 project is not to exceed $9,000,000." The DOE anticipates funding 35-50 awards that will have "a period of performance of up to three years from the date of award" (p. 11).

Requirements and Deadlines: A Letter of Intent due September 1 and Application due October 5. Under the FOA, a Letter of Intent with contact name and information and project information, including title, description and TRL of the proposed project, is due by 5 p.m. September 1, 2011. It must also include the estimated funding request from DOE. A complete application is due by 5 p.m. October 5, 2011, and must include (1) a Project Summary, limited to one page, that provides applicant information and a brief description of the project, including the TRL level; and (2) a Project Narrative, limited to 25 pages, that provides (a) project objectives; (b) a discussion on how the project meets relevant DOE review criteria; (c) a project timetable that includes all important activities and phases of the project; and (d) scholarly and professional information about the project and its participants, including no more than 10 publications written that are closely related to the project and no more than five professional and scholarly activities related to the project (pp. 16-18).

The Public Policy & Infrastructure practice has worked with a number of Reed Smith clients in crafting competitive applications for grant funding and complementary strategies to achieve funding, including obtaining support and assistance from members of Congress. We remain available to assist in the preliminary notice and development of a competitive application for funds under this FOA.