

DEPARTMENT OF ENERGY**National Energy Technology Laboratory****Notice of Availability of a Financial Assistance Solicitation**

AGENCY: National Energy Technology Laboratory (NETL), Department of Energy (DOE).

ACTION: Notice of availability of a Financial Assistance Solicitation.

SUMMARY: Notice is hereby given of the intent to issue Financial Assistance Solicitation No. DE-PS26-03NT41713 entitled "Regional Carbon Sequestration Partnerships". This solicitation will support the Department of Energy's Carbon Sequestration Program by promoting the development of a framework and infrastructure necessary for the validation, demonstration and wide-scale deployment of carbon sequestration technologies. This initiative directly supports the President's Global Climate Change Initiative (GCCCI) goal of reducing greenhouse gas intensity by 18% by 2012 and to ensure that a suite of commercially-ready sequestration technologies are available for the 2012 technology assessment mandated by the GCCCI. The DOE will call for applications and select multiple Regional Partnerships to receive financial assistance awards that would be chartered to evaluate options and potential opportunities for regional CO₂ storage and capture, CO₂ transport, regulatory permitting, communication and outreach, public acceptance, monitoring and verification requirements, and environmental efficacy of sequestration in their multi-state region(s). The DOE plans to fund 4-10 partnerships for a period of up to 24 months. Total Federal funding for this initiative will be \$8-\$10 million dollars with a non-Federal cost share of at least 20%.

DATES: The solicitation will be available on the DOE/NETL's Internet address at <http://www.netl.doe.gov/business> and on the "Industry Interactive Procurement System" (IIPS) webpage located at <http://e-center.doe.gov> on or about December 16, 2002.

FOR FURTHER INFORMATION CONTACT: Martin J. Byrnes, U.S. Department of Energy, National Energy Technology Laboratory, P.O. Box 10940, MS 921-107, Pittsburgh, PA 15236. E-mail Address: byrnes@netl.doe.gov. Telephone Number: 412-386-4486.

SUPPLEMENTARY INFORMATION: This notice is to inform an array of organizations including private

landowners, mining and power generation industry, oil and gas industry, forest product industry, other commercial businesses, climate change and environmental special interest groups, academicians, community leaders, county/city planners, commissioners, engineers, and the general public of the availability of the Regional Carbon Sequestration Partnerships Solicitation so that these groups can begin collaboration.

1. Background Information*A. Introduction*

This initiative directly supports the President's Global Climate Change Initiative (GCCCI) goal of reducing greenhouse gas intensity by 18% by 2012 and will help ensure that a suite of commercially-ready sequestration technologies are available for the 2012 technology assessment mandated by the GCCCI. The establishment of several Regional Carbon Sequestration Partnerships will promote the implementation of the current RD&D technology for the capture, transport, and storage of anthropogenic fossil fuel CO₂ emissions across the United States by developing regional solutions.

For sequestration to be economically acceptable, the cost and energy penalty associated with CO₂ capture must be reduced, the long-term environmental efficacy and safety of CO₂ storage must be verified, and an infrastructure amenable to sequestration must be developed. The geographical differences in fossil fuel use and sequestration sinks across the United States dictates that regional approaches will be required to address the sequestration of CO₂. Each partnership will be chartered to develop permitting requirements, initiate public acceptance, develop protocols for the application of the latest advancements in technology from the DOE Carbon Sequestration Program and other RD&D efforts, evaluate these emerging technologies on capture and storage of CO₂, and establish the monitoring, verification and accounting protocols required in the event that wide-scale deployment of sequestration technologies becomes necessary.

Regionally oriented partnerships represent an important step towards meeting these objectives. The regional diversity of CO₂ sources and storage options calls for a diverse portfolio of strategies for carbon management. Multi-partner collaborations are encouraged. A Regional Partnership may consist of academia, national laboratories, energy producers and users, non-profit organizations, and state agencies and local agencies

indigenous to a specific region. The multi-state region should be based upon commonality of interests and contributions to the Partnership including the similarity of CO₂ sources and storage options. States in the multi-state region need not be contiguous.

B. The Regional Carbon Sequestration Partnerships Initiative

A two-phased approach is being pursued for this Partnership initiative. This Phase I solicitation will result in a detailed framework, conceptual design and cost information for follow-on activities in Phase II, "Implementation and Technology Validation". Phase II is anticipated to be a separate, open competitive solicitation as a follow-on to Phase I.

In Phase I the Regional Partnership shall as a minimum:

(1) *Define the Geographical Boundaries of the Region.* There will be several approaches for the capture, storage, and sequestration of CO₂ that will be required for the United States. For example, two sinks in the U.S. may have similar geologic characteristics but one of the two may not be suitable for sequestration because of regional conditions (e.g., land use change patterns, seismic considerations, use as a drinking water aquifer). In addition, a region may have a concentration of unique CO₂ sources. These sources could use the same capture technologies and yield a significant reduction of the CO₂ emitted from a region. Regions should be defined based on similarities of CO₂ sources, sinks, permitting considerations, partners and other analogous features.

(2) *Characterize the Region.* Characterize the region relative to sources, sinks, transport, sequestration options, and existing and future infrastructure requirements. For direct sequestration approaches (i.e., capture and injection of CO₂ into geologic reservoirs), partnerships are required to address all of these issues. For indirect sequestration approaches (e.g., reforestation, agriculture practices), partnerships are required to identify the natural sinks and regional sources of CO₂ emissions. Information gathered during the characterization phase should be archived in a relational database and geographic information system (GIS). The GIS is essential to analyzing the costs of transport, concentration of sources, capacity of sinks, and the creation of regional carbon accounting methods/protocols.

(a) Sources identified within a region must be of collective size that CO₂ capture would significantly reduce the total emissions within the region.

Information presented should include, but are not limited to, annual emissions of CO₂, emissions of other greenhouse gases (GHGs), and locations of large individual sources. Sources of CO₂ can include, but are not limited to, fossil fuel combustion power plants, metals manufacturing facilities, chemical processing plants, ethanol production, natural gas production and fossil fuel energy facilities.

(b) Storage options (*i.e.*, sinks) must include the predominant geologic and terrestrial sinks of the defined region. Storage options could include, but are not limited to, geologic reservoirs such as depleted oil/gas reservoirs; unmineable coal seams; saline formations; terrestrial sequestration options such as reforestation of abandoned mine lands; enhancement of unproductive lands; and modifying land management practices on lands with existing carbon stock to increase carbon content. Value-added storage options such as enhanced oil recovery, natural gas production, or growth of timber or agricultural products should be considered.

(c) Matching sources/sinks with CO₂ transportation issues must be addressed. Transport of the captured CO₂ from the source to the sink may be a significant consideration in regional greenhouse gas mitigation strategies. The Partnerships must analyze options/issues related to transport of CO₂ between sources/sinks (*e.g.*, via pipeline, tanker, *etc.*) within the region. Transport options/issues are obviously not applicable to indirect sequestration approaches such as reforestation and agricultural practices.

(3) *Identify the Most Promising Capture, Sequestration and Transport Options.* Analyze results from Paragraphs 1 & 2 above to identify the most promising regional opportunities for CO₂ capture, transport, storage and sequestration (direct or indirect) from the perspective of technical feasibility, safety, estimated cost, perceived public acceptability, CO₂ reduction potential, and environmental efficacy. Technologies assessed for direct capture of CO₂ are likely to come from the most promising options emerging from the DOE Carbon Sequestration Program or other related R&D initiatives conducted by academia and industry. This Regional Partnership initiative is not intended to be a "technology development" initiative. This initiative should, where possible, assess and validate the most promising emerging technology developments and if necessary, identify minor modifications required to fit the technology(s) to the regional applications. Near the

conclusion of Phase I Partnership activities, these results shall be used to identify and plan small scale, regional technology validation field tests to be conducted if the Partnerships desire to participate and are selected for follow on activity in Phase II Regional Partnership Solicitation. The results from both Phase I and Phase II activities will ultimately provide prime candidate regional options for future large scale (> 1 million tonnes per year CO₂ sequestered) demonstration and deployment opportunities, unrelated to these Regional Partnership solicitations.

(4) *Identify and Address Barrier Issues for Wide-Scale Deployment.* Conduct a preliminary assessment of safety, regulatory and permitting requirements, public perception, ecosystem impacts, and other potential challenges associated with wide scale deployment of promising regional opportunities selected for CO₂ capture, transport, and storage (direct and/or indirect approaches). The technology(ies) to be evaluated will be those chosen as the most promising opportunities from Paragraph 3. Develop actions plans to overcome these challenges and begin implementing these plans where possible.

(5) *Develop Public Involvement and Education Mechanisms.* Develop public involvement and education action plans that would be applicable in overcoming the potential challenges identified in Paragraph 4 above. For example, a public involvement plan may consist of, but not limited to, public education in the form of mailing lists, public meetings, media advertising, local interviews and education programs available at libraries, schools, and local businesses.

(6) *Prepare Action Plans for Implementation and Technology Validation Activity.* Follow on action plans should be prepared related to implementation of the framework developed leading to small scale regional technology validation field tests identified in Paragraph 3 above. Relative to direct capture options from energy facilities, Partnerships are encouraged to consider cost-effective approaches that provide flexibility for assessing multiple candidate technology options, if appropriate, such as a small slip stream from existing facility. Action plans for implementing Paragraphs 4 & 5 above should address the Partnerships plans forward related to public acceptance, public involvement and education, regulatory, permitting and accounting frameworks necessary for demonstration and wide-scale deployment of the most promising

greenhouse gas mitigation strategies identified from this solicitation.

DOE anticipates requiring the following information as part of the application for financial assistance:

(1) A list of participating public and private organizations, descriptions of the roles and responsibilities, and letters of intent for each partner. Regional partnerships can include industry, state and regional governments, non-profit organizations, academia, and national laboratories that collectively possess all relevant expertise and capabilities. Letters of commitment from all members of the partnership will be required with each application. Those members offering to provide cost-share are also required to provide details of that commitment.

(2) A description of the geographic region as defined by the Partnership including reasons that it should be considered (*e.g.*, concentration of particular type sources or sinks), and factors that make the proposed Partnership necessary for consideration over areas with similar sources or sinks.

(3) A description of the particular region's CO₂ sources and potential storage sites including a plan to provide detailed characterization of these sources and potential storage sites.

(4) A description of the potential aggregate amounts of greenhouse gas storage and value-added benefits (such as enhanced oil recovery, enhanced gas recovery, improved forestry/agriculture practices) that could result from the Regional Partnerships.

(5) Identification of environmental efficacy, permitting, and regulatory issues associated with carbon sequestration and any approach for resolving these challenges.

(6) An approach to developing an outreach plan to inform the public of the capabilities and economic benefits of the partnership activities and engage the public in decision-making when appropriate.

(7) A method for conducting technology transfer and information sharing on the results of the project.

Eligibility for participation in this Program Solicitation is considered to be full and open. All interested parties may apply. The solicitation will contain a complete description of the technical and organizational evaluation factors and the relative importance of each factor. Applications submitted by or on behalf of (1) another Federal agency; (2) a Federally Funded Research and Development Center sponsored by another Federal agency; or (3) a Department of Energy (DOE) Management Operating (M&O) contractor will not be eligible for award

under this solicitation. However, these organizations may be proposed as partnership members subject to the guidelines provided in the solicitation.

Once released, the solicitation will be available for downloading from the IIPS Internet page. At this Internet site you will also be able to register with IIPS, enabling you to submit an application. If you need technical assistance in registering or for any other IIPS function, call the IIPS Help Desk at (800) 683-0751 or E-mail the Help Desk personnel at IIPS_HelpDesk@e-center.doe.gov. The solicitation will only be made available in IIPS, no hard (paper) copies of the solicitation and related documents will be made available.

Prospective applicants who would like to be notified as soon as the solicitation is available should subscribe to the Business Alert Mailing List at <http://www.netl.doe.gov/business>. Once you subscribe, you will receive an announcement by E-mail that the solicitation has been released to the public. Telephone requests, written requests, E-mail requests, or facsimile requests for a copy of the solicitation package will not be accepted and/or honored. Applications must be prepared and submitted in accordance with the instructions and forms contained in the solicitation. The actual solicitation document will allow for requests for explanation and/or interpretation.

Issued in Pittsburgh, PA, November 25, 2002.

Dale A. Siciliano,

Director, Acquisition and Assistance Division.
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DEPARTMENT OF ENERGY

National Energy Technology Laboratory; Notice of Availability of a Financial Assistance Solicitation

AGENCY: National Energy Technology Laboratory (NETL), Department of Energy (DOE).

ACTION: Notice of Availability of a Financial Assistance Solicitation.

SUMMARY: Notice is hereby given of the intent to issue Financial Assistance Solicitation No. DE-PS26-03NT41714 entitled "Support of Advanced Fossil Resource Utilization Research by Historically Black Colleges and Universities and Other Minority Institutions." The Department of Energy announces that it intends to conduct a competitive Program Solicitation and award financial assistance (grants) to U.S. Historically Black Colleges and

Universities (HBCU) and Other Minority Institutions (OMI) in support of innovative research and development of advanced concepts pertinent to fossil resource conversion and utilization.

Applications will be subjected to a review by a DOE technical panel, and awards will be made to a select number of applicants based on the scientific merit of the application, relevant program policy factors, and the availability of funds. Collaboration with private industry is encouraged.

DATES: The solicitation was made available on the "Industry Interactive Procurement System" (IIPS) webpage located at <http://e-center.doe.gov> on November 21, 2002. Applicants can obtain access to the solicitation from the address above or through DOE/NETL's Web site at <http://www.netl.doe.gov/business>.

FOR FURTHER INFORMATION CONTACT:

Angela M. Delmastro, MS 921-107, U.S. Department of Energy, National Energy Technology Laboratory, 626 Cochran's Mill Road, Pittsburgh PA 15236, E-mail Address: angela.delmastro@netl.doe.gov, Telephone Number: 412-386-5038.

SUPPLEMENTARY INFORMATION: DOE anticipates issuing Financial Assistance (Grants) awards. Approximately 1.0 to 1.5 million of DOE funding is planned to award between 4 to 8 projects from this solicitation.

The intent of the Fossil Energy HBCU/OMI Program is to establish a mechanism for cooperative HBCU/OMI research and development projects; to provide faculty and student support at the institutions; to foster private sector participation and interaction with HBCU/OMIs in fossil energy research and development; to provide for the exchange of technical information and research hardware; to raise the overall level of competitiveness by the HBCU/OMIs with other institutions in the field of fossil research; and to tap a heretofore under-utilized resource by increasing the number of opportunities in the areas of science, engineering and technical management for HBCU/OMIs. The collaborative involvement of professors and students from the HBCU/OMI and the commercial sector in the development and execution of fresh new research ideas, and the establishment of linkages between the HBCU/OMI and private sector fossil energy community are essential to the success of this program and equally consistent with the goal of ensuring the U.S. a future supply of technically competent managers, scientists, engineers and technicians from a previously under-utilized resource. It

will also serve to maintain and upgrade the educational, training, and research capabilities of our HBCUs/OMIs in the fields of science, engineering and technical management, and provide the talent for an improved utilization of the nation's fossil fuel resources. Therefore, the DOE's National Energy Technology Laboratory (NETL) invites HBCUs/OMIs, in collaboration with the private sector, to submit applications for innovative research and development of advanced concepts related to fossil energy utilization and conversion. The overall purpose of this collaborative effort is to improve prospective U.S. commercial capabilities, and to increase scientific and technical understanding of the chemical and physical processes involved in the conversion and utilization of fossil fuels, thereby broadening fossil resource and technology benefits to our commerce and the consumer. Thus, HBCU/OMI faculty members and their institutions, in collaboration with the private sector, are strongly encouraged to undertake fossil energy-related research and development or to continue ongoing work in this area. Pursuant to 10 CFR 600.6(b), eligibility for award under the subject solicitation is restricted to HBCUs/OMIs. Statutory authority for this Program is provided by Pub. L. 95-224, as amended by 97-258.

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