

REQUEST FOR PROPOSALS (RFP)

RFP Number: DEV-ENERGY #15-02

The Ohio Development Services Agency, Ohio Coal Development Office is requesting proposals for:

Ohio Coal Demonstration and Pilot Program

- Request For Proposal (RFP) Released – May 12, 2015
- First Day Proposals Accepted – June 22, 2015
- Last Day Proposals Accepted – September 7, 2015, or upon commitment of all available funds, whichever occurs first.

Submit Proposals to:

Ohio Development Services Agency
Ohio Coal Development Office
77 South High Street
P.O. Box 1001
Columbus, OH 43216-1001
Attn: *Ohio Coal Demonstration and Pilot RFP*

This RFP consists of six (6) sections totaling nineteen (19) consecutively numbered pages and seven (7) attachments, totaling fifty-two (52) pages. Please verify that you have a complete copy.

SECTION I. OVERVIEW

The Ohio Development Services Agency (ODSA) is issuing this Request for Proposals (RFP) to interested and qualified parties to submit project proposals focused on the clean use of Ohio coal. Cleaner, economical, and ultimately greater use of Ohio coal and/or its combustion products must be major results of the project. Funds awarded through this RFP will be for projects located and/or work conducted in Ohio that use Ohio-mined coal. The Coal Research and Development Fund (Ohio Revised Code Section 1555.15) is overseen by ODSA and provides financial support in accordance with state statute (Ohio Revised Code Sections 1551 and 1555). ODSA is assisted by the Coal Technical Advisory Committee (CTAC), which is comprised of members who serve in the public and private sectors that have a role or interest in the use, conversion, or study of Ohio coal. Current members are listed in Attachment 5 and will be updated when applicable. The Ohio Coal Development Office (OCDO) was created in 1984 to encourage, promote, and support the Ohio coal industry in the face of environmental regulations that were enacted in the 1960s and 1970s. ODSA continues to support coal research, development, and deployment on project-based solutions for new and emerging regulations/challenges facing Ohio's coal industry, while also funding emerging processes/demonstrations that will help ensure Ohio's coal resources are used effectively, efficiently, and in an environmentally acceptable manner in the 21st century.

A. Clean coal related technologies targeted under this solicitation

Area of Interest 1

1. Development/deployment of advanced coal-based power and fuel producing systems (e.g. integrated gasification combined cycle, oxy-combustion systems, ultra-supercritical systems, chemical looping systems, etc.) which will reduce carbon and other emissions;
2. Development/deployment of systems/technologies that capture CO₂ from coal combustion or a chemical reaction for Enhanced Oil Recovery (EOR) that provides a benefit/revenue stream to the Ohio coal industry
3. Improved retrofit technologies applicable to existing coal-fired generating units: to increase generating efficiency in order to significantly reduce carbon dioxide emissions; to reduce parasitic loads of pollution control technologies; and to develop methods for capture and sequestration of carbon dioxide; that will contribute towards Ohio meeting the proposed U.S. EPA CO₂ emission reduction goals for existing electric generation sources;
4. Cost effective carbon dioxide capture and sequestration through improving capture technology and development of carbon dioxide transport mechanisms that can meet the proposed U.S. EPA CO₂ emission caps of 1,100 lbs per MWh of power produced, on a gross output basis for new coal-fired generation sources;
5. Analysis of the costs of retrofitting existing power plants with CO₂ capture technologies compared to the costs of retrofitting new facilities that have constructed "CO₂ capture ready" units;

Area of Interest 2

6. Coal technologies/processes that lower the cost of supplying the energy needs of Ohio's industrial complex;
7. Improved retrofit technologies to reduce emissions of criteria air pollutants, including sulfur dioxide, nitrogen dioxides/oxides, mercury and air toxins;
8. Improved technologies/processes that enable the more efficient conversion of Ohio coal to a chemical feedstock, liquid, or gas;
9. Byproduct utilization: High volume fly ash and flue gas desulfurization byproduct utilization in mine remediation/reclamation, or that reduces byproduct liability/disposal costs; and
10. Other projects certified by the OCDO Director as mission critical.

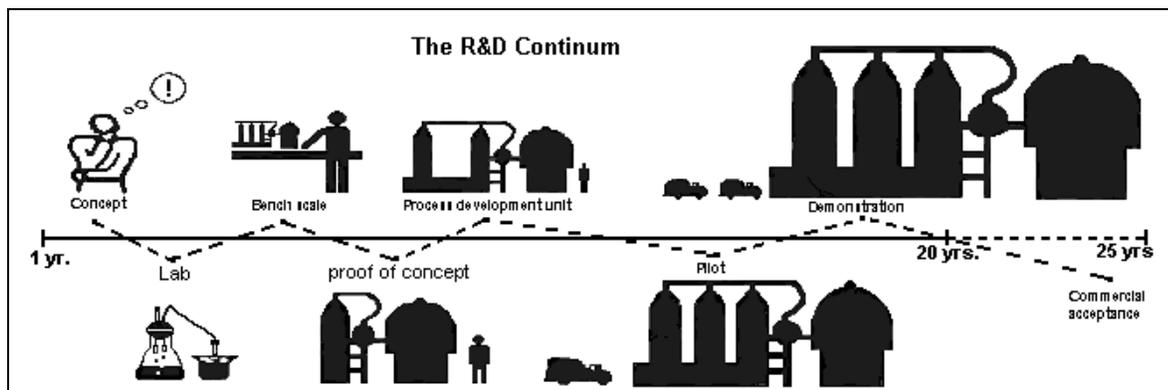
B. Eligibility

ODSA may only award funds to projects that qualify as “coal research and development” as defined in the Ohio Revised Code (Sections 1551 and 1555) and the Ohio Constitution (Section 15, Article VIII). The Ohio Revised Code includes in its definitions up to three installations within Ohio of a specific technology, if such installation is necessary or appropriate to demonstrate commercial acceptability.

Persons (individuals and businesses) doing business in Ohio or educational or scientific institutions located in Ohio are eligible to receive grants from ODSA. Persons not presently doing business in Ohio are also eligible if the grants will be used to establish new businesses in Ohio. In all cases, funds received from ODSA must be used to construct pilot plant or demonstration facilities in Ohio, cover operating costs of such facilities in Ohio, and for support of project staff based in Ohio. Project activities conducted out of Ohio by project participants may be used as cost share, but must be directly related and integral to the completion of the project.

C. Definition of Project “Scale”

ODSA can fund projects at all levels along the research and development continuum, including lab-based research and bench tests; larger proof of concept and process development unit work; pilot-scale projects; demonstration and first-of-a-kind commercial deployment. Projects under this solicitation should be categorized as full-scale, first-of-a-kind deployment, demonstration-scale, pilot-scale, process development unit or proof-of-concept-scale. Pilot-scale facilities generally are approximately one-tenth of a typical commercial size. Work to be performed in larger-scale projects should build upon and extend the development of processes or technologies that have already been demonstrated in proof-of-concept or pilot-scale facilities. ODSA reserves the right to re-categorize proposals, if it deems necessary.



D. Review Process

ODSA will conduct technical reviews by its staff and its proposal review team, which is composed of independent, experienced coal professionals under contract with ODSA.

The comments of the technical reviewers will be compiled and sent to Proposers and to ODSA's Coal Technical Advisory Committee (CTAC) approximately two weeks before the next scheduled CTAC meeting. Proposers who comply with the Specific Proposal Requirements (defined later in this solicitation) may be invited to make a short presentation before the CTAC at the next scheduled meeting. Subsequently, the CTAC will determine which proposals it recommends for funding and present those recommendations to the ODSA Director. The ODSA will make any grant awards contingent upon full execution of a grant agreement.

ODSA may find it necessary to seek additional information from a Proposer to aid in the review. However, once a proposal is submitted, no supplements will be accepted, unless requested by ODSA. **Be certain that the proposal is complete and correct before submission.**

SECTION II. AWARD INFORMATION

A. Estimated Funding

Approximately \$8 million in funding is expected to be available under this RFP.

A minimum of \$5 million is reserved for projects that fall under Area of Interest 1. If less than \$5 million in eligible Area of Interest 1 projects are funded, the remaining balance will be made available to eligible Area of Interest 2 submissions.

B. Maximum Award Size

The maximum ODSA award for an individual project receiving funding under this RFP will be limited in accordance with the following parameters:

- \$5 million for demonstration to full-scale projects
- \$2.5 million for pilot-scale projects
- \$250,000 for proof-of-concept-scale projects
- \$100,000 for paper studies

C. Cost Share

Proposers are expected to contribute a reasonable amount of cash and/or in-kind funding. ODSA's contribution and maximum cost share toward a project will generally be based on the anticipated risk and scale of the project. As a guide, in recent years, ODSA award limits have been:

- Up to one-third of the total project cost of demonstration and full-scale projects;
- Up to one-half of the total project cost of pilot-scale projects;
- Up to two-thirds of the total project cost of proof-of-concept-scale projects; and
- Up to one-half of the total project cost of paper studies.

A commitment letter must be provided for each Cost Share provider and Collaborator identified in the budget. Commitment letters may not be more than two (2) pages. Commitment letters must adhere to the Cost Share Guidelines outlined in Attachment 3, and the following parameters:

- Be submitted on the letterhead of the Collaborator;
- Include the name of the Lead Applicant, the title of the Proposal;
- Briefly state the nature of the collaboration;
- State the duration of the collaboration;
- State the resources, other than Cost Share, the Collaborator is committing to the proposed Project;
- State how the proposed Project will contribute to the strategy of the Collaborator;
- State the specific amount of the commitment that matches the Cost Share amount on the corresponding Budget;
- State the source of the commitment;
- State when the committed resources will be available to the Lead Applicant; and
- Be dated and signed by a representative of the Collaborator with the authority to make the Cost Share commitment.

Other letters are allowed but only if they come from a committed end-user who has a commercial interest in, and can anticipate commercial benefit from, the results of the proposed Project. These other letters must describe the anticipated benefit and what advice and support the committed end-user will be providing in the way of market opportunities, knowledge of competing technologies, technological and/or commercial hurdles for the proposed Project, and parallel and supportive research efforts. Letters from committed end-users may not be more than two (2) pages and may

not include appendices or attachments. General support letters are not allowed. Any such letters submitted will be removed from the Proposal and not transmitted to the external evaluation team.

D. Expected Number of Awards

ODSA expects to make approximately ten (10) awards under this RFP.

E. Period of Performance

It is anticipated that grants will cover project activities that will be performed for a period of twelve (12) to twenty-four (24) months.

SECTION III. APPLICATION INSTRUCTIONS

A total of four (4) full and complete copies, plus electronic copies on a CD (as an Adobe Acrobat and MS Word file) of each competitive project proposal must be received by the **Ohio Development Services Agency, Ohio Coal Development Office, 77 South High Street, P.O. Box 1001, Columbus, Ohio 43216-1001**. Proposals **may not** be submitted by fax or email. All proposals submitted to ODSA shall become the property of ODSA. All costs of preparing and submitting proposals in response to this RFP are solely the responsibility of the applicant. ODSA shall not contribute, in any way, to the cost of the preparation and delivery of the proposal.

- Submit separate Proposals for each proposed Project.
- Proposals must be submitted in the following manner:
 - One original paper copy marked as —"Original", three additional paper copies marked "Copy" and one CD containing an, unlocked PDF, and a word file of the Proposal to:

**Ohio Development Services Agency
Ohio Coal Development Office
Attention: Ohio Coal Demonstration and Pilot RFP
77 South High Street
P.O. Box 1001
Columbus, Ohio 43216-1001**

- Proposals must be received at the location specified above by 5pm of the last day proposals are accepted.
- Proposals may not be submitted by fax or email.
- Proposals are to be submitted on 8.5 x 11-inch paper.
- Margins must not be less than $\frac{3}{4}$ of an inch on all sides.
- Font must be 11 point or larger with no more than six (6) lines per inch.
- All pages must be numbered consecutively using the format —Page [#] of [total number of pages] (e.g., Page 2 of 25).
- The Proposal title and Lead Applicant name must appear at the bottom of each page.
- Proposals should not include color figures that cannot be understood when photocopied in black and white.
- Proposals must be stapled once in the upper left hand corner and must not be bound.
- Proposals must include the required proposal summary sheet and application (Attachment 1), the project budget summary (Attachment 2), all other required forms and respond to all questions found in Attachment 6.

Applicants are advised there will be no opportunity to correct mistakes or deficiencies in proposals after the submission deadline. Further, incomplete or late proposals will not be scored. It is the applicant's responsibility to ensure timely submission of a complete proposal. ODSA is under no obligation to consider a proposal which is received after the deadline, is incomplete, or is submitted after the RFP deadline. No supplementary or revised materials will be considered after the scheduled date for submission unless specifically requested by ODSA.

All information submitted in response to this RFP shall be public information unless a statutory exception exists which would exclude the information from being released to the public. All proposals submitted will become the property of ODSA and any information submitted in response to this RFP will not be returned to the applicant.

ODSA reserves the right to:

- Accept or reject any and all proposals if it determines that it is in its best interest to do so;

- Reissue the RFP requesting new proposals from qualified parties;
- Waive or modify minor irregularities in proposals received;
- Negotiate with applicants, within the requirements of the RFP, to best serve the interests of the state of Ohio;
- Require the submission of modifications or additions to proposals as a condition of further participation in the selection process;
- Fund any proposal in full or in part; and
- Adjust the dates for whatever reason it deems appropriate.

If, during the review process, ODSA determines that it is necessary to make further distinctions between certain applicants, it may request certain selected applicants to make a presentation to certain staff and reviewers.

Communication: Prospective applicants may make inquiries or seek clarifications regarding this RFP after the RFP is released, but they must be received fourteen (14) days before the scheduled deadline (subject to change). To make an inquiry, prospective applicants must submit written questions to the ODSA email address or ODSA fax number indicated below:

Email: EnergyRFP@development.ohio.gov

Subject: Ohio Coal Demonstration and Pilot RFP

Fax: (614) 466-1864

ODSA accepts no responsibility for faxes or emails that are not delivered. The prospective applicant who submitted the inquiry will not receive an email response to the question directly. The questions and answers will be posted on the ODSA website at:

http://development.ohio.gov/bs/bs_ohiocoaldev.htm

ODSA reserves the right to edit questions for brevity and clarity and to consolidate the same general question if received from more than one individual.

ODSA will try to respond to inquiries within seven (7) business days.

No other form of communication is acceptable. This includes: no Lead Applicant, Collaborator, or others acting on their behalf contacting any CTAC member, ODSA's external evaluators for this RFP's Proposals, and/or ODSA staff during the Proposal Period regarding this RFP (other than through the approved inquiry process identified above). The Proposal Period is considered to be the date of release for this RFP through the date of the ODSA award. Current Lead Applicants responding to this RFP are expected to limit their contact to those ODSA staff with whom they ordinarily interact regarding the administration of Coal Office programs and outstanding grants. Lead Applicants, Collaborators and others acting on their behalf are to avoid direct contact with CTAC members or other OCDO staff during the Proposal Period, other than that which might occur at regularly scheduled meetings.

If a Lead Applicant, Collaborator and/or others acting on their behalf makes prohibited contact Development in its discretion may subject the Applicant/Proposal to elimination from the RFP process.

A. Alignment with Other Ohio Programs

If selected for funding, the Proposers will be required to explore and report on existing, planned, or possible relationships with other research and development programs sponsored by the state of Ohio (Attachment 7, Exhibit H). If any of these other programs are pertinent to the successful Proposer's area of research and development, the grantee must pursue contact, funding, technical, and/or other assistance from these programs.

B. Causes for Rejection

Only projects that meet all the requirements of the Program as stated herein will be considered for funding. Due to the competitiveness of the Program, not all eligible projects will receive awards. ODSA reserves the right to reject any and all proposals, without incurring liability of any kind.

Incomplete proposals will be automatically rejected without review. Other specific causes for rejection without additional review include, but may not be limited to:

1. Project is not a coal research and development technology or facility (as required by Section 8.15 of the Ohio Constitution and defined in Chapters 1551 and 1555 of the Ohio Revised Code);
2. Project does not benefit Ohio coal;
3. Project does not use Ohio coal;
4. Project is not located within Ohio or research is not conducted in Ohio;
5. Applicant is ineligible for ODSA funding;
6. The applicant failed to meet all requirements of a previous loan or grant agreement from ODSA or other agency of the state of Ohio;
7. The applicant owes outstanding taxes or other debt to the state of Ohio;
8. The applicant is not able to sustain the project financially;
9. The applicant's team does not have the technical capability to sustain the project;
10. The proposal represents a duplication of effort previously completed or currently underway by another organization (work must not duplicate efforts previously sponsored by U.S. EPA, U.S. DOE, Electric Power Research Institute, or others);
11. The proposal is for a commercially guaranteed, "off-the-shelf" technology for its normal, usual use (however, application of an existing technology in a new, unique, improved manner may be considered); or
12. Any major exceptions to conditions of the grant award that cannot be resolved quickly.

Duplicate application. Applicants may not submit the same project to ODSA more than once per funding cycle. This includes submitting the same project to both the 2015 Ohio Coal Research Consortium and the 2015 Demonstration and Pilot Program RFP. Whichever application is received later will be rejected and returned to the applicant.

C. Financial and Trade Secret Information

Any information submitted with the proposal, which the applicant believes is a trade secret as that term is defined in Ohio Revised Code § 1331.61 or financial or commercial information under Ohio Revised Code §122.36, must be conspicuously designated as such and may be treated accordingly.

ODSA has the authority and responsibility to protect and keep confidential trade secrets and other financial or commercial information. In the event that the materials or data submitted are deemed to consist of trade secrets or other financial or commercial information, as defined by the Ohio Revised Code, Sect. 1333.61 and as set forth in Ohio Revised Code, Sect. 1555.01, then only those portions of the document will be protected from disclosure by ODSA.

It is sole responsibility of the Proposer to conspicuously mark such items as a trade secret or financial or commercial information. Attach a summary sheet in your proposal that lists each page that includes such information and the number of occurrences of such information on that page.

The public abstract must not contain any trade secret or financial or commercial information.

SECTION IV. PROPOSAL FORMAT AND CONTENT

This section describes the basic requirements for proposals submitted to ODSA. If a proposal is written according to the requirements of another funding agency, it is not necessary to adhere to the ODSA format, as long as the information below is included. However, if the format below is not used, the Proposer must include a matrix to describe where the following information may be found. Even if a different format is used, Attachments 1, 2, and 6 must be included in the submittal to ODSA.

The proposal must not exceed 30 pages. ODSA proposals must include the following four sections. Evaluators will only review the first 30 pages of the proposal.

- I. Summary Information [recommend \geq 4 pages]
- II. Technical Proposal [recommend \geq 13 pages]
- III. Management and Budget Discussion [recommend \geq 7 pages]
- IV. Marketability Discussion [recommend \geq 6 pages]

Specific requirements for these sections are set forth below. The proposal must be typed, paginated, contain a table of contents, and attachments as discussed below. A successful proposal will adhere closely to these requirements.

Appendixes to the proposal are to be utilized to validate information within the proposal and should not be utilized as an extension for information required to be addressed in the proposal. Information submitted in the appendices or in forms required in Attachment 1, 2 and 6 will not count toward the 30-page limit of the proposal.

All proposals shall become the property of ODSA and will not be returned.

A. Summary Information Section

This section of the proposal must include two elements.

1. Proposal Summary. Attachment 1 of this solicitation must be completed and included as the first section of the proposal. Instructions for completing the summary sheet are included in Attachment 1. Someone authorized to legally bind the Proposer must sign Attachment 1. An original signature, not a stamp, is required.

2. Public Abstract. Immediately following the summary sheet, a public abstract of approximately 500 words must be included. The abstract must contain the project objective, the specific technology/technique to be studied, a description of the project (including the size and location), the type(s) and tonnage per year of Ohio coal to be used, the sponsoring organization(s), the project duration, the total cost and the anticipated contributions of each project participant. This abstract may be released to the public in whole or in part at any time. It is therefore required that the abstract contains no trade secret data or confidential business information.

B. Technical Proposal Section

This section **must** include the following.

1. Project Objective. The **specific technical objective(s)** of the proposed project, its expected results and overall benefits to Ohio coal, to the environment, to the user and/or ratepayer, and to the state-of-the-art, must be clearly and logically detailed. State and explain the targeted technology area that this project covers and explain the potential for increased use/markets for Ohio coal (in tons per year) because of this process or technology.

2. Technical Readiness Discussion. A detailed discussion of the readiness of the technology or techniques for implementation, demonstration or scale-up must include, as appropriate, a thorough discussion of technical achievements and environmental performance to date. Prior applicable work must be summarized, with information on the size, the conditions of operation, and duration of testing. Summarized, but sufficiently detailed data and test results from such work must be included (failure to include hard data from such prior work will seriously jeopardize a proposal's chances for selection). This discussion must also identify all of the significant process/equipment items which have not operated previously at the proposed scale and operating conditions.

3. Technical Approach. The proposal must contain a full description of the technology or technique(s) and the proposed project. At a minimum, the detailed technical discussion **must** contain:

- a. Process flow diagrams;
- b. Energy and mass balances;
- c. Equipment layout schematics;
- d. General and unique design specifications;
- e. A detailed description of quality assurance/quality control procedures to be followed in the project;
- f. A detailed description of the monitoring and sampling procedures to be followed; and
- g. A discussion of procedures for establishing baseline data, where appropriate.

The proposal must include a discussion of the unresolved technical, economic and environmental factors that are proposed for investigation in this project, and the target goals this project anticipates answering. This must include a discussion of the wastes or products generated by the process, and their disposal or reuse. The identified specific technical risks inherent in the project must be described, along with a discussion of the specific evaluation criteria for determining their resolution.

Finally, this section must include a discussion, where appropriate, of the scale-up required in order to move to a larger-sized application. The market commercialization significance of data (technical performance, environmental and economic) obtained in this project should be discussed.

4. Statement of Work. A detailed statement of work is critical to a successful review of a proposal. This is a logically sequenced, detailed step-by-step presentation of the project phases and their work tasks, including major milestones that are necessary in order to successfully complete the work. It is also the basis for negotiations of a legal agreement, should the proposal be accepted for funding. Thorough, complete statements of work will hasten the legal agreement process and therefore the project's start date.

For **each** of the phases, the following must be specified:

- a. The quantified goal and objective(s) and the general nature of the work to be performed, including the location and the responsible party (ies);
- b. The sequence and timeline (Gantt) chart showing the tasks, phases and significant milestones, by month. (Describe these as "Month 1," "Month 2," not "November," "December.") The timeline/Gantt chart should show all work tasks and all reporting deliverables, including a draft final report due 60 days prior to the Project Completion Date, and a revised final report by the Project Completion Date;
- c. A detailed description of the major tasks which comprise the phase, and, where applicable, a description of the diagnostic and data collection equipment and techniques which are part of the task. Test matrices should be included where appropriate;
- d. A discussion of the evaluation parameters that are proposed for assessing the results and success of the work in the phase;

- e. A description of the deliverables and accomplishments resulting from the completion of the phase;
- f. The estimated cost of the phase; and
- g. A list of major equipment items to be purchased, the estimated cost of each piece, and a justification for each piece.

C. Management and Budget Section

This section of the proposal must include the following elements:

1. Project Participants. All institutional and corporate participants in the proposed project must be identified. For each, the institution or company name, address, contact person, telephone number and email address must be specified. The role and extent of participation of each party, both technical and financial, including all co-sponsors and major sub-contractors must be described. For each co-sponsor, documentation of contributions (financial, personnel, equipment, etc.) must be included, along with a letter-of-intent signed by an authorized official validating such contributions.

2. Project Personnel. The proposal must include for the prime sponsor and each of the co-sponsors, key project personnel, their general duties and responsibilities, and their qualifications relative to this project (e.g., résumé or *curriculum vitae*). Extensive *curriculum vitae* are discouraged.

3. Project Management Experience and Capability. The experience (including results) of the prime sponsor with projects involving similar or related technologies or techniques, and other projects of similar complexity and scale must be described. This should include relevant experience in the development of commercial technologies preceded by pilot or demonstration plant work. Proposers must describe the capability of their organization to manage a project or technology of the scale and complexity proposed technically, fiscally and financially, as well as to ultimately market it commercially.

4. Detailed Project Budget. All Proposers and project participants are expected to provide significant cost-sharing in the project. The budget discussion must describe the type and amount of participation of the prime sponsor and each co-sponsor and conform to the cost share guidelines outlined in Attachment 3: Cost Share Guidelines. To the extent that in-kind contributions (such as existing equipment) are included, the source, percentage of use in the project, date of acquisition, original cost, present value and depreciation status must be included. Zero value must be ascribed to fully amortized or expensed facilities and equipment.

A full, detailed project budget must be included with the proposal. It must show the total project budget, the prime sponsor's (awardee) budget, each co-sponsor's budget, and the proposed ODSA budget. The summary format shown in Attachment 2 must be used, although additional pages providing further detail to aid in review and understanding of the budget are encouraged. The budget must be prepared in line-item (e.g., personnel, overhead, equipment, supplies, etc.) detail. ODSA will not reimburse a fee or a profit, nor will it reimburse any costs incurred due to lobbying or proposal preparation. Overhead and general/administrative charge rates will be carefully scrutinized and should be kept to a minimum.

Proposers must also submit an ODSA Cash Drawdown projection by quarter. ODSA requires this of all its projects in order to have sufficient cash on hand to support its full census of projects and so that the state can better manage its overall bond debt. Invoices are paid on a cost reimbursable basis, so cash projections must closely integrate with the project time line and overall project budget, including cost share.

5. Financial History. If the prime sponsor is other than an institution of higher learning, certified financial statements for the past two years must be included as an appendix. Financial statements for the past two years must also be included for each major contributor to the project as an appendix, also, if other than an institute of higher learning.

6. Audit. A copy of the latest audit for each major participant must be included as an attachment to the proposal as an appendix.

7. Litigation. Please describe any material litigation to which your company is currently a party regarding coal or any type of coal technology. In addition, please describe any material litigation that your company has been involved in over the last three (3) years regarding coal or coal technology (Attachment 6 Questions). Finally, please provide (as an appendix) a list and describe litigation brought or threatened against your company by existing or former clients over the past five (5) years regarding coal or coal technology.

8. Affirmation. Please affirm that this proposal does not represent a duplication of effort as described in Section III. B. 12, on page number 7.

D. Marketability Section

This final section of the proposal must include the following.

1. Environmental, Health and Safety Aspects. This section must contain a discussion of the anticipated environmental benefits of the proposed project, including a comparative risk assessment with currently available technology. This comprehensive discussion should address not only the pilot or demonstration project, but also subsequent commercial applications. The following topics should be included in the discussion.

- a. Identification of hazardous or toxic gaseous, liquid or solid substances integral to the process, and the safeguards proposed for their containment and ultimate disposal.
- b. The compatibility of the proposed process with existing and anticipated environmental laws and rules. If applicable, specify how the proposed process will help Ohio comply with proposed CO₂ regulations for existing and/or new generation units.
- c. Identification of all process products, their classification with respect to environmental and health and safety rules, and methods proposed for their disposition.
- d. Compatibility of the technology/technique with other emission control technologies and the anticipated emission reduction performance when combined with such technologies.

2. Technology/Process Economics. The anticipated cost of the commercial application of the technology or process must be estimated, in dollars per ton of pollutant reduced at the source (power plant or other end producer/user). Product or reuse credits and energy efficiency improvement credits, where applicable, should be specifically identified. The calculated costs should be compared to competing existing or emerging technologies. Also, where appropriate, the levelized busbar cost (mills/kilowatt-hour) must be estimated. All cost-estimation assumptions and procedures must be clearly detailed.

3. Market Application, Penetration, and Ohio Applicability. The proposal must include a quantified discussion of the proposed technology's marketability and commercialization, particularly in Ohio; explain how the technology's application will benefit the Ohio coal industry, and how it will affect the continued and increased use of Ohio coal on an estimated tonnage per year basis. Items to be discussed include the following:

- a. Description of competing technologies and fuels that will be displaced by the proposed technology, including cost comparisons of the technologies.

- b. Potential total market geographic distribution of the market, with particular emphasis on Ohio. Specific attention should be given to Ohio's end users, and to existing Ohio sources using high-sulfur Ohio coal, identifying equipment types amenable for retrofit or repower applications with this technology.
- c. Expected technology characteristics that will facilitate commercial plant construction, such as use of shop fabrication, modular construction, siting flexibility, etc.
- d. Projected penetration of the proposed technology into the market described above, including a time-phased estimate in terms of relative penetration (percent) and absolute penetration (e.g., tons of Ohio coal per year, MW_e generated per year, etc.).
- e. Discussion of how the Clean Air Act (as amended) and other federal and state air quality rules and regulations will affect the commercial adoption of the technology.
- f. Types of Ohio coal that can be commercially utilized by this technology and the potential increase in the use of Ohio coal in tons per year.
- g. Characterization of the energy or clean fuel product (if applicable).
- h. Amount and characteristics of products and by-products, and how they will affect the marketability of the technology.
- i. Discussion of the participant's marketing plan for the technology.

4. On-going Commitment to Ohio Coal Use. The proposal must include a description of the long-term commitment to Ohio coal at the host site, including estimated life of the unit and anticipated annual tonnage of Ohio coal to be used.

SECTION V. CRITERIA FOR SELECTION (not ranked in order of importance)

A. Technical

- Clarity of Objective(s). The proposal has clearly stated objectives; the objectives are well defined and realistic and will advance the state-of-the-art; the objectives are likely to be achieved in a cost-effective manner.
- Technical merit. Proposal thoroughly and clearly discusses significant technical issues and/or risks/opportunities associated or anticipated with this technology or process; a thorough background discussion is provided describing the technology's development to date; the project will build upon and not duplicate prior work; the level of proposed scale-up is appropriate and not over-reaching. Sufficient technical support is provided to substantiate a high probability of success; the technology is not "off-the-shelf" or commercially guaranteed for the particular application for which it is proposed;
- Statement of Work. The proposal contains a very clear, detailed, logically sequenced statement of work with specific performance targets or ranges and identified QA/QC methods; the project will be completed in a reasonable time frame.
- Environmental performance. The project identifies significant environmental issues associated with its commercial use; the technology is superior in environmental performance to competing technologies; valid performance claims are presented; the technology will meet or exceed requirements of the Clean Air Act and other appropriate laws and regulations; the technology addresses a current or anticipated environmental issue; related issues such as by-products, parasitic power use and associated ancillary costs are addressed; the project identifies and includes any necessary permitting and provides sufficient time in project for same.

B. Financial/Experience

- Reasonableness of budget. The budget is reasonable for the tasks proposed and the Proposer is financial stable and has sufficient depth of resources to support the project. The project cost and relative investment by the state of Ohio is commensurate with the risk undertaken by the state. The Proposer and co-sponsors bear an appropriate share of the risk.
- Cost-share. Proposer itself bears a significant portion of the project's total cost, with cash and, where appropriate, in-kind contributions and the ratio of ODSA funds to private and other public contributions (cash and in-kind) is not excessive and is within limits set elsewhere in this document.
- Technical and management competence. Project sponsor(s) and key personnel have relevant experience and depth and possess the capability both corporately and in personnel knowledge/ability to ensure the project is properly managed (technically and financially), engineered, constructed, operated, documented and reported within budget. The project team has sufficient technical, managerial and marketing capabilities and skills to undertake a project of this magnitude. The company has enough depth of personnel, funding, and resources to handle a project of this scale, especially if unforeseen problems arise.

C. Marketability

- Applicability to Ohio. This project/technology is applicable to Ohio coal-consuming facilities or is a technology/process likely to be used in Ohio using Ohio coal as a fuel or feedstock; there is likelihood of near-term adoption in the marketplace for demonstration and pilot projects; there is likelihood of long-term adoption in the marketplace for proof-of-concept projects.

- Cost-effectiveness. Application of the technology is likely to meet or exceed environmental requirements as established by current and expected law and regulation at an economically competitive cost compared to currently available and/or emerging technologies. The Proposer identifies the cost or credit associated with byproduct disposal or sale. The Proposer demonstrates a clear understanding of the economic issues that must be addressed in the technical development.
- Business/Marketing Plan. Given the level of development (i.e., proof-of-concept, pilot, demonstration, etc.) of the technology, an appropriate business/marketing plan is presented. The Proposer demonstrates knowledge of the: 1) Ohio and the overall market (including constraints), 2) how their project will advantage Ohio coal, and 3) how to penetrate the market. Clear steps/plans are presented to commercialize the technology. The Proposer has experience in commercialization of new technologies and presents evidence of same.
- Use of Ohio coal. The technology will maintain or increase the use of Ohio coal.

Ohio Coal Development Office – Ohio Coal Demonstration and Pilot Program Proposal Evaluation Sheet

This evaluation sheet is for use by the Ohio Coal Demonstration and Pilot Program RFP Project Review Team.

A total of **100 points** is available when ranking each submitted proposal, allocated according to the following:

Each section of scoring is based on a scale of 0 to 5, where 0=unacceptable, 3=average, and 5=excellent. For the total score, the weighting factors for each of the individual sections are combined out of a total of 100 points.

Score		Weighting Factor		Weighted Score	Maximum Score
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Technical (40 Points)

1.	Clarity and specificity of objective(s)		x	1.5	=		7.5
2.	Technical merit		x	3.0	=		15
3.	Statement of Work		x	1.5	=		7.5
4.	Addressing of environmental issues		x	2.0	=		10

Financial/Experience (35 Points)

5.	Reasonableness of the budget		x	2.0	=		10
6.	Cost-share		x	2.0	=		10
7.	Technical and management competence		x	3.0	=		15

Marketability (25 Points)

8.	Applicability to Ohio coal/likelihood of market		x	2.0	=		10
9.	Identification of issues/cost effectiveness		x	1.0	=		5
10.	Marketing plan		x	1.0	=		5
11.	Use of Ohio coal		x	1.0	=		5

Weighted Total Score

	100
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SECTION VI. FUNDING AGREEMENT REQUIREMENTS

Basic requirements of a grant agreement from ODSA include, but are not limited to the following:

A. Royalty/Payment Agreement

In addition to a grant agreement for a pilot or demonstration-scale project, it is necessary to execute a royalty/payment agreement. Through such an agreement, ODSA will be paid, over an extended period of time, a commercially reasonable portion of gross revenues, including but not limited to those revenues derived from the sales of equipment, services or patents, equipment leases or a portion of royalties and licensing fees. Such payment is in recognition of the risk the state of Ohio takes in granting research and development funding and is used to help defray principal and interest payments of Ohio's coal research and development bonds.

B. Award Deliverables

1. Status reports, describing technical progress, must be prepared quarterly according to a prescribed format and received by ODSA no later than five calendar days after each calendar quarter in which the Proposer receives the assistance award funded in whole or in part by ODSA.
2. Financial reports, in a standard ODSA format, must be submitted summarizing the project financial status, including actual expenditures to date, and grantee cost share. These may be submitted with periodic invoices or as part of the quarterly project status reports. Invoices must be submitted no more or less frequently than quarterly. All invoices must bear sufficient documentation to validate both charges to the grant and the total cost share expended.
3. Milestone plans and reports may be required for ODSA approval prior to initiating work for particular phases of a project. These must also conform to a specified format.
4. Administrative reports, indicating project employment and cost projections, must be submitted semi-annually.
5. An end-of-year project abstract must be submitted annually.
6. A comprehensive draft final report and revised final report, including all elements of standard ODSA final reports, is due upon completion of the project, and is subject to review and comment prior to acceptance.
7. Note carefully: failure to meet certain reporting deadlines and the final negotiated ODSA cash draw down schedule may result in penalties to the project.

C. General Terms and Conditions for Project Awards

1. Grant agreements, must be construed, interpreted and the rights of parties determined in accordance with laws of the state of Ohio.
2. All information, data, materials, patents, copyrights and royalties developed under grant awards belong to the state of Ohio unless negotiated otherwise in the applicable agreement.
3. The State's "Buy Ohio Policy" requires that competitive grant and contract solicitations by state of Ohio agencies provide preference for Ohio-based Proposers and for work that will be done within Ohio. This shall carry through the grant to any bid for work and/or services made by the grantee.
4. Expenses for travel, including lodging and meals, will be reimbursed at rates not higher than those prescribed by the Director of Ohio's Office of Budget and Management. In no event will international travel be eligible for reimbursement. If "travel expenses" as defined in Ohio Administrative Code Section 126-1-02, are a cost of the Project eligible for reimbursement with Grant Funds, Grantee shall be reimbursed for those permissible travel expenses in amounts in accordance with Ohio Administrative Code 126-1-02, as updated from time to time (the "Expense Rule") and Grantee agrees that it shall not be reimbursed and Grantor shall not pay any items that are deemed to be "non-reimbursable travel expenses" under the Expense Rule, whether by the Grantee or Grantor or their respective employees or agents.

5. The awardee must agree to comply with all federal, state and local laws and regulations in the conduct of work performed on the project, and be responsible for obtaining any and all permits required to install and operate the project.
6. The awardee must not discriminate against any employee or applicant for employment because of race, religion, color, sex, national origin, disability, or age and shall take affirmative action to ensure that applicants are employed and that employees are treated during such employment without regard to race, sex, national origin, disability or age. The grantee must have an affirmative action program and must so state in the proposal.
7. The awardee must perform the project in the manner set forth in its statement of work, and for not more than the amount set forth in the proposal.
8. No pre-award, proposal preparation or grant negotiation costs are eligible for reimbursement under ODSA grants. No expenses for lobbying before or during the agreement period are eligible for reimbursement with state of Ohio funds.
9. If the host site is a state-owned facility and the project will involve construction, then the awardee shall bid the construction work in accordance with Ohio Department of Administrative Services procedures.
10. An awardee may be subject to a financial audit by the state of Ohio only as it pertains to the project for which it received ODSA funds.

D. Grant Agreement Procedure

ODSA projects are overseen in accordance with the terms and conditions of a grant agreement, which is entered into after project approval by the ODSA.

ODSA's standard grant agreement template is included as part of this RFP (Attachment 7). Also included are all of the Exhibits that are attached to a final Agreement ("Agreement") and become as legally binding as the Agreement itself. Most notable among the Exhibits is the Exhibit C, "Royalty/Payment Agreement." Any Proposer is advised to review all of these documents prior to preparing a proposal to ODSA.

By submitting a proposal to ODSA, the Proposer agrees to accept the terms and conditions contained in ODSA's grant agreement template and all of its attached exhibits, unless requests for specific exceptions are made in its proposal to ODSA.

Please note: ODSA understands that the grant agreement template is a model and it may be necessary to make minor modifications to meet the needs of individual projects. By identifying possible changes in the template early, ODSA hopes to significantly expedite the grant process.

E. Requests for Amendments to the Grant Agreement

Amendment requests (including minor alterations, additions or deletions) must include an explanation of why the amendment is being sought and the effect it would have on the Proposer's ability to perform the project. The requested amendment must also provide suggested alternative language. Any requests for amendments must identify the Section and Paragraph of the Grant Agreement or the Royalty/Payment Agreement, or the Exhibit by its letter.

Amendment requests may be reviewed by ODSA legal counsel before any technical review commences. A diligent and quick attempt will be made to resolve any differences. If, after advice of legal counsel, resolution is not possible, ODSA reserves the right to reject the proposal without further review.

Minor amendment requests may not delay technical review and will be addressed during the review process.

After thorough discussion with the Proposer, ODSA will identify in writing amendments that have been accepted, modified or rejected. If the Proposer wishes to continue, the proposal will proceed through the review and approval process.

F. Host Sites

The proposal must contain a letter from an appropriate authority of the potential host site, stating that if this proposal is selected for funding, then the entity authorizes this unit/station as the host site. This letter should also note the estimated in-kind contribution the host site entity will be making to the project. Specifically, this does not include the value of the facility, but rather any labor costs, maintenance costs, etc., that are anticipated to be paid by the host site over the course of the pilot or demonstration's operations.

G. ODSA Funding Limitations

Awards are dependent upon the issuance of General Obligation bonds by the state of Ohio. ODSA can only make awards when the Treasurer, state of Ohio has deposited sufficient monies in the Coal Research and Development Fund from those general obligation bond proceeds.

Monies expended or costs incurred prior to ODSA award - including the proposal preparation and grant negotiation costs - shall not be charged to ODSA nor count toward the proposer/co-sponsor cost share. In no event shall ODSA reimburse any lobbying costs.

H. Obligations to the State; Compliance with Laws

Grantees will be required to certify that they do not owe: (1) any delinquent taxes to the state or a political subdivision of the state; (2) any moneys to the state or a state agency for the administration or enforcement of any environmental laws of the state; and (3) any other moneys to the state, a state agency or a political subdivision of the state that are past due, whether the amounts owed are being contested in a court of law or not (Attachment 6 Questions).

Grant Agreements will require Grantees to comply with all applicable federal, state, and local laws in the performance of the Project. Grantees must accept full responsibility for payments of all unemployment compensation, insurance premiums, workers' compensation premiums, all income tax deductions, social security deductions, and any and all other taxes or payroll deductions required for all employees engaged by Grantees on the performance of the work authorized by the Grant Agreements.