BAY AREA AIR QUALITY MANAGEMENT DISTRICT

Updated: November 7, 2017

Request for Proposals# 2017-011

Technology Assessment of Opportunities to Reduce Greenhouse Gas Emissions at Stationary Sources of Air Pollution in the Bay Area

SECTION I – SUMMARY

The Bay Area Air Quality Management District (Air District or District) is requesting proposals from experienced and qualified organizations to perform a technology assessment to evaluate opportunities to reduce greenhouse gas emissions at stationary sources of air pollution in the Bay Area (e.g. refineries, natural gas power plants, manufacturing facilities, waste management facilities, residential and commercial buildings, etc.). Technologies may include equipment, software, smart/connected technologies, or other innovations that reduce use of non-renewable energy, reduce emissions, or optimize energy efficiency. These technology options will be evaluated on technology readiness, costs, benefits, and barriers to development, demonstration, and deployment.

To respond to this Request for Proposals (RFP), an interested organization should submit one (1) electronic copy (in Adobe Acrobat PDF file format) of its proposal to the Air District's Procurement Portal (Portal):

Cynthia Zhang, Purchasing Agent
Bay Area Air Quality Management District
375 Beale Street, Suite 600; San Francisco, CA 94105
Portal link: https://baaqmd.bonfirehub.com/

Proposals must be submitted by 4:00 p.m. on December 7, 2017.
Late proposals will not be considered.

Proposals must address all information requested in this RFP. A proposal may add information not requested in this RFP, but the information should be in addition to, not instead of, the requested information and format. Minority business enterprises, women's business enterprises, veteran's business enterprises, and Certified Green Businesses are encouraged to submit proposals**. Any questions regarding this RFP should be submitted through the Portal.**

SECTION II – BACKGROUND

A. Air District Overview

The Bay Area Air Quality Management District (Air District) was created by the California Legislature in 1955 as the first regional agency to deal with air pollution in California. The Air District jurisdiction includes Alameda, Contra Costa, Marin, Napa, Santa Clara, San Francisco, San Mateo, southwestern Solano, and southern Sonoma counties.

The State Legislature originally gave the Air District the authority to regulate stationary sources of air pollution, such as factories, oil refineries, chemical plants, gasoline stations, and agricultural burning. With more recent legislation, the Air District was granted authority to enact certain transportation and mobile source measures. In 2017, the Air District adopted a Clean Air Plan, a multi-pollutant strategy to reduce ozone, particulate matter, toxic air contaminants, and greenhouse gases. The strategy includes proposed regulations, grant and incentive programs, public education and outreach, and partnerships with other agencies and stakeholders.

The Air District is governed by a twenty-four member Board of Directors, consisting of elected officials, including county supervisors, mayors, and city council members. The Executive Officer / Air Pollution Control Officer for the Air District is Jack Broadbent.

B. Technology Implementation Office

As part of the Clean Air Plan's vision for a post-carbon Bay Area by 2050, the Air District established the Technology Implementation Office (TIO) in 2016 to scale up technologies that reduce greenhouse gas (GHG) emissions. The TIO plans to incentivize stationary sources of GHG emissions to incorporate low-carbon intensity practices across Bay Area industries. The TIO also supports deployment of zero emissions energy generation, zero emissions vehicles and infrastructure, efficiency technologies, and new smart/connected technologies, leveraging technology and innovation opportunities from the Bay Area whenever feasible.

The selected organization will perform a technology assessment to evaluate opportunities to reduce greenhouse gas emissions at stationary sources of air pollution in the Bay Area (e.g. refineries, natural gas power plants, manufacturing facilities, waste management facilities, residential and commercial buildings, etc.). The technology assessment will evaluate technology readiness, costs, benefits, and barriers to development, demonstration, and deployment. The technology assessment for stationary sources will be used together with existing analyses of transportation technologies to support planning for TIO and Air District programs. The results of the assessment will also be shared with partner agencies, researchers, and the private sector.

SECTION III – INSTRUCTIONS TO BIDDERS

A. General

1. Prospective bidders must create an account through the Portal in order to view RFP documents, addenda, and submit questions and proposal documents.

2. All proposals must be made in accordance with the conditions of this RFP. Failure to address any of the requirements is grounds for rejection of this proposal.

3. Proposals may include multiple organizations with a lead organization and subcontractors, to ensure a broad range of technology and analytical expertise.

4. Lead organization must declare that they have no personal or financial stake in the technology options included in the assessment.

5. All information should be complete, specific, and as concise as possible.

6. Proposals should include any additional information that the respondent deems pertinent to the understanding and evaluation of the bid.

7. The District may modify the RFP or issue supplementary information or guidelines during the proposal preparation period prior to the due date. Prospective bidders who register on the Portal will be notified by email of RFP updates. Please check the Portal for updates prior to the due date.

8. Proposals shall constitute firm offers. Once submitted, proposals may be withdrawn, modified and resubmitted through the Portal up until the December 7, 2017, due date.

9. The District reserves the right to reject any and all proposals.

10. All questions must be in written form and submitted through the Portal no later than 4:00 p.m. on November 17, 2017. All questions will be answered in writing and posted on the Portal by 6:00 p.m. on November 28, 2017.

11. The cost for developing the proposal is the responsibility of the bidder, and shall not be chargeable to the Air District.

B. Submittal of Proposals

All proposals must be submitted according to the specifications set forth in Section V (A) – Contents of Proposal, and this section. Failure to adhere to these specifications may be cause for the rejection of the proposal.

1. Due Date – All proposals are due no later than 4:00 p.m., December 7, 2017, and should be submitted via the Portal:

Cynthia Zhang, Purchasing Agent
Bay Area Air Quality Management District
375 Beale Street, Suite 600; San Francisco, CA 94105
Portal link: https://baaqmd.bonfirehub.com/

2. Proposals received after the time and date provided previously specified will not be considered.

3. Signature – All proposals should be signed by an authorized representative of the bidder.

4. Submittal – Submit one (1) electronic copy (in Adobe Acrobat PDF file format). Electronic submissions submitted via the Portal will be acknowledged with a return email. Late proposals will not be accepted. Any correction or re-submission of proposals will not extend the submittal due date.

5. Grounds for Rejection – A proposal may be immediately rejected at any time if it arrives after the deadline, or is not in the prescribed format, or is not signed by an individual authorized to represent the organization.

6. Disposition of the Proposals – All responses to this RFP become property of the Air District and will be kept confidential until a recommendation for award of a contract has been announced. Thereafter, submittals are subject to public inspection and disclosure under the California Public Records Act. If a respondent believes that any portion of its submittal is exempt from public disclosure, it may mark that portion "confidential." The District will use reasonable means to ensure that such confidential information is safeguarded, but will not be held liable for inadvertent disclosure of the information. Proposals marked "confidential" in their entirety will not be honored, and the District will not deny public disclosure of any portion of submittals so marked.

   By submitting a proposal with portions marked "confidential," a respondent represents it has a good faith belief that such portions are exempt from disclosure under the California Public Records Act and agrees to reimburse the District for, and to indemnify, defend, and hold harmless the District, its officers, employees, and agents, from and against any and all claims, damages, losses, liabilities, suits, judgments, fines, penalties, costs, and expenses, including without limitation, attorneys' fees, expenses, and court costs of any nature whatsoever, arising from or relating to the District's non-disclosure of any such designated portions of a proposal.

7. Modification – Once submitted, proposals, including the composition of the contracting team, may be altered up until the due date. Proposals may not be modified after the due date. All proposals shall constitute firm offers valid for ninety (90) days from the December 7, 2017, due date.

C. Interviews

1. The Air District, at its option, may interview bidders. The interviews will be for

the purpose of clarifying the proposals.

2. Submittal of new proposal material at an interview will not be permitted.

3. Interviews may involve a presentation and/or a question-and-answer session.

SECTION IV – SCOPE OF WORK

The selected organization will perform an assessment of potential technology opportunities to reduce greenhouse gas emissions at stationary sources of air pollution in the Bay Area. The selected organization will research and evaluate promising technology opportunities and provide a detailed written report describing findings as outlined in this RFP. This technology assessment will focus on identifying and synthesizing existing studies so that they are comparable across technology categories and relevant industries and emissions sources in the Bay Area. **(Note: The final scope of work and budget for this project will be discussed and agreed upon between the Air District and the selected organization prior to contract execution)**

The technology assessment will focus on technologies that reduce the following emissions:

- Carbon dioxide (CO_2)
- Methane (CH_4)
- Nitrous oxide (N_2O)
- Hydrofluorocarbons (HFC), perfluorocarbons (PFC)
- Sulfur hexafluoride (SF_6)
- Black Carbon (BC)

The assessment will focus on technologies that are relevant for stationary emissions sources regulated by the Air District including but not limited to:

- Refineries
- Natural gas power stations and cogeneration facilities
- Cement factories
- Semi-conductor factories
- Landfills
- Composting facilities
- Animal waste and agriculture
- Wastewater/sewage treatment facilities
- Data centers
- Commercial buildings
- Residential buildings

Technologies that enable linking together multiple facilities should also be included, especially to better utilize waste products and energy.

The selected organization will evaluate technology opportunities that are at Technology Readiness Levels 7 – 9 based on the U.S. Department of Energy's definitions[1]. Technologies include but are not limited to:

[1] U.S. Department of Energy G 413.3-4A, Technology Readiness Assessment Guide, p. 9, https://www.directives.doe.gov/directives-documents/400-series/0413.3-EGuide-04a

- Alternatives to gas turbines and diesel internal combustion engines (including gas microturbines, hydrogen fuel cells, renewable energy and battery storage)
- Cooling and heating (including geothermal, electric heat pumps)
- Energy efficiency measures
- Smart/connected technologies (including sensors, leveraging mobile networks, big data, artificial intelligence, Internet of Things, industrial Internet of Things, software or applications)
- Methane capture and use
- Waste-to-energy
- Carbon sequestration and use

Organizations should include suggestions for additional promising technologies that can significantly reduce greenhouse gas emissions at these emissions sources. Concurrently, the Air District has issued a separate Request for Information (RFI) to seek information and suggestions for additional technology opportunities. The Air District and selected organization will review the RFI submissions and determine which, if any, will be included in the assessment and written report based on the level of innovation and potential for impact.

The analysis approach should include the following steps, as well as other steps suggested by the proposing organization:

- Desk research of relevant publications and reports.
- Interview researchers, companies, investors to gather data about emissions reduction technologies and companies.
- Analysis and modeling to fill in gaps to assess and compare technology readiness, emissions reductions, costs, market barriers.
- Develop matrix which combines these analyses into a framework which allows technologies to be evaluated by a common set of assumptions and criteria; Develop graphs which allow ranking technologies by GHG emissions reductions, costs, GHG emissions reductions per cost, and GHG emissions reductions achievable with commercially available technologies.
- Prepare the final report that includes the methodology, results (including the matrix), and limitations.

For each technology opportunity, the technology assessment report should provide and/or evaluate the following factors at a minimum:

- Description of the technology
- Technology Readiness Level. For demonstrated technologies, the report should include results and implications from the demonstration. For deployed technologies, the report should include the number in the market and recent trends for market penetration.
- Technological barriers, dependencies, and risks
- Economic, market, and policy barriers, dependencies, and risks (including maturity and stability of companies, regulatory or permitting barriers, competitiveness with baseline technologies)
- Relevant emissions sources in the Bay Area currently and anticipated in the future (including facility categories and unit operations)
- Emissions reductions that are technically and economically feasible per source; emissions reductions feasible across the Bay Area. If these are ranges, the report should include the parameters that shift the emissions reductions to the lower or higher end of the range, with uncertainty analyses.

- Additional environmental, social, or economic benefits
- Costs, costs per emissions reduction, cost comparison with baseline technologies, timeframe for cost recovery. If these are ranges, the report should include the parameters that shift the costs to the lower or higher end of the range with uncertainty analyses.
- Opportunities to catalyze energy systems change or additional GHG emissions beyond the specific technologies and emissions sources

Project timeline: 4 months from when the contract is signed

The proposed project schedule should include these milestones, which will be reviewed by Air District staff (including from Technology Implementation Office and Engineering Division):

- Kick-off planning meeting with Air District staff, including review of RFI submissions
- Regular project progress reports and meetings with Air District staff
- List of stakeholders to interview, and of data sources
- Report outline, including matrix template for organizing emissions sources and technologies and presentation to Air District staff
- Draft report and presentation to Air District Staff
- Share data and models developed as part of this scope of work
- Final report incorporating Air District staff feedback

SECTION V – PROPOSAL FORMAT, CONTENT, AND SUBMITTAL

A. Contents of Proposal

Submitted proposals must follow the format outlined below and include all requested information. Failure to submit proposals in the required format can result in the proposal being eliminated from evaluation and consideration.

1. Technical Proposal

   a. Cover Page (Section I) –

      - Lead organization must include:
        - Address and telephone number of office nearest to San Francisco, California
        - Name and e-mail address of project manager and designated point of contact
        - Must be signed by the person(s) authorized to represent the organization

      - Table of Contents – Clearly identify material contained in the proposal by section

   b. Summary (Section II, maximum of 1 page) – State overall approach to Technology Assessment, including the objectives and scope of work.

   c. Organization Background (Section III, maximum of 3 pages) – Provide a

statement of organization(s)' background, technical capabilities, and previous experience relating to this scope of work. Provide references of other, similar projects including contact name, title, and telephone number for all references listed and any resulting publications.

d. Assigned Personnel (Section IV, maximum of ½ page per person) – Provide the following information about the staff to be assigned to the project:

   - List all key personnel assigned to the project, including name, title, and geographical location (if different from one provided on the cover page). Provide a summary of their training and experience in providing similar services and any specialized expertise they may have. Substitution of project manager or staff will not be permitted without prior written approval of the Air District's assigned program manager.

   - Provide a statement of the availability of staff with requisite qualifications and experience to conduct the requested project.

e. Subcontractors (Section V) – List any subcontractors that will be used, their scope of work, and the total number of hours or percentage of time they will spend on the contract.

f. Analysis Methodology (Section VI, maximum of 3 pages) – Describe the data, tools and methodology proposed for this scope of work. Include proposed data sources and references, anticipated challenges related to data availability, necessary assumptions, and limitations of current analysis tools and how the proposed work will address these challenges.

g. Project Schedule (Section VII, maximum of 2 pages) – Provide projected milestones or benchmarks for completing the project within the total time allowed.

h. Project Organization (Section VIII, maximum of 2 pages) – Describe the proposed management structure, monitoring procedures, and organization of the engagement team. Provide a statement specifically addressing the organizations' ability and willingness to commit and maintain staffing to successfully conclude the project on the proposed schedule.

i. Retention of Working Papers (Section IX) – All working papers are the property of the Air District. Include a statement acknowledging that if your organization is awarded the contract, you will retain project related papers and related reports for a minimum of five (5) years.

j. Conflict of Interest (Section X) – Address possible conflicts of interest with other clients affected by contractors' actions performed by the organization on behalf of the Air District. The Air District recognizes that prospective bidders may have contracts to perform similar services for

other clients. Include a complete list of such clients for the past three (3) years with the type of work performed and the total number of years performing such tasks for each client. The Air District reserves the right to consider the nature and extent of such work in evaluating the proposal.

k. Declaration Statement (Section XI) – Provide a signed declaration on your organization's letterhead attesting your organization has no personal or financial stake in the technology options to be assessed and included in the analysis.

l. Additional Data (Section XII) – Provide other essential data that may assist in the evaluation of the proposal (e.g. green business certification, etc).

m. Cost Proposal (Section XIII) – List the fully-burdened hourly rates and the total number of hours estimated for each level of professional and administrative staff to be used to perform the tasks required by this RFP. When relevant, list cost share being provided by the lead organization, including for overhead costs. In addition, costs should be estimated for each of the components of the Scope of Work. The Cost Proposal does not need to be a separate, sealed document.

SECTION VI – PROPOSAL EVALUATION

A panel of Air District staff will evaluate all proposals. The panel will recommend the selection of the contractor to the Air Pollution Control Officer (APCO), who will, in turn, make a recommendation to the Air District Board of Directors. The Air District Board of Directors must approve the contract to carry out the work described in this RFP. An example of a typical contract for professional services used by the Air District is included in Section VII.

Proposals will be evaluated on the following criteria:

Criteria	Description	Weight
Expertise	Technical expertise and experience of the organization and personnel assigned to RFP tasks; organization's ability to perform and complete the work in a professional and timely manner. *(For example, as described in Organization Background, Section III; Assigned Personnel, Section IV; Subcontractors, Section V)*	30%
Approach	Responsiveness of the proposal, based upon a clear understanding of the work to be performed, related challenges, and plans to mitigate those challenges. *(For example, as described in Summary, Section II; Analysis Methodology, Section VI; Project Schedule, Section VII; and Project Organization, Section VIII)*	40%
Organization's Specialty Focus	Local organization (2.5%)/Green Business (2.5%)*	5%

Area		
Conflicts of Interest	Conflicts of interest are addressed *(For example, as described in Conflict of Interest, Section X; Declaration Statement, Section XI; Additional Data, Section XII)*	5%
Cost	Cost or cost effectiveness and resource allocation strategy, including completeness and level of detail in budget, percent of administrative and overhead costs, and whether there is cost-share *(For example, as described in Cost Proposal, Section XIII)*	20%
	Total	**100%**

*The Air District gives preference to local organizations and those that are certified as green businesses by a government agency or independent private rating organization. Local business refers to an organization's headquarters located in the 9 counties of the Air District's jurisdiction.

If two or more proposals receive the same number of points, the Air District will accept the lower cost offer. The Air District reserves the right to reject any and all proposals submitted and/or request additional information.

SECTION VII – SAMPLE CONTRACT

A sample contract to carry out the work described in this RFP is available on the District's website at http://www.baaqmd.gov/about-the-air-district/request-for-proposals-rfp-rfq/samples-previous.