



Energy and Environmental Performance of
Biomass-fired Heating Equipment
Program Opportunity Notice (PON) 2652
\$2.5 Million Available

Proposals Due: March 6, 2013 by 5:00 PM Eastern Time*

The New York State Energy Research and Development Authority (NYSERDA) announces the availability of funding to support R&D efforts toward a high-efficiency and low-emissions biomass thermal industry in New York State (NYS). Eligible projects under this PON are described in the seven (7) categories (A-G) below:

	PON Categories	Available Funds
A.	Product development and evaluation of high-efficiency wood-fired boilers, thermal storage, and emission control technologies for residential or commercial applications	\$850,000
B.	Air quality and health effects studies of biomass emissions	\$500,000
C.	Residential wood pellet heating systems demonstration with efficiency, emissions, and economic evaluation	\$500,000
D.	Pneumatic wood pellet fuel truck for bulk delivery and storage of wood pellets	\$220,000
E.	Energy efficiency and safety retrofits of existing high-efficiency wood heating systems	\$130,000
F.	Process development for low (<30% dry basis) moisture content wood chips	\$150,000
G.	Non-woody biomass-fired boiler energy efficiency and emissions evaluations	\$150,000
	Total:	\$2,500,000

A total of \$2,500,000 is available for projects. NYSEDA funding per project is limited to \$300,000 for categories A, B, and C; \$110,000 for category D; and up to the available funding in categories E, F, and G. If funds from any of the categories are not exhausted, NYSEDA reserves the right to allocate the remaining funds to another category. The available funds may not be sufficient to finance all proposals. Cost-sharing with respect to the total project cost by proposers of at least 25% is required for non-product development efforts. Product development efforts must be cost-shared at a minimum of 50% and any product development projects greater than \$50,000 may be subject to recoupment. See Section VIII, General Conditions.

Proposal Submission: Proposers must submit one electronic copy and ten (10) complete paper copies of the proposal with a completed and signed Proposal Checklist attached to the front of the proposals, one (1) of which must be an original signature. Proposals must be **received by NYSEDA** by 5:00 PM Eastern Daylight Time (EDT) on March 6, 2013.

Proposals must be clearly labeled and submitted to:

Roseanne Viscusi, PON 2652
NYS Energy Research and Development Authority
17 Columbia Circle, Albany, NY 12203-6399

Technical questions regarding this PON should be directed to Nathan Russell (518) 862-1090 ext. 3469, email nar@nyserda.org, or Ellen Burkhard (518) 862-1090 ext. 3332, email egb@nyserda.org. For contractual questions, contact Nancy Marucci at (518) 862-1090 ext. 3335, email nsm@nyserda.org.

No communication intended to influence this procurement is permitted except by contacting Nathan Russell or Ellen Burkhard (Designated Contacts). Contacting anyone other than the Designated Contacts (either directly by the proposer or indirectly through a lobbyist or other person acting on the proposer's behalf) in an attempt to influence the procurement: (1) may result in a proposer being deemed a non-responsible offerer, and (2) may result in the proposer not being awarded a contract.

*Late proposals will be returned. Incomplete proposals may be subject to disqualification. It is the bidder's responsibility to ensure that all pages have been included in the proposal. Faxed or e-mailed proposals will not be accepted. Proposals will not be accepted at any other NYSERDA location other than the address above. If changes are made to this solicitation, notification will be posted on NYSERDA's web site at www.nyserda.ny.gov.

I. Introduction

Interest in biomass thermal combustion continues to increase in New York State (NYS) and nationwide. The information available suggests that consumers are motivated to install biomass heating systems by a variety of reasons, such as lower energy costs, reduced fossil fuel usage, and perceived environmental benefits, among others. Biomass heating systems have been installed in residential, commercial, municipal, health care, and educational facilities.

Research has shown that the thermal efficiencies of these heating systems can range from < 25% to > 85%. Fine particulate matter (PM2.5) and carbon monoxide (CO) emissions range from moderate to extremely high creating concern for public health in general, and special concern for susceptible populations such as children, the elderly, or those having asthma or cardiovascular disease. The attainable efficiencies can be comparable to those of fossil fuel-fired systems; however, the PM2.5 and CO emissions are orders of magnitude higher, even for the best performing systems. Performance is highly dependent on the equipment design, installation, fuel quality and operation, among other factors, and there is an opportunity to optimize each of these to promote high performance.

This PON seeks proposals that support the development and advancement of a high-efficiency and low-emissions biomass thermal economy in NYS. Proposals targeting any of the following categories will be considered. See Section II for more detail as to each category.

	PON Categories	Funds Available
A.	Product development and evaluation of high-efficiency wood-fired boilers, thermal storage, and emission control technologies for residential or commercial applications	\$850,000
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C.	Residential wood pellet heating systems demonstration with efficiency, emissions and economic evaluation	\$500,000
D.	Pneumatic wood pellet fuel truck for bulk delivery and storage of wood pellets	\$220,000
E.	Energy efficiency and safety retrofits of existing high-efficiency wood heating systems	\$130,000
F.	Process development for low (<30% wet basis) moisture content wood chips	\$150,000
G.	Non-woody biomass-fired boiler energy efficiency and emissions evaluations	\$150,000
	Total:	\$2,500,000

Proposals will be considered responsive to this PON only if they address one (1) of the targeted categories. Preferred projects are those that support performance advancements of biomass technology, demonstrate advanced technologies in replicable applications, utilize manufacturing, distribution, research/analytical capabilities in NYS and provide data in a form that is useable by energy and environmental analysts and policy makers. Projects should support efforts that help improve the scientific and technological foundation for the development of a high-efficiency and low-emissions biomass heating industry in NYS. When appropriate, selected proposers may be asked to work with a Project Advisory Committee.

II. Program Requirements - Targeted Categories

A. Product development and evaluation of high-efficiency wood-fired boilers, thermal storage and emission control technologies (ECT) for residential or commercial applications

Wood boilers must be low mass (volume) and have sensors and feedback to optimize combustion performance. Examples of this are oxygen and temperature sensors and variable primary and secondary air controls. Retrofit technology designed to substantially improve boiler efficiency with resulting large improvements in emissions performance of existing wood boiler technology will be considered. Projects focused on energy management strategies for integrating boilers, thermal storage, emissions control, existing fossil fuel-fired heating systems and energy management systems will be considered. Projects may also focus on the development of standardized methods for measuring boiler efficiency and emissions performance if they also include considerations of part-load, thermal storage, as well as diurnal and annual load variation representative of NYS. For emission control technology (ECT) development and evaluation projects, both energy benefits and penalties must be quantified. Emissions measurements, where necessary, would be expected to include PM2.5, elemental carbon, organic carbon, speciated organics (polycyclic aromatic hydrocarbons and other molecular markers), trace metals, SO₂, CO, CO₂, NO_x and volatile organic compounds. Particle characterization (size, number, morphology) should also be considered. Workshops on the above topics will also be considered but must be highly technical in design with outcomes intended to raise the technology floor of the biomass heating market in NYS.

Product development efforts must be cost-shared at a minimum of 50% and may be subject to recoupment if greater than \$50,000. See Section VIII, General Conditions.

B. Air quality and health effects studies of biomass emissions

This category will allow for studies to evaluate air pollution, environmental exposure and/or environmental health risks from any aspect of biomass use, including fuel combustion and the delivery/storage of biomass fuels (e.g., potential CO exposures during storage of wood pellets). Studies may utilize measured emissions concentrations, measured air concentrations and/or predicted (modeled) air concentrations to evaluate impacts. Studies may include evaluations of stack height or emission control technology (ECT) on local ambient outdoor air wood smoke concentrations, environmental exposures, and adverse health effects. Studies should address current data gaps and may include targeted environmental exposure assessments, risk assessments, epidemiological or toxicological studies, and/or health impact assessments relevant to NYS populations. Workshops on approaches for exposure and risk assessment will also be considered. Proposals shall also include a comparison to emissions and impacts associated with oil heating, which could range from literature reviews to more detailed source apportionment studies. Emissions measurements, where necessary, would be expected to include PM2.5, elemental carbon, organic carbon, speciated organics (polycyclic aromatic hydrocarbons and other molecular

markers), trace metals, SO₂, CO, CO₂, NO_x and volatile organic compounds. Emitted particles should be characterized with regard to size, number, morphology, etc. Emissions measurements must be expressed in terms of energy input, energy output, hourly rate, mass per unit volume, and other scientific and regulatory unit conventions at nominal and part loads.

C. Residential wood pellet heating system demonstration with efficiency, emissions and economic evaluation

In this category, demonstrations and evaluations of fully-automatic, high-efficiency ($\geq 83\%$ at steady state using the higher heating value of wood) residential wood pellet-fired heating systems with thermal storage and external bulk pellet storage silos (3 tons minimum) will be considered, as will higher performing pellet stoves. All demonstrations should be for dwellings with a representative residential heating-cycle and include an energy audit, and proper sizing of the boiler or stove and thermal storage, prior to installation. Projects must include a CO monitoring plan for the boiler room and any pellet storage areas inside the dwelling. Premium or super premium wood pellets will be required to be used for the duration of the project. The order of priority is as follows:

- i. Intensive data monitoring of fully-automatic wood pellet-fired boilers with thermal storage in a typical residential duty cycle. The demonstration project(s) are required to monitor, at a minimum, CO, CO₂, O₂, NO_x, SO₂, stack temp, water flow rate, and water temperature on an hourly (or less) basis for a period of two (2) years in order to characterize seasonal performance and provide guidelines for optimum heating system sizing (boiler and thermal storage) performance. Energy and emissions performance evaluation (including PM_{2.5} and gases) of residential boilers at full and partial loads for longer sampling duration should also be conducted. A degree-day analysis is also required.
- ii. Demonstrations of fully-automatic wood pellet boilers with thermal storage tracking only energy input, water temperature and flow, boiler efficiency, and outdoor temperature on an hourly basis for two (2) years. To be considered, boiler demonstrations must be expected to result in significant annual savings such that a payback period of less than 15 years is predicted for the installed heating system. A degree-day analysis is also required.
- iii. Demonstrations using representative residential applications of small commercial wood pellet boilers with thermal storage in a multi-family building or among a few homes on a mini-district heating loop with energy performance monitoring. To be considered, boiler demonstrations must be expected to result in significant annual savings such that a payback period of less than 15 years is predicted for the installed heating system. A degree-day analysis is also required.
- iv. Pilot demonstration of woodstove change-out to pellet stove. For this demonstration, a more advanced (i.e., higher efficiency and/or substantially lower emission [g/hr]) pellet stove may replace any wood stove that is in-use by the dwelling occupants. An energy audit is required. Cost-effective weatherization and energy efficiency measures should be identified

to reduce and determine building heating load. A plan for the removal and destruction of the wood stove is required. Project reporting will require estimates of energy savings and fine particulate emission reductions, documentation of old wood stove destruction, and overall feasibility of a larger changeout program.

D. Pneumatic wood pellet fuel truck for bulk delivery and storage of wood pellets

Pneumatic pellet delivery systems hold advantages over mechanical-auger systems in maintaining pellet integrity and more flexible delivery to residential storage units. Proposals will be considered for the incremental cost of the pneumatic delivery truck and associated equipment. The proposer may cost-share the value of the tractor (i.e., truck cab) if the cab is less than three (3) years old. The delivery vehicle must spend >90% of its service time within NYS for three (3) years once placed into service. Projects must document time in service, any equipment failures, the number of tons of pellets delivered, delivery distance, realized benefits and penalties of the pneumatic delivery system over previous methods, and the potential of this technology for facilitating the development of a high-efficiency and low-emissions pellet heating industry in NYS. Delivery personnel will be required to wear personal CO monitors. The delivery truck shall have means of discharging static electricity to ensure safe delivery of the pellets.

E. Energy efficiency and safety retrofits of existing high-efficiency wood boilers

Proposals targeting opportunities to substantially improve the energy and emissions performance and safety of existing high-efficiency wood boiler heating systems will be considered. Installing thermal storage (including increasing the volume of existing thermal storage), adjusting and optimizing control parameters, integrating emissions control technologies, installing ventilation systems and CO detection for wood pellet storage, and improving energy management are all eligible measures. System commissioning, including detailed technical/engineering analysis, must be included in the project plan in order to substantiate energy savings and/or reduced emissions.

F. Process development for low (<30% dry basis) moisture content wood chips

Commercial biomass boilers frequently burn wood chips rather than wood pellets due to the fuel cost savings. Staged-combustion biomass boilers, such as those made in NYS, can achieve high-efficiency performance if a low moisture-content (<30%) wood chip is used. Unfortunately, in NYS, only green chips (50% moisture content) are readily available. Having a reliable supply of wood chips with <30% moisture content is a critical need for the biomass heating market to ensure biomass heating systems maintain high performance. Proposals will be considered for methods of producing a low-moisture content chip in an energy-efficient and cost-effective manner leading to near-term commercialization.

G. Non-woody biomass-fired boiler energy efficiency and emissions evaluations

In this category only laboratory-based proposals will be considered, no on-site or demonstration projects are eligible. Proposals must utilize low-mass boilers with sensors and feedback controls designed for non-woody biomass such as grasses. Energy efficiency (combustion, boiler, and thermal) must be quantified at full and partial loads. Emissions measurements shall include PM_{2.5}, elemental carbon, organic carbon, speciated organics (polycyclic aromatic hydrocarbons and other molecular markers), trace metals, SO₂, CO, CO₂, NO_x, and volatile organic compounds. Particle characterization (size, number, morphology) will also be considered. Emissions measurements must be expressed in terms of energy input, energy output, hourly rate, mass per unit volume, and other scientific and regulatory unit conventions at nominal and part loads. Proposers might also consider metallurgy studies to investigate the impacts of non-woody biomass combustion on boiler materials. CO detectors will be required to be installed in the laboratory and must include a notification system that sends a message to the laboratory manager as well as an auto-shutdown feature that will shut down the boiler in the case of high ambient CO levels.

III. Proposal Requirements for Targeted Demonstration Areas

Proposers must submit one electronic and ten (10) paper copies of the completed proposal to the attention of Roseanne Viscusi at the address on the front of this Program Opportunity Notice/Request for Proposal. A completed and signed Proposal Checklist must be attached as the front cover of your proposal, one of which must contain an original signature. **Late proposals will be returned and proposals lacking the appropriate completed and signed Proposal Checklist may be returned. Faxed or e-mailed copies will not be accepted.**

Proposals should follow the format below and provide sufficient and succinct information to complete the required descriptions and answer the questions described in the Proposal Evaluation criteria listed in Section IV. The preferred length of each proposal section is shown. **Proposals are subject to return without evaluation if more than 17 pages are submitted** (not including the Checklist Cover Sheet, Contract Pricing Proposal Forms, one-page letters of commitment, and resumes), or if a font smaller than 11 point is used. **Proposers may contact Nathan Russell at 518-862-1090, ext. 3469 or Ellen Burkhard at (518) 862-1090, ext. 3332 before preparing a proposal to discuss proposal requirements.**

Proposal Format

Proposals must be in the following format and should address the questions below as may be applicable:

PART 1: Project Summary (Five (5) pages total)

Title & Principal Contact

A completed and signed Proposal Checklist, attached as part of this PON, with the project title and name, address, and telephone/fax number(s) of the principal contact person must be attached to the front of all copies of the proposal, one (1) of which must be an original signature. **Late proposals will be returned and proposals lacking the appropriate completed and signed Proposal Checklist may be returned.** (Not included in page count).

A. Description of Proposed Project (Two (2) pages maximum)

What is the title of the proposed project?

For which category (A-G) is the proposal being submitted (select only one (1) category)?

What specific energy or environmental issues would the project address?

What is the goal of the project?

Briefly describe the technology aspect of the project, if applicable.

Explain the scientific or engineering principles incorporated into the technology.

For technology demonstrations, state the energy efficiency and fine particulate (PM_{2.5}), carbon monoxide (CO), and nitrogen oxide (NO_x) emissions (lb/MMBTU_{output}) of the wood-fired heating system. Include any recognized government certification or third-party verification test results.

EN-303 certification must be written in the English language and values must be converted for the higher heating value of wood (this may be done in a cover letter and included as an attachment to the proposal application).

B. Value of the proposal in addressing objectives (One (1) page maximum)

How would the proposed project achieve, enable, evaluate, or communicate the potential for, significant improvements in energy or environmental performance of biomass-fired heating equipment?

If any component of the project will not be performed in NYS, explain why.

How would consumers, businesses, and/or policy makers in NYS be able to use the project results? For pellet delivery truck projects, identify existing/near term and future customers for bulk delivery, delivery distance, as well as tons per year.

How would the project results be timely?

What energy and environmental benefits would be achieved in NYS?

Approximately how many and what types of jobs might be created in NYS?

C. Soundness of Project Methods (Two (2) pages maximum)

Describe the proposed project methods and overall research design. Briefly explain why the equipment, models, methods, and other aspects of the work are expected to be capable of meeting the project objectives. Describe the extent to which these have been accepted by policy making organizations, or otherwise demonstrated to be valid.

PART 2: Statement of Work (Four (4) to five (5) pages total)

A. Tasks

The Statement of Work is the primary contractual document that identifies the task sequence, deliverables, and provides the basis for progress payments. It is an action document, divided by the individual tasks or procedures required to accomplish the project objectives. Each task should be identified with a description of its objective, how it will be performed, and the anticipated deliverables and milestones. As appropriate, tasks should include a brief description of general operating procedures, quality control and quality assurance measures, and analytical procedures and statistical analyses to be used to optimize the quality of the data and project results. (Two (2) to three (3) pages)

B. Information Transfer and Dissemination Plan

The Statement of Work must include a task for reporting and information transfer.

Estimate the size of the market or relevant audience in NYS for the proposed project. Identify possible

market or institutional barriers to successful technology transfer. Discuss strategies for disseminating and documenting dissemination of project results.

For public-domain laboratory testing and field demonstration proposals, describe the technology transfer strategies to be used in achieving widespread use of project results. Also describe proposed documentation of use of project results.

The following reporting and information transfer work will be required for each project and should be considered in allocating resources for this task: presentations at meetings and completing monthly progress reports, a comprehensive final technical report, and articles for submission to peer-reviewed journals. In addition, each principal investigator will be required to prepare a short paper summarizing the usefulness of their research findings for policy formulation. Principal investigators are strongly encouraged to collaborate with social scientists/policy analysts in preparing such a policy paper. Project findings to date shall be presented at annual meetings arranged by NYSERDA staff in Albany, NY. Electronic access to project data shall also be provided to NYSERDA after appropriate quality assurance.

Additional methods of information transfer and reporting may be proposed for involving pertinent policy makers or regulators and other target audience representatives during the project and for using the anticipated project results to achieve projected public benefits. Efforts to increase access to, or use of data collected, is encouraged. Outreach or education about project findings is also encouraged. (One (1) page)

C. Master Schedule

Complete a schedule showing start and completion times for all major tasks, in terms of months after project initiation. Include major milestones and meetings, tests, demonstrations, reports, and other key deliverables. The Schedule should be realistic and reflect the nature of environmental research. (One (1) page)

D. Contract Pricing Proposal Form

Complete the attached Contract Pricing Proposal Form for the entire project, including any in-kind contributions and other cost-sharing. One (1) copy of the Contract Pricing Proposal Form must contain an original signature. The degree of cost-sharing will be considered in the evaluation of proposals. Cost-sharing of at least 25% is required for non-product development activities. Product development efforts will require 50% cost-sharing. Leveraging of other research funding is preferable. In-kind cost-sharing is acceptable. (Not included in page count).

PART 3: Supporting Documentation (Four (4) pages total plus resumes, business literature, and letters of support)

A. Management Plan and Qualifications

- Provide a brief description of the organization (e.g., business, not-for-profit, consulting firm, manufacturer, etc.) and describe the business activity, approximate size and experience of your organization. Describe your research or business goals and how the proposed project would accomplish these goals. (One (1) page)
- Organizational Chart - Prepare an organizational chart listing all *key* personnel. Include any subcontractors and other sponsors involved in the project, showing their roles and responsibilities. (One (1) page)
- Tasking Chart - Prepare a tasking chart, describing approximately in hours or days the effort contributed by each of the *key* personnel to each task and the total effort. (One (1) page)
- Related Projects – Provide a sample of related projects that have been undertaken by the proposer and/or subcontractors. For each project, provide a brief summary, describing its title, scope, funding amount and client contact numbers. NYSERDA may contact listed clients. (One (1) page)
- Resumes - Submit relevant portions of resumes of all key project personnel, including those of proposed subcontractors. Include education and experience that are relevant to the proposed work. (One (1) page each - not included in page count)
- Business or product literature and brochures may be included. (not included in page count)

B. Letters of Commitment or Support

If you are relying on other organizations or businesses to do work, provide services or equipment, data or share in the non-NYSERDA cost, include a letter from that organization or business describing their commitment. If the use of unpublished data from other researchers is necessary for the project to be successful, letters of support showing the availability of these data must be included. **Absence of letters of commitment or support will be interpreted as the proposer not having commitment/support from those parties.** (One (1) page each - not included in page count)

C. Disclosure of Prior Findings of Non-Responsibility form (see General Conditions, below, not in page count).

D. Cost Sharing

A cost-share of at least 25% of the total project cost is required for public domain type projects. Cost-sharing of 50% is required for product development projects. Cost sharing can be from the proposer, other team members, and other government or private sources. Contributions of direct labor (for which the laborer is paid as an employee) and purchased materials may be considered "cash" contributions. Unpaid labor, indirect labor, or other general overhead may be considered "in-kind"

contributions. NYSERDA will not pay for efforts that have already been undertaken. The proposer or proposing team cannot claim as cost-share any expenses that have already been incurred. If applicable, show the cost-sharing plan in the following format (expand table as needed) (not in page count).

	Cash	In-Kind Contribution	Total
NYSERDA	\$	\$	\$
Proposer	\$	\$	\$
Others (list individually)	\$	\$	\$
Total	\$	\$	\$

Attach supporting documentation to support indirect cost (overhead) rate(s) included in your proposal as follows:

- Describe the basis for the rates proposed (i.e., based on prior period actual results; based on projections; based on federal government or other independently-approved rates).
- If rate(s) is approved by an independent organization such as the federal government, provide a copy of such approval.
- If rate(s) is based on estimated costs or prior period actual results, include calculations to support proposed rate(s). Calculations should provide enough information for NYSERDA to evaluate and confirm that the rate(s) are consistent with generally accepted accounting principles for indirect costs.

NYSERDA reserves the right to audit any indirect rate presented in the proposal and to make adjustment for such difference. Requests for financial statements or other needed financial information may be made if deemed necessary.

Recoupment is required for product development projects greater than \$50,000. Please refer to “General Conditions” in Section VIII.

Annual Metrics Reports – If awarded, the proposer will be required to submit to NYSERDA's Project Manager on an annual basis, a prepared analysis and summary of metrics addressing the anticipated energy, environmental and economic benefits that are realized by the project. All estimates shall reference credible sources and estimating procedures, and all assumptions shall be documented. Reporting shall commence the first calendar year after the contract is executed. Reports shall be submitted by January 31st for the previous calendar years activities (i.e. reporting period). Please see Attachment E: Sample Metrics Reporting Guides for the metrics that you will be expected to provide

and the reporting duration. NYSERDA may decline to contract with awardees that are delinquent with respect to metrics reporting for any previous or active NYSERDA agreement.

IV. Proposal Evaluation Criteria for Proposals Addressing Targeted Research Areas

Proposals that meet Proposal requirements will be reviewed and ranked for technical merit, program merit, and cost-value relationship, including cost-sharing by a Technical Evaluation Panel (TEP) using the Evaluation Criteria below. Final rankings may be based on programmatic and management considerations, such as those identified below. **If an investigator(s) identified in a proposal is an investigator on one (1) or more current NYSERDA-funded projects, performance on these projects will be considered in the evaluation of the current proposal.**

PROPOSAL EVALUATION CRITERIA (Categories A-G)

Please note that due to the broad range of topics and activities covered under this PON, not all of the specific evaluation criteria questions may be applicable for a given proposal.

Description of Proposed Project - Is the proposed project innovative and feasible? What is the energy-efficiency and emissions performance of the technology? Would the proposed project achieve, enable, evaluate, quantify and communicate the potential for significant improvements in energy or environmental performance of high-efficiency biomass heating equipment, emissions control technology, or pneumatic pellet delivery? Would the proposed project evaluate the impacts of biomass combustion on air quality or health?

Value of the proposal in addressing objectives - How would the proposed project achieve, enable, evaluate, quantify and communicate the potential for, significant improvements in energy and environmental performance of biomass-fired heating technology in NYS? Would most, or all, of the project be performed in NYS? Would the project achieve or enable significant economic development benefits in NYS? Would the project achieve or enable improved public health in NYS?

Soundness of Project Methods - Do the proposed project methods and overall research design appear to be capable of meeting the project objectives and yielding accepted results? How comprehensive, realistic, and explicit is the Statement of Work with respect to the project objectives and proposal requirements? Are specific measurable targets of success provided where applicable? Are the tasks reasonable and clearly described?

Management Plan and Qualifications – How well has the proposer organized a management plan and a project team with the necessary educational, technical, operations, technology transfer, financing, and administrative experience for successfully completing the project? Does the team include partnerships with other groups including research groups? How many of the team members are located in NYS? Have letters of support demonstrating the availability of data and agreement to participate been included?

Achieving Successful Technology Transfer - Is there a substantial market or audience in NYS for the proposed work? How promising is the reporting and information transfer plan for successfully using project results to realize the potential benefits of the project? Are there any significant market or institutional barriers? Does the proposer describe an effective strategy for overcoming such barriers?

Budget - How justifiable and reasonable are the overall costs compared to the expected usefulness of the project results and the level of effort and duration of the project? How justified and reasonable are the proposer's cost allocations and co-funding contributions (cash, in-kind services, etc.)? Are overhead and G&A rates reasonable? Are equipment, facility, material, and travel costs based on reasonable estimates? Are the labor rates reflective of the industry? To what degree does the proposal include meaningful cost-sharing from other key organizations important for the success of the project?

Schedule - Is the schedule realistic? Are significant milestones and delivery of reports and products identified?

Other Considerations - Projects will be reviewed to determine if they reflect NYSERDA's overall program objectives. The considerations include:

- The balance among NYSERDA projects of long-term and short-term benefits, risk/reward relationships, and similar presently or previously funded projects;
- The general distribution of NYSERDA projects among diverse commercial, industrial, and other organizations, as well as the distribution of projects within NYS.
- The general distribution of projects of diverse topics related to program goals.
- The ease of measuring project success in quantifiable ways.
- If applicable, the responsiveness of the proposer in conducting other NYSERDA-funded work.

VIII. General Conditions

Proprietary Information - Careful consideration should be given before confidential information is submitted to NYSERDA as part of your proposal. Review should include whether it is critical for evaluating a proposal, and whether general, non-confidential information, may be adequate for review purposes. The NYS Freedom of Information Law, Public Officers law, Article 6, provides for public access to information NYSERDA possesses. Public Officers Law, Section 87(2)(d) provides for exceptions to disclosure for records or portions thereof that "are trade secrets or are submitted to an agency by a commercial enterprise or derived from information obtained from a commercial enterprise and which if disclosed would cause substantial injury to the competitive position of the subject enterprise."

Information submitted to NYSERDA that the proposer wishes to have treated as proprietary, and confidential trade secret information, should be identified and labeled "Confidential" or "Proprietary" on each page at the time of disclosure. This information should include a written request to exempt it from disclosure, including a written statement of the reasons why the information should be exempted.

See Public Officers Law, Section 89(5) and the procedures set forth in 21 NYCRR Part 501

<http://nysERDA.ny.gov/~media/Files/About/Contact/NYSERDARegulations.ashx>

However, NYSERDA cannot guarantee the confidentiality of any information submitted.

Omnibus Procurement Act of 1992 - It is the policy of NYS to maximize opportunities for the participation of NYS business enterprises, including minority- and women-owned business enterprises, as bidders, subcontractors, and suppliers on its procurement Agreements.

Information on the availability of NYS subcontractors and suppliers is available from:

Empire State Development
Division for Small Business
30 South Pearl Street
Albany, NY 12245

A directory of certified minority- and women-owned business enterprises is available from:

Empire State Development
Minority and Women's Business Development Division
30 South Pearl Street
Albany, NY 12245

State Finance Law sections 139-j and 139-k - NYSEDA is required to comply with State Finance Law sections 139-j and 139-k. These provisions contain procurement lobbying requirements which can be found at <http://www.ogs.ny.gov/aboutogs/regulations/advisoryCouncil/StatutoryReferences.html>

The attached Proposal Checklist calls for a signature certifying that the proposer will comply with State Finance Law sections 139-j and 139-k and the Disclosure of Prior Findings of Non-responsibility form includes a disclosure statement regarding whether the proposer has been found non-responsible under section 139-j of the State Finance Law within the previous four (4) years.

Tax Law Section 5-a - NYSEDA is required to comply with the provisions of Tax Law Section 5-a, which requires a prospective contractor, prior to entering an agreement with NYSEDA having a value in excess of \$100,000, to certify to the Department of Taxation and Finance (the "Department") whether the contractor, its affiliates, its subcontractors and the affiliates of its subcontractors have registered with the Department to collect NYS and local sales and compensating use taxes. The Department has created a form to allow a prospective contractor to readily make such certification. See, ST-220-TD (available at http://www.tax.ny.gov/pdf/current_forms/st/st220td_fill_in.pdf). Prior to contracting with NYSEDA, the prospective contractor must also certify to NYSEDA whether it has filed such certification with the Department. The Department has created a second form that must be completed by a perspective contractor prior to contacting and filed with NYSEDA. See, ST-220-CA (available at http://www.tax.ny.gov/pdf/current_forms/st/st220ca_fill_in.pdf). The Department has developed guidance for contractors which is available at <http://www.tax.ny.gov/pdf/publications/sales/pub223.pdf>.

Contract Award - NYSEDA anticipates making multiple awards under this PON. It may award a contract based on initial applications without discussion, or following limited discussion or negotiations. Each offer should be submitted using the most favorable cost and technical terms. NYSEDA may request additional data or material to support applications. NYSEDA will use the Sample Agreement to contract successful proposals. NYSEDA expects to notify proposers in approximately eight (8) weeks from the proposal due date whether or not the proposal has been selected to receive an award.

Recoupment - For any new product development projects requesting NYSERDA funding over \$50,000, NYSERDA will require a royalty based on sales of the new product developed. NYSERDA's standard royalty terms are 1.5% of sales for products produced in NYS (for a period of 15 years or until the Contractor pays NYSERDA an amount equal to the amount of funds paid by NYSERDA to the Contractor, whichever comes first) and 5% of sales for products produced outside of NYS (for a period of 15 years or until the Contractor pays NYSERDA an amount equal to three (3) times the amount of funds paid by NYSERDA to the Contractor, whichever comes first).

Limitation - This PON does not commit NYSERDA to award a contract, pay any costs incurred in preparing a proposal, or to procure or contract for services or supplies. NYSERDA reserves the right to accept or reject any or all proposals received, to negotiate with all qualified sources, or to cancel in part or in its entirety the PON when it is in NYSERDA's best interest.

Disclosure Requirement - The proposer shall disclose any indictment for any alleged felony, or any conviction for a felony within the past five (5) years, under the laws of the United States (U.S.) or any state or territory of the U.S., and shall describe circumstances for each. When a proposer is an association, partnership, corporation, or other organization, this disclosure requirement includes the organization and its officers, partners, and directors or members of any similarly governing body. If an indictment or conviction should come to the attention of NYSERDA after the award of a contract, NYSERDA may exercise its stop-work right pending further investigation, or terminate the agreement; the contractor may be subject to penalties for violation of any law which may apply in the particular circumstances. Proposers must also disclose if they have ever been debarred or suspended by any agency of the U.S. Government or the NYS Department of Labor.

VI. Attachments:

- A. Proposal Checklist
- A-1. Acceptance of Standard Terms and Conditions
- B. Disclosure of Prior Findings of Non-responsibility Form
- C. Contract Pricing Proposal Form
- D. Sample Agreement
- E. Sample Metrics Reporting Guides
- F. Solicitation Marketing Questionnaire