



**Transformative Technologies for Energy-Efficient Manufacturing (TTEEM)
Program Opportunity Notice (PON) 2927
\$2.5 Million Available**

*This PON is **NOT** limited to facilities that pay the System Benefits Charge (SBC)*

Proposals must be received by 5:00 PM Eastern Time* on the following dates:

Round 1: July 15, 2014 – Round 2: January 15, 2015

All, or none, of the available funds could be allocated to projects selected from any one due date.

The New York State Energy Research and Development Authority (NYSERDA) invites proposals including: feasibility studies, demonstrations or commercialization of transformative technologies that provide a significant energy/greenhouse gas (GHG) benefit to a manufacturing process in New York State (NYS). The intent of PON 2927 is to help NYS significantly reduce its GHG emissions by defraying the risk associated with developing or being a first-time user of a transformative technology that provides significant energy/GHG benefits for a manufacturing process in NYS. Innovations in the manufacturing process of clean-energy technologies** are preferred.

Proposals can be for Feasibility Studies, Demonstrations or Commercialization projects. For each selected **Feasibility Study**, NYSEDA will provide up to \$100,000, or 50% of total project cost, whichever is less. Feasibility Studies include: proof-of-concept investigations, prototype design and development, or preliminary market assessment or business plan development. For each selected **Demonstration or Commercialization project**, NYSEDA will provide up to \$400,000, or 50% of the total project cost, whichever is less. Such projects typically include: field demonstrations at industrial sites in NYS, performance testing, manufacturability analysis, commercial design development, certification, development of production systems, or development of commercialization strategies.

Technology Developers (those who anticipate revenues to result from the proposed project with NYSEDA):

- **must present a well-developed commercialization plan; and**
- **may be required to repay NYSEDA through a royalty agreement.**

Proposers must submit one searchable electronic copy of the proposal and seven (7) double-sided copies of the proposal with a completed and signed proposal checklist attached to the front of each copy, one of which must contain an original signature. Proposals must be clearly labeled and submitted to:

Roseanne Viscusi, PON 2927
NYS Energy Research and Development Authority
17 Columbia Circle
Albany, NY 12203-6399

For technical questions for PON 2927, contact one of the following Project Managers:

Miriam Pye: (518) 862-1090 ext. 3370, MIRIAM.PYE@nyserda.ny.gov
Scott Larsen: (518) 862-1090 ext. 3208, SCOTT.LARSEN@nyserda.ny.gov
Davetta Thacher: (212) 971-5342 ext. 3603, DAVETTA.THACHER@nyserda.ny.gov

For contractual questions for PON 2927, contact Venice W. Forbes, Ext. 3507, VENICE.FORBES@nyserda.ny.gov

No communication intended to influence this procurement is permitted except by contacting the Project Managers listed above (Designated Contacts). Contacting anyone other than these 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 and proposals lacking the appropriate completed and signed Proposal Checklist will be returned. Faxed or emailed proposals will not be accepted. Proposals will not be accepted at any other NYSEDA location other than the address above. If changes are made to this solicitation, notification will be posted on NYSEDA's website at www.nyserda.ny.gov

** Clean-energy technologies are technologies that have a demonstrably low environmental impact, reduce dependence on fossil fuels and reduce the embodied energy in manufactured goods.

I. Program Overview

PON 2927 solicits proposals that involve potentially disruptive, transformative technologies that will result in significant energy and GHG benefits in manufacturing processes, including: feasibility studies, demonstrations or commercialization of transformative technologies that provide a significant energy/GHG benefit to a manufacturing process in NYS.

Transformative technologies are considered to be those that change how goods are manufactured in ways that significantly reduce energy use, GHG emissions, and environmental footprint, while increasing value-based productivity and site capacity. Technologies that improve the manufacturing process of clean-energy technologies are preferred. Examples of potentially transformative technologies that can significantly reduce process time, energy, GHGs and environmental footprint include, but are not limited to: additive manufacturing; novel approaches to producing and using biopolymers; and microwave sintering of ceramics; advanced photonics, and innovative applications of laser, ultraviolet and electron beam processing.

The intent of PON 2927 is to help NYS significantly reduce its GHG emissions by defraying the risk associated with developing or being a first-time user of a transformative technology that provides an energy/GHG benefit for a manufacturing process in NYS. **NYSERDA encourages the use of systematic techniques (such as biomimicry), where applicable, to minimize risks associated with developing new technologies.** NYSERDA encourages participants in PON 2927 to work synergistically towards mutually beneficial outcomes. Projects should focus on applied research, development, demonstration and commercialization (not basic research) and should be structured to lead to near-term job retention, job growth and commercial growth in NYS. Academic/industrial partnerships are encouraged to integrate science and innovation into manufacturing practices and to transform applied research into business opportunities. Technology development proposals must reflect a well-developed path to commercializing the technology. The overall intent of NYSERDA's various research and development programs is described at: <http://www.nyserda.ny.gov/innovation-video>.

Proposals seeking to implement small increases in energy efficiency and productivity of conventional manufacturing methods will not be funded under PON 2927. For underutilized, off-the-shelf energy-efficient technologies or incremental improvements to conventional manufacturing methods, implementation incentives are available through NYSERDA's Industrial and Process Efficiency Program [PON 2456](#).

It is important to follow "Proposal Requirements" carefully and answer all questions. When in doubt about eligibility or proposal requirements, contact one of the Project Managers listed on the first page of this PON.

II. Proposal Requirements

- Proposers must submit one searchable electronic copy of the proposal and seven (7) double-sided paper copies of the complete proposal to Roseanne Viscusi at the address indicated on the first page of this PON.
- A completed and signed Proposal Checklist must be attached as the front cover of your proposal, one of which must contain an original signature.
- Bindings, report covers, or other presentation materials should not be used (a single staple in the upper left-hand corner is preferred).
- Limit your proposal to 12 pages (12-point font) excluding letters of support, resumes, and NYSERDA forms and Attachments.
- Do not include unnecessary attachments beyond those sufficient to present an effective response.
- Each page of the proposal should state the name of the proposer, the PON number, and the page number.
- Late proposals and proposals lacking the appropriate completed and signed Proposal Checklist will be returned.
- Faxed or e-mailed copies will not be accepted.

Procurement Lobbying Requirements - State Finance Law sections 139-j and 139-k: Procurement lobbying requirements contained in State Finance Law sections 139-j and 139-k became effective on January 1, 2006. (The text of the laws is available at: <http://www.ogs.ny.gov/aboutogs/regulations/advisoryCouncil/StatutoryReferences.html>). In compliance with §139-j and §139-k of the State Finance Law, for proposals submitted in response to this solicitation that could result in agreements with an annual estimated value in excess of \$15,000, additional forms must be completed and filed with proposals: (1) a signed copy of the Proposal Checklist including required certifications under the State Finance Law and (2) a completed Disclosure of Prior Findings of Non-Responsibility form. Failure to include a signed copy of the Proposal Checklist referenced in this solicitation will disqualify your proposal.

Please provide the information requested in each section below.

Each section below is followed by questions, which are the criteria by which the Technical Evaluation Panel (TEP) will evaluate your proposal.

1. Executive Summary (one page) - Provide a brief response to each of the following:

- Context: The problem or opportunity you are addressing and its background.
- Objective: What you are trying to do to address the problem/opportunity, and how you are going to do it.
- Benefits: Likely energy, GHG, environmental and economic benefits for the project and New York State.

2. Problem Statement and Proposed Solution – Please discuss:

- The problem or opportunity you are addressing and its background.
- The proposed solution and how it addresses the problem/opportunity, including:
 - description of technology and project;
 - transformative characteristics;
 - current technology readiness level (TRL) with rationale;
 - current manufacturing readiness level (MRL) with rationale;
 - alternative solutions and why the proposed solution is superior;
 - barriers to success and/or project risks; and
 - market/economic potential.

Criteria:

- Are the problem and proposed solution described clearly?
- Is the concept practical and technically feasible?
- Is the technology transformative?
- Is the technology better than other options?
- Is there market/economic potential?

3. Project Benefits:

- Quantify estimated energy/GHG benefits anticipated for the project and New York State (e.g., kWh, kW, Btu, \$, tons CO₂).
- Estimate other benefits, for example:
 - increased: revenue, product quality, productivity, units sold, or new/retained jobs; or
 - decreased: maintenance costs, waste, capital, etc.
- Provide a cost/benefit projection.
- Discuss what entity/entities will reap these benefits.
- **Upon conclusion of the project, benefits must be quantified and reported to NYSERDA for five years. Discuss your plan for quantifying the actual project benefits.**

Criteria:

- Are energy/GHG benefits significant (for the project and New York State)?
- Are environmental and economic benefits significant for the project and New York State?
- Do estimates of benefits seem reasonable?
- Is the cost/benefit projection reasonable?
- Is there a plan to quantify actual benefits after project completion?

Choose 4a (Technology Users) or 4b (Technology Developers - those who anticipate revenues to result from the proposed project with NYSERDA): *Although feasibility studies may have less detail (than demonstration or commercialization projects) in section 4, we do expect feasibility study proposals to reflect an understanding of the market and path to commercialization.*

4a. Technology Transfer for Technology Users:

If you, the proposer, are using the new technology and have no plans to commercialize the technology:

- Discuss other potential users of your process change in New York State.
- Discuss your plan to transfer project results to this audience (e.g., on-site public demonstrations; presentations at appropriate meetings; preparation of fact sheets, articles or case studies; etc.).

Criteria:

- Is the technology transfer plan adequate to disseminate appropriate information to the appropriate New York State audience?

To adequately describe your commercialization plan (4b), you may add two pages to the 12-page limit.

4b. Commercialization Plan for Technology Developers:

If you, the proposer, plan to ultimately commercialize the technology, discuss the following:

4b-1) Timeline:

- Provide a timeline showing the paths, activities, milestones, resources, cost and timing estimated to take the technology from its current state of development to the next stage, and ultimately to commercial deployment.
- Describe the challenges to commercialization.

Criteria:

- How likely is it that this product will be commercially viable in three years or less?
- How significant are the challenges to commercialization?

4b-2) Marketing:

- Define your target markets (in and outside of NYS) and their relevant characteristics, e.g., size, competition, trends (regulatory, technological, etc.).
- Discuss your marketing strategy to these markets and why you think it will be successful.
- Estimate the price of the technology that will be commercialized and compare the price to competing technologies.
- Discuss the customer's economic motivation (e.g., payback or net present value) for buying the new product or service, versus alternatives.

Criteria:

- Does market demand exist for the product?
- Does the proposed market strategy seem effective?

4b-3) Design & Production:

- Discuss technical development steps remaining prior to starting manufacturing or deployment.
- Discuss plans for setting up facilities for manufacturing, including key issues such as: need for specialized production equipment or strategic alliances; critical make/buy decisions or cost/volume issues; and plans for ancillary activities such as service support functions.

Criteria:

- Does design & production plan seem adequate?

4b-4) Finance:

- Estimate funds required to go from the current stage of development to a financially self-sustaining level of commercialization; include funding for R&D, initial marketing, and manufacturing/deployment programs. Identify potential funding sources and strategic partners.

Criteria:

- Is funding adequate to achieve plan?

4b-5) Replication of Benefits in NYS:

- Discuss the NYS-based market, your estimated phase-in of an achievable share of the NYS-based market, and the resulting energy/GHG benefits that are anticipated to accrue in NYS.

Criteria:

- Do significant opportunities exist to realize benefits at multiple NYS sites?
- Is there a good plan to optimize benefits in NYS?
- What are the potential energy/GHG/other benefits in NYS?

5. Scope of Work and Schedule:

- Describe each task required to accomplish goals, deliverables, and who will perform each task; *and*
- Prepare a schedule of when each task will be performed and total budget for each task.

Total milestone budget should be the same as the total budget on the Contract Pricing Proposal Form.

Criteria:

- Is the approach likely to meet the proposal's goals?
- Is the schedule reasonable?
- Does the statement of work include tasks for:
 - technology transfer or commercialization, *and*
 - quantification of benefits, including methodology?

6. Cost Sharing:

- The proposal should show non-NYSERDA funding of **at least 50%** of the total cost of the project. 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 fund efforts that have already been undertaken. The proposing team cannot claim as cost-share any expenses that have already been incurred.
- Show the cost-sharing plan in the following format (expand table as needed).

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

If you include indirect costs in your budget, you MUST attach supporting documentation to support indirect costs and/or (overhead) rate(s) in your proposal as follows:

1. 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).
2. If rate(s) is approved by an independent organization, such as the federal government, provide a copy of such approval.
3. If rate(s) is based on estimated costs or prior period actual results, include calculations to support proposed rate(s). Calculation should provide enough information for NYSERDA to evaluate and confirm that rate(s) is consistent with generally accepted accounting principles for indirect costs.

NYSERDA reserves the right to audit indirect rates presented in the proposal and adjust for differences. Requests for financial statements or other financial information may be made if deemed necessary.

Product developers may be required to repay NYSERDA through a royalty agreement.

Criteria:

- Does the level, type and source of cost sharing indicate a sufficient commitment to the project by the proposer and proposing team?

7. Budget - Complete the **Contract Pricing Proposal Form** (Attachment C) (see CPPF instructions). Indicate requested NYSERDA funding in the column labeled "Funding & Co-funding via NYSERDA." Include non-NYSERDA cash and in-kind contributions in the column labeled "Cost-sharing and other co-funding."

Criteria:

- Is cost reasonable when measured against project goal, scope of work, and expected benefits?
- Are costs clearly specified?

8. Business Description:

- Describe your business: number of employees; what you produce and how much per year, or what services you provide; what kind of facilities you have; how many locations you have, whether you are part of a larger organization, and total revenues for 2013.
- Discuss how much of your revenues resulted from sales, grants and other sources (identify).
- Identify any investments from, or discussions with, venture capital firms, investment bankers, etc.
- If your proposed project involves additional demonstration sites, identify the site(s) (location, facilities, product, employees, revenues, etc.).

Criteria:

- Is the business financially sound?
- Is the business capable of conducting all tasks needed to accomplish the project goals?

9. Project Team:

- List team members, including the project manager, subcontractors, other participants and co-funders.
 - Explain their roles and responsibilities.
 - Describe qualifications and relevant experience or expertise.
- Identify any special facility, equipment or capability possessed by project participants that is relevant to the project.

Criteria:

- Does the project team have the qualifications and resources needed to succeed?

10. Letters of Commitment or Support:

- If other organizations or businesses are doing some of the work, providing services or equipment, serving as a demonstration site, or share in the non-NYSERDA cost, include a signed letter from that organization or business (on their letterhead) describing their commitment (**include cash/in-kind dollar commitment if applicable**). If you are developing a product, include letters of interest from potential customers.

Criteria:

- If applicable, do letters of support exist and do they reflect the level of involvement (e.g., co-funding, potential interest in buying product, services, etc.) from the supporter(s)/potential customer(s)/partner(s)?

OTHER CONSIDERATIONS

Proposals will be reviewed to determine if they reflect NYSERDA's overall objectives, including: risk vs. reward relationships, potential for complementing similar ongoing or completed projects, the general distribution of NYSERDA projects among organizations, and the distribution of projects within New York State.

V. 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 New York State to maximize opportunities for the participation of New York State business enterprises, including minority- and women-owned business enterprises, as bidders, subcontractors, and suppliers on its procurement Agreements.

Information on the availability of New York 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 - NYSERDA 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 years.

Tax Law Section 5-a - NYSERDA is required to comply with the provisions of Tax Law Section 5-a, which requires a prospective contractor, prior to entering an agreement with NYSERDA 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 New York State 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 NYSERDA, the prospective contractor must also certify to NYSERDA whether it has filed such certification with the Department. The Department has created a second form that must be completed by a prospective contractor prior to contacting and filed with NYSERDA. 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 - NYSERDA anticipates making one or more awards under this solicitation. It may award a contract based on initial applications without discussion, or following limited discussion or negotiations pertaining to the Statement of Work. Each offer should be submitted using the most favorable cost and technical terms. NYSERDA may request additional data or material to support applications. NYSERDA will use the Sample Agreement to contract successful proposals. NYSERDA reserves the right to limit any negotiations to exceptions to standard terms and conditions in the Sample Agreement to those specifically identified in the submitted proposal (see Proposal Checklist). Proposers should keep in mind that acceptance of all standard terms and conditions will generally result in a more expedited contracting process. NYSERDA expects to notify proposers in approximately eight weeks from the proposal

due date whether your proposal has been selected to receive an award. NYSERDA may decline to contract with awardees that are delinquent with respect to any obligation under any previous or active NYSERDA agreement.

Limitation - This solicitation 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 solicitation when it is in NYSERDA's best interest. NYSERDA reserves the right to reject proposals based on the nature and number of any exceptions taken to the standard terms and conditions of the Sample Agreement.

Disclosure Requirement - The proposer shall disclose any indictment for any alleged felony, or any conviction for a felony within the past five years, under the laws of the United States or any state or territory of the United States, 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 New York State Department of Labor.

Recoupment - For any new product research and/or development exceeding \$100,000, NYSERDA will generally require a royalty based on sales and/or licensing of the new product developed. NYSERDA's standard royalty terms are 1.5% of sales or thirty percent (30%) of all license revenue accruing to the Contractor for products produced in New York State (for a period of fifteen 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 or sixty percent (60%) of all licensing revenues accruing for products produced outside of New York State (for a period of fifteen years or until the Contractor pays NYSERDA an amount equal to three times the amount of funds paid by NYSERDA to the Contractor, whichever comes first). For feasibility studies over \$50,000 involving Product Development activities, if subsequent funds are awarded for a commercialization effort, at NYSERDA's discretion the contract for the commercialization phase may include a provision for recoupment of the feasibility study funds in addition to a provision for recoupment of the commercialization phase funds.

Attachments

Attachment A: Proposal Checklist

Attachment B: Disclosure of Prior Findings of Non-responsibility Form

Attachment C-1: Contract Pricing Proposal Form (CPPF)

Attachment C-2: CPPF Instructions

Attachment D: Solicitation Marketing Questionnaire

Attachment E: Sample Agreement

Attachment F: Sample Metrics Reporting Guide