



Technical Assistance Contractor for Biomimicry
Request for Proposals (RFP) 1775
\$600,000 Available

Proposals Due: July 22, 2010 by 5:00 PM Eastern Time*

Biomimicry is a science that studies nature's models and then imitates or takes inspiration from these designs and processes to solve human problems, e.g., a solar cell inspired by a leaf. *Biomimicry is not utilization of nature, e.g., using bacteria to clean water or using cork flooring.*

NYSERDA seeks to competitively select a Technical Assistance Contractor to furnish a compendium of services to assist with using and promoting biomimicry as a tool to help various NYSERDA programs and industrial partners develop new and improved energy-related products and processes better, faster and cheaper. This RFP will be used to select a Technical Assistance Contractor to help with a number of biomimicry activities in New York State, such as:

- Provide energy-related biomimicry consulting to selected industrial entities;
- Conduct Design Charettes with various industrial-related groups;
- Compile information on biomimicry practitioners in NY State and assist with development of "matchmaking" tools;
- Provide strategic consulting for implementation of Biomimicry Roadmap activities (Roadmap: http://www.nyserda.org/Programs/Research_Development/Terrapin%20-%20NYSERDA%20Biomimicry%20Workshop%20Report.pdf);
- Assist with biomimicry marketing and publicity activities, including arranging conferences, speakers, and pertinent NYS audience;
- Compile information on commercially available biomimetic energy products for consideration under deployment programs;
- Assist with writing proposals to acquire biomimicry funding from federal government and/or charitable foundations;
- Other biomimicry related duties as assigned or determined.

RFP 1775 offers up to \$300,000/year base contract for two-year initial services (total \$600,000), followed by two optional renewals at one year each at funding levels to be determined. Supplemental funding may be available on a case-by-case basis during any year.

Proposal Submission: Proposers must submit six (6) hard copies and one (1) CD 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, RFP 1775
NYS Energy Research and Development Authority
17 Columbia Circle
Albany, NY 12203-6399

For technical questions, contact: Miriam Pye at (518) 862-1090, ext. 3370 or mep@nyserda.org
For contractual questions, contact: Nancy Marucci at (518) 862-1090 ext. 3335, nsm@nyserda.org

No communication intended to influence this procurement is permitted except by contacting Miriam Pye (Designated Contact) at (518) 862-1090, ext. 3370 or mep@nyserda.org. Contacting anyone other than this Designated Contact (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 may be returned. 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.org

I. Introduction

Biomimicry is a science that studies nature's models, then imitates or takes inspiration from these designs and processes to solve human problems, such as a solar cell inspired by photosynthesis.

Biomimicry is not utilization of nature. The field of biomimicry differs greatly from bio-utilization, which entails harvesting a product or producer (e.g., logging timber) and from bio-assisted technologies, which domesticate an organism to accomplish a function (e.g., bacterial purification of water or harvesting wool from sheep). Biomimicry is about what we can learn from nature, not what we can extract from it.

Biomimicry is a way of observing the natural world to identify design solutions and lessons that may enable us to create products and processes that are sustainable and healthy for local and global ecosystems. These natural inspirations lead to new strategies for achieving specific environmental goals, providing a toolbox for identifying and solving problems in areas such as energy performance and waste reduction. In this way, biomimicry brings science, design, manufacturing, and policy together for an interdisciplinary approach to real-world problems, helping to improve how we interact with the world. Biomimicry, intentionally looking to nature for inspiration, may be able to help usher an entrepreneur from concept to commercialization better, faster, and cheaper.

NYSERDA has a sustained interest in using innovation and technology to improve NY State's (NYS) energy performance and solve environmental problems. This includes mitigating the environmental effects of energy consumption, developing environmentally preferred and renewable resources, and advancing innovative energy technologies in ways that improve the State's economy and environment. Biomimicry offers a paradigm shift in energy efficient design, and NYSERDA plans to harness this potential to develop innovations that could be critical for the long-term energy performance of NYS.

The simplest approach to biomimicry, copying streamlined shapes found in nature, has already led to invention and commercialization of more-efficient wind turbine blades with bumpy edges based on a whale's flipper, and reshaping the front of the Japanese Bullet Train to resemble the Kingfisher bird has yielded a boost in efficiency while also eliminating a problematic sonic boom. More complex approaches to biomimicry look to copy materials produced in nature, such as a non-toxic adhesive for the marine environment that works like barnacle glue, or lightweight ultra-strong resilient fibers like spider silk.

In November 2008 NYSERDA embarked on an effort to popularize biomimicry among NYS-based inventors and entrepreneurs. NYSERDA conducted a Scoping Session to guide its biomimicry efforts, and held a follow-on Symposium that highlighted numerous energy-related examples such as solar power following the format of a leaf. The Scoping Session resulted in a Roadmap document, which NYSERDA is now following:

http://www.nysERDA.org/Programs/Research_Development/Terrapin%20-%20NYSERDA%20Biomimicry%20Workshop%20Report.pdf

NYSERDA's objective now is to select a Technical Assistance Contractor to furnish a compendium of services to assist with using and promoting biomimicry as a tool to help various NYSERDA programs and industrial partners develop new and improved energy-related products and processes better, faster and cheaper. As NYSERDA attempts to ramp-up involvement with Biomimicry, it will be important to build a basis to help justify future-year funding allocations to expand efforts beyond the first two years. A key determinant at the end of the first two years will be the level of significance of documentable outcomes resulting from

energy-related biomimicry consulting to selected clients that directly leads to new and improved products, and other efforts that can be shown to result in nearer-term tangible improvements.

II. Program Requirements

Services Requested

Many champions in nature have developed elegant solutions to fit their needs. Currently, a matchmaking challenge exists to link industrial problems with a bio-perfected solution – a significant portion of this challenge is due to the lack of awareness and understanding of biomimicry as an R&D tool. This RFP will be used to select a Technical Assistance Contractor to help with a number of biomimicry activities, such as:

- Provide energy-related biomimicry consulting to selected industrial entities;
- Conduct Design Charettes with various industrial-related groups;
- Compile information on biomimicry practitioners in NY State and assist with development of “matchmaking” tools;
- Provide strategic consulting for implementation of Biomimicry Roadmap activities (Roadmap: http://www.nyserda.org/Programs/Research_Development/Terrapin%20-%20NYSERDA%20Biomimicry%20Workshop%20Report.pdf);
- Assist with biomimicry marketing and publicity activities, including arranging conferences, speakers, and pertinent NYS audience;
- Compile information on commercially available biomimetic energy products for consideration under deployment programs;
- Assist with writing proposals to acquire biomimicry funding from federal government and/or charitable foundations;
- Other biomimicry related duties as assigned or determined.

We request proposers to submit a detailed plan that includes the types of activities bulleted above and other activities that may help NYSERDA achieve its goal to promote biomimicry as a tool to help various NYSERDA programs and industrial partners develop new and improved energy-related products and processes better, faster and cheaper.

Proposers are encouraged to propose and justify the best portfolio of services after reviewing the RFP’s suggested services above. The services outlined may be modified or built upon at NYSERDA’s discretion during contract negotiations or over the course of the contract. NYSERDA reserves the right to tailor proposed services within the bounds of the contract based on cost-effectiveness, performance, participation, or other considerations.

NYSERDA will procure the services of the selected Technical Assistance Contractor as a “Work for Hire,” and any intellectual property associated with unique services to a client developed through this activity will accrue to that client. The selected Technical Assistance Contractor will be bound by a non-disclosure agreement regarding proprietary and/or confidential data including, but not limited to, that encountered during design charettes or consulting to industrial partners.

Proposer Qualifications

NYSERDA seeks proposals from firms/teams with biomimicry expertise and have:

- Relevant education;
- At least five (5) years of experience in biomimicry, including consulting with industry to apply Biomimetic solutions to industrial problems;

- Biomimicry experience covering a broad range of topics including biomimicry with a favorable impact on clean and efficient energy;
- The resources necessary to provide the full breadth of technical, analytical and outreach services required;
- A team that can provide the full complement of skills needed for these varied tasks; and
- Presence in NYS to help minimize travel expenses and maximize timely responsiveness.

III. Proposal Requirements

- Proposers must submit six (6) hard copies and one (1) CD of the completed proposal to the attention of Roseanne Viscusi at the address on the front of this RFP.
- 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 and proposals lacking the appropriate completed and signed Proposal Checklist may be returned.
- Faxed or e-mailed copies will not be accepted.
- 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 (Attachments A, B, and C).
- Do not include unnecessary attachments beyond those sufficient to present a complete, comprehensive, and effective response.
- Each page of the proposal should state the name of the proposer, the RFP number (RFP 1775), and the page number.

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.state.ny.us/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.

The proposal must be in the following format:

Executive Summary

Summarize the proposed effort.

Introduction and Background

- Discuss the rationale for the proposed approach.
- Identify all entities/team members collaborating in the proposal.
- Identify the major goals and objectives of the proposed approach and strategy.
- Include a general discussion of potential energy benefits that may result from using a biomimetic approach to solving energy issues (e.g., energy efficiency, renewable energy, energy storage).

Proposer Qualifications

- Identify all team members (name, business address, telephone number, e-mail), including the party who will assume the ultimate responsibility for success and their qualifications to undertake the proposed work.
- Attach resumes of key personnel (will not count towards page limitation).
- Provide an organization chart displaying relevant staff and define their roles and responsibilities.
- Provide the information required within Section II “Proposer Qualifications:”
 - Relevant education;
 - At least five (5) years of experience in biomimicry, including consulting with industry to apply Biomimetic solutions to industrial problems;
 - Biomimicry experience covering a broad range of topics including biomimicry with a favorable impact on clean and efficient energy;
 - The resources necessary to provide the full breadth of technical, analytical and outreach services required;
 - A team that can provide the full complement of skills needed for these varied tasks; and
 - Presence in NYS to help minimize travel expenses and maximize timely responsiveness.
- Provide names and contact information of two references for whom you have provided services relevant to those requested in this RFP.

Statement of Work

The Statement of Work should be a detailed plan of how the proposer will accomplish the objectives, clearly articulating all tasks. Each action should indicate who will perform it, how it will be performed, timing, deliverables, and its anticipated results.

After reviewing the RFP’s “Services Requested” in Section II, proposers are encouraged to propose and justify a portfolio of services that best accomplish the objectives of this RFP. The services proposed may be modified or built upon at NYSERDA’s discretion during contract negotiations or over the course of the contract. NYSERDA reserves the right to tailor proposed services within the bounds of the contract based on cost-effectiveness, performance, participation, or other considerations.

Outcome and Benefits

Explain the proposal’s expected outcomes and benefits. Describe what you think will be the most tangible benefits your proposed mix of activities would deliver.

Work Schedule and Staffing Plan

- Prepare a work schedule highlighting tasks and major milestones in terms of weeks or months after execution of the Agreement.
- Define a realistic schedule consistent with the Statement of Work for task deliverables, including task/final reporting, and incorporate them into the work schedule.
- The work schedule should include a staffing plan that indicates the roles, responsibilities, and anticipated hours allocated to all key personnel. Note that hours allocated in the work schedule must be consistent with those in the budget.

Budget

- A Contract Pricing Proposal Form should be submitted with each proposal (see Attachment C).
- In addition, a budget, including all cost elements, must be provided. This must be a task-based budget that shows cost details including direct and indirect costs, production,

overhead, labor, and subcontractors, if applicable, related to each task. The intent must be to define the cost and emphasis of individual tasks in relation to others. The Proposal must also provide budget estimates for materials, equipment, and travel.

- Cost share (cash or in-kind) is not required but is welcome.

Attach supporting documentation to support indirect cost (overhead) rate(s) included 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 the rate(s) is 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.

Letters of Commitment

If other organizations or businesses are doing some of the work or providing services or cost share, include a signed letter from that entity (on their letterhead) describing their commitment (include cash/in-kind dollar commitment if applicable).

IV. PROPOSAL EVALUATION

Eligible proposals that meet solicitation requirements will be reviewed by a Technical Evaluation Panel (TEP) consisting of NYSERDA and selected outside reviewers. The TEP will score and rank the proposals using the following Evaluation Criteria. We reserve the right to interview proposers either in person or via teleconference.

Qualifications of Proposer

- Does the proposer/proposing team:
 - Provide the full complement of biomimicry/energy skills, education and experience needed?
 - Have previous experience in the conduct and delivery of services requested in the RFP?
 - Provide presence in NYS to help minimize travel expenses and maximize timely responsiveness?
 - Have the ability to dedicate staff as appropriate?

Strategy and Overview

- Will the proposed approach maximize the potential for NYSERDA to achieve the objectives of this RFP?
- Is the proposed strategy feasible?
- Is the Statement of Work comprehensive, realistic, and consistent with the proposal requirements?
- How significant are the tangible benefits expected from the proposed mix of activities?

Cost

- Is the overall cost reasonable relative to the level of effort/deliverables?
- Are allocations of task hours justifiable?
- Are the billing rates reasonable and appropriate? Does the proposer/team have the

- ability to deliver service effectively and economically?
- Is there documentation in support of the indirect cost rates?
- Does the proposal team describe the ability to use junior and senior staff as appropriate to be cost effective while achieving Program success?

Other

- Proposals will be reviewed to determine if they reflect NYSERDA's overall objectives and other factors deemed appropriate by NYSERDA including: risk vs. reward relationships and potential for complementing similar ongoing or completed projects.
- Does the proposal leverage added value opportunities?

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 www.nyserda.org/about/nyserda.regulations.pdf. 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 St., 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.state.ny.us/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.nystax.gov/pdf/2007/fillin/st/st220td_507_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.nystax.gov/pdf/2007/killin/st/st220ca_507_fill_in.pdf). The Department has developed guidance for contractors which is available at http://www.tax.state.ny.us/pdf/publications/sales/pub223_606.pdf.

Contract Award - NYSERDA anticipates making one award 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. NYSERDA expects to notify proposers in approximately eight (8) weeks from the proposal due date whether your proposal has been selected to receive an award. NYSERDA will attempt to contract with the top-ranked meritorious proposer; if NYSERDA determines that contract negotiations are fruitless then NYSERDA will cascade to negotiate with the second-rated meritorious proposer, and so on.

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.

Attachments

- Attachment A - Proposal Checklist
- Attachment B - Disclosure of Prior Findings of Non-Responsibility
- Attachment C - Contract Pricing Proposal Form (CPPF Excel) and Instructions
- Attachment D - Sample Agreement