



NYSERDA

KATHY HOCHUL
Governor

RICHARD L. KAUFFMAN
Chair

DOREEN M. HARRIS
President and CEO

**Vehicle Grid Integration Program
Program Opportunity Notice (PON) 5354
Up to \$12,000,000 Available**

NYSERDA reserves the right to extend and/or add funding to the Solicitation should other program funding sources become available.

Due Dates:

Round 1 Concept Papers: September 12, 2023, by 3:00 p.m. Eastern Time*

Round 1 Proposals: December 5, 2023, by 3:00 p.m. Eastern Time*

Round 2 Concept Papers: June 18, 2024, by 3:00 p.m. Eastern Time*

Round 2 Proposals: September 17, 2024, by 3:00 p.m. Eastern Time*

The New York State Energy Research and Development Authority (NYSERDA) seeks research proposals to develop or demonstrate new technologies and strategies that help overcome barriers to electric vehicle (EV) grid integration (VGI) and broader EV use in battery electric medium- and heavy-duty (MHD) vehicles. The goal of this program is to develop and demonstrate innovative technologies and operational approaches to make EV adoption more economically viable while reducing their impact on the electric grid in New York State. VGI is used broadly to refer to the technological, market, and regulatory opportunities to achieve greater grid flexibility while accommodating a variety of EVs and charging patterns. VGI is also used as a general term to capture a range of innovative charging scenarios and solutions. This could include new approaches or technologies to improve standard grid-to-vehicle managed charging or facilitate vehicle-to-grid (V2G) or other types of similar use cases¹ that improve VGI.

Proposals should demonstrate a feasible path to economic viability and be replicable and transferrable throughout the State and beyond by different size vendors, utilities, fleet managers, etc. Private, non-profit, and public entities are eligible to propose. This solicitation is not intended to pay for projects that are primarily for electric vehicle supply equipment (EVSE) deployment or feasibility studies that should fall under normal due diligence practices. Two solicitation rounds are anticipated, and all, some, or none of the available funding may be allocated in total and in any one round.

Proposal Submission: Online submission is preferable. Proposers may submit Word, Excel, or PDF files (file formats include: csv, doc, docx, gif, jpeg, jpg, pdf, png, ppt, pptx, pps, ppsx, tif, txt, xls, xlsx, and

¹ Vehicle-to-everything, or V2X, is also used in addition to V2G to be inclusive of projects that utilize bi-directional charging for other means, like vehicle-to-vehicle or vehicle-to-building.

zip). Individual files should be 100MB or less in file size. Proposal PDFs should be searchable and should be created by direct conversion from MS Word, or other conversion utility. Files should not be scanned. For ease of identification, all electronic files must be named using the proposer's entity name in the title of the document. NYSERDA will also accept proposals by mail or hand-delivery if online submission is not possible. For detailed instructions on how to submit a proposal (online or paper submission), click the link "[Application Instructions and Portal Training Guide \[PDF\]](#)" located in the "Current Opportunities" section of NYSERDA's website (<https://www.nyserda.ny.gov/Funding-Opportunities/Current-Funding-Opportunities.aspx>).

NYSERDA will also accept concept papers and proposals by mail or hand-delivery if electronic submission is not possible. If mailing or hand-delivering, proposers must submit (2) paper copies of their Proposals, along with either a PDF or MS Word digital copy of the Proposals, following the above guidelines. Mailed or hand-delivered proposals must be clearly labeled and submitted to:
**Jillina Baxter, Proposals, PON 5354 NYS Energy Research and Development Authority 17
Columbia Circle Albany, NY 12203-6399**

No communication intended to influence this procurement is permitted except by contacting Robert Mack at (212) 971-5342, ext. 3118 or Richard Mai at (212) 971-5342, ext. 3476 or by e-mail VehicleGridIntegration@nyserda.ny.gov (for technical questions). If you have contractual questions concerning this solicitation, contact Nancy Marucci at (518) 862-1090, ext. 3335 or Nancy.Solicitations@nyserda.ny.gov. 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.

*** All proposals must be received by 3 p.m. Eastern Time on the date noted above. Late, faxed, or emailed proposals will not be accepted.** Incomplete proposals may be subject to disqualification. It is the proposer's responsibility to ensure that all pages have been included in the proposal. Please note: for online submission, there are required questions that you will have to answer in addition to uploading attachments and you should allot at least 60 minutes to enter/submit proposals. The online proposal system closes promptly at 3 p.m. Eastern Time, files in process or attempted edits or submission after 3 p.m. Eastern Time on the date above, will not be accepted. If changes are made to this solicitation, notification will be posted on the "Current Opportunities" section of NYSERDA's website (<https://www.nyserda.ny.gov/Funding-Opportunities/Current-Funding-Opportunities.aspx>).

I. Introduction

Background

The State of New York ("the State") has committed, through legislation, to reduce greenhouse gas emissions 85% below 1990 levels by 2050. The transportation sector is one of the two largest contributors to greenhouse gas emissions in the State and reducing emissions from this sector is critical to meeting the State's broader goals set forth in the Climate Leadership and Community Protection Act (Climate Act). One of the major barriers to achieving the Climate Act goals is the potential capacity limitations for the existing power transmission and distribution network to accommodate a diversity of EV types and charging patterns at scale. Investments in grid flexibility will help support VGI by also addressing other barriers such as: a lack of real-time intelligence on system conditions; limited availability of integrated system controls; a lack of validation and standardization for advanced grid technologies; potentially conflicting incentives to achieving grid flexibility benefits with customer participation in EV charging programs; and a limited understanding of shifts in load profiles with increasing renewables, vehicle, and building electrification.

To help the EV market become broadly viable, the economics and impacts of EV charging infrastructure must also improve. There is a need for new policies and technologies to reduce the strain on the electric grid from electric vehicle supply equipment (EVSE) and keep the cost of charging EVs down. Existing technologies like distributed generation, on-site energy storage, and software to integrate charging loads can all help reduce electric grid strains and demand charges. Emerging technologies like vehicle-to-building and vehicle-to-grid services could allow EVs to generate additional revenue or provide extra value as a backup electric generator.

Additionally, vehicle electrification is already underway in many transportation sector segments, such as light-duty vehicles, transit buses, and school buses, but New York State must push forward with the electrification of harder-to-decarbonize market segments as well. Demonstrating new approaches in more challenging use cases can help accelerate electrification in a wider variety of market segments. New York State will need to rapidly electrify medium- and heavy-duty vehicles (MHDVs) to meet its Climate Act goals, and new solutions for non-road equipment, such as construction equipment and farm equipment, are urgently needed to reduce emissions from these significant sources of GHG emissions.

There is a consistent need for projects that develop novel solutions and demonstrate innovative approaches to vehicle electrification and grid flexibility related to EVs. With the pace of transportation electrification set to accelerate dramatically, New York State needs the tools in place to manage the charging demands for EVs and help introduce managed charging concepts to EV owners while proving the viability of electrification in additional use cases.

Goals

The goal of this solicitation is to help develop and demonstrate solutions that address technical barriers to increasing EV adoption, grid flexibility and vehicle grid integration. Projects will focus on solutions that help achieve widespread adoption of EVs to enable a decarbonized transportation sector, while lowering their impact on the electric grid and maximizing their environmental benefits.

Of particular interest are technologies and strategies that can better integrate EVs into the electric grid, improve the charging experience for EV drivers and fleet owners, reduce the cost of deploying EV charging infrastructure and associated utility upgrades, and increase the likelihood EVs become an asset to grid flexibility. This includes projects that seek to deliver innovative technologies that advance the state of technology in the MHD and non-road EV markets, improve grid flexibility and reliability, and advance grid interaction with vehicles.

Proposals should focus on new concepts that can have a broad market impact, as well as research, empirical results, and replicable strategies that can be transferred and implemented throughout the State and beyond to increase future vehicle grid integration. Projects should address near-term challenges and show how they will be relevant to issues around electrification expected as EVs are adopted more extensively. Because the EV market and clean transportation sector is evolving rapidly, projects with shorter timeframes that will produce results that can be easily and rapidly incorporated into the existing EV market and utility planning processes are preferred; however, shorter project timeframes should not come at the cost of key tasks like measurement and verification of performance. Proposers are expected to be able to explain why their project helps support vehicle grid integration and grid flexibility. New products and product demonstrations should show a clear path to economic viability and replicability at a larger scale. Third-party, independent data collection and verification is required for demonstration projects.

II. Program Requirements

A. Focus Areas.

Projects **MUST** address one or more of the following Focus Areas, which should be identified in the proposal. Proposals that do not address one or more of the Focus Areas may be considered unresponsive.

1) Novel EVSE Installation and Interconnection Cost Reductions through mechanisms such as flexible interconnection agreements, technological improvements, siting or design strategies, or active managed charging. Solutions focused on installation and interconnection cost reductions will investigate one or more of the following concepts:

- a. Technologies that enable new siting, design, or interconnection configurations.
- b. Testing innovative and untested ways to demonstrate significant cost reductions in electric passenger vehicle fleet charging installation, interconnection and operation that further drive down costs compared to diesel equivalents.
- c. Demonstrate novel approaches to charging at multi-family buildings or on-street parking (especially in designated disadvantaged communities) while minimizing installation and operation costs and principal/agent issues.

Solutions proposed to this focus area must describe their ability to: demonstrate a level of certainty required for solutions to verifiably reduce or obviate the need for utility upgrades; achieve estimated cost-savings associated with reduced or avoided interconnection costs; and/or achieve estimated increases in total EV deployments based on hosting capacity improvements as a result of the project.

2) Utilizing EVs to Improve Grid Flexibility

- a. Projects that develop, demonstrate, and/or evaluate the performance of software, hardware and/or communications with utility systems for V2X or other charging schemes that achieve a measurable increase in grid flexibility and enable grid edge demand response or enable other tools for utilities to address one or more potential power system criteria violations or concerns (e.g. voltage, thermal, protection, cybersecurity) associated with VGI.
- b. Projects that demonstrate and assess potential additional benefits to combining EVs with other DER or smart building consumption activities. This includes how DER could increase EV hosting capacity in grid constrained areas², as well as investigating whether EVs further stress the grid or compete with existing DER for the same market incentives or flexible hosting capacity when added in combination for site owners.

Solutions proposed to this focus area must describe their ability to: offset coincident peak demand charging, ideally, by a target of 80% of the total charging load; and/or increase total available flexible load (in kilowatts and/or kilowatt-hours).

3) Medium- and Heavy-Duty and Off-Road Vehicle Electrification

- a. **Demonstrations of innovative EV technologies for on-road medium and heavy-duty vehicles (trucks and buses) (MHDVs)**, including incorporating advanced or lightweight

² Note: simply co-locating EVSE and DER is not considered novel, but should be combined with business models, advanced load-balancing approaches, or other more innovative elements.

vehicle components, charging standards, auxiliary systems, and innovative charging technologies to accelerate the adoption of electrified MHDVs and improve the total cost of ownership.

- b. **Demonstrations of EV technologies for off-road vehicles (such as construction, port, and farm equipment)** including ways to utilize innovative charging technologies to improve the economics to deploy these vehicle types at scale.
- c. **Development and demonstration of EV technologies for harder-to-electrify transportation markets**, including advancements in electric trailer refrigeration units (eTRUs). Solutions should advance the state of knowledge regarding a) key strategies needed to overcome critical barriers facing emerging transportation segments, b) GHG, environmental, and economic impacts compared to existing diesel applications, and c) potential opportunities for VGI in these market segments.

Solutions proposed to this focus area must describe their ability to: reduce total cost of ownership of EVs to reach parity with comparable diesel vehicles once a technology reaches scale; collect and disseminate in-use data on first-of-its-kind demonstrations in NYS; achieve 30% lower operating costs than current vehicles of the same type; and/or reduce the all-in cost of charging infrastructure and grid upgrades by at least 40%.

B. Funding Categories.

Two (2) categories will be considered for funding. Proposals must identify which single category they are applying for:

Category 1 - New Product Development: Category 1 includes efforts that are crucial to the development of a marketable product, system, or service and any demonstration, testing, or validation of an innovation that is not already commercially available in an application with high impact on the transportation sector. NYSERDA's share of funding for any project of this type will be limited to a maximum of \$1,000,000. All Category 1 projects are required to provide at least 50% of total project costs in non-NYSERDA matching funds. **Note: Product Development projects are subject to NYSERDA's recoupment terms described in Section V.**

Category 2 - Demonstration of Technologies and Business Models: Category 2 is aimed at demonstrating emerging technologies, services, or strategies that are commercially available but have not yet been significantly deployed in New York State. This includes hardware, software, policies, and market development initiatives. This may include demonstration of the integration of multiple commercially available products. Projects in this category **should not** include technology or product development tasks. If technology or product development tasks are necessary, consider proposing in Category 1. Proposers are required to allocate a portion of the budget to data collection by an independent source. NYSERDA's share of funding for any project of this type will be limited to a maximum of \$3,000,000. All Category 2 projects are required to provide at least 50% of total project costs in non-NYSERDA matching funds. **Category 2 projects receiving up to \$1,000,000 of NYSERDA funding are required to provide 50% cost-share; Category 2 projects receiving more than \$1,000,000 of NYSERDA funding are required to provide 65% cost-share. For all Category 2 projects, no more than 25% of requested NYSERDA funds may be used for the purchase and/or installation of DER.**

Proposers may include technical feasibility studies as a first stage of product or service development and demonstration projects. For example, the proposer may propose a feasibility study as an early task if it intends to demonstrate its technology but requires a feasibility study to identify the optimal project site for

demonstration or to finalize specific design elements before embarking on the full demonstration. Technical feasibility studies under this PON are not intended to focus on conceptual designs, technology and market assessments, or similar early-stage studies. Technical feasibility studies under this PON must be necessary precursors to ultimate product development or demonstration activities under Category 1 or 2.

Proposers must select **only one (1) funding category per proposal**, which must be indicated in the proposal. Proposals that do not identify a funding category or include multiple funding categories may not be reviewed by NYSERDA.

Proposers applying under Category 1 should allocate 10-25% of the project budget for commercialization related tasks, such as customer discovery and market research, Intellectual Property protection, business plan development, and design for manufacturing tasks. Category 1 proposals are subject to NYSERDA's recoupment requirements, as outlined in Section V. Proposers applying under Category 2 are required to allocate project budget for measurement and evaluations tasks, such as data collection and analysis performed by an independent third party for measurement and evaluation tasks. NYSERDA may change a proposal to a more appropriate funding category if the category the proposer selects does not match the scope of the project; if this is the case and the proposal receives an award, it will be subject to the requirements of the funding category to which NYSERDA has assigned it.

NYSERDA reserves the right to modify a project's Statement of Work, project category, budget and funding levels and may offer to fund any of the proposal's phases therein at a lower level than that requested. Funding requests exceeding \$250,000 from NYSERDA shall be funded in phases separated by Go/No-Go decision points that will be evaluated by NYSERDA staff.

C. Project Requirements

Project Scope. To qualify for funding, proposals must:

- Address an innovative technology that improves vehicle grid integration, electric grid reliability, EV or fleet performance and economics, or expanded EV use.
- Provide direct and quantifiable energy, environmental, and/or economic benefits to New York State such as emissions reductions (such as greenhouse gases and criteria air pollutants), job creation, product manufacturing and sales, increased EV adoption and integration costs, grid reliability and EV market impacts.
- Include a project budget using the Attachment E, Budget Form, showing total project cost and proposer cost share. Include a cost-sharing breakdown by project task in the Statement of Work (Sample Statement of Work included as Attachment C).
- Satisfy recoupment obligations to NYSERDA for any new technology or product development effort requesting cumulative NYSERDA funding over \$75,000 upon product commercialization (see terms and conditions in Attachment F, Sample Agreement).
- Demonstrate that the proposer and/or team of proposers are qualified to carry out the submitted project proposal.
- Provide a strong rationale as to how the project will overcome barriers impeding the implementation or adoption of any new or under-utilized technology.
- Provide products or strategies that minimize excessive customization tailored to a single host entity.
- Identify a clear value chain and provide products or strategies that can be easily inserted into a range of EV owner/operators value chains or operating/capital processes.
- For projects that develop technologies or products, emphasize development and/or applications of marketable products for near-term commercialization, rather than basic research, and provide an assessment of the addressable market, and discuss an appropriate commercialization path and potential for manufacturing in New York State. Note that even in early-stage projects, initial

activities focusing on commercialization (or technology deployment) paths and challenges are essential to assessing benefits, risks, and future resource requirements.

- For demonstration projects, clearly identify how this project will increase sales or usage of a commercialized product already in the marketplace, generate objective performance information for customers or policymakers, and how such demonstration will lead to increased use of the product in New York State. Demonstration projects must be installed within New York State.
- Provide a letter of commitment from all funding sources and partners.
- Demonstrate that the project and funding request addresses the challenge with technology advancements that are not being addressed adequately by current industry practices and/or federal and/or other state research priorities and funding. Include a cost and New York statewide public benefit analysis to justify allocation of funds.
- Conduct technology transfer meetings to the stakeholders in the state including the Joint Utilities of New York and the Department of Public Service Staff, industry, and other stakeholders without disclosing trade-secrets and/or intellectual property.

Other considerations. The following guidelines should be considered when developing proposals:

- Projects are expected to begin within six months of the proposal due date. Given the pace of change in the EV industry, shorter projects are strongly preferred. Generally, the project schedule should not exceed 24 months, however, this should not come at the expense of key tasks like measurement and performance verification. Projects longer than 24 months are acceptable but must include the supporting justification for their timeframe.
- Teaming Agreements are strongly encouraged, where appropriate, to enhance the likelihood of project success. Teams may include commercial firms, industry associations, research organizations, universities, government agencies, end-users, or other stakeholders. Proposers are encouraged to develop projects that leverage funding with external resources partners such as other research and development organizations.
- Prior to an award being made, potential contractors may be required to demonstrate access to financial resources sufficient to perform the proposed work, technical experience and adequate facilities (or the ability to access them), a good performance record, and the ability to qualify for an award under applicable laws and regulations.

Letters of Commitment or Interest. If relying on any other organization to do some of the work, provide services or equipment, or share in the non-NYSERDA cost, you must include a letter from that organization describing its planned participation and financial commitment if there is one. The lack of such letters is viewed as a very serious proposal deficiency and will be judged accordingly in the evaluation process. Also include letters of interest or commitment from businesses or other organizations critical to the future commercialization, demonstration, or implementation of the project. **This is especially critical when working with a utility.** Absence of letters of commitment or interest may be interpreted as meaning that the proposer does not have support from the subject parties. Letters should not be solicited from NYSERDA personnel.

III. Concept Paper and Full Proposal Requirements

Incomplete concept papers or proposals may be subject to disqualification. It is the proposer's responsibility to ensure that all pages have been included in the proposal.

NYSERDA is employing a **two-step** application process in this solicitation.

1) Concept Paper. All proposers will be required to initially submit a four-page Concept Paper by the indicated due date using the Concept Paper Template provided in Attachment A. The Concept Paper should provide a concise overview of the proposer's concept, innovation, why this is desirable and scalable in New York State, and desired outcomes of the project. The Concept Paper will be reviewed and scored by a scoring committee based on the Evaluation Criteria in Section VI. NYSERDA will invite proposers whose Concept Papers have been selected for further consideration to submit a Full Proposal. The invitation will include the date by which Full Proposals must be received. Failure to submit a Concept Paper precludes submission of a Full Proposal. **Submission of Full Proposals is by invitation only.**

Concept Papers submitted in the first round for which full proposals are not invited may be resubmitted for the second round, with changes after a debriefing of the strengths and weaknesses. Full Proposals not meriting an award for contracting may be debriefed and resubmitted in the second round, ideally addressing NYSERDA's assessment of strengths and weaknesses.

Concept Papers: Submissions, Review and Re-submittals

Proposers of Concept Papers must use the format of the Concept Paper Template provided as Attachment A. The intent of the template is to present the concept in an orderly, organized manner, without repeating or restating information. Proposers are asked to submit only thoroughly considered Concept Papers. Proposers may submit Concept Papers to NYSERDA under this solicitation at any time during the open period of the Concept Paper submission. Concept Papers determined compliant with application procedures and responsive to the solicitation will be subject to NYSERDA Review by internal and/or external technical experts in accordance with Section VI Concept Paper and Full Proposal Scoring Criteria. Only the most technically meritorious Concept Papers will receive an invitation from NYSERDA to submit a Full Proposal.

2) Full Proposal. If notified by NYSERDA of a favorable Concept Paper review, the proposer will be invited to submit a Full Proposal using the instructions and attachments listed below.

The proposer's goal should be to concisely present the information needed to fully address the Full Proposal evaluation criteria (Section VI). Proposals that grossly exceed the word limits or fail to follow the format guidelines may be rejected as non-responsive. If you believe proprietary information must be submitted to provide an adequate proposal, you must comply with the Section VII instructions for submitting proprietary material. Unnecessary attachments beyond those sufficient to present a complete, comprehensive, effective, and concise proposal may reduce, rather than increase, a proposal's standing per the evaluation criteria.

Proposals determined to be compliant with application procedures and responsive to the solicitation will be subject to review by a scoring committee comprising internal and external technical experts in accordance with Section VI, Proposal Evaluation. Only the most technically meritorious Proposals will be awarded an invitation from NYSERDA to enter into a contract. Proposals not meriting an award for contracting may be debriefed upon the proposer' request.

Each page of the proposal should state the name of the proposer, the PON number, and the page number. All proposers are required to submit, at a minimum, the following documents:

1. Proposal Narrative (with required attachments) as a PDF
2. Statement of Work (instructions are in the Proposal Narrative files) as a Word file
3. Budget Form (instructions are in the Proposal Narrative files) as an Excel file

To submit an invited Full Proposal, complete the Proposal Narrative form-fillable document as part of the PON (Attachment B). Proposer must follow the instructions provided during the Proposal Submission process to ensure that all required documents for the selected Funding Category are submitted. The Proposal Narrative contains the following sections:

Proposal Narrative - (Attachment B)

- I.Executive Summary
- II.Focus Area and Proposed Solution
- III.State of Research and Technology Targets (Category 1)
- IV.TRL/CRL Calculator (Attachment D) (Category 1)
- V.Commercialization Potential of Proposed Solution (Category 1)
- VI.Demonstration Site and Product Validation (Category 2)
- VII.Replication Potential of Proposed Demonstration (Category 2)
- VIII.Statement of Work (Attachment C) and Schedule
- IX.Project Benefits
- X.Budget
- XI.Proposer Qualifications
- XII.Letters of Commitment
- XIII.Attachments

Proposers must carefully review the Proposal Narrative to ensure that all required sections are completed. Failure to do so may result in the proposal being rejected as non-responsive.

In compliance with §139-j and §139-k of the State Finance Law (see Section VII, General Conditions below for additional information), proposers will be required to answer questions during proposal submission, which will include making required certification under the State Finance Law and to disclose any Prior Findings of Non-Responsibility.

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 pay for efforts which have already been undertaken. The proposer or 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):

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

IV. Submission Process and Requirements

NYSERDA strongly prefers online submission for all solicitations. NYSERDA does not accept faxed or emailed submissions.

Prior to Submission

Prior to submitting a Proposal to this solicitation, any proposers may communicate with NYSERDA's Designated Contact to discuss a concept and its potential responsiveness to this solicitation. Communication with NYSERDA staff prior to submission is entirely optional and is not required prior to submission.

Submissions and Review

Proposers may submit Concept Papers at any time during the open period of this solicitation. However, all Concept Papers are due at the time and date noted above. Proposers are limited to having **one pending Concept Paper** before NYSERDA during either Round 1 or Round 2 and will be allowed to submit a **maximum of two (2), unique Concept Papers to this solicitation**. If not selected as part of the first round, Proposers will have **one** opportunity to resubmit their Concept Paper (with any modifications) to Round 2, or to submit a separate unique concept paper, assuming funding remains available. Universities and similar research institutions may consider individual research teams to be unique proposers; each research team will be subject to the Concept Paper submission limitations outlined above, but there is no organization-wide cap on Concept Paper submissions for these proposers.

Proposers can expect a preliminary response in approximately 4-6 weeks from NYSERDA indicating whether a Concept Paper has been selected to submit a Full Proposal. Proposers submitting Concept Papers not selected for Full Proposal submission will receive a short, written summary of the results of the review, and, subject to the limitations stated above, may be permitted to resubmit one Concept Paper. Additional submittals will be deemed ineligible. **Proposers may only submit a Full Proposal if the Concept Paper has been favorably reviewed and the Full Proposal has been requested. Proposers who are invited to submit a Full Proposal will have until the Round 2 Proposals due date to submit their Full Proposal.**

When completing your application, submit documents only in the following formats:

- *.doc, .docx*
- *.pdf*
- *.xls, xlsx*
- *.ppt, .pptx, pps, ppsx*
- *Compressed versions of the above files types in .zip format*

File names must include the proposer's entity name.

Proposal files should be searchable. Do not convert hardcopies into PDFs or any other type of file using a scanner or by taking a photo of the hardcopy. Individual files should be 100MB or less in file size. Unnecessary attachments beyond those sufficient to present a complete, comprehensive, and effective response will not influence the evaluation of the proposal.

For detailed instructions on how to submit a proposal, read the "[Application Instructions and Portal Training Guide](https://www.nyserda.ny.gov/Funding-Opportunities/Current-Funding-Opportunities.aspx) [PDF]" located in the "Current Opportunities" section of NYSERDA's website (<https://www.nyserda.ny.gov/Funding-Opportunities/Current-Funding-Opportunities.aspx>).. NYSERDA will also accept proposals by mail or hand-delivery if online submission is not possible.

A payment based on the final deliverable will be reserved until project completion. If awarded, NYSERDA may choose to negotiate the amount of such payment. This payment typically is 7 to 10 percent of the total NYSERDA funding.

V. Recoupment and Metrics

Recoupment - For any new projects exceeding \$100,000 in NYSERDA funding that involve product development, including business development, NYSERDA will require a royalty based on sales and/or licensing of the new product developed (Please see Attachment F, Sample Agreement for specific recoupment obligations). Recoupment is not required for demonstration-only projects. Please see the definitions below to determine if your project will be subject to recoupment. Please note that NYSERDA will make final determinations as to whether proposals fit within the demonstration or product development categories.

- **Product Development:** efforts to bring a new or improved product to market including business case development, product design, scale, and field testing, but not including earlier stage technical feasibility or proof of concept development. Technologies with a Technology Readiness Level (TRL) exceeding 3 are to be considered Product Development (see Attachment D for additional guidance on TRLs). Field testing or pilot deployments of a non-commercial, non-warranted technology are considered Product Development.
- **Demonstration:** a project intended to increase sales or usage of a commercialized product already in the marketplace, with results used to generate objective performance information for customers or policymakers. At this stage, the product is available for commercial sale and warranted. While incremental improvements may be incorporated based on the demonstration results, the final product design is essentially complete. Note: pilot deployments or other field demonstrations that will inform additional product development will be considered as a Product Development project and therefore subject to recoupment.

Projects where NYSERDA's share of funding is \$100,000 or less will generally not require recoupment. Please note: NYSERDA may decline to contract with awardees that are delinquent with respect to recoupment payments or sales reporting for any previous NYSERDA agreement.

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 G: 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.

VI. Proposal Evaluation

Proposals that meet solicitation requirements will be reviewed by a Scoring Committee and will be scored and ranked according to the following criteria. At NYSERDA's discretion, proposers may be requested to interview with all or part of the Scoring Committee to address any potential questions or clarifications outlined in the proposals. Proposers will be notified if they are requested to attend an interview.

After the submissions are reviewed, NYSERDA will issue a letter to each proposer indicating its Proposal evaluation results. Proposers receiving favorable evaluations will be invited to enter into contract negotiations with NYSERDA. After initial review of the Proposal, the Proposer, at NYSERDA's sole discretion, may be asked to address specific questions or provide additional information, either in writing or through an interview, as part of the Proposal scoring process. The Proposer will be required to submit a detailed Statement of Work, Budget, and Schedule, and may also be asked to address specific recommendations of the Scoring Committee before contract award.

CONCEPT PAPER SCORING CRITERIA:

Proposed Solution

- How well does the proposed solution address the stated focus area? Is the problem being addressed a significant challenge for transportation electrification and vehicle grid integration?
- How does the proposed project anticipate and address future market needs for transportation electrification and vehicle grid interaction as the technology reaches broader adoption?
- Has the proposal identified the main obstacles to developing the proposed solution in both the short-term and long-term and has it addressed how it will attempt to overcome these obstacles?
- Is the proposed solution technically feasible and superior to alternatives?
- Does the proposer have a reasonable understanding of and plan to complete the work required to achieve the proposed solution?
- Does the proposer exhibit an understanding of the state-of-the-art, competing products and alternative designs and clearly show why the solution is superior to, price competitive with, or provides value compared to alternative solutions or the current status quo?
- Does the proposed solution have a high potential for commercialization and replicability, addressing demonstrated customer needs and significant markets?

New York State Impact and Project Benefits

- To what extent does the project support Climate Leadership and Community Protection Act, grid modernization and clean transportation goals for New York State?
- Will there be economic benefits in New York State in the form of subsequent manufacturing or technical service activity, intellectual property creation, revenue-generation, or job creation?
- Does the proposed project scope show a clear path to widescale adoption in New York State?

Project Cost and Value

- Is the overall project cost justified and reasonable based on the level of effort proposed and the expected outcome and benefits?
- Is the value proposition and benefits sufficient that the concept or technology will likely be successful and adopted by the market?
- How appropriate are the proposer's co-funding contributions (sources and amounts) with respect to the degree of risk, potential benefits from the work?

Proposer Team Qualifications

- Has the proposer provided evidence of being qualified to perform the proposed work based on the qualifications of the organization(s) and the involved individual(s)?
- Has the proposer described how the proposed team is appropriately organized and whether it has the resources necessary to carry out the work plan?

Other Considerations – Concept Papers will be reviewed to determine if they reflect NYSERDA's overall objectives, including risk/reward relationships, similar ongoing or completed projects, and the general distribution of projects among categories, technologies, industries and other organizations, and geographically within New York State.

FULL PROPOSAL SCORING CRITERIA:

Proposed Solution –

- How well does the proposed solution address the stated focus area? Is the problem being addressed a significant challenge for transportation electrification and vehicle grid integration?
- How does the proposed project anticipate and address future market needs for transportation electrification and vehicle grid interaction as the technology reaches broader adoption?
- How well does the proposed project address the main obstacles to developing or implementing the proposed solution in both the short-term and long-term?
- Is the proposed solution technically feasible and superior to alternatives?
- Does the proposer exhibit an understanding of the state-of-the-art, competing products and alternative designs and clearly show why the solution is superior to, price competitive with, or provides value compared to alternative solutions or the current status quo?
- Does the proposed solution have a high potential for commercialization and replicability, addressing demonstrated customer needs and significant markets?

New York State Impact and Project Benefits –

- To what extent does the project support Climate Leadership and Community Protection Act, grid modernization and clean transportation goals for New York State?
- Will there be economic benefits in New York State in the form of subsequent manufacturing or technical service activity, intellectual property creation, revenue-generation, or job creation?
- Does the proposed project scope show a clear path to widescale adoption in New York State?
- How well are the potential benefits of the project and to New York State quantified?
- Will the benefits be realized by disadvantaged communities in New York State?
- How significant are the potential reductions in GHG emissions or energy use resulting from the project?
- Are the technical, market and/or regulatory risks identified, appropriately addressed, to successfully achieve the project benefits?

Project Cost and Value –

- Is the overall project cost justified and reasonable based on the level of effort proposed and the expected outcome and benefits?
- Is the value proposition and benefits sufficient that the concept or technology will likely be successful and adopted by the market?
- How appropriate are the proposer's co-funding contributions (sources and amounts) with respect to the degree of risk, potential benefits from the work?
- Are the direct labor, subcontractor, direct materials, and travel rates reasonable based on market conditions and supported with appropriate documentation?

Proposer / Team Qualifications –

- Has the proposer provided evidence of being qualified to perform the proposed work based on the qualifications of the organization(s) and the involved individual(s)?
- How firm are the commitments and support from essential participants: hardware/software vendors, end users/customers, developers, site hosts, etc.?
- Has the proposer provided evidence of good past performance on other relevant projects and quantified benefits to end-users?

- Has the proposer described how the proposed team is appropriately organized and whether it has the resources necessary to carry out the work plan?

Statement of Work and Schedule –

- Are the proposed tasks reasonable and complete in details to fully understand the execution plan and how they will achieve the goals of the challenge?
- Is the Statement of Work well organized, complete, and appropriate for the technical performance identified?
- How realistic is the schedule for achieving the goals of the proposed project?
- Is an appropriate performance monitoring, data analysis effort and reporting plan included in the proposal?
- If applicable, does the proposer identify the need for and detail how baseline data collection activities with key stakeholders will be completed?

Other Program Policy Factors – In addition to considering how project Proposals satisfy the Scoring Criteria listed above, NYSERDA reserves the right to make funding decisions on the basis of other Program Policy Factors, including but not limited to:

New York State Energy Mission Alignment

- The degree to which the proposed project will advance the goals of the Climate Act / State Energy Plan / Clean Energy Fund.
 - Project continues to contribute to one or more of NYSERDA's key statutory goals.
 - <https://www.nyserd.ny.gov/About>

Program Portfolio Value and Optimization

- The degree to which NYSERDA ongoing funding, (incl. cost shares), will make a difference in the technology impact, acceleration of transformational advances and project success.
- The degree to which there are technical, market, organizational and/or environmental risks associated with the projects that outweigh the potential benefits.
- The degree of NYSERDA portfolio balance/optimization. The project(s) balance(s) and enhances the NYSERDA portfolio in one or more of the following areas:
 - Technological diversity
 - Organizational diversity
 - Geographic diversity
 - Technical or commercialization risk
 - Stage of technology development
 - Complimentary efforts to balance risk.

Project Diversity, Leverage and Collaboration

- The degree of ongoing leverage; attracting other funding sources: building on the NYS capabilities: linking technologies and/or companies.
- The degree to which the applicant has enabled the resources (human, financial and physical) to be able to complete the project.
- The degree to which the project enables collaboration with nongovernmental and industry entities for demonstration of technologies and research applications to successfully facilitate technology transfer, leading to robust technology development and subsequent scaling and market adoption.
- The degree to which a proposer could attract investor funding as the project progresses, including seed, Series A, high net worth individuals and beyond.

VII. 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 except it from disclosure, including a written statement of the reasons why the information should be excepted. See Public Officers Law, Section 89(5) and the procedures set forth in 21 NYCRR Part 501 <https://www.nyserda.ny.gov/About/-/media/Files/About/Contact/NYSERDA-Regulations.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
625 Broadway
Albany, NY 12207

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

Empire State Development
Minority and Women's Business Development Division
625 Broadway
Albany, NY 12207

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 <https://online.ogs.ny.gov/legal/lobbyinglawfaq/default.aspx>. Proposers are required to answer questions during proposal submission, which will include making required certification under the State Finance Law and to disclose any Prior Findings of Non-Responsibility (this 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 contracting 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 multiple awards under this solicitation. NYSERDA anticipates a contract duration of up to three (3) years, unless NYSERDA management determines a different structure is more efficient based upon proposals received. A contract may be awarded based on initial applications without discussion, or following limited discussion or negotiations pertaining to the Statement of Work. Each proposal 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 may at its discretion elect to extend and/or add funds to any project funded through this solicitation. 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 checklist questions. 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 six (6) weeks from the proposal due date whether your proposal has been selected to receive an award. Upon receipt of this notification, a proposer can request to schedule a debrief on the selection process and the strengths and weaknesses of its proposal by contacting (insert project manager or program email). NYSERDA may decline to contract with awardees that are delinquent with respect to any obligation under any previous or active NYSERDA agreement.

Recoupment - For any new product research and/or development, NYSERDA will generally require a royalty based on sales of the new product developed. NYSERDA's standard royalty terms are 1% of sales/ten percent (10%) of all license revenue accruing to the Contractor for products produced (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).

Accessibility Requirements - If awardees from this solicitation will be posting anything on the web, or if the awardee will produce a final report that NYSERDA will post to the web, the following language must be included. NYSERDA requires contractors producing content intended to be posted to the Web to adhere to New York State's Accessibility Policy. This includes, but is not limited to, deliverables such as: documents (PDF, Microsoft Word, Microsoft Excel, etc.), audio (.mp3, .wav, etc.), video (.mp4, .mpg, .avi, etc.), graphics (.jpg, .png, etc.), web pages (.html, .aspx, etc.), and other multimedia and streaming media content. For more information, see [NYSERDA's Accessibility Requirements](#).

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. NYSERDA reserves the right to disqualify proposers based upon the results of a background check into publicly available information or the presence of a material possibility of any reputational or legal risk in making of the award.

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.

Vendor Assurance of No Conflict of Interest or Detrimental Effect - The proposer shall disclose any existing or contemplated relationship with any other person or entity, including any known relationships with any member, shareholders of 5% or more, parent, subsidiary, or affiliated firm, which would constitute an actual or potential conflict of interest or appearance of impropriety, relating to other clients/customers of the proposer or former officers and employees of NYSERDA, in connection with proposer's rendering services as proposed. If a conflict does or might exist, please describe how your company would eliminate or prevent it. Indicate what procedures will be followed to detect, notify NYSERDA of, and resolve any such conflicts.

The proposer must disclose whether it, or any of its members, or, to the best of its knowledge, shareholders of 5% or more, parents, affiliates, or subsidiaries, have been the subject of any investigation or disciplinary action by the New York State Commission on Public Integrity or its predecessor State entities (collectively, "Commission"), and if so, a brief description must be included indicating how any matter before the Commission was resolved or whether it remains unresolved.

Public Officers Law – For any resulting awards, the Contractor and its subcontractors shall not engage any person who is, or has been at any time, in the employ of the State to perform services in violation of the provisions of the New York Public Officers Law, other laws applicable to the service of State employees, and the rules, regulations, opinions, guidelines or policies promulgated or issued by the New York State Joint Commission on Public Ethics, or its predecessors (collectively, the "Ethics Requirements"). Proposers are reminded of the following Public Officers Law provision: contractors, consultants, vendors, and subcontractors may hire former NYSERDA employees. However, as a general rule and in accordance with New York Public Officers Law, former employees of NYSERDA may neither appear nor practice before NYSERDA, nor receive compensation for services rendered on a matter before NYSERDA, for a period of two years following their separation from NYSERDA service. In addition, former NYSERDA employees are subject to a "lifetime bar" from appearing before any state agency or authority or receiving compensation for services regarding any transaction in which they personally participated, or which was under their active consideration during their tenure with NYSERDA.

Any awardee will be required to certify that all of its employees, as well as employees of any subcontractor, whose subcontract is valued at \$100,000 or more who are former employees of the State and who are assigned to perform services under the resulting contract, shall be assigned in accordance with all Ethics Requirements. During the term of any agreement, no person who is employed by the contractor or its subcontractors and who is disqualified from providing services under the contract pursuant to any Ethics Requirements may share in any net revenues of the contractor or its subcontractors derived from the contract. NYSERDA may request that contractors provide it with whatever information the State deems appropriate about each such person's engagement, work cooperatively with the State to solicit advice from the New York State Joint Commission on Public Ethics, and, if deemed appropriate by the State, instruct any such person to seek the opinion of the New York State Joint Commission on Public Ethics. NYSERDA shall have the right to withdraw or withhold approval of any subcontractor if utilizing such subcontractor for any work performed would be in conflict with any of the Ethics Requirements. NYSERDA shall have the right to terminate any contract at any time if any work performed is in conflict with any of the Ethics Requirements.

Due Diligence – NYSERDA, at its discretion, may conduct broad due diligence to validate any or all elements of an application and to assess applicants' prospects of success, including gathering information to assess a proposal relative to any of the topics listed in evaluation criteria, whether or not such topic is explicitly addressed in a proposal. NYSERDA may conduct due diligence on some or all proposals based on NYSERDA's current guidelines at the time of a review. NYSERDA staff may follow up with proposers to request additional information or clarification regarding applicant's proposal, including questions regarding applicant's business prospects and resources, whether or not those questions are specifically related to the elements of the proposal. Additionally, customized due diligence may be conducted by internal or external staff or contractors based on questions on any proposal raised by

NYSERDA staff and/or the Scoring Committee. Due diligence may include (but is not limited to): interviews of independent references and background checks of team members; assessment of prior business experience of any team member associated with a proposal; research on intellectual property claims; customer and partner reference checks; market research on the applicants' target market and any other related or possibly competitive technology or market area; research to validate any assumptions on current or future revenues, costs, capital needs, and financing prospects for proposers' business, including similar (or unrelated) technologies, processes, or competitive solutions; or any other research that could reasonably inform the evaluation of a proposal, or the prospects for commercial success of the proposers' business (whether directly related to, or unrelated to the specific elements in a proposal). Due diligence may include discussions with proposers' former and current business partners, employees, investors, customers, and competitors. Due diligence may be conducted by NYSERDA personnel or contractors including members of the scoring committee, before, during, or after a scoring process, and prior to finalization of a contract award, any information gleaned in diligence may be used to score or re-score a proposal or apply a program policy factor.

EO 16 Protocols – Pursuant to Executive Order No. 16 issued on March 17, 2022, all vendors responding to bids or contracting with New York State must certify, using the form provided as part of this solicitation, their status with regard to conducting business operations in Russia, and that any such business operations in Russia conducted on behalf of the vendor are determined to be permitted under any of the allowable exemptions. The term vendor is intended to encompass bidders prior to contract award, contractors who have received a contract award, contract assignees, or contractors for whom an extension to an existing contract is being pursued. Exemption decisions are in NYSERDA's sole discretion and are final decisions. NYSERDA reserves the right to solicit additional materials or information regarding the responses or materials provided by a vendor.

Pursuant to Executive Order No. 16, all vendors will be vetted to ensure that they are not on the federal sanctions list at <https://sanctionsearch.ofac.treas.gov/>. There is no waiver or exemption process for vendors appearing on the federal sanctions list.

The Executive Order remains in effect while sanctions imposed by the federal government are in effect. Accordingly, vendors who may be excluded from award because of current business operations in Russia are nevertheless encouraged to respond to solicitations to preserve their contracting opportunities in case sanctions are lifted during a solicitation, or after award in the case of some solicitations.

VIII. Attachments:

- Attachment A – Concept Paper Template
- Attachment B – Proposal Narrative Template
- Attachment C – Sample Statement of Work
- Attachment D – TRL/CRL Calculator (Category 1 only)
- Attachment E – Budget Form & Instructions
- Attachment F – Sample Agreement
- Attachment G1 – Sample Metrics Reporting Guides
- Attachment G2 – Sample Metrics Reporting Guides
- Attachment H – Three-Year Financial Projections (Category 1 only)

New York State Energy Research and Development Authority

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