Consolidated Edison Company of New York, Inc.

Request for Information (RFI)

New Electrification Solutions for Hydronic Distribution Systems and Multifamily Water Heating

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General Information and Background

Consolidated Edison Company of New York, Inc. (the "Company" or Con Edison) is requesting responses to a Request for Information ("RFI") from qualified parties (herein referred to as "Respondents") to plan, develop, and implement demonstration projects for (1) a heat pump domestic hot water (DHW) solution for mid- and high-rise multifamily buildings and/or (2) a comprehensive electrification solution for residential, multifamily or commercial buildings with existing hydronic or steam heating distribution systems in New York City or Westchester County.

Con Edison supports New York State's clean energy objectives, including the Climate Leadership and Community Protection Act's ("CLCPA") ambitious goal of reducing greenhouse gas ("GHG") emissions by 85 percent from 1990 levels by 2050. The Company recognizes that reducing the GHG emissions associated with the combustion of natural gas for heating, cooling, cooking, and hot water (among other uses) will help limit overall GHG emissions.

The New York State (NYS) Clean Heat Program made substantial progress towards achieving the CLCPA goals, largely by completing projects in 1-4 unit residential buildings and new construction. To continue making progress in the medium/long-term and to fully meet the goals of the CLCPA, Con Edison will need to enable more challenging types of electrification projects at scale. In particular, there is a need for market-ready, comprehensive, practical solutions for DHW in large multifamily buildings (>5 Residential Units) and electrification of space heating in buildings with hydronic or steam heating distribution systems.

A. Pilot Objective

This RFI aims to identify feasibility of these solutions/applications and accelerate the adoption of practical, market-ready, scalable strategies to: 1) retrofit existing fossil fuel-based DHW in mid- to high-rise multifamily buildings with heat pump water heating solutions; and 2) retrofit existing fossil-fuel based steam or hydronic space heating systems with a comprehensive electrification solution.

The Company's objectives for DHW in mid- and high-rise multifamily buildings include:

1. Developing project insights, including technical and operational challenges, related to the installation and operation of heat pump water heaters for mid- and high-rise multifamily buildings.
2. Increasing adoption of HPWH in mid- and high-rise multifamily buildings.

The Company's objectives for electrification of space heating in buildings with hydronic and steam heating distribution systems include:

1. Developing project insights, including technical and operational challenges, related to the electrification of space heating in residential and MF buildings with hydronic or steam heating distribution systems.
2. Identifying practical, cost-effective electrification packages including both heat pumps and enabling measures.
3. Developing analytical tools needed to estimate the project scope and cost of electrification packages as part of the sales process.

4. Developing analytical tools needed to specify electrification packages without extensive and expensive custom engineering analyses.
5. Identify feasibility and increase adoption of electrification in buildings with hydronic or steam heating distribution systems.

If successful, the Company envisions leveraging the pilot insights to inform future program design, participating contractor support and marketing support.

B. General Guidelines

By responding to this RFI, Respondents are deemed to accept and agree to these general guidelines. By submitting a response to this RFI, the respondent acknowledges and accepts Con Edison's rights as set forth in this RFI, includes these general guidelines.

Con Edison reserves the right (a) to reject any respondent's submission, (b) to request clarifications or additional information from a respondent regarding its submission, (c) to revise and re-issue this RFI or to revise any requirements of this RFI, (d) to extend any deadlines applicable to this RFI, and/or (e) to hold discussions with any respondent and to correct any deficient responses which do not conform fully with the instructions set forth in this RFI. Con Edison may exercise the foregoing rights at any time without any liability to a respondent or any other party for expenses that the respondent or other party incurred in the preparation of responses to this RFI by providing electronic written notice to respondents or posting at [RFI webpage] publicly available to all potential respondents. All costs and expenses associated with the submission of any initial or supplemental response to this RFI will be borne solely by the applicable respondent.

Respondent firms will have adequate opportunity to obtain any reasonably necessary information. Con Edison may ask any or all respondent firms to elaborate or clarify specific points or portions of their submission. Clarification may take the form of written responses to questions or phone calls or in-person meetings for the purpose of discussing the RFI and/or responses thereto, or any combination of the foregoing.

It is solely the responsibility of any respondent to ensure that all pertinent and required information is included in its submission. Failure to adhere to the described format and to include the required information could result in disqualification of responses to the RFI Con Edison reserves the right to determine, in its sole discretion, whether a submission is incomplete or non-responsive. Con Edison also reserves the right, in its sole discretion, to reject or discontinue evaluation of any or all submissions to this RFI for any reason or for no reason.

Respondents should clearly state all assumptions they make about the meaning or accuracy of information contained in this RFI. If a respondent does not ask questions or clarify any assumptions, Con Edison will assume that the respondent agrees with and understands the requirements of this RFI. While Con Edison has endeavored to provide, and

will endeavor to provide, accurate information to respondents, Con Edison makes no representations or warranties of accuracy.

In evaluating a respondent's submission, Con Edison may utilize all information available (including information not provided by the respondent).

The issuance of this RFI and the submission or a response by any person or entity does not obligate Con Edison to qualify the person or entity in any manner whatsoever. A legal obligation on the part of Con Edison to engage in any business transaction with a respondent will only arise if and when a formal written contract is entered into between or among Con Edison and such respondent.

If a business transaction between a respondent and Con Edison were to be entered into in connection with this RFI, there are a number of terms and conditions and special conditions that may be applicable to any such transaction, depending on the nature of the respondent's response. Current examples of Con Edison's disclosure form, standard terms and conditions and special conditions can be found using the following link: https://apps.coned.com/supplychain/APL/tc.aspx?Ink=terms%20and%20conditions. These forms and documents are subject to change, without notice, by Con Edison at any time after the date of this RFI.

Con Edison reserves the right, in its sole discretion and without liability, to utilize any or all the submissions, responses and materials received in connection with this RFI (including any late responses), in Con Edison's planning efforts for demonstration projects and otherwise.

By responding to this RFI, respondents are deemed to agree to keep confidential all information that is directly or indirectly provided by Con Edison to a respondent in connection with this RFI, provided that the foregoing confidentiality obligation shall not apply to any information that Con Edison has previously made generally available to the public or information that must be disclosed pursuant to law.

C. Schedule

Below is the expected schedule to be followed for this solicitation.

Milestone	**Date(s)***
RFI issued	3/14/2023
Last day to submit clarification questions	4/5/2023
Proposals due	5/10/2023

*CECONY reserves the right to change any of the above dates.

Con Edison is aware that a failure to notify respondents of the status of their responses can be a source of frustration. To address that issue, Con Edison will endeavor to provide every complete submission with a formal response. The timing will depend on the number of responses received, but Con Edison will strive to provide feedback as soon as possible.

D. Evaluation Criteria

Each proposal will be evaluated based on the below criteria. Con Edison expects responses to emphasize certain criteria over others and the Company may or may not weigh certain criteria over others.

- Potential to scale within a five-year timeframe
  - Solution is applicable to a significant portion of customers in Con Edison's service territory
  - Solution is feasible for the target customer segment and will ultimately not require extensive engineering resources to implement at each future site
  - Solution can be practically incentivized by Con Edison. Energy savings from the proposed solution can be calculated before installation. Ideally, the solution would lend itself to a transparent incentive.
- Cost effectiveness
  - Solution must be economically viable for its target customers.
  - Upfront technical assessment costs do not represent an insurmountable barrier to selling the proposed solution
- Impact on the electric grid
  - Solution considers the impact of electrification on the electric grid at current peak periods and future winter peak period
- Maturity of proposed technologies
  - Key technologies should be proven through field studies, or a critical mass of complete installations.
  - Key technologies should be commercially available
  - Availability and length of warranty provided by respondent or manufacturer of key technologies
- Respondent qualifications
  - Strong leadership team
  - Track record completing relevant projects
  - Other qualifications as described in the vendor requirements section

II. Scope of Work

A. Overview

The Company is seeking proposals to plan, develop, and implement up to 10 demonstration projects for: 1) electrification of DHW in mid- to high-rise multifamily buildings and/or 2) electrification of steam or hydronic space heating systems.

The Company seeks turnkey proposals to address the full project lifecycle, from customer identification through installation and implementation. The solution should include any sales tools, technical assessment tools or training materials or needed to scale after the demonstration projects are complete.

The Company puts forth the following general guidelines for proposed solutions. If a proposal does not align with the below guidelines, the Respondent should clearly note how the proposal differs from the guidelines and state a justification.

Guidelines for heat pump DHW solutions for mid- to high-rise multifamily buildings:

1. The water heating solution should displace fossil fuel entirely. Partial electrification solutions may be acceptable for situations where a comprehensive water heating system solution is not practical.
2. The solution must be suited for cold weather climates. The heat pump must meet or exceed Energy Star Residential Water Heater specifications and must include defrost cycle design and refrigerants that can withstand rated capacity during freezing months.
3. Annual performance must be greater than 2.5 COP
4. Solutions should involve a central DHW plant. Either commercial scale HPWHs or multiple residential scale HPWHs would be acceptable.
5. Solutions must have potential to be practical for class B & C buildings without access to extensive engineering resources

The solution may package heat pumps with other energy conservation measures that reduce the necessary size of the heat pump – e.g, drain-water heat recovery. (Optional)

6. The solution may enable automated demand response, automated responses to time-of-use rates or other grid-connectivity capabilities (Optional)

Guidelines for space heating solutions for buildings with hydronic or steam distribution systems:

1. Solution may address any customer segment.
2. Heat pump solutions may include, but are not limited to:
    a. Cold climate centralized heat pumps that heat hydronic fluid in-lieu of fossil fuel-fired boilers and leverage existing heating distribution systems
    b. Cold-climate mini-splits or packaged terminal heat pumps and the [1]retirement of existing boilers and heating distribution systems (high rise multifamily and commercial buildings only)
3. Partial electrification solutions using packaged terminal heat pumps with integrated controls that are paired with backup ancillary heating systems.
4. Preferred solutions will include packages of enabling measures to minimize the necessary heat pump size, improve practicality/cost effectiveness and minimize the winter peak load impact on the electrical grid. The Company encourages Respondents to consider solutions that:
    a. Reduce heating load (e.g., building envelope, heating controls, demand control ventilation)
    b. Improve heat transfer from pipes to occupied space (e.g., hydronic additives, mechanical solutions that redirect heat towards occupied space)
    c. Recover waste heat
    d. Leverage thermal storage
5. Solutions must have potential to be practical for class B & C buildings without access to extensive engineering resources

6. The solution may enable automated demand response, automated responses to time-of-use rates or other grid-connectivity capabilities (Optional)

B. Roles & Responsibilities

Con Edison will:

- Provide incentives through the NYS Clean Heat Program if projects meet eligibility requirements
- Provide limited marketing creative design services, incremental incentives, technical support, or other support for the proposed solution as proposed by Respondent and as mutually agreed to during any potential future contracting.
- Provide measurement and verifications support to validate the energy savings for the demonstration project(s).
- Provide general program management oversight and guidance

Respondent will:

- Act as team lead, manager for all partners and third parties on behalf of Con Edison as needed
- Define scopes of work for all partners and subcontractors
- Draft and execute subcontracts as necessary
- Conduct training of customer engagement staff and draft marketing materials as needed
- <ACQUIRE CUSTOMERS>
- Ensure that demonstration projects are acquired and satisfactorily completed
- Provide customer support before, during, and after installation
- Provide bi-weekly progress reports, as necessary and appropriate
- Support data-related activities necessary for reporting or otherwise
- Analyze demonstration project performance, document outcomes, and provide a final report.

C. Vendor Requirements

- Experience installing heat pump project for space or water heating
- Experience working with custom engineered heat pump projects
- Experience working with the customer segment targeted in the proposal
- Experience working in New York City and Westchester is preferred, but not required.
- Experience working with utility incentive programs (esp. the NYS Clean Heat program) is highly preferred but not required
- Respondent must have letters of support from any technology vendors, contractors, or other partners that are expected to collaborate as part of the proposed demonstration projects.

D. Proposal Requirements

The Company requests that the following components be incorporated into Respondents' proposals:

1. **Technical description of proposed solution**. Description should include:
    a. Measures to be included in solution along with spec sheets and any other documentation relevant to their performance or applicability.
    b. Description of the interactive effects of proposed measures.
    c. Technical analyses required to specify a solution for a particular building. For packages, describe any tools/resources that could make the specification easier for buildings with less technical support.
    d. Staging of the retrofit. Consider the possibility of implementing the solution in parts to minimize disruption and capital budget impact.
    e. Operation and maintenance requirements for all proposed equipment.
    f. Impact of proposed solution on electric usage, fossil fuel/steam usage, and peak electric load.

2. **Solution applicability.** Respondent must describe the building types, existing heating distribution systems, and customer segments in which the solution is applicable. Any typical limitations regarding space, power, or other considerations should be flagged.

3. **Solution feasibility.** Respondents must demonstrate why their solution is technically and commercially feasible. Respondents must describe technical feasibility and site requirements. Respondents must also provide detailed information on labor requirements and availability.

4. **Solution scalability.** Respondents must identify any resources needed for the solution to scale. Respondents must also plan to capture insights from the demonstration projects to inform Con Edison's approach to scaling the solution within its service territory. Respondents should also note whether they are willing to share analytical tools with Con Edison's participating contractor network once the demonstration projects are complete to help the proposed solution scale.

5. **Incorporation of existing incentives and other market support.** Respondents must address how they anticipate leveraging incentives and/or technical support from Con Edison, New York State Energy Research & Development (NYDERDA) or other agencies to optimize customer value.

6. **Customer recruitment strategy**. Respondents must put forth a detailed strategy to identify, target, and acquire potential customers for this pilot. Respondents must describe the analytical tools they will use to estimate the project scope and cost of electrification packages as part of the sales process and note whether these tools will need to be developed. The Company expects Respondents to effectively reach their target audience with minimal reliance on Company resources or customer data.

7. **Operational plan.** Respondents must describe the resources, processes, and partners they will use to specify and install the proposed solution at demonstration project sites. Respondents must describe the analytical tools they will use to determine electrification packages and note whether these tools will need to be developed. Respondents must also describe how they plan to address customer complaints during and after installation.

8. **Financial analysis**. Respondents must put forth a detailed financial analysis describing the expected customer financial analysis, or billing impacts. This analysis must consider equipment costs, labor costs, ongoing maintenance costs, energy savings, all anticipated incentives, impact on customer's bill, and avoided fines.

9. **Insight sharing.** Respondents must describe how insights from the demonstration projects will be captured and shared with the Company.

10. **Proposed payment structure.** Respondents must propose a payment structure for the work described in the proposal. All proposals should include a pay-for-performance component.

11. **Project risk.** Respondents must identify risks along with related risk mitigation strategies.

12. **Project timeline.** Respondents must propose a timeline for the overall proposed work and expected timelines for individual demonstration projects. All work under this proposal, including measurement/verification and reporting, should be completed before the end of 2026.

III. RFI Content

The response should include a 25-page limit, un-priced proposal and a separate proposal including price. The unpriced proposal shall include all technical elements as referenced herein, however no pricing shall be included.

Note: The Oracle system is only capable of accepting individual documents no larger than 5MB in size. Respondents may find it necessary to split up large documents into smaller files due to these system constraints.

The response must include the proposal, which shall not exceed 15 pages (excluding appendices). The written proposal response for the pilot should be organized as follows:

A. Unpriced Proposal Response Format

1. Cover Letter

The cover letter should be one page and should contain:

a. The legal name and address of Respondent

b. The name, title, and telephone number of the individual authorized to negotiate and execute the agreement

c. A signature of a person authorized to contractually bind the Respondent's organization

d. A statement that the vendor has read, understands, and agrees to all provisions of the RFI

2. Table of Contents

Include a clear identification of the proposal by section and by page number.

3. Executive Summary

In this section the vendor shall provide an executive overview and general description of the key features of its proposal. In this section, the vendors shall provide the following:

a. Highlight past industry-specific work related to this RFI

b. Estimate the scope and cost of the proposed demonstration projects

c. Include relevant experience with regards to air-to-water heat pumps, acquiring customers in the proposed target segment, and any NYC/Westchester-specific market experience.

d. Any other relevant information that is deemed appropriate and noteworthy.

4. Proposal

This is a response to the requirements outlined in this RFI. Respondents shall provide a section on each of the following:

a. Detailed technical description of the proposed system, which includes spec sheets and system diagrams.

b. Description of solution applicability, feasibility, and scalability (noting any limitations)

c. Incorporation of existing incentives

d. Customer recruitment strategy

e. Operational plan, including installation, QA/QC, and customer support
f. Detailed cost estimate (including breakdown across customer incentives, marketing, sales, and implementation)
g. Financial analysis (clearly quantifying benefits and costs)
h. Approach to capturing and sharing insights from the pilot with the Company
i. Proposed payment structure (e.g., milestones vs. pay-for-performance)
j. Project risks and mitigation strategies
k. Timeline and realistic milestones

5. Key Personnel

Respondent should describe their staffing plans to manage the proposed programs. Respondents must identify key program managers and other team members who will be assigned to support program delivery efforts. Include a clear description of staff location, roles, and responsibilities and the allocated percentage of time each will devote to the program. Provide a short biography and resume for each key member, including all subcontractor employees allocated to the process. Include detail on prior work these key individuals have done together, if applicable.

6. References

References must be provided where applicable. Description of previous experience should include the geographic area, program size and scope, participation goals and achievements, and relevant program metrics for cost-effectiveness calculations.

7. Glossary of Terms
Respondents will provide a glossary of terms that is specific to the proposal.

B. Separate Pricing Proposal

The Respondent should include a separate proposal which includes price of project.

C. Proposal Response and Submittal Instructions

Responses and supporting attachments are to be submitted electronically via Oracle Responses should be provided PDF documents with spreadsheets or models in .xlsx format.

All proposals shall be submitted through the CECONY Oracle RFQ system by the due date and time. Vendors who fail to submit their response by the due date and time will be locked out of the Oracle system, and unable to submit a response. Therefore, it is

recommended Respondents upload their responses well in advance of the closing time, to avoid any potential issues that often occur due to Respondents' unfamiliarity with Oracle or other system constraints.

Con Edison recognizes that a respondent may wish to include information in its response to this RFI that the respondent considers proprietary, a trade secret, or confidential to the respondent. If, in any response or information (initial or supplemental) that you provide to Con Edison in connection with this RFI, you include information that you consider proprietary, a trade secret or confidential, please identify such information by clearly marking both the top and bottom of each page that contains such information as "CONFIDENTIAL." Con Edison will deem any such designated information as submitted to it and its designees, including, any third party advisors retained by Con Edison to assist it with the RFI evaluation process, with the express understanding that, subject to any legally mandated disclosure requirements, such designated information will be held in confidence and will not be disclosed or used for any purpose other than the review and evaluation of the applicable respondent's response to this RFI or any resulting proposal from the respondent or the finalization and implementation of any resulting contract between Con Edison and the respondent.

The Company will not be responsible for late submissions.