***Heat Recovery Solutions***
Request for Qualifications (RFQL) 5217

There is no NYSERDA funding associated with this RFQL.

**Open Enrollment Applications accepted through December 31, 2025 at 3:00 PM Eastern Time**

New York State Energy Research Development Authority (NYSERDA) is seeking solutions that can significantly improve heat recovery efficacy, making it more practical and economical to enable new heat recovery opportunities in New York State's existing buildings. RFQL 5217 seeks to advance the adoption of ***Heat Recovery Solutions*** for New York State's real estate decision-makers and the architects, engineers, and retrofit construction communities. Through this qualification of solution providers and their products, NYSERDA will publish insights about qualified heat recovery solutions and their real-world efficacy. Working with NYSERDA through RFQL 5217 will help qualified solution providers access the New York market, receive support for technology transfer and participate in exchanges with key market stakeholders.

Heat recovery is defined as recovering and repurposing a building's wasted thermal energy to reduce energy consumption and carbon footprint. Well-known thermal energy recovery applications in buildings include forms of heat recovery in ventilation, refrigeration/chiller condenser, steam condensate, and flue-gas.

An example of a heat recovery solution is a high-efficiency ERV (energy recovery ventilation) core integrated with DOAS (dedicated outside air systems) which is designed to recover 80% of total sensible and latent heat from exhaust air. This technology is provisioned with variable speed fans capable of high CFM (Cubic Feet per Minute) per watt efficiency at designed conditions.

NYSERDA is looking to support heat recovery solutions that are common in other markets but novel to New York State as well as emergent heat recovery solutions. An example of a heat recovery solution that is novel to New York but common in other markets is an Exhaust Air Heat Pump, widely used in European markets to save energy and reduce carbon emissions. Currently, there is very limited deployment of exhaust air heat pumps in existing buildings in New York. An example of an emergent heat recovery solution are heat recovery panels designed to harvest thermal energy from underground surfaces, such as walls and tunnels, to tap into ground-source thermal energy to heat water or air in buildings. Through field demonstrations and pilot installations, there is an opportunity to create significant value for New York's existing building stock.

Both New York State and New York City have ambitious climate policies aimed at reducing the carbon emissions of building operations. New York offers excellent business opportunities for products and manufacturers who can advance heat recovery goals.

NYSERDA is accepting applications to qualify products on technical metrics and test market acceptance for broad and innovative ***Heat Recovery Solutions.***

**Application Submission:** Online submission is strongly encouraged. Complete and submit your Application here. For ease of identification, all electronic files must be named using the Applicant's entity name in the title of the document. For detailed instructions on how to submit an Application (online or paper submission), click the link "Application Instructions and Portal Training Guide [PDF]".

If you have questions concerning this solicitation, contact Alexander Jahn at HeatRecovery@nyserda.ny.gov.

Applications will be accepted on a continuous basis until December 31, 2025 at 3:00 PM Eastern Time. If changes are made to this solicitation, notification will be posted on NYSERDA's website at www.nyserda.ny.gov.

## Introduction

This RFQL contains the following sections:



## I. Initiative Overview

***Heat Recovery Solutions*** RFQL 5217 promotes the adoption of heat recovery products that are innovative and efficient solutions for existing commercial, institutional, industrial, and/or multifamily buildings. Heat recovery solutions can improve indoor-air quality, occupant comfort and can contribute to decreased energy use. New York State commercial, institutional, industrial, and multifamily buildings include, but are not limited to, multifamily residential and office buildings, retail, colleges and universities, health care facilities, state and local governments, not-for-profit and private institutions, and public and private P-12 schools.

NYSERDA is seeking advanced products that can significantly improve heat recovery efficacy to enable opportunities in New York State's buildings that are both practical and economical.

NYSERDA encourages all innovators and manufacturers of heat recovery products from the following building systems to apply to RFQL 5217:

- Exhaust and ventilation airstreams
- Comfort treatment of heating, cooling and dehumidification
- Byproduct wasted energy from building equipment and systems
- Heat rejected by data processing equipment and data centers

- Heat by products from refrigeration, air/gas compression, energy production, energy conversion, and other processing plants
- Solar energy incident on the building's exterior surface and fenestration
- Infrastructure below ground
- Discharged wastewater
- Others

**Summary of Online Application Requirements:**

- Provide product information (examples: cut sheets, brochures, product presentations) and proof of efficacy documentation (examples: laboratory test reports, compliance reports, feasibility study reports, research papers, validation data).
- Identify the product's commercialization technology readiness level (must be at least Technology Readiness Level (TRL) 6 for consideration).
- Describe examples of the product performing as claimed in its intended environment, including other manufacturers or providers of like-products worldwide.
- Identify customers or other efficacy references for NYSERDA to verify effectiveness claims.
- If available, identify at least one location of accessible installations where NYSERDA may witness actual product performing as claimed.

Similar to the objective of ***Heat Recovery Solutions*** RFQL 5217 – NYSERDA's *Empire Buildings Challenge* [EBC] program has attracted best-in-class manufacturers, solution providers, and entrepreneurs worldwide to help transform New York's existing building stock. Participants and awardees have demonstrated a willingness to explore and invest in the most promising approaches to implement heat recovery into building upgrades. For example, all ten demonstration projects funded through NYSERDA's EBC program incorporate heat recovery as a central tenet in their decarbonization strategies.

| EBC Project | RE Partner | Heat Recovery Measures |
|---|---|---|
| Empire State Building | ESRT | - 1st Floor Lobby Ventilation Reheat using waterside heat recovery<br>- ERV pilot on floor outdoor AHU<br>- Retail tenant condenser water heat recovery |
| 345 Hudson | Hines | - Enable heat recovery using ambient temperature loop with WSHPs<br>- DOAS + ERV |
| The Heritage | L+M Fund Management | - Ventilation upgrades with ERV |
| Whitney Young Manor | Omni | - DOAS + ERV<br>- Wastewater heat recovery<br>- WSHP for DHW |
| The Towers (3965 - 3975 Sedgwick Ave, BX) | Amalgamated Housing Corp. | - Wastewater heat recovery<br>- Ground source heat pump |
| 601 Lexington Ave | BXP | - Condenser water heat recovery |
| 660 5th Ave | Brookfield Properties | - DOAS + ERV<br>- Condenser water heat recovery |
| 59-17 Junction Blvd, QN | LeFrak | - Enable heat recovery between core and perimeter systems |
| 520 Madison Ave | Tishman Speyer | - Condenser water heat recovery<br>- Ground source heat pump |
| Penn One | Vornado | - Condenser water heat recovery |

Figure 1. NYSERDA *Empire Building Challenge* projects including heat recovery measures

## II. Benefits of Participation

**NYSERDA offers the following potential benefits:**

- NYSERDA recognition as a qualified heat recovery solution that has been technically evaluated and market acceptance tested.
- Reference for the NYSERDA ***Heat Recovery Project Development*** PON (Program Opportunity Notice) 5547, launched in Q4 2023. This new initiative will provide funding for the development of heat recovery retrofit projects in New York buildings.
- Participation in customer roundtables and interviews through partnerships with other NYSERDA Programs such as *Empire Building Challenge*, as well as through partnerships with real estate trade associations to understand specific New York building requirements.
- Publicity through NYSERDA's website at www.nyserda.ny.gov via public qualified listings, case studies highlighting success stories, and other materials, as available.
- Promotional materials such as NYSERDA Heat Recovery literature and advertising templates.

New York State has implemented policies to increase efficiency and decrease carbon emissions in buildings. New York City, a top real estate market globally, has passed legislation to reduce buildings' energy and carbon footprints. Together, New York offers excellent business opportunities for products and manufacturers who can advance these goals.

NYSERDA offers ongoing assistance to the real estate market to meet New York policies, such as ***Heat Recovery Project Development*** PON 5547. The Program provides funding for assessing and designing heat recovery projects in New York buildings.

PON 5547 will provide the following funding categories:

- Funding assistance for assessing heat recovery opportunities in New York buildings
- Supporting the clean-sheet design of heat recovery projects ready for implementation at a New York building

No fee or payment is required to submit a product solution for NYSERDA consideration, becoming a qualified product is completely voluntary. NYSERDA may revoke the status of the qualified product and remove them from the website if the product solution does not meet all program requirements. Applicants may also request to be removed from the qualified list.

## III. Application and Evaluation Stages

**Application Submission:** Online submission is strongly encouraged. Complete and submit your Application here. For ease of identification, all electronic files must be named using the Applicant's entity name in the title of the document. For detailed instructions on how to submit an Application (online or paper submission), click the link "Application Instructions and Portal Training Guide [PDF]".

The online application will gather information on the capabilities of the products for NYSERDA to verify the capability. Verification options as part of the online application include supplying NYSERDA with marketing and sales literature, specification sheets, testing reports, operating manuals, case studies, or live demonstrations depending on the capability being reviewed.

**NYSERDA Evaluation Stages [2]:**

NYSERDA's application review process consists of two screens: technical review, and market acceptance review. During the review process, an interview may be conducted between the applying solution provider and NYSERDA. Each of these stages is described further below.

1) **Technical Review:**
   NYSERDA will review the submitted online application and documentation [see Required Information below]. NYSERDA will evaluate each completed application as a standalone product submission. To help NYSERDA review the application more efficiently, included below is a list of the technical focused questions from the online application. Providing clear responses will help NYSERDA understand the benefits of your products to New York buildings.

   - What is the product's relevancy as a retrofittable measure in existing New York buildings? NYSERDA is interested in products that are applicable to New York's built environment.

   - What types of buildings (office, multifamily, etc.) and their attributes (facade material, roof area, mechanical system, construction era, etc.) would be suitable for the proposed product? NYSERDA is looking for products that are compatible with New York's retrofit practices.

   - Can the product be practically retrofitted in its targeted built environment? NYSERDA is especially interested in heat recovery products compatible with New York's existing buildings' construction methods, materials, labor practices, codes, and regulations.

   - Does the product belong to a category of heat recovery equipment already known and available from multiple manufacturers? If that is the case, what is the competitive

uniqueness separating the proposed product from others available in the market? Examples are that the proposed product can recover wasted energy with significantly higher efficacy or offer a much more attractive economic return than other similar products.

- How can the products overcome recovery and reuse of wasted thermal energy that is currently unfamiliar or uncommon in the New York market? Where has the proposed heat recovery product already seen acceptance and been deployed and how does the product apply to New York's existing buildings?

- Does the product meet or exceed Technology Readiness Level (TRL) 6? RFQL 5217 is seeking products that have been demonstrated and are ready for commercial scale or have been commercialized in a different market and can be localized to meet U.S. market requirements. Ideas still in concept validation or only having laboratory prototypes are unsuitable and will be rejected. Therefore, RFQL 5217 is aimed at a minimum of TRL 6, although product readiness at TRL 7 or higher is preferred.

2) **Market Acceptance Review:**
As the final step in the application process, for applications that have passed the technical review, NYSERDA will form a Scoring Committee that consists of owners and operators of the targeted building types, practicing engineers, architects and industry experts. The Scoring Committee will consist of NYSERDA staff and external subject matter experts, if deemed appropriate by NYSERDA. NYSERDA staff and external subject matter experts will evaluate all proposals based on the same pre-established evaluation criteria.

- Which sector or sectors of buildings is the product applicable to?

- Is a significant advantage provided in comparison to other similar, alternative, or existing heat recovery solutions?

- Does the product address a significant problem or overcome retrofit barriers?

- Can the heat recovery solution integrate with existing design, shipping, construction, and commissioning practices?

- Will the product meet the supply requirements for necessary consumables?

- Is it possible to train current employees to operate and maintain this solution?

- Are adequate resources and support available for property operating staff to perform ongoing maintenance and troubleshooting?

Complete and eligible applications will be reviewed and evaluated no less than quarterly. NYSERDA internal along with external reviewers through a Scoring Committee, will determine

whether the submitted product satisfies the goals of the RFQL 5217 in promoting ***Heat Recovery Solutions.***

## IV. Required Information

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The following should be submitted with the online application and will be reviewed by NYSERDA:

1. **Overview of Firm:**
   The Applicant must provide a description of its organizational structure and the office(s) that serve heat recovery solutions to customers.

2. **Product Specification Sheets:**
   The Applicant must provide relevant heat recovery product specification sheets for all products being considered (examples: cut sheets, brochures, product presentations) and proof of efficacy documentation (examples: laboratory test reports, compliance reports, feasibility study reports, research papers, validation data). Identify the product's commercialization technology readiness level (See NYSERDA Evaluation Stages above).

3. **Demonstration of Efficacy:**
   The Applicant must provide examples of the product performing as claimed in its intended environment, including other manufacturers or providers of like-products worldwide. The Applicant must include customers or other efficacy references for NYSERDA to verify effectiveness claims. If available, identify at least one location of accessible installations where NYSERDA may witness actual product performing as claimed.