



**NY - GEO 2024**  
October 22 -23 | BROOKLYN, NY



# Geothermal Incentives in Northeast

## *Status & What's Coming*

Moderator: Bryan Roberts / *Dandelion Energy*

Speakers: David Orellano / *Con Edison (NY)*

Ricky Jordan / *Eversource (CT)*

Daniel Sadik / *Carbon Solutions Group*

Olivia Prieto / *RMI (NJ)*

Policy and Programs • Salon D • October 22, 2024 • 10:00 – 11:00



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Speaker: David Orellano / *Con Edison (NY)*

# Con Edison's Geothermal Incentive Program

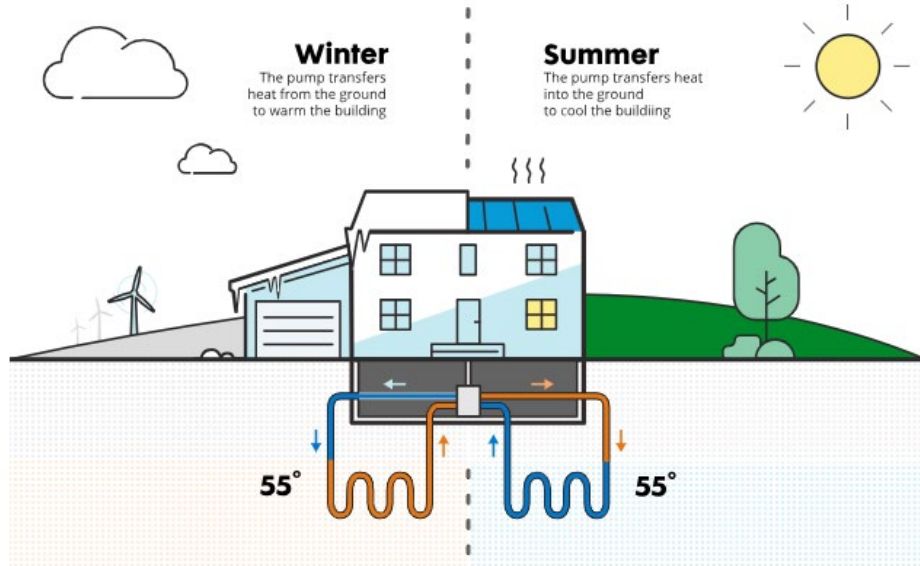
October 2024



## Con Edison's Support for Geothermal Projects

- Con Edison has offered incentives for geothermal projects through the Clean Heat program since 2020
- Incentives are available across all market segments
- Program has a monthly budget of \$10 million through 2025
- Expect the New Efficiency: New York interim review process will extend funding through 2030

# Residential Geothermal Incentives



## Residential

For single-family homes and multifamily buildings  $\leq 4$  units

### Non-DAC

\$25,000/Building

### DAC

\$35,000/Building

# Commercial & Multifamily Geothermal Incentives

## Commercial & Multifamily

For commercial buildings and multifamily buildings  $\geq 5$  units

**New Construction**  
\$125/MMBtu

**New Construction\***  
\$3,000 per apartment

**Existing Building**  
\$200/MMBtu

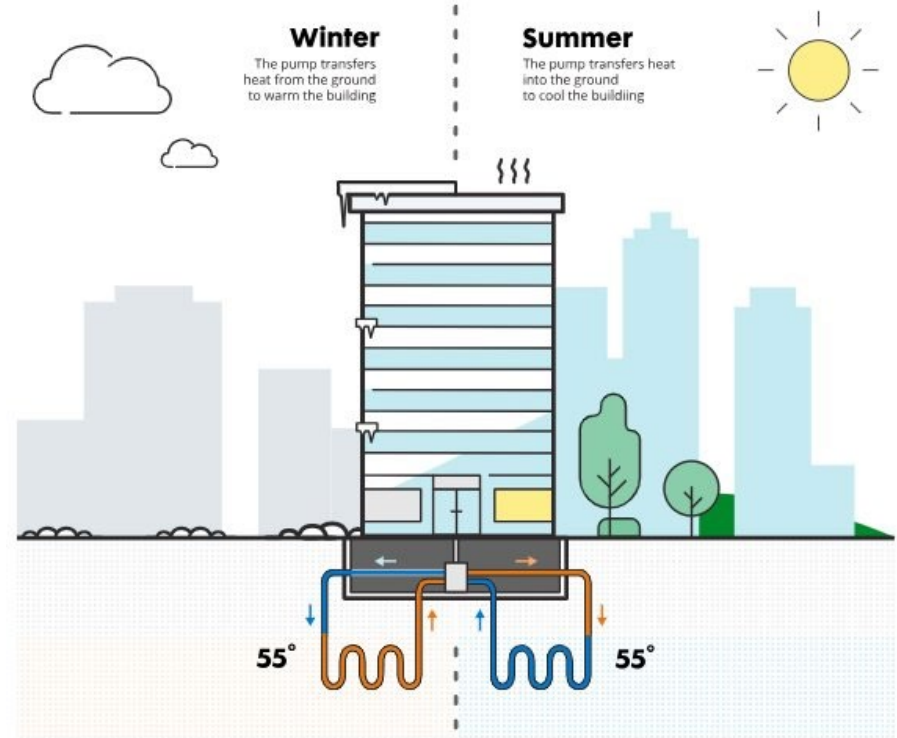
**Existing Building\***  
\$6,000 per apartment

### Thermal Conductivity Testing

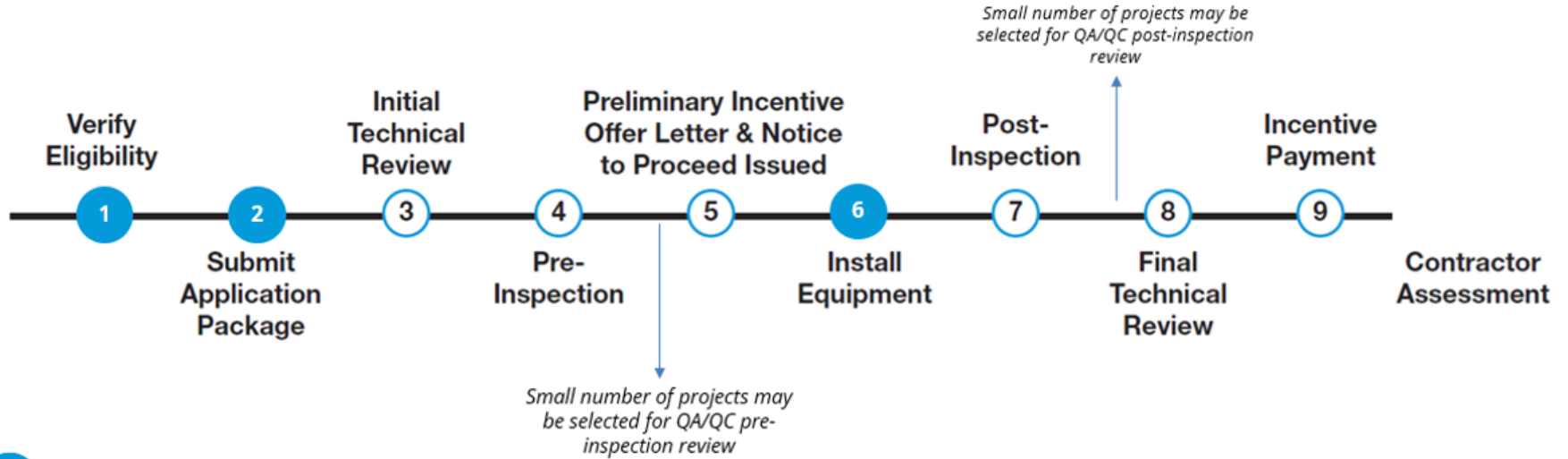
50% of project cost up to \$40k to support TCT for prospective GSHP projects

*\*Prescriptive rates reflect the installation of GSHPs for space heating and cooling; and domestic hot water.*

*All projects are subject to the Clean Heat Program's incentive cap; 50% of project cost or \$1M, whichever is lower.*



# Con Edison Clean Heat Program Process



**Contractor/Customer Steps**  
\*Contractor Assessment is only applicable for certain projects

**Con Edison Steps**

See our [Con Edison Clean Heat Pump Program Manual](#) for a more detailed description of this process.

## Program Outcomes

Since the Clean Heat program began in 2020, Con Edison has committed **more than \$50M in customer incentives** to geothermal projects.

Those incentives are bringing geothermal heat pumps to:

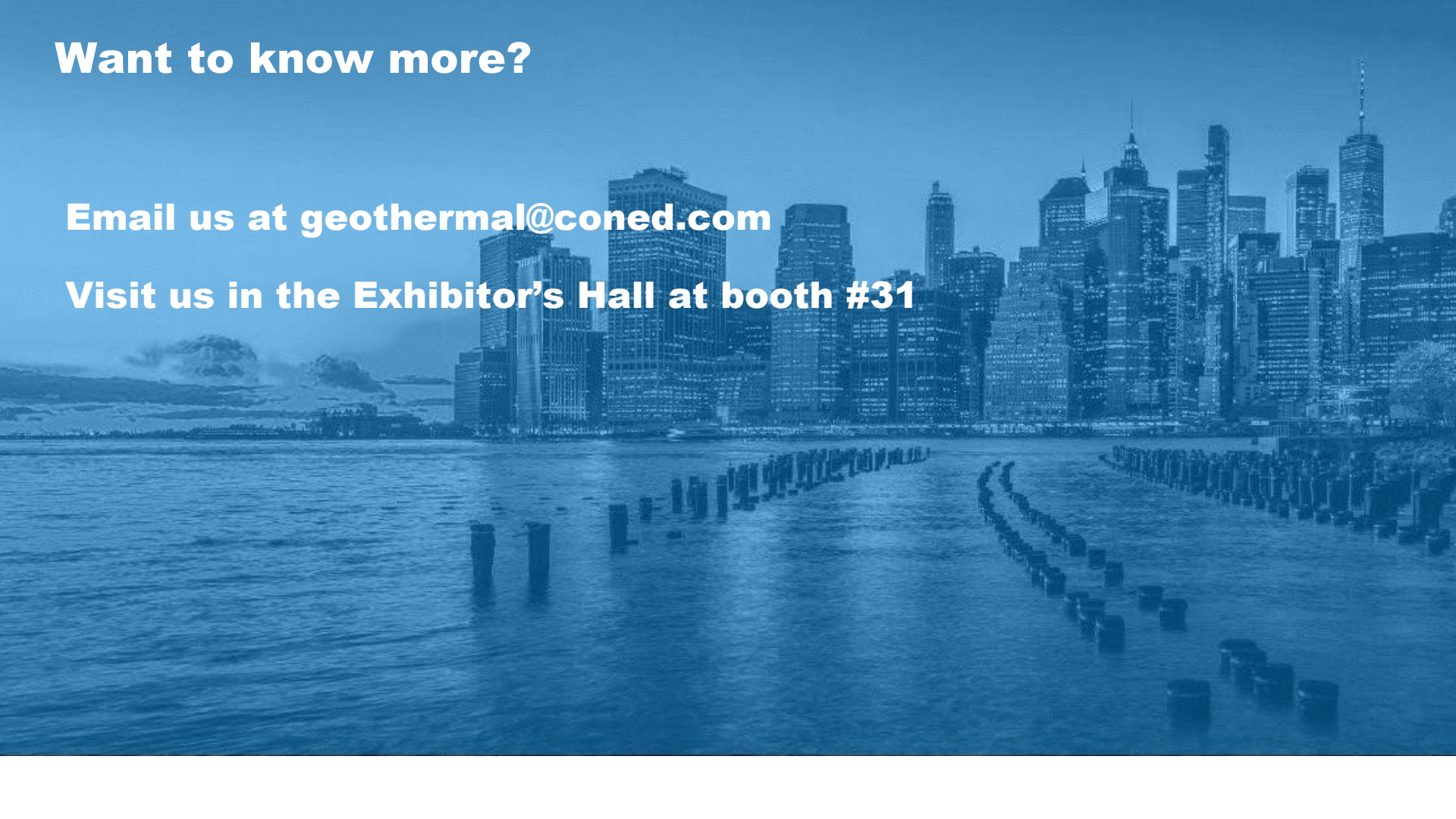
- >700 single-family homes
- 1.7 million conditioned square feet of commercial space
- >3,000 apartments, of which ~1,800 are affordable



**Want to know more?**

**Email us at [geothermal@coned.com](mailto:geothermal@coned.com)**

**Visit us in the Exhibitor's Hall at booth #31**





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# Geothermal Incentives in Northeast *Status & What's Coming*

Speaker: Ricky Jordan / *Eversource (CT)*

2024 NY-GEO Conference  
October 22, 2024



# Connecticut Geothermal Heat Pump Incentives

Ricky Jordan – Manager, Eversource

# Eversource at a Glance



**3 STATES**

Largest energy  
company in  
New England

**4.4M CUSTOMERS**

Servicing electric,  
natural gas, &  
water

**9,900 EMPLOYEES**

Across all three  
states



**STEWARD OF  
ENERGY EFFICIENCY  
FUNDS**

Eversource works  
collaboratively with  
other energy  
efficiency providers  
under the umbrella of  
these brand names

**#1 ENERGY  
EFFICIENCY  
PROVIDER IN THE  
NATION**

**~\$730m** annual  
energy efficiency  
investment for 2023





Empowering  
Connecticut  
to Make Smart  
Energy Choices



Eversource, Avangrid, Inc. subsidiaries CNG, SCG and UI, the Energy Efficiency Board, Connecticut Green Bank, and the State have united on a shared mission - to provide Connecticut residents and businesses the resources they need to **save money and use clean energy**.

The Energize Connecticut initiative empowers our communities to make smart energy choices, now and in the future.



# Agenda

**C&I PROGRAMS OVERVIEW**



**HEAT PUMP INCENTIVES**



**RESOURCES**



**CASE STUDY**



**QUESTIONS**

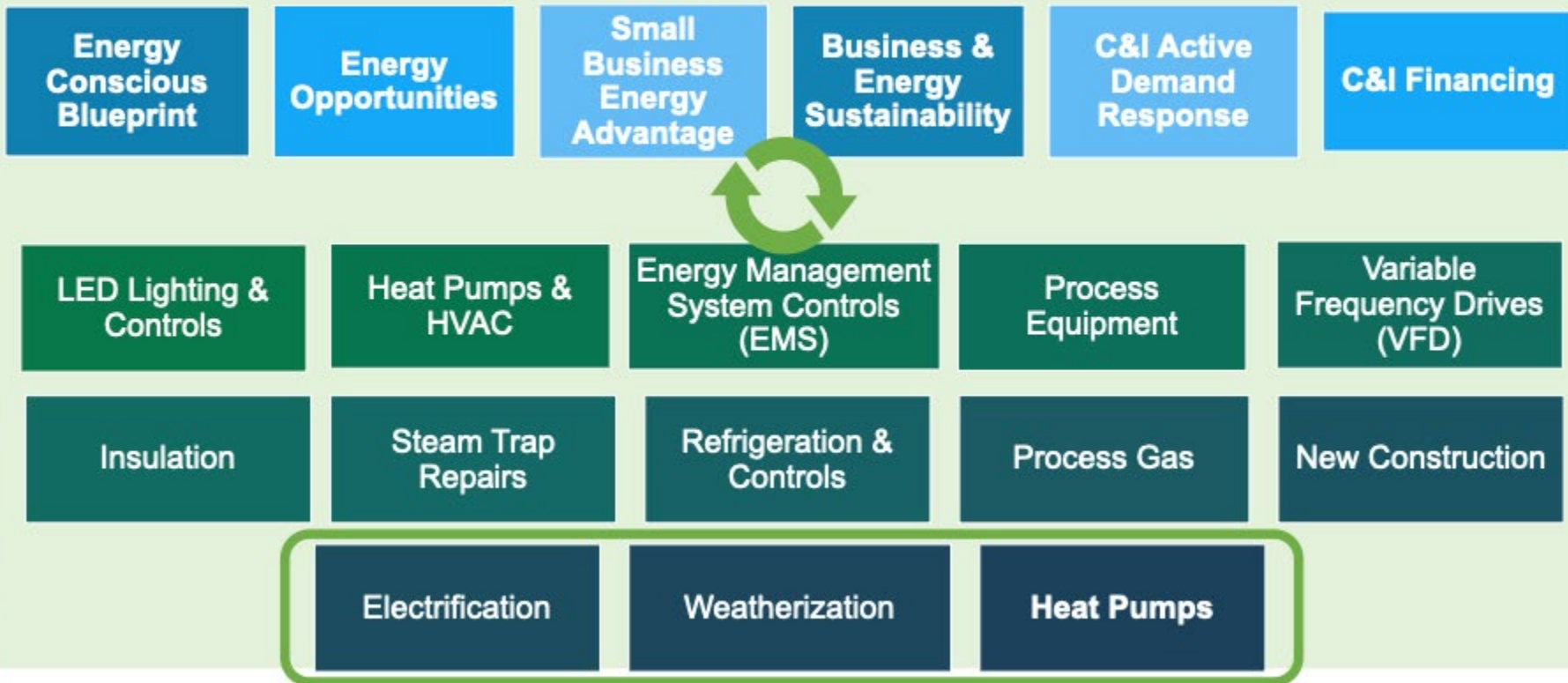






# Commercial & Industrial Programs

# C&I Programs & Eligible Measures





The background image shows a vast industrial warehouse. The ceiling is a prominent feature, consisting of a dense network of steel trusses and beams. The floor is a smooth, light-colored concrete. In the foreground and middle ground, there are various pieces of industrial equipment, including what appears to be a forklift on the right and several large, rectangular objects (possibly pallets or machinery components) on the left. The overall lighting is somewhat dim, with a blueish tint, suggesting an indoor industrial environment.

# Heat Pump Optimization Program

# Heat Pump Optimization Program Incentives

- Existing Buildings
- Online application
- Eligibility requirements
- Full vs. Partial
- Primary source of heating
- Replace existing oil, propane, natural gas or electric resistance
- Integrated controls
- Approved Installer Network
- Pre-approvals for larger projects
- Financing available

Optimization Rebates		
Equipment	C&I / Multifamily	Residential
Air Source Heat Pumps	\$1,500 per ton	\$750 per ton (< 5.4 tons)
Variable Refrigerant Flow (VRF) Heat Pumps	\$2,100 per ton	---
<b>Ground Source Heat Pumps</b>	<b>\$4,000 per ton</b>	<b>\$1,500 per ton</b>

Up to 100% in Eversource territory, 75% in Avangrid territory

**Projects larger than 20 Tons or exceeding \$30,000 in rebates require pre-approval**

# C&I New Construction & Major Renovation Heat Pump Incentive Rates

HP Type	Per-Ton Incentive*	Incentive Cap
Air Source Heat Pumps	\$640/ton	\$400,000
Variable Refrigerant Flow (VRF)	\$1,000/ton	\$500,000
<b>Ground Source Heat Pumps</b>	<b>\$4,000/ton</b>	<b>\$600,000</b>

# Residential New Construction & Major Renovation Incentives

All residential projects must be fully electric to receive incentives

Performance-based, per-unit incentives

Tier Range	Incentive Structure		
	Single Family	Single Family Attached	Multi Family
<b>Tier 1</b>	\$7,500	\$3,000	\$1,500
<b>Tier 2</b>	\$10,000	\$4,000	\$2,500
<b>Tier 3</b>	\$12,500	\$5,000	\$3,500

**Ground source heat pumps receive an additional \$500/ton capped at \$1,500/unit**

# Heat Pump Installer Network (HPIN)

## Requirements to join:

Signed Participation Agreement

HVAC or Electrical Contractor License

Certificate of Comprehensive General Liability Insurance

EPA Section 608 Certification

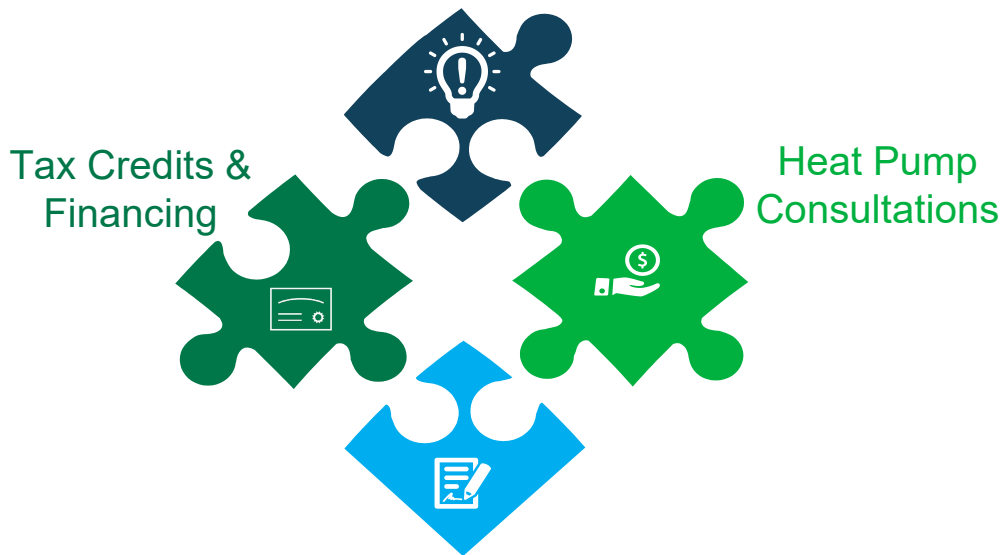
Certification of relevant training:

- **Air Source Heat Pump installers:** Certification of installation training provided by a heat pump manufacturer
- **Ground Source Heat Pump installers:** International Ground-Source Heat Pump Association (IGSHPA) Installer OR GeoExchange Designer certificate



# Heat Pump Program Resources

## Customer Eligibility Criteria



## ENERGIZE CONNECTICUT<sup>SM</sup> HEAT PUMP NEWSLETTER

September 2024



### 2025 HPIN Participation Agreement Renewal

All installers must re-sign the participation agreement to continue participation in the Heat Pump Installer Network in 2025. Along with this, contractors must submit the following documentation:

- **NEW:** EPA A2L Refrigerant Certification (new version of EPA 608)
- Two first-year requirements as stated in the 2024 HPIN participation agreement (if enrolled in the HPIN between March 31, 2023 and September 31, 2024 and not yet completed):
  - Energize CT Program Overview
    - Available on-demand via the [eLearning Center](#) OR by scheduling a virtual meeting with a program representative
  - Cold climate air-source heat pump sizing and design training certificate from a manufacturer
    - If you have not taken the training yet, you can do so by reaching out to your manufacturer's representative for a list of upcoming live or on-demand training opportunities



# Case Study: Manchester, Connecticut Schools Renovations



Renovations of 3 schools built in 1950s targeting net zero energy all using ground source heat pumps. Worked with Eversource through the whole design process and continuing into post-occupancy measurement.

## **Buckley**

Heating savings:  
1,719,760 lifetime kBTU  
**Eversource incentive:**  
**\$266,700**

## **Bowers**

Heating savings:  
3,998,697 lifetime kBTU  
**Eversource incentive:**  
**\$253,700**

## **Keeney**

Heating savings:  
1,394,204 lifetime BTU  
**Eversource incentive:**  
**\$253,710**



**EVERSOURCE**

**Thanks**  
**for listening.**



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# Geothermal Incentives in Northeast *Status & What's Coming*

Speaker: Daniel Sadik / *Carbon Solutions Group*



# Carbon Solutions Group

## GSHP REC Overview

# About Us

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## Carbon Solutions Group History

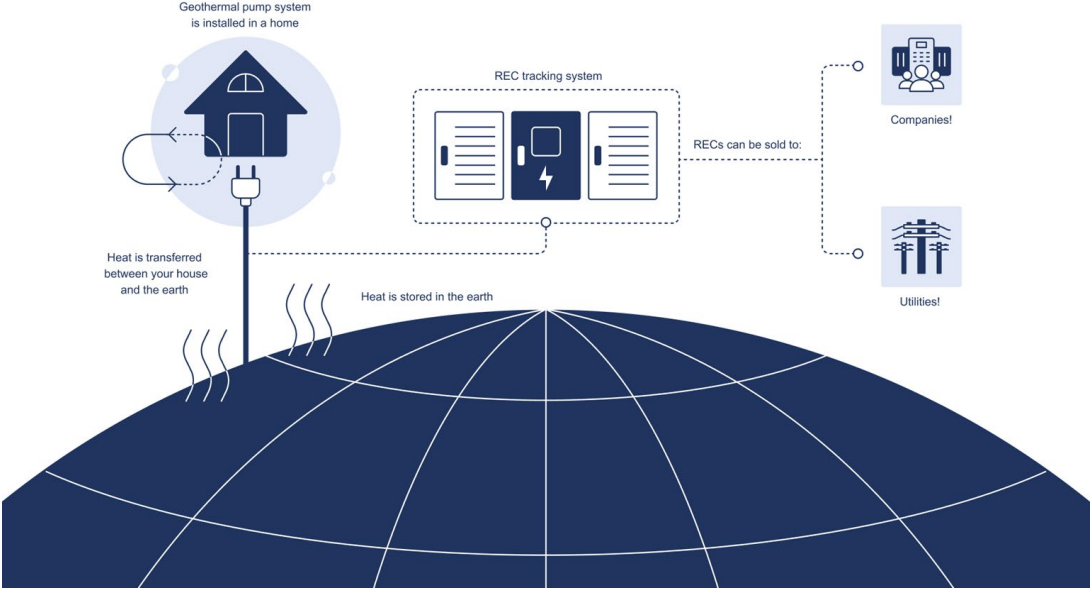
Founded in 2006, Carbon Solutions Group now has 37 employees focused on driving decarbonization through Renewable Energy Credit and Carbon Offset aggregation.

### At a Glance

- Top 3 REC Marketer by volume with over 150 Million MWhs transacted since 2017.
- 350+ nationwide solar installers.
- 40,000+ residential customers and over 3,100 commercial solar customers.
- Transactional expertise in 40 distinct REC and Carbon markets.
- Proprietary platform that enables the seamless REC registration and onboarding of installers and customers.

# GREC Overview

## GRECs Managed By CSG



# Geothermal Process

**Installer Referral Agreement:** CSG and the installer execute a referral agreement. As part of this, the installer will be asked to provide basic information to complete the registration process.

- System photo (showing heat pump nameplate)
- System specifications/details (make/models/installation date)
- Proof of installation document (Building permit, paid invoice, etc)
- Energy savings report showing energy analysis of the replaced system and GSHP
- Utility approval or rebate documentation (If not available provide well permit and electric bill)
- \*Additional information as needed to qualify for a specific market or incentive

## Customer Process:



### Sign Contract

Installer or Manufacturer will send pertinent information directly to CSG and a REC Agreement will be sent via DocuSign for customer signature



### System Registration

Installer or Manufacturer will provide all the required documents and CSG will facilitate all registrations. Registrations generally takes between 4-6 weeks.

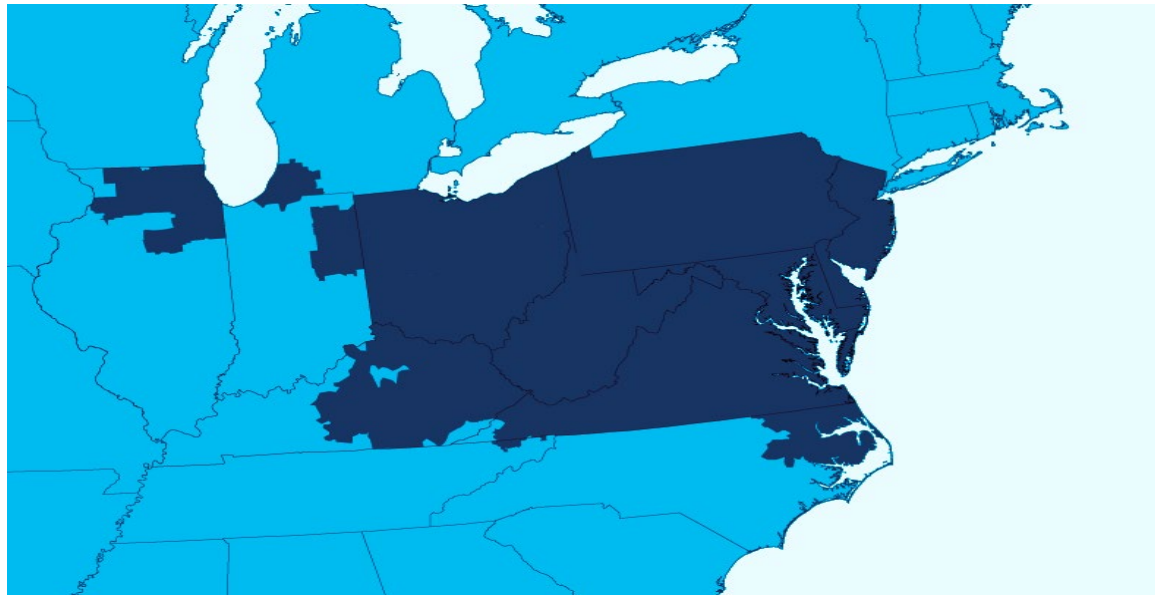


### Receive Payment

Once all registrations are approved customer will be notified of payment date and will be given the choice of receiving ACH or check. Typical payment to the customer is net 45 from the system registration date

# Where We Aggregate

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# Customer Pricing

Maryland GSHP		
Installation date after 1/1/2023	Replaced System	
	New Homes and Fuel Oil, Natural Gas, and Propane.	\$2,600 per ton upfront payment
	<b>Or</b>	
	Annual Market Based Sale	5% CSG annual commission
<b>Example Payment</b>	Upfront Payment: 6 Ton system installed X \$2,600 per ton = <b>\$15,600</b> upon system registration.	

PJM GSHP	
(Delaware, *Illinois, *Indiana, *Kentucky, Pennsylvania, Maryland, *Michigan, New Jersey, Ohio, *Tennessee, Virginia, and West Virginia)	
	Customer Payment
<b>Installation date after: 1/1/2018</b>	\$700 per ton upfront payment
<b>Example Payment</b>	Upfront Payment: 6 Ton system installed X \$700 per ton = <b>\$4,200</b> upon system registration.

# Contact

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**Daniel Sadik**

SVP, Origination

Austin, TX | 512.492.5757

[dsadik@carbonsolutionsgroup.com](mailto:dsadik@carbonsolutionsgroup.com)



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# Geothermal Incentives in Northeast

## *Status & What's Coming*

Speaker: Olivia Prieto / *RMI (NJ)*





# Geothermal Incentives in New Jersey

October 23, 2024



# Agenda

Overview of New Jersey's EE Framework

Utility Incentives

State Incentives

Other Initiatives

Program administration is divided between the state's Clean Energy Program and the electric and gas utilities.

NJ BPU /  
NJ CEP

- New Construction
- Large Energy Users

Utilities

- Existing Buildings
- Efficient Products

NJ CEP / Utility

- Comfort Partners (residential income-eligible)

# Utility Programs

Triennium 2 (2025-2027), Large Buildings \*proposed\*



- Energy Solutions – comprehensive, technical energy efficiency projects
  - Larger C&I customers
- Prescriptive & Custom – equipment- and performance-based incentives
  - All C&I, non-residential
- Direct Install – energy assessment based measures
  - SMB, non-profits, municipalities, schools, faith-based institutions
- Multifamily – range of simple to comprehensive projects
- Building Decarbonization Start-Up – prescriptive electrification incentives
  - Residential, Multifamily, C&I

# Utility Geothermal Incentives

Triennium 2 (2025-2027), Large Buildings \*proposed\*

## EE C&I Prescriptive

- GSHP & GWSHP  $\leq 11.25$  Tons: \$500/ton
  - \$5,625 max incentive
  - 30% adder for income-eligible multifamily

## • EE Multifamily Prescriptive

- \$10,000/unit + up to 50% adder

## Building Decarb Start-up

- GSHP  $\leq 11.25$  tons: \$6,500/unit
- WSHP  $\leq 11.25$  tons: \$6,000/unit

PSE&G and NJ Natural Gas proposed network geothermal pilots, but current statute limits circumstances under which a utility can operate a regulated thermal network.<sup>1</sup> Utilities will likely conduct studies instead.

# NJ CEP New Construction Program

## • How it started

- Different programs for customer each segment
- Single-measure incentives
- No focus on GHG reduction
- Market confusion and low participation

## • How it's going (to go\*)

- One holistic program with single point of entry
- Requires bundles of at least 2 measures
- Simplified participation and equitable access
- Incentives for GHG reductions/electrification

\*launch date  
TBD

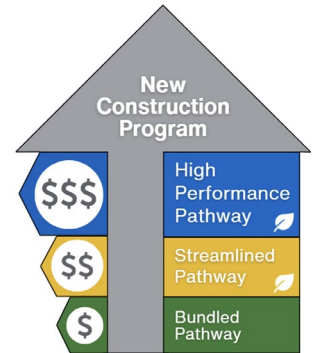


Table 1: Eligibility for Pathways by Building Type

New Construction Program - Eligibility			
Program Pathways	Building Type		
	Residential		Non-Residential
	Single Family or Townhome	Multifamily	Non-residential
Bundled	n/a	n/a	Y
Streamlined	n/a	n/a	Y
High-Performance Pathway <i>Non-Proxy</i>	n/a	n/a	Y
High-Performance Pathway <i>LEED V4.1</i>	n/a	n/a	Y
High-Performance Pathway <i>ENERGY STAR</i>	Y	Y	n/a
High-Performance Pathway <i>DOE Zero Energy Ready Home</i>	Y	Y	n/a
High-Performance Pathway: <i>PHIUS Core, Zero or Core REVIVE 2021; PHI V10 Classic, Plus, or Premium</i>	Y	Y	Y

Table 6: Base and GHG Reduction Incentives

Incentives			
Pathway	Incentive Rate (\$/sqft)	GHG Reduction Bonus	
		Tons CO2e per kSF	\$/sqft
Bundled	\$0.25	n/a	n/a
Streamlined	\$0.50	0.7 - 0.99 tons 1.0 - 1.99 tons 2.0 - 2.99 tons 3.0+ tons	\$0.25 \$0.50 \$1.00 \$1.50
High-Performance <i>Non-Proxy</i>	\$1.00		
High-Performance <i>LEED V4.1</i>	\$1.00		
High-Performance <i>ENERGY STAR</i>	\$1.00		
High-Performance <i>DOE Zero Energy Ready Home</i>	\$1.75		
High-Performance (choose one): <i>PHIUS Core 2021</i> <i>PHIUS Zero 2021</i> <i>PHIUS CORE REVIVE 2021</i> <i>PHI Classic V10</i> <i>PHI Plus V10</i> <i>PHI Premium V10</i>	\$2.50		

Table 7: Additional Incentives

Incentives			
Pathway	Additional Incentive Rate (\$/sqft)		
	Affordable Housing (residential)	UEZ/OZ (non-residential)	Industrial/High Energy Intensity (non-residential)
Streamlined	n/a	+\$0.15	+\$0.60
High-Performance	+\$0.25	+\$0.25	+\$1.00



# NJ CEP Large Energy Users Program

- For customers with >\$5M annual energy costs
- EE measures identified as part of self-directed energy project
- Must meet min. performance standards
- Max incentives will be the lesser of:
  - 75% total project cost
  - \$4M per entity per FY
  - Amount necessary to buy down to no less than 2-yr payback

## Decarb Pilot

- EE + beneficial electrification, EV, storage, CHP
- Must submit a Decarbonization Plan
- 3-yr implementation period
- Incentives:
  - 100% offset for developing Decarbonization Plan
  - \$1000/ tCO<sub>2</sub>e first year reductions, capped at the lesser of
    - 75% total project cost
    - \$5M per entity per FY



# Other Initiatives

- Jan 2024 legislation directing BPU to conduct a study on the feasibility and benefits of large-scale geothermal heat pump systems
  - Evaluate incentives, including PPP and utility involvement. (ITC)
  - Develop Marketing Program
  - Evaluate need for pilot program
  - ID needs for statutory and regulatory changes
  - Report due 1/16/26
  
- Campus Consortium effort to promote geothermal networks

# Resources and Links

- [NJ CEP Program Budgets and Filings](#)
- [EE Working Group website](#)
- [BPU Docket Search](#)
- [2024 Geothermal Feasibility Legislation](#)
- [DEP GSHP Baseline Report](#)

## [Triennium II Dockets](#)

- Public Service Electric & Gas Company (QO23120874)
- Atlantic City Electric Company (QO23120871)
- Jersey Central Power & Light Company (QO23120872)
- Rockland Electric Company (QO23120875)

# Thank you!

Contact:

[oprieto@rmi.org](mailto:oprieto@rmi.org)



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