Adam Flint, Director of Clean Energy Programs
Hailley Delisle, Campaign Director, Heat Smart Southern Tier

A Program of
Register today at NYNEST.ORG

- Thursday, December 3, 12-12:50pm
  Clean Heat Beneath your Feet with Dailey Geothermal

- Wednesday, December 9, 12-12:50pm
  Energy Efficiency Virtual Home Tour (Binghamton) with The Insulation Man

- Wednesday, January 13, 2021, 7-7:50pm
  Clean Heating & Cooling with Heat Pumps & Energy Efficiency

- Thursday, January 21, 2021, 12-12:50pm
  Air Source Heat Pump Virtual Home Tour (Oxford)
The Network for a Sustainable Tomorrow is a non-profit community-based network of programs working towards social, environmental, and economic justice and equity in our region. NEST catalyzes and convenes new initiatives and partnerships, and does outreach and education to build a stronger and more resilient Southern Tier.
Overview

● What is Heat Smart Southern Tier?
● Why HeatSmart?
● HeatSmart Technologies
  ○ Weatherization and home energy assessment
  ○ Heat Pump Technologies
● Incentives & financing
● How to participate
● Community Solar
● Q&A
What is HeatSmart Southern Tier?

- HeatSmart Southern Tier (HSST) is a NYSERDA-funded community outreach program that connects you to local heating and cooling and energy efficiency experts who offer the latest clean energy technologies.

- We work to educate the public about sustainable heating and cooling systems through our workshops, webinars and tabling events.
Benefits of Heat Smart Southern Tier

- Reduce energy costs
- Home comfort & safety
- Greenhouse gas emissions
- Community awareness
Where Are We Now?

Main Sources Of Greenhouse Gases in NYS
New York's goal is to reduce these emissions 80% by 2050

- Transportation: 34%
- Buildings: 32%
- Electricity: 20%
- Waste & Other: 8%
- Industry: 6%

dec.ny.gov  facebook.com/NYSDEC  twitter.com/NYSDEC
Heat Smart Southern Tier Program Covers:

- Weatherization

- Heat Pumps
  - Ground Source
  - Air Source
  - Water Heater
HeatSmart Southern Tier’s Competitively Selected Partners

Air Source Heat Pumps

Ground Source Heat Pumps

Home Performance and Efficiency

D & D Refrigeration (Delaware county)

AIR SOURCE
Heat Pump Specialists

Dailey Geothermal

THE INSULATION MAN
ENERGY SAVERS AT WORK
First Step: Weatherization
Home Energy Assessment

Assessment of customer’s heating and cooling needs

- Walkthrough of interior & exterior of home
- Combustion safety test
- Infrared camera
- Blower door test
- Home energy report with recommended weatherization next steps
Weatherization Benefits

- Reduce energy consumption and costs
- Increase Home Safety
- Improve home comfort
  - Reduce drafts
  - Improve humidity control
  - Improve indoor air quality
  - Reduce risk of ice dams
Heat Pump Technologies
What is a heat pump?
Types of Heat Pumps

Space Heating & Cooling

- Air Source Heat Pump
- Ground Source Heat Pump

Hot Water Heating

- Heat pump Water Heater
Types of Ground Source Heat Pumps

- Closed Loop
- Horizontal
- Vertical
Ground Source Heat Pump Benefits

- An efficient heating/cooling system
- Long system lifetime
- Eliminate fossil fuels from your home
- Can include domestic hot water
Air Source Heat Pumps

Ductless Heat Pumps

Outdoor Units

Indoor Units

Wall Mount

Ceiling Cassette

Floor Mount

Mini Duct
Air Source Heat Pumps Benefits

- Energy savings
- Air conditioning without ductwork
- Full heating replacement not required
- Flexible
- Zone control
- Quiet
Heat Pump Water Heaters

- Uses indoor air to heat your hot water
- Has backup for meeting high demand

Benefits

- More efficient than typical electric water heaters
- Provides dehumidification
Economics, Incentives, and Financing
<table>
<thead>
<tr>
<th>Technology</th>
<th>Description</th>
<th>Eligibility Requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cold Climate Air Source Heat Pump</td>
<td><strong>Partial Load Heating Rebate</strong> $500 per outdoor unit <strong>(~$100 per outdoor unit to contractor)</strong></td>
<td>All ASHPs must be NEEP-listed Cold Climate Air Source Heat Pumps</td>
</tr>
</tbody>
</table>
|                                 | **Full Load Heating Rebate** $1,000 per 10,000 Btu/h of maximum capacity at 5°F **(~$500 per project to contractor)** | Partial Load: Must be mini-split heat pump  
Full Load: Can be central or mini-split heat pump, must be sized to 90-120% of building heat load |
| Ground Source Heat Pump          | **Full Load Heating Rebate** $1,500 per 10,000 Btu/h of heating capacity (certified by AHRI) **(~$500 per project to contractor)** | GSHP must be ENERGY STAR certified and meet ENERGY STAR Tier 3 requirements and be sized to 90-120% of building heat load.  
This incentive only covers closed-loop systems. Speak with your installer for more information about incentives for open-loop systems. |
| Water Heating                    | **Heat Pump Water Heater** $700 per unit                                     | Must be ENERGY STAR certified and under 120 gallons in capacity                                                                                           |
|                                 | **GSHP Desuperheater** $100 per unit                                         | Desuperheaters are installed as an optional component to eligible GSHP systems to offset some of your hot water load. Speak with your installer to learn more about desuperheater integration. |
|                                 | **Ground-Source Water Heater** $900 per unit                                  | This incentive is for ground source heat pump systems dedicated to providing 100% of domestic hot water load. The GSHP must be ENERGY STAR Tier 3 Certified. |

**Custom incentives and incentives for commercial-scale systems are also available based on the expected annual energy savings ($80/MMBtu). Speak with your installer to learn more.**
# Heat Pump Tax Credits

<table>
<thead>
<tr>
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</thead>
<tbody>
<tr>
<td>Federal Tax Credit</td>
<td></td>
<td>26%</td>
<td>$300 until Dec 31, 2020</td>
</tr>
</tbody>
</table>
## Financing

<table>
<thead>
<tr>
<th>Provider</th>
<th>Loan Product Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>NYSERDA*</td>
<td>Smart Energy Loan</td>
<td>Up to $25,000; terms of 5, 10, and 15 years; 3.49 or 6.99% interest</td>
</tr>
<tr>
<td></td>
<td>On-Bill Recovery Loan</td>
<td>Up to $25,000; terms of 5, 10, and 15 years; 3.49 or 6.99% interest; paid on utility bill</td>
</tr>
<tr>
<td></td>
<td>Companion Loan</td>
<td>Up to $25,000; terms of 5, 10, and 15 years; 6.99% interest additional to OBR or SEL for larger work scopes. Cost effectiveness &amp; other requirements apply. *</td>
</tr>
<tr>
<td>ASHP/GSHP Manufacturer Financing (E.g. Synchrony, EnerBank)</td>
<td>Unsecured loans with dealer fees (can be terms of up to 20 years)</td>
<td></td>
</tr>
<tr>
<td>Local Banks (e.g. Home Equity, consumer loans)</td>
<td>Dependent on bank</td>
<td></td>
</tr>
</tbody>
</table>
Enabling LMI Participation: Income-eligible programs

Assisted Home Performance with Energy Star
Energy Efficiency/Weatherization

Provides those who apply with a discount of **50% of project costs**

- Limit of **$5,000** for single-family
- Limit of **$10,000** for 2-4 unit multi-family
- Eligibility expanded up to 120% AMI through Dec. 31
- Includes heat pumps as of Late Nov.

<table>
<thead>
<tr>
<th>Household Size</th>
<th>Income Limit</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>$39,904</td>
</tr>
<tr>
<td>2</td>
<td>$52,192</td>
</tr>
<tr>
<td>3</td>
<td>$64,480</td>
</tr>
<tr>
<td>4</td>
<td>$76,752</td>
</tr>
<tr>
<td>5</td>
<td>$89,040</td>
</tr>
<tr>
<td>6</td>
<td>$101,312</td>
</tr>
</tbody>
</table>

(Income levels subject to change)
Available to homeowners that are under 60% of state median ( HEAP/low-income utility rate code eligible) that pay utility bills

FREE assessment and efficiency improvements

Max award increased to $10k until Dec 31.

Includes heat pumps as of late Nov

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<tr>
<th>Household Size</th>
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</thead>
<tbody>
<tr>
<td>1</td>
<td>$29,928</td>
</tr>
<tr>
<td>2</td>
<td>$39,144</td>
</tr>
<tr>
<td>3</td>
<td>$48,360</td>
</tr>
<tr>
<td>4</td>
<td>$57,564</td>
</tr>
<tr>
<td>5</td>
<td>$66,780</td>
</tr>
<tr>
<td>6</td>
<td>$75,984</td>
</tr>
</tbody>
</table>

(Income levels subject to change)
LMI Adder Incentive

- Will cover project up to 60,000 btu/heating as of late November.
- Available to homeowners with under 80% of area median income
- 1-4 unit residential only
- Only non-natural gas homes are eligible & must be insulated.
- Stackable with other incentives
- Only includes heat pumps

<table>
<thead>
<tr>
<th>Description</th>
<th>Incentive Type</th>
<th>EmPower</th>
<th>AHP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Air Source Heat Pump</td>
<td>$/10,000 btu</td>
<td>+$3,000</td>
<td>+$1,500</td>
</tr>
<tr>
<td>Ground Source Heat Pump</td>
<td>$/10,000 btu</td>
<td>+$3,800</td>
<td>+$3,800</td>
</tr>
<tr>
<td>Heat Pump Water Heater</td>
<td>$/unit</td>
<td>Normal EmPower</td>
<td>$975</td>
</tr>
<tr>
<td>Panel Box Upgrade/ Distribution Improvements</td>
<td>≤ 100 amps</td>
<td>Up to $2,000</td>
<td>50% of cost up to $1,000</td>
</tr>
</tbody>
</table>
What’s the Process For Participating?

1. Sign up for a home energy assessment (and/or)
2. Sign up for site assessment from HSST installer(s)
3. Receive a quote for energy improvements
4. Sign contract for desired systems (if any)
5. Apply for incentives/financing (if applicable)
6. Complete installation work
Community Shared Solar

- Local Business (ex: 50 panels)
- Four person family (ex: 24 panels)
- Studio apartment (ex: 10 panels)
Benefits and How It Works

- Join with no upfront cost or fees
- Receive 20% savings annually
- Support locally produced renewable electricity
NEST’s HeatSmart Southern Tier (HSST) Virtual Webinar Series Schedule

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Questions?
Thank You!

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