

PSNH's ENERGY STAR® Homes Program



Dear Homebuilder / Homeowner:

CONGRATULATIONS on building a new home and thank you for your interest in energy efficiency and in building an ENERGY STAR® Qualified home. Homes that earn the ENERGY STAR® label are independently verified to meet the strict guidelines for energy efficiency set by the U.S. Environmental Protection Agency (EPA). Homes earning the ENERGY STAR® Qualified Homes designation through PSNH's ENERGY STAR® Homes Program are compared, using a software program, to a reference home using your home's design dimensions and characteristics but built to the 2004 International Residential Code (IRC) which is similar to New Hampshire's Residential Building Code which is currently the IECC 2006 (and is the least energy efficient home that you can build by law in NH).

PSNH offers two tracts of the ENERGY STAR® Homes Program. In both cases a Nationally Certified Home Energy Rater (HERS Rater) is used to provide: design assistance, efficiency recommendations, testing and certification for your home. They act in a consultive manner to help ensure that your new home meets the required Program guidelines. In either Program track your new ENERGY STAR® rated home will be substantially more efficient than a standard home built to code. Additionally, PSNH offers financial incentives to help offset the costs of building your new home to higher performance standards. Typically, the incentives go to the "decision maker" for the project, the person making the decision to and paying for building to a higher performance standard - in some cases the builder and in others the homeowner. The two tracts are summarized below:

- 1. The ENERGY STAR® Homes Program - Traditional Track** is available for builders/homeowners opting to condition their home typically using a conventional fossil-fuel based heating system (usually a hot water boiler or a forced hot-air ducted furnace) employing either oil, liquid propane or natural gas as the heating fuel. In this Program tract PSNH pays for the HERS Rater services (a \$750+ value) and offers incentives up to \$2,500. Homes participating through our Traditional (non geothermal) Program are at least 20% more efficient than homes built to the 2004 IRC.
- 2. The ENERGY STAR® Homes Program - Geothermal Track** utilizes geothermal (ground source) heat pump technology to condition the home and in many cases provide hot water as well. Geothermal heat pump systems are growing in popularity because they are believed to be one of the most cost and energy efficient – and cleanest space conditioning systems available today. Because its benefits are believed to make such an impact, PSNH offers higher incentives for the installation of geothermal heat pumps in new home construction. In this tract the homeowner or builder pays for the HERS Rater services, however, incentives up to \$7,500 are available. Homes participating through the Geothermal Program are at least 35% more energy efficient than homes built to the 2004 IRC.

Even if you start a home down the Geothermal heat pump tract but decide not to pursue the geothermal heat pump option, you can "switch" to the Traditional track. In either case, you can be assured that your new home will be more comfortable, healthier and more energy-efficient than the average New Hampshire home.

Congratulations and enjoy your new home!

Tom Belair
ENERGY STAR® Homes Program Administrator
belaitr@psnh.com (603) 634-2720

Features of an ENERGY STAR® Qualified New Home

ENERGY STAR® qualified homes can include a variety of energy efficient features such as effective insulation, high performance windows, tight construction and ducts, efficient heating and cooling equipment and ENERGY STAR® qualified lighting and appliances. These features contribute to improved home quality and homeowner comfort, and to lower energy demand and reduced air pollution. ENERGY STAR® also encourages the use of features designed to improve indoor air quality.

1. Effective Insulation - *Without proper levels of insulation that is installed right, it's like wearing a jacket open and loose on a cold winter day.* Properly installed, climate-appropriate insulation in floors, walls, and attics ensures even temperatures throughout the house, less energy consumption, and increased comfort. Insulation should be installed without any gaps, compressions, or misalignments. This continuous boundary of insulation between the inside and outside helps maintain temperature efficiently.

2. High-Performance Windows - Energy-efficient windows employ advanced technologies, such as protective coatings and improved frame assemblies, to help keep heat in during winter and out during summer. These windows also block damaging ultraviolet sunlight that can discolor carpets and furnishings.

3. Tight Construction - *Hundreds of holes and cracks in a typical home can quickly add up to the equivalent of an open window in the house 365 days a year.* Sealing, caulking, foaming, and gasketing holes and cracks in the home's "envelope" help reduce energy loss, drafts, moisture, dust, pollen, and noise. A tightly sealed home improves comfort and indoor air quality while reducing utility bills. Properly air sealing the building is one of the most critical features of an ENERGY STAR® home.

4. Duct Sealing and Insulation - *Sealing ducts allow more conditioned air to reach the home's living spaces; providing greater comfort.* Ducts carry air from a home's central heater or air conditioner to each part of the home, but can waste a significant amount of energy due to improper installation and poor materials. The ducts in an ENERGY STAR® qualified home are pressure tested, use an advanced sealant and are insulated to significantly reduce leakage in the duct system, improving the comfort and air quality of the home, while reducing utility bills.

5. Efficient Heating and Cooling Equipment (including geothermal heat pumps) - In addition to using less energy to operate, energy-efficient heating and cooling systems can be quieter, reduce indoor humidity, and improve the overall comfort of the home. Typically, energy-efficient equipment is also more durable and requires less maintenance than standard models.

6. Lighting and Appliances - ENERGY STAR® qualified homes may also be equipped with ENERGY STAR® qualified products - lighting fixtures, compact fluorescent bulbs, ventilation fans, and appliances, such as refrigerators, dish washers, and washing machines. These ENERGY STAR® qualified products provide additional energy savings to the owner.

7. Third-Party Verification- *any builder can claim they have an energy efficient home – the ENERGY STAR® labeled home proves it!* With the help of independent Certified Home Energy Raters, ENERGY STAR® builder partners choose the most appropriate energy-saving features for their homes. Additionally, raters conduct onsite testing and inspections to verify that the homes qualify as ENERGY STAR®.

Home Testing and Certification

All ENERGY STAR® qualified homes are certified to meet the U.S. Environmental Protection Agency's strict guidelines for energy efficiency. An accredited independent Home Energy Ratings System (HERS) Rating Provider is required to verify this certification. All ENERGY STAR® qualified new homes receive the ENERGY STAR® label and ENERGY STAR® certificate. Below is a summary of the basic steps involved to certify that homes meet the ENERGY STAR® guidelines.

1. Evaluate the Home's Predicted Energy Performance

The first step in the certification process is the review of a home's construction plans to calculate the home's energy performance as compared to the local residential code. During this step, an accredited HERS Rater analyzes the planned home's energy performance by using energy modeling software and taking into account information such as orientation, shading area, proposed HVAC efficiency ratings, insulation levels, and water heating equipment efficiencies. This analysis yields a projected, pre-construction HERS Index score, and indicates how much better the home will perform than a simulated reference home. The HERS Rater uses the results from the analysis to identify the most-cost effective energy efficiency upgrades that will achieve an Index of 80 or lower (for PSNH's Traditional - Non Geothermal Program Track) or an Index of 65 or lower (for PSNH's Geothermal Program Track) for the homebuilder's consideration.

2. Complete On-Site Mid Construction Home Inspection and Testing

On-site home inspections and testing is conducted by an accredited HERS Rater to verify that the home is built to the agreed specifications and will earn the ENERGY STAR® label. You will be responsible for contacting your assigned rater to schedule testing for your home.

An optional inspection is highly recommended, but not required, for homebuilders new to ENERGY STAR®. This optional inspection takes place before insulation is installed to identify and address potential problem areas such duct sealing of the HVAC system and air sealing of the building shell. The home may not meet ENERGY STAR® standards if these items are not identified and addressed early during the construction process.

The first mandatory on-site inspection is conducted after the insulation is installed before drywall to verify the completion of the Thermal Bypass Inspection Checklist. The Thermal Bypass Inspection Checklist is a visual inspection of framing areas and inspection of insulation so that the air and thermal barriers are continuous and complete. Each home must pass the Thermal Bypass Checklist, however precedence must be given to state, local and regional codes as well as product manufacturers' warranty.

3. Conduct Final On-site Home Inspections and Complete Home Energy Rating

The final mandatory inspection consists of a blower door test (to test the leakiness of the house) and a duct blaster test (to test the leakiness of the ducts if present). Using data from these tests, your HERS Rater will determine the final HERS Index score for the home. If the home meets all of the requirements of the Program it then becomes certified as an ENERGY STAR® Qualified home. At this time, the HERS Rater is responsible for providing you with an ENERGY STAR® certificate and label.



The ENERGY STAR® Label

PSNH's ENERGY STAR® Homes Program - Traditional Track (non-geothermal)



Procedures to Follow to Receive Your PSNH Incentive for Building an ENERGY STAR® Qualified Home (Traditional Track)

1. Contact a Program Approved HERS Rater (see ATTACHMENT A for a list of raters - fees paid by PSNH)

Your rater will utilize a copy of your house plans and other information that you provide to conduct a preliminary performance modeling of your home. Based on the results, your rater will provide feedback and recommendations that if implemented will likely ensure that your home will meet at least the Program minimum performance guidelines. Following the plans evaluation, two on-site inspections will be conducted: a mid-construction site-visit and then a final inspection and blower door test. The mid-construction site-visit (after insulation but before drywall) helps to ensure that your house is being built according to plan. The final inspection and blower door test is conducted to determine the air leakage of the home and to determine the actual HERS score (Home Energy Rating System) of your home. In order to qualify for PSNH's ENERGY STAR® Homes - Traditional Track Program rebates, the home must achieve a HERS Index score of 80 or better (lower is better) - each point below 100 on the HERS Index represents 1% better energy performance than a reference home built to NH Residential Energy Code.

2. Project Enrollment Form (see enclosed form)

PSNH requires that ALL projects be enrolled in the Program by submitting a completed **Project Enrollment Form**. By signing this agreement, the builder and/or homeowner acknowledge acceptance of Program requirements; primarily the responsibility of ensuring that the home will be built according to approved specifications (both building AND equipment). Additionally, the Project Enrollment Form acts as an incentive offer and "earmarks" the estimated rebate for your project.

3. Incentive Payment Processing

Processing of payment will not begin until your home's construction is complete including the final testing, rating, and certification of the building. Your incentive payment will be processed upon receipt of the final HERS report documenting a HERS score of 80 or better. The HERS rater will submit the necessary paperwork to PSNH for incentive payment. Receipt of your incentive check can take up to 4-6 weeks after all documents are received.

2009 ENERGY STAR® Homes Program - Traditional Track Incentive Calculation

ENERGY STAR Product Rebates		
ENERGY STAR Qualifying Appliances		
• Dishwasher, Clothes Washer, Refrigerator		\$25 for each appliance
ENERGY STAR Qualifying Lighting		
• Lighting Fixtures (hard-wired)		\$25 / fixture
• CFLs (screw-in compact fluorescent lamps)		Installed at no cost by utility
ENERGY STAR Qualifying Thermostats		\$25 per thermostat
Performance Rebate Schedule		
ENERGY STAR Builder Incentive:	Single-Family	Multi-Family *
HERS Index 80 (NH ENERGY STAR minimum level)	(1 - 4 units)	(5+ units)
Base Incentive per Unit:	\$500	\$300
Additional Incentive per Index Point below 80 per Unit	\$50	\$25
Example: A Single Family Home with a HERS Index of 67 would earn an incentive of: \$1,150		
Base incentive of \$500 plus an Additional Incentive of (80-67=13) * \$50 = \$650.		
Example: A 10 unit Multi-Family Project with a HERS Index of 67 would earn an incentive of: \$6,250		
Base incentive of \$300/unit plus an Additional Incentive of (80-67=13) * \$25 = \$325/unit. [\$300/unit + \$325/unit = \$625/unit] x 10 units = \$6,250 total.]		
* Multi-Family is defined as 5 or more units in a common building.		
Maximum Rebate per Unit		
	Single-Family	Multi-Family *
	(1 - 4 units)	(5+ units)
The MAXIMUM Rebate per Unit is:	\$2,500	\$1,300

PSNH's ENERGY STAR[®] Homes Program - Geothermal Track



Procedures to Follow to Receive Your PSNH Incentive for Building an ENERGY STAR[®] Qualified Home (Geothermal Heat Pump Track)

1. Contract the services of a Program Approved HERS Rater (see Attachment A for a list of raters)

Your rater will utilize a copy of your house plans and other information that you provide to conduct a preliminary performance modeling of your home. Based on the results, your rater will provide feedback and recommendations that if implemented will likely ensure that your home will meet at least the Program minimum performance guidelines. Following the plans evaluation, two on-site inspections will be conducted: a mid-construction site-visit and then a final inspection and blower door test. The mid-construction site-visit (after insulation but before drywall) helps to ensure that your house is being built according to plan. The final inspection and blower door test is conducted to determine the air leakage of the home and to determine the actual HERS score (Home Energy Rating System) of your home. In order to qualify for PSNH's ENERGY STAR[®] Homes Program - Geothermal Track incentives, the home must achieve a HERS Index score of 65 or better (lower is better) - each point below 100 on the HERS Index represents 1% better energy performance than a reference home built to NH Residential Energy Code.

2. Select a Geothermal Heat Pump Distributor & Installer

A geothermal heat pump distributor's role is to help you choose and design a geothermal system that is best suited for the size of your new home as well as its heating and cooling requirements. This process of "right-sizing" the geo system to your home's heating and cooling needs is done through a process using a **Manual J Form** (or equivalent). They will also need to provide you with geothermal heat pump equipment testing results once installation is complete (**COP or coefficient of performance report**). PSNH requires both of these forms in order to process a rebate. PSNH does not endorse particular vendors, however, your geothermal heat pump must be both ENERGY STAR[®] and ARI rated (ARI, Air-Conditioning and Refrigeration Institute). See www.energystar.gov and www.ari.org for more information. You are encouraged to seek out an experienced geothermal designer, distributor and installer. A properly designed and installed system is crucial to maximizing the benefits of the geothermal heat pump. ** Check with your geothermal installer regarding complying with the NH Department of Environmental Services requirement to file a "**REGISTRATION FORM FOR SINGLE FAMILY RESIDENTIAL GEOTHERMAL AND GROUND SOURCE HEAT EXCHANGE SYSTEMS**". **

3. Project Enrollment Form (see enclosed form)

PSNH requires that ALL projects be enrolled in the Program by submitting a completed **Project Enrollment Form**. By signing this agreement, the builder and/or homeowner acknowledge acceptance of Program requirements; primarily the responsibility of ensuring that the home will be built according to approved specifications (both building AND equipment). Additionally, the Project Enrollment Form acts as an incentive offer and "earmarks" the estimated rebate for your project.

4. Incentive Payment Processing

Processing of payment will not begin until your home's construction is complete; this includes the installation and testing of geothermal heat pump equipment. Once your installer has authenticated test results and submitted these to both you and PSNH, notify your home energy rater that your home is now ready for final inspection (reference step one above). Your incentive payment will be generated upon receipt of the final HERS report documenting a HERS score of 65 or better and with receipt of documentation noted in the steps listed above (Project Enrollment Form, Manual J Form, & COP report). Receipt of your incentive check can take up to 4-6 weeks after all documents are received.

ENERGY STAR[®] Homes Program - Geothermal Option Incentive Calculation

For projects that complete in 2009, incentives are based on conditioned square footage of living space as documented in the FINAL Home Energy Rating Report submitted by the Home Energy Rater. For projects that complete after 12/31/09 the incentive calculation method is due to change.

2009 Geothermal Track Incentive Calculation

Less than or equal to 2,400 square feet of conditioned area = \$2.25/square foot
Greater than 2,400 square feet of conditioned area = \$2.00/square foot
The incentive is capped at \$7,500 per home



ATTACHMENT A

PSNH ENERGY STAR® HOMES PROGRAM **APPROVED CERTIFIED HOME ENERGY RATERS (New Hampshire)**

- 1. Conservation Services Group**
40 Washington Street
Westborough, MA 01581
Contact: Tim McNamara
Phone: 508-836-9500
Cell: 508-326-3827
Fax: 508-836-3138
Email: Tim.McNamara@csgroup.com
Web: www.csgroup.com
Area Served:
Southern NH
(Keene to Concord to Rochester/Seacoast and south)
- 2. GDS Associates, Inc.**
1181 Elm Street, Suite 205
Manchester, NH 03101
Contact: Bruce Bennett
Phone: 603-656-0336
Cell: 603-860-0968
Fax: 603-656-0301
Email: bruce.bennett@gdsassociates.com
Web: www.gdsassociates.com
Area Served:
ALL of NH
- 3. Horizon – Residential Energy Services - NH, LLC**
26 South Main Street
Concord, NH 03301
Contact: Kevin Hanlon
Phone: 603-415-3990
Fax: 603-415-3991
Email: kevin@horizon-res.com
Web: www.horizon-res.com
Area Served:
ALL of NH

Frequently Asked Questions For PSNH's ENERGY STAR® Homes Program - Geothermal Option

What is geothermal heating?

"Geo" refers to the ground and "thermal" refers to heat. Geothermal refers to heating and cooling through the use of ground water in one of three common strategies (more about this later). The earth acts as a giant solar collector, a heat sink if you will. In New England, our ground water below the surface is roughly 50-55 degrees F virtually year round. Surprisingly, there is quite a bit of heat "trapped" in the underground water even at these temperatures. The challenge is to find a way to extract it. Instead of creating heat, a geothermal heat pump actually "moves" heat in the desired direction. In the winter it captures the latent heat stored in the ground using a compressor to "bump" up the temperature to the desired heating temperature in the home say, 70 degrees F. In the summer it captures the heat in your home and moves it back to the ground. A heat pump acts much like your air conditioner or refrigerator in the way that it moves or transfers heat. The only difference is that a heat pump can act in reverse mode as well.

The two most popular types of geothermal systems are open and closed loop systems.

Open loops take water from domestic water wells, circulates it through the heat pump then puts water back into the same well. This process lowers the temperature of well water about ten degrees. The coldest well water normally gets is 45 degrees.

Closed loops circulate a heat exchange fluid such as a water / food grade glycol solution or refrigerant through pipe that is buried below frost. The temperature below grade is around 50 degrees. The temperature of the fluid being circulated can get down to 32 degrees.

The open loop uses more pumping energy, but has higher temperature source (on average) increasing mechanical efficiency. The closed loop uses less pumping energy but performs the heat exchange with a lower temperature reducing mechanical efficiency.

What is a direct exchange geothermal system?

Direct exchange geothermal systems use copper earth loops to directly exchange heat with the earth, thus eliminating the water circulating loop and intermediate heat exchanger. These systems are most compelling when water production from wells is low and would require extra costs for geothermal application.

Why would I want to use geothermal?

Geothermal systems have lower ongoing operating costs than conventional fossil-fueled systems. Program participants (using PSNH's discounted HEATSMART Rate Option) average roughly 50 cents per square foot per year for heat, domestic hot water and air conditioning. Code built fossil fuel homes with air conditioning would expect to pay more than double that. Of course, there are the environmental benefits of using a 'recycled' heating source instead of a fossil fuel. Although electric rates fluctuate and tend to increase over time, they are not subject to the same market volatility and huge price spikes as fossil fuels.

What does it cost to install geothermal equipment?

The cost of a simple, single zone, forced hot air system should be around \$5,000 per ton (i.e., 12,000 BTU increment) for everything. Installed costs will vary with options, different types of distribution systems, and how you connect to the earth, i.e. closed loop, open loop.

What is a Home Energy Rating?

A home energy rating involves an analysis of a home's construction plans and onsite inspections. Based on the home's plans, a nationally certified Home Energy Rater uses energy efficiency modeling software to perform an energy analysis of the home's design. This analysis yields a projected, pre-construction HERS Index. Upon completion of the plans review, the Rater will work with the builder to identify the energy efficiency improvements needed to ensure the house will meet ENERGY STAR® performance guidelines. The Rater then conducts onsite inspections, typically including a blower door test (to test the leakiness of the house), a duct blaster test (to test the leakiness of the ducts), and an inspection to confirm that insulation has been properly installed and to ensure that common thermal bypasses are not present. Results of these tests, along with inputs derived from the plans review, are used to generate a final HERS Index for the home.

The HERS Index is a scoring system established by the Residential Energy Services Network (RESNET) in which a home built to the specifications of the HERS Reference Home (based on the 2004 International Residential Code which is similar in performance to NH's residential energy code, the 2006 International Energy Conservation Code) scores a HERS Index of 100, while a net zero energy home scores a HERS Index of 0.

The lower a home's HERS Index, the more energy-efficient it is in comparison to the HERS Reference Home. Each one-point decrease in the HERS Index corresponds to a 1% reduction in energy consumption compared to the HERS Reference Home. For example, a home with a HERS Index of 80 is 20% more energy-efficient than the HERS Reference Home and a home with a HERS Index of 65 is 35% more energy-efficient. Think of your home energy rating as a "miles-per-gallon" rating for your home, only a lower number is better. The ENERGY STAR® Home designation in New Hampshire begins at a rating of at least an 80 for the Traditional - Non Geothermal Program Track. However, the ENERGY STAR Homes Program - Geothermal Track requires a HERS Index of a 65 or better (again, lower is better).

What incentives does PSNH offer?

Incentives are structured to help cover some of the incremental costs associated with building to higher performance levels. For 2008, the ENERGY STAR Homes Program - Geothermal Track offers incentives based on the conditioned living area of the home at the following schedule:

Less than or equal to 2,400 square feet, the incentive is calculated at \$2.25 per square foot;

Greater than 2,400 square feet, the incentive is calculated at \$2.00 per square foot.

The incentive caps out at \$7,500.

In addition to the incentives offered by PSNH, qualified projects may be eligible for a federal tax credit of \$2,000 - ask your HERS rater for more information. Also see www.energystar.gov and search on "tax credits"

Why does PSNH offer these incentives?

Energy efficiency programs like these are made available to NH residents as a result of a state-wide utility partnership. This state-wide effort has resulted in NH residents and businesses saving millions of dollars each year on their energy bills. PSNH believes that this helps to boost the state's economy. Additionally, building energy efficient homes and installing energy efficient heating and cooling equipment results in reduced pollution and provides both health and environmental benefits – all of these help to further boost our economy and, better yet, improve quality of life. PSNH is proud to sponsor programs like these. (To see what other programs are available, please visit our website at www.psnh.com.)

What things should I focus on when building a geothermal ENERGY STAR Home?

There are three key attributes to a successful geothermal project.

- 1.** Build the best building shell you can; the biggest "bang for your buck" comes from a well insulated, well sealed building envelope. The ENERGY STAR[®] Homes Program takes a holistic perspective on achieving energy efficiency. Rather than mandating prescriptive requirements for insulations, windows, mechanicals etc...the house is looked at as a system of integrated components. Changing one part has implications for the whole system; however, this flexibility consistently yields homes that perform beyond the minimum energy efficiency requirements. Consult with your Home Energy Rater for design and construction ideas and analysis.
- 2.** Properly installed geothermal equipment can deliver \$3.00 worth of heat or more for every \$1.00 of electricity put into the system because they "move" heat, rather than "make" heat as in a fossil-fueled system. Make sure you have a competent team of experienced geothermal designers and installers who are committed to quality and energy efficiency.
- 3.** Plan to take advantage of PSNH's HEATSMART Rate Option which gives qualifying customers a discount on their separately metered geothermal heat pump's energy usage. Currently, the discount is approximately 23% based on rates in effect as of January 01, 2008. See the PSNH HEATSMART Info Packet for more information and for an Application Form.

What is the HEATSMART Rate Option?

PSNH's HEATSMART Program provides qualifying customers with a discounted kilowatt-hour rate for their separately metered electric space heating (and cooling if using a heat pump) and electric water heating.

In exchange for the lower rate, customers agree to allow PSNH to briefly interrupt service to their heating circuits during periods of high demand for electricity. An eligible backup heating source is required.

Customers who choose to take advantage of the HEATSMART rate option, are responsible for 1) the cost of hiring a licensed electrician to install a separate electrical panel and for the wiring of the electric heating circuits to this panel and 2) the cost associated with, if not already present, the back-up heating source.

Are there any special electrical service requirements for the HEATSMART Rate Option?

While there is no requirement to have any special electrical service, it is strongly recommended you look into your service requirements before ordering service. Most customers who build homes with geothermal heat pumps utilizing HEATSMART elect to take advantage of a 400 amp service entrance and have two 200 amp panels - one for the geothermal system the other for the balance of the home's loads.

(For more information refer to the HEATSMART Rate Option Info Packet, which includes FAQs, a Program Application, and a list of PSNH contacts, or calls our customer service reps. at 1-800-662-7764.)

Describe what building to a HERS Index Score of 65 means in terms of heat loss?

Heat loss for an ENERGY STAR[®] Home with a rating of 65 is normally 4 watts of heat loss, per hour, per square foot of living space. To convert heat loss in watts to the universal measurement of British Thermal Units (BTUs), the formula looks like: 6 watts X 3.413btus/watt = 20.47 BTU per square foot per hour.

Heat pumps are sized in tons which are 12,000 BTUs per hour of heating or cooling capacity.

So a 2,000 ft² house X 20.47 BTU/hr per ft² = 40,956 BTU per ft² per hour / 12,000 = 3.4 tons required to heat down to minus 3 degrees F outside, 70 degrees F inside (electric resistance coils in the ductwork plenum make up extra heat if the geo heat pump cannot provide adequate heating, generally if it's colder than say minus 3 degrees F outside). Rounding up to the next incremental size unit yields a 4 ton unit for a typical 2,000 ft² home.



PSNH's ENERGY STAR Homes Program Traditional and Geothermal Tracks



2009 Project Enrollment Form

PROGRAM ENROLLMENT: (please select the Program Track that the project is applying for):			
<input type="checkbox"/> Traditional Track (ALL heating systems except for Geothermal Heat Pump or <input type="checkbox"/> Geothermal Heat Pump Track			
Please indicate which most accurately describes your role in this project. I am the:			
<input type="checkbox"/> Owner --> <input type="checkbox"/> my builder / general contractor is listed below <input type="checkbox"/> acting as my own GC			
<input type="checkbox"/> Builder --> <input type="checkbox"/> building for client <input type="checkbox"/> building home on spec			
<input type="checkbox"/> Developer or <input type="checkbox"/> Other: _____			
BUILDER INFORMATION			
Company Name:		Contact Name/Title:	
Street Address:		City:	State: Zip:
Telephone Number:	Email Address:	SS # or Fed. Tax ID #:	
HOMEOWNER INFORMATION (if known)			
<input type="checkbox"/> Check if homeowner contact info is same as Builder above.			
Name:			
Mailing Street Address:		City:	State: Zip:
Telephone Number:	Email Address:	SS # or Fed. Tax ID #:	
INCENTIVE RECIPIENT INFORMATION			
Generally, the incentive goes to the "decision maker" for the project, the person making the decision to and paying for building to a higher performance standard. Check one.		<input type="checkbox"/> Builder <input type="checkbox"/> Homeowner Federal Tax ID # (or S.S. #) REQUIRED	
PROJECT INFORMATION			
Development / Subdivision Name & Town (if applicable): _____			
Project / Site Manager: (name) _____ phone: _____			
Property Address: _____			
The property enrolled is a (check one): <input type="checkbox"/> new - (see below) <input type="checkbox"/> complete gut-rehab of existing - (see below)			
<input type="checkbox"/> single family home <input type="checkbox"/> modular home <input type="checkbox"/> duplex / triplex / quad <input type="checkbox"/> multi-family (5+ units) --> # of units _____			
Est. ft ² of conditioned living area: _____		Home Energy Rater: _____	
Construction start date: _____		Completion date (estimated): _____	
For Geothermal Heat Pump Projects ONLY:			
Geothermal Heat Pump (Distributor): _____		(Installer): _____	
Will the project be applying for PSNH's HEATSMART Rate Option? <input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> Not Sure			
- if YES be sure to complete and submit PSNH's HEATSMART Application Form			

I have read and understand the Program Requirements, Terms and Conditions accompanying this form. Please enroll the property above for services in PSNH's ENERGY STAR Homes Program.

Signature: _____ Date: _____

Print Name: _____

*** The incentive offer associated with this Application is good through the end of 2009. ***

Return completed Enrollment Form to: PSNH, Attn: Tom Belair, PO Box 330, Manchester, NH 03105-0330

For internal use only	Approved by: _____	Date: _____
-----------------------	--------------------	-------------