

New Jersey Clean Energy Programs 2001 Program Plan

RESIDENTIAL ELECTRIC HVAC PROGRAM

Overview

The Residential Electric HVAC Program offered by PSE&G, GPU, Conectiv, and Rockland Electric Company aims to improve the efficiency of new central air conditioners and heat pumps. It promotes both the sale of high efficiency equipment and improvements in sizing and installation practices that affect operating efficiency. The long-term goal is to transform the market to one in which quality installations of high efficiency equipment are commonplace. To achieve this goal, the program must overcome a number of important market barriers. Key among these are: (1) split incentives (between builders and homebuyers and between owners and renters); (2) consumers lack of information on the benefits (both energy and non-energy) of efficient equipment and quality installations; (3) lack of training for HVAC contractors on key installation issues and approaches to “selling” efficiency; and (4) consumers inability to differentiate between good work and poor work or between quality contractors/technicians and those less skilled. The program employs several key strategies to overcome these barriers:

- Substantial incentives for the sale or purchase of high efficiency equipment for which documentation of proper sizing and installation is provided;
- Aggressive consumer marketing campaign on key elements & benefits of efficiency;
- Direct marketing to HVAC distributors and contractors through “circuit riders”;
- Training of HVAC contractors on key elements of quality installations;
- ENERGY STAR sales training for contractors (i.e. on how to sell efficiency);
- Promotion of HVAC technician certification; and
- Promotion of significant increases in minimum federal efficiency standards.

Target Market/Eligibility

The program targets all residential dwellings (whether existing or new) into which a new central air conditioner or heat pump is being installed. Some utilities may provide integrated shell/HVAC incentives for new construction. In such cases, a utility will pay *either* the integrated incentive *or* the HVAC incentive, but not both.

Efficiency Measures/Standards

The program promotes two efficiency tiers for central air conditioners and heat pumps:

Tier 1: SEER 13, EER 11 and (in the case of heat pumps) HSPF 8

Tier 2: SEER 14, EER 12 and (in the case of heat pumps) HSPF 8.5

In addition (i.e. under either tier), documentation of proper sizing and installation of qualifying high efficiency equipment must be submitted. In the case of units installed in

new homes, this will mean (a) submission of Manual J sizing calculations, (b) documentation of proper charging, and (c) documentation that airflow is within the range recommended by manufacturers (i.e. between 350 and 450 cfm/ton). In the case of units installed in existing homes, this will mean (a) submission of Manual J sizing calculations, (b) documentation of proper charging, and (c) submission of measurements of actual airflow rates. Depending on the results of market research and analysis of program data, airflow requirements for existing homes may be tightened (e.g. to same as new construction requirement) in 2001 or subsequent years.

In either 2001 or 2002, the utilities will explore whether to begin promoting duct sealing. Individual utilities may also elect to offer supplemental incentives for ground source heat pumps.

Incentives

Statewide incentives for high efficiency central air conditioners and heat pumps will be as follows:

Minimum Efficiency Standards ¹			Incentives	
SEER	EER	HSPF	Central A/C	Heat Pumps
13.00	11.00	8.00	\$370	\$460
14.00	12.00	8.50	\$550	\$710

Statewide incentives for ground source heat pumps include:

Ground Source Heat Pump	13 EER	\$580/ton
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Incentives may be payable to the consumer, the HVAC contractor or the builder. Incentive levels may be reduced in future years if the program proves effective in overcoming market barriers and significantly increasing market shares for high efficiency equipment and quality installation practices.

Joint/Coordinated Delivery

All electric utilities will meet regularly to both coordinate the development of a consistent program design and ensure that it is implemented in a consistent fashion across the state. As noted above, the utilities will use identical program eligibility requirements, efficiency standards and incentive levels – all promoted through a single, statewide rebate form. They will also use identical inspection procedures (for quality control) and promote the same contractor certification mechanism. In addition, the utilities will jointly sponsor contractor training and jointly develop and implement both a marketing plan and an evaluation plan. The costs for such joint efforts will be allocated to individual utilities based on the number of residential customers that they serve.

¹ Note that rebates are also contingent on documentation of proper sizing and installation.

2001 Timeline/Milestones

Most utilities are already implementing many of the key elements of this Program.² The existing joint Program will continue with several modifications/enhancements noted in the Program design filed by the utilities and approved by the BPU. The utilities will jointly meet the following milestones for implementation of these enhancements:

- Issue the 2001 statewide rebate form by May 9, 2001;
- Complete comprehensive 2001 marketing plan by June 15, 2001;
- Finalize plan for promoting certified HVAC contractors and hire a vendor to begin implementing the plan by July 31, 2001;
- Develop the curriculum that will be used (ENERGY STAR or otherwise) and announce initial schedule of residential HVAC contractor sales training classes by October 31, 2001; and
- Hire independent vendor to begin statewide Program process evaluation by December 30, 2001.

Performance Indicators

The following criteria will be used to judge performance:

- Market share for properly installed, high efficiency central A/Cs and heat pumps;
- Customer awareness of the benefits and key elements of efficient equipment and quality installations;
- Number of HVAC technicians/contractors with training in key elements of quality installations (e.g. sizing, charging, airflow, duct design); and
- Number of certified HVAC technicians/contractors.

2001 Program Goals

The Program has several inter-related goals for the 2001 Program year. Chief among these are to:

- Increase the number of central air conditioner and heat pump rebates to 15,600 statewide (up from approximately 13,800 in 2000);
- Train at least 600 HVAC technicians on either Manual J load calculations (including use of software applications), proper charging and airflow, and/or technical material that must be understood to pass the North American Technician Excellence (NATE) certification test;
- Generate at least 10,000 consumer requests for information on electric HVAC efficiency and/or copies of education materials;
- Request that the US Environmental Protection Agency increase the ENERGY STAR standard for electric central air conditioners and heat pumps to one

² Rockland Electric has not previously offered this Program.

consistent with the New Jersey Program's minimum energy efficiency standards (this will likely only be accomplished by working with other regional and national allies such as NEEP, CEE, EHCC, NRDC, and the California and New York utilities); and

Minimum Requirements for Program Administration

The utilities must do each of the following:

- Collectively implement all elements of the Program in a consistent manner across the entire state;
- Collectively meet at least four of the five milestones identified above;
- Collectively train at least 400 HVAC technicians in the areas identified above; and
- Individually achieve the following rebate participant numbers (66% of Program goal):

PSE&G	GPUE	Conectiv	RECO
4,400	4,500	1,400	130

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RESIDENTIAL GAS HVAC PROGRAM

Overview

The Residential Gas HVAC Program offered by PSE&G, New Jersey Natural Gas, Elizabethtown Gas, and South Jersey Gas aims to improve the efficiency of new gas heating systems, primarily by promoting the sale and purchase of ENERGY STAR furnaces and boilers. It may also promote the sale and purchase of high efficiency gas water heaters. The long-term goal is to transform the market to one in which high efficiency equipment becomes the market standard. The program must overcome several market barriers to achieve this goal. Key among these are: (1) consumers lack of information on the magnitude of the benefits of efficiency; (2) HVAC contractors lack of skill/tools for “selling” efficiency; (3) split incentives (both between builders and homebuyers and between owners and renters; and (4) higher costs related, in part, to lower sales volumes for high efficiency equipment. The program employs several key strategies to address these barriers:

- Substantial incentives for the sale and purchase of ENERGY STAR-rated heating equipment and high efficiency water heaters, steadily declining over time as the program places greater emphasis on marketing;
- Aggressive consumer marketing campaign on the benefits of efficiency;
- Direct marketing to HVAC distributors and contractors”;
- ENERGY STAR sales training for contractors (i.e. on how to sell efficiency); and
- Promotion of significant increases in minimum federal efficiency standards.

Target Market/Eligibility

The program targets all residential dwellings (whether existing or new) into which a new gas furnace, boiler or water heater is being installed. Some utilities may provide integrated shell/HVAC incentives for new construction. In such cases, the utility will pay *either* the integrated incentive *or* the HVAC/water heater incentive, but not both.

Efficiency Measures/Standards

The program promotes heating equipment meeting the ENERGY STAR efficiency standard (i.e. minimum AFUE of 90% for furnaces and 85% for boilers). It may also promote gas water heaters with an Energy Factor of at least 0.62. If program funding permits, the programs will also promote ENERGY STAR-rated programmable thermostats. In either 2001 or 2002, the utilities will explore whether to begin promoting duct sealing.

Incentives

The gas utilities are already implementing several key elements of this Program, including the offer of consumer rebates for high efficiency equipment. However, neither the minimum efficiency standards nor the rebate levels are currently consistent across all utility service territories. Given the need to give significant advance notice of rebate

changes to HVAC distributors and contractors, the existing utility rebate structures will remain in effect through July 31, 2001. Thereafter, the utilities will all adopt and begin using the following rebate schedule:

Equipment	Minimum Efficiency ENERGY STAR	Rebate Level
Furnace	ENERGY STAR – i.e. 90% AFUE or greater	\$300
Boiler	ENERGY STAR – i.e. 85% AFUE or greater	\$300
Water Heater	0.62 Energy Factor or greater	\$50

Incentives for qualifying furnaces and boilers will gradually decline to the neighborhood of \$100 after four years. If the program promotes duct sealing, incentives for such a measure will be based on an assessment of what is needed to overcome market barriers. Incentives may be payable to the consumer, the HVAC contractor or the builder.

Joint/Coordinated Delivery

All gas utilities will meet regularly to both coordinate the development of a consistent program design and ensure that it is implemented in a consistent fashion across the state. As noted above, the utilities will use identical program eligibility requirements and efficiency standards. Beginning in 2001, they will also offer identical incentive levels promoted through a single, statewide rebate form. In addition, the utilities will jointly sponsor contractor sales training and jointly develop and implement both a marketing plan and an evaluation plan. The costs for such joint efforts will be allocated to individual utilities based on the number of residential customers that they serve. Several program elements (e.g. evaluation, contractor outreach, duct sealing) may be implemented in conjunction with the electric HVAC program.

2001 Timeline/Milestones

The utilities are already implementing many of the key elements of this Program. The existing Program will continue with several modifications/enhancements noted in the Program design filed by the utilities and approved by the BPU. The utilities will jointly meet the following milestones for implementation of these enhancements:

- New Program launch: issue joint announcement to HVAC industry of new statewide efficiency standards and rebate levels by May 9, 2001;
- Issue new statewide rebate form by June 30, 2001;
- Complete comprehensive Program marketing plan by July 31, 2001;
- Begin Program outreach to HVAC contractors and distributors by September 30, 2001;
- Develop the curriculum that will be used (ENERGY STAR or otherwise) and announce initial schedule of HVAC contractor sales training classes by October 31, 2001;
- Complete consumer education brochure by October 31, 2001; and

- Hire independent vendor to begin statewide Program process evaluation by December 15, 2001.

Performance Indicators

In the first year, the ability to meet the milestones identified above will be the sole measure of the utilities’ performance. In subsequent years, the following criteria will be used to judge performance:

- Market share for high efficiency gas furnaces, boilers and water heaters;
- Customer awareness of the benefits of efficient equipment; and
- Number of HVAC technicians/contractors that have received ENERGY STAR sales training.

2001 Program Goals

The Program has several inter-related goals for the 2001 Program year. Chief among these are to:

- Provide at least 8,400 rebates for ENERGY STAR qualified furnaces/boilers;
- Provide sales training to sales representatives of at least 50 HVAC contractors;
- Make initial Program outreach visits (to explain and promote the Program, including sales training) to at least 100 of the 350 largest HVAC contractors; and
- Initiate (if feasible) a process for regular tracking of distributor equipment sales to New Jersey contractors, as a means of obtaining data (both statewide and within regions of the state) on market shares for energy efficient residential HVAC equipment.

Minimum Requirements for Program Administration

The utilities must do each of the following:

- Collectively implement all elements of the new Program in a consistent manner across the entire state;
- Collectively complete all activities listed under the timelines and milestones above within 60 days of the target date, with at least five of the seven completed by the target date;
- Hold at least one HVAC contractor sales training class; and
- Individually achieve the following furnace/boiler rebate participant numbers (66% of Program goal):

PSE&G	NJNG	Elizabethtown	SJG
2,700	1,100	1,100	700

New Jersey Clean Energy Programs

2001 Program Plan

RESIDENTIAL AIR CONDITIONING CYCLING LOAD CONTROL PROGRAM

Overview

Through the Residential Air Conditioning Cycling Load Control Program, certain utilities (i.e., GPU Energy, PSE&G, and Conectiv) will continue to use air conditioner cycling strategies to provide capacity relief on days of system peak. By using radio-activated relays, system operators will selectively cycle air conditioning equipment through a variety of operating strategies, which are designed to optimize system load and lower the peak demand while minimizing the impact on the customer. The short duration of such load cycling periods (generally fifteen (15) minutes of each half-hour when activated) minimizes the impact of the cycling on the customer's comfort.

In the PSE&G program, radio receiver switches have been installed on more than 141,315 central air conditioners, heat pumps (or in the thermostats which control them), and qualifying water heaters (when accompanied by a central air conditioner or heat pump).

GPU Energy has been offering this service to eligible customers since 1992 and to date has over 66,000 outdoor units installed and over 18,600 thermostat load control receivers installed under DSM programs.

Conectiv has over 24,000 active participants in the program and has installed radio receiver switches on more than 33,000 central air conditioners, heat pumps, and water heaters.

The utilities agree that load control programs are not to be expanded under the SBC.

Target Market/Eligibility

PSE&G will continue to operate the program with existing participants and will focus on retaining those customers in the program. New participants will be added each year only to the extent that it is necessary to maintain the current level of system peak demand relief. The program is targeted to all customers who have central air-conditioning.

For GPU Energy the program targets residential customers in the GPU Energy New Jersey southern area service territory, who have central air conditioners and/or central heat pumps. New participants will be added each year only to the extent that it is necessary to maintain the current level of system peak demand relief.

For Conectiv the program is currently in maintenance mode, and is closed to new participants.

Eligible Measures

PSE&G - This program installs radio receiver on/off switches on central air conditioners, heat pumps and electric water heaters.

GPU Energy - GPU Energy, at no charge, will install a radio receiver switch in the form of a programmable thermostat in each participant's home.

Conectiv - New installations are not allowed.

Customer Incentives

PSE&G - Program participants will receive \$6.00 a month for each of the four summer months (June-September) in each year that they participate, regardless of how often their central air conditioners/electric heat pumps are cycled.

GPU Energy - If it becomes necessary to enroll new program participants to replace others that drop out of the program, GPU Energy will offer a programmable thermostat for either their air conditioner or heat pump as an incentive. Customers previously enrolled in the program and who have an outdoor control device will receive an incentive payment of \$24.00 for each cooling season. Customers participating in this program will receive an additional \$24.00 annual incentive payment if they elect to allow GPU Energy to also cycle their electric water heater, provided they remain a program participant. Customers with outdoor control devices that fail will be offered a replacement outdoor control device, not a thermostat.

Conectiv - Residential customers receive \$1.50 credit per appliance and the commercial and industrial participants (accounts) receive a \$1.50 credit for each KW of controlled load. The credits are provided to participants in the months of June, July, August and September. When there is a cycling period, the participants receive an additional \$1.50 credit for that cycle period.

Joint/Coordinated Delivery

There will be no joint or coordinated delivery. The utilities will each operate their own programs.

2001 Timeline/Transition Plan

Initiatives generally represent a continuation of previously approved service offerings. Therefore, no transition plan is required.

Evaluation

PSE&G and GPU will complete impact evaluations of their programs in the year 2001.