



New Jersey

BOARD OF PUBLIC UTILITIES, OFFICE OF CLEAN ENERGY



Helping New Jersey lead the nation toward a cleaner future.

NEW JERSEY'S CLEAN ENERGY PROGRAM

2004 ANNUAL REPORT



New Jersey's
Clean Energy
PROGRAM™

Your Power to Save

njcleanenergy.com

New Jersey Board of Public Utilities
Office of Clean Energy

contents

| | |
|--|----|
| Letter from the Governor | 1 |
| Message from NJBPU President | 2 |
| The Power of New Jersey's Clean Energy Program | 3 |
| Overview | 5 |
| Program Goals and Savings..... | 8 |
| Program Implementation Update | 10 |
| Program Governance..... | 17 |
| Financial and Savings Data | 19 |

For more information about
New Jersey's Clean Energy Program,
visit:

www.njcleanenergy.com

NEW JERSEY'S CLEAN ENERGY PROGRAM 2004 ANNUAL REPORT



State of New Jersey
OFFICE OF THE GOVERNOR

Dear Friend,

Clean energy is vitally important to sustaining our heritage as the Garden State and our ability to compete in a global marketplace. As many of you have noted over the past year, rising fuel prices affect the bottom line of our businesses as well as our household budgets. Consider also that burning fossil fuel to generate electricity or power our lives contributes to the air pollution and the greenhouse gases that endanger our resources from the New Jersey Highlands to the Jersey shoreline. As our energy needs expand to support a growing economy and industrious spirit, it is critical that we adopt clean-energy solutions that not only save energy and reduce our costs but also protect public health and our environment.

I am proud that New Jersey is paving the way for the nation in adopting forward-looking clean energy policies and programs. New Jersey is one of the few states in the nation to offer its residents, businesses, schools and communities attractive incentives, rebates and financing for energy-efficient and renewable energy technologies. Clean energy technologies such as solar electricity can significantly reduce and stabilize our energy costs while providing broad economic benefits such as creating high-tech jobs, decentralizing our energy supply, lessening the risk of cascading power outages and reducing our grid's vulnerability to terrorism or accidental damage. Most importantly, clean energy technologies offer us the opportunity to protect our heritage while moving towards a prosperous future.

I hope you will find the 2004 New Jersey Clean Energy Annual Report a practical resource to help you take advantage of a number of ground-breaking programs and initiatives. Please join us as we continue to make our State a clean energy leader.

With regards,

A handwritten signature in black ink that reads "Richard J. Codey".

Acting Governor Richard J. Codey



Acting Governor
Richard J. Codey



Message from Jeanne M. Fox, President New Jersey Board of Public Utilities

It's one thing to set a goal, but quite another to advance towards reaching it. In the past year, New Jersey has seen unprecedented growth in moving towards our goal of establishing a vibrant market for energy-efficiency and renewable energy technologies. Through New Jersey's Clean Energy Program, our policies and programs are reducing market barriers to make clean energy technologies accessible and affordable for all New Jersey ratepayers. Together we are reducing harmful impacts from fossil fuel energy, while bolstering infrastructure, service and reliability for our residents.

Our achievements in 2004 have received national recognition and established New Jersey as a national clean energy leader. Most notable is the five-fold increase in consumer demand and installation of solar electric systems that have made New Jersey one of the leading and perhaps fastest growing market for solar energy. All across the state, businesses, school districts and residents are taking advantage of our programs promoting solar energy as a viable, affordable energy source. In 2004 alone, nearly 300 New Jersey residents, businesses and public buildings installed solar electric systems. Equally important were the thousands of New Jersey consumers and businesses who installed energy-efficient lighting, heating and cooling systems.

In 2004, New Jersey's Clean Energy Program delivered energy savings equivalent to the annual electricity requirements of about 46,000 New Jersey homes. Moreover, our energy savings and associated emission reductions increased significantly above the levels achieved the previous year. However, in order to continue to meet our ambitious clean energy goals, we will need to engage more residents, businesses and communities in efforts to reduce energy use, save on costs and lower emissions associated with energy use.

I hope you find the 2004 New Jersey Clean Energy Annual Report a useful resource for finding programs that are available to you. Together, we have the power to make New Jersey the clean power state and lead the nation towards a bright, clean energy future!

New Jersey's Clean Energy Program - Your Power to Save.

A handwritten signature in black ink that reads "Jeanne M. Fox".

Jeanne M. Fox, President
New Jersey Board of Public Utilities



www.njcleanenergy.com

The Power of New Jersey's Clean Energy Program

Lower Electricity Demand and Costs

Electricity prices in New Jersey, as in other places, historically tend to spike during times of peak demand. During these times, typically on the hottest summer days when air conditioning is in high use, electricity suppliers are forced to run the most expensive and inefficient power plants in order to meet demand and avoid power outages. Lowering electrical usage during times of peak demand can help to lower electricity costs for all customers.

New Jersey's Clean Energy Program initiatives not only save energy, but also focus on saving energy during times of peak demand:

- ❖ Installing energy-efficient air conditioning systems designed to use less energy has a direct impact on reducing peak load
- ❖ Measures such as high-efficiency lighting and motors save energy all year-round, including times of peak demand
- ❖ The peak output from photovoltaic (solar) systems occurs coincidentally with times of peak electrical demands
- ❖ The appliance cycling program directly reduces load by approximately 173 MW with the flip of a switch at times of peak demand on the electric power system

Overall, 2004 initiatives reduced peak electric demand by a total of 254 MW; and natural gas initiatives focused on reducing usage during times of peak gas demand, which tend to be during cold-weather months.

A Stronger Economy

When New Jersey's businesses and residential customers save money on their electric and natural gas bills, the entire State benefits. Residential customers who spend less on energy have more dollars available to spend on other things. Business customers who reduce their energy bills enjoy lower operating expenses, improved profitability and gain a competitive advantage over businesses with higher energy costs. In addition, dollars spent on energy efficiency decrease the number of dollars flowing to out-of-state businesses, since New Jersey has no local sources of fossil fuels. New Jersey's Clean Energy Program uses local businesses to deliver energy efficiency and renewable energy to customers; purchasing from local energy resources has an economic multiplier effect that strengthens New Jersey's overall economy.

Less Pollution

By both reducing energy use and promoting renewable sources of energy generation, New Jersey's Clean Energy Program reduces the need to generate electricity and burn fossil fuels, in turn eliminating pollution that would have resulted from added electric generation or natural gas usage. The benefits of these initiatives continue for the life of the measures installed, with estimated lives that range from six years to as long as 25 years. Thus, New Jersey's Clean Energy Program benefits the State's residents and businesses through substantial environmental and public health improvements, plus lower energy bills and a stronger economy. The total reductions in carbon dioxide emissions resulting from New Jersey's Clean Energy Program in 2004 are equivalent to taking 3,800 cars off the road for an entire year. These emission reductions will reduce our State's contribution to greenhouse gases, smog and acid rain.

In 2004, New Jersey's Clean Energy Program delivered enough energy savings to meet the electricity needs of a community of 46,000 homes ... an achievement based on individual residents and businesses making powerful choices to save energy, reduce cost and protect the environment.

New Jersey's Clean Energy Program offers a comprehensive suite of programs that make clean energy technologies affordable and accessible to all New Jersey ratepayers including residential customers, businesses, schools and local governments:

Home Energy Analysis

An online tool to help residential customers understand their home energy use and take steps to save energy and save money. The analysis is linked to incentives and ENERGY STAR rebates.

New Jersey ENERGY STAR®

Public education about home energy efficiency and appliance and lighting rebates through major retailers.

New Jersey ENERGY STAR Homes

Energy-efficient new construction that targets Smart Growth Areas.

Warm Advantage and Cool Advantage Programs

Promote energy-efficient heating and cooling equipment in homes.

Customer On-Site Renewable Energy Program

Rebates up to 70 percent of the installed cost of solar, small wind and sustainable biomass systems.

New Jersey Comfort Partners

Improves energy affordability for income-eligible households.

New Jersey SmartStart Buildings Program

Provides incentives and technical assistance for high-efficiency lighting, heating and cooling equipment, motors, etc. for schools, commercial buildings, industrial buildings and processes and government.

Combined Heat and Power (CHP) Program

Offers incentives to purchase and install various types of CHP units to qualifying customers.

Clean Energy Financing for Schools & Local Governments*

Financial incentives and low-interest financing for local governments and schools that combine energy-efficiency and renewable energy projects.

Renewable Energy Project Grants & Financing*

Competitive financing and incentives for up to 20 percent of project costs for projects larger than 1 MW.

Renewable Energy Business Venture Assistance*

Technical assistance and venture capital funding for businesses.

*Offered in partnership with New Jersey Economic Development Authority (NJEDA)

Overview

New Jersey's Clean Energy Program provides a wide array of financial and other incentives that encourage the installation of energy-efficient and renewable energy technologies. These initiatives help customers conserve energy, reduce costs and generate electricity using clean, renewable sources of energy.

In 2004, the New Jersey Board of Public Utilities (BPU) approved a total funding level of \$745,000,000 for the years 2005 through 2008 for its energy-efficiency and renewable energy initiatives. This represents an increase of over \$250,000,000 above the funding levels approved for the first four years of the Program and will result in a substantial increase in benefits delivered by New Jersey's Clean Energy Program, including lower energy costs for the State's residents and businesses and cleaner air.

Renewable Energy Sources

Over the past several years, New Jersey's Clean Energy Program has laid the groundwork for the development of a vibrant, statewide renewable energy industry. In addition to the financial incentives and consumer rebates provided through New Jersey's Clean Energy Program, new efforts include: the adoption of interconnection and net metering rules; the implementation of a Solar Renewable Energy Certificate (SREC) Program which provides owners of solar electric systems credits for generating emission-free energy and a basis to sell the renewable energy credits; and adoption of renewable energy portfolio standards (RPS) that require suppliers of electricity to purchase a certain percentage of their electric power from renewable energy systems. The BPU has also begun a process by which it will consider increasing RPS requirements to 20 percent by 2020.

Customer On-site Renewable Energy (CORE) Participants

| Year | Committed | Actual |
|------|-----------|--------|
| 2001 | 45 | 6 |
| 2002 | 59 | 46 |
| 2003 | 156 | 58 |
| 2004 | 587 | 284 |

2004 was a year in which these efforts began to pay dividends. The number of solar electric and other renewable energy systems installed soared from 58 in 2003 to 284 in 2004, and the number of applications for rebates to reduce installation costs increased from 156 in 2003 to 587 in 2004. Further, these efforts are gaining national recognition, with New Jersey becoming known as the solar capital of the nation.

SEIA President Rhone Resch stated:

"New Jersey's model is far and away the best framework for a successful program - you can see that when the barriers are removed, renewable energy can provide a significant portion of our energy needs. We encourage other states to adopt this proven model for a flourishing, well-regulated solar energy market."

The Solar Energy Industries Association (SEIA) recently congratulated New Jersey for the installation of its 200th solar system noting that, "The Garden State has produced a booming solar market in record time, using well-planned financial incentives and, critically, a system of rules that makes it possible for solar consumers to hook their systems to the grid."

New Jersey's Clean Energy Program initiatives are also promoting other renewable energy technologies. The Community Energy Atlantic County Utilities Authority (ACUA) wind project has received permit approvals and is expected to be operational in Fall 2005. This five-turbine, 7.5 MW project will be the first wind farm in New Jersey and the largest coastal wind farm in the United States.

Energy-Efficiency Initiatives

New Jersey's Clean Energy Program has been nationally recognized for the development of innovative energy-efficiency initiatives. The success of these initiatives in 2004 resulted in the New Jersey Board of Public Utilities, Office of Clean Energy, receiving the ENERGY STAR "Partner of the Year Award for Excellence in Energy Efficiency and Environmental Education." This award, presented in March 2005, was jointly sponsored

Success Story

Whole Foods Market, Edgewater, NJ



When Whole Foods Market, the world's largest organic and natural foods supermarket, officially switched on their BP Solar Electric System on April 22, 2004 during Earth Day festivities, they became the first major food retailer in the Northeast to utilize solar energy as a power source. This commercial scale system, which consists of 14,000 square feet on the store's roof, is comprised of a 120 kilowatt solar array that generates electricity used onsite by the store.

This project is the result of a unique partnership and has helped Whole Foods Market take significant steps in resource conservation. The company partnered with BP Solar, Sun Edison and A-Net Energy for the installation. Additionally, the State of New Jersey and the BPU thru New Jersey's Clean Energy Program provided a \$500,000 rebate on the cost of the system.

"This innovative Program truly demonstrates how we as a business can be leaders in our community to help the environment and promote clean energy within our stores."

Christina Minardi,
Regional Vice President, Whole Foods Market

In addition to helping preserve the planet's natural resources and create an environmentally friendly shopping experience, the solar system will save energy and provide significant economic and environmental benefits. These benefits include:

- More than 2.2 million kilowatt hours produced and saved over 20 years
- More than 1,650 tons of CO₂ emissions avoided – the equivalent of removing 440 cars from the roadways
- Reduced impact on our country's power grids

by the U.S. Environmental Protection Agency (EPA) and the Department of Energy (DOE). In past years, both the Residential HVAC and Residential New Construction Programs received national recognition for their innovative designs.

The energy-efficiency initiatives continued strong patterns of growth in 2004:

- ❖ A record 5,974 new homes were built and certified to New Jersey ENERGY STAR Home standards, representing over 16 percent of all new homes built in New Jersey.
- ❖ Almost 2,000,000 high-efficiency lights and fixtures were sold or distributed in New Jersey. These high-efficiency lights use two-thirds less energy and last up to 10 times longer than standard incandescent light bulbs.

These are only two examples of the success of the energy-efficiency initiatives - more are described in detail below.

Additional Successes

New Jersey's Clean Energy Program also assists the State's neediest customers through the Low-Income Program (Comfort Partners), which installs energy-saving measures at no cost to the customer. These services help low-income customers lower their energy bills, improve indoor comfort and increase home safety.

Combined Heat and Power

Another 2004 launch was the Combined Heat and Power (CHP) initiative for commercial and business customers, which provides financial incentives for CHP installations which enhance energy efficiency through on-site power generation that utilizes waste heat. CHP systems will reduce emissions and strengthen the transmission system by locating distributed generation throughout the grid. In 2004, over \$4,000,000 in commitments were made for 24 CHP projects scheduled to be completed in 2005.

2004 NJCEP Participants:

In addition to the accomplishments noted above in the new homes and energy-efficient lighting sectors, other Program achievements included:

- ❖ 26,345 New Jersey residents received rebates for the purchase of high-efficiency heating and cooling equipment to reduce energy use and costs

- ❖ 6,706 low-income families participated in the Comfort Partners Program and received energy-efficiency home improvements at no cost
- ❖ 6,600 businesses participated in the SmartStart Buildings Program to lower their energy costs and installed measures that will save on their business operating costs
- ❖ 284 schools, businesses and residents installed solar and other renewable energy systems that will generate clean, emission-free electricity and reduce energy costs for years to come

Overall, the energy savings plus the renewable energy generated from projects installed in 2004 will save over 335,000 MWh of electricity and 432,000 Dtherms of natural gas per year, enough to meet the electric needs of a community of 46,000 average homes and the natural gas needs of over 4,300 average gas heated homes.

Energy Savings Continue to Grow

Since New Jersey's Clean Energy Program was launched in April of 2001, it has evolved and continued to grow. The total energy savings and associated emission reductions produced by New Jersey's Clean Energy Program in 2004 continued the trend of increased savings each year compared to the previous year. The table on the next page, which provides a comparison of the annual energy and emission savings since 2001, demonstrates the significant gains the Program has achieved in influencing businesses and homeowners throughout the State to invest in energy efficiency and renewable energy.

Success Story

C&I Construction

In early 2002, the Jewish Community Center of Atlantic County determined that their existing facility required renovation and expansion. Their design firm proposed that the Center consider the *New Jersey SmartStart Buildings* Design Support approach to evaluate various energy-efficiency designs for the facility. Field surveys were performed to determine what existing equipment could be used and what required replacement.

An energy study was prepared in 2002 that evaluated a number of options. In 2004, the Center went forward with the installation of a number of recommended measures including:

- ◆ Lighting systems upgrades
- ◆ High-efficiency heating, cooling and ventilation equipment
- ◆ Window treatments
- ◆ Improvements to the indoor pool dehumidification/heating system

Annual energy savings attributed to the high-efficiency design are estimated to be 256,000 kWh and 10,700 Therms of natural gas, which will reduce the Center's energy bills by over \$32,000 per year. With the \$87,900 in incentives the Center received from *New Jersey SmartStart Buildings*, the project should pay for itself in a little over two years, while the annual energy savings continue.



Success Story

ENERGY STAR Products Promotion

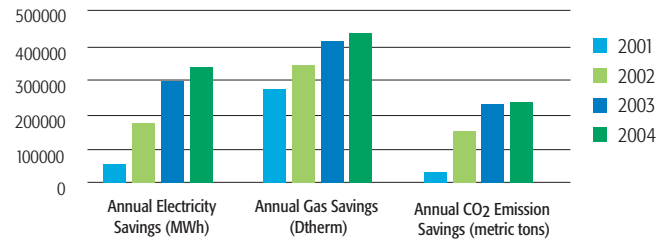
Thomas R. Cohen, Director of Sales for Greenlite Lighting Corporation, wrote to thank New Jersey's Clean Energy Program for offering the opportunity to partner in the ENERGY STAR Lighting promotion. Mr. Cohen stated he believed the Program was a "fantastic success" and that it allowed Greenlite to:

- ◆ Expand energy-saving lighting into the Shop Rite grocery chain (one of the largest in the northeast), not only in the promotion of CFLs but also in making them the first grocery chain to promote an ENERGY STAR light fixture.
- ◆ Expand energy-saving lighting into the Rite Aid drug chain (one of the largest in the northeast), in the promotion of CFLs, becoming the first drug chain to promote an ENERGY STAR light fixture and making their stores a real "Energy Saving Outlet."
- ◆ Partner with Family Dollar stores, thus promoting CFLs to an "underserved" market that otherwise might never have the opportunity to realize the benefits of energy-efficient lighting.



Efficient equipment and practices put into effect in 2004 will continue to save energy for an average of 15 years. This year's results are in addition to the energy savings achieved in 2001, 2002 and 2003. Combined, four years of Program activities are resulting in lifetime energy savings of 11,394,158 MWh of electricity, 32,832,132 Dtherms of natural gas and 89,646 MWh of electricity generated through renewable technologies. These initiatives have also reduced electric demand by 254 MW, eliminating the need to site, construct and operate a mid-sized power plant.

Annual Energy and CO2 Savings



As residents and businesses throughout the State improve their competitive position by investing in technologies that reduce their energy costs over the long term, New Jersey will benefit from New Jersey's Clean Energy Program activities for many years to come.

Program Goals and Savings

As a Nation, the United States, which represents only 5 percent of the world population, accounts for 25 percent of the total energy consumed worldwide. Yet less than 2 percent of our energy needs come from renewable energy resources. This is a meager amount compared to European countries like Denmark, Germany and Spain that derive more than 15 percent of their energy needs from renewable energy resources. New Jersey is leading the nation as one of 16 states to set clear goals to increase the use of clean energy through the use of renewable energy and energy-efficient resources. The following summarizes the overall Program goals adopted by the BPU and progress to date in achieving such goals:

Goal #1: On April 23, 2003, the Governor's Renewable Energy Task Force released a detailed report recommending over one dozen policies designed to accelerate the development of renewable energy in New Jersey. The Task Force recommended that the BPU increase the annual RPS requirements for Class I renewable energy among retail electric suppliers to 4 percent by 2008 doubling the requirements for renewable energy in effect at the time. The Task Force also recommended setting a goal of 120,000 MWhs of new solar photovoltaic power and specific policies designed to achieve the goal. The revised RPS percentages, including a carve-out for solar generated electricity, were incorporated into rule revisions published in the New Jersey Register in October 2003.

Progress Toward Achievement of Goal: The accelerated RPS percentages were adopted by the BPU in April 2004 for implementation beginning with the reporting year which began June 1, 2004. The BPU developed an Internet-based system designed to issue and track solar renewable energy certificates and facilitate compliance with the RPS. The New Jersey Solar Renewable Energy Certificate (SREC) Program went online in August 2004 with initial trading of SRECs beginning in October 2004.

Goal #2: By December 31, 2008, install 300 MW of Class I renewable electric generation capacity in New Jersey, of which a minimum of 90 MW will be derived from photovoltaics.

Progress Toward Achievement of Goal: Through the end of 2004, 76 MW of Class I renewable energy had been installed, including 3.7 MW of photovoltaics. Therefore, an additional 134 MW of Class I renewables and 86.3 MW of photovoltaics must be delivered by the end of 2008.

Goal #3: For every percentage increase in funding compared to 2003 funding levels, the goal is to increase energy savings over 2003 levels by the actual percentage increase in funding, plus 10 percent. This goal is designed to meet future growth goals in electric and natural gas usage through energy efficiency and renewable energy such that overall usage remains at 2002 levels.

Progress Toward Achievement of Goal: 2004 funding for energy-efficiency initiatives increased by approximately 9 percent over 2003 funding levels. Therefore, the 2004 goal was to increase energy savings by 19 percent over 2003 levels. Savings for electric-efficiency measures increased 15 percent from 285,576 MWh in 2003 to 328,512 MWh in 2004 and natural gas savings increased 5 percent from 410,517 Dtherms in 2003 to 432,758 Dtherms in 2004.

Given the high level of activity in the renewable energy initiatives and the number of committed projects, particularly in the CORE Program, these initiatives appear to be on track to meet the challenge of future renewable energy goals. Although these initiatives fell short of the energy-efficiency goal for both electric and natural gas savings, energy savings continued to grow compared to 2003 levels.

Success Story

Comfort Partners

Mrs. Rosia May Hodge is 85 years old and lives with her niece and her niece's son in Irvington, New Jersey. Because their gas-fired boiler had not been working properly, they relied on four electric space heaters and a gas oven for heat. The Comfort Partners Program installed a new boiler which will both substantially reduce heating costs and eliminate serious potential hazards associated with using the gas oven for heating, such as carbon monoxide poisoning and fire potential. The new boiler also increased the home's indoor comfort level, so family members no longer see their breath inside when it's cold outside!



The Hodge family in their home in Irvington, New Jersey

“When we first received the bill after the refrigerator was installed our bill was lower; and, after the boiler was installed, it went down even more. This was the best thing that could have ever happened to us. We are warm now and don't have to worry about the cold or suffering from carbon monoxide poisoning.”

Mrs. Rosia May Hodge

By December 31, 2008, six and one-half percent of the electricity used by New Jersey residents and businesses will be provided by renewable energy resources... of which a minimum of 4 percent or 300 MW will be from Class I renewable energy resources like solar, wind and low-impact hydropower and a minimum of 90 MW will be derived from photovoltaics....

Program Implementation Update

In 2004, the energy-efficiency initiatives were managed by the State's seven regulated gas and electric utilities, the New Jersey Department of Environmental Protection and the New Jersey Economic Development Authority (EDA). The renewable energy initiatives were managed by the BPU's Office of Clean Energy and EDA. The Office of Clean Energy will transfer the management of the energy-efficiency initiatives currently managed by the utilities and the renewable energy initiatives it manages to a third party entity in 2006. The following is a summary of the results of the initiatives that were implemented in 2004:

Residential Programs

In 2004, the energy-efficiency programs offered to residential customers included the Residential New Construction Program (*New Jersey ENERGY STAR Homes*), the Residential Electric and Gas HVAC Program (*Warm Advantage and Cool Advantage*), the ENERGY STAR Products Program (*New Jersey for ENERGY STAR*), the Residential Low-Income Program (*Comfort Partners*) and the Appliance Cycling Program.

New Jersey ENERGY STAR Homes is designed to increase the efficiency of residential new construction, with the long-term goal of transforming the market to one in which all new homes are built to the national ENERGY STAR Homes standard. To be eligible, a home must meet the New Jersey ENERGY STAR Homes performance standard, which provides savings up to 30 percent on consumers' heating, cooling and water heating costs. The Program also requires the home be located in a designated Smart Growth area to be eligible for incentives.

Since New Jersey ENERGY STAR Homes was launched in 2001, it has been coupled with an extensive outreach effort which has resulted in participation by many of New Jersey's largest builders, as well as many small and mid-size builders. A record 5,974 new homes were built and certified to New Jersey ENERGY STAR Homes standards in 2004, representing over 16 percent of New Jersey's total new homes for the year.



Since 2001, over 17,609 New Jersey families have moved into homes that are certified as 30 percent more energy efficient.

In 2004, 6,526 new units were committed to be built to the New Jersey ENERGY STAR Homes standard. This represents 18 percent of the 36,037 permits issued in 2004; the number of committed homes in 2004 was lower compared to 2003 levels primarily due to the phase in of a new policy implemented in 2003 that limits program incentives to new homes located in Smart Growth areas.

New Jersey ENERGY STAR Homes built or enrolled in 2004 will result in 8,505 MWh of annual energy savings, which, when combined with the savings to be realized from those homes entered into the program in previous years, will grow to significant savings over the expected lifetime of the homes being constructed. The chart below summarizes these savings:

New Jersey ENERGY STAR Homes Program

2004 Actual Expenditures: \$21,736,000

Committed Expenditures: \$24,347,000

| Participants | | Market Share | | Annual Energy Savings Homes Certified in 2004 | | |
|--------------|-----------|--------------|-----------|---|--------|---------|
| Actual | Committed | Actual | Committed | MWh | kW | Dtherms |
| 5,974 | 6,526 | 16.6 % | 18.1 % | 4,551 | 14,869 | 183,693 |

Warm Advantage and Cool Advantage promote the purchase and the proper installation and use of energy-efficient residential heating and cooling equipment. The program is designed to transform the market to one in which quality installations of high-efficiency equipment are commonplace. Rebates under this program are available to promote the installation of qualified high-efficiency HVAC equipment, ENERGY STAR qualified heating systems and water heaters. The Cool Advantage

Program received national recognition from the American Council for an Energy-Efficient Economy (ACEEE) when it was recognized and profiled as an exemplary energy-efficiency program.

The box below shows the number of rebates paid for high-efficiency furnaces, central air conditioning systems, heat pumps and water heaters installed in 2004:

Warm Advantage and Cool Advantage Programs

High-Efficiency Equipment Installed 2004

| | |
|--------------------|--------|
| • Furnaces | 9,020 |
| • Central AC units | 16,986 |
| • Heat pumps | 339 |
| • Water heaters | 4,380 |

Gains in efficiency also result from the promotion of proper sizing and installation practices through contractor training sessions. During 2004, 1,103 HVAC technicians received sales and technical training. Of these, 251 technicians passed the test and were added to the North American Technician Excellence (NATE) air conditioning certification list. In addition, 76 electrical contractors and 50 gas contractors were added to the New Jersey list of NATE-certified technicians.

As a result of the success of these initiatives, New Jersey is a national leader in the market for high-efficiency HVAC systems. The State's share of high-efficiency air conditioning equipment (SEER 13 and higher) is estimated to be in excess of 50 percent, and the State's share of high-efficiency gas heating equipment is estimated to be in excess of 40 percent -- both well above national levels.

The chart below summarizes participation levels and annual energy savings for Warm Advantage and Cool Advantage:

Warm Advantage and Cool Advantage Programs

2004 Actual Expenditures: \$15,564,000

| Participants | Annual Energy Savings | | |
|--------------|-----------------------|--------|---------|
| | MWh | kW | Dtherms |
| Actual | 15,499 | 13,065 | 135,002 |

ENERGY STAR Qualified Products (New Jersey for ENERGY STAR) promotes the sale and purchase of ENERGY STAR qualified windows, lighting products and appliances.



Unity Church of Sussex County installed a 16.5 kW system at no up-front cost.

“It is time for people to consider how our actions affect the incredible gift that is our Earth. It is also our responsibility to treat Earth as the sacred home she is. We are lighting the way for the community, quite literally. On days our system produces more energy, the excess goes out to power the community. GreenFaith and Sun Farm Network are a demonstration of a new consciousness in the field of energy that is bringing us more into harmony with nature and God.”

Reverend Ross
 Unity Church of Sussex County
 Lafayette, New Jersey

In 2004, over 850 stores were enrolled in the ENERGY STAR Products Program, with over 1,500 retailers participating in one or more of the promotions. Point-of-purchase materials and sales training were provided to support retailers and contractors selling ENERGY STAR qualified products. The campaign also sponsored a co-op advertising component with industry allies.

The *ENERGY STAR Lighting Incentive Program* was launched in conjunction with the national *Change a Light, Change the World* campaign, sponsored by the U.S. Environmental Protection Agency (EPA) and Department of Energy (DOE). Designed to offer energy-efficient lighting to New Jersey consumers at special discounted prices, this campaign contracted with lighting manufacturers and retailer groups throughout the State. Retailers represented included all marketplace segments, including grocery, hardware, Do-It-Yourself (DIY), department, discount, wholesale clubs, drug stores, lighting showrooms, electrical supply houses and lumberyards.

The initiative focused on the sale of compact fluorescent lights (CFLs), which use 66 percent less electricity than standard incandescent light bulbs and last up to 10

times longer. It built on successes achieved in 2003 and resulted in the sale or distribution of 1,534,047 standard CFLs, 379,617 specialty CFLs and 99,021 high-efficiency lighting fixtures to New Jersey residents.

The ENERGY STAR Room Air Conditioner Rebate Program provided a \$25 rebate to 24,420 residents who purchased an ENERGY STAR qualified room air conditioner.

Through special limited time promotions the program also provided incentives on ENERGY STAR qualified clothes washers and thermostats. In 2004, rebates were paid for 3,681 clothes washers and 2,169 thermostats.

ENERGY STAR Products Program Results in National Award

In March of 2005, New Jersey Board of Public Utilities, Office of Clean Energy, received the ENERGY STAR Partner of the Year Award for Excellence in Energy Efficiency and Environmental Education. The award, sponsored by the U.S. EPA and DOE, was presented to organizations that have made outstanding contributions to reducing greenhouse gas emissions through energy efficiency. Of over 7,000 ENERGY STAR partners, only 50 organizations were selected to receive this award, based on their efforts to utilize energy-efficiency technologies, communicate the benefits of energy savings to consumers and businesses, and encourage others to partner with ENERGY STAR.

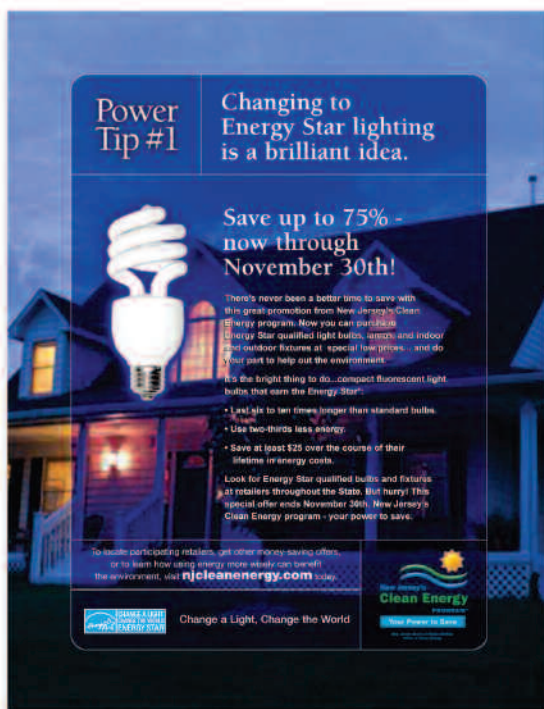
New Jersey Home Energy Analysis Program, a free online home energy audit tool, is now included as part of the ENERGY STAR Products Program. In 2004, 11,748 residents performed home energy audits, which provide customers with a do-it-yourself tool for estimating savings that can be achieved through the installation of various energy-efficiency measures and through the purchase of ENERGY STAR qualified products.

New Jersey ENERGY STAR Products Program

2004 Actual Expenditures: \$8,449,000

| Participants* | Annual Energy Savings | |
|-------------------------------|-----------------------|-------|
| | MWh | kW |
| Room AC: 24,420 | 1,377 | 1,441 |
| Lighting and Other: 2,017,832 | 95,947 | 5,089 |

*Participants equal number of room air conditioners rebated and the number of high-efficiency light bulbs and fixtures sold or distributed under the program



Look for *Change-A-Light* and other promotions online at www.njcleanenergy.com

The *Comfort Partners Program* has improved energy affordability for New Jersey low-income households who, by definition, spend a higher percentage of their income on energy. Comfort Partners provided energy savings, improved indoor comfort, improved home safety and reduced health hazards for 6,706 New Jersey low-income households during 2004. The program provided energy education to consumers and improvements to the thermal performance of homes. Energy savings were achieved through the installation of energy-efficient measures including air sealing against drafts, insulation and duct sealing, installation of high-performance products and appliances (such as CFLs and ENERGY STAR qualified refrigerators), and performance of health and safety testing to detect, reduce or prevent the existence of dangerous combustion by-products.

The Comfort Partners Program recently received national recognition from the ACEEE when it was recognized and profiled as an exemplary low-income energy-efficiency program in 2004. Through this recognition, the New Jersey Comfort Partners Program will serve as a model for other organizations to emulate when promoting energy-efficient technologies and practices specifically designed to serve the needs of low-income customers.

The Comfort Partners Program is complemented by the Weatherization Assistance Program, managed by the New Jersey Department of Community Affairs, which also delivers weatherization assistance services to low-income customers in the State. Efforts are underway to more closely align these two programs.

Recent efforts have also resulted in coordinating the BPU's universal service programs and the Comfort Partners Program. In the future, Comfort Partners will target and recruit high-usage customers who may be eligible to benefit from the Universal Service Fund, which assists low-income customers with their electric and gas bills and provides relief for customers in arrears. Also, the arrearage reduction component of the Comfort Partners Program is in the process of transitioning to becoming part of the Universal Service Fund.

Comfort Partners Low-Income Program

2004 Actual Expenditures: \$14,266,000

| Participants | | Annual Energy Savings | | |
|--------------|--------------|-----------------------|-----|---------|
| Low-Income | Senior Pilot | MWh | kW | Dtherms |
| 6,558 | 148 | 6,995 | 820 | 59,420 |

New Jersey's *Appliance Cycling Program* has been in place for over 10 years and has grown to include nearly 240,000 remotely controlled devices that can deliver approximately 173 MW of system load relief. The program results in direct benefits to utility customers through lower capacity costs, since the amount of capacity suppliers must purchase is reduced by the amount of capacity this program is capable of delivering, whether customers are actually cycled or not.

The Appliance Cycling Program has been used to provide both broad relief at times of system peak and localized relief on targeted transmission and distribution circuits. By using radio-activated relays, system operators selectively cycle equipment (primarily central air conditioning systems) through a variety of operating strategies designed to optimize system load and lower the peak demand while minimizing impact on the customer. Below is a summary of 2004 program results:

New Jersey Appliance Cycling Program

2004 Actual Expenditures: \$496,000*

| Participants | Devices | kW demand Reduction |
|--------------|---------|---------------------|
| 228,655 | 240,000 | 173,164 |

*As of June 2004 this program is no longer funded through New Jersey's Clean Energy Program

Three new residential energy-efficiency programs that were funded in 2004, the *Refrigerator Turn-In Program*, *State Technologies Advancement Collaborative (STAC) Evaluation* and the *Home Performance with ENERGY STAR Program*, were under development but not implemented in 2004.

Commercial Programs

The C&I Construction Program (*New Jersey SmartStart Buildings*) was designed to address key market barriers to efficient construction by targeting developers, designers, engineers and contractors in the commercial sector. Program offerings are available to schools, commercial, industrial, governmental, institutional and agricultural customers. The program includes both new construction and retrofits of existing buildings.

The program offers a wide variety of incentives. Rebates for measures (such as high-efficiency lighting, heating and cooling equipment and motors) are offered to help offset the incremental cost of this equipment. Design incentives and support are available to cover a portion of

the cost for additional energy-efficiency design services, and technical support is provided to help customers evaluate energy-efficiency options. In 2004, 6,690 customers, representing every segment of the commercial sector, participated in this program. The chart below identifies the measures installed in 2004:

New Jersey SmartStart Buildings

| Measures Installed - 2004 | |
|---------------------------|-------|
| • Prescriptive Lighting | 2,134 |
| • Lighting Controls | 143 |
| • Performance Lighting | 851 |
| • LED Traffic Signals | 37 |
| • VFDs | 77 |
| • Electric Chillers | 35 |
| • Gas Chillers | 3 |
| • Motors | 358 |
| • Gas Heating | 75 |
| • Gas Water Heaters | 9 |
| • Elect Unitary HVAC | 329 |
| • Geothermal | 10 |
| • Custom - Gas | 20 |
| • Custom - Electric | 94 |
| • Design Support | 33 |
| • Technical Assistance | 11 |
| • Total | 4,219 |

An important component of this program supports efficient design and construction in schools. The State has begun a \$10 billion school construction initiative, and New Jersey SmartStart Buildings is working to ensure that school districts take into consideration the life-cycle costs of energy design and equipment purchase decisions, not just up-front costs. The goal is to have designers make decisions that produce the lowest total operating costs over the life of the schools; incentives and energy savings more than offset any incremental up-front costs for high-efficiency construction.

A new C&I construction component, *Combined Heat and Power (CHP)*, was added in 2004. CHP provides financial incentives for CHP installations, which enhance energy efficiency through on-site power generation with recovery and productive use of waste heat. In 2004, over \$4,000,000 in commitments were made to 24 CHP projects that are expected to be completed in 2005.

The *Cool Cities Program*, implemented by the New Jersey Department of Environmental Protection (DEP) is designed to reduce cooling costs in specific neighborhoods through the planting of trees on city streets.

DEP's Community Forestry Program's "Cool Cities Program" was active during 2004 in eight New Jersey communities. In addition to the work that was accomplished during 2003 in Trenton and Paterson, during the latter part of 2004 an additional 560 trees were planted in Trenton and 927 in Paterson. Trees will be planted in Newark in 2005, as well as five additional cities: Elizabeth, Highland Park, Orange, Passaic, and Union City.

New Jersey SmartStart Buildings

2004 Actual Expenditures: \$30,199,000

Committed Expenditures: \$25,997,000

| | Expenses | | Participants | | Annual Energy Savings | | |
|--------------------------------------|---------------------|-----------|--------------|-----------|-----------------------|---------------|---------------|
| | Actual | Committed | Actual | Committed | MWh | kW | Dtherms |
| C&I Construction | | | | | | | |
| C&I New Construction | \$3,902,000 | | 176 | | 31,538 | 6,380 | 4,576 |
| C&I Retrofit | \$22,686,000 | | 3,563 | | 163,631 | 33,751 | 40,439 |
| New School Construction and Retrofit | \$3,073,000 | | 244 | | 8,975 | 3,199 | 9,629 |
| Combined Heat and Power | \$32,000 | | 0 | | 0 | 0 | 0 |
| Total | \$29,693,000 | | 3,983 | | 204,144 | 43,330 | 54,644 |



New Jersey Cool Cities Program

2004 Actual Expenditures: \$2,429,000

Committed Expenditures: \$382,000

| Trees Planted | Annual Energy Savings |
|---------------|-----------------------|
| 1,487 | TBD |

New *Pay for Performance* and *Special Studies Programs* that were funded in 2004 were under development but not implemented in 2004.

Renewable Energy Programs

The *Customer On-Site Renewable Energy (CORE) Program* provides rebates to customers who install renewable energy systems in their homes or businesses. In 2004, CORE experienced significant growth. Participants increased from 58 in 2003 to 284 in 2004. The number of projects approved but not installed at year-end also increased, with 587 projects totaling 27.9 MW committed at year-end.

In addition to incentives provided through the CORE Program, the BPU has implemented a number of other initiatives that support the development of a strong renewable energy industry in New Jersey. These initiatives include the development of standardized interconnection rules, allowance for net metering and the development of a renewable energy credit (REC) market. These initiatives, improved by the BPU in 2004, began to pay significant dividends immediately. The huge growth in the level of projects committed to in 2004, which resulted in over \$113,000,000 in commitments, has led the BPU to consider changes to the CORE program to ensure a balance between supply and demand for funds. A number of 2005 program changes are anticipated to address this issue.

The following table shows the costs and renewable generation for the CORE projects that received rebates in 2004.

Customer On-Site Renewable Energy Program

2004 Actual Expenditures: \$13,361,000

Committed Expenditures: \$113,612,000

| Participants | Installed Annual Renewable Energy Generation | |
|--------------|--|-------|
| Actual | MWh | kW |
| 284 | 6,515 | 2,644 |

The *Renewable Energy Business Venture Assistance Program* provides funding for renewable energy businesses in New Jersey with unique ideas for product or service innovations. In November 2004, the name of this program was changed from the *Renewable Energy Economic Development Program (REED)* to its current name, which better reflects the nature of the program.

In 2003, just under \$2,700,000 in grants were awarded to 10 renewable energy businesses as part of the Renewable Energy Economic Development Program. Several of these projects continued into and were paid in 2004. These grants are intended to promote renewable energy business development in the State. For the 2004 Renewable Energy Economic Development program solicitation, \$6,350,000 in recoverable grant funds were made available. The winning applicants will be required to pay back the money once their business venture starts generating revenue. Nine proposals have been submitted requesting a total of \$3,140,000. Approximately \$1,000,000 was expended on this program in 2004.

The BPU's *Clean Energy Project Financing Program* provides incentives for large, grid-connected renewable energy electric generation facilities. In 2002, five proposals submitted in response to a solicitation issued by the BPU were awarded funding. The awards are a combination of up-front development grants and production credits that will be paid during the first five years of operation. The solicitation sought to maximize installed capacity, energy production, diversity of tech-



New Jersey Institute of Technology, Newark, New Jersey

nologies and environmental benefits. Approximately \$181,000 was expended on this program in 2004.

As of the end of 2004, three projects awarded funding have gone to contract:

- ❖ Community Energy 7.5 MW Atlantic City Wind Farm. The Community Energy ACUA wind project has received permit approvals and expects to be operational in the fall of 2005. The five-turbine, 7.5 MW project will be the first wind farm in New Jersey and the largest coastal wind farm in the United States.
- ❖ Atlantic Renewable Energy Corporation received funding to conduct a feasibility study for off-shore wind energy and submitted a final report in November 2004. The study finds that there is sufficient wind resource, transmission infrastructure, support facilities and service industries to support off-shore wind power generation in New Jersey. The study also identifies the potential for impacts on wildlife and on human activities associated with such development that will vary depending on the size and location of specific projects. As discussed below, there is a moratorium on the development of off-shore wind projects pending the review of off-shore wind being conducted by the Blue Ribbon Panel created by Acting Governor Codey.
- ❖ Burlington County received funding to offset the cost of developing a 4.0 MW landfill gas-to-energy

project. The Office of Clean Energy is finalizing a contract with Burlington County.

Two new financing programs to be managed by the New Jersey Economic Development Authority (EDA), *Clean Energy Project Financing for Schools and Local Governments* and *Clean Energy Project Financing for Businesses*, were under development in 2004. These programs will provide grants and low-cost financing to projects that supplement the direct financial incentives provided through the other programs.

The *Renewable Energy Project Grants and Financing Program* provides grants and financing to encourage the development of large-scale renewable energy facilities greater than 1 MW in New Jersey. The name of this program was changed from the Renewable Energy Advanced Power Program (REAP) in November of 2004 to better reflect the nature of the program. Participation is available through a competitive solicitation process. The program is designed to provide seed grants and access to capital in order to make electricity generated by renewable sources cost-competitive with conventional power plants.

Two companies have applied for financing and funding. AC Landfill Energy, LLC, proposed a 1.6 MW project that consists of an internal combustion engine to burn landfill gas generated by an existing municipal solid waste landfill owned and operated by the Atlantic County Utilities Authority (ACUA). The facility will sell electricity to the wholesale market through the local utility. In January 2004, the project received conditional approval for a 20 percent grant of up to \$513,225 and approximately \$2,000,000 in financing. The project broke ground on October 12, 2004.

Ocean Energy Corporation proposed a 9.4 MW landfill gas-to-energy project to be located at the Ocean County landfill. It will be connected to the PJM Power Pool through an existing Jersey Central Power & Light Company power line. The project requested a 20 percent grant of up to \$2,970,000. Project approval is pending New Jersey BPU and DEP reviews.

Two additional renewable energy programs that were funded in 2004, the *Demonstration Project Program* and the *Manufacturing Incentive Program*, were under development but not implemented in 2004.

Program Governance

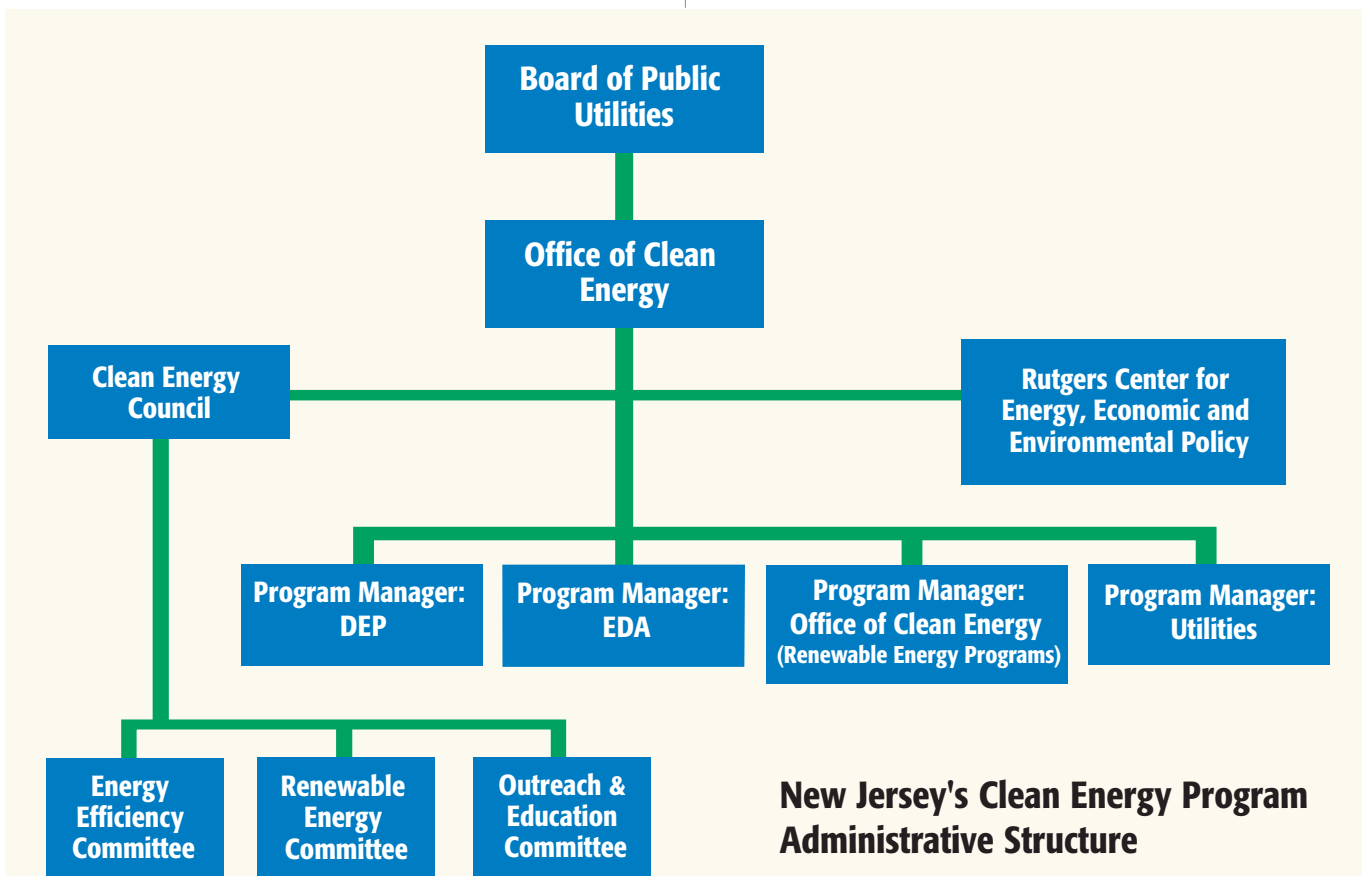
In 2004, the BPU continued to move forward with its plan to revise the administrative structure of New Jersey's Clean Energy Program. Several changes were designed to improve the efficiency of all Program operations.

In 2003, the BPU authorized the hiring of a fiscal agent to establish a trust fund to hold Program funds collected from utility ratepayers. In February 2004, the fiscal agent became operational, and the utilities have deposited all unspent funding with the fiscal agent. These funds are earning interest that will increase the level of funds available for programs and enable the BPU to direct funding to programs without regard to utility service territories. In 2004, the BPU authorized the transfer of the fund to the New Jersey Department of the Treasury's Office of Management and Budget, which now operates the fund.

The BPU continued to move forward with its plans to solicit competitive bids for the management of the programs. However, this effort was delayed and the BPU now anticipates that the transition to new program managers will occur in 2006.

In 2004, the BPU concluded its second "comprehensive resource analysis" proceeding as required by the Electric Discount and Energy Competition Act. The BPU continued to utilize the Clean Energy Council to provide advice and recommendations regarding the levels of funding and the programs to be funded. The BPU established funding levels for the years 2005 through 2008 and identified programs to be funded in 2005.

The BPU approved a funding level of \$745,000,000 for energy-efficiency and renewable energy programs for the four years from 2005 through 2008. This represents an increase of over \$250,000,000 above the funding levels approved for the first four years of the Program and will result in a substantial increase in the level of benefits delivered by the programs.



Program Evaluations

The two primary purposes for conducting evaluations and research regarding energy-efficiency and renewable energy programs are: 1) to reliably document program effects; and 2) to improve program designs and operations to be more cost-effective in obtaining energy savings. Evaluation and research activities are intended to provide a continuous feedback loop to policymakers, program administrators and program managers regarding the operations of the programs.

The BPU authorized several program evaluations that were conducted in 2004. These evaluations were primarily intended to assess market potential for energy-efficiency and renewable energy measures, assess the costs and benefits of the programs and to improve the efficiency of the operation of the programs.

KEMA, Inc., was engaged to assess the potential market for energy-efficiency measures. KEMA concluded that a substantial untapped market for energy-efficiency measures exists and that increasing the funding for energy efficiency from about \$85,000,000 per year to \$180,000,000 per year would increase the net benefits of the programs from \$1.8 billion to \$2.6 billion. Navigant Consulting, Inc., assessed the potential market and costs for various renewable energy technologies and determined that the BPU's goal of installing 300 MW of Class I renewable electric generation capacity in New Jersey by 2008, of which a minimum of 90 MW will be derived from photovoltaics, is achievable. Both the KEMA and Navigant market assessments were considered by the BPU in determining the level of funding for the years 2005 through 2008.

Navigant identified off-shore wind as a technology that could provide New Jersey with over 2,500 MW of renewably generated electricity by 2020. In December 2004, Governor Richard Codey established a Blue Ribbon Panel charged with identifying and weighing the costs and benefits of developing off-shore wind turbine facilities considering both the economic and environmental costs and benefits. The Blue Ribbon Panel will also consider the need for off-shore wind turbines and perform a comparison to other electric power sources.

A process evaluation of the renewable energy programs managed by the Office of Clean Energy was performed by Aspen Systems, Inc., in 2004. The report included a number of recommendations for improving the efficiency of the management of the programs, many of which have been or are being implemented by the Office of Clean Energy.

Rutgers Center for Energy, Economic and Environmental Policy (CEEPP) managed the evaluations discussed above and performed a number of other evaluations, including an Economic Impact Analysis of New Jersey's Proposed 20 percent Renewable Portfolio Standard (RPS). This analysis assessed the costs and benefits of raising the RPS from the existing level of 4 percent in 2008 to 20 percent by 2020. CEEPP also evaluated the environmental benefits that result from the renewable energy programs, evaluated the results of the 2003 programs and began a cost/benefit analysis of the energy-efficiency programs. All of the evaluation reports are available on New Jersey's Clean Energy Program website (www.njcleanenergy.com).

Stakeholders & Market Participants Working Together...

The Clean Energy Council (CEC) provides advice and recommendations regarding the levels of funding and the programs to be funded. In 2004, the CEC recommended and the Board approved a funding level of \$745 million for the years 2005 through 2008 for energy-efficiency and renewable energy programs. This represents an increase of over \$250 million above the funding levels approved for the first four years of the Program and will result in a substantial increase in the level of benefits delivered by the programs.

Financial and Savings Data

2004 Program Expenditures

The total statewide budget for New Jersey's Clean Energy Program for 2004 was \$197,340,000. The budget allocated \$117,290,000 to energy-efficiency programs and \$80,050,000 to renewable energy programs.

Actual spending for all programs was \$107,501,809 or 54 percent of the budget, which includes \$92,752,613 spent on energy efficiency and \$14,749,196 on renewable energy programs. In addition, commitments were made to projects for incentives that will be paid when the projects are completed in the next year or two that total an additional \$50,847 for energy-efficiency projects and \$114,503,400 for renewable energy projects. The tables below provide comparison of budgets to actual expenditures for each program:

Over 90 percent of the funds expended in 2004 were spent directly on incentives paid to customers or on measures installed in customers' homes.

2004 Energy-Efficiency Program Expenses

| <i>Program</i> | <i>Budget Expenses (000)</i> | <i>Actual Expenses (000)</i> | <i>Committed Expenses (000)</i> |
|---|------------------------------|------------------------------|---------------------------------|
| Residential HVAC – Electric & Gas | \$17,346 | \$15,564 | |
| Residential New Construction | \$22,754 | \$21,736 | \$24,347 |
| ENERGY STAR Products | \$10,023 | \$8,449 | |
| Residential Low-Income | \$15,133 | \$14,266 | |
| Appliance Cycling | \$935 | \$496 | |
| Refrigerator Turn-In** | \$2,500 | \$16 | |
| STAC Evaluation** | \$170 | \$1 | |
| Home Performance with ENERGY STAR** | \$1,000 | \$6 | |
| Subtotal: Residential | \$69,861 | \$60,534 | \$24,347 |
| C&I New Construction | \$3,317 | \$3,902 | \$3,418 |
| C&I Retrofit | \$21,773 | \$22,686 | \$15,505 |
| New School Construction & Retrofit | \$5,109 | \$3,073 | \$3,093 |
| Combined Heat and Power | \$5,000 | \$32 | \$4,101 |
| Cool Cities | \$3,000 | \$2,429 | \$382 |
| Pay for Performance** | \$5,000 | \$32 | |
| Special Studies/Pilot Studies | \$1,230 | \$8 | |
| Public Entities Financing** | \$3,000 | \$56 | |
| Subtotal: Commercial/Industrial | \$47,429 | \$32,219 | \$26,500 |
| Total Energy-Efficiency Programs | \$117,290 | \$92,753 | \$50,847 |

**2004 budgets for these programs were established by the BPU, but the programs were not implemented in 2004. Expenses for these programs were for program development.

The following chart summarizes 2004 renewable energy program expenditures:

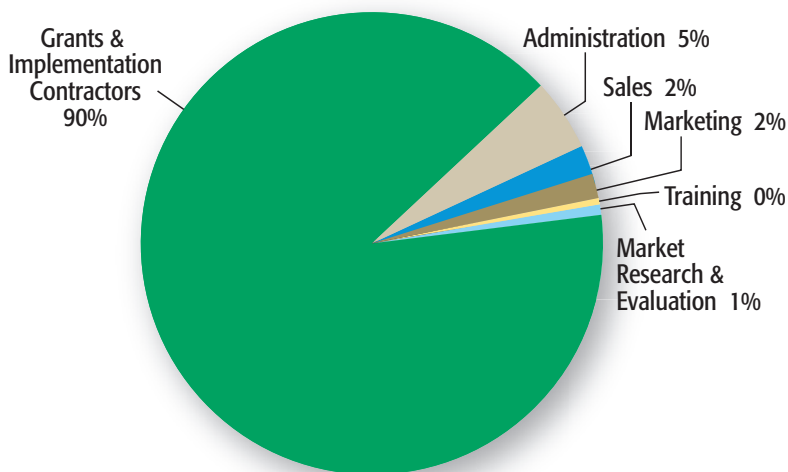
2004 Renewable Energy Program Expenses

| <i>Program</i> | <i>Budget Expenses (000)</i> | <i>Actual Expenses (000)</i> | <i>Committed Expenses (000)</i> |
|--|------------------------------|------------------------------|---------------------------------|
| Customer On-Site Renewable Energy (CORE) | \$45,200 | \$13,361 | \$113,612 |
| Grid Supply Program | \$2,000 | \$181 | |
| Renewable Energy Economic Development | \$6,350 | \$1,001 | \$378 |
| Demonstration Projects** | \$2,500 | \$16 | |
| Manufacturing Incentive** | \$2,000 | \$13 | |
| EDA Programs | | | |
| Public Entity Financing** | \$3,000 | \$32 | |
| Small Business Financing** | \$3,000 | \$32 | |
| Renewable Energy Advanced Power | \$16,000 | \$114 | \$513 |
| Total Renewable Energy Programs | \$80,050 | \$14,749 | \$114,503 |

**2004 budgets for these programs were established by the BPU, but the programs were not implemented in 2004. Expenses for these programs were for program development.

Over 90 percent of the funds expended were spent directly on incentives paid to customers or on measures installed in customers' homes. The following table shows expenditures broken out by each of the major cost categories:

Statewide Detailed Expenditures New Jersey's Clean Energy Program



In 2004, New Jersey's Clean Energy Program expended \$107,501,809 to provide New Jersey homes and businesses with services and financial assistance that generated 328,512 MWh of annual electricity savings, 432,758 Dtherms of natural gas savings and 6,515 MWh of electricity generated from clean, renewable sources of energy. The amount of electricity saved is enough to provide the annual average requirements of approximately 46,000 New Jersey homes. The programs also reduced demand on the electric grid by 254 MW. Further, in 2004, \$165,350,219 in commitments were made for projects to be completed during the next two years; these projects are expected to produce additional annual electric savings of 116,136 MWh, gas savings of 284,322 Dtherms and 46,045 MWh of renewable generation.

The Cost of Actual Energy Savings to the Customer

| Average Cost of Savings of New Jersey's Clean Energy Program | | Lifetime Savings From Measures Installed in 2004 | |
|---|--------------|---|------------|
| \$ Per kWh | \$ Per Therm | kWh | Therms |
| \$0.019 | \$0.28 | 4,391,767,000 | 81,078,000 |

The savings from measures installed in 2004 will continue throughout the lifetime usage of each measure. The table above summarizes the lifetime savings anticipated from measures installed in 2004 and the average cost New Jersey ratepayers paid for these long-term savings.

In addition to purchasing energy savings at a cost lower than the cost of purchasing an equivalent supply of electricity or natural gas, New Jersey's Clean Energy Program initiatives produce clear environmental and public health benefits. These include reduced emissions resulting from reduced electricity generation and natural gas that will not need to be burned. Customers that utilize the programs and install energy-efficiency or renewable energy measures benefit even more by lowering their annual energy costs.

The table below documents that New Jersey's Clean Energy Program produces significant energy bill reductions for the State's consumers. Over the years, New Jersey's Clean Energy Program – from the energy conservation programs in the mid-'80s to the mandatory Demand-Side Management (DSM) programs and Standard Offer Programs - have saved New Jersey residents and businesses over 37,000,000 MWh in reduced electricity use and over \$2 billion in energy costs. Growth in savings from energy-efficiency natural gas initiatives has also been substantial.

The savings identified in the table below accrue to New Jersey residences and businesses that installed energy-efficiency or renewable energy measures in 2004. The energy savings produced by these measures also produce savings on infrastructure costs, reduce congestion on transmission and distribution lines and increase reliability. Customer bill reductions enumerated in the table below do not include the environmental benefits due to reductions in air emissions, wastewater discharges and waste generated.

Overall Customer Bill Reductions Resulting from New Jersey's Clean Energy Program

| | Annual Energy Savings for 2004 Measures | Lifetime Energy Savings for 2004 Measures | Cumulative Lifetime Energy Savings 2001 through 2004 |
|---------------------------------------|--|--|---|
| Electricity (kWh) | 335,027,000 | 4,391,767,000 | 11,483,804,000 |
| Natural Gas (Therms) | 4,327,580 | 81,078,000 | 328,321,320 |
| | Annual Bill Reductions to New Jersey Energy Customers | Lifetime Bill Reductions to New Jersey Energy Customers | Cumulative Lifetime Bill Reductions to New Jersey Energy Customers |
| Electricity (kWh) @ \$0.10/kWh | \$33,502,700 | \$439,176,700 | \$1,148,380,400 |
| Natural Gas (Therms) @ \$1.00/Therm | \$4,327,580 | \$81,078,000 | \$328,321,320 |
| Total Customer Bill Reductions | \$37,830,280 | \$520,254,700 | \$1,476,701,720 |

2004 Energy Savings and Clean Energy Generation

The following table summarizes energy savings that resulted from the energy-efficiency initiatives implemented in 2004:

| Savings from 2004 Energy-Efficiency Initiatives | | | |
|--|----------------|---------------|----------------|
| | Actual | Committed | Total |
| Annual Savings from Measures Installed or Committed to in 2004 | | | |
| kWh | 328,512,000 | 116,136,000 | 444,648,000 |
| kW | 251,777 | 34,374 | 286,151 |
| Therms | 4,327,580 | 2,843,220 | 7,170,810 |
| Lifetime Savings from Measures Installed or Committed to in 2004 | | | |
| kWh | 4,308,771,000 | 1,761,814,000 | 6,070,585,000 |
| Therms | 81,078,000 | 51,268,540 | 132,346,540 |
| Cumulative Lifetime Savings from Measures Installed or Committed to (2001-2004) | | | |
| kWh | 11,394,158,000 | 6,339,485,000 | 17,733,643,000 |
| Therms | 328,321,320 | 350,289,080 | 678,610,410 |

The following table summarizes renewable energy generation that resulted from the renewable energy initiatives implemented in 2004:

| Electric Generation from 2004 Renewable Energy Initiatives | | | |
|---|------------|---------------|---------------|
| | Actual | Committed | Total |
| Annual Renewable Electric Generation from Measures Installed or Committed to in 2004 | | | |
| kWh | 6,515,000 | 46,045,000 | 52,560,000 |
| kW | 2,644 | 29,542 | 32,186 |
| Lifetime Savings from Measures Installed or Committed to in 2004 | | | |
| kWh | 82,996,000 | 858,320,000 | 941,316,000 |
| Cumulative Lifetime Savings from Measures Installed or Committed to (2001-2004) | | | |
| kWh | 89,646,000 | 1,164,002,000 | 1,253,648,000 |

Reduced Pollution

The following table summarizes the emission reductions resulting from the 2004 installation of energy-efficiency and renewable energy measures and the total emission reductions since the Program's inception in 2001:

| Emission Reductions – 2004 and Cumulative Since 2001 | | | | |
|--|-----------------|-----------------|-----------------|----------|
| | CO ₂ | NO _x | SO ₂ | Hg (lbs) |
| Annual Emission Reductions (Metric Tons) from Measures Installed in 2004 | 254,487 | 444 | 989 | 12 |
| Cumulative Lifetime Emission Reductions (2001-2004) | 9,680,336 | 15,988 | 33,929 | 409 |

For more information about
New Jersey's Clean Energy Program, visit:

www.njcleanenergy.com

or

www.bpu.state.nj.us

NEW JERSEY BOARD OF PUBLIC UTILITIES

Jeanne M. Fox, President
Frederick F Butler, Commissioner
Connie O. Hughes, Commissioner
Jack Alter, Commissioner

OFFICE OF CLEAN ENERGY

Michael Winka, Director
Mona Mosser, Team Leader, Energy Efficiency
Scott Hunter, Team Leader, Renewables
Anne Marie McShea, Team Leader, Marketing & Communications

Contact Information:

BOARD OF PUBLIC UTILITIES NEWARK OFFICE

Two Gateway Center (8th Floor)
Newark, NJ 07102
973-648-2026

OFFICE OF CLEAN ENERGY

P.O. Box 350
44 South Clinton Avenue
Trenton, NJ 08625
609-777-3300

DIVISION OF CUSTOMER ASSISTANCE

In New Jersey: 800-624-0241
Out-of-State: 973-648-2350

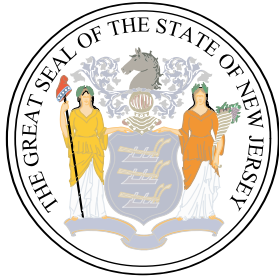
Toll-Free Number for Utility Complaints: 800-624-0241

Out-of-State: 973-648-2350

BPU Office of Clean Energy: 877-786-5278

Cable Complaint Toll-Free Number: 800-624-0331

You are Viewing an Archived Copy from the New Jersey State Library



Your Power to Save

njcleanenergy.com

*New Jersey Board of Public Utilities
Office of Clean Energy*

Your Power to Save – Energy, Money and the Environment

New Jersey's Clean Energy Program is a statewide Program administered by the New Jersey Board of Public Utilities that promotes energy efficiency and renewable energy for all New Jersey ratepayers, including residences, businesses, schools and municipalities.

For more information on how you can receive special rebates or incentives on clean energy technologies for your home or business, please visit:

www.njcleanenergy.com

NEW JERSEY'S CLEAN ENERGY PROGRAM

2004 ANNUAL REPORT