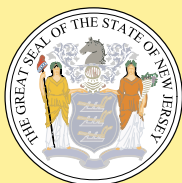




# 2 0 0 2   A N N U A L   R E P O R T



## A YEAR OF ACHIEVEMENT



Governor James E. McGreevey



New Jersey Board of Public Utilities

## NEW JERSEY BOARD OF PUBLIC UTILITIES

*Jeanne M. Fox, President*

*Frederick F. Butler, Commissioner*

*Carol J. Murphy, Commissioner*

*Connie O. Hughes, Commissioner*

*Jack Alter, Commissioner*

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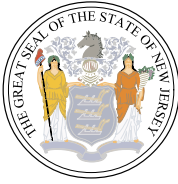
**For more information about the *New Jersey Clean Energy Program*:**

**[www.njcleanenergy.com](http://www.njcleanenergy.com)**

**or contact the New Jersey Board of Public Utilities,  
Office of Clean Energy:**

**[www.bpu.state.nj.us](http://www.bpu.state.nj.us)**

**NEW JERSEY CLEAN ENERGY PROGRAM 2002 ANNUAL REPORT**



*State of New Jersey*  
OFFICE OF THE GOVERNOR



Dear Friend,

For each of us, energy is critical – it warms our homes, fuels our cars and powers our economy. In New Jersey, we are developing a visionary blueprint that encourages the use of renewable sources, promotes affordability and reliability, creates jobs, and improves the quality of the air we breathe and the water we drink.

The New Jersey Clean Energy Program is a tool to build and deliver reliable energy capacity through efficiency and renewable technologies. The Program has already saved millions of kilowatt-hours of electricity and cubic feet of natural gas annually.

You will find the 2002 New Jersey Clean Energy Annual Report an excellent resource to learn more about the Clean Energy Program. The Report describes how you can take advantage of a number of clean energy programs, including the Comfort Partners Program – an initiative of which I am especially proud. In 2002 alone, this program helped nearly 6,000 of our most needy residents save over \$200 on their annual energy bill.

I invite you to join me, the New Jersey Board of Public Utilities and their Office of Clean Energy as we develop strategies and programs, in partnership with New Jersey utilities, businesses, environmental groups and others to make our State a leader in energy efficiency and renewable technologies. Together, we can make New Jersey the green power state!

With all good wishes,

A handwritten signature in black ink that reads "James E. McGreevey". The signature is stylized and includes a long horizontal flourish at the end.

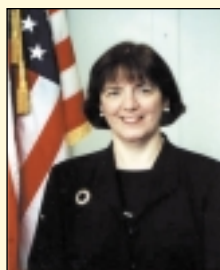
James E. McGreevey  
*Governor*



*Governor James E. McGreevey*

## NEW JERSEY CLEAN ENERGY PROGRAM 2002

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



Jeanne M. Fox

New Jersey has developed a comprehensive program to promote and advance renewable energy and energy efficiency for both electricity and natural gas. In a joint and coordinated manner, New Jersey State agencies, in partnership with our state energy utilities, energy businesses, business organizations and environmental organizations, have developed and are implementing several “tools” to help save energy and generate clean energy. These programs collectively lower the cost of energy to New Jersey residents and businesses, improve the State’s overall environmental quality, reduce the State’s greenhouse gas emissions and create high-tech jobs.

The initiatives include:

1. Goals set for the New Jersey energy programs in Governor James McGreevey’s Energy Summit on December 10, 2001, which included a focus on energy efficiency (EE) and renewable energy (RE).
2. New Jersey Board of Public Utilities (NJBPU or the Board) establishment of the Office of Clean Energy to focus on promoting and advancing EE and RE in New Jersey.
3. Governor McGreevey’s Renewable Portfolio Standards (RPS) Task Force recommendations for the following actions that he adopted on April 24, 2003:
  - a. Doubling the current Class I RPS from 2% to 4% for a total RPS of 6.5% by 2008;
  - b. Achieving a 20% Class I RPS goal by 2020;
  - c. Reaching a goal of 120,000 mWhs of photovoltaic electricity by 2008;
  - d. Developing a check-off program to expand the current funding for EE and RE;
  - e. Creating a sign-up program for green power;
  - f. Establishing a renewable energy certificates tracking and trading system with other PJM States and PJM that will help finance renewable energy projects; and
  - g. Developing reciprocal agreements with other states that have an equivalent RPS but are not in or selling electricity into the PJM grid.
4. The development of a \$60 million long-term financing program for RE and EE technology projects was begun through a partnership between NJBPU and the NJ Economic Development Authority that was announced by Governor McGreevey at his June 3, 2003 Business Energy Conference.
5. The development and award by the New Jersey Department of the Treasury with NJ TRANSIT, NJBPU and the New Jersey Department of Environmental Protection (NJDEP) of the third contract to purchase green power for state facilities. New Jersey is buying over 12% (over 100,000,000 kWh) of its electricity from green power producers certified as 100% renewable by Green E.
6. The establishment of an Environmental Disclosure label which requires all companies selling electricity for use by New Jersey customers to report to the customer the fuel mix and emissions generated to produce the electricity they are selling.
7. An \$8.6 billion school construction program directed by Governor McGreevey in Executive Order 24 to utilize the U.S. Green Building Council - Leadership in Energy and Environmental Design (LEED) rating system to maximize EE in the design, construction and operations of new schools.
8. The establishment by NJDEP in partnership with NJBPU and other state agencies of the first statewide greenhouse gas (GHG) reduction goal. The goal is a 3.5% reduction of the 1990 GHG emissions by 2005 or approximately 20.5 million tons. The majority of the reductions will be achieved by EE and RE measures including:
  - a. A commitment by all 55 College and University Presidents to help meet the GHG goal through EE and RE measures;
  - b. A commitment by J&J, Lucent, Schering-Plough, L’Oreal, DuPont, and Lakehurst Naval Station through assistance with PSE&G and Conectiv to help meet the NJ GHG reduction goal through EE and RE measures; and
  - c. A commitment by PSE&G to reduce their fossil fuel GHG emissions by 15% over their 1990 level by 2006.
9. The adoption by the New Jersey Department of Consumer Affairs (NJDCA) of updated energy codes for new residential, commercial, and industrial building construction.

## A YEAR OF ACHIEVEMENT

10. A working partnership between NJBPU and NJDEP with the New Jersey Higher Education Partnership for Sustainability, Partners for Environmental Quality, and Sustainable Schools Network/Global Learning to help promote GHG reductions through EE and RE measures in the higher education, religious and public school sectors.
11. Projects developed with the U.S. Department of Energy (USDOE) which are managed by the NJBPU Office of Clean Energy, are designed to complement the *New Jersey Clean Energy Program*.
12. The establishment of a societal benefits charge (SBC) that aids in funding energy efficiency measures and technologies and Class I renewable energy.
13. Another key indicator of success is that every project completed through the New Jersey Clean Energy Program represents New Jersey jobs. All projects include installations by energy service contractors, lighting contractors, electricians, plumbers or HVAC contractors. All totaled, these represent 56,881 New Jersey installations, a significant portion of which were installed by members of trade unions.

The SBC is the funding for the implementation of the *New Jersey Clean Energy Program*. The SBC was established through the enactment of the 1999 Electric Discount and Energy Competition Act, N.J.S.A. 48:3-49 et seq., (EDECA or the Act). The SBC is a non-bypassable fee assessed by the energy utilities at the point of use for both natural gas and electricity. The Act established this funding for a minimum of eight years. Every four years, through a proceeding and public hearing, the Board is to establish the four-year funding levels for the program. After eight years, the Board must determine the need for an additional four-year period. This first proceeding was initiated in February 1999.

The goals for the *New Jersey Clean Energy Program*, as set forth in the Act, are to establish programs that have environmental benefits over and above those of existing standard-offer programs, make energy service more affordable for low-income customers, and eliminate subsidies for programs that can be delivered into the market without SBC funding.

In its March 2001 Order, after numerous public meetings, a public hearing and consultation with the NJDEP, the

Board set the funding levels for the first three years, the programs to be funded, the funding allocation and the initial program administration.

The total funding was \$115 million for 2001, \$119.326 million for 2002, and \$124.126 million for 2003. The Order allocated the funding at 75% for energy efficiency programs and 25% for Class I renewable energy programs. In addition, the Order determined that \$15 million would be added to funding for the fourth year 2004, with the final funding to be determined by the Board after the lifting of the utilities' rate caps in August 2003.

The March 9, 2001 Order directed the utilities to administer the programs for one year. The utilities were directed to submit a Program Compliance Filing that was to include incentive levels and detailed program budgets for Board approval. The Board approved the compliance filing with certain modifications by Order dated August 15, 2001.

The Board retained consultants to assist in evaluating how best to continue the administration of the energy efficiency and renewable energy programs. There were four public hearings held during May 2002 and a number of interested party meetings to discuss concerns and recommended changes to the program. This information and input formed, in part, the Board's 2003 straw proposal for the *New Jersey Clean Energy Program* in its January 18, 2003 Order.

In its January 22, 2003 Order, the Board established the New Jersey Clean Energy Council (CEC) as advisors to the Board to recommend an administrative and fiscal management structure for the *New Jersey Clean Energy Program*. The objective of the CEC recommendations and advice is to help improve the efficiency of the overall program administration and fiscal management. The goal is to expand and improve the energy efficiency and renewable energy programs in 2004 in order to help New Jersey residents and businesses meet their energy needs in the most environmentally sound and cost-effective manner possible.

*Save energy - save money - protect the environment.*



BPU President Jeanne M. Fox

## 1. INTRODUCTION

The *New Jersey Clean Energy Program* provides financial and other incentives to the State's residential customers, businesses and schools that install high-efficiency or renewable energy technologies, thereby reducing energy usage, lowering customers' energy bills and reducing environmental impacts. The program is authorized and overseen by the New Jersey Board of Public Utilities (BPU). In 2002, it was administered by the State's electric and natural gas utilities. The program is designed to transform the market to one in which quality installations of high-efficiency equipment are commonplace and do not need to be encouraged with special events or rewarded by rebates. Overall, 2002 was a year of significant achievements. The *New Jersey Clean Energy Program* exceeded energy savings and customer participation goals for the year. Three

programs – the Residential Heating, Ventilation and Air Conditioning (HVAC) Program, the Commercial & Industrial (C&I) Unitary HVAC Program and the ENERGY STAR® Homes Program all received national recognition. The Customer-Sited Clean Generation Program had the most successful first-year results of any such program in the country. The success of these programs is also a success for New Jersey's environment, which benefits from a reduction in pollution, and for the State's economy, which is strengthened when people and businesses lower their energy costs and increase their buying power.

The table below summarizes program expenditures and the energy and emissions savings produced by measures installed and committed to in 2002.

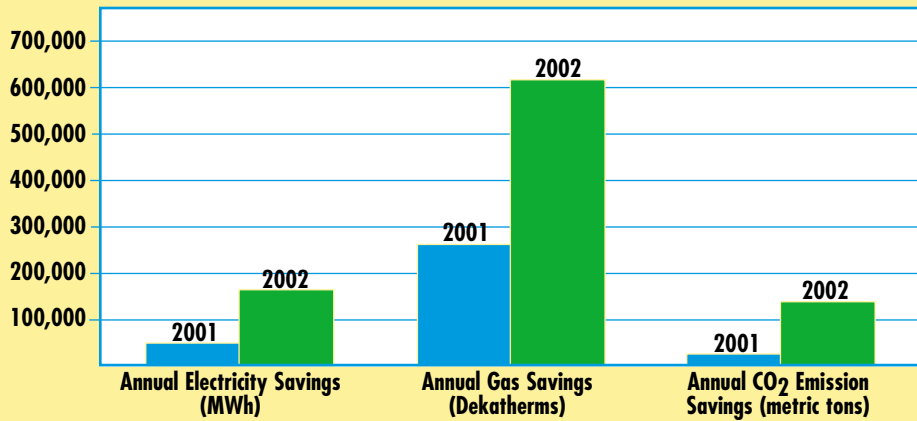
### ***New Jersey Clean Energy Program Summary of Statewide Results as of December 31, 2002***

	<b>Actual</b>	<b>Committed</b>	<b>Total</b>
<b>Total Expenditures</b>	\$99,601,000	\$51,454,000	\$151,055,000
<b>Energy Savings:</b>			
<b>Annual Savings from Measures Installed in 2002</b>			
kWh	171,692,000	101,072,000	272,764,000
Therms	6,232,830	8,429,910	14,662,740
<b>Lifetime Savings from Measures Installed in 2002</b>			
kWh	2,604,958,000	1,501,268,000	4,106,226,000
Therms	122,981,410	156,391,830	279,373,240
<b>Cumulative Lifetime Savings of New Jersey Clean Energy Program (2001-2002)</b>			
kWh	3,402,726,000	2,578,769,000	5,981,495,000
Therms	171,011,240	176,542,280	347,553,520
<b>Demand Savings (KW)</b>	242,000	44,000	286,000
<b>Emissions Savings</b>			
	<b>Annual Metric Tons</b>		
	<b>Electric Programs</b>	<b>Gas Programs</b>	
CO <sub>2</sub>	116,889	33,147	
NO <sub>X</sub>	215	26	
SO <sub>2</sub>	500	N/A	
Hg (shown in lbs)	5.9	N/A	

## Success Stories From Around the State

- A low-income customer reduced her energy costs by over \$200 per year by participating in the *Comfort Partners Program*. Contractors installed an energy-saving showerhead and water heater insulation, performed air sealing and upgraded the insulation in her home. Her inefficient refrigerator was replaced with a new high-efficiency one. She now also has the peace of mind that comes with the safety testing of combustion appliances and the installation of a carbon monoxide detector.
- The first commercial solar electric system approved under the *New Jersey Clean Energy Program* was installed on the roof of a local BJ's Wholesale Club. The emission-free system is expected to produce clean energy valued at over \$5,000 per year.
- A family purchased a 2100 sq. ft. NJ ENERGY STAR Home that will use 30% less energy than a typical new home, reducing their energy bills by over \$300 per year.
- A township is saving significant energy dollars thanks to the *SmartStart Buildings Program*. The installation of the state-of-the-art gas heating and cooling system is expected to save the school district more than \$500,000 over the projected lifetime of the equipment. Additional savings will come from the energy-efficient lighting system.

### New Jersey Clean Energy Program Growth



Since the *New Jersey Clean Energy Program* was launched in April 2001, it has continued to grow. A comparison of the annual savings illustrates the significant gains the program has achieved in influencing businesses and homeowners throughout the state to invest in energy conservation.

As businesses throughout New Jersey improve their competitive position by investing in technologies that reduce their energy costs over the long term, the State as a whole will benefit from the *New Jersey Clean Energy Program* activities for years to come. Efficient equipment and practices put into effect in 2002 will continue to save energy for an average of 15 years.

### New Jersey is Leading the Country in Market Transformation:

- *NJ ENERGY STAR HOMES PROGRAM* was recognized by the U.S. Environmental Protection Agency as the ENERGY STAR “2002 Partner of the Year.” New Jersey’s market share of ENERGY STAR new homes, when taking into account commitments, is 31%, ten times higher than the national average of 3.14%.

- *NJ COOL ADVANTAGE PROGRAM* was recognized by the American Council for an Energy Efficient Economy (ACEEE) as among the very best efficiency programs in the nation. New Jersey’s market share of energy-efficient residential air conditioning equipment SEER 13 or higher is now 30% compared to 5% nationally.

The BPU has ordered program changes and additional enhancements are expected in the near future. One new program to be offered in 2003 will provide incentives to customers that purchase ENERGY STAR window air conditioners and energy-efficient lighting.

## 2. NEW JERSEY CLEAN ENERGY PROGRAM 2002: A YEAR OF ACHIEVEMENT

In 2001, the *New Jersey Clean Energy Program* focused on getting many new programs up and running. The State's electric and natural gas utilities worked cooperatively to insure the programs were consistent across New Jersey. In 2002, efforts were focused on achieving participation and energy savings goals. Following is a summary of the various programs that were implemented in 2002.

### RESIDENTIAL PROGRAMS

In 2002, the Programs offered to residential customers included the Residential New Construction Program (NJ ENERGY STAR Homes), the Residential Gas and Electric HVAC Programs (*Warm Advantage* and *Cool Advantage*), the ENERGY STAR Products Program (*NJ for ENERGY STAR*), the Residential Retrofit Program (*NJ Energy Smart*) and Residential Low-Income (*Comfort Partners*).

The **NJ ENERGY STAR Homes Program** 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 a performance standard of 30% less energy consumption than if it had been built to the national model energy code.



The *NJ ENERGY STAR Homes Program* is also a national award winner recognized by the U.S. Environmental Protection Agency as ENERGY STAR "2002 Partner of the Year." The program was also recognized regionally at the Atlantic Builders Convention for "Best Website" ([www.njenergystarhomes.com](http://www.njenergystarhomes.com)).

Since the program was launched in May 2001, it has



In May, BPU President Jeanne Fox dedicated a 62.2 kW rooftop solar electric system at BJ's Wholesale Club in Deptford.

been coupled with intensive outreach and marketing efforts which, in 2002, resulted in commitments from three of New Jersey's top five production builders – K. Hovnanian, Toll Brothers and Ryan Homes. As a result, enrollments are significantly greater than the annual results from 2001. These builders have agreed to build all their new homes in compliance with ENERGY STAR standards. During 2002, 1,881 new homes were certified as complete, and an additional 10,490 new homes were committed to the program. Including commitments, this program will result in approximately 30% of the new homes in New Jersey being built to ENERGY STAR standards compared to the national average of 3%, and would place New Jersey second to Alaska in achieving statewide market share for ENERGY STAR Homes. The chart below summarizes the savings.

### NJ ENERGY STAR Homes Program

2002 Actual and Committed Expenditures: \$36,080,000			
# Participants	Annual Actual and Committed Energy Savings		
Actual & Committed	MWh	kW	DTherm
12,371	34,034	34,869	700,488

## RESIDENTIAL PROGRAMS (CONTINUED)

The *Warm Advantage* and *Cool Advantage Programs* promote the use of residential energy-efficient heating and cooling equipment. Rebates are made available to partially offset the incremental cost of high-efficiency central air conditioning and heating systems. In 2002, 946 installation technicians received special training and 503 were added to the North American Technician Excellence (NATE) certification list. The American Council for an Energy Efficient Economy (ACEEE), a national non-profit organization dedicated to advancing energy efficiency, recognized New Jersey's Cool Advantage residential electric HVAC program as among the very best efficiency programs in the nation.

Thanks to this program, New Jersey is the national leader in the market for high-efficiency HVAC systems. Market share for high-efficiency air conditioning equipment in New Jersey is approximately 20% to 25% compared to 1% to 2% nationally for SEER 14 and higher equipment, and over 30% compared to 5% nationally for SEER 13 and higher equipment. The chart below summarizes the savings:

### Warm Advantage and Cool Advantage Programs

**2002 Actual Expenditures: \$18,490,000**

# Participants	Annual Energy Savings		
	MWh	kW	DTherm
Actual			
26,992	15,703	13,825	428,457

The *NJ for ENERGY STAR Program* promotes the sale and purchase of ENERGY STAR rated and labeled windows, lighting and appliances.

In 2002, NJ for ENERGY STAR promoted the purchase of ENERGY STAR labeled products by providing "Point of Purchase" materials and sales training to support retailers and contractors selling ENERGY STAR products. The program also sponsored a major appliance promotion in conjunction with 67 independent appliance



store fronts that featured matching program and manufacturer incentives. Additionally the program issued a solicitation for a co-op advertising program for ENERGY STAR labeled windows, lighting and appliances made available to all participating retailers and manufacturers. The program also enlisted an additional 520 retailers bringing the total number of stores promoting ENERGY STAR products to 831.

The *NJ Energy Smart Program* helped residential customers perform a self-audit of their home and provided customized, energy saving recommendations including costs and estimated payback periods. The audit was available through the internet, U.S. mail or CD version. In 2002, over 14,000 audits were completed, including 2,462 mail-back and 12,382 via the Internet, exceeding the goal of 12,000 participants. In addition, 2,866 self-audit CDs were distributed to interested consumers. A recent evaluation of program participants indicated that 55% of those who responded intend to implement at least one of the measures recommended in the audit.

## LOW-INCOME PROGRAM

The **Comfort Partners Program** has improved energy affordability for almost 6,000 New Jersey low-income households that spend a high percentage of their income on energy. Comfort Partners addresses these challenges through improvements to building thermal performance (e.g., sealing against drafts and adding insulation), improving electrical energy efficiency (e.g., installing high-performance lighting and replacing inefficient refrigerators) and removing certain health and safety hazards (e.g., installing carbon monoxide detectors and repairing exhaust flues and gas leaks). The average electric and gas joint-delivery program participant is projected to have electric and gas savings from 10% to 15%.



There is also a customer utility bill debt reduction component that has an impact in reducing credit and collection costs, as well as further reducing the energy burden on participating customers. There were 3,983 customers enrolled in the debt reduction program during 2002. The following chart summarizes the savings.

### Comfort Partners Low-Income Program

2002 Actual Expenditures: \$13,268,000			
# Participants	Annual Energy Savings		
Actual	MWh	kW	DTherm
5,937	5,196	627	73,523

## COMMERCIAL PROGRAM

The Commercial and Industrial Construction Program (*NJ SmartStart Buildings, Building O&M, and Compressed Air*) was designed to address key market barriers to efficient construction on the part of developers, designers, engineers and contractors in the commercial sector. It is available to school, commercial, industrial, governmental, institutional and agricultural customers. The program focuses on 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. 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 2002, over 9,100 customers from every segment of the commercial sector participated in this program. The chart at right identifies the measures installed in 2002.

An important component of this program supports efficient design and construction in schools. The State is commencing an \$8.6 billion school construction program and the *NJ SmartStart Buildings Program* is working to insure that schools 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 costs over the life of the schools, where the energy savings more than offset any incremental up-front costs. The following chart summarizes overall program savings.

### NJ SmartStart Buildings Program Actual Measures Installed – 2002

• Prescriptive Lighting	8,250
• Lighting Controls	71
• Performance Lighting	148
• Light Emitting Diode Traffic Signals	19
• Variable Frequency Drives	70
• Electric Chillers	27
• Gas Chillers	7
• Motors	363
• Gas Heating	37
• Gas Water Heaters	10
• Electric Unitary Heating, Ventilation and Air Conditioning	600
• Geothermal	4
• Custom - Gas	12
• Custom - Electric	34
• Design Support	27
• Technical Assistance	17

### New Jersey Commercial and Industrial Program

2002 Actual and Committed Expenditures: \$50,471,000				
# Participants	Annual Actual and Committed Energy Savings			
	MWh	kW	DTherm	
Actual and Committed	11,116	195,861	34,864	233,980

## RENEWABLE ENERGY PROGRAM

The *Customer-Sited Clean Generation Program* offers a number of incentives for customers to invest in renewable energy systems for their homes and businesses. It also provides technical assistance to help customers evaluate the benefits of renewable energy systems, along with complementary training to municipal electrical inspectors, electrical contractors and utility engineers. During 2002, the program sponsored eight training classes for solar electric installers which included three 2-kW solar electric systems installed by the class and donated by the *New Jersey Clean Energy Program* to the hosting colleges and universities (Ramapo College of New Jersey, Richard Stockton College of New Jersey and Montclair State University).

The International Brotherhood of Electrical Workers (IBEW) recognizes that advances in the renewable energy program represent potential expansion of their trade union. They have worked with the New Jersey Clean Energy Program to develop training on the proper installation of solar energy systems. The IBEW has even installed three photovoltaic systems totaling almost 90 kW at its headquarters in Lawrenceville, New Jersey!

By offering significant rebates covering up to 60% of the initial costs of renewable energy systems, the program encourages the use of photovoltaic (solar electric) systems, wind generators and sustainably grown and harvested biomass fueled systems. During the early part of 2002, it also provided similar inducements for the installation of natural gas fuel cells powered by natural gas, but the eligibility of fuel cells powered by non-renewable fuel sources was suspended by the BPU, since natural gas is not defined as a source of Class I renewable energy. Currently, the program still provides the incentives for fuel cells powered by a renewable fuel such as biogas or liquid biogas to generate renewable hydrogen. A new program for natural gas powered fuel cells is under consideration for 2004.



*This wind turbine was recently installed on a preserved farm in Burlington County, New Jersey.*

For 2002, participation in this program covered the full range of system types and sizes. Most of the 35 systems sized 10 kW or less were solar electric systems installed in residential settings. An additional 35 small system commitments received during the year were, for the most part, solar electric. For large systems, the 11 installed were spread among solar electric, gas fuel cell and sustainably grown and harvested biomass technologies. The 24 large system commitments received in 2002 were mostly solar electric systems. In terms of energy savings, unlike the other Clean Energy Programs described above, technologies employed in the Customer-Sited Clean Generation Program do not decrease the need for power, but instead reduce the need for the traditional energy grid to produce that power. These technologies also have the added benefit of producing clean power on site.

Because of the energy losses that occur in the transmission of energy over long distances from a centralized power plant, the closer the generation is to the point of use, such as solar on a homeowner's roof, the more efficiently it can operate. In a typical centralized power plant the losses from transmissions are on average over 10 percent of the energy generated. In addition, renewable energy systems significantly reduce or eliminate air emissions, wastewater discharges and waste generation that is typical in current fossil fuel or nuclear electricity generation. One other major benefit is that the sun and wind will never raise their fuel prices!

## RENEWABLE ENERGY PROGRAM (CONTINUED)

The chart to the right provides a summary of the “savings” that are expected to result from customer-sited clean generation systems installed and committed to in 2002. These energy “savings” are enhanced by the coincident reductions in emissions. The average size of the projects were larger than anticipated and the program’s installed and committed clean energy capacity grew at a higher pace than any other in the country. The program goal of 500 kW of installed capacity was exceeded with 1,142 kW of clean capacity actually installed in 2002.

The Grid Supply Renewable Energy Program is administered by the BPU. By Order dated February 5, 2003, the Board approved the first round of incentives for grid connected projects. The incentives will be paid in the form of up-front payments that will reduce the initial capital costs and production credits paid on a cents-per-kilowatt-hour basis over the first five years of operation of the facilities. The Board approved \$11.3 million in incentives for four projects from the Grid Supply Program and an additional \$300,000 for a feasibility study for a wind project from the Market Infrastructure Development Program. The table to the right summarizes the four projects awarded incentives by the BPU under the Grid Supply Program.

### Customer-Sited Clean Generation Program

2002 Actual and Committed Expenditures: \$21,030,000			
# Participants	Annual Actual and Committed Energy Savings		
Actual and Committed	MWh	kW	DTherm
105	21,969	5,389	29,826

### Grid Supply Renewable Energy Program

Project Name	Technology	MW	Incentive Level (\$million)
Community Energy	Wind	7.5	\$1.7
Clipper Windpower	Wind	21.0	\$3.1
PSEG ET	Landfill Gas	4.0	\$3.9
Hoburn	Photovoltaic	1.0	\$2.6
TOTAL		33.5	\$11.3

### 3. THE NEW JERSEY CLEAN ENERGY PROGRAM IS REDUCING POLLUTION

By reducing energy use or promoting renewable sources of energy generation, the *New Jersey Clean Energy Program* reduces the need to generate electricity from traditional fuels and eliminates the pollution that



would have been caused by such generation. The benefits of these programs continue for the life of the measures installed, which on average is about 15 years. The total reductions in

carbon dioxide emissions resulting from the *New Jersey Clean Energy Program* in 2002 are equivalent to taking 2,500 cars off the road for an entire year. These emission reductions will reduce our State's contribution to greenhouse gasses, smog and acid rain.

#### Emission Reductions from New Jersey Clean Energy Program 2002 Activities

Emission Type	Annual Reductions
Carbon Dioxide	150,036 Metric Tons
Oxides of Nitrogen	241 Metric Tons
Sulphur Dioxide	500 Metric Tons
Mercury	5.9 Pounds

*\* If a cap and trade program had been in place for all of the emissions identified above, the value of the annual emission reductions would have exceeded \$1.4 million per year.*  
Source: BPU Staff

### 4. NEW JERSEY CLEAN ENERGY PROGRAM EXPENDITURES

The total statewide budget for the *New Jersey Clean Energy Program* for 2002 was \$132,686,000. The BPU administers the Grid Supply Clean Energy Generation Program, which had a budget of \$14,916,000 leaving \$117,770,000 for the programs administered by the utilities in 2002.

Actual spending for all programs administered by the utilities was \$99,601,000 or 84.6% of the budget. 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 totaled an additional \$51,454,000. The total of actual expenditures and commitments was \$151,055,000 or 128% of the budget. The table to the right provides comparison of budgets to expenditures for each program:

#### 2002 Budgets and Expenditures (000)

Program	2002 Budget	Actual Expenditures	Committed Expenditures
HVAC Electric	\$17,139	\$13,423	
HVAC Gas	\$7,079	\$5,067	
ENERGY STAR Products	\$7,533	\$2,803	
Low-Income	\$15,497	\$13,268	
ENERGY STAR Homes	\$14,677	\$10,945	\$25,135
Residential Retrofit	\$1,235	\$961	
Commercial/Industrial Construction	\$29,944	\$38,839	\$11,632
Appliance Cycling	\$7,246	\$7,516	
School Education	\$965	\$436	
Customer-Sited Clean Generation	\$16,455	\$6,343	\$14,687
<b>Total</b>	<b>\$117,770</b>	<b>\$99,601</b>	<b>\$51,454</b>

## 5. PROGRAM SAVINGS ARE HIGHLY COST EFFECTIVE

In 2002, the *New Jersey Clean Energy Program* expended \$99,601,000 to provide New Jersey homes and businesses with services and financial assistance that generated 171,692 MWh of annual electricity savings and 623,283 Dekatherms of natural gas savings. The amount of electricity saved is enough to provide the annual requirements for over 15,000 homes in New Jersey. The programs also reduced demand on the electric system by 242 MW. Furthermore, \$51,454,000 in commitments were made for projects to be completed in the next two years that will produce additional annual savings of 101,072 MWh and 842,991 Dekatherms.

The savings from measures installed in 2002 will continue for the lifetime of the measure. The table at the above right summarizes the lifetime savings from the measures installed in 2002 and the average cost that New Jersey ratepayers paid for the lifetime savings.

### The Cost of Actual Energy Savings to the Customer

Average Cost of Savings of the New Jersey Clean Energy Program		Actual Lifetime Savings	
Per kWh	Per therm	kWh	Therms
<b>\$0.03</b>	<b>\$0.17</b>	<b>2,604,958,000</b>	<b>122,981,410</b>

In addition to purchasing electricity and gas savings at a cost lower than the cost to purchase an equivalent supply, these programs produce significant environmental benefits through reduced emissions for electricity that did not need to be generated and natural gas that was not burned. The programs also produce savings for customers that utilize the programs and install energy efficiency or renewable energy measures by lowering their annual energy bills.

### The Overall Customer Bill Reductions Resulting from the NJ Clean Energy Program

	Annual Energy Savings for 2002 Measures	Lifetime Energy Savings for 2002 Measures	Cumulative Lifetime Energy Savings for both 2001 and 2002 Measures
Electricity (kWhs)	171,692,000	2,604,958,000	3,402,726,000
Natural Gas (therms)	6,232,830	122,981,410	171,011,240
	Annual Bill Reductions to NJ Energy Customers	Lifetime Bill Reductions to NJ Energy Customers	Cumulative Bill Reductions to NJ Energy Customers
Electricity (kWhs) @ \$ 0.10/kWh	\$ 17,169,200	\$ 260,495,800	\$ 340,272,600
Natural Gas (therms) @ \$1.00/therm	\$ 6,232,830	\$ 122,981,410	\$ 171,011,240
<b>Total Customer Bill Reductions</b>	<b>\$23,402,030</b>	<b>\$383,477,210</b>	<b>\$511,283,840</b>

The table at the left documents that the New Jersey Clean Energy Program produces significant energy bill reductions for the State's consumers. Over the years, the New Jersey Clean Energy Programs – from the energy conservation programs in the mid-'80s to the mandatory Demand-Side Management (DSM) programs – through the Standard Offer programs have saved New Jersey residents and businesses over 30,000,000 MWhs in avoided electricity use and over \$2 billion in avoided energy costs. While the utilities have implemented natural gas energy efficiency programs in the past, the growth in savings in this program has been substantial and significant. The customer bill reductions in the table to the left do not include the avoided environmental costs of the avoided air emissions, wastewater discharges and waste generated.

## ***The New Jersey Clean Energy Program Lowers Electricity Demand and Costs***

Electricity prices in New Jersey tend to spike during times of peak demand. It is during these times, typically on the hottest summer days when air conditioning is in high use, that generators are forced to run the most expensive and inefficient power plants. Lowering electrical usage during these times of peak demand can help lower electricity costs for all customers. The *New Jersey Clean Energy Program* not only saves energy but also focuses on saving energy during times of peak demand. For example, installing energy-efficient air conditioning in buildings has a direct impact on reducing peak load. Other measures, such as high-efficiency lighting and motors, save energy all year round, including times of peak demand. The appliance cycling program directly reduces load on the electric power system by 200 MW with the flip of a switch at times of peak demand at an annual cost of \$38 per kW. Overall, the *New Jersey Clean Energy Program* reduced peak electric demand by a total of 242 MW. The natural gas programs also focus on reducing usage during times of peak gas demand which tend to be the winter months.

## ***The New Jersey Clean Energy Program is Strengthening Our Economy***

When the State's institutions, businesses and residential customers save money on their electric and natural gas bills the entire State benefits. Residential customers that spend less on energy have more dollars available to spend on other things. Business customers that reduce their energy bills lower operating expenses, improve 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 virtually no local sources of fossil fuels. The *New Jersey Clean Energy Program* uses local businesses to deliver energy efficiency and renewable energy to customers. This spending on local energy efficiency instead of out-of-State energy suppliers has an economic multiplier effect that strengthens New Jersey's economy.

## 6. NEW JERSEY CLEAN ENERGY PROGRAM: CHANGES FOR 2003

Two major changes regarding program administration have occurred. First, the BPU has created the New Jersey Clean Energy Council that will provide recommendations to the BPU on the administrative structure of the programs and on future changes to programs and budgets. The Council, which includes representation from a wide array of interest groups, held its first meeting in March of 2003. Second, the BPU has taken over administration of the Customer-Sited Clean Generation Program bringing all aspects of the renewable energy program under the direct administration of the BPU.

Significant program changes have been ordered as well. Consistent with Governor McGreevey's recently announced policy initiative to support development and redevelopment in Smart Growth areas and not subsidizing growth outside of these areas, the *New Jersey Clean Energy Program* incentives for new construction will be directed to buildings constructed in areas designated for growth in the State Development and Redevelopment Plan. Exceptions are in place to

allow for Energy Star new construction incentives for schools and low-income housing regardless of State Plan designation. These changes were implemented in March of 2003.

The BPU has also ordered a new program to provide incentives to customers that purchase ENERGY STAR compact fluorescent lighting (CFL) and room air conditioners. This later program kicked off in April 2003, with the introduction of a rebate program for ENERGY STAR Room Air Conditioners. The CFL program is scheduled to begin this fall.

Other changes to the program are expected as the New Jersey Clean Energy Council completes its review of programs and budgets. In the meantime, the utilities will continue to administer many of the successful programs that were available in 2002. The State Act requires a minimum of six additional years of funding for these programs (2003-2008), and the State anticipates building on the successes that have been achieved in the first two years of operation.

**For more information about the *New Jersey Clean Energy Program*:**

[www.njcleanenergy.com](http://www.njcleanenergy.com)

**or contact the New Jersey Board of Public Utilities,  
Office of Clean Energy:**

[www.bpu.state.nj.us](http://www.bpu.state.nj.us)

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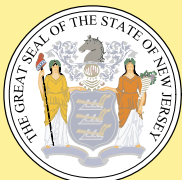
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