



# “WasteWi\$e and GHG Climate Profiling – A Partner Perspective of Environmental Impact and Business Value”

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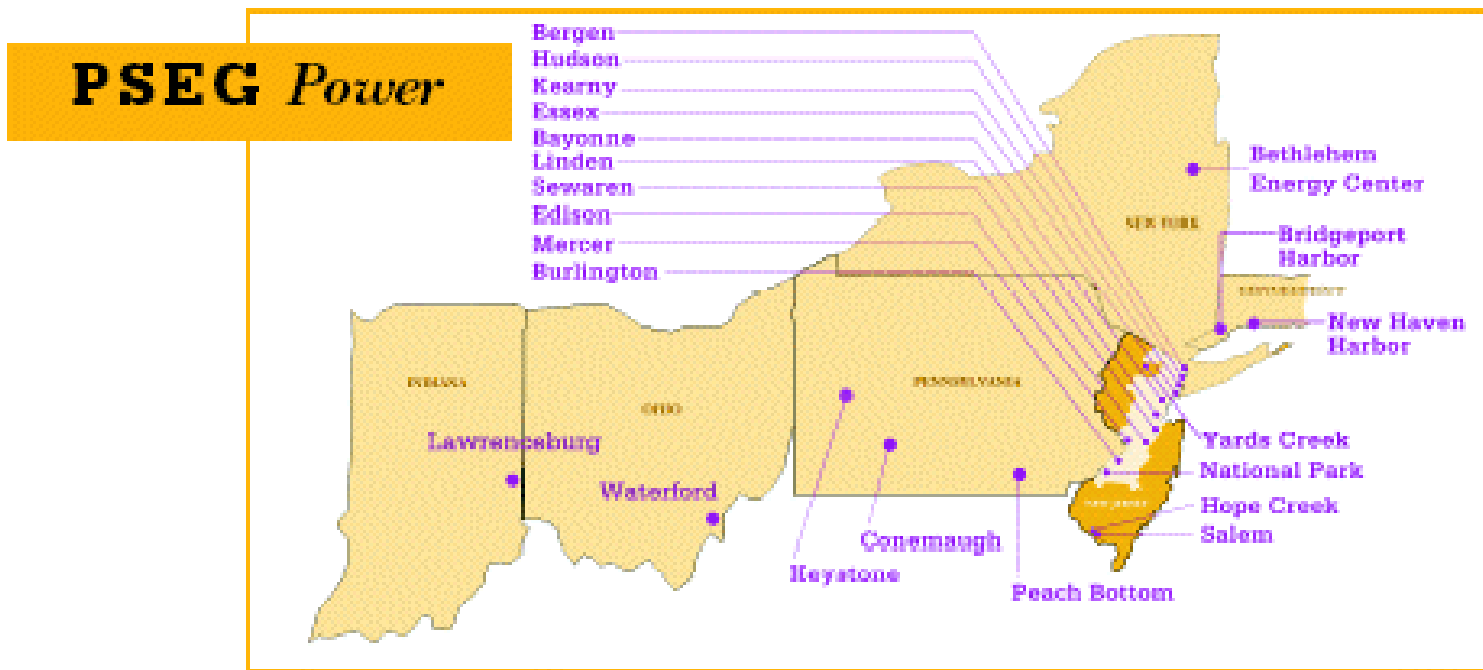
May 6, 2005  
Climate Leaders Partner Meeting  
Washington, DC

# OUTLINE

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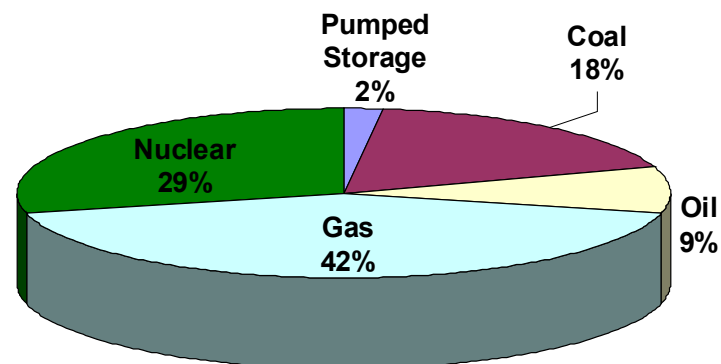
- PSEG Company Overview
- WasteWise & GHG Reduction Drivers
- Where Do You Begin - The Resource Mindset
- Reducing, Recycling and GHG Reduction - Perfect Together
- GHG Reduction Measurement and Performance
- PSEG WasteWise and Climate Profile - 2003
- What Our Profile Tells Us
- How Do GHG's Factor Into Our WasteWise Program?
- How Do We Share Our Results – PSEG's Website
- What Will We Do Next?
- Measuring GHG's – The Overall Benefits to PSEG

# PSEG Power - United States Generating Assets

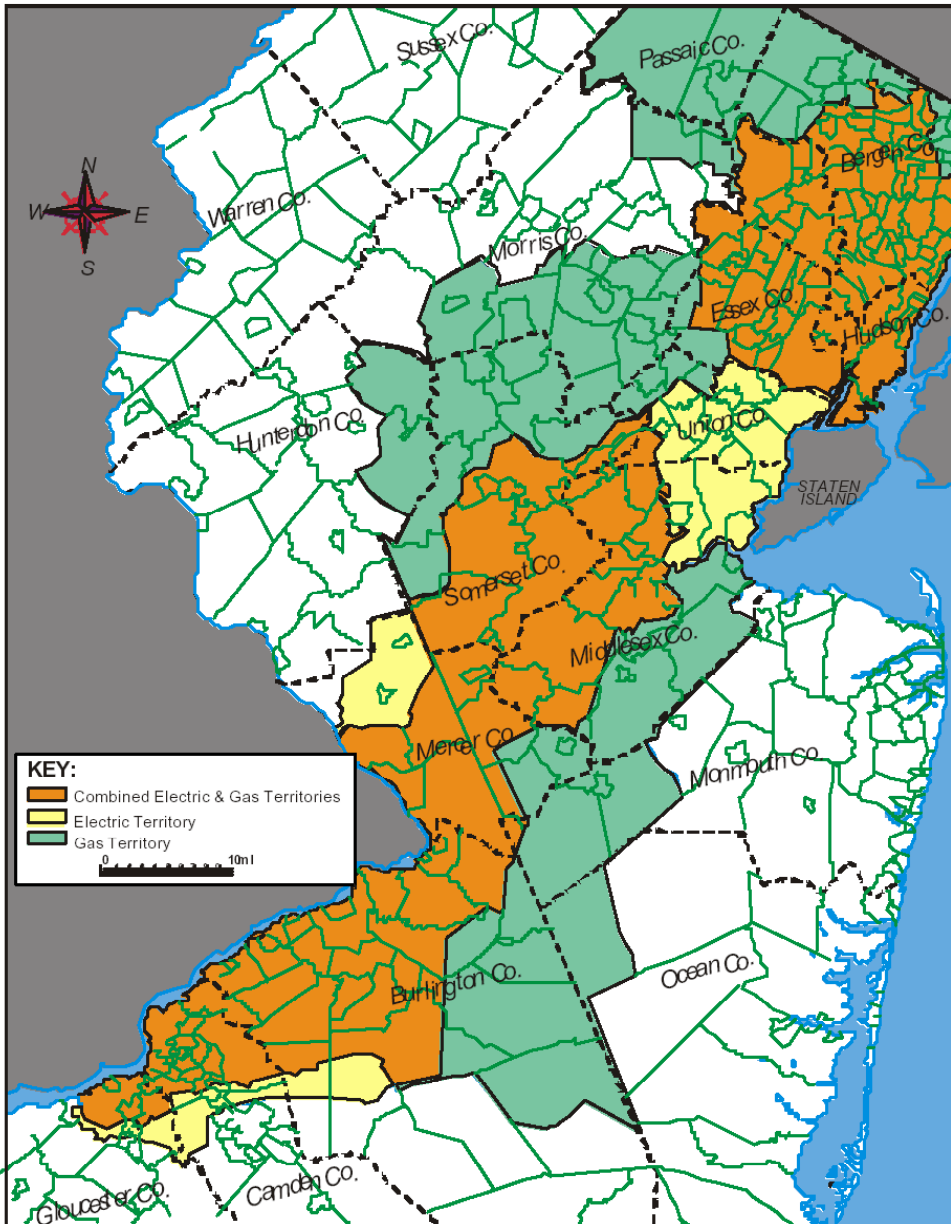


- 17,000 megawatts of generating capacity in operation, construction, or advanced development.
- Value fuel and price diversity.

2001 Capacity by Fuel Type



# Public Service Electric and Gas Company (PSE&G)



- 2 Million Electric Customers
- 1.6 Million Gas Customers
- 2,600 Square Miles Service Territory
- Eighth largest local gas distribution utility in the U.S.
- Tenth largest electric distribution utility in the U.S.
- New Jersey's oldest and largest public utility.

# WasteWise and GHG Reduction Business Drivers

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- Rules, Regulations and Competition
- Global Economy and Business Dynamics
- Quality Movement
- Profit and Loss
- Environmental Policies and Corporate Image – PSEG is a USEPA Charter Climate Leader and Clean Energy Group Member – Active Engagement on a Voluntary Basis to Report GHG Reductions Annually
- Multi-Level Partnerships and Stakeholder Relationships
- Reducing our Overall Environmental Footprint

# Where Do You Begin - The Resource Mindset

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## FROM

Minimization

Unit Price

Waste

Dispose

Single Media

Impact



## TO

Prevention

Life Cycle Cost

Resource

Recover

Cross Media

Impact

# Reducing, Recycling and GHG Reduction – Perfect Together

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- Waste Reduction, Design for the Environment, Buy-Recycled and Recycling ...All Important Techniques for Achieving GHG Reductions

## Some Quick Facts:

- Reduction of Solid Waste to 1990 Levels Will Result in a GHG Reduction of 11.6 Million Metric Tons of Carbon Equivalent (MTCE)
- An Office Building of 7,000 workers Achieving 100% of Plastic Paper and Corrugated Paper Recycling Can Equate to a Reduction of 1,200 MTCE's

1999 EPA WARM Emission Factor – WasteWise Update

# GHG Reduction Measurement and Performance

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- The Tools to Achieve Waste Reduction Via Design for the Environment, Buy-Recycled and Recycling (and Thus GHG Emission Reductions):
  - The MAP/GHG Reduction Planning Tool
    - Manufacturing and Purchasing Modules
    - Allows User Assessment of The Benefits of Manufacturing and/or Purchasing Recycled Content Materials
- Results Seen in the Waste Prevention Area of The WasteWise and Climate Profile
- Requires Integrated Procurement and Thus Best Initiated on a Commodity-Specific Level



# GHG Reduction Measurement and Performance (Cont.)

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- The Waste Reduction or “Warm” Model
  - Recognizes the Linkage of Solid Waste Recycling & Impact on Climate Change
  - Based on Analysis of Life Cycle of Every Step in the Production Process for Multiple Materials
  - Uses Calculated Emission Factors to Determine Total GHG Emissions based on Tonnages of Material Recycled
  
- Model Calculations for over 25 Commodities
  
- Generally Lesser GHG Impact Than Waste Prevention Methodologies

# 2003 WasteWise Climate Profile



## Public Service Enterprise Group (PSEG) Making a Difference

GHG = Greenhouse Gas  
 MTCE = Metric Tons of Carbon Equivalent  
 MTCO<sub>2</sub>E = Metric Tons of Carbon Dioxide Equivalent

### 2003 Waste Reduction Achievements

Waste Management Activity	GHG Emission Reductions (MTCE)	GHG Emission Reductions (MTCO <sub>2</sub> E)
Waste Prevention	864	2,876
Recycling	18,118	60,335
<b>TOTAL</b>	<b>18,982</b>	<b>63,211</b>

These achievements are equivalent to:

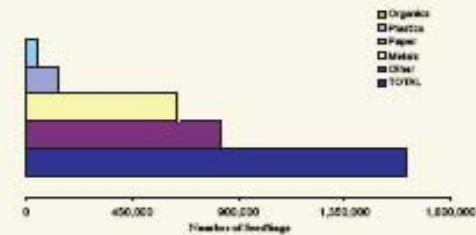
Recycling the many passenger cars that sit on the road for one year (based on CO <sub>2</sub> e annually emitted per car) 622 13,045 13,667	This many passenger cars light bulbs not checked for one year (based on CO <sub>2</sub> e annually emitted per car) 538 10,871 11,389	This many gallons of gasoline (based on CO <sub>2</sub> e emissions per gallon) 327,373 6,866,901 7,194,274	■ = Waste Prevention ■ = Recycling ■ = Total
This many tree seedlings grown for 10 years (based on CO <sub>2</sub> e sequestration per tree) 73,421 1,540,070 1,613,492	This many acres of pine or fir forest standing outdoors for one year (based on CO <sub>2</sub> e sequestration per tree) 2,393 50,188 52,581	This many acres of forest preserved from deforestation (based on CO <sub>2</sub> e sequestration per tree) 26 544 569	
This number of propane cylinders used for home barbecues (based on CO <sub>2</sub> e emissions per pound of propane) 120,066 2,518,468 2,638,533	This many barrels of crude oil (based on CO <sub>2</sub> e emissions per barrel) 6,686 140,237 146,923	This many tanker trucks filled with gasoline (based on CO <sub>2</sub> e emissions from gasoline stored per truck) 33 725 759	
The annual emissions from the power consumption of this many households (based on annual emissions per household) 371 7,791 8,162	This number of ratios of coal burned (based on CO <sub>2</sub> e emissions per ton of coal) 17 362 380	Tons of waste recycled instead of landfilled (based on CO <sub>2</sub> e emissions per ton of waste landfilled) 967 20,293 21,260	

This profile describes the GHG emission reductions achieved as a result of recycling and waste prevention activities reported to WasteWise in 2003. These calculations use the emissions generated by landfilling waste as a baseline. Emission reductions represent the difference between this baseline and the GHG emissions resulting from alternative waste management practices, such as waste prevention and recycling.

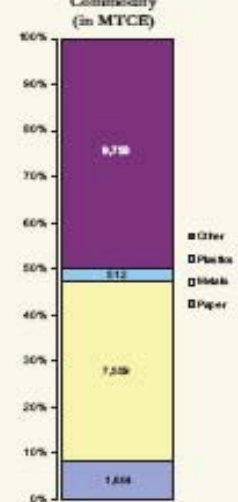
### 2003 GHG Reductions by Commodity

Commodity	Volume of Waste Prevented and Recycled (pounds)	GHG Reductions (MTCO <sub>2</sub> E)
Paper	3,876,040	5,342
Metals	14,346,846	25,171
Plastics	2,416,256	1,704
Organics	22,325,780	-1,485
Other	401,259,479	32,478
<b>TOTAL</b>	<b>444,224,401</b>	<b>63,211</b>

### Emission Reductions Equivalent to Growing This Many Tree Seedlings



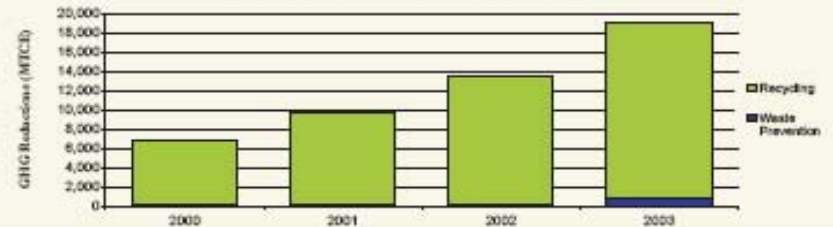
### GHG Reduction by Commodity (in MTCE)



### 2000-2003 GHG Reductions Progress

Activity	2000	2001	2002	2003
	GHG Reductions (MTCO <sub>2</sub> E)			
Waste Prevention	47	124	131	864
Recycling	6,735	9,555	13,415	18,118
<b>TOTAL</b>	<b>6,782</b>	<b>9,679</b>	<b>13,546</b>	<b>18,982</b>

### GHG Reduction Progress 2000-2003

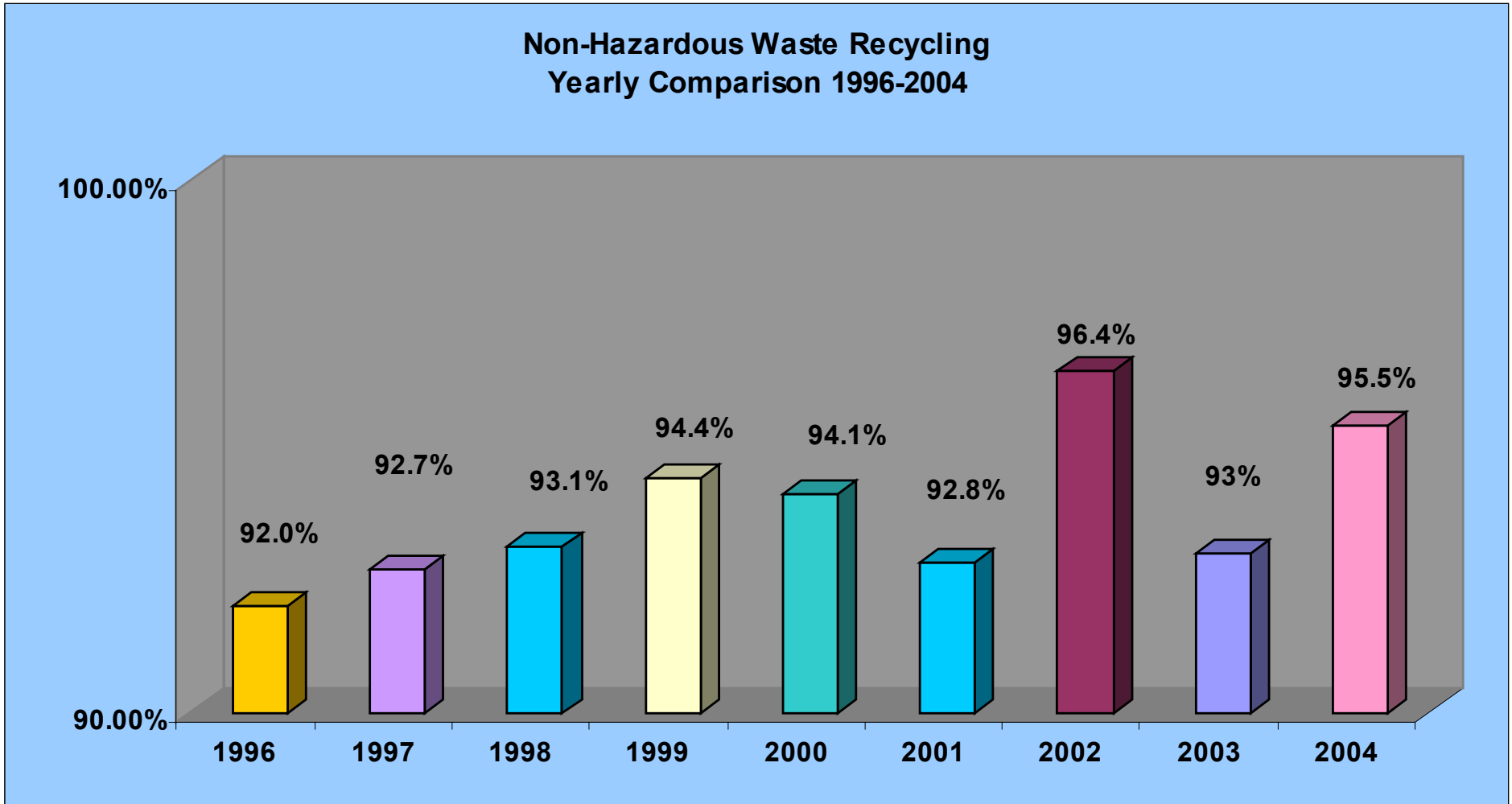


# What Our Profile Tells Us

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- PSEG's 2000-2003 GHG Reduction Trends Continue Upward
- Recognition That Recycling is Our Major GHG Reduction Activity Within The Profile
  - Metal, Aggregates (Concrete/Asphalt), Tree Trimmings and Paper Are Our Biggest Contributors
- Opportunity to Increase GHG Reductions Via Waste Prevention is Out There
  - Through Life Cycle Cost (LCC) Strategies and Thinking ...
  - Integrated into Project Planning, Design and Material Procurement, ....
  - Resulting in Business Decisions Being Made With Advance Knowledge of Total Environmental Impact and Financials

# PSEG Recycling Trends



# How Do GHG's Factor Into Our Wastewise Program?

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## 2003 Reporting Year - PSEG

- Recycled over 222,000 Tons of Solid Waste
- Achieved a 93.0% Recycling Rate for All Solid Wastes
- Realized Proceeds of \$1.65M From The Sale of Recycled Materials
- Savings of \$223K From Avoided Disposal Costs For Paints, Resins, Batteries, Computers and Toner Cartridges
- Spent Over \$2.4M On Recycled Products
- 18,118 MTCE GHG's Achieved Via Recycling



**PSEG**

*We make things work for you.*

*We make things greener.*

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## Our Environment

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### **Reduce, Reuse, Recycle**

For the seventh consecutive year PSEG continued to recycle in excess of 90% of all non-hazardous solid wastes generated from our operations. 2001 recycling and material reuse practices lead to approximately 27,484 tons of CO2 equivalent emissions. One example of our material reuse approach is our computer remanufacturing program where we extend the serviceable life of desktop computer equipment and peripherals through remanufacture and repair. PSEG processed over 100,000 pounds of equipment for reuse, sale or donation in 2002, and donated over 400 remanufactured computer systems to schools, organizations and training centers. This sustained recycling performance and our holistic approach to the integration of resource management and material reuse strategies won PSEG the prestigious USEPA Wastewise Partner of the year award in 2001. The USEPA cited PSEG for exceptional waste prevention results, recycling efficiencies and progress towards buying recycled material and products. The company was also awarded 2001 Partner of the Year for its efforts in electronics reuse and service life extension.

For more information go to: <http://www.pseg.com/environment/climate/reduce.html>

# What Will We Do Next?

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## **Continue Our Efforts to Advance Climate/Prevention/Reuse/Recycling Linkages**

- Continue Work with USEPA C2P2 and WasteWise Programs Advancing Acceptance of CCP's to Replace Virgin Products and Recognize the Associated GHG Benefits of These Activities
- Under the WasteWise Climate Change Campaign, Expand WARM Modeling to Include Emission Factors For Computer Remanufacturing and Reuse



# Wastewise Partnership and Measuring GHG's – Environmental Impact and Business Value

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- Improves Overall Environmental Performance
- Broadens Organizational Ownership of Recycling, Waste Prevention and GHG Emission Reduction
- Recognizes Environmental Performance, Cost Savings and Creates Opportunities for More Savings
- Inter-company Cross-Media Recognition of Solid Waste Recycling
- Opportunity To Promote WARM Results Externally Via Our Website, Public Forums and Stakeholder Dialogue
- Fits Into the WasteWise Model - Voluntary, Flexible, Results Oriented