

Practical Applications for the Utilization of Sustainable Grant Funds

Prepared for
Green Building Design and Energy
Conservation Techniques

Prepared by
Elizabeth Delaney
ed@firstenvironment.com

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Energy Efficiency and Conservation Block Grants in New Jersey

- \$61M for Energy Efficiency and Conservation Block Grants directly to eligible counties and municipalities – June 25 deadline
 - Strategy required
- Min of \$8.6M routed through state to counties and municipalities not eligible for direct grants
 - Energy audit



A Comprehensive Approach

- A Community-wide Approach
- Sustaining the Effort
- Can be used as funding opportunities (grants) become available





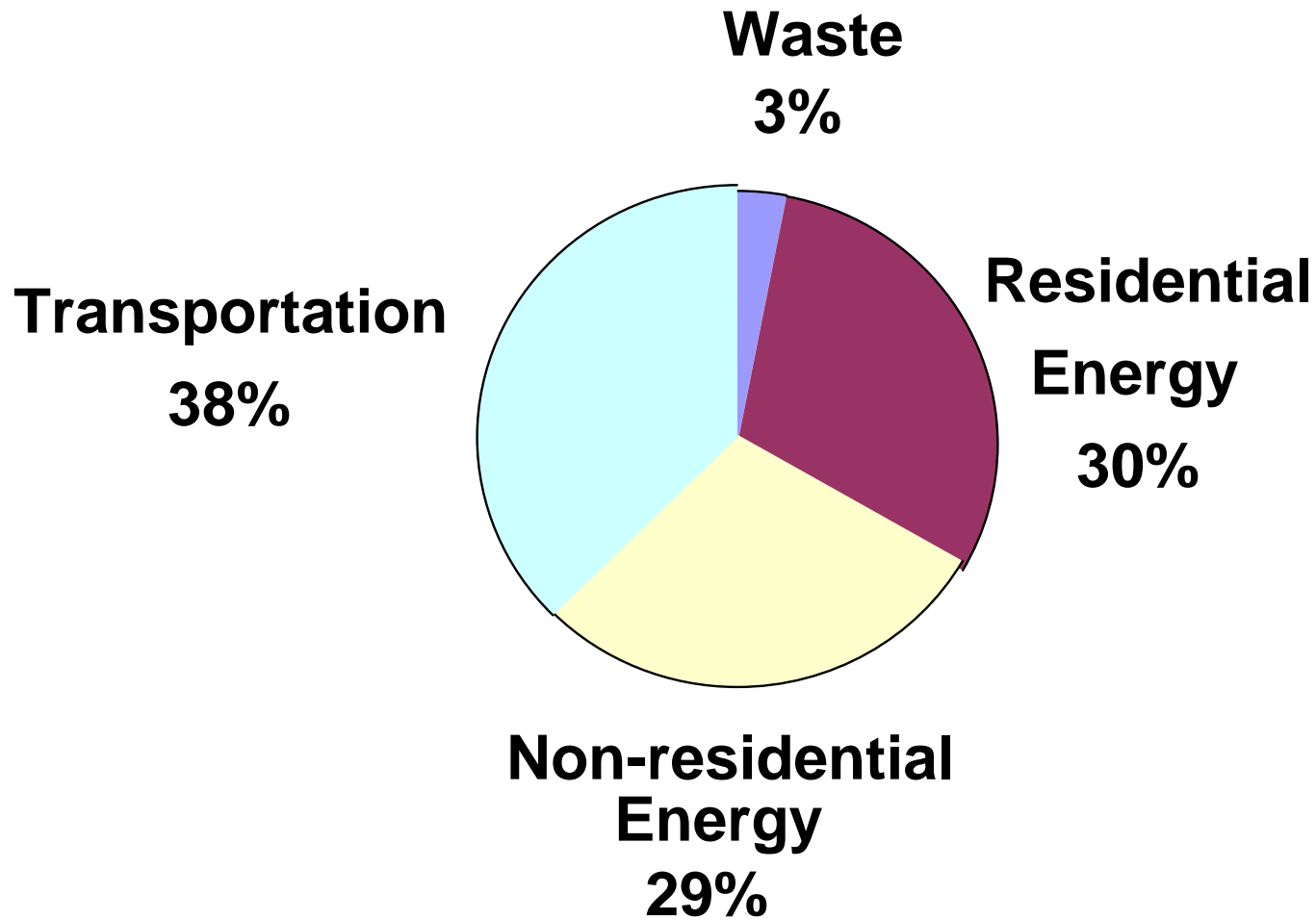
- Westchester Climate and Sustainability Action Plan
 - Reduce greenhouse gas emissions in all sectors in Westchester
 - Implement climate change adaptation strategies
 - Ensure sustainable development
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- Community – Wide Involvement
 - *Multi stakeholder process*
 - *County/Municipal officials (10)*
 - *Business Representatives (8)*
 - *Education – Higher Ed and K-12 (10)*
 - *Environmental NGOs (6)*
 - *County department reps (mid level management)*
 - *Steering Committee*
 - Matrix structure
 - Subject and sector responsibilities
 - Augmented by volunteers



County-wide GHG Inventory





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- County-wide GHG reduction and sustainable development strategies that address:
 - Energy and Green Buildings
 - Transportation
 - Land Use
 - Water Resources
 - Waste Reduction, Recycling and Green Purchasing





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- The Task Force developed sector-specific actions and integrated actions across sectors to achieve the countywide strategies. Sectors include:
 - County Government
 - Municipal Government
 - Education (K-12 and Higher Ed)
 - Business
 - Households





Business Action Summary

Provided below is a summary of actions for Businesses recommended by the Task Force.

To understand more about these actions, click on the Action Icon. This link will open the detailed Attachment that explains the action further and provides other important information and resources.

The actions are generally organized by subject: energy, transportation, land use, water resources, and recycling. Each action has a recommended time frame for completion:

- ♦ short term, 1 to 3 yrs;
- ♦ medium term, 3 to 8 yrs;
- ♦ long term, 8+years.

Define the Business Greenhouse Gas Footprint

Develop a GHG inventory. (short term)

Set a reduction goal consistent with the countywide reduction goal. (short term)

Develop a plan from the actions below to meet the reduction goal. (short term)

Monitor progress yearly, participate in county reporting, and adjust plan, if necessary. (short to long term)

Energy

Direct Energy Actions

Make behavioral changes in energy use such as: (short term)

- ♦ Use energy management software, power strips or other methods to ensure electrical equipment including computers, copiers and printers are not drawing standby power when not in use.
- ♦ Manage/program thermostats so that heating and cooling demand is reduced
- ♦ Use reduced lighting when daylight is sufficient.
- ♦ Shift electrical use to non-peak periods.

Replace incandescent bulbs with compact fluorescents, LEDs, or solar powered lighting. (short term)

short term) set a timetable for implementation. (short term) to ensure the efficiencies are maintained.

and infrastructure and major renovations.

water to green building standards; buildings LEED certifiable. the beginning of the project planning phases that can be included for businesses not

thermal, where appropriate. (long term)

energy credits (RECS). (short term)

ties. (medium term)

building practices in building code.

structural review for onsite renewable energy

energy costs at time of building sale. renewable energy to return excess to grid for

incentive for geothermal energy systems

energy directly available to the customer. for state programs for low-income housing. efficient alternatives and renewable energy education institutions.

onsite renewables to governments and

incentives for purchase of renewable energy. renewable energy so as to maintain their pace.

Community Development block grant and renewable energy in new rate-income communities. Incentive programs for low-income

existing energy efficiency and

building funding opportunities.

energy saving improvements in their

footprint by 10% by 2010. (short

term) for energy use in the business sector.

Encourage public commitments to

Encourage public commitments to energy. (short term)

Workshops and arts and architectural education. (short term)

Workshops and employees on energy and workshops. (short term)

and GoLoco. (short term)

Programs such as ZipCar. (short term)

Programs

Programs and telecommute. (short term)

Westchester Action Plan Subject Attachments

- Energy and Green Buildings; Transportation; Land Use; Water Resources; Waste Reduction, Recycling and Green Purchasing (Attachments 5-9)
 - Current situation
 - Strategy for a sustainable future
 - Coded direct actions for all sectors
 - Coded actions for all sectors to build capacity



All sectors – households, schools, businesses and municipal agencies – can undertake the actions which follow to improve their energy efficiency and reduce their demand for fossil fuel. They can also shift toward the use of renewable energy.



Behavioral Changes

One of the simplest ways to reduce energy is through changes in behavior. These changes also do not cost anything and actually save money.

- **Ensure electrical equipment**, including computers, copiers and printers, is **disconnected** when not in use. Use energy management software, power strips or other similar methods. This eliminates the **vampire power** this equipment can draw even when not in use.
- **Set back thermostats** at night and during periods of no occupancy.
- **Adjust thermostats** lower in winter and higher in summer.
- **Reduce lighting** when daylight is sufficient. Put signs over "Turn off when leaving."
- **Shift electrical usage** to non-peak times. This helps keep the grid from coming on line and with some energy plans it can also save money. Investing in line less efficient plants which results in higher GHG emissions.

Value of energy efficiency measures is high.



Replace Incandescent Bulbs

Replacing incandescent bulbs is an action that can be undertaken by all sectors. It also results in a large reduction in GHG emissions. A recent U.S. report estimated that lighting in the US consumed 13% of all electricity. The report includes:

- CFLs (compact fluorescent bulbs) - CFLs use approximately 75% less energy than traditional incandescent bulbs and have a lifespan of 6 to 10 years. CFL functionality compares favorably to incandescent bulbs. CFLs contain a small amount of mercury which must be managed at end of life. Attachment 9 to the Action Plan, R1, address this issue.
- LEDs (light emitting diodes) are far superior to traditional incandescent bulbs. They use 80% less energy and produce less heat than conventional incandescent bulbs. LEDs are most useful when aimed directly at the task.

Energy

Current Situation	5-1
Strategy for a Sustainable Future	5-1
Behavioral Changes	5-2
Replace Incandescent Bulbs	5-2
Retrofitting and Renovation of Existing Structures	5-3
New Buildings and Infrastructure and Major Renovations	5-7
Install Renewable Energy on Site	5-9
Purchase Renewable Energy or Renewable Energy Credits (RECS)	5-11
Funding these Actions	5-12
Building the Capacity (Get Westchester Moving, Keep it Moving)	5-13
Promote Realignment of Regulation and Codes	5-14
Develop Additional Funding Resources	5-15
Showcase Successes and Lead by Example	5-16
Education and Information Sharing	5-18
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Current Situation

Non-transportation energy use accounts for nearly 3/5 of Westchester County's greenhouse gas (GHG) emissions. Of this, residential and nonresidential energy-related GHG emissions are at similar levels.

Strategy for a Sustainable Future

To reduce the GHGs generated through the use of energy, the Community of Westchester must find ways to:

- 1) **Use energy more efficiently to reduce the demand for fossil fuels.**
- 2) **Replace energy from fossil fuels.**
 - a) **Install renewable energy equipment on site.**
 - b) **Purchase renewable energy or renewable energy credits.**

Coal, fuel oil, natural gas and propane are all fossil fuel. When these fuels are burned to generate electricity, for direct heating or cooling, or for operating appliances or machinery, they release CO₂ into the atmosphere. On the other hand, renewable sources of energy, such as wind, solar, or hydropower do not produce CO₂ or other GHGs.

EECBG - Commitments in Action Plan County Government

- Implement energy efficiency actions
 - Develop detailed county government GHG inventory with tracking tool
 - Use EPA tool to screen for opportunities
 - Perform energy audits on top candidates
 - Fund options with greatest savings/\$ spent
 - Energy efficiency projects
 - Install renewable energy
 - Maintenance program
- Develop county green building specification

EECBG – Commitments in Action Plan Community

- Develop county-wide reporting tool
- County sponsored program to promote residential energy efficiency audits



Benefits

- General community consensus
- Provides community blueprint (all sectors)
- Ensures actions related to
 - cost/benefit
 - overall strategy
- Basis for sustaining the effort



Possible Future Sources of Funds

- Sustainable Jersey (Municipalities Only) – may be new grant opportunities
- NJDEP Local Government GHG Reduction Program - proposed



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- Endorser of the Ceres Principles
- Board Member of the Business Council for Sustainable Energy
- ANSI accredited GHG verifiers and validators
- Associate member of Chicago Climate Exchange



First Environment Offices

First Environment

91 Fulton Street

Boonton, NJ 07005

1-800-486-5869

Fax 1-973-334-0003

contactus@firstenvironment.com

www.firstenvironment.com

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