



Other Grants Approved Through the Environmental Grants Program

Organization: SOBRO

Project Name: Taino Plaza

Amount of grant: \$125,698

Description: Gap funding for installation of photovoltaic panels on Taino Plaza, with 105 units of affordable residential units—NYSERDA funding balance

Organization: Association for Energy Affordability

Project Name: Bronx Performance Training Center

Amount of grant: \$166,300

Description: Build out of boiler laboratory facility & design of energy management system

Organization: Alliance for Community Service

Project Name: Professional research, outreach & business development

Amount of grant: \$60,000

Description: Outreach for BOEDC to Bronx-based contractors and small businesses re: NYSERDA programs to encourage energy surveys

Organization: Department of Environmental Protection

Project Name: Spray gun amnesty program

Amount of grant: \$15,000

Description: VOC & particulate reduction project through enhanced high volume, low pressure spray guns in Bronx auto body shops—will pay for new guns when old guns are turned in

Organization: BOEDC/BIEE

Project Name: Free Energy Surveys

Amount of grant: \$15,000

Description: First phase of cost-free energy survey program for Bronx businesses—to reimburse small businesses that pay for NYSERDA energy survey

Organization: Greening for Breathing

Project Name: Air Cleaning through Greening

Amount of grant: \$24,348

Description: Planting, physical protection & community stewardship development initiative

Organization: The Point CDC

Project Name: Solar and Wind Powered signage and Lighting

Amount of grant: \$83,000

Description: Two wind turbines & photovoltaic panels & batteries on roof for electrical generation of signage and outdoor lighting—visible from Bruckner

Green Roof movement



With a dramatically extended roof life, 30-40% energy savings for the floor underneath the roof, and environmental benefits of air quality improvement and storm water management, green roofs may become the roof of choice in our borough in the coming years.

The Environmental Grants Program of the Bronx Initiative for Energy and the Environment (BIEE) is the underpinning for a green roof movement in The Bronx. In addition to the demonstration green roof that BIEE will be installing in the South Bronx, BIEE has followed through on its commitment to this environmental technology through its grant making.

The first grant of \$15,000 went to Sustainable South Bronx for their South Bronx Green Roofs General Outreach Strategy. This grant will provide for a public relations and outreach campaign to encourage the development of green roofs by businesses and building owners in The Bronx.

In addition, four green roofs have been funded through the first two cycles of the Environmental Grants Program, for designing and installing a roof of vegetation in place of a conventional roof. Bronx Preparatory Charter School will receive a grant for \$64,000 for the development of a 2,500 square foot green roof on their new school building. Not only will the roof improve air quality, absorb storm water runoff and reduce the school's energy costs, but also the roof will provide a laboratory for future curriculum on environmental issues and ecology.

Fordham Bedford Housing will receive a grant of \$47,600 that will place a green roof on its gut rehabilitation project at 2241 Webster Avenue. The 2,000 square foot green roof will reduce energy costs for the building while providing a model for other building owners and managers in the area.

Mount Hope Housing Company, Inc., is implementing innovative "green" building technologies in its construction of the Mount Hope Community Center. The \$125,000 grant from BIEE will support the inclusion of two green roofs and daylight louvers in the building's design.

BIEE's Environmental Revolving Loan Fund will provide no-interest loans to businesses, building owners and non-profits interested in employing green roof technology. With a dramatically extended roof life, 30-40% energy savings for the floor underneath the roof, and environmental benefits of air quality improvement and storm water management, green roofs may become the roof of choice in our borough in the coming years. For more information, please call Kate Shackford at (718) 590-7159.

Energy Program Targeting Low-Income Housing Aids The Bronx

The US Department of Energy's Weatherization Program helps support the economic viability of affordable housing throughout the Bronx by guiding and matching owner investment in energy efficiency measures that reduce energy waste and promote health, safety and comfort in residential properties, from small (1 to 4 family) homes to multifamily apartment buildings. The program is carried out by local community based non-profit organizations that work in partnership with local contractors and property owners and thus also contribute to local economic development. The measures installed are determined by an energy audit of the buildings and include only cost-effective measures that will pay for themselves over the life of the measure while also reducing energy consumption by an average of over 20% annually.

To find out more information about whether your home or building might be eligible to take advantage of this federal investment in energy efficiency, or for information about other government supported residential energy programs you can contact the Association for Energy Affordability (AEA) at 718-292-2733 ext 201. To be eligible for weatherization, the building must have a majority of low-income households (over 50% must have incomes under 60% of the state median income for that size family). AEA and the other local weatherization agencies will work with the tenants to determine the building's eligibility.

AEA is a 501c3 not-for-profit energy training and

technical services organization that also provides direct weatherization services to small homes and multifamily buildings in the South Bronx, as well as energy audits and other technical services and training to other weatherization service providers serving communities in the Bronx (Bronx Shepherds Restoration Corporation, Northwest Bronx Community Clergy Coalition, and Corporation for Youth Energy Corps). AEA and the other Bronx weatherization agencies are also involved in NYSEERDA's Assisted Multifamily Program, which targets government assisted housing, and its Assisted Home Performance with ENERGY STAR Program, which targets the working poor living in 1-4 family housing

AEA's Unique, Hands On Building Performance Training Center in the Bronx.

AEA also has begun its *Building Performance Training Center*, which is centrally located and convenient by car, subway and bus, and just off the Willis Avenue Bridge on Bruckner Blvd. This facility has begun this summer to provide a unique venue for specialized hands-on, energy training programs targeting the needs of residential buildings. The physical layout includes a "boiler room" with several functioning boiler/burner systems and controls (and other system components) designed to incorporate a variety of "hands-on" diagnostic learning opportunities, as well as a "shop" with a variety of props and mock-ups designed to demonstrate principles of multifamily

building operation, and a large classroom with digital videodisc, internet access and computer-based visual presentation capabilities

AEA's training currently targets boiler contractors, weatherization field inspectors and building "supers" and maintenance staff. The goal of the training is to ensure a comprehensive, "hands-on" understanding of the superintendent's responsibilities through the material introduced, the equipment demonstrated and the real-world case examples discussed and reviewed in the classroom, the "heating lab" and the field. The learning objectives include imparting an understanding of steam and hot water heating systems and controls, as well as domestic hot water issues, and energy savings opportunities through effective building maintenance and use of new technologies.

The Bronx Initiative for Energy and the Environment congratulates

- Per Scholas, Inc.
- Just Wood, Inc.
- Weather Guard Marbeloid, Ltd

These businesses have received reimbursements on their Energy Surveys. How about yours?

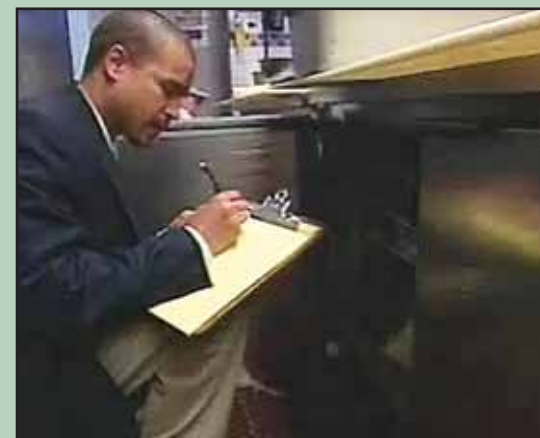
By participating in our survey you can help your business decrease the energy costs by learning cost efficiency techniques.

Here are the steps:

1. EME Group conducts the survey.
2. You submit a check payable to NYSEERDA as verification that your business has taken part of the AUDIT SURVEY.
3. The Bronx Initiative for Energy Efficiency will reimburse your business for the cost of the survey.

*****THE AUDIT IS FREE*****

For further information, contact Anthony Hernandez at the Bronx Overall Economic Development Corporation - (718) 590-2504 or email ahernandez@boedc.org



EME specialist conducts an audit survey in a Bronx business.
Photograph courtesy of EME group

Greening for Breathing: Trees make your business beautiful

Trees and vegetation are a beautiful and easy way to add value to property, improve the health and well being of a neighborhood, and create a beautiful landscape for residents and businesses.

In environmentally overburdened communities like the South Bronx, where rates of respiratory illness are among the highest in the nation, the physical and mental health benefits of trees are crucial. Trees help clean the air by catching particulate matter in their leaves, slowing wind velocity, and releasing oxygen. Although increasing vegetation should never substitute for reducing the presence of pollutants, it is an important environmental strategy that can have tangible impacts on people's health.

Trees benefit businesses. For example, customers have better mental associations with businesses that have greenery and vegetation; so tree-lined blocks contribute to making an area an attractive and appealing place to go shopping. Vegetation cools buildings in the summer, reducing electricity costs, and they help provide a sense of community, boosting employee morale and customer satisfaction. And, trees increase the property value of the land on which the business is located. Any way look at it; caring about trees is a smart business move.

There are many ways that a business owner can contribute to making the Bronx a greener and healthier place. Property owners can request that the city plant trees on their property, or they may choose to plant trees at their own cost. Once planted, or if there are trees already on your property, managers should be sure to care for the trees. Street tree care

is quite simple, and a little effort goes a very long way in ensuring the health and aesthetic appeal of your greenery.

Another major way that business owners can contribute to the health of a street tree is to install tree guards around the trees on their property. Guards protect trees from typical urban hazards such as pedestrians, dogs, and truck traffic. Even after a business owner has ensured that his/her property is beautiful and contributing to the health of the community, there are many creative ways that businesses can partner with groups to extend these benefits into the wider community. Businesses can adopt trees on an entire block, or spread the word about greenery to their colleagues. They can sponsor plantings of flowers or teams of young volunteers. The possibilities are endless!

There are many places to go to learn more about street trees and greenery: Trees New York at www.treesny.com is a good place to see documentation about the impacts of trees on businesses, and to learn about basic tree care and guards. To request a street tree online, visit the Department of Parks and Recreation at http://www.nycgovparks.org/sub_your_park/trees_greenstreets/street_tree_info.html. Partnerships for Parks, (212) 360-1310, is also a good place to inquire about local greening groups with which you can collaborate. Greening for Breathing is one such group that is located in Hunts Point. For greening suggestions in that area, or to learn more about ways to green your neighborhood, you can call Elena, coordinator, at 718.617.4668.

Electric Transportation:

An old idea with new technology offers hope for the environment

Electric vehicles are an old idea that has come back into use due to the increasing attention on reducing air pollution emissions and dependence on foreign oil. The first practical electric cars were built as early as 1888, and by 1904 approximately one third of all cars in New York City, Chicago and Boston were electrically powered. While there were still electric cars being driven well into the 1940's, the advent of the internal combustion engine, with its greater power and range, eclipsed the electric car fairly quickly.

Now automakers are beginning to produce electric and hybrid-electric vehicles for mass consumption. Model electric buses are being utilized in New York City (mainly in Brooklyn), and the U.S. Postal Service has a fleet of electric vans that are reducing emissions in all five boroughs. Electric forklifts are becoming standard equipment in many markets, and electric "golf-carts" are being utilized by NYPD in their patrols at Yankee Stadium and in other venues.

Why electric vehicles?

Motor vehicles emit several pollutants that the Environmental Protection Agency (EPA) classifies as known or probable human carcinogens. Benzene, for instance, is a known human carcinogen, while formaldehyde, acetaldehyde, 1,3-butadiene and diesel particulate matter are probable human carcinogens. The EPA estimates that mobile (car, truck, and bus) sources of air toxics account for as much as half of all cancers attributed to outdoor sources of air toxics. This estimate is not based on actual cancer cases, but on models that predict the maximum number of cancers that could be expected from current levels of exposure to mobile source emissions.

In contrast, electric vehicles are considered zero-emission vehicles because all emissions are centralized to the electricity-generating power plant, where there is constant monitoring and initiatives for emissions reduction. There are *no* air-polluting emissions coming from the vehicles themselves. They represent a cleaner way to convert fossil fuels—oil, coal and natural gas—to automotive power. The fossil fuels are burned at a power plant to make electricity to recharge the battery. Substances that pollute the air can be controlled more easily at a power plant than at the tailpipes of millions of gasoline-burning cars. The result is that air quality, especially in large cities, can be improved with electric cars or hybrid electric vehicles.

Electric vehicles are more efficient than gasoline-powered vehicles. They represent an easy and efficient way to harness existing energy sources because any energy source can be converted into electricity. In addition, electric vehicles are nearly silent, reducing traffic noise, and the maintenance of electric vehicles is minimal and very low cost.

How do electric vehicles work?

An electric vehicle stores its energy on board—typically in batteries, but alternatively with capacitors or flywheel storage devices, or by generating energy using a fuel cell or generator. Most current versions of electric cars use some combination of these energy sources, but "pure" electric vehicles run only on batteries and need a charger to replenish the battery's power from an electrical outlet.

The motor of an electric vehicle harnesses the battery's electrical energy by converting it to kinetic



energy. The driver simply switches on the power, selects "forward" or "reverse" with another switch, and steps on the accelerator pedal. Most electric vehicles have a regenerative braking system—the braking system acts as a battery charger. When drivers ease up on the accelerator or step on a brake pedal, the drive motor acts as a generator and converts the vehicle's momentum back into electricity and stores it in the battery. Converting the kinetic energy into electric energy slows the car. Electric cars also have a brake pedal and a traditional braking system, which uses friction to slow the vehicle for quick and emergency stopping. These friction brakes convert kinetic energy to heat. In gasoline-powered cars, this energy is wasted. Energy conservation in electric cars, however, is so important that engineers found a way to recover the heat and use it—for

example, by heating the passenger compartment.

The main drawback to electric vehicles is their limited range, as they must be recharged every 40-100 miles, depending on the use of air conditioning or radio, which depletes their electricity more quickly. They require a recharging station, and the recharging takes about three hours to complete. Electric vehicles also are not yet able to accelerate, cruise and climb fast enough to compete with gasoline-powered cars.

A recent development is the hybrid electric vehicle (HEV), which uses both an electric motor and a gasoline or diesel engine that charges the batteries in order to extend the car's range and often to provide additional power. Until cars with fuel cell technology come to market, automotive experts believe that car manufacturers will offer HEV's in wide variety. They represent an interim step, taking advantage of clean electric power, but also of proven internal combustion engine technology. Electronic components enable internal combustion engines, powered either by gasoline or diesel, to charge a car's batteries, propel it down the road, or shut down entirely. An HEV at a stoplight typically sits silent, burning no fuel and making no pollution. If driven slowly, as in heavy traffic, the vehicle might move only on electric power. Only when more power is demanded for acceleration or to move a heavy load, does the gasoline or diesel engine come into play.

Some experts predict the development of small electric cars that can be used in neighborhood settings, much like golf carts. Engineers have improved the efficiency of pure electric vehicles with lightweight structures, more efficient air conditioning, and low-drag aerodynamics. The pure electrics are likely to find a niche as short-range delivery and pickup vehicles. For instance, they are ideal in New York City for postal trucks, which average 8-10 miles per day in deliveries, operate mostly in stop-and-go traffic, and require idling, which produces no pollution with electric vehicles.

Much of the above information was found in "Electric Car," Microsoft Encarta Online Encyclopedia 2003, <http://encarta.msn.com> © 1997-2003 Microsoft Corporation. All Rights Reserved.

Current Hybrid Electric Automobiles

Hybrid electric cars now can be purchased commercially. Such cars include:

Honda Civic: the new 2003 Civic hybrid electric vehicle, built off the current Civic sedan, features an improved version of Honda's integrated motor assist (IMA) system. The IMA system provides a combination of excellent drivability and gas mileage (projected at about 50 miles per gallon. The hybrid is expected to be certified nationwide as an "Ultra-Low Emission Vehicle," with about 80% reduction in hydrocarbon emissions compared to a conventional car. The five-passenger Civic hybrid can be purchased (or ordered) from any local Honda dealership.

Honda Insight: this was the first HEV to be available for public purchase. The two-seat sporty car was introduced across the country in late 1999 and earns the best EPA mileage ratings in history, rated at 61-mpg city/70-mpg highway. At the heart

of the Insight is Honda's IMA system, which combines the world's lightest 1.0 liter, 3-cylinder gasoline automobile engine with an ultra-thin electric motor. The Insight is available from any local Honda dealership.

Toyota Prius: The Toyota Prius is available for sale in the U.S.; the five-passenger vehicle has been sold successfully in Japan since 1998. The Prius has a 1.5 liter, 16-valve, EFI 4-cylinder with Variable Valve Timing with intelligence (VVT-I). The engine produced 70hp @4200 rpm and 82 ft/lbs of torque @4200 rpm. The Prius' compact light-weight battery pack is comprised of sealed nickel-metal hydride modules that produces 274 volts. The Prius gets about 52 mpg in the city and 45 mpg on the highway (which is about 48 mpg combined).

See <http://www.att.doe.gov/hev/where.html> for further information.

Taino Plaza - A building of the future in the Bronx

In 1997, the South Bronx Overall Economic Development Corporation (SoBRO) initiated the development of *Taino Plaza*, a new construction of a seven-story residential/commercial building on a 34,000 square foot, formerly vacant lot located at East 164th Street and Washington Avenue. Upon completion, Taino Plaza will add 105 new units of affordable residential units to the community and over 18,000 square feet of commercial space to the local stock. This two-year project was completed in the summer of 2004.

SoBRO, L&M Equity Participants Ltd., its co-developer, and Curtis + Ginsberg Architects LLP(C+GA) joined forces to maximize the energy efficiency of the structure, incorporating a condensing boiler, Energy Star appliances, and efficient lighting fixtures, as well as additional insulation and upgraded window glazing. The most cutting edge technology employed in the building will be on the roof, a Photovoltaic (PV) cell array, which will generate a portion of the building's electrical needs.

A 30 kW UNI-SOLAR Building-Integrated Roofing System (BIPV-RS) was added to *Taino Plaza* at a cost of nearly \$270,000. It consists of UNI-SOLAR's "SolarQuilt" PV array, a DC-AC inverter, and associated disconnects and safety features. A computerized Data Acquisition system will provide the building with real time and accumulated information on the performance benefits of the system. The Uni-Solar SolarQuilt integrates our US-116 PV module on the roof of the building using a low roof impact, lightweight, serviceable safe design which has been wind load tested to remain in place when exposed to 150 mph winds.

The energy generated by the photovoltaic system

will be dedicated to support "house" electrical loads – elevators, common area lighting in corridors, stairwells, lobby, etc costing about 50% less in building electrical costs.

This PV system will also positively affect the air quality and reduce overall demand on the electrical utility. The system will result in an annual reduction of emissions common to residential properties of this size, such as carbon dioxide, sulfur dioxide, and nitrous oxide. Utilizing the PV system allows for on-going energy security. By securing the installation of highly energy efficient heating systems, upgrading the lighting systems and using Energy Star appliances in all residential units, the financial health of this project is enhanced and the on-going stability of this project is ensured.

40 – 70 % of the energy upgrades were funded by the New York State Energy Research and Development Authority (NYSERDA). The Bronx Borough President, Adolfo Carrion, Jr. and the Bronx Overall Economic Development Corporation (BOEDC), through the Bronx Initiative for Energy and the Environment, generously provided the balance of funding to bridge the development gap.

Taino Plaza will be the first completely "green" building developed in the Borough and one of the first mixed-use (residential/commercial) buildings to apply solar panels in New York City. It provides a historic example and precedent for future housing developments in the County and provides a model for successful, environmentally sound and responsible mixed-use development projects.

Carrion who has introduced The Bronx At Work initiative - a plan to boost the Bronx economy that includes affordable housing development said:

"More affordable housing availability is vital to the economic revitalization of the Bronx. Taino Plaza will provide more than just much needed housing for Bronxites. It will further strengthen the economic base and quality of life for the borough by providing jobs as a result of the retail space. The buildings, which have been vacant for some time, will contribute to a safer and cleaner neighborhood where businesses can grow and where residents can enjoy the benefits and amenities of a strong and growing community."

Greening The Bronx Grants Program

The Bronx Borough President, Adolfo Carrion, Jr. and the Bronx Initiative for Energy & the Environment (BIEE), a program of the Bronx Overall Economic Development Corporation (BOEDC), announce the establishment of the Greening the Bronx Grants Program, designed to encourage non-profit organizations and small businesses to utilize greening strategies to mitigate pollution problems in The Bronx.

Up to \$1 million in funding is available for eligible project activities that include greening strategies to reduce pollution. Projects include: tree planting and tree maintenance; education for tree stewardship; and green roof development. Additional projects meeting program priorities will be considered. Priority will be given to projects that:

- Result in the greatest pollution reduction per program dollar
- Leverage private and public cost-sharing for project development
- Represent a planned approach to greening strategies
- Offer unique and innovative partnerships and approaches to meeting critical needs and priorities.
- Represent Long Term Sustainability
- Have community involvement and support
- Provide greening strategy implementation, not solely a study
- Represent community vision of greening strategies

Eligible applicants:

Non-profit organizations and small businesses operating in The Bronx.

Funding Amounts and Proposal Format:

Applicants submitting project requests of \$15,000 or less should submit a project narrative not to exceed two (2) pages, plus a detailed budget.

For project requests of over \$15,000 and up to a maximum of \$125,000, the Project Summary should not exceed 1 page, with the total project narrative not exceeding ten (10) pages. BIEE will give priority to proposals for a challenge grant. Challenge grants will be committed for eight months while the matching funds are raised.

Proposals should be submitted electronically. Please email your proposal and budget to: kate@boedc.org. If you do not have access to email, please send a disk to:

Kate Shackford, Director
Bronx Initiative for Energy and the Environment
Bronx Overall Economic Development Corporation
198 East 161st Street, Suite 201
Bronx, New York 10451

Program questions can be directed to Kate Shackford at (718) 590-7159 or kate@boedc.org.

The Tree Team in the Bronx

The Bronx at Work, a Bronx Borough President initiative, conducted a tree study through the BIEE/Bronx at Work Tree Team Program. BIEE hired seven interns for the summer of 2004 to inventory existing tree stock and potential locations in Community Boards 1 and 3. The Tree Team's goal was to identify the locations for new tree plantings in Community Board 1 and 3 and part of Community Board 2. Community Board 1, however, was the Tree Team's top priority. The Tree Team consists of seven interns hired for eight weeks. The selected interns were high school and college students who have an interest in the environment and community development. The interns worked in teams of two. One intern in each team was bilingual. The interns were easily identified by the community and business owners through their BIEE/Bronx at Work Tree Team t-shirts. They were encouraged to speak with community members about their project and how community members can promote trees in their communities.

"It was definitely a learning experience for all of us. Members of the community would come up to us to congratulate us for the great work and seemed



Tree team participants for 2004 were Dennis Barreto, Alexis Gonzalez, Joshua Memsah, Elvis Nelson, Marcus Nicholls, Daniel Nwosu, and Lillian Santiago.

very interested in what we were doing. It was the most rewarding summer job a kid can have." says Alexis, one of the Tree Team members.

The "Bronx Internship Bank" provides a listing of summer & college internship opportunities for college & high school students to experience while attending school. These internships will give young people a sense of the real world of work and the workplace requirements and challenges.

Congratulation to the Tree Team 2004!

For more information on internships, go to www.thebronxatwork.com