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Project: RenewableNY – An Industrial Energy Conservation Initiative

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Executive Summary

The New York Industrial Retention Network (NYIRN) manages the RenewableNY program to assist industrial companies in New York City to implement energy efficiency projects. RenewableNY provides companies with project management assistance and grants to identify opportunities for energy savings and implement energy efficiency projects. Promoting energy conservation helps to improve a company's efficiency and competitiveness, thereby helping to save jobs and provide real energy savings in New York City.

The program helps companies identify energy efficient projects, complete an energy audit, and connect with energy contractors who install renewable energy and energy efficient equipment. It also provides grants to help cover the costs of installation for new systems and equipment. Despite the high costs of energy in New York City, encouraging industrial companies to employ energy conservation and alternative energy technologies presents unique challenges. New York City industrial companies are overwhelmingly small businesses who often do not have the depth of management to investigate renewable energy technologies, seek government assistance necessary to make the projects economically feasible, and obtain bids from energy contractors. In addition, they are often family-owned businesses and are frequently not well-capitalized, and may not have the necessary funds available to initiate a project. RenewableNY demonstrates that a small grant program that also provides project management assistance can incentivize companies to implement energy efficiency projects that might otherwise be avoided.

For the contract period of 2009, RenewableNY received \$479,000. Of that contract, \$300,000 was allocated to be given to companies as grants. Grants were given to 12 New York City companies who employ a total of approximately 1,050 people. The average grant was nearly \$25,000. This funding facilitated the installation of projects such as energy efficiency lighting, solar energy systems, energy efficient process equipment, combined heat and power (CHP), and other efficient technologies. RenewableNY grants leveraged private investment from the participating companies, as well as available City, State, and Federal incentives.

There has been much discussion on the local, state, and national levels about encouraging building owners to invest in energy efficiency projects. RenewableNY demonstrates that small business owners, including renters, will invest in capital improvements if they are

provided with project management assistance, as well as funding to supplement existing incentives. An estimated half of the projects would not have occurred, but for the RenewableNY funding. For the other projects, RenewableNY funding helped to accelerate or expand a project that was already being considered or was partly underway.

As the average grant is approximately \$25,000, this suggests that a small grant program in New York City would be successful in addressing a long-acknowledged obstacle in energy efficiency: how to get businesses to invest in energy efficient capital improvements *now* that will save them money in the long run. Such a grant program could be the determining factor for some companies in deciding whether to undertake energy efficiency projects. For other companies who had already decided to implement a project, it could provide deeper incentives for capital investment projects that demonstrate energy efficiency. In the current economic situation, these additional incentives are particularly valuable. With a tremendous focus on the local, state, and Federal level about the most efficient way to spend government funding for energy efficiency, RenewableNY demonstrates a program that is both technically and economically feasible right now.

RenewableNY benefits the public on several levels. On a basic level, energy efficiency improves the competitiveness of a manufacturing company, thereby helping to save jobs and allowing for further re-investment in the business. Manufacturing companies in New York City provide solid, blue-collar jobs to local residents and are a crucial component in a diverse economic market. The manufacturing workforce itself is particularly diverse: 78% are people of color, 64% are immigrant, and 82% live in the outer boroughs (beyond Manhattan) [source: NY State Department of Labor, 2005]. By supporting the companies, employees' jobs are retained and supported as well.

Since all of the energy contractors that NYIRN recommends through RenewableNY are based in the City, RenewableNY further contributes to the overall growth of the green collar sector in New York City. By promoting the transformation of manufacturing facilities to become more energy efficient, RenewableNY impacts the local energy service sector – auditors, engineers, electricians, contractors, and their employees. As New York City continues to focus on building its green collar sector, RenewableNY provides another platform for the growing service sector in this market.

On an environmental level, RenewableNY energy efficiency projects contribute to the overall health of the City and the goals of the Mayor's sustainability plan for New York City, PlaNYC. In 2007, the industrial sector produced 12% of citywide carbon emissions¹. RenewableNY plays an important role in conducting outreach directly to the industrial sector about the value of energy efficiency, and in helping companies take steps toward implementing projects. PlaNYC includes commitments to foster the market for renewable energy² and reduce the City's carbon emissions by 30% by the year 2030³, and RenewableNY could play an important role to help the industrial sector meet those goals.

¹ http://www.nyc.gov/html/planyc2030/html/emissions/emissions_data_2008.shtml#citywide

² <http://www.nyc.gov/html/planyc2030/html/plan/energy.shtml>

³ <http://www.nyc.gov/html/planyc2030/html/emissions/emissions.shtml>

Estimated savings through RenewableNY include 324,500 kWh saved through efficiency installations, 158 kW of solar energy systems installed, and 945 thm of gas avoided.

Comparison of Accomplishments with Project Goals

The objectives of the project were to provide both financial assistance, as well as administrative and technical support to the manufacturers. On the whole, RenewableNY met the stated project goals:

Goal 1: Market the program

Accomplishment:

Marketing the program was conducted through emails, mailings, newsletters and events. Over 5,000 manufacturing companies throughout the five boroughs were targeted.

Goal 2: Help each company obtain an advanced energy audit

Accomplishment:

RenewableNY helped one company (Brooklyn Brewery) obtain a detailed energy audit. For many other companies, it was clear after the initial site visit by an energy contractor that a detailed audit would not be useful for the facility. In these instances, the energy contractor was able to identify simple energy efficiency measures (such as lighting) that would save money for the facility, without having to go through the time and expense of a detailed audit. Other companies were in the process of and/or had completed a detailed audit, and some had already identified specific energy efficient measures they wanted to install. For the companies interested in installing a solar energy system, a detailed energy audit was not necessary to determine the energy and cost savings of the system.

Goal 3: Work with each company to develop an appropriate conservation strategy

Accomplishment:

RenewableNY provided less technical assistance in this respect, and more general encouragement and management support for the companies to move forward with a project. Ultimately, it was the energy contractors who helped each company develop an appropriate conservation strategy.

Goal 4: Competitively bid the project

Accomplishment:

RenewableNY provided companies with the contact information of energy contractors to obtain competitive bids for projects. In some instances, a company had already begun a project, and was already working with a contractor.

Goal 5: Assist in applying for other funding (such as from New York State)

Accomplishment:

This assistance was provided by the energy contractors and not RenewableNY. Though RenewableNY ensured that the energy contractors included this service in their scopes, it did not make sense for RenewableNY to get involved in the technical aspects of applying for incentives for a project.

Goal 6: Case manage each project

Accomplishment:

RenewableNY was in frequent contact with both the manufacturing companies and the energy contractors. Case management included a site visit to each company, frequent conversations via telephone and email, assistance in setting up meetings, deadlines for submission and approval of project scopes, and general project overview assistance. In certain instances, more oversight was necessary to ensure that the project moved forward, and RenewableNY would reach out to the manufacturer or energy contractor to streamline the process and ensure completion of paperwork.

Summary of Project Activities

The original hypotheses for the program included providing project management support, technical assistance, and funding to companies to implement energy efficiency projects.

RenewableNY allocated \$300,000 in funding to twelve companies.

Table I: Summary of projects

Company	Sector	Employees	Project Description	RenewableNY Funding
Allied Sample Card	Printing	20	Lighting	\$10,400
Brooklyn Brewery	Beverages	40	Energy audit & new boiler	\$43,000
Dell's Maraschino Cherries	Food	24	Process equipment	\$40,000
Dynamic Health Laboratories	Beverages	26	Lighting	\$8,600
Hoskie Co.	Food	38	Cogeneration	\$30,000
Interstate Envelope Manufacturing	Printing	45	Lighting	\$8,000
Melita Corp.	Food	126	Ovens	\$50,000
Precision Gear	Aerospace	140	Solar energy system	\$40,000
Rainbow Leather	Leather	8	Solar energy system	\$20,000
Sarut	Accessories	23	Solar energy system	\$5,000
Steinway Inc.	Pianos	545	Solar thermal system	\$40,000
Suna Bros.	Jewelry	22	Lighting	\$5,000
Total:		1,057		\$300,000

Approaches Used

1. Outreach

NYIRN conducted extensive outreach to raise awareness of the economic and environmental advantages of energy efficiency at industrial sites, and to publicize the availability of funding. Outreach included emails and mailings to companies in the NYIRN database, as well as ongoing notifications in NYIRN's monthly newsletter to manufacturers. Targeted mailings to different geographic areas were sent out; in total, mailings reached over 5,500 companies.

NYIRN also included information and flyers about the program at all sector-related events it attended.

Information about the program was sent to representatives of other local economic development and environmental organizations so they could inform the companies they work with about the program. Several organizations included information about RenewableNY in their monthly newsletters.

Based on the outreach detailed above, NYIRN received approximately 50 responses of inquiry. NYIRN spoke with these companies to review program information and gather energy usage data. These companies were sent an Energy Intake Form to provide further information to NYIRN about their energy usage, and to gauge the level of company interest in pursuing a project. NYIRN forwarded this energy intake information to the energy contractors, who were able to determine whether a project would be feasible. When appropriate, NYIRN then introduced companies to energy contractors and a phone conversation or site visit was arranged to determine the economic feasibility of projects at a facility. For companies interested in pursuing projects, NYIRN provided assistance in obtaining competitive bids from energy service providers.

Problems Encountered and Departure from Planned Methodology:

Mailings were sent out to over 5,500 companies and NYIRN received inquiries from approximately 50 companies. This is a return rate of less than 1%. This relatively low rate of return can be attributed to several factors, including the fact that the program required some level of financial investment on the part of the company and was not a grant program that would cover 100% of installation costs. Some companies who replied to the mailing immediately stated that they were not interested in participating if they had to make any financial investments.

Another mitigating factor was that outreach for the program was done in the first half of 2009, during the height of the economic crisis. Many companies were not in a position to undertake capital improvements at this time.

Assessment on Project Results:

Ultimately, the low rate of response did not impede the success of the project. The 12 companies who were selected were, by definition, interested in pursuing a project and were able to contribute some level of financial investment towards their projects. Furthermore, as the total amount of funding available was \$300,000, each of the 12 companies was able to receive an amount of funding that made a significant contribution to their project cost.

2. Referrals

Many small businesses faced logistical obstacles in starting energy efficiency projects – they did not know what was technically feasible at their facility, what made economic sense, and who the local reliable energy contractors were. In recognition of these obstacles, RenewableNY provided a list of energy contractors as referrals to the manufacturing companies who were interested. These service providers were all located

in New York City and were familiar with New York City industrial energy issues, as well as the available city, state, and federal incentives. For those companies who were already in the process of projects, it was not necessary to provide contractor referrals.

The energy contractors included auditors, engineers, and installers who specialized in different areas of energy efficiency, including:

- Energy Auditing
- Lighting and lighting controls
- HVACs
- Boilers
- Process equipment
- Solar energy systems

Each contractor provided project design, management, and installation services. In addition, each contractor compiled the necessary paperwork for other available incentives, including those from New York State Energy Research and Development Authority (NYSERDA). **This ability to leverage other public funding was a crucial component of the program.**

The recommended contractors entered into a referral arrangement with NYIRN for the provision of services to grantees under NYIRN's RenewableNY program. Grantees were not obligated to select from these contractors and were free to use any contractor of their choice. In select projects, NYIRN was paid a commission by the energy contractor. These payments helped to defray administrative costs of the program.

Problems Encountered and Departure from Planned Methodology:

In some instances, the identified energy contractor decided not to pursue specific projects. This typically happened when a project was relatively small, e.g. only involving lighting. The energy contractor went ahead with these projects when it made financial sense for them; at other times, they gave these projects to their sub-contractors who only performed lighting retrofits.

Assessment on Project Results:

For those projects where the energy contractor decided not to submit a project proposal, the timeframe of the project was extended. Though the implementation of a project was ultimately completed, more time was necessary to set up additional conversations and site visits for the sub-contractor.

3. Selection of Companies

Companies interested in participating in the program were required to submit an application to NYIRN, including:

- General business and operations info
- Energy usage data
- Company's future outlook for the next four years
- Copy of lease or proof of building ownership

- One full year of utility bills
- Energy audit or project scope

Criteria for approval and determination of grant amount included:

- Location
- Number of employees
- Company's future outlook
- Annual energy spending
- Energy consumption (per sq. ft.; per employee)
- Overall benefits of proposed capital improvements
- Cost of project
- Estimated energy savings
- Payback period
- Return on Investment
- Ability to submit necessary application material

Problems Encountered and Departure from Planned Methodology:

As a result of the outreach and marketing of the program, several companies approached RenewableNY who were already in the process of making energy efficiency improvements at their facilities. While these companies did not need project management or technical support, they were still interested in receiving funding for their projects.

Assessment on Project Results:

These projects were considered on a case-by-case basis. For some, it was clear that the project was nearly complete and funding was already in place; it was therefore decided that RenewableNY funding would not be awarded. For others, particularly those with larger capital improvement projects or projects that were stalled due to financing constraints, it was decided that RenewableNY funding would be contribute to the project moving forward.

4. Energy Savings

Table II. Energy Information

Company	Project Description	Energy Information
Allied Sample Card	Lighting	16,806 kWh saved annually
Brooklyn Brewery	Energy audit & boiler	945 thm (gas)
Dell's Maraschino Cherries	Process equipment	110,950 kWh saved annually
Dynamic Health Laboratories	Lighting	26,290 kWh saved annually
Hoskie Co.	Cogeneration	75 kW system
Interstate Envelope Manufacturing	Lighting	37,477 kWh saved annually
Melita Corp.	Ovens	TBD (gas)
Precision Gear	Solar energy system	80 kW system
Rainbow Leather	Solar energy system	38 kW system
Sarut	Solar energy system	40 kW system

Steinway Inc.	Solar thermal system	120,834 kWh saved annually
Suna Bros.	Lighting	12,234 kWh saved annually

Total: 324,591 kWh saved annually
158 kW solar energy system installed
75 kW cogeneration unit installed
945 thm saved annually (to date)

Demonstrations of energy savings were required for each project. Each company was required to submit 12 months of energy usage data before project installation. This will help evaluate energy savings once the project is implemented. Final analysis of energy savings will be conducted 12 months after each project is implemented.

Problems Encountered and Departure from Planned Methodology:

Since types of project varied, energy savings data was not uniform across projects. Energy savings for several projects (particularly lighting) were measured in annual kWh saved. For renewable energy systems such (i.e. solar energy systems), the size of the system (in kW) was tracked. For those projects involving boilers and ovens, energy savings was measured in thm saved. It was therefore difficult to formulate a claim such as, “through RenewableNY, approximately X amount of energy was removed from the grid.”

Assessment on Project Results:

For each project, energy contractors calculated energy savings according to established energy efficiency standards, including those of NYSERDA. This allowed RenewableNY to build upon energy efficiency standards that already existed through the State, and to use NYSERDA standards as a measure of eligibility for receiving RenewableNY funding. While a general statement covering all of the energy savings may not be technically useful, NYIRN is still able to accurately track and describe the energy savings attributed to the RenewableNY projects (see Table II above).

5. Project Costs

Table III. Project Costs

Company	Project Description	RenewableNY Funding	Total Project Cost
Allied Sample Card	Lighting	\$10,400	\$13,000
Brooklyn Brewery	Phase 1: Energy audit	\$4,000	\$16,000
	Phase 2: Boiler	\$39,000	\$88,620 *
Dell's Maraschino Cherries	Process equipment	\$40,000	\$363,639
Dynamic Health Laboratories	Lighting	\$8,600	\$13,048
Hoskie Co.	Cogeneration	\$30,000	\$360,000
Interstate Envelope Manufacturing	Lighting	\$8,000	\$18,000
Melita Corp.	Ovens	\$50,000	\$178,140 *
Precision Gear	Solar energy system	\$40,000	\$794,373

Rainbow Leather	Solar energy system	\$20,000	\$295,850
Sarut	Solar energy system	\$5,000	\$196,475
Steinway Inc.	Solar thermal system	\$40,000	\$123,000 *
Suna Bros.	Lighting	\$5,000	\$6,636
Total:		\$300,000	\$2,466,781

* In these cases, larger energy efficiency projects were being done and RenewableNY funding went towards one piece of equipment or a component of a larger system. The figures listed represent the total cost of one component of a larger project. Ultimately, total project costs are higher for these projects.

Problems Encountered and Departure from Planned Methodology:

NYIRN considered several options to maximize the financing offered through the program. In particular, NYIRN investigated the feasibility of offering loans as well as grants to eligible companies. Loans were considered since NYIRN would then be able to re-invest the funding in additional energy efficiency projects once the loans were paid back, and the program could eventually become partially self-funded. Several structures for loans were considered, including partnering with financial institutions as lenders, setting up a revolving loan fund, and using funding as a guarantee for a third-party loan (in the form of a CD deposit, for example). NYIRN was eventually advised by DoE representatives that it was not permissible to use the DoE funds as guaranteed loans.

Assessment on Project Results:

Although NYIRN considered further investigations into loan scenarios that would be eligible under DoE regulations, it was ultimately decided that funding would be allocated only as grants. It was not possible then, to provide the program with a mechanism to generate funds in order to become less reliant on government funding in the future. Under the new American Recovery and Reinvestment Act, this obstacle may no longer be in place.

Products Developed Under the Award

NYIRN will produce a report summarizing the RenewableNY projects. This report will be made available to the public and listed on the NYIRN website. NYIRN will also organize press releases and press conferences when appropriate, to share stories of projects completed through RenewableNY with the public and with elected officials.

NYIRN developed critical networks and collaborations through RenewableNY. NYIRN expanded its network of energy service providers, and can now serve as a clearinghouse for referrals for all types of industrial energy efficiency projects. In addition, this professional network of energy contractors contributes to NYIRN's overall work on the development of green collar jobs in New York City.

Perhaps most importantly, through RenewableNY, NYIRN helped to expand the community of New York City manufacturers who have implemented energy efficiency

projects. These manufacturers can share their own experience with other business owners, and can serve as models for businesses to improve their energy efficiency, and thereby contribute to the economic, social, and environmental health of New York City.