

WELCOME!

Sustainable Jersey Workshop

**LOCAL LEADERSHIP ON CLEAN ENERGY:
Incentives and Energy Savings for Residents,
Businesses, and Local Governments**

May 7, 2013 -- 3:00 p.m. – 5:30 p.m.



TODAY'S TOPICS

- Learn how your community can **save residents and businesses money on their energy bills** without using tax dollars.
- Learn about options **to improve the energy efficiency** of municipal facilities and operations, including investment and funding opportunities offered through the **NJ Clean Energy Program**.
- Step-by-step **demonstration of new Sustainable Jersey actions** and guidance related to energy efficiency initiatives



TODAY'S TOPICS

- Hear from communities that have implemented **Direct Install** and **Home Performance with Energy Star** programs that have saved money and energy for residents and businesses.
- Hear a complete discussion of **Energy Savings Improvement Plans (ESIPs)**. ESIPs are a no cost method for towns to implement energy conservation measures.



NJ CLEAN ENERGY PROGRAM

Gary Finger
Ombudsman

New Jersey Board of Public Utilities



Direct Install

What is the Direct Install program?

- Part of NJ Clean Energy Program
- Targets existing small to mid-sized commercial & industrial facilities whose peak electric demand <150kW in any of the preceding 12 months
- Covers lighting, refrigeration, HVAC, motors, natural gas, and variable frequency drives



Direct Install (continued)

What are the benefits of Direct Install?

- Turnkey process
- Minimal costs
- Fast turnaround time
- Ongoing savings

What challenges have we identified with Direct Install?

Getting the attention of local businesses to educate them about and engage them in this program



New SJ Action on Direct Install

1. Choose an Outreach Coordinator
2. Identify local Direct Install contractor
3. Compile a list of local businesses to target
4. Working with municipal officials & DI contractor, craft letter to local businesses
5. Outreach coordinator works with DI contractor to follow up with local businesses
6. Perform two additional outreach activities to the business community



New SJ Action on Direct Install

Completing these requirements will get a community 10 points toward SJ certification.

An additional 10 points can be achieved if the community can demonstrate that they have achieved a predetermined increase in program completions

- this is based on the number of commercial businesses in a particular community



Gray Russell

Environmental Affairs Coordinator
Township of Montclair



Break time!

5 Minute Break
Help yourself to refreshments!



ESIPs: A New Financing Tool

Energy Savings Improvement Plans

For Additional Information

How to Implement an Energy Savings Improvement Plan

Sustainable Jersey How-To Guide



WWW.SUSTAINABLEJERSEY.COM

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ESIP Concept

- Retrofitting public facilities with Energy Conservation Measures (ECM) without new capital investment
 - Savings from reduced energy use pays for the improvements = No New Money!
 - Maximum repayment term is 15 years



ECM Categories:

- Distributed generation (solar, wind, geothermal)
- Boilers, Chillers, HVAC equipment and controls
- Energy efficiency, demand response equipment
- Building envelope, insulation, weatherization
- High efficiency lighting improvements
- High efficiency motors / variable frequency drives
- Water conservation, i.e., low flow fixtures



Develop the ESIP

- **Step 1** – Perform independent energy audit
 - Funding available through BPU
 - 5 contractors are pre-approved by BPU
- **Step 2** – Hire Energy Services Company or engineer to prepare Energy Savings Plan
 - Use the audit as basis for ESCO proposals
 - ESCO must agree to provide an optional energy savings guarantee
- **Step 3** – Develop Energy Savings Plan
 - Identify the Energy Conservation Measures and projected energy savings



Next Steps

- **Step 4** - 3rd party verification of plan
- **Step 5** - Make decisions, approve plan and file with BPU
- **Step 6** - Financing
- **Step 7** - Design and bid
- **Step 8** - Construction
- **Step 9** - Commissioning (measurement & verification)



Additional Information

- Energy savings calculations:
 - Based on BPU adopted standards
 - Includes state & federal rebates & tax credits
- New energy related capital improvements, i.e. new air conditioning, insulation in non-air conditioned facility
 - Must be funded separately (would save design, financing and start up costs)



What's Included and Excluded

- Included:
 - Audit and verification costs*
 - Design and ESCO fees
 - Construction costs
- Cannot include:
 - Maintenance agreements
 - Energy Savings guarantees
 - Maintenance services after warranty

*audit and verification fees can be financed but do not need to be offset by energy savings



How are savings calculated?

- Start with repayment of debt obligation
- Deductions:
 - Energy savings
 - DI or P4P grant funds
- Energy savings and grant funds must equal or exceed cost of repayment
 - A reasonable escalation of utility costs can be anticipated



Sample Financing Assumptions

Construction costs:	\$3,385,000	Average Repayment	(\$423,740)
Soft Costs	<u>\$1,450,000</u>	Average Energy Savings	\$438,764
Total Project Costs	\$4,835,000	Rebate & Incentives Years 1 & 2 *	\$300,000
		Gross Average Savings (No M&V)	\$55,024
Borrowing Term	15 Years		
Interest Rate	3.50%	Annual M&V	\$20,000
		Net Annual Savings	\$35,024
Additional Assumptions:			
30% Soft Costs including professional fees (ESCO and/or architect and engineering), financing costs and related soft costs			
* realized in first 2 years; amortization customized to match projected savings and incentive stream			
Annual measurement and verification costs are needed if guarantee is selected. These costs cannot be financed but should be considered in cash flow.			



Sample Cash Flow

New Jersey Local Unit Sample Cash Flow Analysis for ESIP

Year	Annual Repayment	Annual Energy Savings	Energy Rebates and Incentives	Gross Annual Savings	Annual Measurement & Verification	Net Annual Savings	Financing and M&V Coverage
1	(\$619,225)	\$305,000	\$375,000	\$60,775	\$20,000	\$40,775	106%
2	(\$488,475)	\$320,250	\$225,000	\$56,775	\$20,000	\$36,775	107%
3	(\$281,750)	\$336,263		\$54,513	\$20,000	\$34,513	111%
4	(\$296,850)	\$353,076		\$56,226	\$20,000	\$36,226	111%
5	(\$316,250)	\$370,729		\$54,479	\$20,000	\$34,479	110%
6	(\$334,775)	\$389,266		\$54,491	\$20,000	\$34,491	110%
7	(\$352,425)	\$408,729		\$56,304	\$20,000	\$36,304	110%
8	(\$374,200)	\$429,166		\$54,966	\$20,000	\$34,966	109%
9	(\$399,925)	\$450,624		\$50,699	\$20,000	\$30,699	107%
10	(\$419,425)	\$473,155		\$53,730	\$20,000	\$33,730	108%
11	(\$442,875)	\$496,813		\$53,938	\$20,000	\$33,938	107%
12	(\$470,100)	\$521,654		\$51,554	\$20,000	\$31,554	106%
13	(\$495,925)	\$547,736		\$51,811	\$20,000	\$31,811	106%
14	(\$515,350)	\$575,123		\$59,773	\$20,000	\$39,773	107%
15	(\$548,550)	\$603,879		\$55,329	\$20,000	\$35,329	106%
Total	(\$6,356,100)	\$6,581,462	\$600,000	\$825,362	\$300,000	\$525,362	



Home Performance with ENERGY STAR

What is the Home Performance with ENERGY STAR program?

- Part of NJ Clean Energy Program
- Offers “whole house” solutions to reduce energy costs and carbon footprint
- Initial comprehensive audit of your home to identify potential for energy efficiency & safety upgrades
- Homeowner and contractor agree on scope of work to be done on the home to achieve target % savings



Home Performance with ENERGY STAR

What are the benefits of the Home Performance with ENERGY STAR program?

- Low-interest financing and/or cash back options to help pay for improvements
- Significantly reduce energy bills and increase home value
- Additional assistance available for low income homeowners

What challenges have we identified with HPwES?

Multi-faceted process that can be confusing and intimidating for homeowners



New SJ Action on HPwES

1. Choose an Outreach Coordinator
2. Go through an RFP process to identify municipally-approved contractor (for 20 points). In lieu of this, establishing a basic package for an audit and providing an information clearing house will earn 10 points under this action
3. In addition, the community must do at least two other events to promote the HPwES program



Scott Fischer

Home Performance Consultant

Ciel Power



Questions?

Thank you participating today!!! 😊

Please take a moment to fill out the evaluation form for today's workshop and turn it in to me on your way out

Tony O'Donnell, Economist

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And be sure to visit us on the web anytime at

www.sustainablejersey.com

