

Clean Energy Leadership Task Force - Long Island *ClimateTools*

Municipal Case Studies

by

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Overview

1. Purpose
2. What Can Local Governments Do?
3. Selection of Case Studies (A)
4. What Can Communities Do?
5. Selection of Case Studies (B)
6. Additional Resources for You

What Can Local Governments Do?

Improve:

- ❑ Lighting
- ❑ Buildings
- ❑ Procurement
- ❑ Water
- ❑ Waste
- ❑ Fleet
- ❑ Power Supply
- ❑ Policy



Case Studies A (Governments)

- ❑ Toledo, OH
- ❑ Denver, CO
- ❑ Austin, TX



Toledo, OH

Retrofitted 20 City Buildings

- ❑ Financed > \$10M of building improvements through muni bonds
- ❑ Saved >\$700,000 in the first year
- ❑ Cut electricity use by 5,823,000 kWh
- ❑ Cut 5,250 tons of CO₂



Denver, CO

Green Fleets Program

- ❑ Saved \$40,000 in O&M costs
- ❑ Saved up to \$100,000 in capital costs
- ❑ Cut CO₂ emission by 10-15 tons



Austin, TX

Use Landfill Methane for Energy

- ❑ Generating 3 MW of electrical power
- ❑ Will ultimately generate 21 MW
- ❑ Greenhouse gas emissions will be cut by 4.5 tons when all generators are on-line



What Can Communities Do?

Improve:

- ❑ Residential Sector
- ❑ Commercial Sector
- ❑ Industrial Sector
- ❑ Transportation Sector
- ❑ Waste Sector
- ❑ Financing
- ❑ Land Use
- ❑ Green Power



Case Studies B (Communities)

- Aspen, CO
- Lancaster, CA
- East Hampton, NY

Aspen, CO

Making Solar Power More Affordable

Within one year:

- ❑ 10 solar PV systems installed
- ❑ 14 kW total installed capacity
- ❑ 42,000 lbs. CO₂ reduced



Lancaster, CA

Charge For the Cost of Sprawl

- Development impact fees [\$/mile from core]
- Result: last 5 years, population growth 16%, yet little growth outside the urban core



East Hampton, NY

- Energy data compiled through an audit of 30 town facilities
- Annual Savings Potential: 15%
- Moderate Retrofits = *Immediate Positive Cash Flow* (even if financed)



Annual Town Energy Costs

Electricity	\$308,934
Natural Gas	\$62,836
Propane	\$28,257
Fuel Oil	\$16,742
Total	\$416,759

East Hampton Town Energy Cost Reduction Opportunities (ECRO)

Description	Estimated Cost	Potential Savings	Payback (years)	% of Annual Energy Cost
Upgrade the Lighting	\$90,327	\$25,628	3.5	6.10%
Install Lighting Controls	\$20,868	\$1,898	11	0.50%
Improve Temperature Controls	\$6,660	\$13,326	0.5	3.20%
Improve the Building Envelope	\$8,892	\$610	14.6	0.10%
Upgrade the HVAC	\$58,736	\$10,610	5.5	2.50%
Improve the Motors	\$40,979	\$4,857	8.4	1.20%
Modify the Domestic Hot Water System	\$408	\$144	2.8	0.00%
Other Measures	\$13,311	\$4,927	2.7	1.20%
Totals	\$240,181*	\$62,000	3.9	14.90%

ECRO Project Cash Flow Analysis

Year	Savings	Payment	Net	Cumulative
1	\$ 62,000	\$ (54,875)	\$ 7,125	\$ 7,125
2	\$ 62,930	\$ (54,875)	\$ 8,055	\$ 15,180
3	\$ 63,874	\$ (54,875)	\$ 8,999	\$ 24,180
4	\$ 64,832	\$ (54,875)	\$ 9,957	\$ 34,137
5	\$ 65,805	\$ (54,875)	\$ 10,930	\$ 45,067
6	\$ 66,792		\$ 66,792	\$ 111,858
7	\$ 67,793		\$ 67,793	\$ 179,652
8	\$ 68,810		\$ 68,810	\$ 248,462
9	\$ 69,843		\$ 69,844	\$ 318,305
10	\$ 70,890		\$ 70,890	\$ 389,195
Totals	\$ 663,569	\$ (274,375)	\$ 389,195	

Assumptions: Loan term of 5.0 years, principal of \$240,181, APR of 5.50%, CPI of 1.5%

Additional Resources for You

- ICLEI's Cities for Climate Protection

www.iclei.org/co2

- U.S. DoE Clean Cities Program

www.ccities.doe.gov

- New York Power Authority

www.nypa.gov

- Long Island Power Authority

www.lipower.org

- LEED (Leadership in Energy & Environmental Design)

www.usgbc.org/leed



Your Turn...
