

ecomaine
Statement of Revenue and Expenses
For the Six Months Ending December 31, 2009

	<u>Actual</u>	<u>YTD Budget</u>	<u>Variance</u>
Operating revenues			
Municipal assessments	\$2,339,630.37	\$2,339,326.92	\$303.45
Owners tipping fees	2,412,803.41	2,248,884.00	163,919.41
Associate tipping fees	552,470.51	414,822.48	137,648.03
Commercial tipping fees	2,704,272.67	2,267,803.98	436,468.69
Spot market tipping fees	1,633,314.16	1,178,031.48	455,282.68
Electrical generating revenues	3,589,973.50	3,219,985.00	369,988.50
Sales of recycled goods	1,188,628.33	499,999.98	688,628.35
Recycling tipping fees	18,307.59	49,999.98	(31,692.39)
Gorham property assessments	55,001.02	55,000.02	1.00
Other operating income	102,018.55	162,500.04	(60,481.49)
	<u>14,596,420.11</u>	<u>12,436,353.88</u>	<u>2,160,066.23</u>
Operating expenses			
Administrative expenses	1,211,973.31	1,216,615.44	(4,642.13)
Waste-to-energy operating expenses	3,485,282.02	3,900,362.30	(415,080.28)
Recycling operating expenses	667,413.52	762,590.94	(95,177.42)
Landfill/ashfill operating expenses	787,908.67	777,273.60	10,635.07
Contingency	150.50	187,500.00	(187,349.50)
Landfill closure and postclosure care costs	0.00	0.00	0.00
Depreciation & amortization	2,700,000.00	2,700,000.00	0.00
	<u>8,852,728.02</u>	<u>9,544,342.28</u>	<u>(691,614.26)</u>
Net operating income	<u>5,743,692.09</u>	<u>2,892,011.60</u>	<u>2,851,680.49</u>
Non-operating income (expense)			
Interest income	36,296.23	96,250.02	(59,953.79)
Interest expense	(527,691.65)	(772,449.96)	244,758.31
	<u>(491,395.42)</u>	<u>(676,199.94)</u>	<u>184,804.52</u>
Total revenue less expenses	<u><u>5,252,296.67</u></u>	<u><u>2,215,811.66</u></u>	<u><u>3,036,485.01</u></u>

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Statement of Revenue and Expenses
For the Month ended December 31, 2009

	<u>Actual</u>	<u>December Budget</u>	<u>Variance</u>
Operating revenues			
Municipal assessments	\$389,887.62	\$389,887.82	(\$0.20)
Owners tipping fees	403,822.32	374,814.00	29,008.32
Associate tipping fees	118,382.55	69,137.08	49,245.47
Commercial tipping fees	435,768.55	377,967.33	57,801.22
Spot market tipping fees	231,535.04	196,338.58	35,196.46
Electrical generating revenues	653,854.64	557,653.00	96,201.64
Sales of recycled goods	222,361.67	83,333.33	139,028.34
Recycling tipping fees	0.00	8,333.33	(8,333.33)
Gorham property assessments	9,166.67	9,166.67	0.00
Other operating income	6,134.49	27,083.34	(20,948.85)
Total operating revenues	<u>2,470,913.55</u>	<u>2,093,714.48</u>	<u>377,199.07</u>
Operating expenses			
Administrative expenses	203,957.76	202,769.24	1,188.52
Waste-to-energy operating expenses	662,095.95	612,824.27	49,271.68
Recycling operating expenses	117,132.78	127,098.49	(9,965.71)
Landfill/ashfill operating expenses	132,886.76	111,982.99	20,903.77
Contingency	150.50	31,250.00	(31,099.50)
Landfill closure and postclosure care costs	0.00	0.00	0.00
Depreciation & amortization	450,000.00	450,000.00	0.00
Total operating expenses	<u>1,566,223.75</u>	<u>1,535,924.99</u>	<u>30,298.76</u>
Net operating income	<u>904,689.80</u>	<u>557,789.49</u>	<u>346,900.31</u>
Non-operating income (expense)			
Interest income	6,852.10	16,041.67	(9,189.57)
Interest expense	(86,955.35)	(128,741.66)	41,786.31
Net non-operating	<u>(80,103.25)</u>	<u>(112,699.99)</u>	<u>32,596.74</u>
Total revenue less expenses	<u>824,586.55</u>	<u>445,089.50</u>	<u>379,497.05</u>

Maine Household Compact Fluorescent Light Recycling Participation



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Research Problem

- CFLs in wide use (since 2004, >3.4 million sold through EM coupons)
- CFLs prohibited from disposal
- Free CFL recycling in Maine
- Transfer facilities accept CFLs - for fee
- Significant statewide CFL recycling education campaign

Research Problem

Available evidence suggest household CFL recycling rate remains very low

Estimated household recycling rates:

2% = Association of Lighting and Mercury Recyclers (*figure used by U.S. EPA*)

6.7% = 2004 pilot study, Lane County, OR

Research Problem

Indicators suggest household CFL recycling rate remains very low

- Efficiency Maine alone subsidizes sale of 3,000-4,000 CFLs per month
- Free CFL recycling program collects only ~354 per month
- Home Depot = ~340 per month (some comm.)

Study Basics

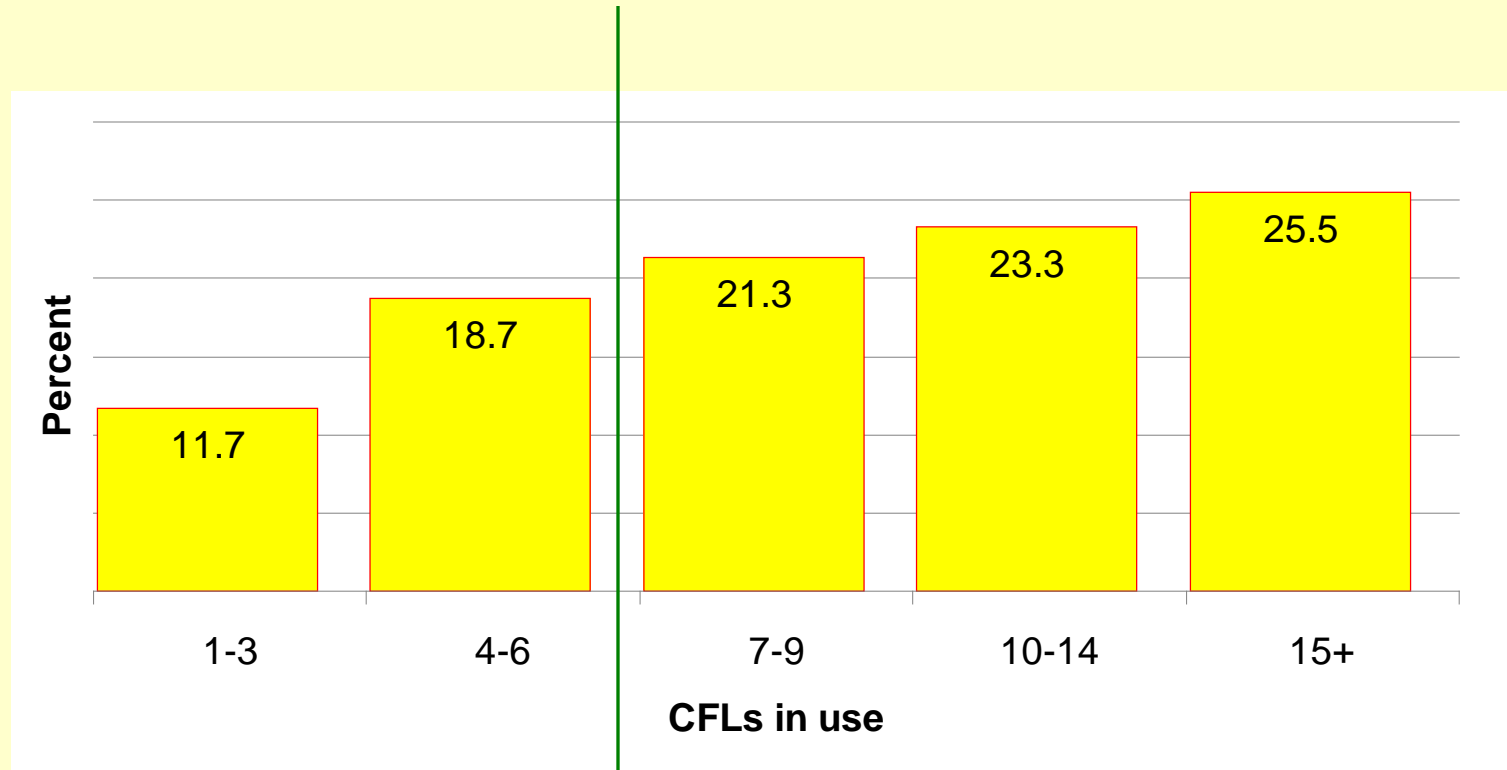
A two-part study was undertaken:

- **Part 1:** survey was conducted to identify factors contributing to low recycling participation by Maine households.
- **Part 2:** based on survey, study being conducted to determine *convenience* for CFL drop-off options

Part 1: Survey

- Survey Population:
 - Maine residents
 - 18 years or older
 - Use 1 or more CFL
 - Reside in house, apartment, mobile home, or condo
- Online survey – spring 2009
- **N = 520**

Number of CFLs installed (n=520)



70% >7 CFLs

Survey Results

What was the most important factor influencing your purchase of CFLs?

- Conserving Energy = 59.6%
- Long-term Cost Savings = 30.1%
- Global Warming = 5.0%
- Other = 3.3%
- Coupon = 1.9%

Short- and long-term
cost savings
dominant factors

Survey Results

Does Maine law require CFLs to be recycled?

- Do not know = 63.2%
- Yes = 27.1%
- No = 9.7%

72.9% = either do not know or believe no

Survey Results

Which of the following factors would most prompt you to recycle CFLs?

- Environ. Responsibility = 38.4%
 - Convenience = 22.2%
 - Proximity to recycling center = 5.9%
 - Free Recycling = 21.9%
 - Rebate = 8.5%
-
- | Factor | Percentage |
|--|--------------|
| Environ. Responsibility | 38.4% |
| Convenience | 22.2% |
| Proximity to recycling center | 5.9% |
| Free Recycling | 21.9% |
| Rebate | 8.5% |
| Group 1 (Convenience + Proximity) | 28.1% |
| Group 2 (Free Recycling + Rebate) | 30.4% |

Survey Results

- 76.8% of respondents correctly identified mercury as a component of CFLs
- Most do not know where to recycle or that CFLs must be recycled

Survey Observations

- Most respondents want to do the right thing, but, not sure:
 - What the “right” thing is
 - If they should/can recycle CFLs
 - Where specifically to recycle CFLs
- 2 primary factors found responsible for low recycling rate:
 1. Knowledge
 2. Convenience

Part 2 of Study

- Knowledge = relatively easy to address (to be discussed later)
- **Convenience** = highly influential factor with all recycling programs
 - Far more difficult to address

Convenience

In general, convenience includes:

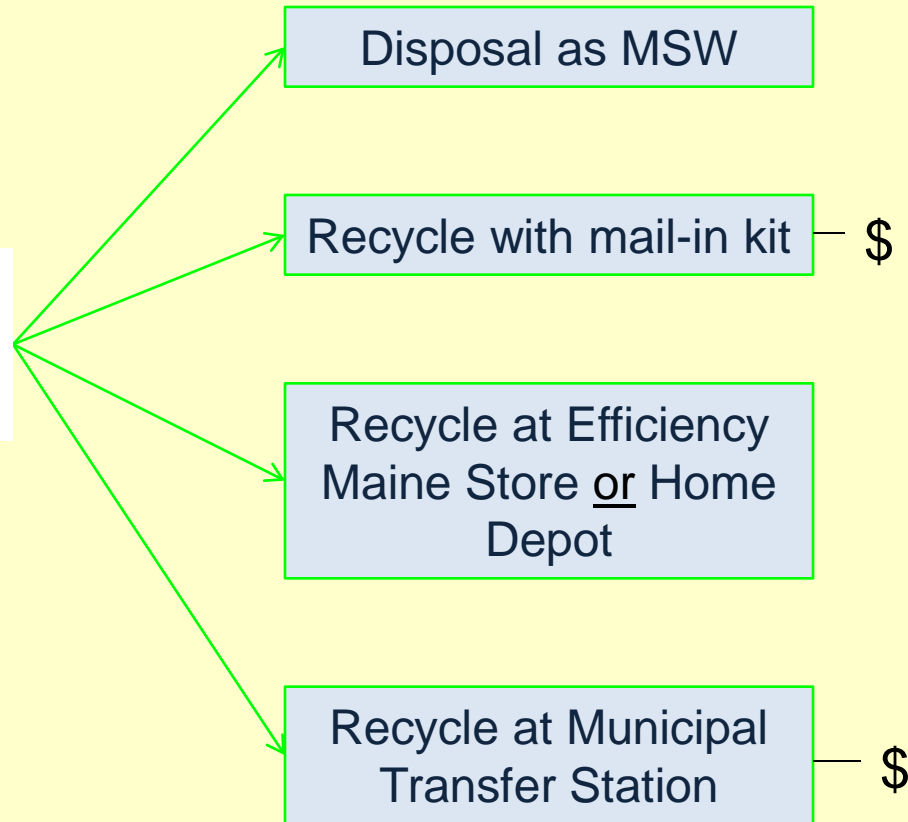
- Knowledge requirements
- Segregation requirements
- Storage needs
- Type of material (e.g., organic, toxic)
- Weight/volume of the material
- Value of the material
- Distance to drop-off location

Convenience

Consumer research has found the following important aspects of convenience (for shopping) can be applied to offsite recycling:

- **Time utilization** (time opportunity cost)
- **Availability of services** (other desirable services available)
- **Flexibility** (hours and days of operation)

Drop-Off Options



Convenient



Inconvenient

Drop-Off Options

Current CFL recycling/collection system inherently inconvenient:

- Must drive -- requires special trip
- Too few drop-off options
- Time consuming
- May have to pay fee
- CFLs low-value
- Low, unpredictable generation rate

Drop-Off Options

- Efficiency Maine created free CAL recycling program
- 204 participating stores

Store Type	Examples	No.	% of total
Hardware	Local hardware stores, Ace, Aubuchon	90	44.0%
Grocery	IGA and other independents, no chains.	34	16.6%
Bldg. Supply	EBS & independent lumber yards	31	15.0%
Misc.	Paris Farmer's, lighting stores, etc.	18	8.8%
Dept. Stores	Renys, some K-Marts	17	8.3%
Mass Merchant	Wal-Mart	11	5.4%
Home Improve.	Lowes	3	<1.0%

Drop-Off Options

- Only 113 of 492 state's municipalities (22.9%) are served by an EM store
- 10 cities with highest populations (20.4% of state's population) collectively have only 24 (11.7%) of EM stores
- Drop-off locations do not match CFL purchase locations

Drop-Off Options

Store Type	EM CFL Drop-off Store Type	CFL Purchase Location
Hardware	44.0%	17.1%
Grocery	16.6%	8.3%
Bldg. Supply	15.0%	6.3%
Misc.	8.8%	4.0%
Dept. Stores	8.3%	4.0%
Mass Merchant	5.4%	20.0%
Home Improve.	<1.0%	44.7%

6.4% vs. 64.7%

Current Drop-off vs.
Current CFL Purchase Locations

Study Question

- How can the household CFL collection system be made sufficiently convenient to increase recycling participation?
 - Assumption: individuals will still be required to drive CFL(s) to offsite location

Study Approach

- Conducting study to identify less inconvenient drop-off options for household generated CFLs
- 3 factors considered:
 1. Desirability of drop-off destination - *availability*
 2. Distance to drop-off locations - *time utilization*
 3. Flexibility at drop-off options - *flexibility*

Study Approach

- To study time utilization factor, estimated population living within set distances of various potential drop-off options
 - 2 km (1.24 miles), 5 km (3.1 miles), & 8 km (4.97 miles)
- Used Geographic Information System software (ArcGIS) with 2000 census block data

Study Approach

Drop-off options studied:

- Current (EM) locations
- Fire Stations
- Municipal Transfer Stations
- Major Grocery Stores (Shaw's and Hannaford's)
- Wal-Mart
- Home Improvement Centers (Home Depot & Lowes)
- Warehouse Stores (Sam's Club and BJ's)
- Municipal Offices

Mean Percent Population Near Drop-Off Locations – ECOMAINE Footprint

Facility	pop within 2 km	pop within 5 km	pop within 8 km
Current Locations & Home Depots	19%	43%	71%
Fire Stations	45%	92%	99%
Current EM Locations	18%	43%	71%
Major Grocery Stores	15%	37%	60%
Municipal Transfer Stations	15%	56%	88%
Wal-Mart	2%	9%	23%
Home Improvement Centers	2%	8%	21%
Warehouse Stores	<1%	1%	11%
Municipal Offices	27%	69%	96%

2 km = 1.24 miles, 5 km = 3.1 miles, 8 km = 4.97 miles

Mean Percent Population Near Drop-Off Locations – ECOMAINE Footprint

Facility	pop within 1 km	pop within 5 km	pop within 8 km
Current, Transfer, & Fire Stations	52%	94%	99%
Current Locations & Transfer Stations	29%	69%	95%
Current, Transfer, & Municipal Offices	?	?	?
Transfer & Municipal Offices	?	?	?
Transfer & Municipal Offices & Grocery Stores	?	?	?

2 km = 1.24 miles, 5 km = 3.1 miles, 8 km = 4.97 miles

Observations

- Considering Distance Only (5 km)
 - Fire Stations (92%)
 - Municipal Offices (69%)
 - Current EM stores & Transfer Stations (69%)
- Must, however consider
 - Availability
 - Flexibility
 - Time Utilization

Observations

- **Availability Challenges**
 - Private entities less apt to control collection
 - Private entities more susceptible participation changes
- **Flexibility Challenges**
 - Uncontrolled locations susceptible to commercial and non-CFL dumping
- **Time Utilization Challenges**
 - Slowing down drop-off process will decrease convenience (control vs. uncontrolled)

Recommendations

Convenience

- Expand free CFL recycling drop-off locations to (1) co-locate with desirable destinations (2) and focus on flexibility. (3) Minimize processing time where possible:
 - Town offices
 - Transfer facilities
 - Current EM locations
 - Grocery stores?

Recommendations

- Because of low resource value, system that requires individuals to drive to collection location negates environmental benefit of using CFLs
 - Fuel consumption
 - GHG production & tailpipe emissions
- Periodic curbside collection should be considered (greatest convenience & net environmental benefit)