

ecomaine

ANNUAL REPORT FY 2017



PAGE 3

Mapping the
progress of
**71 member
communities**

PAGE 5

Adding
food waste
to our waste
heirarchy

PAGE 10

Making a
difference for
over **400,000**
Mainers



FIND EVEN MORE SUCCESS STORIES AT
ECOMAINE.ORG



LEADERSHIP

71 Member Communities Strong

Through the food waste diversion efforts of grocery stores, cafeterias, restaurants and curbside collection pilot programs, **we diverted more than 2,700 tons of food waste in the very first year of the program.** Recycling these valuable organic resources provides a pathway towards our goal of 50% recycling.

This was a good year of learning to provide the best, most economically sound and environmentally responsible food waste recycling solution.

The recycled ton has changed significantly in the past 10 years as lighter, more flexible packaging is adopted by consumer goods manufacturers, online shopping grows, and printed media continues to digitalize.

Despite some of the volatile market conditions we've experienced over the last few years, this year we recorded **a record \$3.8 million in recycling revenues** as demand outpaced supply forcing prices to rise for recyclable materials. Our recycling efforts really paid off in FY 17.

Finally and perhaps most notably, we added a **record 15 new communities this year**, a growth of 51 percent over the past three years. We are now 71 member-communities strong and poised for even more positive growth.

We could not have achieved this position without the leadership of our board, employees and communities. You help us to provide comprehensive long-term solid waste solutions in a safe, environmentally responsible, economically sound manner and help us raise public awareness of sustainable waste management strategies.

Thank you!

Kevin Roche
Chief Executive Officer

FY 2017 was an important milestone year that demonstrated our leadership in the solid waste industry. We now number 71 communities strong! And just ten years after ecomaine brought single-sort recycling to Maine, we entered the long-awaited movement toward food waste recycling.

Cover: The City of South Portland launched a food waste recycling pilot, as showcased by South Portland's Sustainability Director Julie Rosenbach and ecomaine Environmental Educator Katrina Venhuizen.



“Our growth in members gives me continued confidence in a sustainable future for all ecomaine communities for years to come.”

- TROY MOON, CHAIR, ECOMAINE BOARD OF DIRECTORS

Chair
Troy Moon
Portland



Vice Chair
Matthew Frank
Harrison



Treasurer
Mike Shaw
Scarborough



Secretary
Erik Street
Yarmouth



Outreach & Recycling
Caleb Hemphill
Falmouth



Nominating Committee
David Morton
Casco



Maureen McDevitt
Bridgton



Jamie Garvin
Cape Elizabeth



Matthew Sturgis
Cape Elizabeth



William Shane
Cumberland



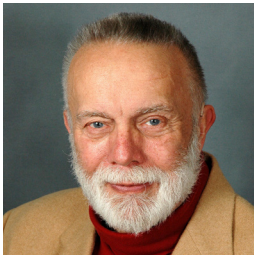
Rodney Regier
Freeport



Sherrie Benner
Gorham



Deborah Cabana
Gray



Len Van Gaasbeek
Hollis



Dennis Doughty
Limington



John Tibbetts
Lyman



Rob Wood
North Yarmouth



Anne Bilodeau
Portland



Christopher Branch
Portland



Alan Bradstreet
Pownal



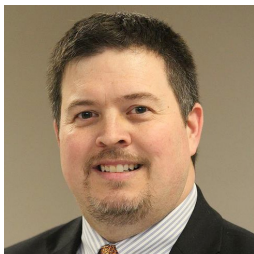
William Donovan
Scarborough



Maxine Beecher
South Portland



Linda Boudreau
South Portland



Scott Morelli
South Portland



Dennis Abbott
Waterboro



Anthony Plante
Windham

Not pictured: **Spencer Thibodeau**, Portland



Mapping Progress

ecomaine is **71 member communities strong,** having added **24 new member communities** in three years.



Providing
400,000+ MAINERS
single sort recycling,
energy from waste or
community education



- | | |
|------------------|-----------------|
| Appleton | Newburgh |
| Augusta | Owls Head |
| Brownfield | Rockport |
| Camden | Shapleigh |
| Carmel | Somerville |
| Chebeague Island | South Thomaston |
| Etna | Stetson |
| Fryeburg | Thomaston |
| Glenburn | Union |
| Hope | Waterville |
| Liberty | Woolwich |
| Lincolnton | Washington |

What is *your* community's recycling rate?
Visit ecomaine.org/RecyclingComparisons to find out!



Spotlighting Member Success



Carmel, Maine

Carmel achieved our most significant year-over-year spike in recycling tonnage—**an amazing 81 percent increase** in just one year. This eco-conscious community diverted 96.7 tons from the landfill in FY 17, up from 26.6 tons in FY 16.

The colorful recycling station in Carmel was created by Freeport artist Sebastian Meade for the ecomaine Recycling is a Work of Art 2017 competition.



Glenburn, Maine

Glenburn achieved the second greatest recycling tonnage increase—**nearly 33 percent**—in FY 17 (95.72 tons) as compared to FY 16 (72.2 tons).

ecomaine led a Blue Tarp Waste Audit at Glenburn Elementary School in December 2016. Their principal and student-led Green Team helped to implement single-sort recycling right away, diverting recyclables from trash into interior bins and dumpsters.

Windham, Maine

With the help of a \$3,000 ecomaine School Recycling Grant, **the Manchester School in Windham** secured a food waste hauling contract and single-sort recycling bins for their cafeteria. The school went from producing nine large bins of just trash per day to just one, diverting 11,200 pounds from the landfill in 14 weeks and winning the school a 2017 ecomaine eco-Excellence Award.



Waterville, Maine

Waterville Alternative School, winners of a \$1,000 ecomaine School Recycling Grant in 2017, used the funds to build on-site compost and recycling bins and raised garden beds.

Cassidy Hartin, at right, was one of the Waterville Alternative School students to assist with building the three-part compost bin she sits in here.

Photo by Linda Nichols.





food waste

GOES BACK TO THE FARM IN FY 2017

“Inspired by the impressive tonnage we were able to divert from the landfill through our food waste recycling pilot, we look forward to future programs.”

—KERRY GRANTHAM, SUSTAINABILITY COORDINATOR, SCARBOROUGH

2,700

TONS OF FOOD WASTE

diverted in FY 2017
in pilot programs

ENVIRONMENTALLY SUSTAINABLE SOLUTIONS



ECOMAINE EXPANDED its comprehensive long-term solid waste solutions in fiscal year 2017, partnering with Agri-Cycle, the city of South Portland and the town of Scarborough to divert more than 2,700 tons of food waste out of landfills.

To pilot food waste diversion, ecomaine dedicated a new bunker area at its waste-to-energy facility. Collected food waste is transported in large tractor-trailer loads to Stonyvale Farm in Exeter, Maine. There, Exeter Agri-Energy anaerobically digests the food waste to produce electricity, fertilizer for the corn they grow as feed, and animal bedding for its 2,000 dairy cows.

Agri-Cycle began delivering industrial loads of food waste from area supermarkets, restaurants and food processors in Greater Portland in September. This past May, in conjunction with Maine Composts Week, the program began collecting residential food waste in areas of Scarborough and South Portland. Both communities provided public food waste drop-off locations for all residents.

“Such a great program for both the City and the environment.”

—SOUTH PORTLAND RESIDENT,
PRE-PILOT SURVEY

A busload of board members, ecomaine staff and sustainability coordinators from ecomaine member communities traveled to Exeter, Maine in December to learn about Stonyvale Farm and Exeter Agri-Energy’s food waste recycling and anaerobic digestion process first-hand.

Scarborough’s four-month pilot tested 35-gallon carts collected weekly by Pine Tree Waste, with trash and recyclables collected every other week. The pilot showed strong support in the community for food waste recycling, but every-other-week collection of trash and recyclables proved challenging.

South Portland’s pilot used a six-gallon bucket collected weekly by Garbage to Garden, while weekly collection of trash and recyclables continued with Pine Tree Waste.

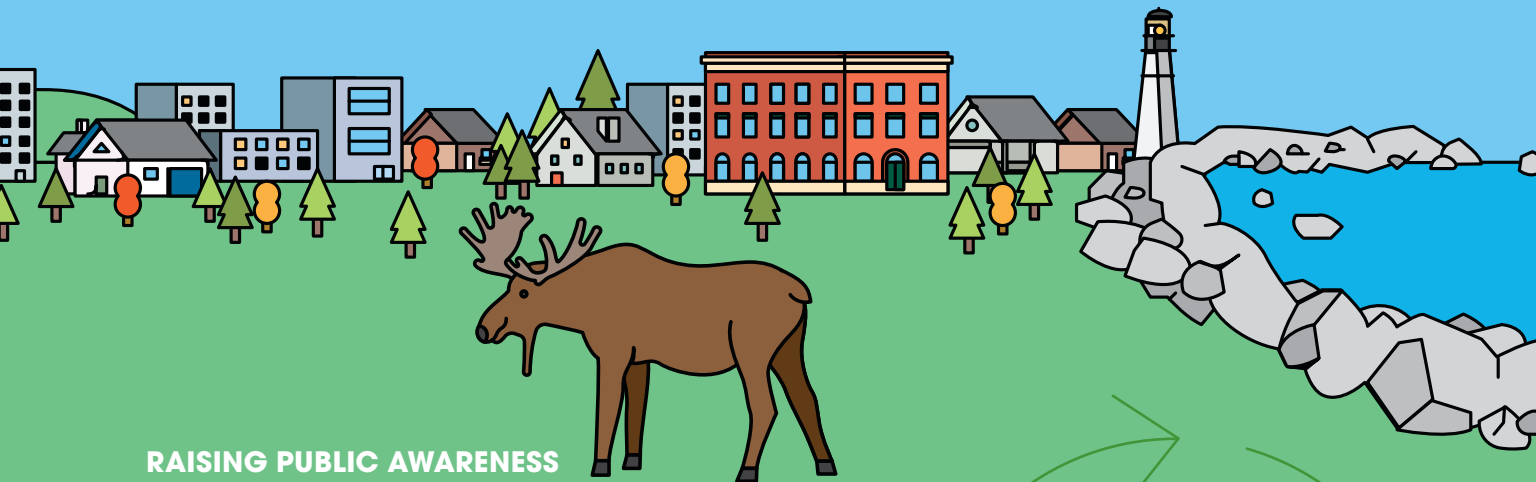
We have learned a lot from both pilot programs and look forward to applying the best of the best practices for more ecomaine communities in the year ahead!

ecomaine and the Scarborough and South Portland food waste recycling pilot communities partnered with Hannaford Supermarkets to provide in-store signage such as this, encouraging re-use of clear produce plastic bags to contain and recycle food scraps. The plastic bags are removed by Exeter Agri-Energy using de-packaging technology and are then brought back to ecomaine to be burned through our waste-to-energy process.



Wicked Smaht Recycler

A waste sorting game for ecomaineiacs



RAISING PUBLIC AWARENESS

Can you
recycle that?!?

IN RESPONSE to the many questions ecomaine receives about what can be recycled and what can't, we began developing a comprehensive RECYCLOPEDIA to help our member communities get answers (and the right bin) every time.

With the help of leading waste management web development company ReCollect, we gathered a treasure trove of trash information into a user-friendly website and mobile app and launched them both at ecomaine's annual meeting in June 2017.

Within three months, our app was **installed on 100 mobile devices**, the RECYCLOPEDIA web page had been **viewed nearly 1,500 times**, and users had **searched on more than 3,600 items**.

700

TYPES OF OBJECTS
are catalogued in
our Recylopedia!

Top 5 Searches

1 alkaline batteries

2 plastic bag

3 styrofoam

4 paper towels

5 batteries

Recycle, trash or compost? Find the right bin by searching the site
or downloading the app at ecomaine.org/recyclopeda



RAISING AWARENESS



class

act



11,457

PEOPLE REACHED
through tours, events,
presentations and
much more



13

Recycling Grants
awarded



20

recipients of
eco-Excellence Awards



700

visitors to annual
Open House

CLOCKWISE FROM TOP LEFT: Slugger, Portland Sea Dogs mascot, makes a guest appearance at the 2016 ecomaine Annual Open House. Katrina Venhuizen leads a class tour of our Waste-to-Energy plant. ecomaine engages children at the Southern Maine Children's Water Festival. Sacopee Valley Middle School cheers on its 2017 Eco-Excellence award winners.



EMR less than 1
for three consecutive years,
showing safety excellence

ECOMAINE EARNED our third consecutive industry-leading Experience Modification Rate (EMR) in FY 2017. EMR is the rating analyzing lost time and safety-related injuries. Companies with an EMR rating below 1, as ecomaine has, demonstrate a safer workplace for employees and lower insurance expenses.



Denise Mungen, Executive Assistant, received the Wellness Champion award from Maine Municipal Health Trust for voluntarily leading ecomaine’s wellness program to new levels.

51,000 pounds
of pharmaceutical waste
responsibly combusted



ECOMAINE PARTNERED with the Maine Drug Enforcement Administration to responsibly combust 51,000 pounds of pharmaceutical waste in FY 17.

From left: Department of Environmental Protection’s Danni Twomey, ecomaine Environmental Manager Anne Hewes, and Drug Enforcement Administration Supervisor Michael Wardrop.

ecomaine Recycling Plant Manager John Morin not only achieved record revenue from ecomaine's recyclables in FY 2017, he was also named Operations Manager of the Year by the Maine Resource Recovery Association.

ecomaine

Leadership

JOHN MORIN REVIEWS RECORD RECYCLING REVENUES

THIS YEAR, ecomaine surpassed its recycling sales revenue budget by \$1.4 million. Recycling Plant Manager John Morin shares the story behind these results.

What drove this record recycling return?

It was a strong year for recycling and scrap markets and we were able to get above-average pricing on our recycled paper. Quantity and quality also play a role, as do supply and demand.

When you have more volume you get better prices. That's the advantage of quantity.

We have a quality advantage, too—an industry-leading 7 percent contamination rate. That's half of the industry standard!

Our member communities put the right stuff in their recycling bins.

You won the Maine Resource Recovery Association Operations Manager of the Year award. What is the secret to your success as a Recycling Manager?

I set high expectations for my team and motivate them to deliver results by working

hard, safe and smart. We also know that to buy and sell you need to have relationships. I was first hired by Great Northern Recycling over a case of beer in 1992 and met many of our buyers years ago. Those relationships still help our business.

What makes ecomaine stand apart?

When you look at our DOs and DON'Ts for recycling, it surprises people how many things we take that others won't. Clamshell trays, for example. We have a buyer who accepts them with PET plastic. Any bale with clamshells is worth slightly less, but **we want to keep as many recyclable materials out of landfills as we can.** We see the bigger picture, and that lets us save towns money and save the environment.

\$3.8

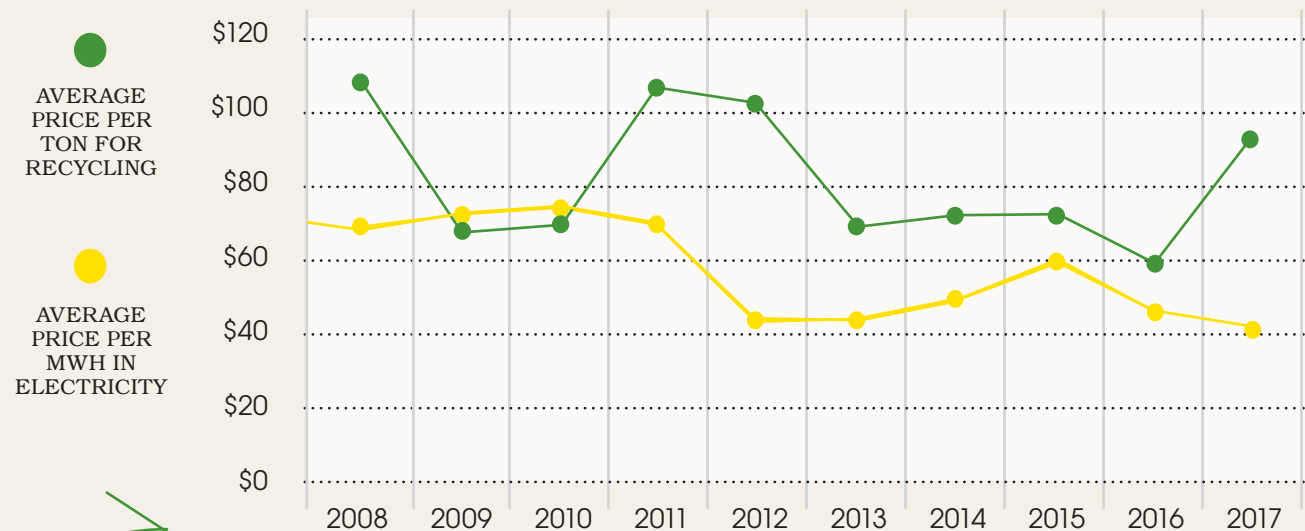
MILLION

in the sale of
recyclables in FY 17

Financially Secure

Despite year-to-year volatility in recycling and electricity markets

AVERAGE PRICE FOR ELECTRICITY AND RECYCLING FY 08-FY 17



↑ 62%

Recycling revenue increase from FY 16

\$3.8 million

Recycling revenue in FY 17

\$3.7 million

Electrical revenue in FY 17

RECYCLABLE COMMODITY PRICES FY 16 vs FY 17

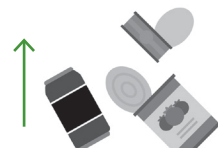
Cardboard and post-burn metal make significant price increases.



#2 HDPE Natural Plastic
DOWN 2%
\$619 per ton



Cardboard
UP 48%
\$140 per ton



Cans
UP 42%
\$125 per ton



Paper
UP 78%
\$90 per ton



#1 PET Plastic
UP 3%
\$205 per ton



Post-Burn Metal
UP 68%
\$48 per ton

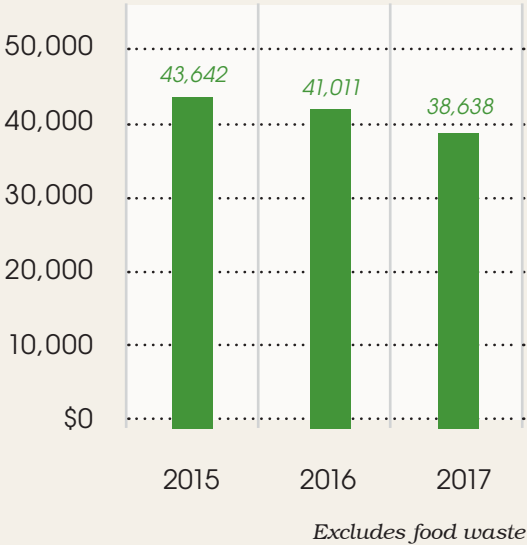
The Evolving Ton

Why is recycling tonnage decreasing? Trends toward lighter packaging and lower newspaper readership.

ECOMAINE CONTINUES to see the effects of what industry experts refer to as “the evolving ton,” having experienced the third consecutive year of declining recyclables tonnage in FY 17. According to Jerry Powell, editor of *Resource Recycling* magazine, per capita waste generation is down 8 percent since 2000 with a significant decline in paper generation.

Meanwhile, more and more manufacturers are also reducing the weight (and transportation costs) for consumer product goods packaging by switching to flexible packages instead of bottles or boxes. Case in point: a half-liter PET drink bottle’s average weight declined by 48 percent between 2000 and 2011, and aluminum cans are four times lighter.

RECYCLING TONNAGE RECEIVED

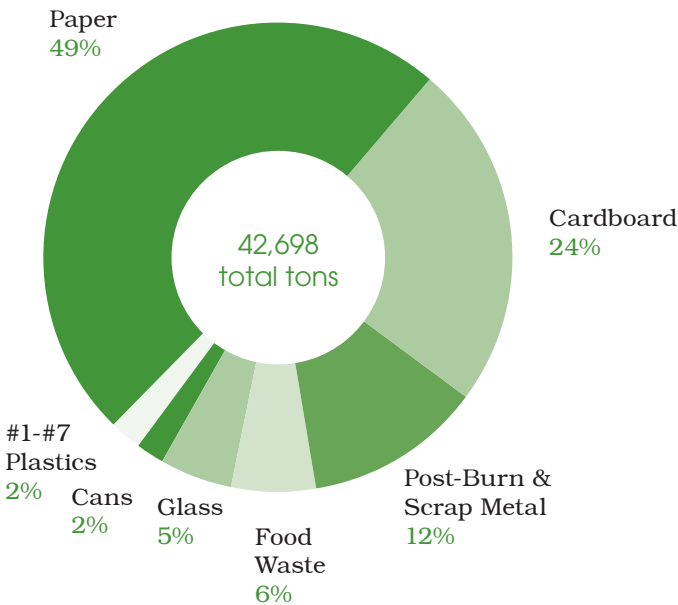


2,700 tons
of food waste moved
up the hierarchy

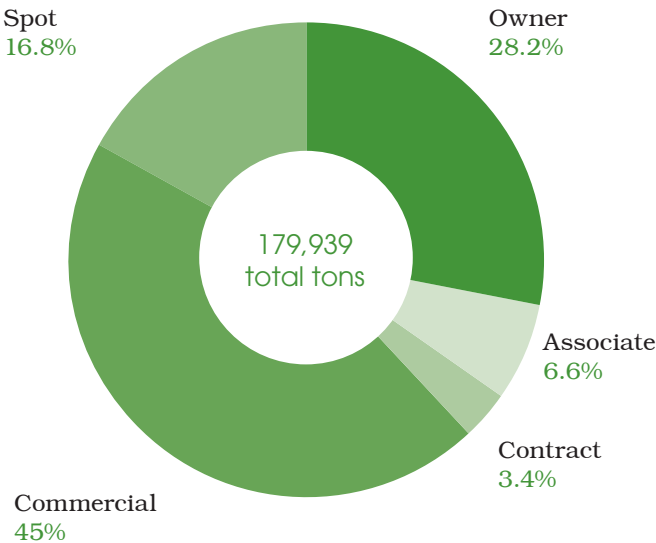
↓ 9.5%
decrease in paper
tons over 3 years

↑ 5%
increase in long-term
contracted waste
tonnage over 3 years

RECYCLING TONNAGE DIVERTED



WASTE TONNAGE RECEIVED



"I'm proud that this is one of the top-run facilities in the country, and of my part in its evolution." —Al Peterson, ecomaine Landfill Supervisor



Filled with Pride

AL PETERSON REFLECTS ON 39 YEARS AT ECOMAINE'S LANDFILL

EVERY TOUR of our recycling facility begins with “we’re so committed to recycling at ecomaine, **we even recycled this facility!**”

How do we figure? The balers in the building currently housing our single-sort recycling operation once baled raw trash before our waste-to-energy (WTE) plant came online in 1988 and we converted the baling facility into a recycling operation.

Few understand the waste-to-energy benefits of reducing trash to stabilized ash better than Al Peterson, Landfill Supervisor. **Al has worked here for 39 years** and seen a lot of change—not only in the composition of the trash in the landfill, but in the engineering and testing that protects the ground and air around it.

“I am proud to know that the Department of Environmental Protection can surprise us at any time and we would be ready,” he says.

During his first ten years, Al filled almost half of our landfill’s total capacity. But today, WTE has slowed his pace considerably. “There is a lot less volume and ash is easier to compact than trash bales,” said Al. **“Our remaining ash fill won’t fill up now until 2044!”**

Al’s many skills range from heavy equipment mechanics to leachate control to geo-technical monitoring. He plans to retire in 2018, happy with how well the landfill operations are running and set up for the future.

“I’m proud that this is one of the top-run facilities in the country, and of my part in its evolution,” he says.



Waste-to-Energy: Perfect Tens



10X



Waste-to-energy
generates
10x the power
of raw trash decaying
in a landfill

SOURCE: Environmental Science & Technology,
Vol. 43, No. 6, 1711-1717, 2009
(<http://pubs.acs.org/doi/pdf/10.1021/es802395e>)

10%

Waste-to-Energy reduces trash to
10% of its original volume
optimizing landfill storage

SOURCE: Environmental Protection Agency (EPA) <https://www.epa.gov/smm/sustainable-materials-management-non-hazardous-materials-and-waste-management-hierarchy>

1/10

Waste-to-Energy releases about a tenth of the
greenhouse gas emissions of raw trash landfilling

According to a September 2017 analysis, the 179,939 tons of municipal solid waste that ecomaine received in FY 17 generated carbon dioxide-equivalent emissions of 8,422 metric tons, or 1/10th of the 77,650 metric tons released for the equivalent amount of trash sent straight to traditional Maine landfills. That means ecomaine removed the equivalent emissions of 14,574 passenger vehicles driven for a year by processing municipal solid waste through waste-to-energy instead of landfilling.

SOURCE: DSM Environmental Services Inc. Analysis for ecomaine, by Ted Siegler and Natalie Starr, September 13, 2017

Revenue and Expenses

	ACTUAL - PRIOR YEARS			FY 17 BUDGET VARIANCE			FY 17 vs. FY 16
OPERATING REVENUES	2014	2015	2016	Actual	Budget	Variance	Actual Variance
Municipal assessments & rebates	\$2,942,109	\$(1,000,003)	\$0	\$0	\$0	\$0	\$0
Owners tipping fees	3,462,495	3,455,911	3,543,278	3,554,488	3,510,242	44,246	11,210
Assoc tipping fees	906,862	944,682	978,906	982,194	956,026	26,168	3,288
Contract tipping fees	283,452	295,585	306,831	357,524	299,780	57,744	50,692
Commercial tipping fees	5,193,993	5,114,351	5,263,778	5,649,092	5,127,039	522,053	385,314
Spot market tipping fees	2,008,675	2,008,508	1,728,293	1,687,510	1,593,144	94,366	-40,783
Electrical generating revenues	4,569,868	4,616,876	4,182,191	3,715,051	3,729,700	-14,649	-467,140
Sales of recycled goods	3,434,385	2,956,003	2,369,969	3,806,555	2,378,560	1,427,995	1,436,585
Recycling tipping fees	104,072	130,981	140,644	29,296	163,356	-134,060	-111,348
Gorham property assessments	166,230	0	0	0	0	0	0
Other operating income	90,900	98,434	103,117	101,695	98,718	2,977	-1,421
TOTAL OPERATING REVENUES	23,163,041	18,621,329	18,617,008	19,883,404	17,856,564	2,026,841	1,266,396
OPERATING EXPENSES							
Administrative expenses	2,531,443	2,631,993	2,520,240	2,518,887	2,701,649	182,762	1,354
Waste-to-energy operating expenses	9,412,289	9,222,332	8,946,000	9,371,777	9,829,923	458,146	-425,777
Recycling operating expenses	2,017,161	2,088,193	2,173,789	2,203,746	2,276,510	72,764	-29,957
Landfill/ashfill operating expenses	1,600,635	1,802,372	1,641,948	1,931,544	1,618,116	-313,429	-289,596
Contingency	0	0	0	0	200,000	200,000	0
Landfill closure/postclosure care	239,704	259,936	295,483	-2,182,480	260,000	2,442,480	2,477,963
Post-retirement benefit- Health Care	95,461	49,730	70,458	60,244	75,000	14,756	10,214
Depreciation & amortization	4,194,858	3,804,881	4,201,984	4,177,307	4,300,000	122,693	24,678
TOTAL OPERATING EXPENSES	20,091,550	19,859,438	19,849,903	18,081,024	21,261,197	3,180,173	1,768,879
NET OPERATING INCOME	3,071,491	(1,238,109)	(1,232,895)	1,802,380	(3,404,634)	5,207,013	3,035,275
NON-OPERATING INCOME (EXPENSE)							
Non-investment interest	43,376	48,352	35,662	36,584	15,000	21,584	922
Investment income net of expenses	0	71,167	141,924	1,164,205	0	1,164,205	1,022,281
Misc. Income / (Expenses)	54,265	83,442	-68,836	65,532	0	65,532	134,368
NET NON-OPERATING	97,641	202,961	108,750	1,266,322	15,000	1,251,322	1,157,572
TOTAL REVENUE LESS EXPENSES	\$3,169,132	\$(1,035,148)	\$(1,124,146)	\$3,068,702	\$(3,389,634)	\$6,458,335	\$4,192,847

FINANCIAL REPORTS

Statement of Cash Balances

	2014	2015	2016	BUDGET FY 17	ACTUAL FY 17
CASH, BEGINNING OF PERIOD	\$23,060,082	\$29,317,000	\$26,510,251	\$25,573,230	\$28,538,043
CASH FLOWS FROM OPERATING ACTIVITIES					
Net operating income	3,071,498	(1,238,109)	(1,232,895)	(3,404,952)	1,802,380
Add back: depreciation	4,194,858	3,804,881	4,201,984	4,300,000	4,177,307
Add back: landfill closure costs	239,704	259,936	295,483	260,000	(2,182,480)
Add back: Post Retirement Benefit	95,461	49,730	70,458	75,000	60,244
Other working capital changes	670,507	(41,673)	(859,134)		388,720
NET CASH PROVIDED	8,272,028	2,834,765	2,475,896	1,230,048	4,246,170
CASH FLOWS FROM CAPITAL AND RELATED FINANCING ACTIVITIES					
Payment of interest	683	427	1,983	0	0
Repayment of long-term debt	0	0	0	0	0
Repayment of capital leases	0	0	0	0	0
NET CASH USED	683	427	1,983	0	0
CASH FLOWS FROM INVESTING ACTIVITIES					
Receipts of interest	42,693	48,352	35,662	15,000	36,584
Investment income	0	71,167	141,924	0	1,164,205
Capital expenditures	(2,058,485)	(5,761,460)	(2,147,288)	(3,385,500)	(3,123,683)
Sale of Gorham land			1,519,615		
NET CASH USED IN INVESTING	(2,015,792)	(5,641,941)	(450,087)	(3,370,500)	(1,922,894)
NET INCREASE (DECREASE)	6,256,919	(2,806,749)	2,027,791	(2,140,452)	2,323,277
CASH, END OF PERIOD	\$29,317,000	\$26,510,251	\$28,538,043	\$23,432,778	\$30,861,320



State-of-the-art installation

Fiscal Year 2017 also brought new innovation to our waste-to-energy plant with the installation of a new state-of-the-art automated crane to replace our 29-year-old crane. Now, our daytime crane operators can operate two cranes at once by programming a computer to operate the new crane while they operate the other manual crane!



See the crane installation at ecomaine.org.

Assets and Liabilities

ASSETS	2014	2015	2016	2017
Current Assets				
Balance Operating Cash	\$29,316,709	\$6,298,130	\$5,914,305	\$6,223,377
Accounts Receivable	1,883,790	1,943,169	1,885,906	2,135,332
Inventory	2,554,175	2,487,755	2,641,991	2,808,335
Prepaid Expenses	232,130	190,326	405,802	197,485
Total Current Assets	33,986,803	10,919,380	10,848,004	11,364,529
Property, Plant & Equipment	130,999,240	136,800,702	138,831,131	141,863,509
Less: Accumulated Depreciation	101,917,064	105,721,945	109,792,071	113,825,748
Net Property, Plant & Equipment	29,082,176	31,078,757	29,039,060	28,037,761
Cash Reserve Accounts	0	20,212,199	22,623,738	24,637,943
Gorham Property	1,500,000	1,500,000	0	0
TOTAL ASSETS	64,568,980	63,710,335	62,510,802	64,040,233
LIABILITIES				
Current Liabilities				
Accounts Payable	597,988	49,687	83,895	526,605
Accrued Expenses	782,002	1,148,099	751,829	800,081
Accrued Compensated Absences	931,343	980,386	901,118	993,122
Total Current Liabilities	2,311,333	2,178,171	1,736,842	2,319,808
Accrued Landfill Close and Post Close Costs	16,191,575	16,451,511	16,746,994	14,564,514
Accrued Retirement Benefits	390,165	439,894	510,352	570,596
TOTAL LIABILITIES	18,893,073	19,069,577	18,994,189	17,454,918
NET ASSETS (EQUITY)				
Fund Balance (Retained Earnings)	42,506,775	45,675,907	44,640,758	43,516,613
Revenues Less Expenses (Current Year)	3,169,132	(1,035,148)	(1,124,146)	3,068,702
Total Fund Balance (Retained Earnings)	45,675,907	44,640,758	43,516,613	46,585,314
TOTAL NET ASSETS (EQUITY)	\$45,675,907	\$44,640,758	\$43,516,613	\$46,585,314



“We want to think outside the box and see if there’s a better way to deliver solid waste management services through a more regionalized approach.”

—Troy Moon, Chair
ecomaine Board of Directors

2018



OUR MISSION

ecomaine provides comprehensive, long-term solid waste solutions in a safe, environmentally responsible, economically sound manner, and is a leader in raising public awareness of sustainable waste management strategies.

64 Blueberry Road
Portland, Maine 04102
207.773.1738
ecomaine.org

ecomaine

WHAT'S
IN THIS
BUCKET?

See page 5!