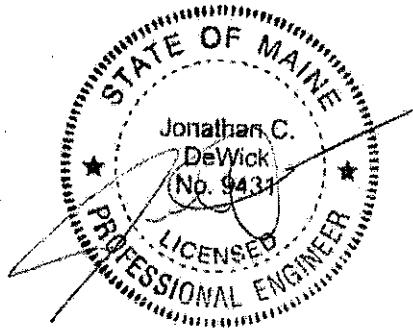


Municipal Solid Waste Disposal Evaluation

Waldoboro, Maine



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Table of Contents

<u>SECTION</u>		<u>PAGE</u>
1	Overview: Options	1
2	Environmental Impacts	4
3	Costs	6
4	Considerations	8
5	Conclusions	10

Municipal Solid Waste Disposal Evaluation Waldoboro, Maine

INTRODUCTION

With changes taking place in Maine's solid waste disposal facilities, the Town of Waldoboro retained Pine Tree Engineering to research, compare, and analyze the options available for municipal solid waste (MSW) treatment and disposal for the Towns of Waldoboro, Friendship, and Cushing (Waldoboro Group) when the current contract with the Municipal Review Committee (MRC) and the Penobscot Energy Recovery Company (PERC) expires on March 31, 2018.

1. OVERVIEW: OPTIONS

A. FIBERIGHT - Municipal Review Committee membership and Mechanical-Biological Treatment and Biofuel Production by Fiberight LLC

Fiberight LLC intends to build a \$70 million facility in Hampden, Maine that will use a mechanical-biological treatment (MBT) process to separate recyclables and organic material from municipal solid waste (MSW). Most items smaller than 2" will be sifted out near the beginning of the process and these fines, representing 20% of the total MSW stream, will be sent directly to the landfill. An elaborate mechanical process will separate nearly all plastic and metals from the waste stream for recycling. The organics and paper will then be sent through a series of processes including anaerobic digestion, which will create both bio-gas and residual solids. The bio-gas will be piped to Bangor Gas. The remaining solids will be dried and burned to create electricity for facility operation. Fiberight may one day sell these solids on the commodities market. Ash resulting from burning the solids will be landfilled¹.

The Fiberight facility will be constructed with private funds, including financial support from Covanta Energy. MRC will purchase, develop, and lease the property, and so will retain a measure of interest in the operation.

The initial contract term is 15 years. Joining members have the option of terminating the contract at the end of the 15 year period or contracting for up to five additional 5-year extensions².

B. **LANDFILLS**

Landfills are presently the least expensive method of MSW disposal. Private, municipal, and state owned landfills have operated in Maine for many decades, and all operate under permits from the Maine Department of Environmental Protection. Landfills are accepted as an environmentally adequate option.

The following landfills were contacted:

Hatch Hill Landfill, Augusta: Leslie Jones (626-2435) indicated that due to the uncertainties facing future Maine MSW disposal, Hatch Hill Landfill is not accepting post-2018 contracts at this time.

Juniper Ridge Landfill: Don Meagher (862-4200) of Casella Waste Systems indicated that Juniper Ridge's ability to accept MSW directly from municipalities is limited by their Department of Environmental Protection permit. Terms of the permit will change in 2018, but under the current license, a contract with the Waldoboro Group is not an option. (In the interest of full disclosure, Mr. Meagher indicated that he is working with PERC as they develop options for post-2018 solid waste treatment.)

Bath Landfill: Lee Leiner (443-8357) indicated that due to current uncertainties such a bond issue for landfill expansion on the November 2016 ballot and, if that ballot fails, possible closure of their landfill, they do not anticipate being able to contract for the Waldoboro Group's post-2018 waste.

Brunswick Landfill: John Foster (725-6654) indicated that they are restricted to Brunswick-only waste and may be looking into closing the landfill. He indicated that because of this, they are not a viable candidate for accepting the Waldoboro Group's waste.

Crossroads Landfill, Norridgewock: Jeff McGown (240-9739) indicated that they are offering 5-year contracts and are pursuing an expansion of the current permitted capacity. At this time, Crossroads Landfill is the only facility with the capacity and ability to accept Waldoboro Group's MSW.

C. ECOMAINE - Waste to Energy

Founded in 1976 and originally named Regional Waste Services, Ecomaine now consists of 21 member municipalities along with other municipalities under contract for services. It operates three facilities in and near Portland, Maine: a landfill purchased in 1978, a waste-to-energy (WTE) plant built in 1988, and a recycling facility built in 1990 and updated for single-stream recycling in 2007. The waste-to-energy (WTE) facility being considered here uses MSW as fuel (mass burn) both to generate electricity and to reduce the volume of trash by 90%.

Lissa Bittermann, Business Development Manager of Ecomaine, was contacted on February 29, 2016. She indicated that the facility has some availability for new contracts.

D. PERC - Penobscot Energy Recovery Company

PERC is a WTE facility that began operation in Orrington, Maine in 1989. Flail mills, magnet separators, trommel and disc screens, and other equipment shred and separate combustibles and non-combustibles. Combustibles are ground to a uniform particle size for use as refuse derived fuel (RDF). Used in conjunction with wood chips and No. 2 fuel oil, the RDF drives a steam turbine generator which produces electric power. After ferrous metals are removed and recycled, non-combustible materials and ash residue are deposited at the Juniper Ridge Landfill in Old Town.

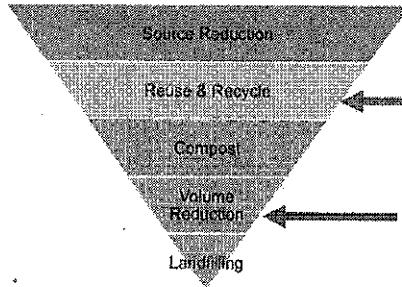
PERC is offering 10-year and 15-year contracts for service after the MRC/PERC agreement expires in 2018; however, according to the contract, an aggregate commitment of 180,000 tons/year MSW must be achieved by February 18, 2017 for the continued operation of the PERC facility³.

2. ENVIRONMENTAL IMPACTS

Although the Fiberight and Ecomaine facilities also accept and process "curbside" recyclables, for the purposes of this study disposal of MSW only is being examined.

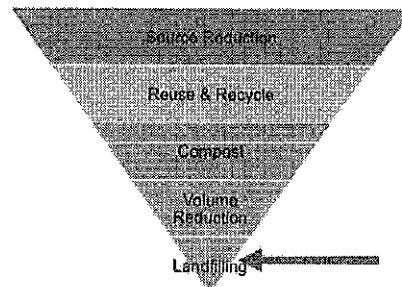
A. **FIBERIGHT**

Department of Environmental permit applications have been submitted and are currently under review. If those applications are approved, it can be assumed that the Fiberight facility design meets applicable environmental standards.



Metals and plastics will be removed and recycled during the treatment process. This places Fiberight in the Recycling and Volume Reduction categories of the Maine waste hierarchy

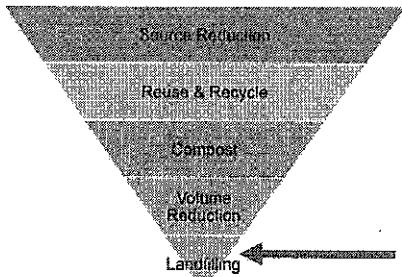
MRC has developed a contingency plan to use the Crossroads landfill facility in Norridgewock if construction of the Fiberight plant is delayed or if it fails to be built. While it is unknown if and for how long this option may be needed, landfill disposal of MSW over a significant length of time could impact the average environmental effectiveness of the Fiberight option over the life of the 15-year contract.



For any construction delays or other periods of down-time at the Fiberight facility, or if the project fails to be built, the impact falls into the least desirable category of the Maine waste hierarchy.

B. CROSSROADS LANDFILL

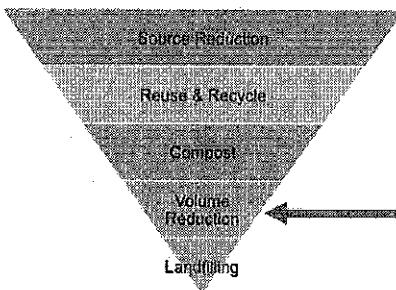
The Crossroads Landfill operates in accordance with permits issued by the Maine Department of Environmental Protection.



Landfills are in the least desirable category of the Maine waste hierarchy.

C. ECOMAIN

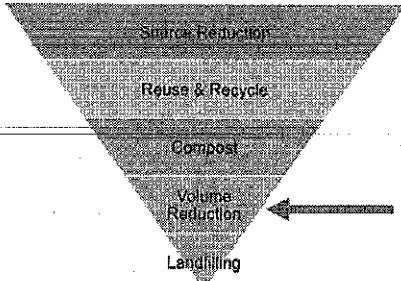
Ecomaine operates under all applicable environmental permits. Their waste-to-energy facility converts whole waste without pre-conversion processing. Stack monitoring devices therefore are able to record all emissions, accounting for virtually all material entering the plant. Ecomaine has earned and retains the International Standards for Operation 14001 certification for excellence. It also operates a single stream recycling facility and maintains a pro-active education and community outreach program which includes a full-time education program manager.



Ecomaine's waste-to-energy facility is placed in the Volume Reduction category of the Maine waste hierarchy. It is a mass burn facility which incinerates all MSW arriving at the plant. Ferrous metals are removed from the ash, and the ash is then landfilled.

D. PERC

The PERC waste-to-energy facility operates under all applicable environmental permits. However, in order to run efficiently, PERC relies on out-of-state waste, adding to Maine's pollution.



While some separation of material (metal) and recycling is performed before incineration, the PERC waste-to-energy facility most closely fits the Volume Reduction category of the Maine waste hierarchy.

3. COSTS

A. **FIBERIGHT**

Tipping fee is \$70/ton, subject to an annual Consumer Price Index adjustment. According to Exhibit B of the Municipal Joinder Agreement, MRC is to provide joining members a \$5/ton rebate for the first 36 months of the contract. This \$5/ton rebate will be taken from MRC's Target Value Reserve Fund, which is to be established from the Custody Account and Tip Fee Stabilization Fund when the existing PERC contract expires. Lower net tipping fees may be possible under a rebate program based on overall plant revenues from tipping fees and product sales. The initial contract period is 15 years. Equity charter members can contract for up to a total of five 5-year extensions after that time².

MRC member municipalities that do not sign up between January and June 2016 will be obligated to pay a surcharge of \$2.21 per ton and will not be eligible for rebates during the first term (15 years). Other financial requirements concerning re-admission to MRC will apply.

The distance from the Waldoboro transfer station to the Hampden Fiberight location is 67 miles.

(67 miles x \$0.30*/mile) \$20.10/ton + \$65.00/ton = \$85.10/ton first 36 months
(67 miles x \$0.30/mile) \$20.10/ton + \$70.00/ton = \$90.10/ton thereafter

MRC will use up to \$5 million from the \$25 million (estimated 2018 value) Tip Fee Stabilization Fund to develop the Fiberight site. By choosing the Fiberight option, a proportionate amount of the Waldoboro Group's equity in that fund (\$478,935 estimated 2018 value) will be used for site purchase and development, and so should be considered part of the cost associated with choosing this Fiberight option.

B. **CROSSROADS LANDFILL**

A tipping fee of \$64.50/ton was given by Jeff McGown.

The distance from the Waldoboro transfer station to the Norridgewock facility is 61 miles.

(61 miles x \$0.30/mile) \$18.30/ton + 64.50/ton = \$82.80/ton

If the Waldoboro Group ends its MRC membership in 2018 and chooses this option, there will be a release of equity funds. However, re-admission to membership in the MRC at a later date will require repayment of these funds as a condition of re-admittance.

* \$0.30/mile per ton was calculated using Waldoboro's current cost of \$400 to transport 20± tons 68 miles to the PERC facility. $\$400 \div 68 \text{ miles} \div 20 \text{ tons} = \$0.29/\text{mile/ton}$, rounded to \$0.30/mile.

C. ECOMAINE

Lissa Bittermann, Business Development Manager of Ecomaine has indicated that the tipping fee would begin at \$70.50 per ton and each year after the first full year it would increase based on the Consumer Price Index (not to exceed 7% per year). Contract length is negotiable and subject to approval by their Board of Directors.

The distance from the Waldoboro transfer station to the Ecomaine WTE facility in Portland is 70 miles.

$$(70 \text{ miles} \times \$0.30/\text{mile}) \$21.00/\text{ton} + \$70.50/\text{ton} = \$91.50/\text{ton}$$

If the Waldoboro Group ends its MRC membership in 2018 and chooses this option, there will be a release of equity funds. However, re-admission to membership in the MRC at a later date will require repayment of these funds as a condition of re-admittance.

Note: Mid Maine Waste Action Corporation was considered. Although the facility does not have the capacity during the summer months to accept any more MSW, the cost is included here:

$$(62 \text{ miles} \times \$0.30/\text{mile}) \$18.60 + \$67.32/\text{ton} = \$85.92/\text{ton}$$

D. PERC

The distance from the Waldoboro transfer station to the PERC facility is 68 miles.

$$\begin{aligned} (68 \text{ miles} \times \$0.30/\text{mile}) \$20.40/\text{ton} + \$84.36/\text{ton} &= \$104.76/\text{ton} \text{ (15-year contract)} \\ (68 \text{ miles} \times \$0.30/\text{mile}) \$20.40/\text{ton} + \$89.57/\text{ton} &= \$109.97/\text{ton} \text{ (10-year contract)} \end{aligned}$$

If the Waldoboro Group ends its MRC membership in 2018 and chooses this option, there will be a release of equity funds. However, re-admission to membership in the MRC at a later date will require repayment of these funds as a condition of re-admittance.

4. **CONSIDERATIONS**

A. **FIBERIGHT**

According to a report by the University of Maine⁴, a model-sized facility built by Fiberight in Lawrenceville, VA shows that Fiberight's process is sound and capable of converting a portion of MSW organics into biogas and a cellulosic sugar solution. (Note: Since that study was issued, the decision to produce and sell the sugar solution has changed to production of cellulosic solids to be used as fuel to create electricity at the facility.) The concept of the MBT process in conjunction with a biofuel producing facility appears to be feasible. However, this will be the first plant of its kind to be built in the U.S.

The European models of waste treatment include a variety of techniques. Many of them include mechanical separation, thermal treatment (incineration) and, at times, biological treatment which often consists of conversion of organics to compost. MBT originated in Germany where it is now an established waste treatment method. MBT plants operate in many European countries, and the UK in particular is adding them quickly.

In our research we encountered an MBT facility in Manchester, England which is similar to the operation proposed for the Fiberight facility. See the link below to view their video:

http://www.recycleforgreatermanchester.com/recover/how-we-recover-energy/mbtad#tab_anchor

The Manchester, UK facility is maintained by Viridor-Laing (Greater Manchester) Ltd. for the Greater Manchester Waste Disposal Authority (GMWDA). John Bland, Treasurer and Deputy Clerk of GMWDA, expressed enthusiasm for Manchester's multiple facilities, which include five MBT plants. Four of these plants include anaerobic digesting. Mr. Bland estimates that these facilities normally take 18 months or more to construct and become operational, even for companies familiar with building similar facilities.

However, it is possible that biological facilities may be less financially viable than thermal treatment (i.e. incineration) facilities. An October 2015 conference paper by Beate Vielhaber, head of Construction Planning at Hanover Region Waste Management Organization in Germany states, "The cost-effectiveness of MBT technology compared to the incineration of waste is on trial." The paper also indicates that after 10 years the Hanover, Germany MBT facility faces growing damage due to aging of materials accelerated by microbiological attack and corrosive and abrasive ingredients in the residual waste. A link to the paper is shown below.

http://www.vivis.de/phocadownload/2015_wm/2015_WM_387-398_Vielhaber.pdf

B. CROSSROADS LANDFILL

The Crossroads Landfill has served as a solid waste facility since 1976. They have the capacity to accept the 2,700 tons/year MSW generated by the Waldoboro Group and are offering 5-year contracts. They are pursuing expansion of their currently permitted capacity. Landfills are a proven method of MSW management. While in general they are the least environmentally desirable method of MSW disposal, they pose little, if any, capital risk.

C. ECOMAINE

Waste-to-energy plants, including mass burn facilities, are a proven method of MSW management and are considered to be a better environmental alternative to landfilling. In conjunction with its WTE facility, Ecomaine owns and operates a 240-acre landfill which is now used exclusively for residual ash waste. The landfill is expected to accommodate their needs through 2038.

Ecomaine has an established reputation for conscientious operation. They seek to keep harmful substances from entering MSW with their pro-active educational programs. A contract with Ecomaine poses little capital risk.

D. PERC

Waste-to-energy plants are a proven method of MSW management and are considered to be a better environmental alternative to landfilling. PERC has a record of reliable operation. At the present time however, high tipping fees coupled with an uncertain future arising from the commitment requirement to continue operations make PERC an undesirable option.

4. **CONCLUSIONS**

There are three options that, in our opinion, would work best for the Waldoboro Group depending upon the priorities they wish to pursue.

A. FIBERIGHT

The Fiberight option presents an opportunity to support an environmentally progressive method of MSW treatment. Fiberight adds a recycling benefit to processing MSW which is not present in other options. MRC has worked diligently to provide their best option for 2018 when the PERC contract ends. Various configurations of MBT are being used throughout Europe, and it receives some enthusiastic support. Because this is Fiberight's first full-scale facility, some risks, such as delays or even failure, are possible. MRC acknowledges the risks inherent in a new project of this scope, and have carefully provided mitigation features to avoid financial risk to member communities and assure they will always have a secure method of MSW treatment in place. Fiberight is possibly the least financially desirable option when the upfront use of a portion of Waldoboro Group equity to develop the site is considered. However, equity will remain in the property itself.

B. ECOMAINE

If the possibility of Fiberight failure or delay and interim landfilling is not desirable, a contract with Ecomaine would give the Town of Waldoboro a secure solution for the 2018 dissolution of the MRC/PERC relationship. Ecomaine has proven to be a reliable organization. Their educational program optimizes the environmental advantages of WTE by helping to keep undesirable and recyclable items from entering the MSW feedstock.

If the Waldoboro Group ends its MRC membership in 2018 to choose Ecomaine, there will be a release of equity funds. It is possible that these funds could be used to establish an individual Waldoboro Group equity fund to offset unanticipated future MSW disposal costs. However, it is important to note that re-admission to membership in the MRC at a later date will require repayment of these funds as a condition of re-admittance.

C. CROSSROADS LANDFILL

A contract with Crossroads in Norridgewock is the least expensive disposal option. Though lowest in the waste hierarchy, it is an environmentally acceptable method for MSW disposal.

Again, if the Waldoboro Group ends their MRC membership in 2018 and chooses to landfill their MSW, there will be a release of equity funds. However, re-admission to MRC at a later date will require repayment of these funds as a condition of re-admittance.

REFERENCES

¹Maine Department of Environmental Protection Application for a Solid Waste Processing Facility, June 2015, <http://www.maine.gov/dep/projects/mrc/applications/01-2015-06-24-MRC-Fiberight-Solid%20Waste%20Processing%20Facility%20Application-Hampden.pdf>

²MRC Municipal Joinder Agreement Charter Members, <http://mrcmaine.org/wp-content/uploads/2016/01/2-Municipal-Joinder-Agreement-Charter-Members-.pdf>

³Revised PERC Waste Disposal Agreement, March 11, 2016

⁴University of Maine Forest Byproducts Research Institute, Technology Review for Fiberight Process for MRC, January 30, 2015

RESOURCES (All resources were accessed February/March 2016)

Gasification of Non-Recycled Plastics from Municipal Solid Waste in the United States, Gershman, Brickner & Bratton, Inc. for the American Chemistry Council, updated September 2013:

<https://plastics.americanchemistry.com/Sustainability-Recycling/Energy-Recovery/Gasification-of-Non-Recycled-Plastics-from-Municipal-Solid-Waste-in-the-United-States.pdf> (MSW gasification process descriptions, experience in US and abroad, considerations)

UK Defra: "Mechanical Biological Treatment of Municipal Solid Waste" Feb. 23, 2013

https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/221039/pb13890-treatment-solid-waste.pdf (MBT methods, track record, case studies)

MBT in Europe, Waste Management World website, January 1, 2007, Martin Steiner: <https://waste-management-world.com/a/mbt-in-europe> (acceptance of MBT)

MBT in Germany and Europe - Development, Status and Outlook by Nelles, Morscheck, Grunes, University Rostock, https://cuvillier.de/uploads/preview/public_file/292/9783954040308.pdf

Mechanical-Biological Treatment Plant in Hanover, Germany, Beate Viehaber 2015

http://www.vivis.de/phocadownload/2015_wm/2015_WM_387-398_Viehaber.pdf (specific MBT plant experience)

Edmonton, Alberta website: http://www.edmonton.ca/programs_services/garbage_waste/edmonton-waste-management-centre.aspx (advanced waste processing facility, composting, Enerkem's adjoining waste-to-biofuels facility)

Enerkem News Release June 4, 2014: "Enerkem launches world's first, game-changing full-scale waste-to-biofuels and chemicals facility" http://enerkem.com/newsroom/releases/?communique_id=122542

The Washington Times March 2, 2014, Dennis Seid "Enerkem's ethanol plant no closer to being built"

<http://www.washingtontimes.com/news/2014/mar/2/enerkems-ethanol-plant-no-closer-to-being-built/?page=all>

Lets Recycle website, August 1, 2014, Michael Holder: Delays continue for Biffa West Sussex MBT Plant

<http://www.letsrecycle.com/news/latest-news/delays-continue-for-biffa-west-sussex-mbt-plant/> and April 24, 2015, Tom Goulding: West Sussex to assess future of Biffa MBT facility <http://www.letsrecycle.com/news/latest-news/west-sussex-to-assess-future-of-biffa-mbt-facility/> (opening delay - energy economics)

MRC Frequently Asked Questions www.MRCMaine.org (2. Fiberight, 4. Contracts)

SME Evaluation of Waste Handling Options, January 15, 2016 <http://www.midcoastsolidwaste.org/wp-content/uploads/2015/08/SME-Evaluation-of-Waste-Handling-Options-Post-2018.pdf>

ABBREVIATIONS

RDF: Refuse derived fuel

MSW: Municipal solid waste

MBT: Mechanical-biological treatment

MRF: Materials recovery facility

MRC: Municipal Review Committee

Compliance with the Solid Waste Hierarchy

	<i>MRC/Fiberight</i>	<i>economaine</i>	<i>Advantage</i>
<u>Waste reduction</u>	Local control: each town can continue existing programs or add new programs at its option	Local control: each town can continue existing programs or add new programs at its option	Even
<u>Recycling:</u> • Separate single-stream collection	Local control: each town can continue existing programs or add new programs at its option. Towns can use any MRF at their option.	Local control: each town can continue existing programs or add new programs at its option.	MRC Shorter distance, less haul cost, cap on recyclables tip fee
<u>Recycling:</u> • From MSW	Provides "second pass" at recyclables. Recovers metals, glass, plastics and high-value paper	Recovers ferrous metals only	MRC More recovery
<u>Composting and organics recovery:</u> • From MSW	Converts carbohydrates to hydrocarbons via digestion of soluble organics and hydrolysis/digestion of a portion of insoluble organics (e.g., diapers, low-grade paper). Would comply with new legislative mandate if enacted	No recovery. Materials are combusted. Would not comply with new legislative mandate if enacted. The combustion of unrecycled and un-separated carbohydrates leads to more emissions of CO2.	MRC More recovery, fewer CO2 emissions
<u>Composting and organics recovery:</u> • Organic materials collected separately	Not necessary. Avoids emissions from additional collection vehicles and avoids associated costs.	Requires diversion to a conventional AD facility such as Exeter. Converts soluble organics to bio-gas to make subsidized electricity. Insoluble organics are land-spread on fields. Some contaminants are diverted to landfill disposal. Requires separate collection and haul system with additional vehicle emissions and costs.	MRC No vehicle emissions or costs. Fewer contaminants requiring disposal. No land-spreading.
<u>Energy recovery</u>	Converts remaining insoluble organics to clean biomass fuel for sale and to produce electricity and heat to run the plant	Combusts remaining materials, including plastics and metals. Generates electricity, but does not recover heat (less efficient).	MRC Fewer emissions, higher overall efficiency for energy recovery
<u>Landfill disposal</u>	About 20% of incoming MSW requires landfill disposal in form of solid residue and some ash.	About 24% of incoming MSW requires landfill disposal in form of ash. Puts commercial waste displaced from plant by municipal waste on the road in search of a home, very likely a landfill	MRC Less landfilling, more resource recovery
<u>OVERALL</u>	Moving Maine up the hierarchy	Business as usual	MRC/Fiberight

Displacing fossil fuels and reducing the carbon footprint

	<i>MRC/Fiberight</i>	<i>ecomaine</i>	<i>Advantage</i>
Fossil fuel displacement	<p>Fiberight converts organic materials to bio-gas for injection into the Bangor Natural Gas Pipeline or sale as Compressed Natural Gas (CNG for vehicle fuel. Both uses directly displace natural gas from fossil sources.</p> <p>Fiberight uses some biomass extracted from organic material to produce electricity and process heat to run the facility – which is extremely efficient due to (a) the recovery of the waste heat for use in the plant; and (b) avoiding losses in the electric transmission and distribution systems by using the generated power at the point of generation without going on to the grid.</p>	<p>ecomaine displaces natural gas from fossil sources by generating electricity for delivery to the grid that displaces electricity generated from natural gas elsewhere on the grid.</p>	<p>MRC</p> <p>Displacing electricity made from natural gas is far less efficient (ecomaine) than displacing natural gas directly (MRC/Fiberight).</p> <ul style="list-style-type: none"> • ecomaine needs about 16,000 Btu to make each kWh of electricity (based on producing 110,000 MWh per year of electricity from 175,000 tons per year of MSW at a heating value of 5200 Btu/lb). • Natural gas-fired power plants need 7,000 to 10,000 Btu to make each kWh of electricity- less than ecomaine does – 40% to 55% fewer Btus per kWh http://www.eia.gov/electricity/annual/html/epa_08_01.html • Thus, ecomaine is much less efficient, burns more Btu per kWh generated, and has far higher greenhouse gas emissions than natural gas fired plants. The ecomaine approach to displacement of electricity is less efficient than Fiberight's direct displacement of natural gas.

Economics and Voice

	<i>MRC/Fiberight</i>	<i>ecomaine</i>	<i>Advantage</i>
<u>Tip Fee</u>	\$70.00/ton	\$70.50 per ton*	<p>MRC</p> <p>Saves \$2,500/yr</p>
<u>Revenue Sharing:</u>	Yes	No	<p>MRC</p> <p>Anticipated rebates of \$5-\$20/ton, or \$25k-\$100k/yr</p>
<u>Governance</u>	Voting member, strong Board oversight and transparency	Customer, staff-driven organization with less transparency	<p>MRC</p> <p>More transparency, more say.</p>

*Based on 20 year contract price offered formally to the Mid Coast Solid Waste Corporation.

The Municipal Review Committee (MRC)

In 1991, eighty-six Maine communities, including Waldoboro, Cushing and Friendship, formed the MRC to work with Penobscot Energy Recovery Corporation (PERC) to improve PERC's operating and economic performance. One hundred and eighty-seven Maine communities are now MRC members. Its members elect its governing board, which oversees the organization and is responsible for its management.

Currently, the MRC ensures that Municipal Solid Waste (MSW) disposal at the PERC plant remains environmentally sound. It monitors PERC's environmental performance and reports that performance to its members. As a member of PERC's Oversight Committee, the MRC reviews weekly and monthly performance reports, reviews and votes on PERC's annual operating budget, reviews and votes on capital and major maintenance projects, and ensures that actions are taken and investments are made to avoid or address all potential environmental impacts.

The MRC reports to its members on PERC's environmental performance, including the results of annual stack tests of air emissions, continuous emissions monitoring, ash testing, and other monitoring and compliance activity. In addition, the MRC actively represents the Charter Municipalities before government agencies. The MRC's sole purpose is to work for its members. It is their only true and loyal advocate for matters concerning Municipal Solid Waste (MSW).

The MRC's 187 members control significant quantities of MSW. This allows the MRC to operate from a position of strength in its dealings with State regulatory agencies, including the Maine DEP, the Joint Standing Committee on Environment and Natural Resources, and the Governor's Energy Office.

MSW disposal has become a technologically complicated environmental challenge. During its 25-year existence, the MRC has developed the knowledge, experience, and expertise that no single community member possesses or could possibly afford.

Most important, the MRC maintains a focus on the future and works solely in the interests of its members to plan for financially sound, innovative, and environmentally safer means of MSW disposal. It is this role that has become critical as the MRC and its member communities move beyond PERC and into the world of cutting edge MSW disposal. It is this forward-looking approach that has led the MRC to embrace Fiberight as the core of its post 2018 plan.