

**Town of Gilmanton, New Hampshire  
Analysis of Solid Waste Operations and Opportunities & Formal Recommendations**

**Summary:**

Gilmanton spends nearly \$300,000 annually to manage solid waste and recycling, that's about 6.45% of the total town budget. Half of the solid waste budget is used to collect, transport and dispose of municipal solid waste (MSW), and costs are only expected to increase over time. The town currently recycles 22% of all MSW, but it's estimated that nearly 60% of residential waste can be recycled now, without investing in costly infrastructure. By encouraging residents to increase recycling and reduce MSW, the town can incur substantial savings, earn revenue from recycling and divert tax dollars to other town services.

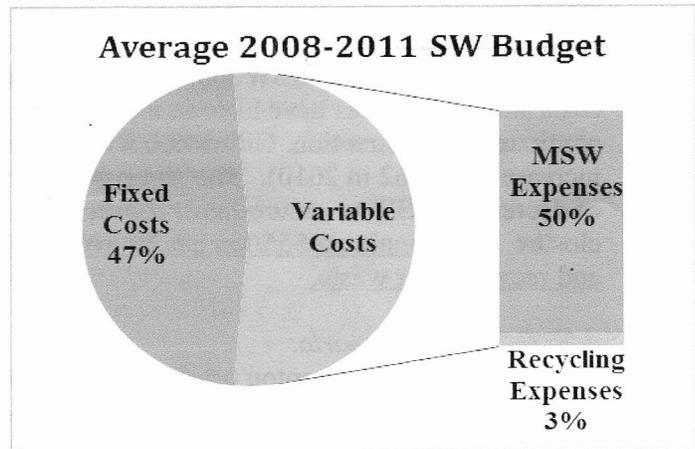
It is in the interest of the town, community and future generations to adopt and encourage sustainable solid waste management practices. With increased recycling among residents, the town can avoid the costly burning and burying of valuable resources, preserve landfill space, reduce pollution and promote environmental stewardship. Increasing the volume of recyclable materials can bring in more revenue and move the solid waste program toward a more financially self-sustaining direction.

**Solid Waste Budget Breakdown:**

Fixed Costs are those that will likely remain stable regardless of recycling and disposal rates. In Gilmanton, they include salaries and benefits, facility costs, and repair and maintenance of equipment. Gilmanton currently pays more to collect, transport and dispose of waste than it does to maintain the facility or pay employees. The MSW expenses can be avoided by increases in recycling.

Variable Costs are those that will fluctuate greatly with changes in the recycling and disposal rates. MSW costs can be avoided by increased recycling and this is where the town can save money. In Gilmanton, they include payment to the Penacook incinerator, hauling, tipping fees, and special recycling such as electronics, scrap metal, tires and hazardous waste.

*\*Revenues earned from recycling are not represented here, but they more than cover recycling expenses and will likely increase with increased recycling. Annual revenue varies with the ever-changing market for recycled material. In Gilmanton, recycling revenues accrue to back into the general fund, rather than support MSW operations.*



**Budget Saving Opportunities:**

MSW tonnage fluctuates annually depending on the economy, population fluctuations and recycling rate. During a recession, people tend to buy less and produce less waste. Tourism increases in New Hampshire in the summer and contributes to added MSW costs. Gilmanon has been dedicated to increasing the recycling rate over the years, but there are always ways to improve recycling.

For instance, MSW decreased from 1,626 tons in 2008 to 1,292 tons in 2009 to reflect the economy. The recycling rate increased from 16% in 2008 to 17.5% in 2009 to reflect recycling efforts by the town, and Gilmanon now recycles at a 22% rate, which is right about at the state average (the National average is around 32%) It is difficult to predict the economy, but the town has more control over the recycling rate by educating and incentivizing recycling among residents.

MSW EXPENSE	AVERAGE ANNUAL COST	HOW TO REDUCE COST?
Incinerator	\$80,045	RECYCLE!
Hauling	\$29,968	RECYCLE!
Tipping Fees	\$22,750	RECYCLE!
<b>TOTAL MSW COSTS</b>	<b>\$132,763</b>	<b>RECYCLE!</b>

As previously shown, Gilmanon spends about half of the solid waste budget on MSW alone, amounting to approximately \$133,000 annually. These costs can be directly avoided by decreasing MSW tons headed for the incinerator and landfill. Transportation costs and tipping fees have historically been on the rise and it is likely the trend will continue in that direction. Gilmanon will pay the co-op \$66.80/ton of MSW in 2011 (an increase from \$62 in 2010). The co-op collects \$11.80 on each predicted ton, regardless of decreases MSW to secure funds for capital improvement and the Franklin Ash Landfill closure. The remaining \$55/ton can be avoided by encouraging residents to reduce, reuse and recycle their waste.

*A Hypothetical Scenario:*

Let's assume that Gilmanon produces the 5-year average of 1,360 tons of MSW each year, and \$102,800 in avoidable costs to the co-op, leaving hauling costs constant. The town would owe \$16,048 regardless of decreased tonnage (\$11.80 x 1,360). However, the town could incur these savings with these decreases in MSW:

- 10% decrease in MSW saves \$7,480 annually
- 20% saves \$14,960
- 50% saves \$37,400
- 60% saves \$44,880

Not to mention, the added savings from avoided transportation costs and possible revenue gained from the sale of recyclable material diverted from the waste stream. There are also non-monetary benefits to consider such as reduced pollution associated with incineration, land filling and transportation, and encouraging sustainable resource use to benefit future generations.





## **FORMAL RECOMENDATION FOR GILMANTON:**

### **1. INCREASE EDUCATION:**

Increasing recycling education and awareness is reportedly the single most important aspect of encouraging recycling. This can be done many ways including scheduled events and meetings, presentations, and school recycling programs. Many people are confused as to why recycling is important and what items are recyclable. RCAP Solutions can assist you in public outreach and education by helping to create materials, organize events and conduct presentations.

### **2. IMPLEMENT PAY-AS-YOU-THROW (PAYT):**

Over 7,000 towns in the US, and 47 in New Hampshire have hailed PAYT as the most effective way to reduce and recover MSW costs and increase recycling rate. People respond to price signals, and if they are forced to pay for each bag of garbage they produce, they will find ways to reduce their costs. It also creates equity among residents by distributing the costs of MSW according to how much you throw away. Each PAYT town has adopted a unique program to suit their needs, and most have reported a 20-60% reduction in MSW in the first year and a 30-40% increase in recycling. \* Note that the reduced MSW doesn't always result in recycled material. Many refer to this "missing garbage" to be the result of reducing, reusing waste and increased donations.

With the hypothetical scenario mentioned above, the MSW reductions as a result of PAYT could save the town between \$14,960 and \$44,880 annually in avoided MSW costs. The town could also increase recycling revenues (amount based on current market prices), and also generate revenue from the sale of bags to the residents to help cover the costs of MSW disposal. For instance, if Gilmanton bought 52,000 garbage bags for \$0.17 each, and sold them for \$1 each to residents throughout the year, the town would make \$43,160 to pay for next the following year's bags and off-set the remaining MSW costs. It is difficult to predict the exact savings associated with adoption of PAYT, but history and the experience of other towns suggests that it is successful at substantially decreasing the budget and increasing recycling. These figures are estimates based on the average percentage decreases experienced in other towns.

Solid waste should be treated like any other utility, where the user pays for what they consume. Many people feel that the transition to PAYT is inevitable, and it is important to approach residents in a way that clearly and logically explains the need for such a change. RCAP Solutions can assist you in creating an implementation strategy, timeline and public education campaign to ensure success in your community.

### **3. CONSIDER ORGANICS RECYCLING:**

Nearly 30% of the waste stream consists of organic, compostable materials, which presents a large opportunity for savings. However, the infrastructure needed to have a successful and financially viable large-scale composting facility can be costly. Encouraging and educating residents on the benefits of home composting may be a more cost-effective



way to take organics out of the waste stream. RCAP Solutions can help you to find out more information if this is an avenue of recycling that you would like to pursue.

**4. DO NOT GO SINGLE STREAM AT THIS TIME:** Since Gilmanton has been successful at generating revenue from recycling; the town may stand to lose more than they would gain with single stream recycling. The NRRRA provided a detailed analysis of the losses associated with switching to single stream. With single stream, the co-op would pay a variable dollar amount for each ton of recycling, but would have to pay for the transportation of material to the facility. While the ease and convenience associated with single stream recycling is expected to increase recycling among residents, evidence suggests that those who don't already recycle, probably won't. Education plays more of a role than convenience in increasing recycling rate.

**5. If PAYT is not an option, then MAKE RECYCLING MANDATORY:** Many towns have seen a small increase in recycling by telling residents that it is mandatory. However it is the responsibility of the town to make recycling convenient and available. One drawback to mandatory recycling is the problem of enforcement and monitoring. Those who are tasked with collecting the recycling and garbage would bear the burden, and unless trash bags were clear, it would be difficult to tell who is recycling and who isn't.

Please contact *Sarah Nichols, Solid Waste Management Specialist- NH*, with any comments, questions or concerns about this analysis or recommendation.  
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