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Pollution  
Control  
Agency



The Food Industry Center  
UNIVERSITY OF MINNESOTA



# Environmental Practices Inventory

2009 Survey of  
Minnesota  
Grocers

August 2009



# Environmental Practices Inventory

## 2009 Survey of Minnesota Grocers

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## Project background, purpose, and scope

This report outlines the findings of a 2008 survey of the food industry in Minnesota to evaluate the industry's environmental practices. The Minnesota Pollution Control Agency (MPCA), the University of Minnesota's Food Industry Center (TFIC), and the Minnesota Grocers Association (MGA) partnered to conduct the survey. Analysis of survey data will provide direction as these organizations work to assist the grocery industry become more sustainable. The hope is that this assessment of current practices will help grocers within the state evaluate their environmental efforts and inform them of resources and practices that might assist future efforts to develop voluntary environmental programs.

In 2007, the MPCA identified the grocery industry as an area where targeted environmental assistance could have a substantial impact on waste generation, recycling, and energy use. The nature of the industry has historically resulted in high volumes of waste—much of which is recyclable or compostable. Grocers also sell or distribute many of the products that eventually find their way into the waste stream. By working with grocers, the MPCA believes that advances toward environmental goals could be made with the internal, industry operations while also promoting sustainable consumer behavior. After identifying the grocer industry as a focus area, the MPCA contacted the MGA, and the two organizations began working together to identify priority areas where partnership and cooperation would be mutually beneficial.

In researching the status of current industry practices, it was clear that current data outlining the industry's practices were lacking. During the research process, the MPCA encountered a 1998 study of grocer environmental practices conducted by the TFIC in partnership with a national grocer trade organization.<sup>1</sup> Recognizing that updated information on this important topic was needed, the MPCA, MGA, and TFIC agreed to partner to conduct a new survey focused on grocers operating in Minnesota. The TFIC also shared data from a 1996 survey of Minnesota's grocers which is referenced in this report.

### Goals of the 2008 survey:

- Develop a clear and comprehensive assessment of the industry's current environmental practices.
- Assess trends and changes in industry practices since the 1996 survey.
- Understand barriers to and motivations for implementing environmentally favorable practices.
- Identify priority environmental practices that the MPCA, MGA, and TFIC can work with the industry to promote and implement.

A wide array of environmental practices that the industry might consider were evaluated. Initial drafts of the survey included more expansive sets of questions related to a broader array of issues. When paring down the survey to make it palatable for potential respondents, priority was given to questions that would provide information directly related to programs, services, or expertise currently available via one of the partner organizations conducting the survey.



<sup>1</sup> Alfred A. Marcus and Marc H. Anderson, "A General Dynamic Capability: Does it Propagate Business and Social Competencies in the Retail Food Industry?" *Journal of Management Studies*, Vol. 43, No. 1, January 2006, pp. 19-46

## 2 — The report is divided into the following sections:

- Recycling and waste handling practices
- Food recovery (food waste handling practices)
- Reusable shopping bags
- Energy use and toxicity reduction
- Management policies and activities
- Consumer programs
- Reasons for implementing environmental initiatives
- Trends and changes
- Noteworthy differences among stores
- Resources for grocers

### Methodology, target audience, and participation

The three organizations worked together to develop the survey instrument, using the 1998 survey instrument as a starting point. Questions from the 1998 survey that were deemed clear and relevant were kept unchanged. Several questions were modified to reflect a changing landscape or to clarify their meaning. Additional questions were added to better understand contemporary issues that were not considered in 1998. Industry representatives reviewed draft versions of the survey instrument. To ensure questions were clear, suitable topics were covered, and the survey format and length were appropriate.

The survey was targeted toward store owners, store managers, corporate operations staff, and others familiar with the store's activities. Two parallel versions of the survey were conducted with slight modifications to some of the questions. One version was designed for management-level employees who actually work at the store. The other version addressed the same issues from the perspective of a corporate or non-store level employee. Except where otherwise noted, the data presented throughout this report combine responses from both groups.

The survey, which was hosted on an MPCA website, was promoted by two mailings—each mailing went to the 1,300 stores identified by a University of Minnesota database using NAICS Codes. Potential respondents were also solicited by an email from the MGA and through corporate contacts known to the MGA, the MPCA, or the TFIC.

Respondents were initially notified about the survey early in October 2008 and were asked to complete the survey prior to November 1, 2008.

In total, 78 usable responses were received for this statewide survey. By comparison, the 1998 national study had 108 responses, and the 1996 Minnesota survey had 41 respondents. The 78 responses received and reviewed for this survey include responses from traditional grocery stores, supermarkets, super centers, and convenience stores. The 1998 study did not include convenience stores.

### Waste and the environment

Energy conservation is often the first thing considered by organizations when evaluating environmental practices but other things also factor into responsible and sustainable behavior. Garbage, for example, represents a substantial environmental problem and not just because most of us do not want landfills next to our homes, schools, and churches. Garbage requires energy to transport and handle when it's ready for disposal, but considering only those environmental costs would not be an accurate representation of the true and complete expenses of trash. The material acquisition, manufacture, transport, and consumption of any material also factor into an accurate accounting of an item's environmental impact. For many items that we quickly dispose of, substantial energy consumption and harmful emissions could be avoided if we were able to avoid the need to create something that we'll have to throw away.

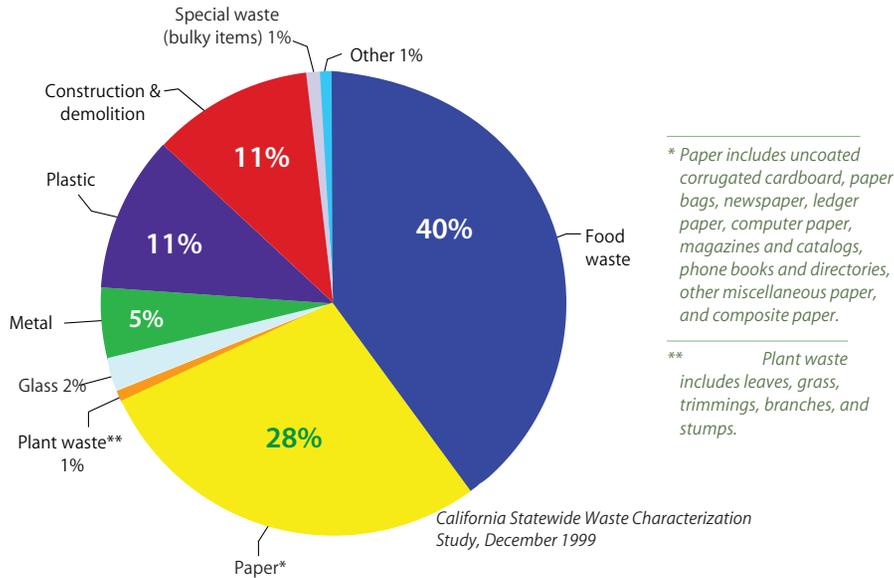
Solid waste professionals look at the composition of garbage in an effort to manage waste in the most environmentally friendly way. The state of Minnesota has established a hierarchy for the best management practices for waste—from the top of the hierarchy, which offers the most environmentally friendly option, to the least favorable option. The hierarchy prioritizes waste handling in this way:

1. Waste prevention or reduction
2. Recycling
3. Composting of yard or food waste
4. Mixed municipal solid waste composting or incineration that recovers heat and makes electricity
5. Land disposal (landfill) which produces no measurable methane gas or which involves the retrieval of methane gas as fuel for the production of energy to be used on-site or for sale
6. Land disposal which produces measurable methane and which does not involve the retrieval of methane gas as a fuel for the production of energy to be used on-site or for sale

## Waste composition at a typical food retailer

Composition analysis of the waste generated at grocery stores suggests that substantial portions of the waste can be handled within the top three hierarchy established management methods.

### Waste composition at a typical food retailer

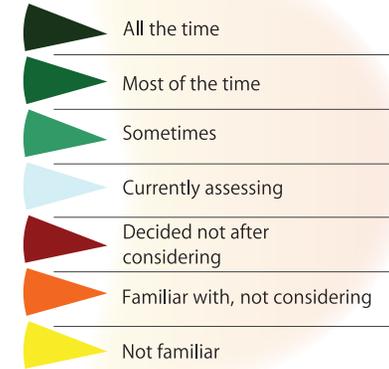


## Understanding the data

This report includes a series of pie charts that detail findings from the survey of grocers and describe to what extent grocers are utilizing a particular practice or strategy. The charts have been color coordinated to show clearly how extensively a particular practice is utilized.

The green portion of each the charts represent grocers who have implemented a particular practice. The red, yellow, and orange portions of each chart represent grocers who have opted not to participate in a particular practice. Grocers who indicated they are assessing an issue are represented by the light turquoise color on each chart.

### Key



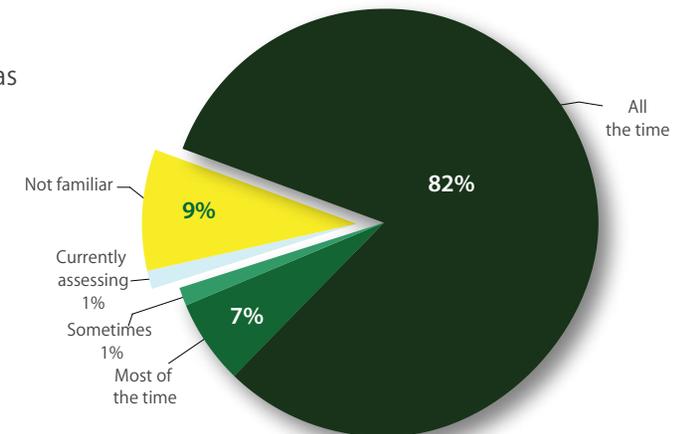
## Recycling and waste handling practices at grocery stores

Grocers across the state have recycling programs in place. These programs can be an effective way to reduce disposal costs and can capture a great deal of the waste that grocers generate.

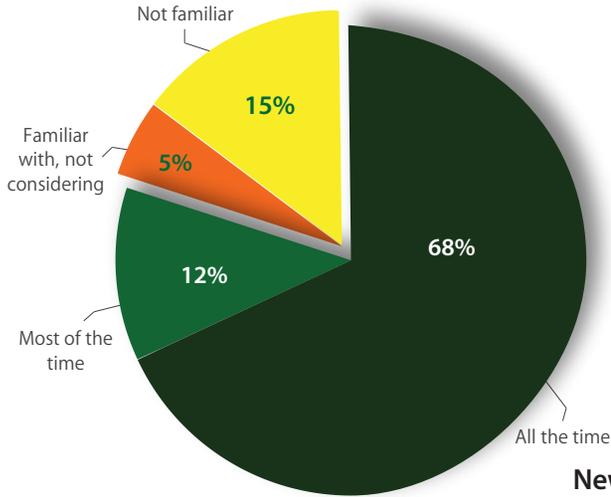
In part because grocers sell many of the products that residents eventually discard, grocers have also been called upon to offer recycling opportunities for their customers. In Minnesota, the most noteworthy example of this is the voluntary plastic bag recycling many grocers offer. In some other states, bottle deposits are used to encourage the collection of these materials.

The charts below outline to what extent Minnesota's grocers recycle many commonly found materials that would otherwise be discarded as trash.

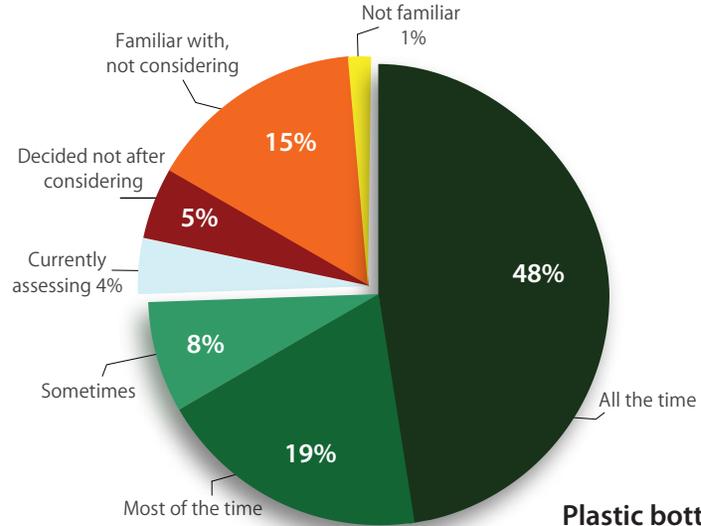
### Cardboard recycling



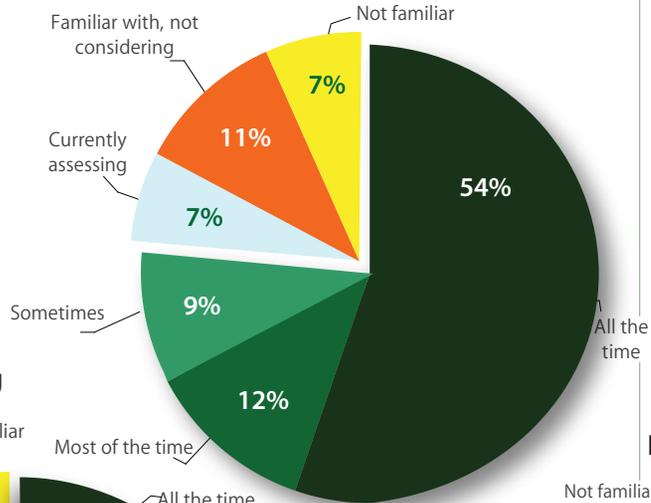
### Wooden pallet recycling



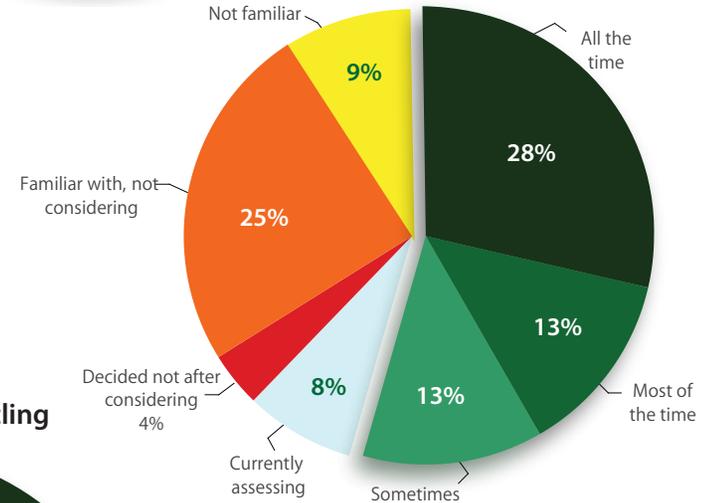
### Aluminum can recycling



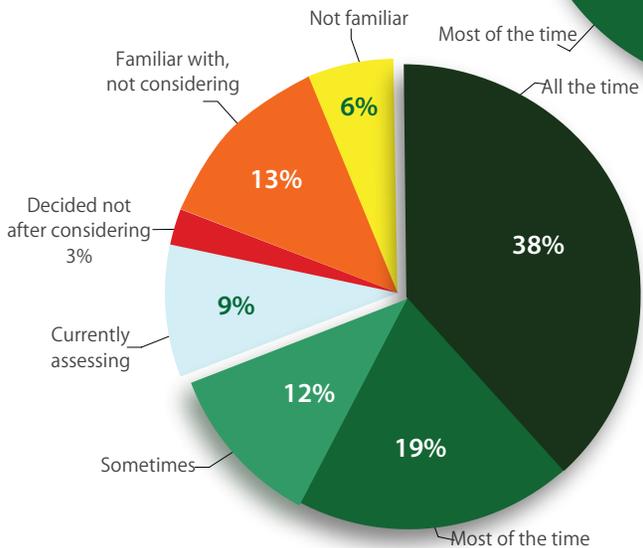
### Newspaper recycling



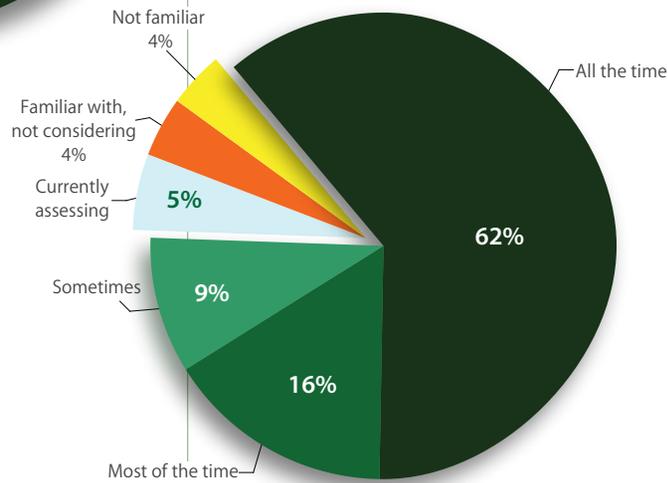
### Plastic bottle recycling



### Office paper recycling



### Printer cartridge recycling

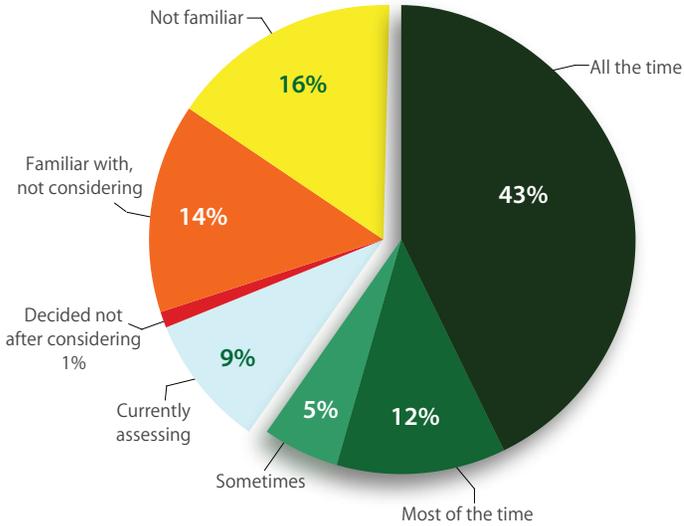


## Shrink wrap and plastic bag recycling

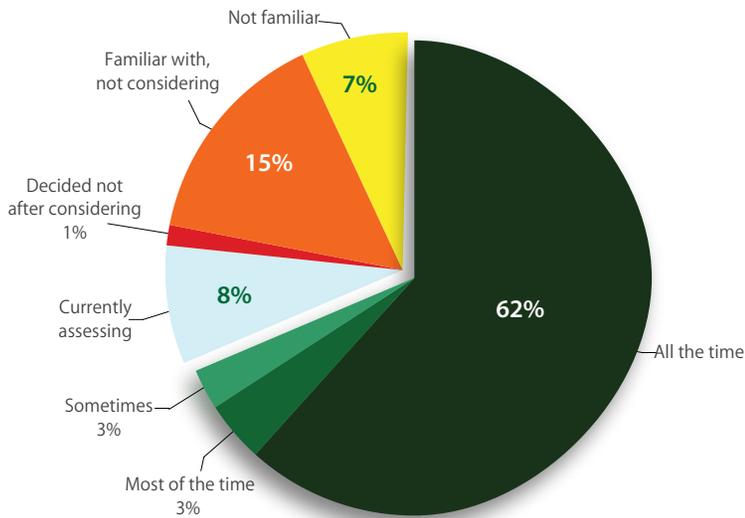
Shrink wrap recycling and plastic bag recycling are often closely linked. Most recyclers that collect either of these materials can process both. Recyclers typically require collected plastics to be dry and free of food residue.

Grocers that indicated they do not currently recycle shrink wrap were asked what they perceived as barriers to implementing shrink wrap recycling in their stores (Table 1).

**Film, plastic bag, and shrink wrap recycling (for internal operations)**



**Film and plastic bag recycling (for customers)**



Only 12 grocers responded to the questions about barriers to implementing a plastic film recycling program. The grocers were asked if they agreed or disagreed that the issues listed in Table 1 prevented them from implementing a shrink wrap recycling program.

**Barriers to implementing a plastic film recycling program**

Obstacles	Count	Response				
		Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
Lack of management support	12	0	3	7	0	2
Lack of capital	12	1	3	4	3	1
Food safety concerns	12	1	3	6	1	1
Not a priority	12	3	1	5	2	1
No time to research	12	2	2	6	2	0
Available technology	12	1	4	6	1	0
Unavailable in area	12	3	1	6	2	0
Space limitations	12	3	3	4	1	1
No technical information	12	1	5	5	1	0
Unclear cost savings	12	1	6	5	0	0

Table 1:

The issue that grocers most consistently agreed was a barrier was unclear cost savings. They also indicated that space limitations, lack of technical information, and limited access in their area were factors in the decision to not collect plastic film. They did not feel that lack of management support prevented them from implementing film recycling. Few grocers indicated they strongly agreed or disagreed that any of the potential barriers listed above were the reasons they did not implement programs at their store(s).

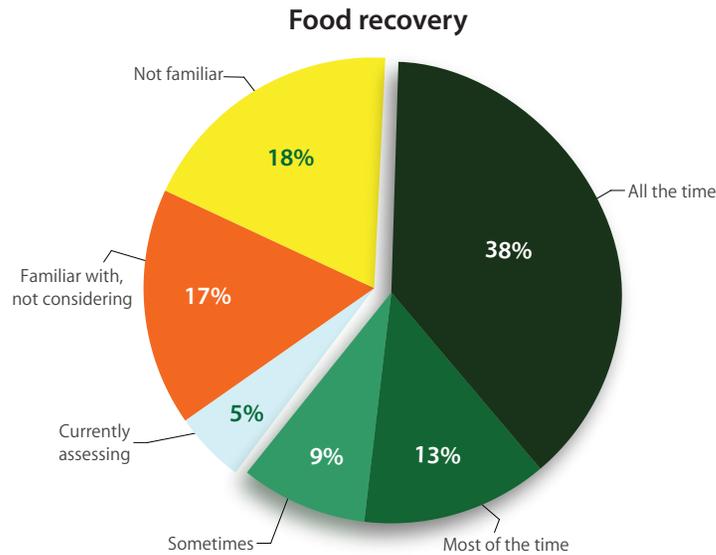
## Food recovery

Substantial portions of the waste stream at grocery stores are made up of food waste. Composition studies indicate that food waste accounts for close to 13% of the overall municipal (residential and commercial) solid waste stream—making food waste the second most prominent

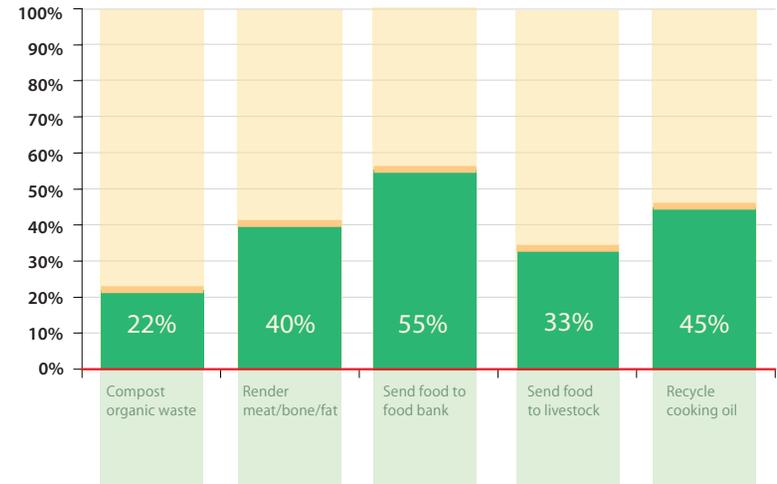
6 — type of waste found in Minnesota’s garbage behind paper products.<sup>2</sup>

Food waste recovery practices are always preferable to disposal from an environmental standpoint and in many circumstances can result in cost savings. Food waste often has value in ways that other garbage does not. Converting food waste to a useful product such as livestock feed or compost helps prevent the need to meet the demands for those products elsewhere and helps divert food waste from the landfills, where it is a prominent source of methane gas which contributes to global warming.

Grocers have several options for diverting their food waste out of the garbage. Not all areas of the state have access to all of the food waste recovery strategies. Many of them use one or more of these strategies. These strategies can help reduce costs, protect the environment, and in many cases also have social value, such as providing food to food banks.



**Percentage of grocery stores using each food waste recovery strategy**



**Figure 1**

Those who sometimes, most of the time, or always use food waste recovery options were asked what type of program they use. Figure 1 indicates the percentage of the total survey population (all 78 responding grocers) that use each of the common food waste recovery strategies. Many grocers use more than one of the strategies.

Among the 40% of grocers who do not currently participate in any type of food waste recovery program, 13 responded to a series of questions asked about barriers to implementation (Table 2). The sample size was small so the table reflects the number of responses received to the question about challenges to implementing a food recovery program rather than percentages. Table 2 characterizes their responses.

It is also clear that those who use some types of food recovery are not familiar with some of the other strategies that may be beneficial. For the subset of respondents who are practicing food recovery, all of them were familiar with donating food to food banks, but over 30% of those same respondents indicated they were unfamiliar with composting. Just over 15% of that same pool of respondents is unfamiliar with the practice of donating food to livestock and over 17% were unfamiliar with rendering. Given that over 40% of survey respondents were not subjected to these questions since they indicated they did not practice food recovery, one could expect that knowledge about these practices is quite limited.

<sup>2</sup> *Municipal Solid Waste in the United States: 2007 Facts and Figures*, United States Environmental Protection Agency, November 2008

# Food recovery options

## Food banks

Foods that are no longer suitable for sale, but remain edible are ideal for food banks. Virtually all areas of the state have food banks that greatly benefit from partnerships with grocers. Organizations like Second Harvest Heartland (see contact information in resources section) can work with grocers to establish collection systems, train staff, and find useful outlets for food that would otherwise end up in the trash. The types of food needed can vary from one area to another, but many different types of products from different departments of a grocery store can often be managed in this way. Furthermore, participating in this process is beneficial in that it directly helps those who would go hungry without assistance.



## Composting

Grocers can dispose of all food waste—including meat, bones, fats, and produce—with an commercial compost program. Commercial compost programs can also accept non-recyclable paper, including items like paper towels, napkins, paper plates, and other food-soiled paper products. Commercial compost programs are not available in all areas of the state. Many areas where the service is available offer incentives in the form of reduced solid waste taxes or fees. Some areas of the state have mandated that grocers, restaurants, and other commercial entities participate in composting programs. Organic material creates methane in landfills which is a potent greenhouse gas. By composting, grocers can reduce their environmental impact while creating a product that can be used for a variety of purposes.



## Food to livestock

Certain types of food that are no longer edible for humans can be donated to farmers for livestock, feed. The grocer separates out this food waste, which a farmer then hauls and processes for livestock feed. This practice is also not available in all areas of the state. This practice often offers a lower-cost option than disposal, reduces greenhouse gas emissions, and in some areas, participants can avoid solid waste taxes or fees by participating. Grocers are encouraged to contact their county solid waste administrator for assistance in evaluating what options are available in their area.



## Rendering

Rendering is a process that uses meat and other animal byproducts to create a useful material. The fat obtained through this process can be used to create things like grease, animal feed, soap, or biodiesel fuel. A variety of organizations offer the service, and the specific materials collected depend on the end use. Rendering can help grocers reduce the amount of spoiled meat, grease, and other animal byproducts they would otherwise throw out.

## Barriers to implementing a food recovery program

Obstacles	Count	Response				
		Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
Lack of management support	13	2	0	8	2	1
Lack of capital	13	1	3	7	1	1
Available technology	13	1	4	6	1	1
Unavailable in area	12	2	3	5	0	2
Not a priority	12	3	1	6	2	0
No time to research	13	2	5	4	1	1
Unclear cost savings	13	3	3	6	0	1
Space limitations	13	6	0	4	2	1
No technical information	13	2	6	4	0	1
Food safety concerns	12	3	6	3	0	0

Table 2:

## Reusable shopping bags

Recent trends suggest consumers are more willing than they have been in the past to adopt environmentally friendly behaviors<sup>3</sup>. In some cases, consumers are demanding more sustainable practices from industry. One such trend that appears to be gaining momentum is the use of reusable shopping bags.

Reuse is preferable even to recycling. When an item can be reused repeatedly for an extended period of time instead of a disposable (or even recyclable) alternative, there are many environmental benefits. Consumers who shop with reusable bags do not need paper or plastic bags when shopping. As a result, grocers buy fewer bags, meaning fewer raw materials have to be harvested or mined, manufactured, collected, hauled, or otherwise managed. Therefore, the practice conserves energy, reduces greenhouse gas emissions, and saves money.

Furthermore, increased distribution and use of reusable shopping bags brings a variety of benefits to grocers, retailers, and Minnesotans.

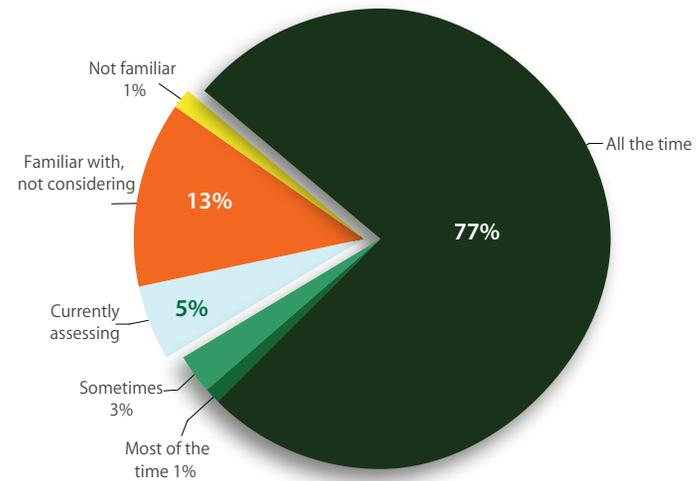
<sup>3</sup> Robert Penn, Schoen & Berland Associates "Green principles becoming more important at the checkout counter despite recession, consumers say" May 11, 2009 <http://www.psbresearch.com/Files/JWT%20PSB%20Sustainable%20Sustainability%20Release%20FINAL%20FINAL.pdf>

Grocers in Minnesota are clearly aware of and responding to this trend as evidenced by the vast majority of stores currently selling reusable shopping bags.

The statistics presented in the pie chart below include figures from all of the surveyed food retailers. If convenience stores are excluded from the analysis the prominence of food retailers selling reusable bags all of the time rises from 77% to nearly 94%.

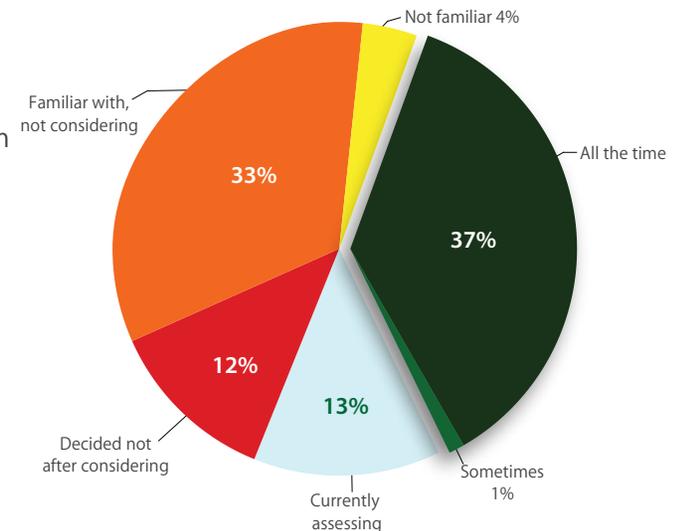
Many grocers also choose to offer rebates to customers who bring their own reusable shopping bags. The pie chart below depicts how frequently these

Grocers selling reusable shopping bags



rebates were offered at stores across the state.

Grocers offering rebates for using reusable shopping bags



The statistics presented in the pie charts on this page include figures from all of the surveyed food retailers. If convenience stores are excluded from the analysis, the prominence of food retailers offering rebates for reusable bag use all the time increases from 36% to 44%. Without convenience stores

included in the sample, we also see those who indicated they are familiar with the practice but not considering offering rebates drops from 33% to 25%.

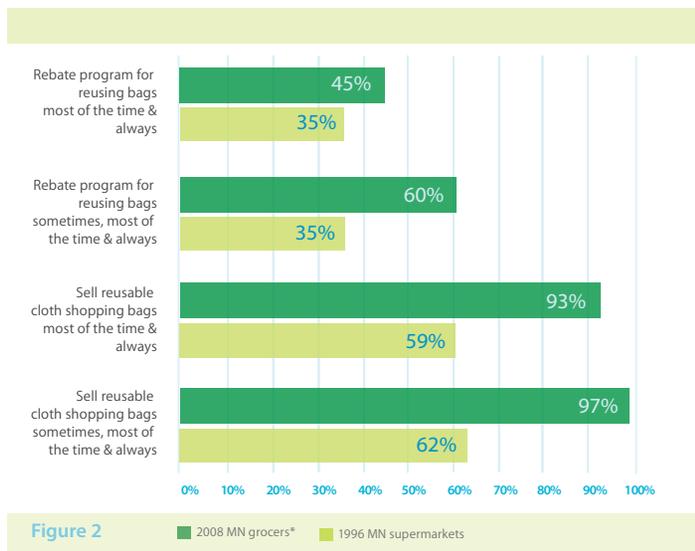
Both the 1998 national survey and the 1996 Minnesota—only survey asked grocers if they were selling reusable shopping bags. Indications are that a higher percentage of grocers are now selling bags than were doing so 10 or 12 years ago.

The figure below represents a comparison between the 1996 survey and the 2008 survey. Since the 1996 survey did not include convenience stores, responses coming from convenience stores in 2008 were excluded from this analysis.

Grocers were also asked:

- In your estimation, has customer use of reusable bags increased, decreased, or remained constant in your store(s) over the past six months?

### Store Programs Promoting Resuable Bag Use



- If you sell reusable bags at your store have those sales, increased, decreased, or remained constant over the past six months?
- If you are selling reusable bags at your store, do you sell them at cost, below cost, or at a profit?
- Have you seen a reduction in the number of paper and/or plastic bags you distribute that you can attribute to increased reusable bag use?

When asked if customer use of reusable bags has increased, 60 of the 78

responses said yes. Of the 18 “non-yes” responses, 14 were from stores identifying themselves as convenience stores (out of 15 convenience stores).

When asked if sales of reusable bags had increased, half of smaller sized stores chose a different answer than “Increased.” About 14 of the 38 said they do not sell the bags. Convenience stores typically did not sell the bags.

When asked how they priced reusable bags, medium-sized stores were more likely than others to say they sold the bags at a profit.<sup>3</sup>

Smaller stores were less likely to sell the bags.<sup>4</sup> By store sales, stores in the middle two classes were more likely to say they sold the bags at cost or below cost while stores with either the highest or lowest sales were more likely to say they sold the bags at a profit.<sup>5</sup> More than half of independent supermarkets sold reusable bags at or below cost while all chain supermarkets reported they sold them at a profit.

Half of the responses from corporate respondents were “at cost” while less than 10% of those working at the store indicated bags were sold at cost. Nearly a third of store respondents said they priced them “below cost” while no corporate respondents chose that option.

When asked if reusable bags reduced paper and/or plastic bags, both independent and chain supermarkets were split across the three response options with “Yes” and “Don’t Know” getting the same number of responses. Convenience stores tended to choose “Don’t Know” while stores in the “Other”<sup>6</sup> store type class were more likely to say “Yes.”

The information provided by grocers throughout Minnesota is consistent with national trends. In 2008, sales of reusable bags were up 76% over the year prior, according to Marshal Cohen, chief industry analyst at the market researcher NPD Group.<sup>7</sup>

## MPCA Reusable Bag Consumer Research

The MPCA also conducted a separate online consumer survey to evaluate attitudes and behavior related to reusable bag use.

<sup>4</sup> Medium-sized stores are defined as stores with 20,000-35,000 square feet.

<sup>5</sup> Smaller sized stores are defined as stores with under 20,000 square feet.

<sup>6</sup> The middle two classes were stores indicating their annual sales were between \$500,000 and \$1,400,000.

<sup>7</sup> “Other” stores selected a designation for store type of Mass Merchandiser/Supercenter, Club, or Specialty.

<sup>8</sup> “An Inconvenient Bag,” Ellen Gamerman, Wall Street Journal, September 26, 2008.

Advertisements like the one in the figure above asked Minnesotans to



**Do we really need to carry on like this?**

Bring your own bag when you shop. And choose not to bring garbage home — in the form of paper or plastic bags.

Check out our bag of tricks for reducing waste when shopping, traveling, at home, and in the office:

**www.reduce.org**

Visit [www.reduce.org](http://www.reduce.org) to get a **FREE** reusable bag.\*  
Go to [www.reduce.org/bags](http://www.reduce.org/bags) and enter this code: *reduce*.

Complete a little survey and watch the mailbox for your bag.

\* Completion of the survey required.  
Limit of one bag per household, while supplies last.

It leads to this.

visit a website and take the survey. Minnesota residents who completed the survey were mailed a free reusable shopping bag.

Of those who participated, 43% indicated they brought their own bag on at least one of their last five shopping trips. There were indications of some regional differences in the prominence of the practice. In the Twin Cities metro area, 50% of people have brought their own bag at least one time, while in the southern part of the state, only 20% have brought their own bag.

Survey participants were given a list of reasons they may have not brought their own bag along when shopping. The survey identified a significant difference about reasons for not bringing a bag between those who brought a reusable bag and who did not.

Those who brought a reusable bag at least one time in the last five shopping trips indicated these were the most substantial barriers for them:

- I forgot the bag: 91%

- I need bags for my recycling: 49%<sup>8</sup>
- I use the paper or plastic bags for other purposes (other than recycling): 40%

Those who did not bring a reusable bag indicated these were the most substantial barriers:

- I use the paper or plastic bags for other purposes (other than recycling): 60%
- I forgot the bag: 51%
- I need bags for my recycling: 47%

The 43% of survey respondents who indicated they had brought their own bag on at least one of the previous five shopping trips were also asked what motivated them to do so. The list below reflects the most popular responses:

- Very durable and don't rip: 61%
- To show I care about the environment: 59%
- Bags do not pile up: 48%
- Want to set an example for others: 39%

The age of the survey respondents factored into the reasons they cited for bringing their own bags. The shoppers in the 18 to 25 year old age range indicated they choose to reuse because:

- To show I care about the environment: 64%
- Very durable and don't rip: 50%

The shoppers who were age 65 and older indicated they choose to reuse because:

- Very durable and don't rip: 70%
- To show I care about the environment: 48%

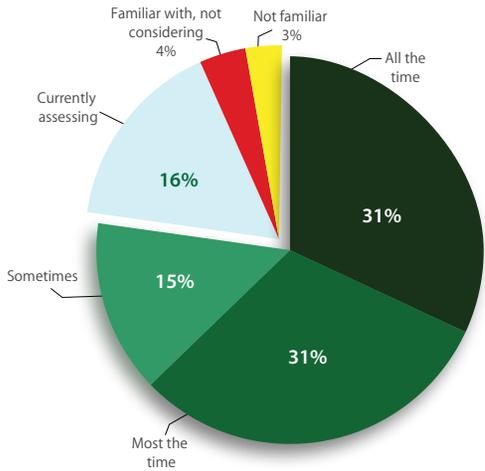
For shoppers who brought their own bags two or more of their last five shopping trips, the highest scoring response was "To show I care about the environment." Those who listed this as their first reason indicated they brought their own bags more frequently than other respondents.

<sup>8</sup> Most curbside recycling programs will allow residents to use reusable containers instead of paper bags to sort their recyclables.

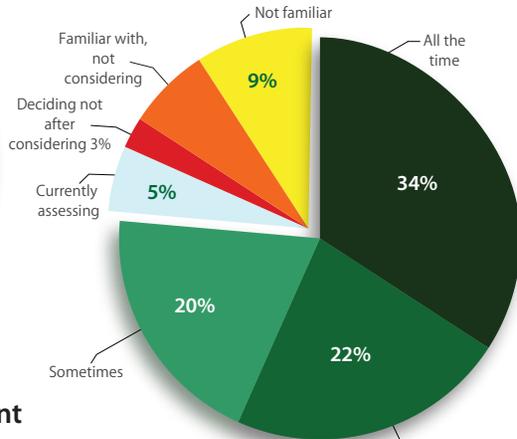
# Energy use and toxicity reduction

Grocers were asked which of the following energy conservation and or toxicity reduction practices they currently use. The next ten pie charts indicate the extent to which each of these practices are currently in place.

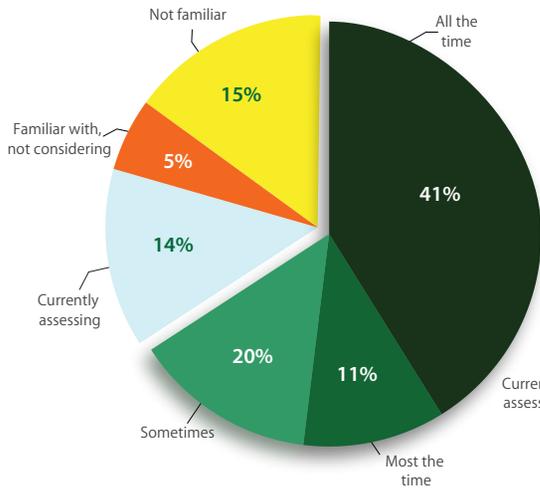
### Use energy efficient lighting



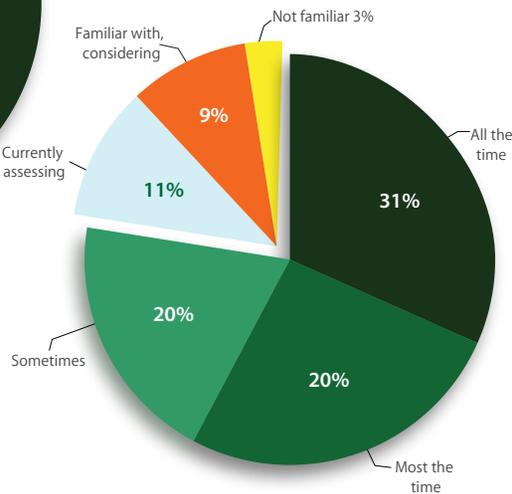
### Minimize toxicity of cleaners used in store



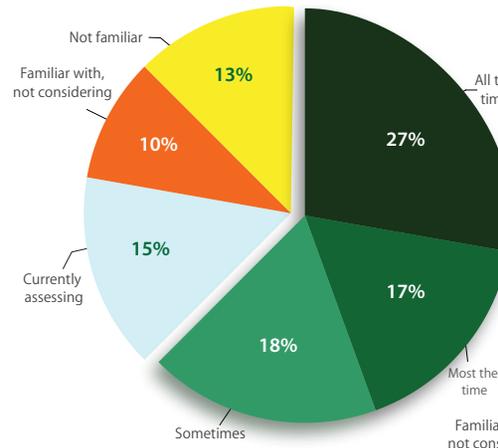
### Practice refrigeration management



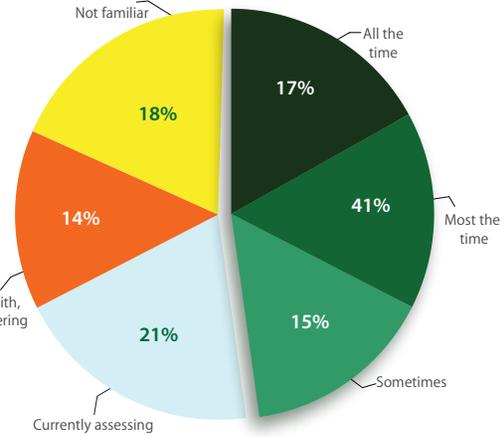
### Investigate opportunities to reduce energy use



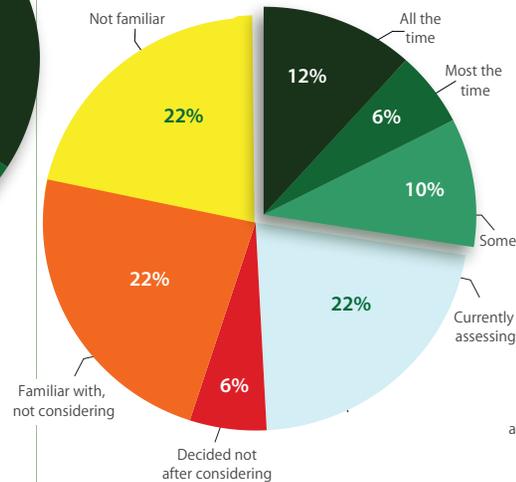
### Monitor HVAC costs



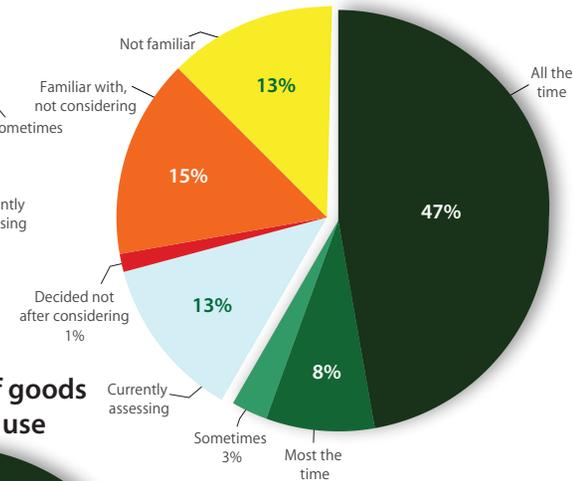
### Systematically collect data on energy use



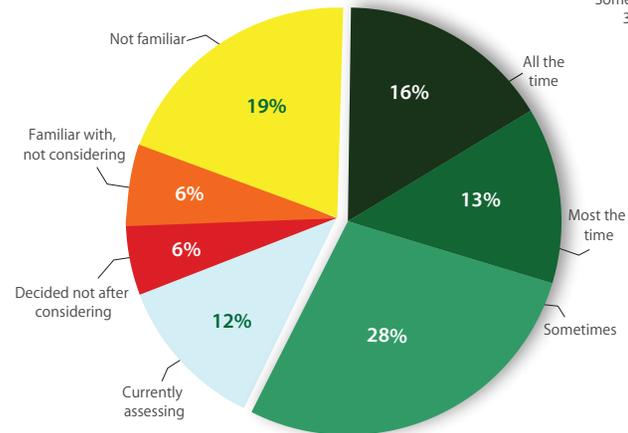
### Divert energy use to off peak times



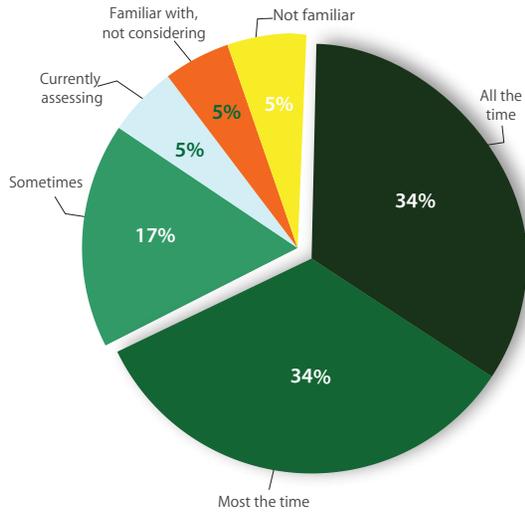
### Heat recovery



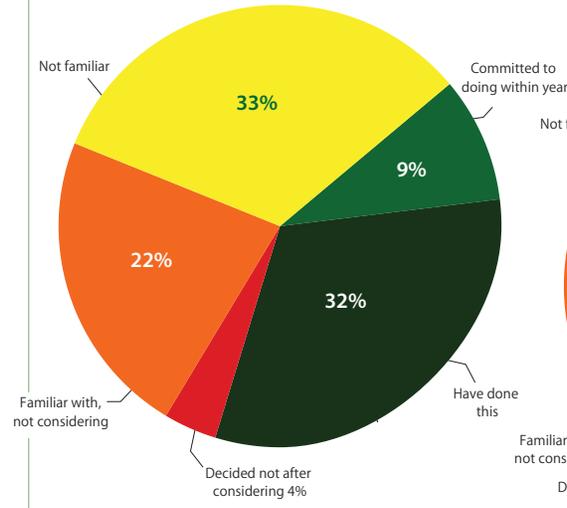
### Revise delivery of goods to reduce fuel use



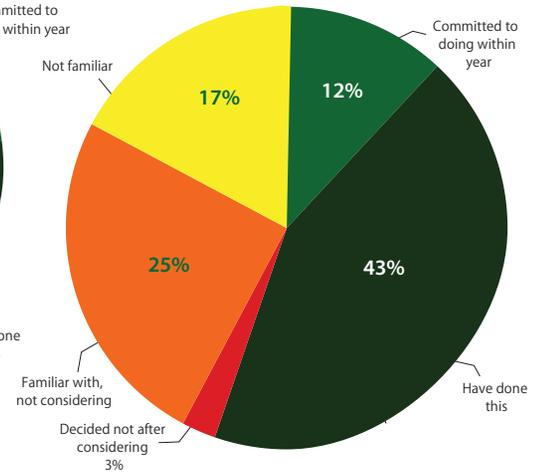
### Manage equipment energy use (turning off ovens and wrapping machines)



### Implemented new energy conservation programs

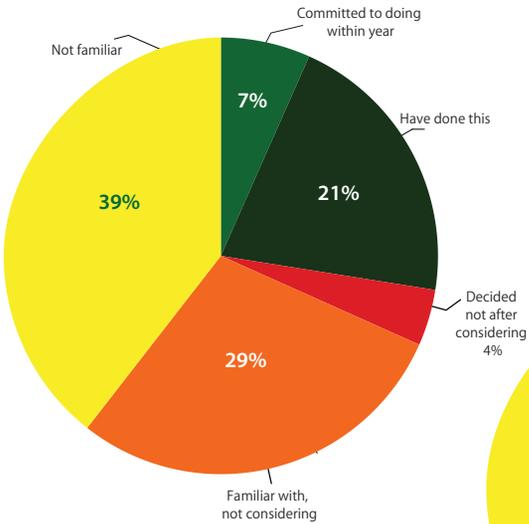


### Conducted an energy audit

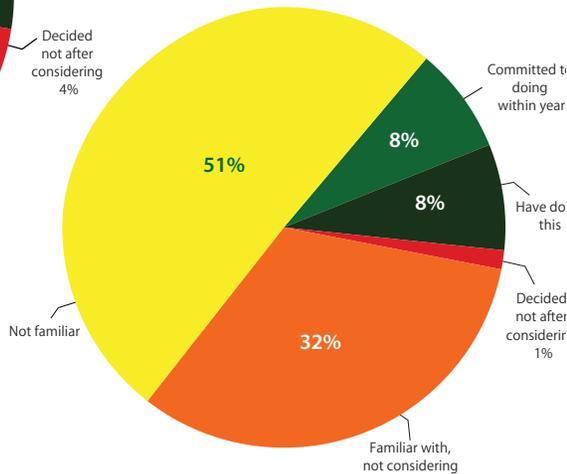


Grocers were also asked if they had implemented or participated in the following practices at any time during the past three years.

### Installed energy meters to monitor use



### Measured carbon footprint



Those who indicated they had not conducted an energy audit in the past three years were asked which obstacles were reasons for having not done so. Table 3 reflects how they responded.

### Barriers to conducting an energy audit

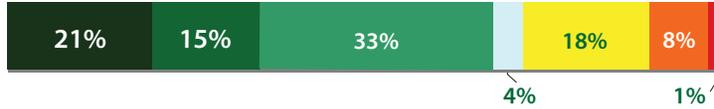
Obstacles	Count	Response				
		Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
Not a priority	20	0	1	13	5	1
Lack of management support	20	1	2	9	7	1
Space limitations	20	1	0	15	4	0
Food safety concerns	20	1	4	13	2	0
Unclear cost savings	20	0	9	8	3	0
Available technology	20	0	10	8	2	0
No technical information	20	0	13	5	2	0
Lack of capital	20	6	3	9	2	0
No time to research	20	4	10	4	2	0

Table 3:

## Management policies and activities

The behavior of the staff at each grocery store has a substantial impact on the success, or lack there of, of many of the environmental practices evaluated by this survey. Grocers were asked if they used any of the management strategies outlined below to complement their environmental efforts. The policies and practices that were evaluated can demonstrate a grocer's commitment to environmental stewardship and can be effective tools in setting expectations for employees, suppliers, and customers.

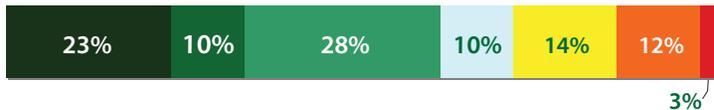
### Promote paper reduction practices (duplex printing, smaller margins, etc.)



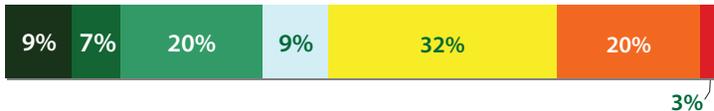
### Systematically collect data on waste generation



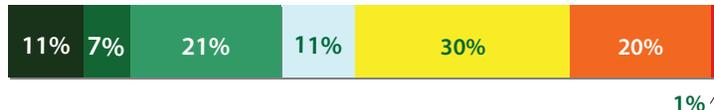
### Buy paper with recycled content for use in printers and copiers



### Provide environmental education & training for store associates



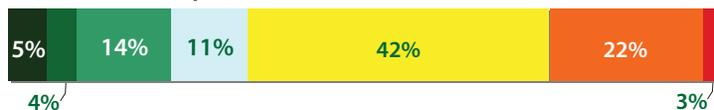
### Provide environmental education & training for store managers



### Provide managers with incentives to reduce waste



### Provide reports of environmental activities to staff



### Ask suppliers to reduce packaging



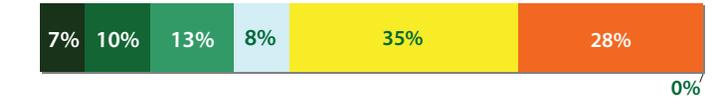
### Encourage suppliers to ship products in returnable/reusable shipping cases, containers, or trays



### Have an environmental policy statement



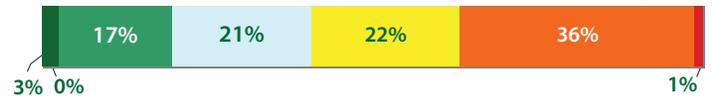
### Use inventory management software to reduce shrink or waste



### Have an environmental task force, team, or person



### Incorporate green building features when remodeling



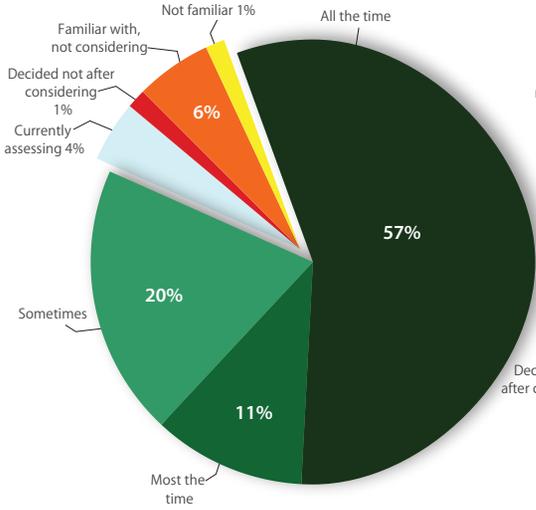
## Consumer programs

In addition to the operational practices and policies, grocers were asked about the programs and services presented to their customers that are related to environmental issues. The pie charts on the next pages indicate how frequently Minnesota grocers offered consumers more environmentally friendly products, or operated in a way that better informed their customers of an environmentally preferred behavior.

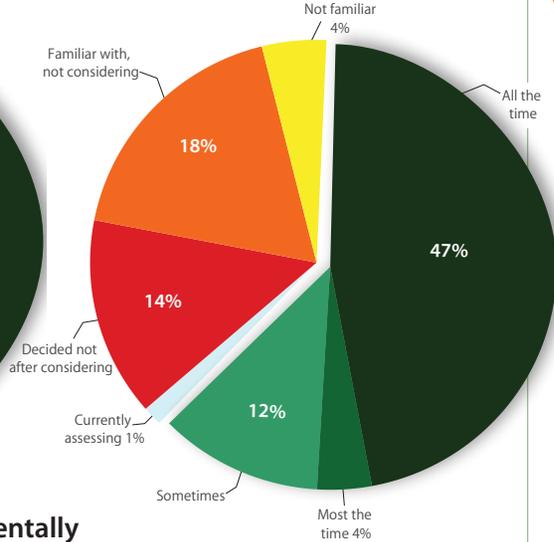
Some of the activities listed below and evaluated by the survey are environmentally advantageous in some situations while not in others. For example, offering biodegradable bags may be preferable to traditional plastic bags in communities where curbside collection of compost is available but may not be the preferred option in a community where there is an established commitment to using reusable bags. Grocers are encouraged to contact their county solid

14 — waste/recycling staff or the MPCA for assistance in evaluating those options. Determining how a product would be handled through the waste hierarchy outlined at the beginning of this report (see page 2) can also provide guidance to grocers during their decision-making process. Preventing or eliminating waste will always be preferable to disposal options further down the hierarchy.

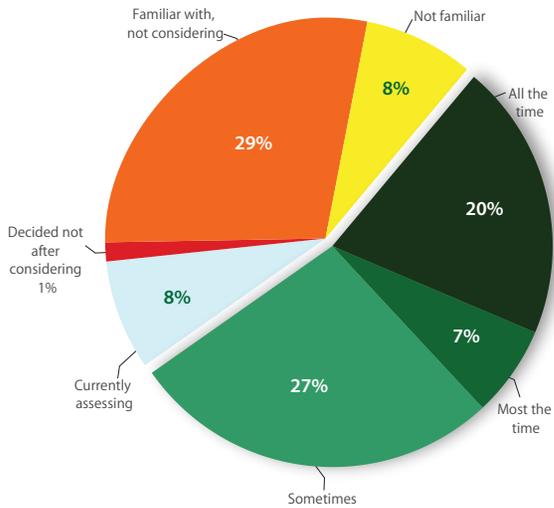
### Carry recycled paper goods (napkins, paper towels, paper plates, etc)



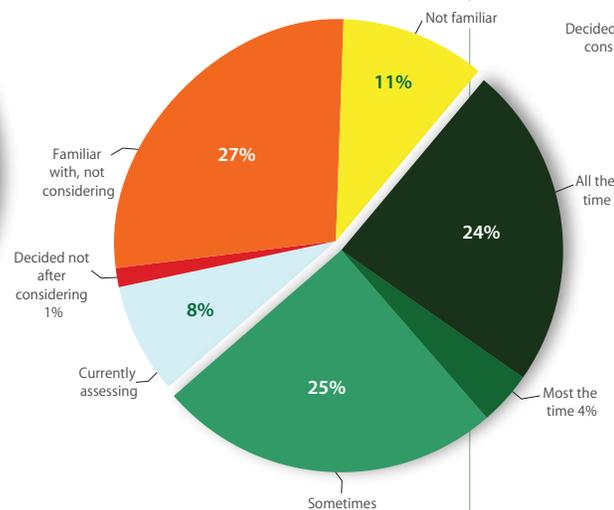
### Provide bulk food products such as nuts and candy



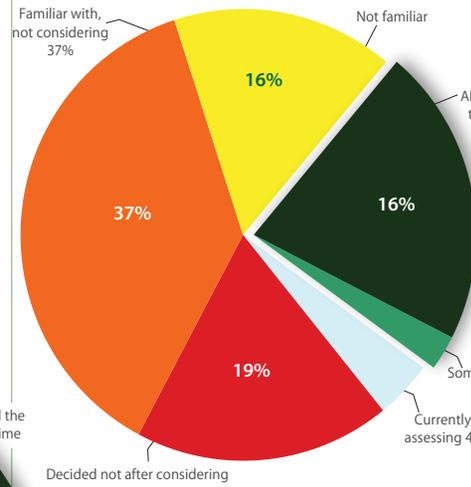
### Promote or highlight environmentally friendly products over others



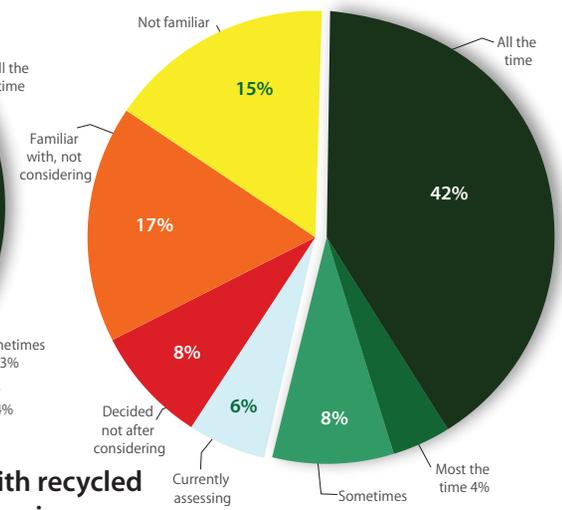
### Communicate to consumers about your store's environmental programs



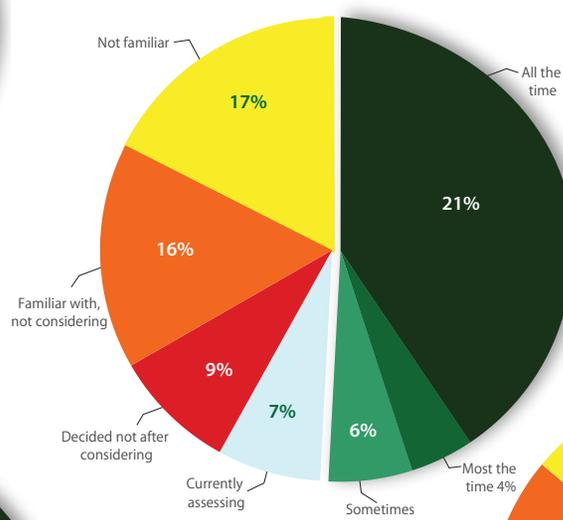
### Offer returnable milk jugs



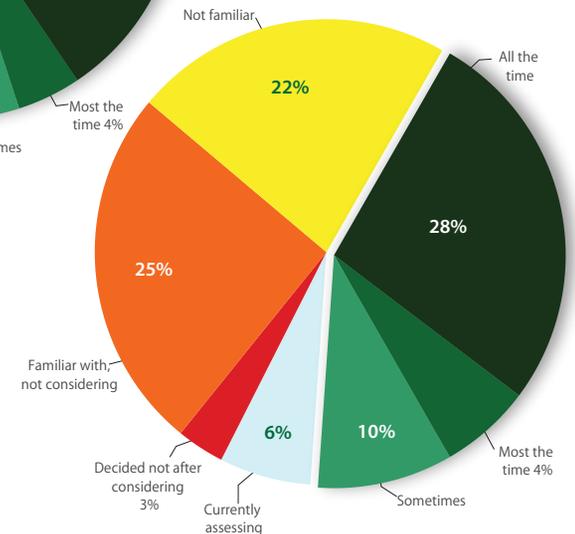
### Use paper bags made with recycled content to bag groceries



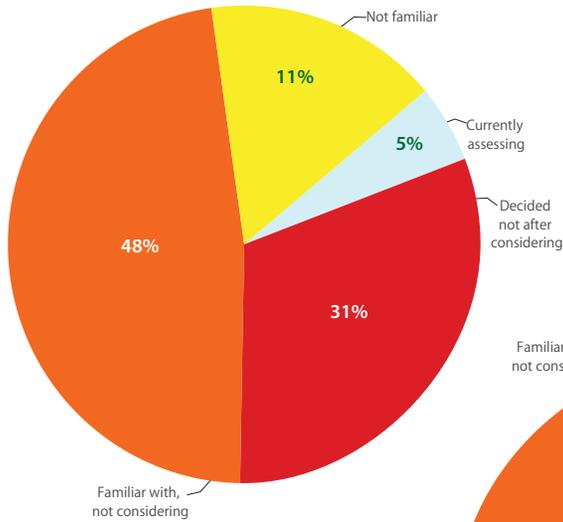
### Use plastic bags made with recycled content to bag groceries



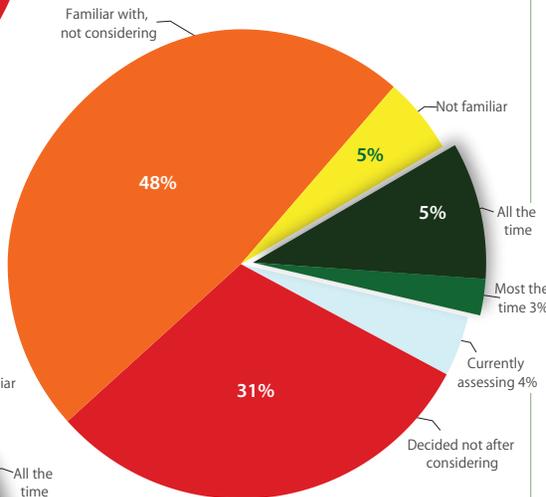
### Use biodegradable or compostable bags



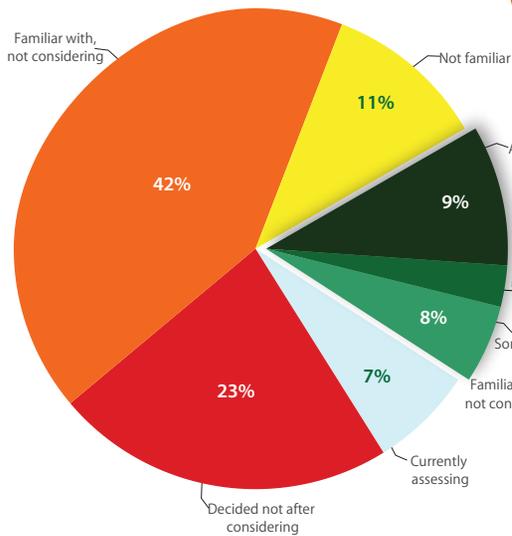
### Charge a fee for paper or plastic bags



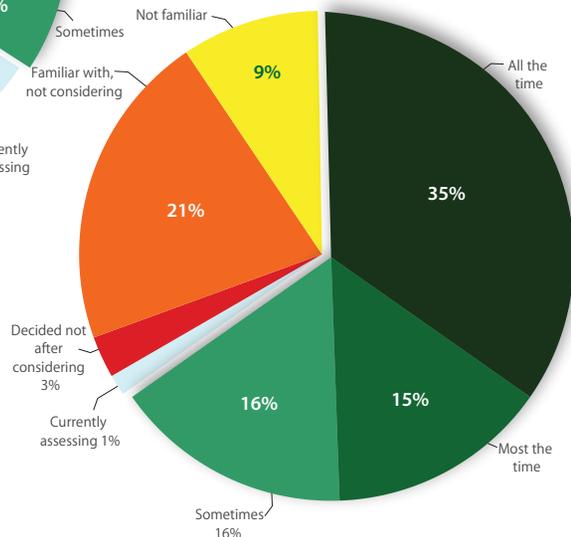
### Discontinue use of plastic bags



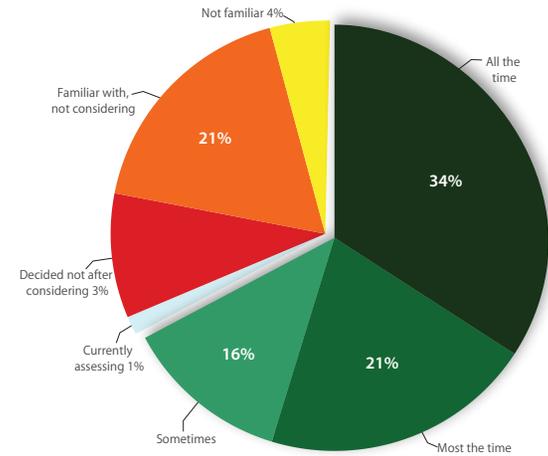
### Opt not to carry a product because of its environmental impact such as styrofoam cups



### Promote concentrated products such as laundry soap



### Use plastic bags unless paper is requested by customer



## Reasons for implementing an environmental initiative

Grocers were asked why they have chosen to implement the environmental programs they have in place. They were provided with the list of potential benefits and asked to select and rank up to three benefits that motivated them to implement an environmental initiative. Each respondent was asked to rank a “most important benefit” a “second most important benefit” and a “third most important benefit”.

The responses were analyzed, weighted, and scored. Table 4 outlines which benefits they identified as the most important.

When grocers review a possible environmental program, they focus on several benefits: Potential cost savings, reducing environmental impact, and complying with regulations. Other benefits (e.g., competitive advantage, greater employee morale, and better supplier relations) tend to be less important. Selected respondents indicated that lack of management support is a key obstacle to implementing several practices.

Benefit	Benefit Rank
Potential Cost Savings	1
Reduce Environmental Impact	2
Compliance with Regulations	3
Improved Community Relations	4
Increased Customer Satisfaction	5
Higher Store Sales	6
Competitive Advantage	7
Greater Employee Morale	8
Better Supplier Relations	9

**Table 4:**

## Trends and changes

One objective of the survey was to measure any changes in the industry as compared to the previous survey. Table 5 compares responses from the 1996 survey of Minnesota grocers to the 2008 survey. In both surveys, for each activity listed, respondents were asked to use a seven-point scale (ranging from “We do this all the time” to “We are not familiar with this”) to indicate to what extent their store used the various environmental practices and strategies.

Analysis of increased or decreased participation for a particular environmental practice is impacted by the threshold used for participation. The left-hand section of the table below combines data from those who responded “sometimes” use with those who responded “most of the time” or “always” use the practice. The right-hand section of the table combines only those who responded “most of the time” or “always”—excluding those who responded “sometimes.”

	Combined percentages for “sometimes”, “most of the time”, and “always”			Combined percentages for “most of the time”, and “always”, excluding “sometimes”		
	1996	2008**	Change	1996	2008**	Change
Aluminum can recycling	82%	87%	5%	79%	74%	-5%
Newspaper recycling	69%	84%	14%	69%	69%	0%
Plastic bottle recycling	36%	73%	37%	36%	50%	14%
White (office) paper recycling	53%	81%	28%	53%	61%	9%
Wooden pallet recycling	82%	87%	5%	82%	87%	5%
Stretch/shrink wrap recycling	39%	86%	46%	37%	67%	30%
Having environmental task force	15%	39%	23%	13%	3%	-10%
Having environmental policy statement	18%	42%	24%	18%	2%	-17%
Minimize use of hazardous (cleaning) materials	79%	82%	2%	77%	60%	-17%
Environmental education/training for management	44%	54%	11%	41%	20%	-21%
Environmental education/training for employees	41%	52%	11%	41%	18%	-23%
Providing environmental reports to managers/staff	15%	40%	25%	15%	12%	-4%
Film plastic bag recycling	62%	88%	27%	59%	78%	19%
Sell reusable cloth shopping bags	62%	97%	35%	59%	93%	34%
Rebate program for reusing bags	35%	60%	25%	35%	45%	10%
Carry product line made from recycled paper	83%	96%	14%	83%	79%	-4%
Ask suppliers to reduce packaging/shipping materials	33%	40%	8%	33%	7%	-25%
Offer returnable milk jugs	58%	32%	-25%	58%	26%	-32%
Provide bulk selection of products	73%	73%	0%	70%	61%	-9%
Advertise/communicate about environmental programs	30%	69%	39%	28%	34%	6%
Systematically collect data on waste generation	28%	39%	11%	20%	15%	-5%
Systematically collect data on energy usage	43%	71%	28%	20%	34%	14%
Number of responses	41	62		41	62	

**Table 5**

The summary in Table 5 was shared with executives at three retail food companies and interviews were conducted to determine whether there were any surprises to those who are on the front lines of implementing environmental practices in grocery stores.

- The researchers asked for observations about the changes, or lack of changes, in practices since 1996 and why some practices prevail and others stagnate or diminish.

**Results** — Most were not surprised that the percent of stores engaging more intensively in the variety of practices had not increased substantially since 1996. The clear messages are:

- ▶ Practices that have been maintained or increased are those that decrease costs or generated revenue. For example:
  - Returning wooden pallets. The distributor will charge a store for not returning them.
  - Sell reusable shopping bags. Stores save 6 to 12 cents per paper bag and 2 to 3 cents per plastic bag not used by a shopper.
- ▶ Stores are not likely to implement a program that offered environmental benefits if there were no clear cost savings. For example:
  - Having an environmental task force or training program for employees. This is costly, time consuming, and the payoff is not obvious.
  - Bottle and can recycling takes effort and is costly. Pickup for recycling is not available in all neighborhoods.
  - Baling cardboard is less costly than paying to have it hauled away as waste in some areas.
- ▶ Consumers expect grocers to provide some of these services. For example:
  - Consumers want a place to recycle plastic bags.
  - Consumers are demanding reusable bags.
- ▶ Energy is about 10% of costs behind only labor and rent. Waste hauling charges account for about 3% of costs. Monitoring and auditing costs in these sectors is not perceived to save stores a significant amount.
  - There is a five-year payback period to put LED lighting in refrigerator and freezer doors. Those interviewed indicated a faster payback would be needed for them to consider implementation.
  - Stores prefer a 15% savings to justify new energy conservation implementation.
- ▶ Contributions to food rescue for edible food through food banks is a growing activity.
  - Perishables need to be sorted for safe, edible food and picked up by food banks or volunteers to make this work.
  - Non-perishables are often returned to vendors who redistribute it to Feeding America (Second Harvest Heartland in Minnesota).

In summary, environmentally preferred behaviors that offer clear and immediate cost savings are substantially more prominent than those where cost implications were less clear. The industry has started to recognize the economic benefits of energy conservation. Preferred waste handling practices are less understood. Grocers could benefit from more closely examining waste-related expenses.

Waste hauling bills alone are not an adequate measure of the costs associated with disposal. For example, spoiled produce that needs to be discarded has costs associated with its acquisition, storage, display, and management that don't appear on the trash bill. Improved inventory management can reduce operating costs in addition to trash bills. The industry has shown that it will be responsive to the demands and needs of consumers and continues to evaluate sustainability initiatives related to consumer demand.

## Noteworthy differences among stores

Analysis of the survey data was conducted to determine which store characteristics corresponded with particular behaviors. The analysis utilized chi squared tests to determine which characteristics correlated in a statistically significant way. Some response types (such as most of the time and all of the time) were grouped to determine the relationship between participating in a particular practice and store size, sales, type, region or location.

Analyses of responses related to plastic bag recycling found store size, store sales, and store type classes to be important. Smaller stores, in terms of both sales and square feet, and convenience stores appeared to offer less plastic bag recycling.

Review of data related to stretch/shrink (shipping) wrap recycling found store size, store sales, store type, and location of the stores (metro/non-metro) to be important. Smaller stores, again in terms of sales and square feet, convenience stores, and stores in rural areas appeared to do less stretch/shrink wrap recycling.

Larger stores (by square feet) tended to be more likely to use food recovery, sell reusable shopping bags, and were more likely to collect data on waste generation. Stores with higher sales tended to be more

likely to sell reusable shopping bags. Convenience stores tended to be less likely to use or be less interested in many "green" practices.

Rural stores (not in seven-county Twin Cities metro area or Duluth) tended to be less likely to use food recovery, to minimize toxicity in cleaning products, to collect data on energy usage, to sell reusable

shopping bags, to provide bulk food products, to offer returnable milk jugs, to collect data on waste generation, to provide environmental training for associates, and to have an environmental task force.

## 18— Resources for grocers interested in improving their environmental practices

### Minnesota Waste Wise

[www.mnwastewise.org](http://www.mnwastewise.org); 651-292-4650

Minnesota Waste Wise helps businesses save money and protect the environment by implementing more sustainable business practices: reducing waste, conserving resources, and increasing energy efficiency. Services offered by Waste Wise include:

- Environmental sustainability consulting
- On-site waste assessments
- Waste sorts
- Sustainable business workshops

Voucher Incentive Program (VIP): Minnesota grocers can apply for a series of four vouchers, with combined value of \$1000, intended to offset costs for implementing new and improved waste reduction and recycling practices. Grocers who work with Waste Wise to complete a waste assessment and are willing to implement and document the program's priority environmental practices will receive funds to reimburse some implementation and operating costs. A limited number of vouchers are available. The voucher incentive program was funded by the MPCA and is administered by Waste Wise.

MINNESOTA  
WASTE WISE

### Second Harvest Heartland

1-888-339-3663

Food Rescue Manager: 651-209-7921

[www.2harvest.org](http://www.2harvest.org)

The Food Rescue Program at Second Harvest Heartland serves Twin Cities metro area grocery stores. Yearly, more than 4.5 million pounds of food are collected from retailers such as SuperTarget, Sam's Club, Cub Foods, Wal-Mart, Lunds, and Kowalski's. Trucks operate Monday through Friday on scheduled routes, diverting from the waste stream thousands of pounds of edible but unsellable food that is distributed to people in need. The Food Rescue Program will also link Greater Minnesota retailers with their local food shelf and assist in training for both the store and the local agency. "Don't throw away your chance to help." Contact Kate Mudge at [kmudge@2harvest.org](mailto:kmudge@2harvest.org) for more information.



### Minnesota Grocers Association

[www.mga.com](http://www.mga.com); 651-228-0973

The Minnesota Grocers Association is a state trade association representing the food retail industry since 1897. MGA has over 200 retail members operating nearly 1,200 stores statewide, as well as 120 manufacturers and distributors. Member companies employ over 85,000 Minnesotans. Focusing on the importance of the consumers, careers, and communities, MGA actively advances the common interests of all those engaged in any aspect of the retail food industry as a leader and advocate in government affairs.

The MGA has partnered with the MPCA to create two programs designed to assist grocers green their operations.

- Reusable Shopping Bag Promotion: The MGA received a grant to promote reusable shopping bag use. Grocers in the state can contact the MGA for marketing materials intended to promote reusable bags. The grant also involves distribution of free reusable bags to consumers and has resulted in other partnerships intended to promote reusable bag use.
- Voucher Incentive Program (VIP): Please see description under Waste Wise.



### RETAP

612-624-1300 or 800-247-0015

(Ask for the retired engineers program.)

[www.pca.state.mn.us/retap](http://www.pca.state.mn.us/retap)

The Minnesota Retired Engineers Technical Assistance Program (Minnesota RETAP) helps Minnesota businesses, industries, and institutions save money and protect the environment by reducing pollution, waste, energy use, and operating costs. Minnesota RETAP provides free, non-regulatory energy and waste assessments.

RETAP

### EPA GreenChill

[www.epa.gov/ozone/partnerships/greenchill/](http://www.epa.gov/ozone/partnerships/greenchill/)

The GreenChill Advanced Refrigeration Partnership is an EPA cooperative alliance with the supermarket industry and other stakeholders to promote advanced technologies, strategies, and practices that reduce refrigerant charges and emissions of ozone-depleting substances and greenhouse gases. Working with EPA, GreenChill Partners:

- Transition to non-ozone-depleting refrigerants.
- Reduce refrigerant charges.



- Reduce both ozone-depleting and greenhouse gas refrigerant emissions.
- Promote supermarkets' adoption of advanced refrigeration technologies.

## Minnesota Pollution Control Agency

651-296-6300

[www.pca.state.mn.us](http://www.pca.state.mn.us)

The MPCA works with Minnesotans to protect, conserve and improve our environment and enhance our quality of life. The MPCA partnered with the MGA and the University of Minnesota's Food Industry Center (TFIC) to conduct this survey and will use the results to design environmental assistance efforts for grocers throughout the state. Grocers are encouraged to contact the MPCA with requests for technical assistance, assistance with recycling and waste hauling contracts, feedback regarding regulation, and ideas for state assistance related to improving the industry's environmental assistance. When contacting the MPCA please ask for the contact for the grocer environmental practices survey.



**Minnesota Pollution  
Control Agency**

## Food Alliance

651-265-3682

[www.foodalliance.org](http://www.foodalliance.org)

The Midwest Food Alliance creates market incentives for socially and environmentally responsible agricultural practices and educates business leaders and other food system stakeholders on the benefits of sustainable agriculture. Food Alliance operates a voluntary certification program based on standards that define sustainable agricultural practices. Grocers interested in sustainability are encouraged to contact the Food Alliance to learn more about sourcing sustainable farmed products, educating customers about sustainability, and gaining recognition as a company that supports sustainable agriculture. The Food Alliance can help you bring your customers better, more socially and environmentally responsible food.



## Minnesota Department of Agriculture

[www.mda.state.mn.us](http://www.mda.state.mn.us)

The Minnesota Department of Agriculture has a variety of resources for grocers that are interested in selling food that was grown in an environmentally friendly manner. MDA staff can assist grocers with establishing relationships with organic farms operating within the state. The MDA produces the Minnesota



Organic Farm directory, which lists contact information for farms, the areas they operate, and the products they can supply. MDA also operates the Minnesota Grown program which can assist grocers in connecting with and promoting food grown at local farms. Contact Meg Moynihan at 651-201-6616 or [Meg.Moynihan@state.mn.us](mailto:Meg.Moynihan@state.mn.us) for information about the directory of organic farms and Paul Hugunin at 651-201-6510 or [paul.hugunin@state.mn.us](mailto:paul.hugunin@state.mn.us) for more information about Minnesota Grown.

## Web resources

Mass DEP supermarket recycling and composting

[www.mass.gov/dep/recycle/reduce/smhandbk.pdf](http://www.mass.gov/dep/recycle/reduce/smhandbk.pdf)

This website features a handbook (including several training resources) for grocers implementing commercial composting programs within their stores.

Resource Management Programs

[www.pca.state.mn.us/oea/p2/rmprograms.cfm](http://www.pca.state.mn.us/oea/p2/rmprograms.cfm)

Resource Management (RM) programs help an organization shift its view from "how do I get rid of trash" to "how can trash be prevented." RM contracts establish a partnership between an organization and its waste hauler, placing priority on waste prevention and improved recycling.

Reusable Transport Packaging Study

[www.pca.state.mn.us/oea/transport/resources.cfm](http://www.pca.state.mn.us/oea/transport/resources.cfm)

Reuse is a great way to reduce waste. In situations where a grocer has an established relationship with a supplier, reusable transport packaging can be used, and reused, to prevent waste. The concept is simple—when a supplier drops off its products in reusable containers, it picks up previously used empty containers and backhauls them.

Use Reusables

[www.usereusables.com](http://www.usereusables.com)

This national resource offers tips on switching to reusable transport packaging. The website includes case studies, cost comparisons and

other resources for retailers interested in evaluating this practice.

### Rethink Recycling

[www.rethinkrecycling.org](http://www.rethinkrecycling.org)

This website offers resources and information for businesses in the Twin Cities metro area about waste reduction, recycling, and food recovery. The website features a materials guide that allows a business to look up anything that may be prominently in their garbage, such as food waste, and then connects them to service providers who can handle the waste in an environmentally preferred way.

### Recycle More Minnesota

[www.recyclemoremn.org](http://www.recyclemoremn.org)

Recycle More Minnesota includes information about how to recycle across the state. Grocers can also access free advertisements that promote recycling for use in stores, circulars or other promotional items.