

Rural Grocers Practice Pollution Prevention

Rural Grocery Summit
June 6, 2012

Overview

- **K-State Pollution Prevention Institute**
- **Environmental footprint of a grocer**
- **Cost savings opportunities**
- **Tools to help grocers implement pollution prevention**
- **National resources and voluntary programs**



Kansas State University



College of Engineering



Engineering Extension



Pollution Prevention Institute



Small Business Environmental Assistance Program

Who is the Pollution Prevention Institute?

PPI's mission is to promote sustainability through environmental education and services to industry and institutions. These services include environmental compliance and pollution prevention technical assistance.

- **David Carter, Manhattan**
- **E. Jean Underwood, Manhattan**
- **Ryan Hamel, Olathe**
- **Barb Johnson, Salina**
- **Nancy Larson, Wichita**



PPI Services



- Hotline
- On-site visits
- Publications and trainings
- Pollution Prevention or P2 interns

- 800-578-8898
- www.sbeap.org
- sbeap@ksu.edu

Can rural grocers reduce their environmental footprint and operating costs?



What is Our Footprint?

- Metric that allows us to calculate human pressure on the planet and come up with facts, such as: If everyone lived the [lifestyle](#) of the average American we would need 5 planets.¹
- Businesses that evaluate and actively manage their footprint can have a competitive edge.



¹http://www.footprintnetwork.org/en/index.php/GFN/page/basics_introduction/

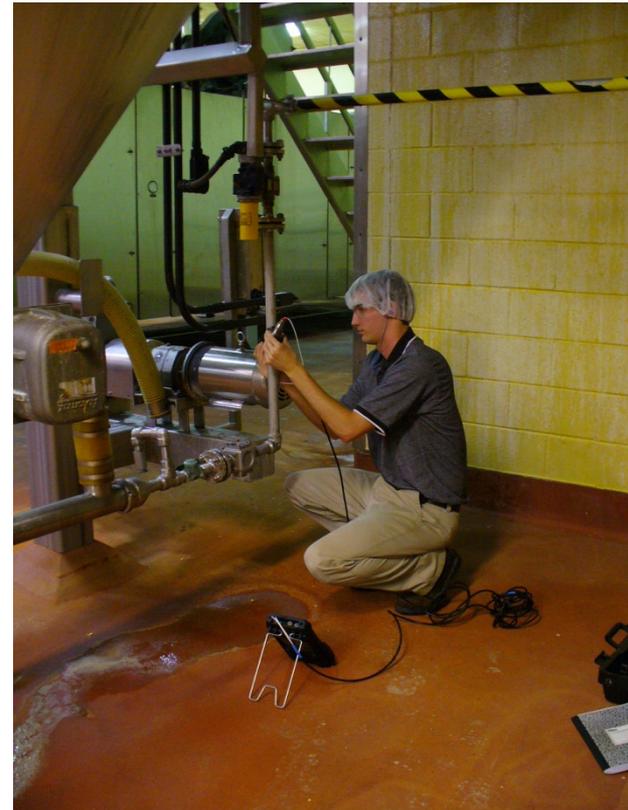
Primary Impacts Grocers Should Evaluate



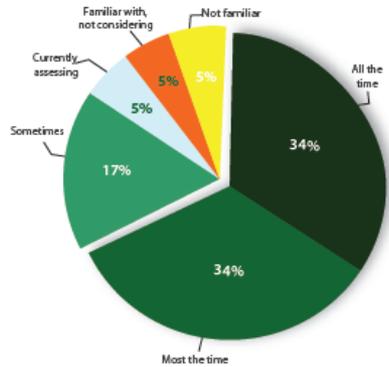
- Energy
 - Refrigerants
 - Food waste
 - Solid wastes like cardboard and paper
 - Water
-
- *Numerous sources available for measuring footprint.*

Energy

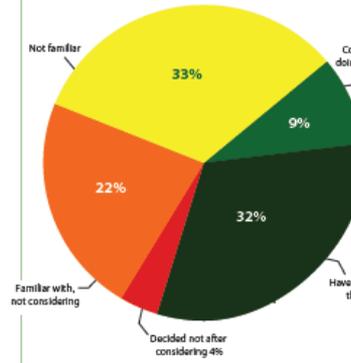
- Refrigeration
- Heating and cooling
- Lights



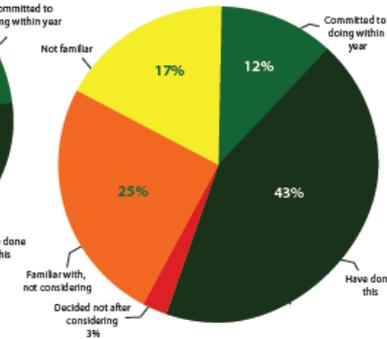
Manage equipment energy use (turning off ovens and wrapping machines)



Implemented new energy conservation programs

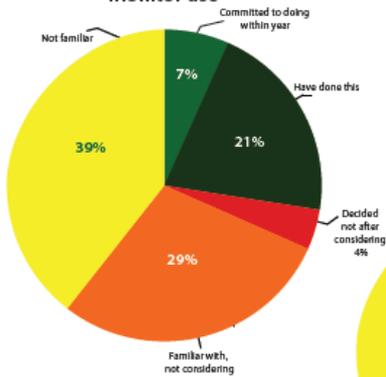


Conducted an energy audit

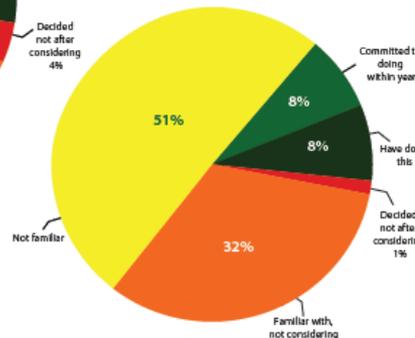


Grocers were also asked if they had implemented or participated in the following practices at any time during the past three years.

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:

Refrigeration

- EPA estimates grocers lose about 25% of their initial refrigerant charge annually to leaks.
- Financial and environmental impacts.
- Detect and fix leaks, saving 25%.
- R-22 being phased out, possibly HFC too?
- Move to non-ozone depleting refrigerants.

<http://m.supermarketnews.com/technology/retailers-find-ways-plug-leaks>



GreenChill Store Certification Program

Today's consumers are increasingly concerned about the environmental impact of the businesses where they shop. As general awareness of environmental issues spreads, it becomes more and more important for supermarkets to proactively demonstrate that they share their communities' commitments to environmental protection.

Refrigeration and the Environment

A typical food retail store's refrigeration system leaks about one quarter of its refrigerant charge each year. In addition to the financial expense these refrigerant leaks represent for a store's bottom line, they also contribute to climate change and can harm the ozone layer.

GreenChill Certification

The U.S. EPA's GreenChill Partnership recognizes individual store achievements in environmentally-friendlier refrigeration with its Store Certification Program for food retail stores. The program awards either platinum-, gold-, or silver-level certification to food retail stores that significantly reduce the environmental impact of their refrigeration systems.

Food Waste

- In 2010 35 million tons of food waste generated
 - 34 millions tons went to landfills or incinerators
 - Landfills generate methane, an extremely potent greenhouse gas.
 - 14% of household in US food insecure²
- Does your store generate excess food waste?

²<http://www.epa.gov/foodrecoverychallenge/>

Food Waste



Source: Food Recovery Challenge at <http://www.epa.gov/foodrecoverychallenge/>

Food Recovery Challenge

- Do you track what you order?
- Do you track what gets wasted?
- Source reduction
 - Waste audit – calculate losses
 - Reduce pre-consumer kitchen waste
 - Reduce post-consumer kitchen waste
 - Rethink purchasing practices



Supermarkets can save \$3,000-\$20,000 per store annually by recovering and recycling their food residuals.

<http://www.mass.gov/dep/recycle/supermkt.htm#srpc>

Learn more

Topic: Preventing Food Waste via Source Reduction: Lessons Learned and Best Management Practices

Date: June 14, 2012

Time: 1:00pm-2:30pm EST

Topic: How to do a Waste Assessment: Training for Participants

Date: August 9, 2012

Time: 1:00pm-2:30pm EST

<http://www.epa.gov/foodrecoverychallenge/>

Solid Wastes

Problematic waste

- Cardboard
- Pallets
- Paper
- Shrink wrap

Potential solution

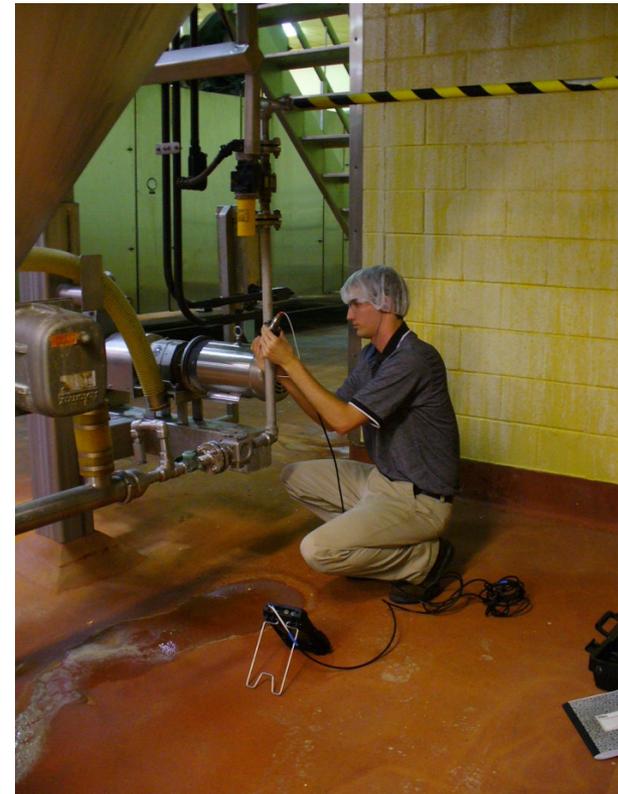
- Work with suppliers to request
- Less packaging
- Reusable pallets and containers
- Recycle

Water

- **Kitchen**
- **Food service**
- **Landscape**
- **Not as well studied**

Resources

- PPI site visits
- P2 evaluation equipment –
 - light meters,
 - ultrasonic leak detectors
- P2 interns
- EPA programs
- <http://www.epa.gov/greenchill/joingc.html>
- <http://www.epa.gov/foodrecoverychallenge/>



Questions or Suggestions?

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