

Healthy Foods Healthy Communities



Measuring the Social and Economic
Impact of Food Co-ops

Table of Contents

- Healthy Foods Healthy Communities: 3
- The Social and Economic Impact of Food Co-ops 3
- Supporting Local Food Systems..... 5
 - Defining Local..... 5
 - Engaging the Local Food System..... 6
- Creating Quality Jobs 7
- Local Economic Impact 9
 - The Multiplier Effect..... 10
- Environmental Stewardship..... 11
 - Recycling..... 11
 - Energy Conservation 13
 - Refrigerant Containment 14
 - Carbon Footprint 15
- Promoting Healthy & Sustainable Foods 16
- About the Report..... 17
 - Data Sources 17

Healthy Foods Healthy Communities:

The Social and Economic Impact of Food Co-ops

The United Nations has declared 2012 the International Year of Cooperatives to highlight the important role that cooperatives play in creating employment and strengthening communities across the globe. In the United States, retail food cooperatives have a long and successful history. From the pioneering of nutritional labeling, to the introduction of natural and organic foods, food co-ops have played a leading role in bringing healthy innovations to the markets they serve. Today, NCGA's 128 co-ops continue this tradition with a strong emphasis on supporting local food systems and careful attention to environmental sustainability.



NCGA's member and associate food co-ops operate 165 stores, generate over \$1.4 billion in annual revenue and are owned by over 1.3 million consumer owners. In the spirit of the International Year of Cooperatives and its theme that "Cooperative Enterprises Build a Better World," NCGA undertook a study to document the social and economic impact that our affiliate cooperatives have on their local communities. The study was conducted by the ICA Group, a not-for-profit consulting firm with expertise in cooperatives, economic development, and business research.

In evaluating the difference food cooperatives make in the communities they serve five broad categories of impact were assessed:

- Supporting Local Food Systems
- Employment and Job Quality
- Economic Impact
- Environmental Stewardship
- Promoting Healthy & Sustainable Foods

For each of these categories we were interested in understanding not only the impact of food cooperatives but also how these impacts differ from those of conventional grocers. Accordingly our research focused on both the cooperative and conventional segments of the grocery industry in order to provide an appropriate context for evaluating food co-op performance. In addition to reviewing industry data for both the conventional and cooperative sectors, original survey work was undertaken to explore a number of issues in more detail.

Owned by local residents, food cooperatives are naturally community focused. We found that cooperatives provide greater access to healthy food, create more jobs per square foot, return less material to the waste stream, are more energy efficient, and source a far greater proportion of product locally than their conventionally structured competitors. In addition, they engage in extensive philanthropic activity and donate 13% of net profits to charity.

Food Co-op Facts		
Average Members per Co-op 6,400		
Impact Per Co-op		
Annual Sales \$10 Million	Sales From Members 60%	
	Co-op	Conventional
Store Size		
Total Square Feet	15,000	33,300
Staff / \$1 million sales	9.3	5.6
Sales / square foot	\$10.37	\$ 8.55
Compensation		
Average Hourly Wage	\$14.31	\$13.35
% Eligible for Benefits	68%	56%
Local Impact		
Purchases Locally Sourced	20%	6%
Local Suppliers	157	65
Economic Multiplier	1.60	1.36
Donations, % of Income (Cash)	13%	4%
Healthy Foods		
Organic Groceries	48%	2%
Organic Produce	82%	12%
Environmental Impact		
Energy Star Rating	82	50
Metric Tons CO ₂ / \$1M Sales	51	74
Plastic Recycled	81%	29%
Cardboard Recycled	96%	91%
Food Waste Composted	74%	36%

Supporting Local Food Systems

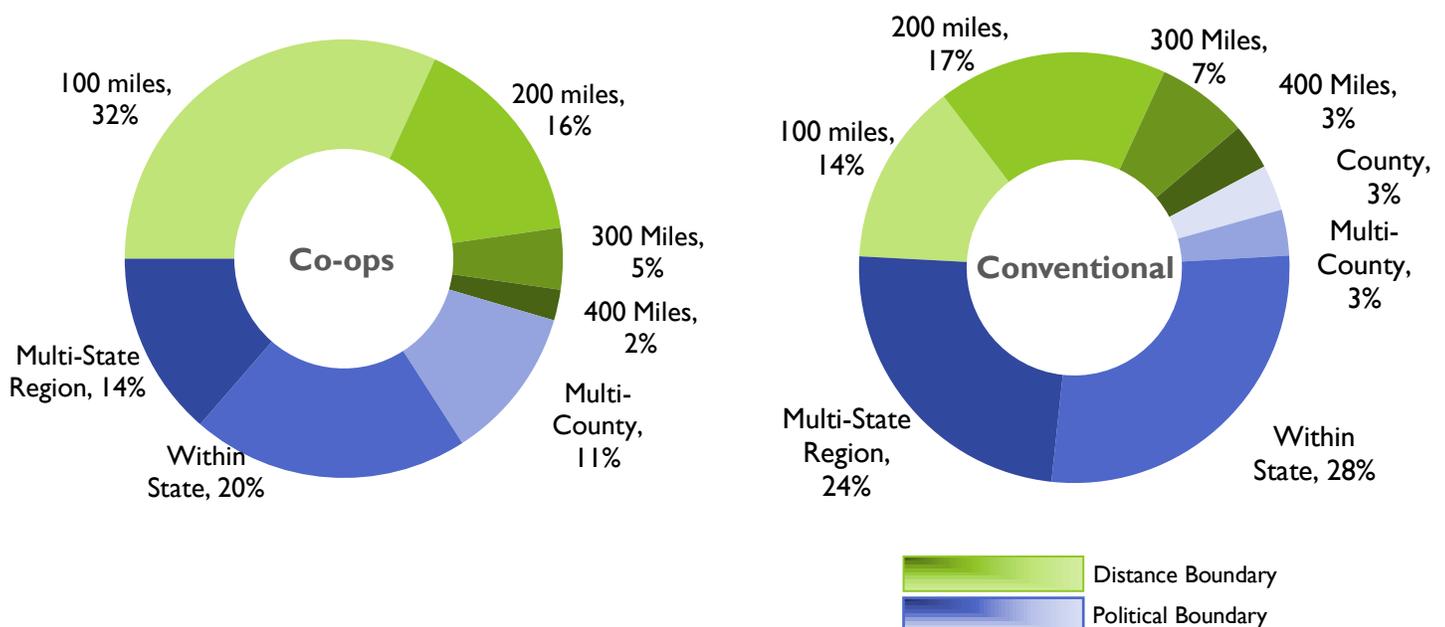
Supporting local food systems is about more than just providing fresh, locally produced products to customers; strengthening the connections between consumers and producers is an investment in the community. It promotes the health of the local economy by ensuring that more money spent locally stays in the community, and it promotes food safety by shortening the supply chain between producers and consumers. Assessing the extent to which a grocery store supports its local food system first requires defining what is meant by “local.”

Defining Local

There is no single, commonly accepted definition of ‘local’ food. Oft cited definitions include food produced within the state or 100 miles of where it is sold. For consumers, issues beyond geography such as sustainable production techniques or fair farm labor practices may be considered as well.

Our survey findings indicate that some grocery stores define “local” in terms of distance while others use political boundaries. While criteria vary from operator to operator, cooperatives generally appear to have a somewhat narrower definition of local than conventional grocers. Two thirds of NCGA co-ops define local as either within their state, within a multi-county region, or within 100 miles. In the conventional grocery sector, slightly less than half of operators use this same definition.

How Grocers Define Local Food

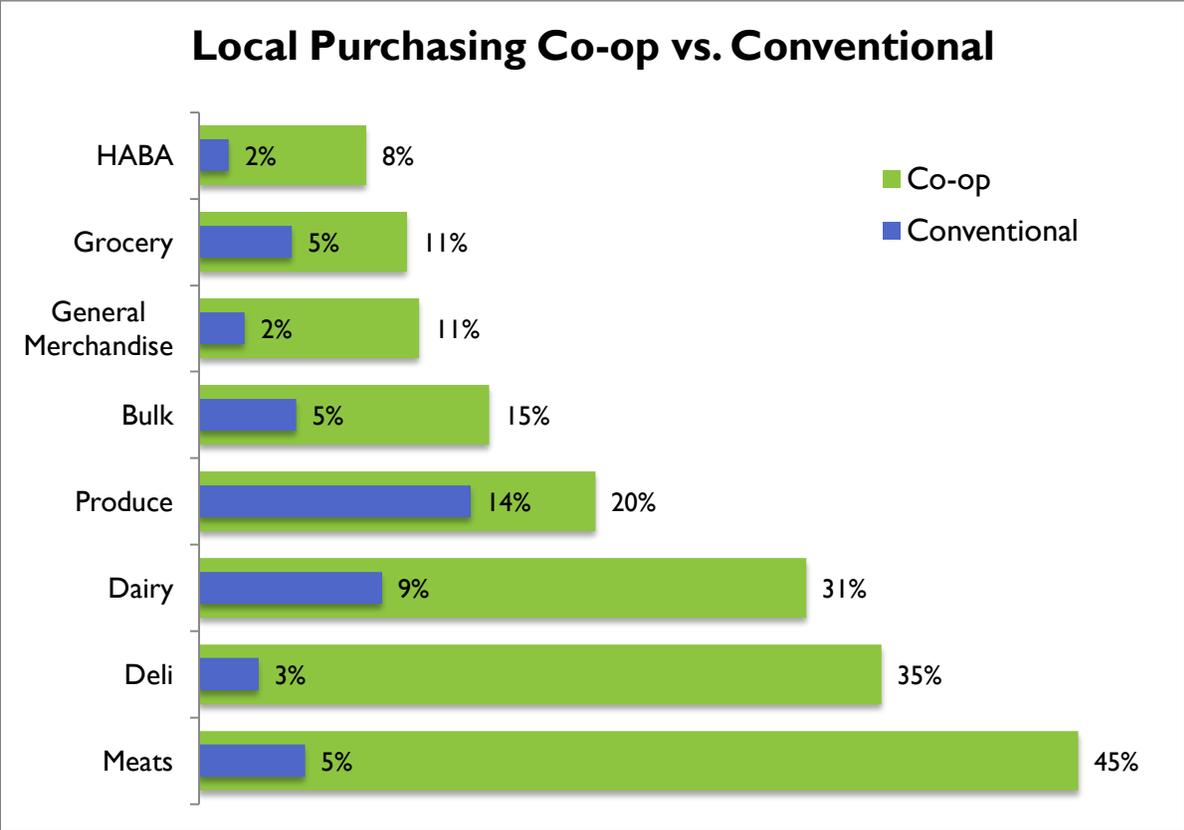


Engaging the Local Food System

One of the biggest obstacles small farmers face is engaging retailers that are willing to sell their products. Small farms' limited production volumes and less predictable supply, coupled with many retailers' centralized purchasing constraints, keep most large grocers from supporting the local food system in a significant way. Cooperatives, on the other hand, are by their nature locally-owned and purchasing decisions are made at the store level. Co-ops' organizational structure enables them to work closely with local growers and producers to establish sustainable business relationships.

Food co-ops have been working to strengthen the linkage between local producers and consumers for decades, and today, the typical co-op works with over 150 individual local farmers and food producers. In contrast, our survey findings indicate that a conventional grocer works with 65 local farmers and food producers. While the average conventional grocery store sources slightly less than 6% of its food purchases from local sources, the average co-op purchases almost 20% of the products it sells from local sources.

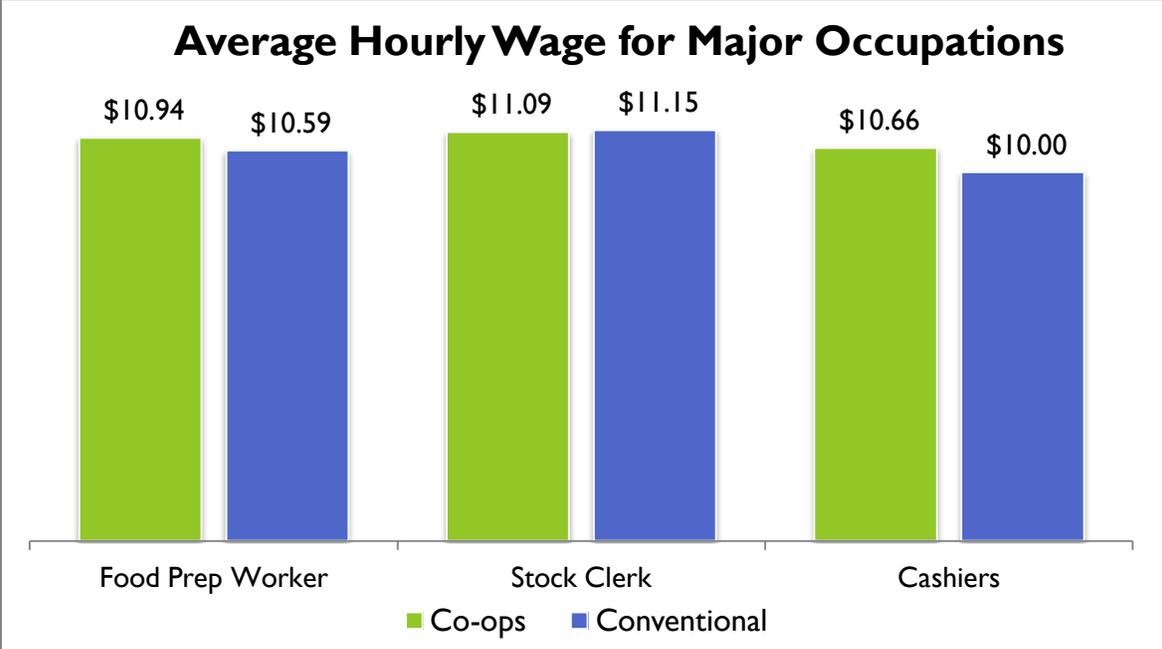
Comparing purchases by department, it is clear that while the conventional sector is able to source a non-trivial share of its produce from local sources, co-ops source over 40% more and also significantly outperform the conventional sector in every other department.



Creating Quality Jobs

Retail food cooperatives are efficient and prolific job creators. The average food co-op creates 9.3 jobs for every million dollars in sales. A typical co-op earning \$10 million a year in revenue provides employment for over 90 workers. A conventional grocer creates only 5.8 jobs per million dollars in sales as traditional grocers tend to have a greater reliance on automation and more centralized management functions including human resources, accounting, and purchasing.

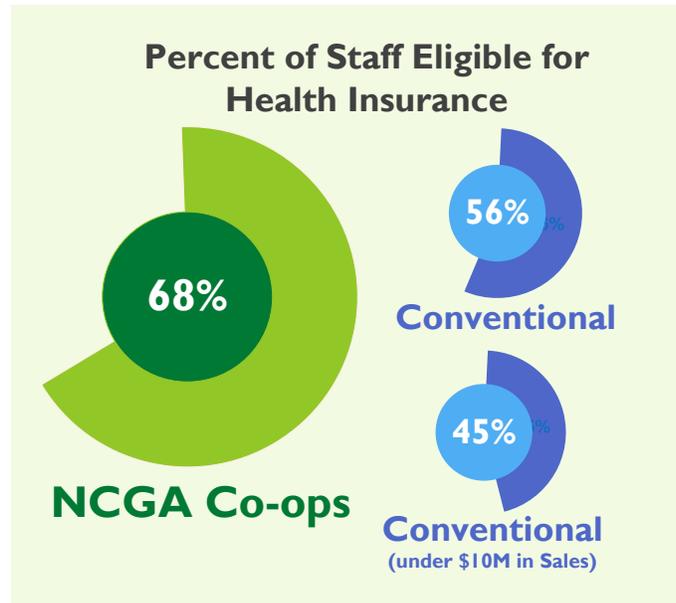
In total, NCGA's 128 food co-ops employ over 12,000 workers nationally. For cashiers, who comprise the largest proportion (34%) of all grocery store employees, the average hourly wage at co-ops is 7% higher than at grocery stores nationally. Although hourly wages for co-op workers in some of the occupations that make up the largest portion of the grocery workforce tend to be slightly higher than in the conventional sector, overall, co-ops generally pay comparable wages to their traditionally structured competitors.¹



In addition to hourly wages and salaries, most co-ops also pay bonuses and/or offer profit sharing to employees. Considering all employees and including bonuses and profit sharing, co-op employees earn an average of \$14.31 per hour compared to \$13.35 for their peers in the conventional sector.

¹ Hourly wage data for the conventional sector is based on information from the Bureau of Labor Statistics (BLS). Occupational wages can vary significantly from one labor market to another. The chart compares national averages for both co-ops and conventional grocers as city, or even state, level data regarding occupational wages by industry is not available from the BLS.

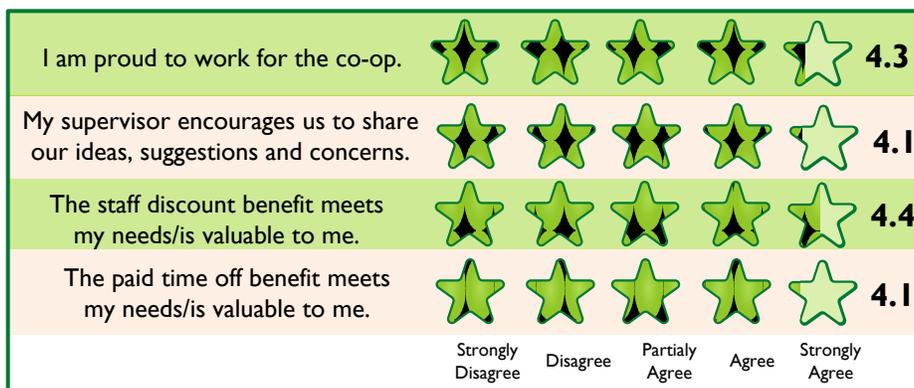
While wages are a common measure of job quality, benefits and workplace culture are important factors as well. Overall, 61% of workers at co-ops have full time jobs and all full time employees receive paid vacation. At the typical co-op, individuals who work more than 30 hours per week are eligible for health insurance. Nationally, 68% of all co-op employees (full time and part time) are eligible for health insurance. On average, co-op's pay over 80% of eligible employee health care insurance premium costs. In the conventional sector, fewer than half of workers are full time and only 56% of workers are eligible for health insurance.



	Co-op	Conventional
Percent Full Time	61%	43%
Percent Part Time	39%	57%
Percent Eligible for Health Insurance	68%	56%
Hours Worked to Qualify for Insurance	31	30

Among the core cooperative principles are democracy, education and concern for community. The workplace culture in cooperatives reflects these principles with a strong emphasis on participatory management and benefits tailored to meet workers' needs including paid time off and employee discounts. Over a third of NCGA food co-ops practice open book management and a quarter utilizes self-directed work teams. A series of employee satisfaction surveys has confirmed that co-op employees highly value their workplace culture and benefits.

Co-op Employee Satisfaction



Source: Carolee Colter & Helena O'Connor, CDS Consulting Co-op

Local Economic Impact

Grocery stores play an important role in local economies, primarily as employers but also as purchasers of goods and services. Because co-ops source a far greater proportion of their products locally and spend more on labor, they have a bigger impact on the local economy than a typical traditional grocer of comparable size would. A conventional grocer spends 72% of each dollar of revenue to purchase inventory, but only 4% is spent on locally sourced products. The average co-op spends 62% of every dollar in revenue on inventory, 12% of which is spent on locally sourced products.



Co-ops also spend more on labor as a percentage of sales than conventional grocers. 19% of co-op revenue is spent on local wages and benefits compared to just 13% in conventional grocers. The proportion of other expenditures for supplies, maintenance and other services spent locally is similar for co-ops and conventional grocers. In total, a co-op spends an estimated 38% of revenues locally while a conventional grocer spends 24%.²

² The estimate of local spending assumes that co-ops and conventional grocers spend the same proportion of their labor costs and “other” expenditures locally. It also assumes that 100% of store profit is spent locally. In practice, profits at investor owned grocers may not be retained locally. Co-ops, because they are locally owned, retain profits at the store level or pay them out as dividends to local owners.

The Multiplier Effect

The economic impact a firm has on its local economy is greater than the sum of its local spending because a portion of money spent locally recirculates, creating what economists refer to as a multiplier effect. For example, cooperatives purchase food from local farmers. Farmers in turn use some of the money they receive from cooperatives to buy supplies from local sources, hire local technicians to repair their equipment, and purchase goods and services from local retailers. Similarly, store employees spend a share of the wages they receive locally on various goods and services such as food, entertainment, and clothing.

Economic multipliers are useful for modeling how money circulates through an economy and to broadly estimate the economic impact of business activities. The relative impact of a cooperative compared to a conventional grocer can be estimated by applying appropriate multipliers to their local spending. In terms of local economic impact, holding store size constant, co-ops differ from conventional grocers primarily in the degree to which they source inventory locally and the amount that they spend on wages and benefits. Taking these differences into account, and multiplying wages by a suitable wage multiplier for the grocery industry and food purchases by a multiplier for spending on agricultural products, co-ops are found to have a local economic multiplier of 1.60 compared to 1.36 for a conventional grocery store.³

A co-op with \$10 million in annual sales generates \$16 million of local economic impact. A conventional grocery store of the same size, in the same community, would have an annual economic impact of \$13.6 million – meaning that simply by choosing to support and shop at a food co-op, a community can increase its total economic activity by over \$2.4 million a year.

For every \$1,000 a shopper spends at their local food co-op, \$1,604 dollars in economic activity is generated in their local economy – \$239 more than if they had spent that same \$1,000 at a conventional grocer in the same community.

³ The wage multiplier is from IMPLAN 2010 and the food purchase multiplier from the USDA's RIMS II. A more detailed explanation of this analysis is included in the Data Sources section.

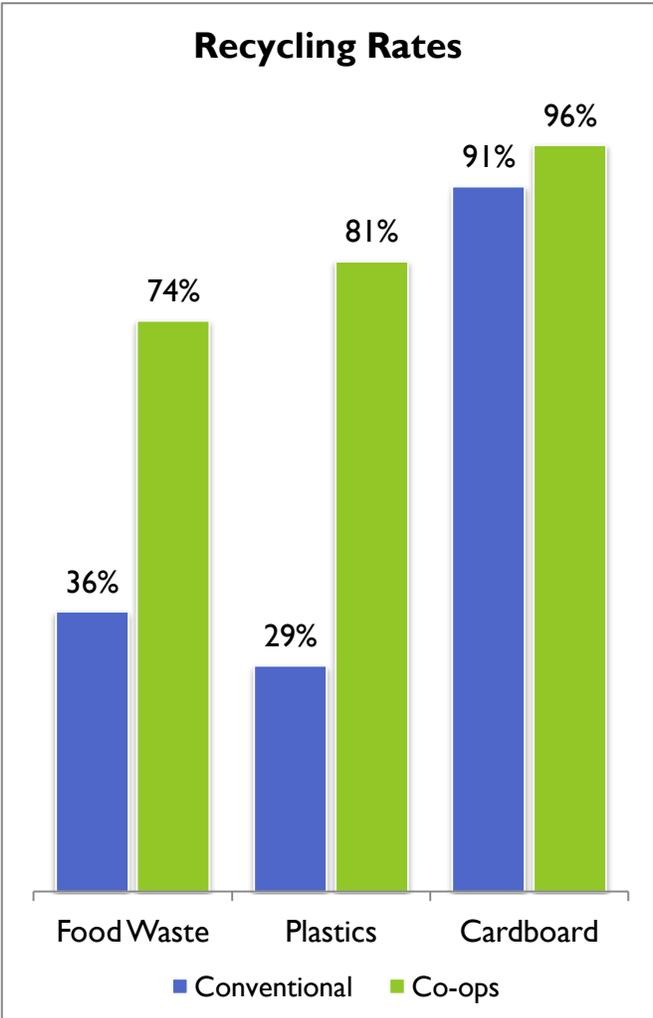
Environmental Stewardship

For a consumer it can be difficult to evaluate the environmental performance of a grocery store as some of the most important elements of conservancy – recycling, energy efficiency, and containment of harmful refrigerant – may not be readily apparent. In a co-op, consumer owners have the ability to influence their store’s environmental policy. As a result, co-ops have been extremely proactive in their efforts to minimize the environmental impact of their operations through education, product selection, and sustainable business practices. Many co-ops evaluate management not only on financial results but on their environmental performance as well. Co-ops’ strong focus on environmental stewardship is reflected in their impressive performance in conserving natural resources.

Recycling

From the pallets and cardboard crates wrapped in plastic film that product is shipped in, to the clippings and scraps generated by florist, deli, and bakery departments, grocery stores generate a significant amount of waste. A hallmark of a retailer’s environmental stewardship is how they deal with this waste; whether they send it to a landfill or incinerator, or take the steps necessary to recycle it. In recent years grocers and food manufacturers have made significant progress in reducing packaging, improving shipping efficiency, and increasing recycling.

Although data on recycling rates for supermarkets nationwide is not available, a California government report that looked at recycling rates among 30 grocery stores provides useful context to consider co-op recycling rates. Established markets for waste cardboard and the relative ease with which it can be handled lead to high rates of cardboard recycling. The California study found that supermarkets recycle 91% of the



cardboard waste they generate, an impressive figure given that cardboard represents roughly half of a typical grocery store's waste. The typical NCGA food co-op recycles 96% of its cardboard waste.

Plastic and food waste often have less economic value and can be more difficult to recycle, resulting in lower rates of recycling. In the conventional sector, supermarkets compost 26% of food waste and other organic material and recycle 29% of the plastic waste they generate. The average NCGA food co-op recycles 81% of its plastic waste and composts 74% of its food waste and other organic material.

Given the volume of material entering a typical food co-op and the environmental consequences of sending waste to a landfill or incinerator, the positive impact of co-ops' recycling efforts are dramatic. Of the average 59 tons of cardboard waste a co-op generates annually, approximately 56 tons are recycled. NCGA food co-ops recycle an estimated 9,308 tons of cardboard each year. Recycling this waste, rather than sending it to a landfill or an incinerator reduces greenhouse gas emissions by the equivalent of 27,738 metric tons of carbon dioxide.

In addition to cardboard, NCGA food co-ops recycle an estimated 648 tons of plastic and compost approximately 3,756 tons of organic material annually. Diverting this material from the waste stream reduces greenhouse gas emissions by the equivalent of 2,297 metric tons of carbon dioxide. On net, the higher proportion of recycling by food co-ops compared to conventional supermarkets reduces carbon dioxide emissions by 1,277 more metric tons per year.

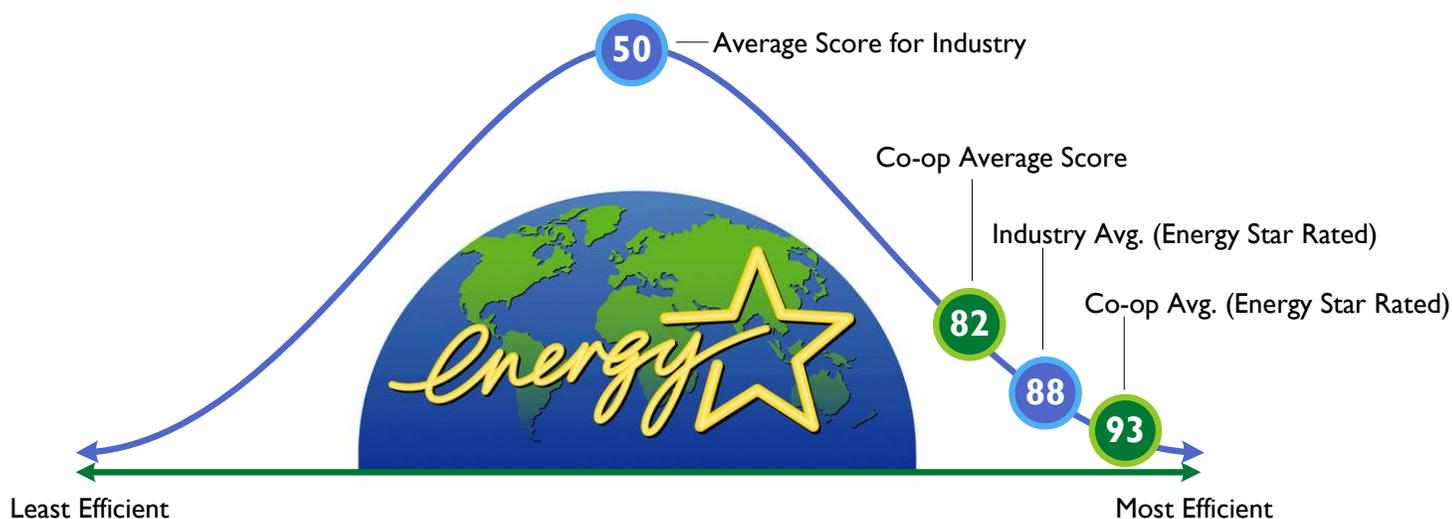
The Reduction in CO₂ Emissions from Co-ops' Recycling is Equivalent to:

 <p>Cardboard</p>	CO₂ emissions from the electricity use of 3,459 homes for one year
 <p>Plastic</p>	Carbon sequestered by 20,744 tree seedlings grown for 10 years
 <p>Compost</p>	CO₂ emissions from burning 8.1 railcars' worth of coal

Energy Conservation

Food co-ops have undertaken a wide range of projects designed to reduce their consumption of natural resources. From efforts designed to conserve and recapture water like installing a green roof or a rain catchment system to projects that generate or offset energy use such as installing solar panels and geothermal heat, co-ops have been in the vanguard of resource conservation. These investments in conservation have helped co-ops outperform conventional grocers in respect to energy efficiency.

The US Environmental Protection Agency (EPA) has established an Energy Star rating for grocery stores that allows operators to assess their building's energy efficiency relative to similar grocers nationwide. The EPA rates stores on a scale of 1 to 100 taking into account location, size, refrigeration capacity, and other factors that contribute to energy consumption. A rating of 50 indicates average energy performance, while a rating of 75 or higher is an indication of "top performance" and qualifies a store for Energy Star certification. Using the Energy Star rating system it is possible to compare a food co-op's energy efficiency to their conventionally structured peers.

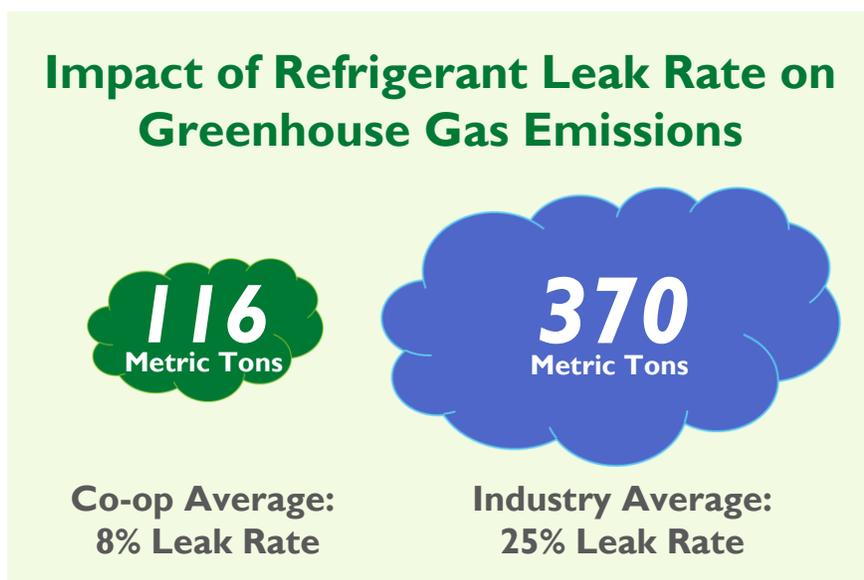


By entering energy consumption data for NCGA food co-ops into the EPA's "Portfolio Manager" software, an Energy Star rating was estimated for each co-op. The 42 co-ops scored an average of 82 compared to an overall grocery industry average of 50. Fully 71% of the NCGA co-ops have ratings that would qualify for Energy Star certification. Co-ops qualifying for Energy Star certification had an average score of 93 compared to an average score of 88 for the roughly 1,900 Energy Star certified conventional supermarkets.

Refrigerant Containment

Refrigeration can account for as much as a third of a typical grocery store's electricity usage and the refrigerants used in refrigeration systems have a greenhouse warming potential many thousand times that of carbon dioxide. Therefore, reducing refrigerant leaks and carefully maintaining refrigeration systems can help significantly reduce a grocery store's carbon footprint.

NCGA food co-ops report that in 2011 they had an average refrigerant leak rate of 8%, significantly less than the EPA estimated average of 25% for the industry overall. Across the country, co-ops have made efforts to reduce the environmental impact of their refrigeration systems. Eighty-one percent (81%) of co-ops have installed night curtains on their open refrigerators and 62% have installed LED lighting that emits less heat in the chill case. Fifty-two percent (52%) have taken steps to improve the efficiency of their refrigeration system, including 14% that have installed advanced refrigeration systems that are more efficient and less prone to leak. These efforts have enabled co-ops to achieve a refrigerant leak rate that is lower even than the 13% average leak rate of the industry leaders that collect and report data to the EPA's Green Chill Partnership.

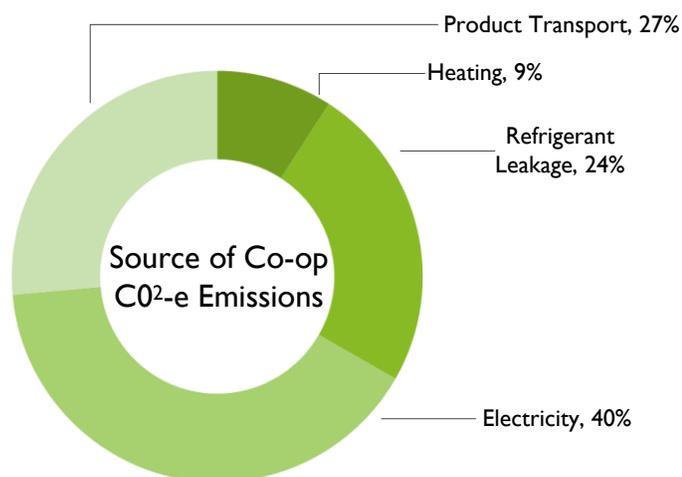


Reducing refrigerant leak rates has tremendous environmental benefit. For a system that holds 1,000 pounds of the refrigerant R-404A, a leak rate of 25% would release 250 pounds of gas into the atmosphere each year; the equivalent of 370 metric tons of carbon dioxide. For a co-op with the same 1,000 pound system and a leak rate of 8%, the 100 pounds of R-404A leaked is the equivalent of releasing 116 metric tons of carbon dioxide. With 165 co-op stores across the country, the average reduction of 254 metric tons per store yields a total carbon reduction of roughly 42,000 metric tons; the equivalent of the amount of carbon sequestered annually by 8,927 acres of pine forest.

Carbon Footprint

Heating, electricity, transportation and refrigerant leakage all contribute to grocery store greenhouse gas generation. As more companies have begun disclosing carbon footprint information and making public commitments to reduce their greenhouse gas emissions it is becoming more practical to compare environmental performance in terms of carbon

emissions. For grocery stores, the most obvious measures to compare are total carbon emissions per square foot, which addresses the energy used to heat and cool spaces of various sizes; and emissions per dollar of sales, which controls for the impact of sales volume on energy consumption.



A retailer's carbon footprint relates not only to its environmental practices and scale of operations but also to the specific sector within which it operates. The Carbon Disclosure Project, a not for profit which collects corporate carbon emissions data includes information on a handful of supermarkets with which co-op performance can be compared. The average co-op produces 39.4 metric tons of carbon dioxide equivalents for every 1,000 square feet of space. Grocery stores that furnish data to the Carbon Disclosure Project report emissions in the range of 33 to 69 metric tons per 1,000 square feet with an average of 39. While co-op emissions per square foot are comparable to conventional stores, co-ops sell more per square foot than conventional grocers and thus their emissions measured on a ton per dollar of sales basis are lower. Co-ops generate 50.6 metric tons of carbon dioxide equivalents per million dollars of sales compared to 73.7 metric tons for grocery stores that furnish data to the Carbon Disclosure Project.

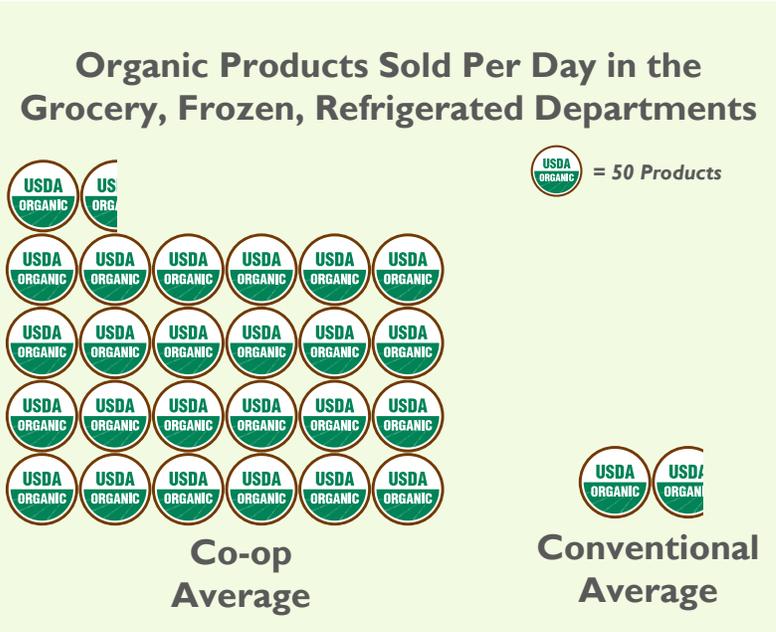
Based on estimates from a carbon footprint calculator provided by the US Environmental Protection Agency, the average co-op generates the equivalent of 565 metric tons of carbon dioxide per year. Two thirds of this total is attributable to electricity consumption and the fuel used to transport products to the store.

NCGA food co-ops are continuing to work to reduce their carbon footprint. Seven percent (7%) of co-ops are now LEED certified and 29% of co-ops have installed solar panels compared to just 7% of conventional stores. Additionally, 27% of co-ops purchase green energy from their power company and 10% of total electricity consumption is offset through the purchase of renewable energy credits.

Promoting Healthy & Sustainable Foods

Each year in the United States, more than one billion pounds of pesticides are released into the environment. Organic farming helps protect the environment and consumers by eschewing the use of harmful pesticides. NCGA food co-ops generate roughly \$183 million dollars in organic produce sales each year and play an important role in the promotion of organic farming. Co-ops' extensive offerings of organic foods are a key part of what distinguishes them from conventional supermarkets. While nationally 12% of all fruit and vegetable sales are organic, in the typical food co-op organics make up 82% of produce sales.

Co-ops' commitment to healthy food goes beyond the produce aisle. Eighty-nine percent (89%) of the meat sold at co-ops is sustainably raised, and 75% of co-ops have product policies that restrict certain ingredients, such as genetically modified products or high fructose corn syrup. According to data supplied by SPINS, a firm which tracks sales of natural products at more than 32,000 grocery stores, organic products account for 1.5% of sales in the grocery, refrigerated, and frozen food departments of conventional supermarkets.



Among NCGA's food co-ops, organics make up 48% of sales in these same departments. On average, the typical food co-op sells 1,273 organic products each day, exclusive of fresh meat, produce and bulk products.

Co-ops recognize that education is an important part of empowering consumers to make informed shopping choices. Eighty-three percent (83%) of co-ops offer classes on healthy eating and nutrition and 10% of co-ops have nutritionists available to consult with customers. Consumer education also takes place through store signage highlighting product origins and other characteristics. From shelf hangers indicating a product is local or produced by a co-op to labels showing which products are gluten free, food co-ops give shoppers the information they need to make the choices that are best for their families. Twenty-one percent (21%) of products sold by co-ops carry a gluten free label, and 3% carry the Whole Grain Council Certified stamp. Within the grocery, refrigerated, and frozen departments, 9% of co-op sales are Non-GMO Project Verified. In conventional grocery stores, only 0.4% of sales in these same departments are Non-GMO Project verified.

About the Report

National Cooperative Grocers Association (NCGA) is a business services cooperative for retail food co-ops located throughout the United States. NCGA helps unify natural food co-ops in order to optimize operational and marketing resources, strengthen purchasing power, and ultimately offer more value to natural food co-op owners and shoppers everywhere. www.ncga.coop

The ICA Group is a national not-for-profit consultancy based in Brookline, Massachusetts focused on the development and support of initiatives that build economic security. ICA's programmatic focus areas include; cooperative development, social purpose venture planning, and research and evaluation services for not-for-profits. www.ica-group.org, (617) 232-8765

Data Sources

Numerous data sources were consulted to develop this report including industry and government data; food cooperative financial data collected by CoopMetrics for NCGA; and previous survey data collected by NCGA. To augment this information, the ICA Group developed two surveys, one targeted to NCGA food co-ops and the other to the conventional grocery industry.

The bulk of the co-op results are derived from a survey that was distributed via email to 124 NCGA food co-ops in February 2012. The survey contained 70 questions relating to the five domains of interest. A total of 78 co-ops completed the survey, a 63% response rate. The primary sources used to inform the research are discussed below organized by issue area.

Corporate Sustainability Reports were sought from the largest 75 supermarket chains in the country. Sustainability reports were reviewed for the 17 supermarket companies that make them publicly available including: Whole Foods, Safeway, Kroger, Costco, Walmart, Supervalu, Loblaw Companies, Publix Supermarkets, Ahold USA, Delhaize America, Sobeys, Spartan Stores, Brookshire Grocery Co., and Metro.

Local Food Systems: Data on co-op local sourcing was collected using the survey instrument. Two previous academic studies that examined the role food co-ops play in the local food economy reported findings consistent with the survey results.

There is almost no publicly available research on local sourcing in the conventional grocery sector. To develop a benchmark with which to compare food co-ops' local purchasing an electronic survey was sent to 344 purchasing professionals in the conventional grocery sector. This survey had a response rate of 8.4%, representing approximately 969 stores or 2.7% of the total grocery stores in the US.

Employment and Job Quality: Compensation and benefit data for the food co-ops was retrieved from CoCoFiSt, a database developed by CoopMetrics for NCGA that contains detailed financial data on nearly all NCGA food co-ops. This data was supplemented by survey data on occupational wages, and employee benefits.

Wage and benefit data for the conventional sector came from the Bureau of Labor Statistics, the US Census Bureau, the Food Marketing Institute, the National Grocers Association, and Progressive Grocer magazine.

Economic Impact: The economic impact multiplier presented in this report was calculated using the LM3 model, a tool developed by the New Economic Foundation, a UK based independent think-and-do tank. A grocery industry wage multiplier from IMPLAN 2010 and an agricultural purchase multiplier derived from the RIMS II data set were used as inputs in the model. IMPLAN is an economic input-output modeling system originally developed by the US Forest Service that is now maintained by a private company. It is widely used to estimate the economic impact of changes in business activity. RIMS II, developed by the US Bureau of Economic Affairs, is another commonly used input-output model. RIMS II and IMPLAN multipliers use economic data from various government sources to model the interrelationships among economic activity in a region.

The goal in calculating the economic multiplier was not to determine the total economic impact of an individual co-op in a particular community, but rather the relative difference in impact between an average co-op and an average conventional grocery store of the same size. Applying the same wage and purchasing multipliers to the activities of both types of store revealed the economic impact of their differences in purchasing behavior and cost structure. Cost structure data for the co-op sector was derived from CoCoFiSt. The Food Marketing Institute's "The Food Industry Speaks 2011," provided the relevant data for the conventional sector.

Environmental Stewardship: Data used to calculate the environmental impact of co-ops came primarily from the ICA survey instrument supplemented by follow up interviews. Data for the conventional sector came from government sources, corporate social responsibility reports, data submitted to the Carbon Disclosure Project, and academic and industry studies.

Conventional grocery recycling rates were derived from a California report on recycling in urban supermarkets. This data was crosschecked against data from corporate social responsibility reports. Given that California has an overall recycling rate higher than the national average, the recycling rates assumed for conventional supermarkets may be greater than actual national averages. Greenhouse gas emissions and their equivalencies from co-op recycling efforts were calculated using the EPA's Waste Reduction Model (WARM) and Carbon Equivalency Calculators.

The initial Energy Star ratings presented in this report were determined by entering co-op energy consumption data into the EPA's "Portfolio Manager" software. Comparative data came from information published on the EPA's website.

Refrigeration leakage data was reported by co-ops as part of the ICA survey. Comparative benchmark data was sourced from reports published by the EPA's Green Chill Partnership.

The carbon footprint presented in this report was calculated using the EPA's Simplified GHG Emissions Calculator (SGEC) which is based on a corporate greenhouse gas inventory protocol developed by the World Resources Institute (WRI) and the World Business Council for Sustainable Development (WBCSD). Data on the conventional grocery stores came from reports published on the Carbon Disclosure Project website.

Promoting Healthy & Sustainable Foods: Data on healthy and sustainable foods came from the tracking firm SPINS. SPINS tracks every product with a UPC symbol that is scanned through an NCGA co-op's point of sale system. These items are crosschecked against the SPINS product library of over 190,000 individual products with verified natural attributes including organic content, gluten free, and Non-GMO Project Certified. Through a partnership with Nielson Scantrack, SPINS is also able to provide information on products sold in the conventional grocery sector. Although the majority of packaged grocery merchandise and products in the frozen or refrigerated section are UPC coded, meat, produce, and bulk items are generally not. Accordingly, these latter items are not included in the SPINS data.

References

Local Food Systems & Employment and Job Quality

2011 Independent Grocers Financial Survey, National Grocers Association

<http://www.nationalgrocers.org/resource-center/nga-research/independent-grocers-financial-survey>

Annual Financial Review 2011, Food Marketing Institute.

http://www.fmi.org/forms/store/ProductFormPublic/search?action=1&Product_productNumber=2335

Co-op Employee Satisfaction Surveys. Carolee Colter & Helena O'Connor, CDS Consulting Co-op

<http://www.cdsconsulting.coop/consultants/carolee-colter>

<http://www.cdsconsulting.coop/consultants/helena-oconnor>

Chronicle of Philanthropy, Charitable Giving at Major Corporations.

<http://philanthropy.com/section/Corporate-Giving/449/>

Crunching the Numbers, Progressive Grocer's 78th Annual Report of the Grocery Industry, Progressivegrocer.com, April 2011

The Distribution of Local Food through Consumer Cooperatives in the Northeast. Michahelles, M. *Thesis Presentation*. University of Vermont. May 2008.

The Effectiveness of Local Food Marketing Strategies of Food Cooperatives, Katchova, A., Woods, T. University of Kentucky. Unpublished Paper.

The Food Retailing Industry Speaks 2011, Food Marketing Institute.

http://www.fmi.org/forms/store/ProductFormPublic/search?action=1&Product_productNumber=2333

The Grocery Stores Wage Distribution: A Semi-Parametric Analysis of the Role of Retailing and Labor

Market Institutions, Budd, J., McCall, B. *Industrial and Labor Relations Review*, Vol. 54. No. 2A.

Local Food as Economic Development. Meter, K., *Cross Roads Resource Center*, 2008
<http://www.crcworks.org/lfcd.pdf>

Supermarket Sales by Department – Percent of Total Supermarket Sales, Food Marketing Institute:
http://www.fmi.org/docs/facts_figs/grocerydept.pdf

U.S. Grocery Shopper Trends 2011, Food Marketing Institute.
http://www.fmi.org/forms/store/ProductFormPublic/search?action=1&Product_productNumber=2331

The U.S. Food Marketing System: Recent Developments, 1997-2006. Martinez, S. (2007, May). United States Department of Agriculture, Economic Research Service:
<http://www.ers.usda.gov/publications/err42/err42.pdf>.

US Bureau of Labor Statistics, Labor Force Statistics from the Current Population Survey

Economic Impact

Economic Impacts of Connecticut's Agricultural Industry, Rigoberto A. Lopez et al., University of Connecticut Department of Agricultural and Resource Economics, 2010

The Grocery Industry in Ohio Impact Study, John Dunham and Associates, March 2011
http://www.ohiogrocers.org/assets/pdf/About_Us/ohio_grocery_retail_impact_study_results_and_methodology_3_23_11.pdf

The Money Trail, Measuring your impact on the local economy using LM3. Justin Sacks, New Economic Foundation. December 2002. <http://www.neweconomics.org/publications/money-trail>

Local Works! Examining The Impact Of Local Business On The West Michigan Economy. Civic Economics, September 2008.

Research on the Economic Impact of Cooperatives, Deller, S., Hoyt, A., Hueth, B, Sundaram-Stukel, R. University of Wisconsin Center for Cooperatives Revised June 19, 2009.
<http://reic.uwcc.wisc.edu/groceries/>

Vermont Food Industry Economic Impact Study, John Dunham and Associates, 2011
<http://www.vtgrocers.org/files/files/Vermont%20Summary%20Results%20and%20Methodology%2012%207%2011.pdf>

Why Local Linkages Matter: Findings from the Local Food Economy Study. Viki Sonntag, Sustainable Seattle. April 2008

Environmental Stewardship

Environmental Implications of the Foodservice and Food Retail Industries. Davies, T., Koninsky, D.; Resources for the Future Working Paper 00-11. March 2000.

Demonstration of Water Conservation Opportunities in Urban supermarkets. Aquacraft, Inc. Water Engineering and Management, Submitted to: Metropolitan Water District of Southern California California Department of Water Resources/U.S. Bureau of Reclamation CalFed Bay-Delta Program. July 21, 2004.

The GreenChill Partnership [PowerPoint Presentation]. Witman, Keilly, USA Environmental Protection Agency's Stratospheric Protection Division.
http://www.epa.gov/ozone/partnerships/greenchill/downloads/RSES_GreenChill%20Presentation.pdf

GreenChill Credited for Refrigerant Leak Reduction. Garry, Michael. *Supermarket News*, April 12, 2012. <http://m.supermarketnews.com/sustainability/greenchill-credited-refrigerant-leak-reduction>

Managing Energy Costs in Grocery Stores, Commercial Energy Advisor., *E Source Companies, LLC*. 2006.
http://www.esource.com/BEA/demo/PDF/CEA_groceries.pdf

Sustainability and Recycling in the Food Industry 2007, Food Marketing Institute.
http://www.fmi.org/forms/store/ProductFormPublic/search?action=1&Product_productNumber=2210

Targeted Statewide Waste Characterization Study: Waste Disposal and Diversion *Findings for Selected Industry*. Cascadia Consulting Group, California Integrated Waste Management Board (CIWMB). June 2006. Available at: <http://www.calrecycle.ca.gov/Publications/Disposal/34106006.pdf>

US Environmental Protection Agency, Simplified GHG Emissions Calculator (SGEC)
www.epa.gov/climateleaders/documents/sgec_tool_v3_1.xls

US Environmental Protection Agency, Simplified GHG Emissions Calculator (SGEC) design principles
http://www.epa.gov/climateleadership/documents/resources/design_princ_intro.pdf

US Environmental Protection Agency, Waste Reduction Model (WARM)
http://www.epa.gov/climatechange/wycd/waste/calculators/Warm_home.html

Promoting Healthy & Sustainable Foods

U.S. Organic Industry Overview 2011, Organic Trade Association
<http://www.ota.com/pics/documents/2011OrganicIndustrySurvey.pdf>