



challenge for sustainability



SAVING
ENERGY BY
EDUCATION &
DESIGN



Conscious Capitalism

- is a presentation that Whole Foods Market Co-Founder, John Mackey, has created with others that describes a more complete way of doing business, with a long-term focus

Do We Need New Paradigms for Business?

- Corporations: the most influential institutions in the world, but they are widely perceived as greedy, selfish, exploitative, & not trustworthy
- Current deep recession being blamed on “greedy” financial corporations and deregulation
- Corporations & capitalism have serious “branding” problems
- What is needed instead in the 21st century are **Conscious Businesses & Conscious Capitalism**
- Consumers and Investors are asking for honest trade and disclosure
- We shouldn't knee jerk react to criticism but embrace opportunities it creates



Team Member Happiness & Excellence

- Self-Managing Teams
- Open salary information
- Salary cap
- Benefits vote
- Gainsharing for all
- Stock options for all Team Members—93% to non-executives
- Personal Wellness Accounts & fully paid Health Insurance
- “100 Best Companies to Work For” 13 yrs in a row, #18 in 2010

**Happy Team Members = Happy Customers
(and ultimately happy investors)**



World Wildlife Fund Says...

FMI's Inaugural Sustainability Summit Minneapolis, MA 2008

- Human Population will grow 50% in 50 years
- Consumption will double by 2050
- Human footprint is beyond global carrying capacity
- Global Warming could cut world farm output by 18% by 2020
- All major fisheries are expected to collapse by 2048
- 2.7 liters of water go into producing 1 liter of soda; if you include the bottle, 250 liters are required!

Practicing Sustainability

- Sustainable business practices focus on delivering superior performance in three specific areas:
 1. **Financial**
 2. **Social**
 3. **Environmental**
- Sustainable business performance is commonly referred to as “triple bottom line”. These values and strategies are aligned with traditional business goals and inherently improve efficiencies, reduce waste and improve profitability.

Locally Driven Green Mission Teams

- Store or Facility-based, composed of team members
- Focus on local solutions, and many ideas spread across the company
- Internal programs and external outreach
- Composting, Recycling, Bus passes, carpooling, bicycle commuting prizes, e-cycling



Waste Streams, Packaging

Industry Forum on Responsible Packaging

When: Wednesday, October 4th 8:30 AM to 12:30 PM
All organic buffet breakfast starts at 8:00 AM
Lunch at 12:30 PM
* Catered by Whole Foods Market, Inner Harbor, Baltimore

Where: Baltimore Convention Center
Natural Products Expo East
* Special thanks to New Hope Communications for the room.

Who: Key Manufacturers, Key Wholesalers, Key Retailers
(Limited to 100 participants. If you wish to attend, please e-mail Tom Wright at tom@sustainablebizness.com)

What: An Educational Event
Presenting the best ideas and practices for packaging and recycling. (Presentations with break-outs into small groups.)

What is recyclable?

What gets recycled?

Should there be recycled content in packaging material?

What is compostable?

What gets composted?

What might be the package of choice in a certain category, and why?

How do the principles of organic agriculture relate to responsible packaging?

Can we reach a consensus or working definition on responsible packaging? (Such as: where and what are the common variables and outcomes?)

To attend contact Tom Wright: tom@sustainablebizness.com



- Working with Private Label vendors on sustainable packaging
- Experimenting with compostable food containers for our prepared foods venues



Sustainability is Deep in our DNA!

- Our Green Mission...is grass roots!
Much like our work to fulfill the needs of other stakeholders, for years our team members have been passionately active and working to better the environment
- They set high goals and achieve them!
 - Some Regions' Composting and Recycling Big Goals
 - 85% by 2010—many achieved
 - Zero Waste is the Ultimate Goal



Tribal Gathering Videos

- Energy, Waste, Refrigerant, Transportation, Water, Packaging...measurement leads to management and ongoing reduction goals...save money and natural resources and minimize environmental impacts!
- Awareness leads to commitment

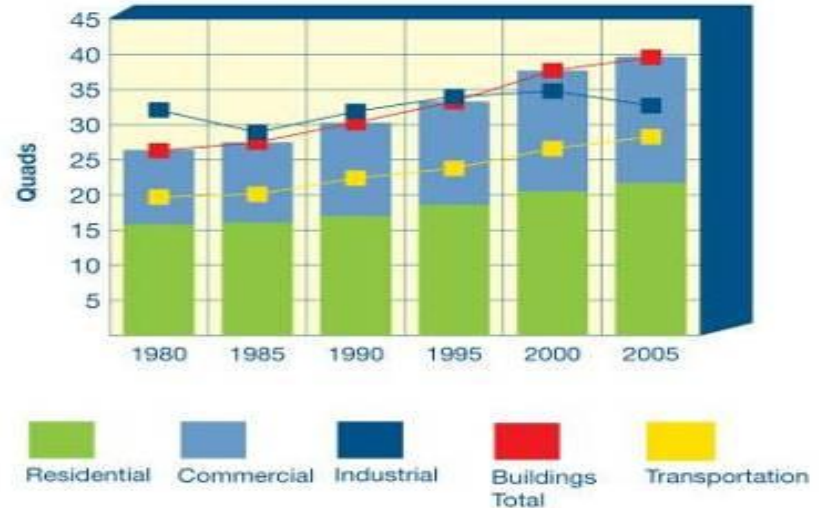
WFM and DOE

- National Accounts-N. Raleigh, NC: design new store for 50% below ASHRAE 90.1; Edgewater, NJ, analyze retrofit opportunities to achieve 30% energy savings
- Commercial Lighting Solutions (vinettes)
- REA-Sub-committees for mfr, retailer, utility collaboration-higher efficiency, lower costs

Buildings...Fastest Growing Energy Sector

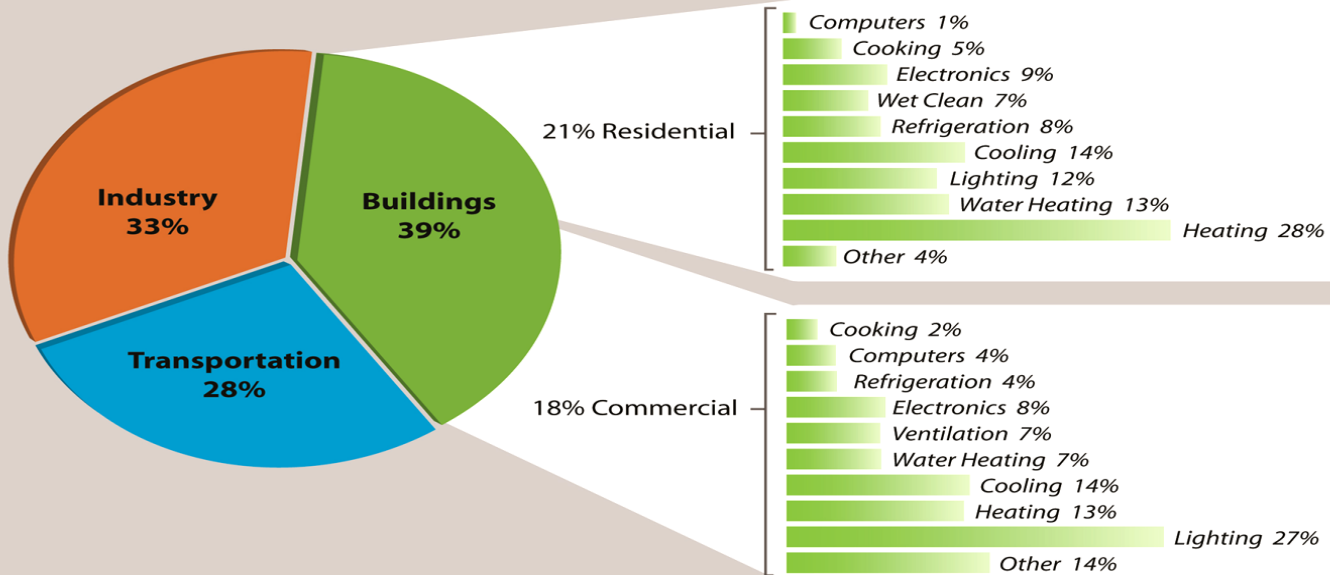
- Energy consumption rose 70% between 1980 and 2005
- Commercial buildings consume greater amounts of energy relative to other sectors

Growth in Buildings Energy Use Relative to Other Sectors



Building Energy Use

2006 Buildings Share of U.S. Primary Energy Consumption End-Uses



Source: Buildings Energy Data Book <http://buildingsdatabook.eren.doe.gov/>
Tables 1.1.3, 2.1.5, 3.1.4

Note: The "Adjust to SEDS" percentages for the residential and commercial end-use splits were distributed among the other categories.

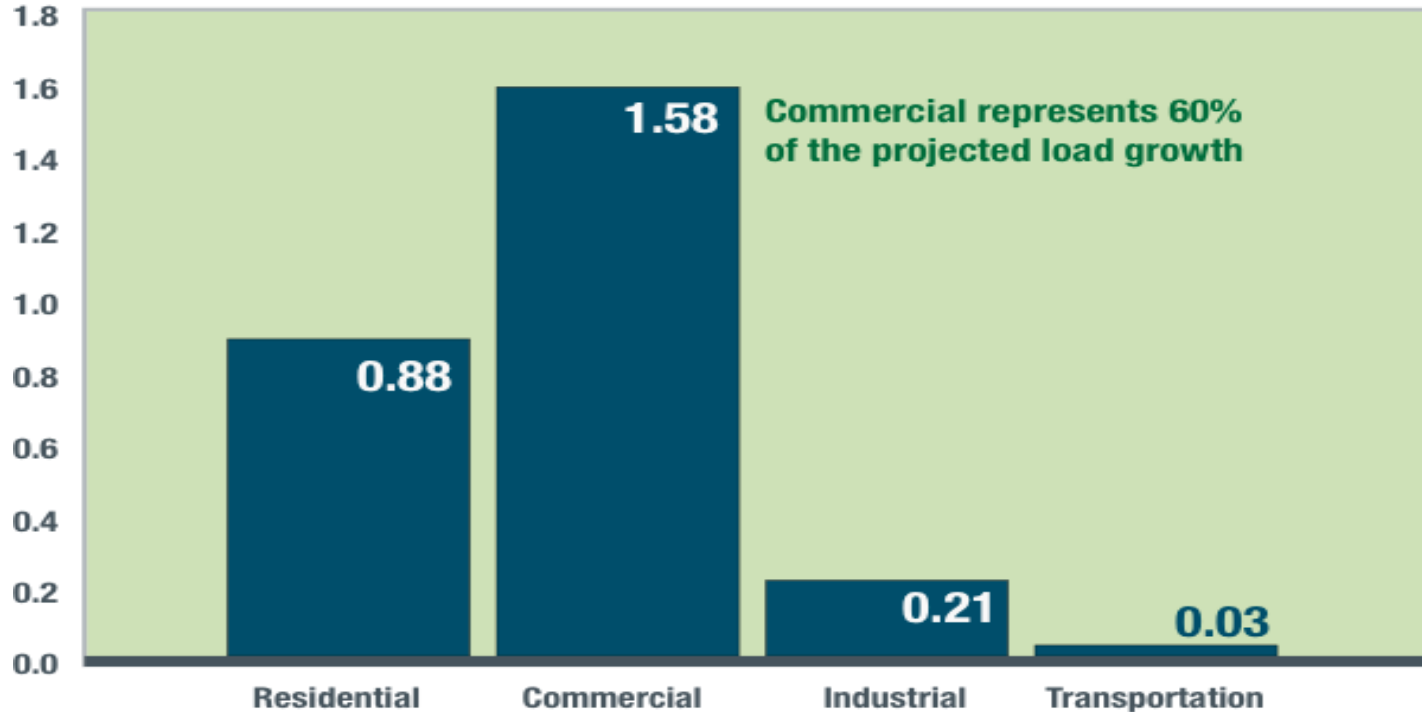
Commercial Buildings' Energy Share

- Commercial buildings account for:
 - 18% of U.S. energy
 - 18% of greenhouse gas emissions (~1,000 MMT of CO₂e)
 - slightly less than India's entire energy consumption and GHG emissions



Projected Electricity Growth

2010 to 2030, by End-Use Sector (site quad)



Source: EIA AEO 2009, Table 2

Partnerships and Collaboration

- EPA—NAPEE, Green Power, Energy Star, Green Chill
- DOE—Retail Energy Alliance
- NRDC
- CA-CP
- Suppliers and Communities

Leveraging Resources & Collaboration

U.S. Department of Energy's
Commercial Building Partnerships



THINKING LIKE A WHOLE BUILDING:

A WHOLE FOODS MARKET NEW CONSTRUCTION CASE STUDY

Whole Foods Market (WFM) is the world's leading natural and organic foods retailer, with more than 300 stores in North America and the United Kingdom. WFM's participation in the U.S. Department of Energy's (DOE) Commercial Building Partnerships (CBP) is a natural extension of its values and vision.

"Whole Buildings are a focus at WFM, and the company has had internal green building standards and practices in place for years," says Kathy Loftus, global leader, sustainable engineering, maintenance, and energy management for WFM. "But our participation in CBP provides an opportunity for us to dig into the details of how our stores use energy in ways that we haven't explored before."



Whole Foods Market uses a combination of ambient and accent lighting to highlight the products in its stores.

Credit: Ian Doebber, NREL

Green Collage at N. Raleigh



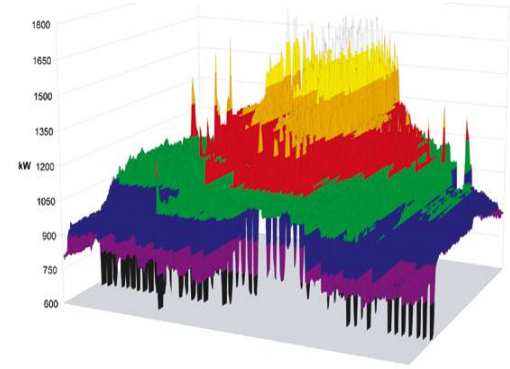
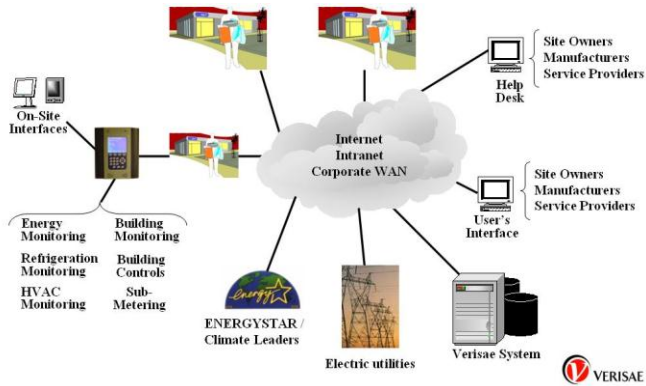
The Economics of Efficiency

- **Energy efficiency costs less than the fuel it saves.** Interestingly enough, 100% of the experts involved in energy efficiency measures talk about profits, and 100% of the politicians concentrate on the costs.
- The fact is that using energy more efficiently offers economic benefits not just in terms of stopping global warming, but because saving fossil fuel is a lot cheaper than buying it.
- Preventable energy waste costs the global economy more than USD 1 trillion a year. For example, **saving each barrel of oil through efficiency improvements costs only USD 12, about one-fifth of what petroleum sells for today.**

WFM Green Building & Energy Initiatives

- LEED
- Green Globes
- Integrated Design
- Solar stores
- Fuel Cells
- Waste to Electricity
- Wind Turbine Feasibility Study

Enterprise Energy Efficiency



- Implementing a web-based, enterprise-wide tracking and reporting system to identify high-usage and high-cost stores and facilities (sub-metering, benchmarking, exception reporting) with load profile analysis and modification-demand response, ongoing expense reduction identification-operational
- Implementing equipment upgrades for savings (capital improvements)
- Working with design and engineering teams to see that efficient systems, equipment, & control strategies are specified for new stores
- Commissioning/Re-commissioning

Race to Reduce: 25 by 2015

- Our goal is to reduce our energy consumption 25% by square foot by 2015
- Many teams including Green Mission working on the drivers, tools and brand of this program—some great ideas have been generated...



The screenshot shows a web browser displaying the Whole Foods Market Energy Conservation Dashboard. The page features a navigation menu with 'Corporate Goals', 'Regional Goals', and 'Tips & Suggestions'. The main content area is divided into two sections: 'Energy Conservation Dashboard' on the left, which includes a circular graphic with four gauges, and 'Success Stories' on the right. The 'Success Stories' section lists several employee tips, such as 'Turn on one oven before opening and turn on the next as needed' and 'Run only 25% of the lights on bright days'. A 'Share your experience...' section is also visible at the bottom right of the dashboard.



Highlights of Energy Program

- Newly opened stores realizing 10-30% less energy usage than existing
- >\$4.5M was approved for regional energy upgrade projects for stores; most underway
- 31.75M kWh will be reduced (almost 5% of current usage, also a 5% carbon reduction)
- \$3.175M will be saved
- That's a lot of bananas!





http://



WHOLE FOODS

M A R K E T

SELLING THE HIGHEST QUALITY
NATURAL & ORGANIC PRODUCTS

HOME

Corporate Goals

Regional Goals

Tips & Suggestions



Refrigeration - 38% of all utility cost

Closing cooler doors

- **Keep cooler & freezer doors closed as much as possible**
– When left open, the refrigeration system competes with the HVAC causing both to work harder for no reason
- **Damaged or missing strip curtains can make a nearly 10% in energy consumption**
– Let alone leaving the doors open or not having doors

Could save ...



\$47,491 store sales



546 cars removed



\$2,008,125 regional sales



641 years home electricity



CO₂ 4,614 tons



32 acres forest protected



1,591 tons recycling

Success Stories

Michael Scott says Turn on one oven before opening and turn on the next as needed. [#tips](#) - 2 days ago



Jim Halpert says Run only 25% of the lights on bright days. [#tips](#) - 4 days ago



Pam Beesly says Check freezer door insulation monthly. [#tips](#) - 6 days ago

Dwight Schrute says Set your thermostat to 85 degrees during the summer. [#tips](#) - 3 days ago



Andy Bernard says Keep employees informed of usage goals and progress. [#tips](#) - 1 week ago

Stanley Hudson says Equipment should be maintained in optimal condition. [#tips](#) - 2 weeks ago

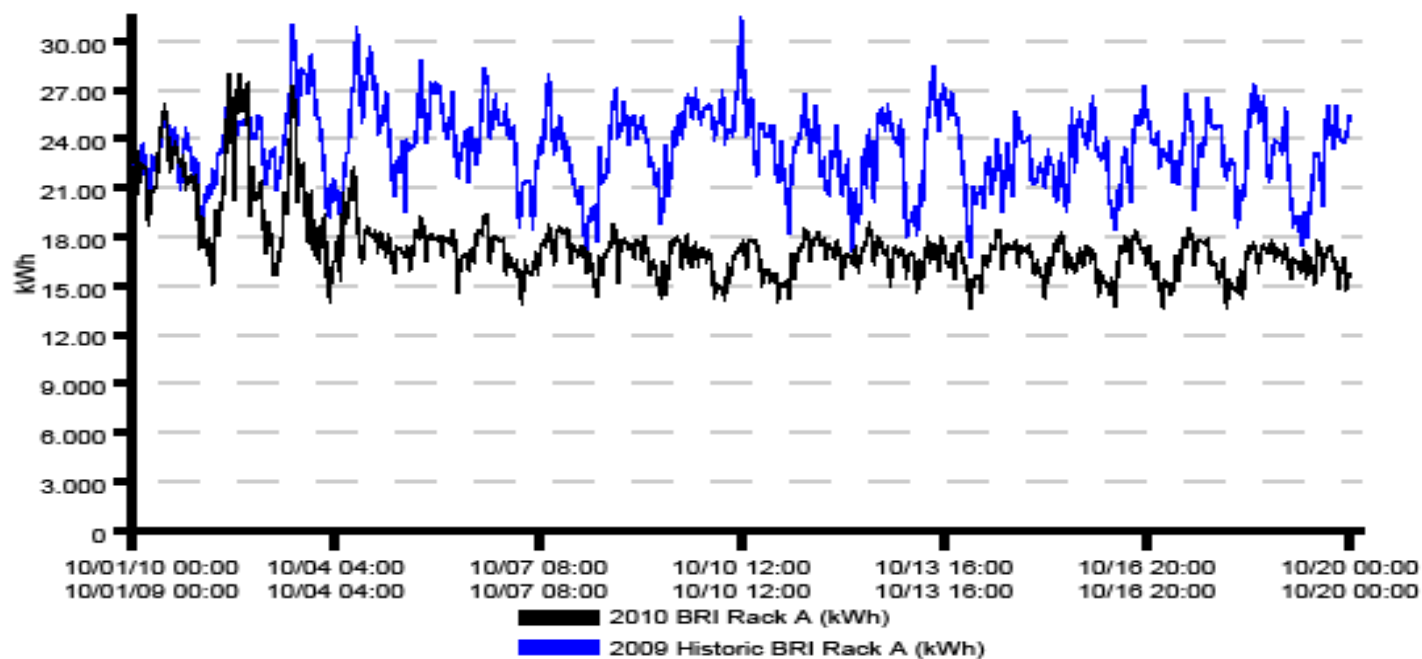
Share your experience...

"Turning off equipment when not in use... [#tips](#)"

Pulse

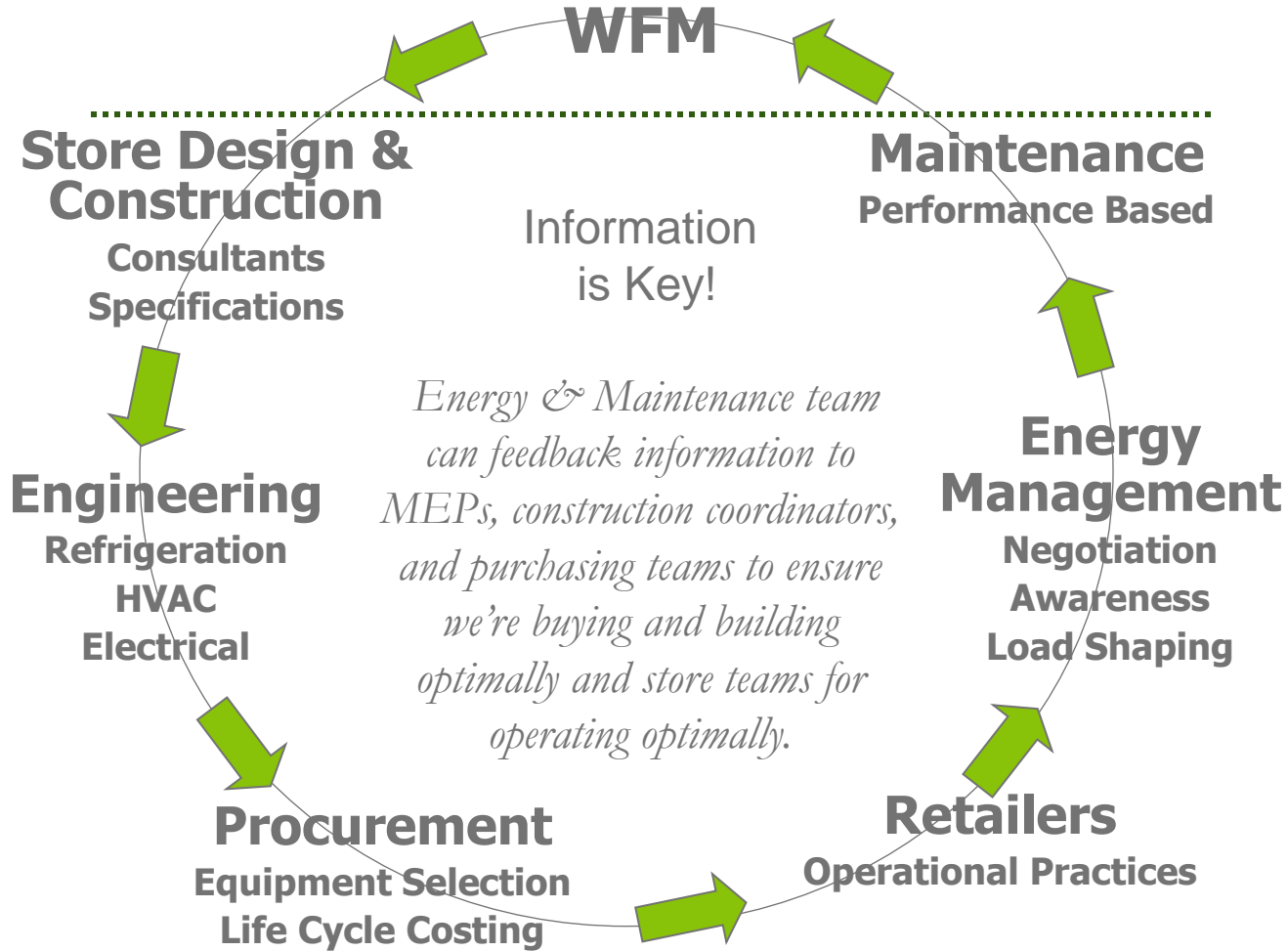
Brighton, MA Whole Foods Market Refrigeration Energy Usage Data:

Load Profile Report



Energy Savings Summary:

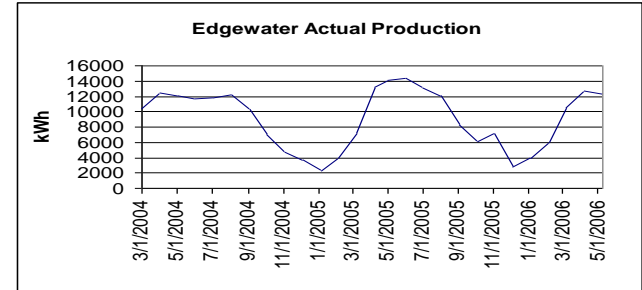
28.4% decrease in kWh usage compared to 2009
77,414 lbs Avoided CO₂ Emissions



Case Study: Edgewater, NJ



- Size: 121 kWdc
– meets about 25% of peak energy needs
- Term: 10 years;
operational since March, 2004
- Since installation, electricity prices have risen from \$0.09/kWh to over \$0.12 per kWh, annual savings have increased \$1,000
- Operations run smoothly, no interruption; total production more than 246,000 kWh
- Savings have risen from a projected 5% to over 20%!
- Communication & Education including Earth Day “solarbration”



We've Been Building Green a Long Time

- We've been at it since 1980; our original store featured a high percentage of "recycled" or second-hand equipment and materials
- We received the first "Green Building" award in Austin in 1998 for the expansion and renovation of our corporate headquarters. Because of the 42% waste reduction, we were profiled by the EPA as a construction waste reduction and recycling case study



What Can We Learn From our Natural Surroundings?

- Waste not, Want not
- Efficiency
- Sense of Place
- Connectivity
- Sustainability



Opportunities for “Green Design”

- Everyone assumes this means green roofs, recycled and reclaimed products that are locally procured, etc.
- Let's first focus on size of systems: height, roof, glazing, lighting, HVAC and downsize electrical service size and steel requirements where possible=resource reduction
- Then incorporate green building techniques
- We consider longer term pay back periods for certain initiatives; we've got a life cycle cost perspective and broaden the IRR analysis to include less tangible benefits, for example team member happiness and excellence (and attraction), other triple bottom line considerations.

Conscious New Development

- Find existing buildings and spaces
- Re-use elements, systems, equipment where feasible
- Strip ceilings and keep structure exposed
- Keep it local (décor, etc.)!



Glastonbury, CT

They love their fuel cell...





GLA requires half the power from the grid of a similar size store; saving 30-40% utility costs
DED may not need any at times!

Fueling Green Power

Whole Foods Market Glastonbury is now able to generate about half of its electricity requirements on-site using UTC Power's fuel cell, which uses an electrochemical process that combines hydrogen and oxygen to produce electricity, heat and water. In traditional power plants, more than half the energy potential goes up the stack as waste heat, but the system at the Glastonbury store turns potential waste heat into usable energy by capturing the exhaust for cooling and heating.

This harnessed exhaust heat will provide heat and hot water year-round and help cool the refrigerated cases in the summer months.

Because the fuel cell operates without combustion, this electricity production is virtually pollution-free. With this installation, Whole Foods Market Glastonbury will prevent the release of more than 90 tons of CO₂ into the atmosphere per year. Additionally, the Glastonbury fuel cell will save 800,000 gallons of water each year that would otherwise be required by conventional electrical generation.



PV Case Study: Edgewater, NJ



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On-site Waste Cooking Oil Generator



Value of Sustainability

- Work with experts-learn from peers
- Pilot some reduction programs; measure savings
- Consider using savings for future reduction program budget allocations in other areas