

# Total Energy Management 101

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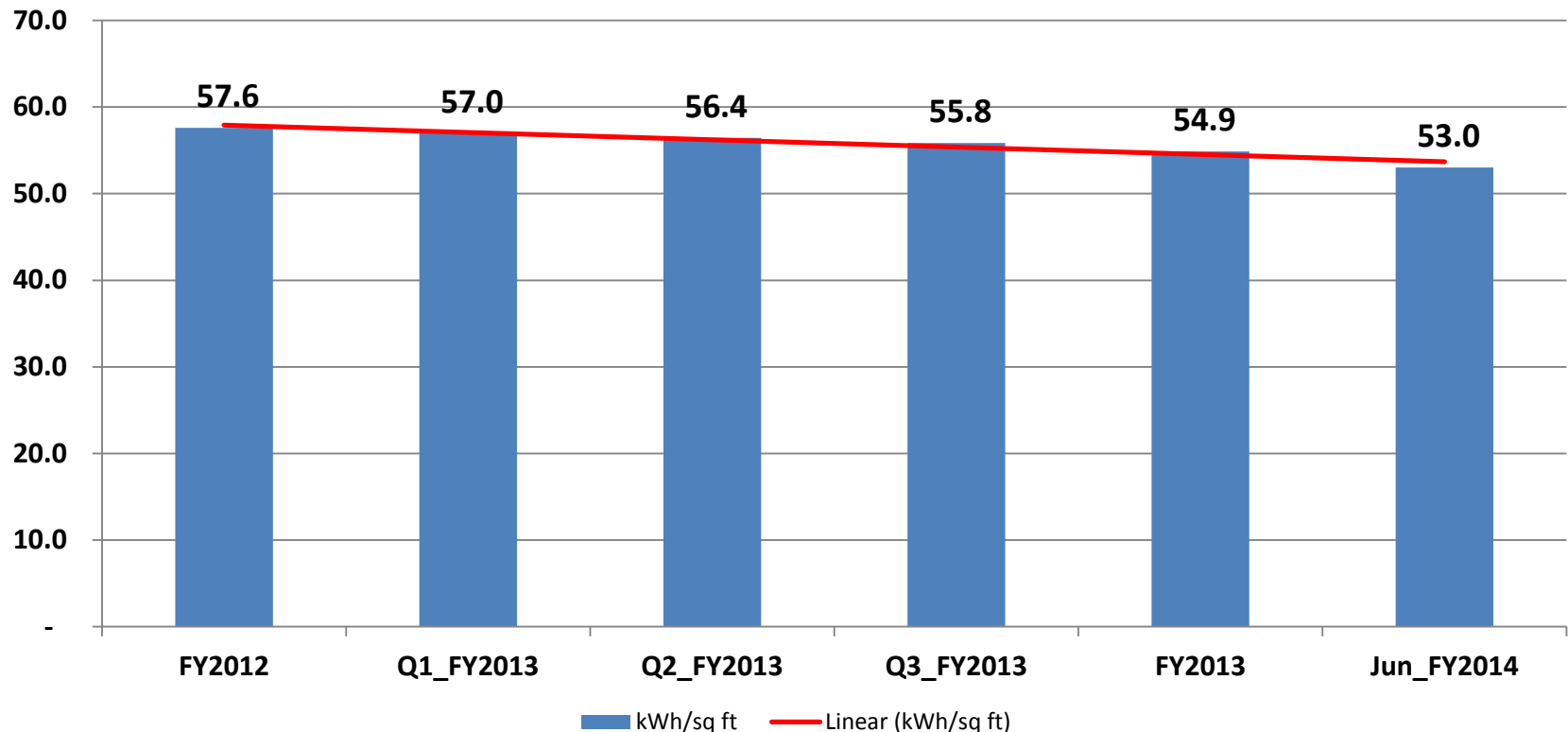
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# Progress toward a clear goal to reduce energy use & costs



**SVT Comp Store Electricity Use Trend (kWh/sq ft)**  
**Annual Savings of 9.1 MWh or \$716K**



# Why are you here today?



- Learn what other medium size grocers are doing to manage their energy use and cost
- Not getting the expected results from our energy program
- Looking to start down the energy management path
- Well down the energy management path and want to learn about other approaches

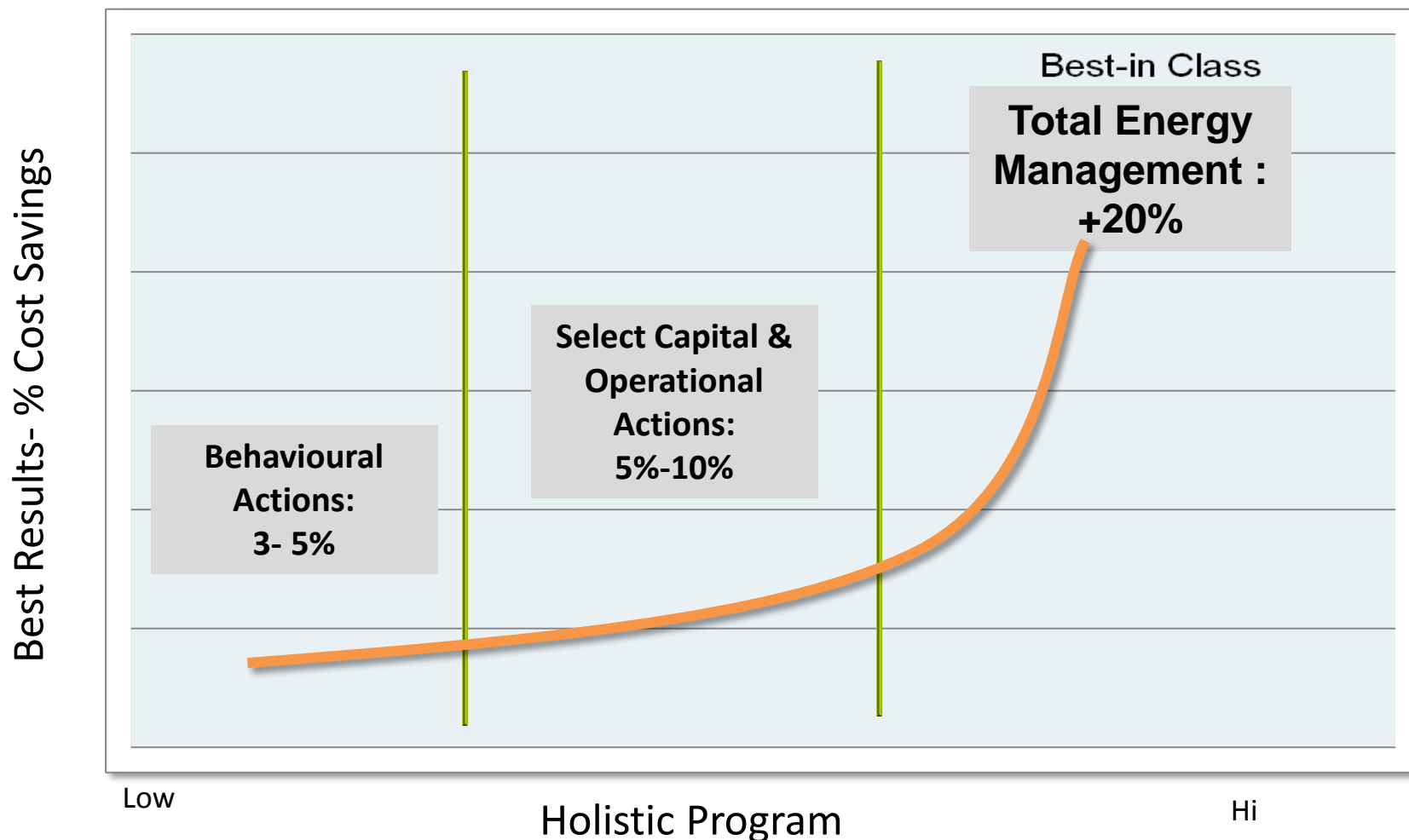
# SVT Challenge

- Range of store age, size & energy efficiency
- Limited internal energy management expertise
- Lots of data – leverage & improve use of existing energy & maintenance software
- Energy is 3<sup>rd</sup> largest operating expense

# SVT Goal

To reduce energy costs and become a market performer in its energy management performance

# An Evolution to Superior Performance



# Total Energy Management –

## right combination, order & timing

Governance	Data & Reporting	Change Management	Commodity Purchasing & Risk Management	Operations & Maintenance	Automation	Efficiency	Sustainability
Corporate Commitment	Utility Bills	Awareness	Utility Rate Optimization	Facility & Equipment SOP's, Contractor SLA's	Building Automation Systems (BAS)	Incentives/3 <sup>rd</sup> Party Financing	Water Management
Performance Goals	Metering, Sub Metering & Sensors	Education	Direct Purchase	Asset Management	Energy Management Information System (EMIS)	Audits, Building Simulations	Waste Management
Policies	Analytics, Benchmarking, KPIs	Training	Distributed Generation, Renewables	Maintenance Dispatching & Work-Flow	Fault Detection & Diagnostics	Re-commissioning	Industry "Green" Standards Certification (e.g. LEED)
Clear accountabilities and responsibilities	Monitoring and Verification	Engagement	Demand Response	Portfolio-Wide Roll-Outs	Facility Performance Dashboard	Retrofits (BAS, Lighting, HVAC)	GHG Reporting, Credit Creation & Trading
<b>Foundational Program Elements</b> <b>Probable Savings 5%+</b>			<b>Cost Savings &amp; Risk Management Program Elements</b> <b>Possible Savings 20 %++</b>				

# 1<sup>st</sup> Step – What are the opportunities?

- Identified actions in 3 areas to reduce energy use & costs:



# 2<sup>nd</sup> Step: Establish Corporate Energy Program Framework

- **Set Goals:** Reduce overall energy use by 10% over 3 years:
  - **Supply**- buy electricity and gas for less
  - **Measure, Track & Benchmark** - make visible across the company through regular reports
  - **Behaviour**- make energy awareness a daily practice
  - **Efficiency**- invest in energy efficiency
- **Assign Responsibilities and Accountability**

# Leverage Data into Actionable Information

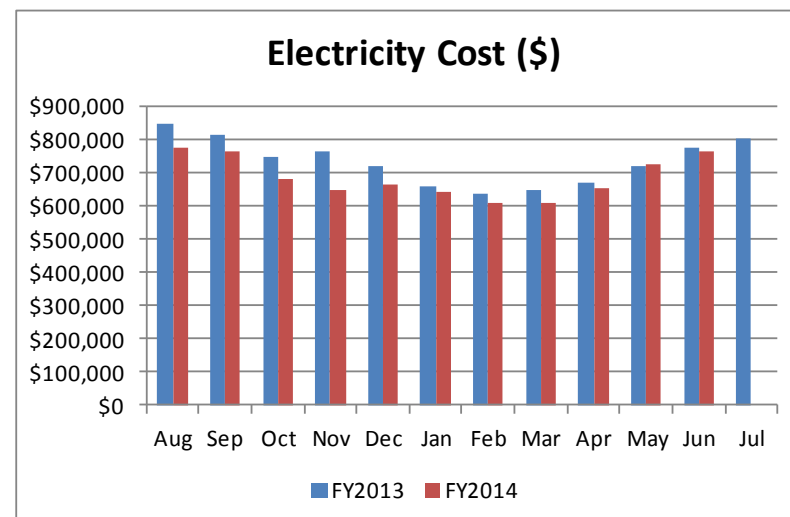
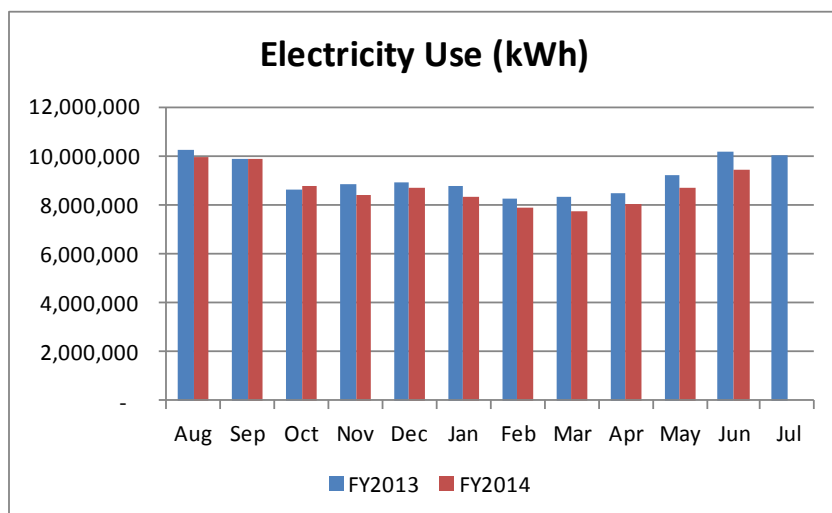


- Monthly Reporting: Executive, District & Store
- Look at changes month to month & year to year
  - Pinpoint anomalies
  - Identify trends (rates, useage)
- Analyze performance outliers (opportunities)

# Keep it Simple – track use, price, and cost.



SVT Electricity											
			FY2013 Jun	FY2014 Jun	Change	% Change		FY2013 YTD Jun	FY2014 YTD Jun	Change	% Change
Consumption	(kWh)		10,127,313	9,446,383	(680,930)	-6.7%		99,631,591	95,722,005	(3,909,586)	-3.9%
Unit Cost	(\$/(kWh))		\$ 0.076	\$ 0.081	\$ 0.005	6.2%		\$ 0.080	\$ 0.079	\$ (0.001)	-1.8%
Cost	(\$)		\$ 773,336	\$ 766,036	\$ (7,300)	-0.9%		\$ 7,998,997	\$ 7,544,348	\$ (454,649)	-5.7%



# Provide Regular Feedback: District Report



<b>District:</b>	<b>Don Erminger</b>					
						<b>Change vs FY2012</b>
<b>Facility</b>	<b>City</b>	<b>Area</b>	<b>FY2012</b>	<b>FY2013</b>	<b>Jun_FY2014</b>	
		(ft2)	(kWh/ft2)	(kWh/ft2)	(kWh/ft2)	(%)
8793	Whiting	33,888	75.0	66.7	65.2	-13.0%
8789	Munster	55,649	64.5	62.8	58.8	-8.8%
8798	East Chicago	44,928	64.5	60.3	59.5	-7.7%
8770	Hammond	63,478	58.6	57.4	54.5	-6.9%
8786	Hammond	63,149	55.4	55.0	55.4	-0.1%
<b>Total</b>		<b>261,092</b>	<b>62.2</b>	<b>59.7</b>	<b>57.9</b>	<b>-6.9%</b>

# Monthly Energy Awareness Report – Tailor to each store



Report Including June 2014 Utility Bills

**Facility** 8793 Strack and Van Til - Whiting



**Ultra Foods**



## Electricity Use

Year-to-date  
Performance -2.4%

Equivalent to powering a home for **54** months

Chicago Area Summer Heat Index: **5.9%** Hotter

## Natural Gas Use

Year-to-date  
Performance 33.2%

Equivalent to heating a home for **247** months

Chicago Area Winter Cold Index: **14.9%** Colder

# 3<sup>rd</sup> Step- Implement the actions



- Pilot to verify and learn
- Measure and review - modify if required
- Roll-out
- Track ongoing results & build into operational practices and standards



Joining forces to make a “Green” Difference!

**Energy Efficiency Saves \$\$!**

The average U.S. Household spends  
\$5,550/yr on energy efficient home  
improvements!

**Improves the Economy!**

**Healthy for our Environment!**

**Enhances Quality of Life!**

**Keep doors closed!**

**Close case doors!**

**Keep products under  
load limits!**

## Our Green Team

*Helping us to reduce enough  
energy to power 1,800 homes.*

**Keep outside air  
out!**

**Turn off monitors!**

**Turn off lights!**



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

# Implementing Store Energy Awareness

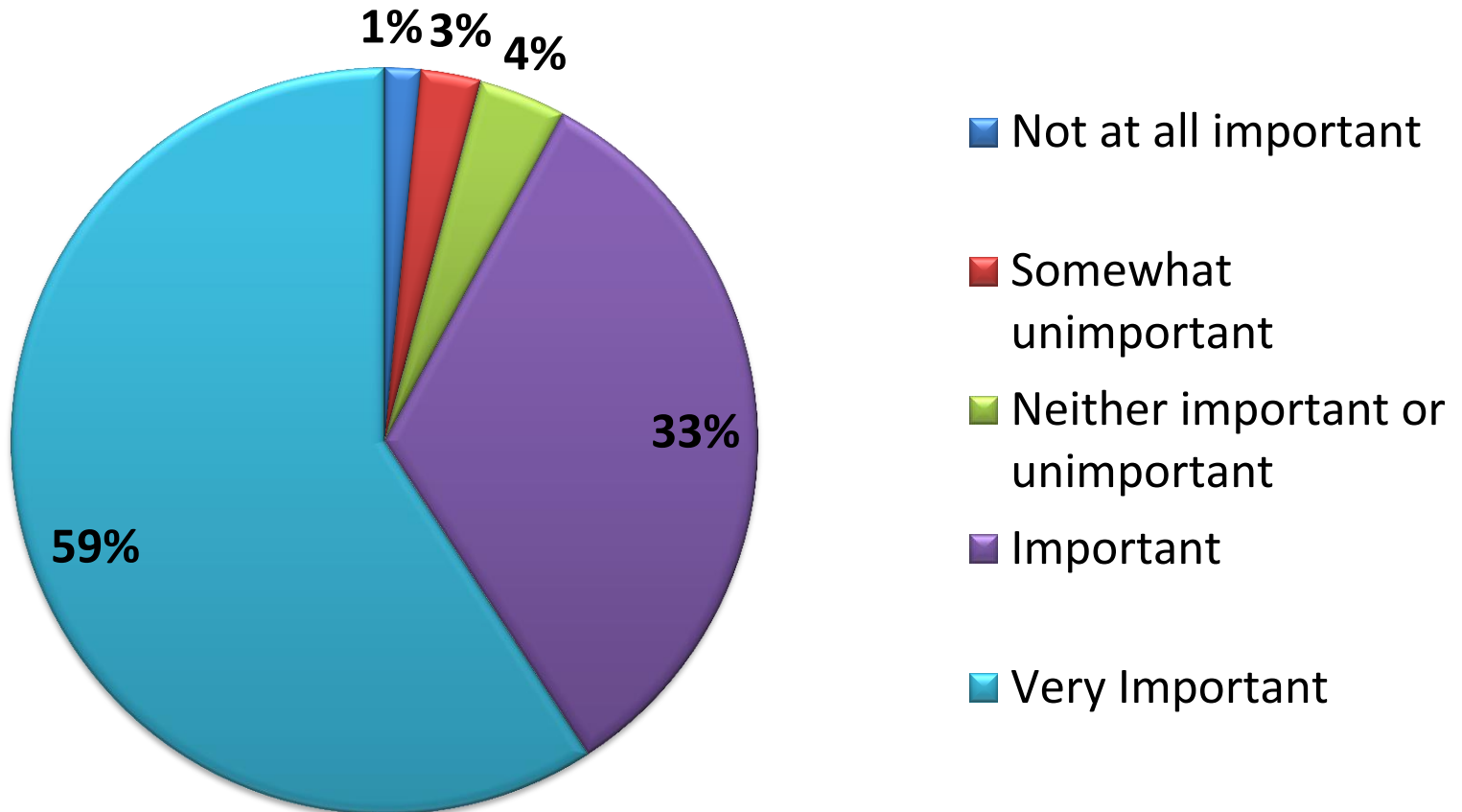


- Survey store teams
- Store Manager commitment
- Training and discussion at store level (standard part of “new hire” training)
- Share performance reporting with associates
- Apply to department daily walk
- Reinforce good behaviors and reward ideas
- Share with customers

# Energy Awareness Survey



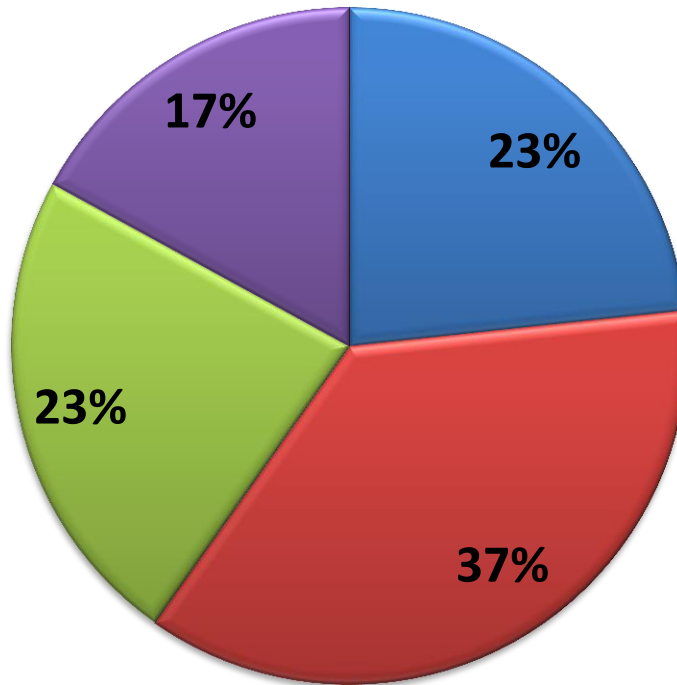
**How important is it to conserve energy at SVT?**



# Energy Awareness Survey



**If you think that conserving energy is important, why do you think it is important? What are the main reasons?**

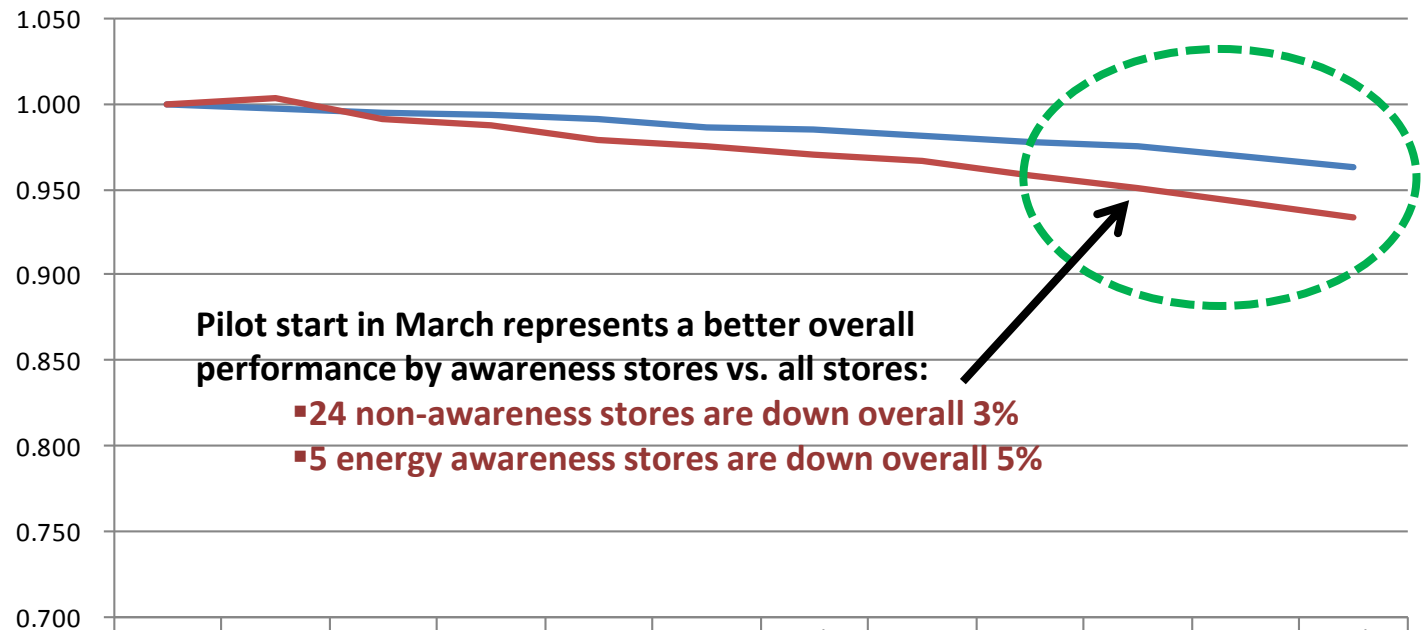


- Environmental protection
- To save money
- It is good practice not to waste anything
- Conserving Energy helps promote a positive image of Strack & Van Til

# Energy Awareness Program Pilot Results



Electricity Use Trend - 12 Month Rolling Average Normalized to August 2012



	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul
24 Non-Awareness Stores	1.000	0.997	0.995	0.994	0.992	0.986	0.985	0.982	0.978	0.975	0.970	0.963
5 Awareness Pilot Stores	1.000	1.003	0.992	0.987	0.979	0.976	0.970	0.967	0.958	0.950	0.942	0.934

— 24 Non-Awareness Stores

— 5 Awareness Pilot Stores

# A “Green Team” in every store



- Store “**Champions**” who will help implement & keep the energy awareness program going in their departments
- Responsible for communications & feedback
- Get everyone in the store involved

# Energy Awareness – Store Ownership is Key



**“Let's all try to save energy whenever and wherever we can. Anything you do to save energy is something that will help cut our costs. If you can pass that along to your associates, it can only multiply in a good, energy saving initiative.**

**Thank you for your support!” A Store Green Team Champion**

# Energy Awareness - Lessons Learned



- Reaching Associates always a challenge
- Deliver regular (fresh) messages and ideas
- Provide specific implementation steps
- Regular follow-up at store level
- Establish cross-store forum

# Energy Efficiency Investments



- Identify measures with acceptable ROI (audit)
- Work with utilities to get incentives
- Begin with a pilot – log progress of each step
- Measure, verify & track results always
- Roll-out financially proven measures to other stores

# Measurement and Verification



- Execute independent (objectively) from vendors
- Establish baseline (weather normalized)
- Use real time energy monitoring to capture results for each measure
- Compare projected savings, measured savings with realized savings (utility bill)

# Efficiency Pilot Results

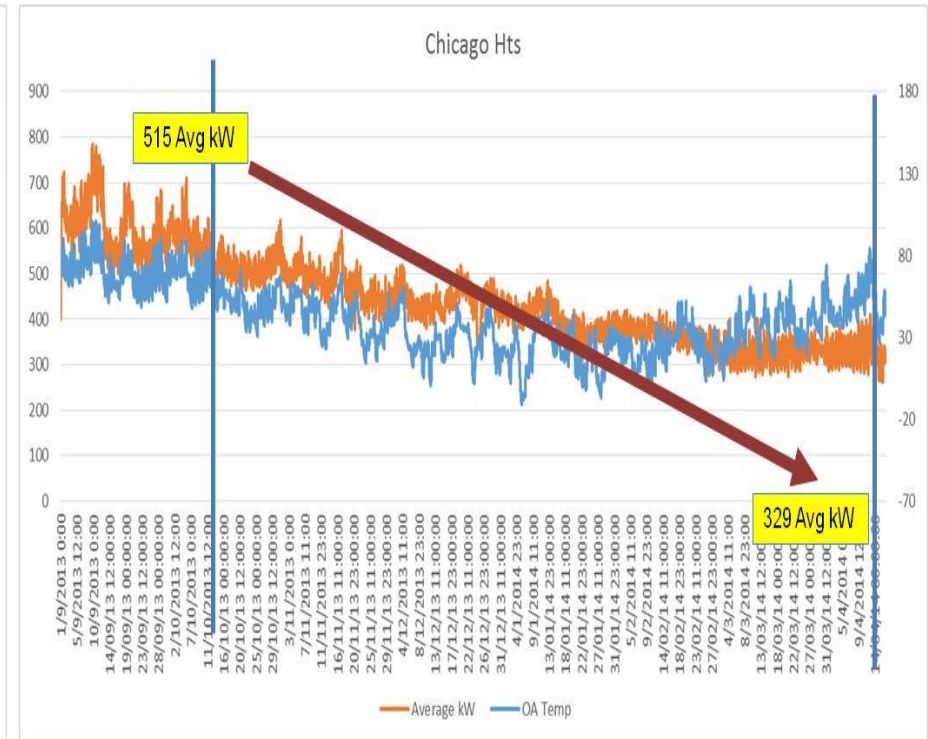
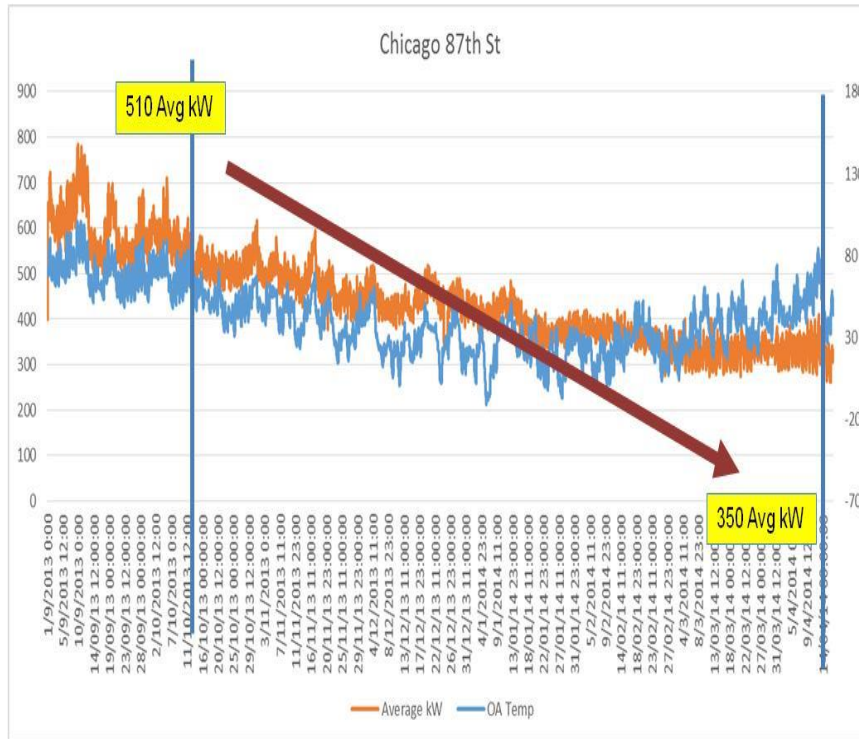
- 2.47 year project payback
- Recovered 35% of costs through incentives
- Validated metered savings against utility bill

# Capture Results Real Time



**Store 1 – 31% Reduction (160kW)**

**Store 2 – 36% Reduction (186kw)**



# Results By Measure

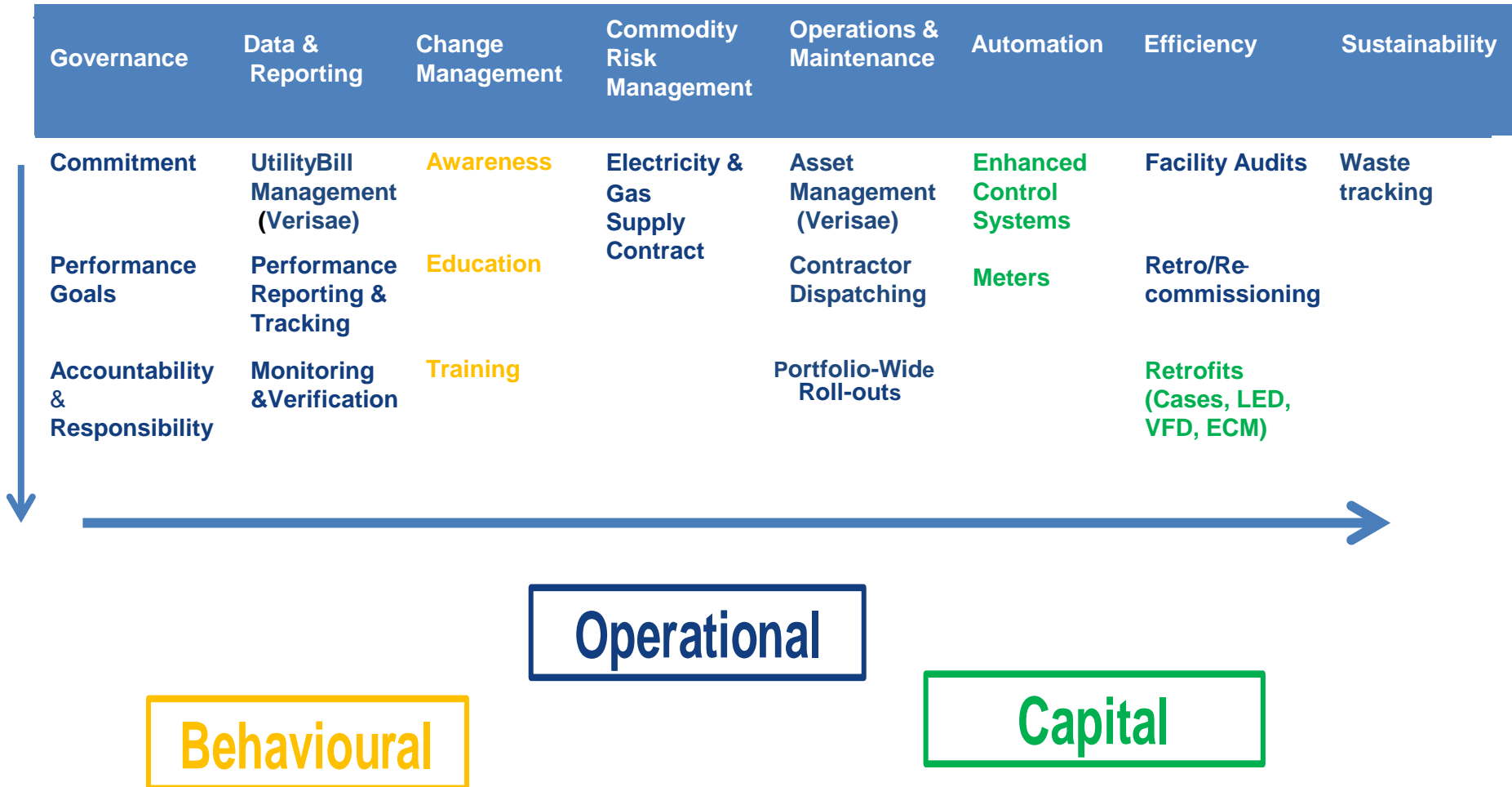
Measure	Simple Payback
Case LED + Night Blinds + EC Motors + Case Doors	1.61
VFD	2.76
Enhanced EMS (Controls)	4.07
Re-Commissioning	1.46

# Efficiency Pilot- Lessons Learned



- Rich incentives available – recovered 35% of costs
- Value of re-commissioning – good payback & protection of investment
- Operational & awareness practices are key – maintain results over time
- Verify & track results independently – objective evidence

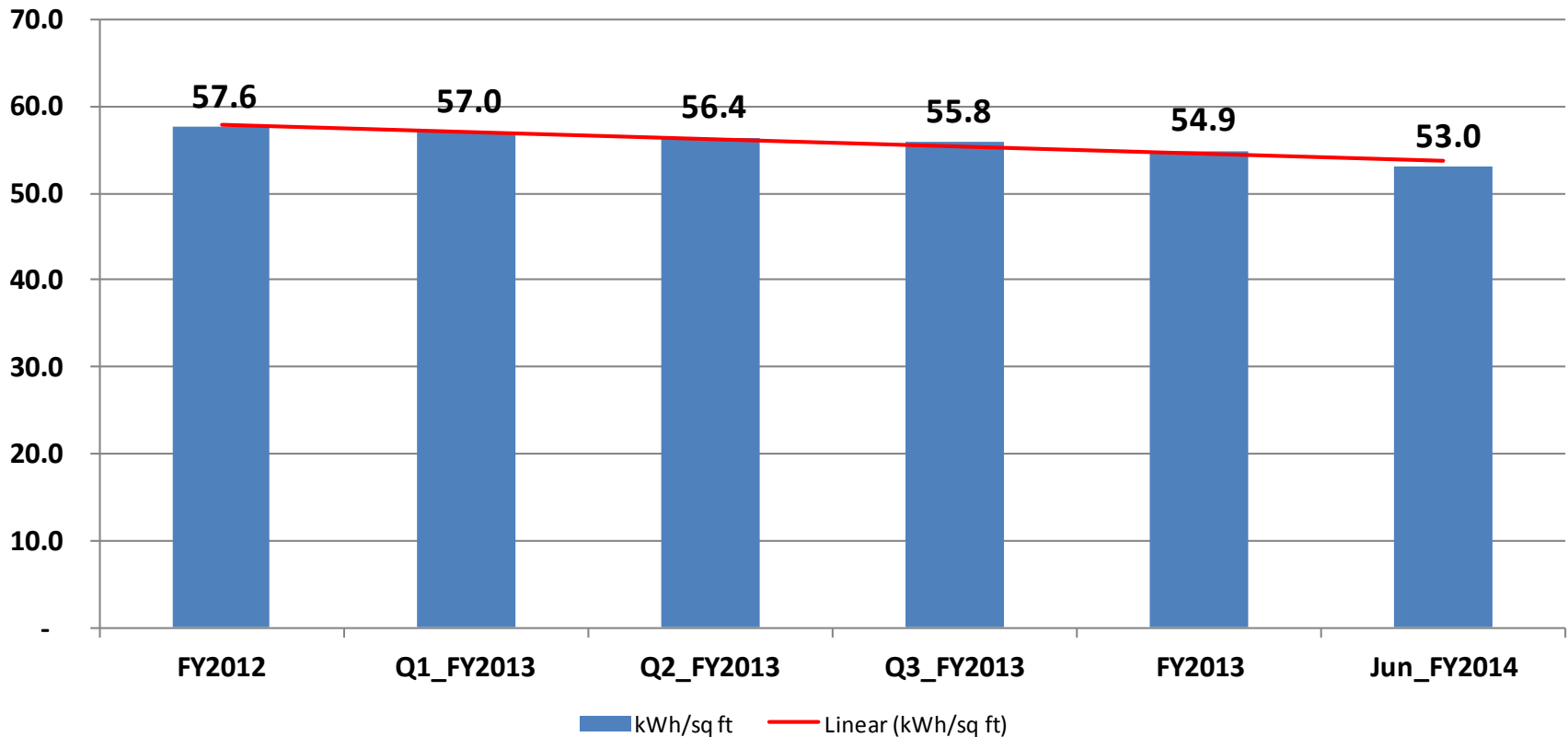
# SVT's Total Energy Management Program



# SVT's progress to date...



**SVT Comp Store Electricity Use Trend (kWh/sq ft)**  
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# It's a Journey...



- The right combination of actions - based on company's goals, situation and a 'holistic' assessment of opportunities
- Set a multi- year target –review overall progress annually & adjust if required
- Get everyone involved - treat like other key store programs
- Measure & review results on a regular basis

# About Energy Advantage



**Energy Advantage is guiding Strack & Van Til's total energy management program with a team including Delta Energy, SINGH 360, JTD Retail Strategies & Verisae.**

Energy Advantage Corp. is an independent energy and sustainability integration services company that helps grocers and other multi-location organizations implement practical and total program solutions which deliver bottom line results to their energy and environmental challenges.

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