



# Top Energy Projects

ENERGY STAR  
Monthly Partner Web Conference  
September 16, 2009

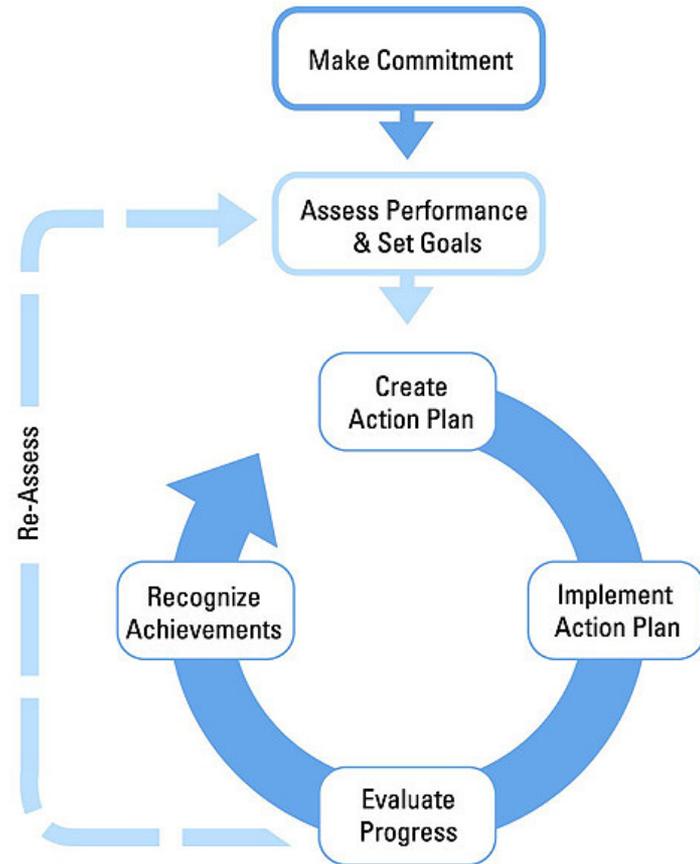


Learn more at [energystar.gov](http://energystar.gov)

# About The Web Conferences



- Monthly
- Topics are structured on a strategic approach to energy management
- Help you continually improve energy performance
- Opportunity to share ideas with others
- Slides are a starting point for discussion
- Open & interactive



# Web Conference Tips

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- Mute – To improve sound quality, all phones will be muted.
- Use # 6 to un-mute and \* 6 – to mute
- Presentation slides will be sent by email to all participants following the web conference.

# Today's Web Conference

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What are ENERGY STAR partners doing to saving energy?

Presenters:

- Kurt Schwalbe – Hanesbrands Inc.
- Carlos Santamaria - Glenborough, LLC
- Discussion
- Announcements

# ENERGY STAR – Monthly Partners Meeting

## Top Energy Projects Energy Management Network

Hbi  
HANES*brands*INC

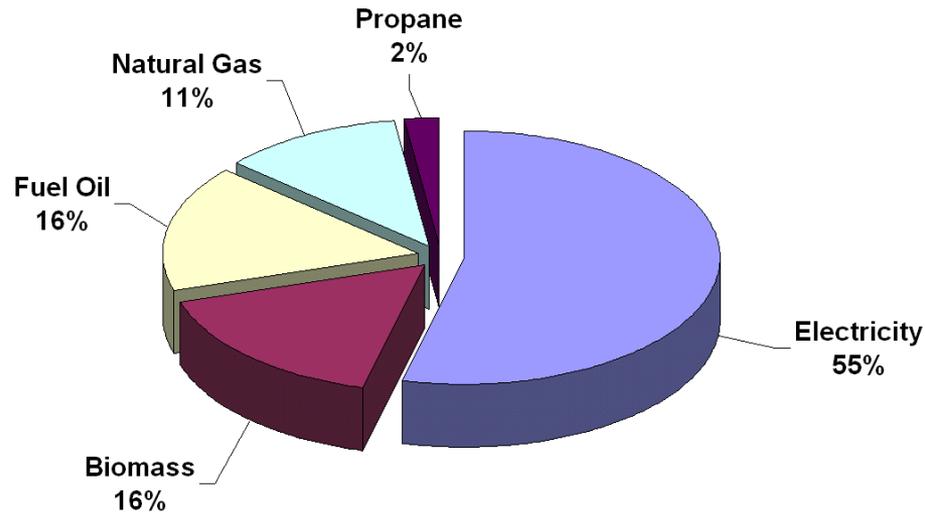


Wednesday, September 16, 2009,  
1:00 p.m. – 2:30 p.m. (Eastern)

Kurt Schwalbe, PE - Hanesbrands Inc.

# Hanesbrands Energy Profile

## Annual Energy Usage Portfolio



## Locations

US Cluster	CA Cluster	CB Cluster	Asia Cluster
9 Manufacturing Plants	2 Manufacturing Plants	3 Manufacturing Plants	1 Manufacturing Plant
12 Distribution Centers	16 Assembly Plants	4 Assembly Plants	6 Assembly Plants
231 Retail Stores	1 Distribution Center		5 Offices
8 Corporate Offices	2 Offices		
<b>260 Locations</b>	<b>21 Locations</b>	<b>7 Locations</b>	<b>12 Locations</b>
<b>14,312,000 Ft<sup>2</sup></b>	<b>4,402,000 Ft<sup>2</sup></b>	<b>1,393,000 Ft<sup>2</sup></b>	<b>1,703,000 Ft<sup>2</sup></b>

# Our Brands



barely there

BALI



Wonderbra



## Other Brands

Airé

Beefy-T

C9

Cacharel

Celebrity

Daisyfresh

J.E. Morgan

One Hanes Place

Rinbros

Ritmo

Sheer Energy

Silk Reflections

Sol

Sol y Oro

Stedman by Hanes

Tagless

Zorba

# Corporate Goals

**Hbl will effectively manage it's global operations to minimize energy consumption, reduce operating costs, and continually reduce emissions to the environment.**

Initiatives:

- Energy management – reduce energy consumption by 15%
- Increase renewable energy resource portfolio to 30%
- Reduce carbon emissions by 15%
- Reduce water use by 10%

# LEAN Methods in Energy Management

## Getting the Right Things Done \*

### •Align Strategies- A3 Strategic Deployment

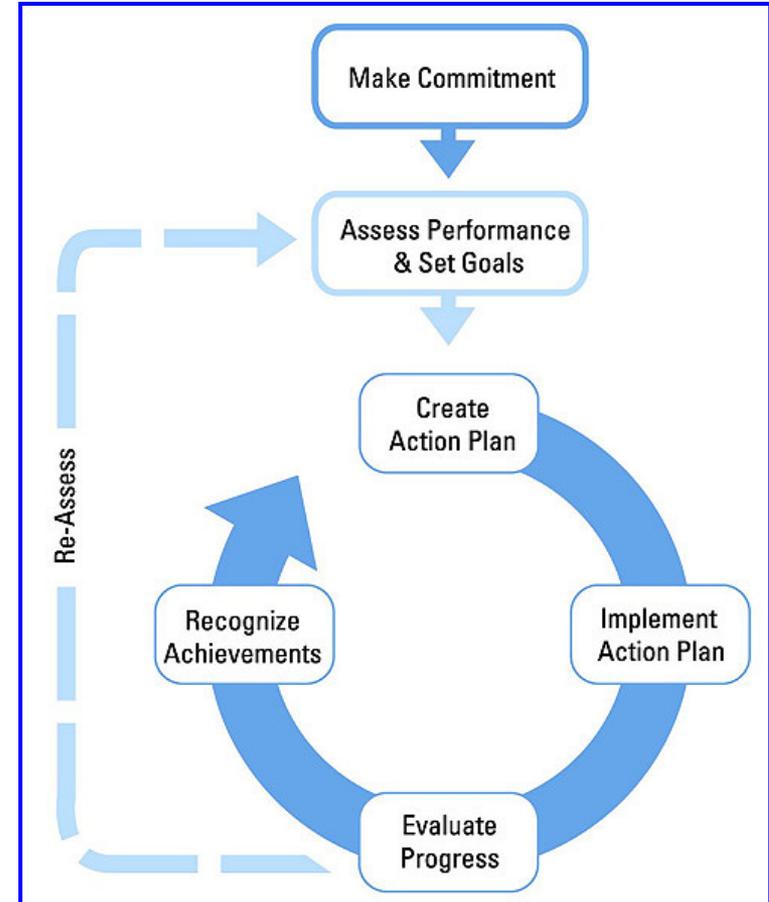
- Establish Corporate Goals and Strategy to Achieve Goals – Mother A3

### •Plant A3's – Aligned with Corporate A3

- Establish Site Specific Strategy to achieve Corporate Goals
- Commitment to Conduct Specific Kaizen Events – GAP Analysis
- Site Projects
- Monthly Tracking

### •Kaizen A3's – Maintain the Gain

- GAP Analysis
- Action Plans
- Implement Plan
- Track Results



\*Book Reference:

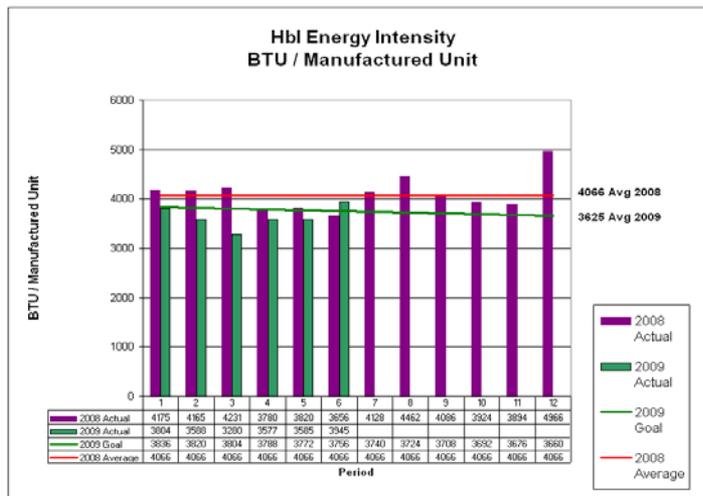
“Getting the Right Things Done”; By Pascal Dennis

A3 Strategy Deployment Credit – Toyota Motor Corporation

<b>A3 - STRATEGIC DEPLOYMENT</b>		<b>OWNER</b>	Schwalbe
<b>VALUE STREAM</b>	Conserve	<b>EXECUTIVE SPONSORS</b>	Evans, Faircloth
<b>STRATEGIC THEME</b>	Spend Less		
<b>HBI VISION</b>	<i>To be a world-class consumer goods company marketing leadership apparel brands with a distinctive competence of operating a low-cost, global supply chain.</i>		
<b>HBI HOSHIN HOSHIN FOR</b>	<i>Sell More, Spend Less, &amp; Generate Cash</i>		
<b>Conserve</b>	<i>Effectively manage a global energy program to minimize energy consumption, reduce operating costs, and continually reduce emissions to the environment.</i>		

**TOP LINE METRIC(S): PERFORMANCE, GAPS, & GOALS**

**REDUCE Hbi's ENERGY USAGE 5% ANNUALLY**



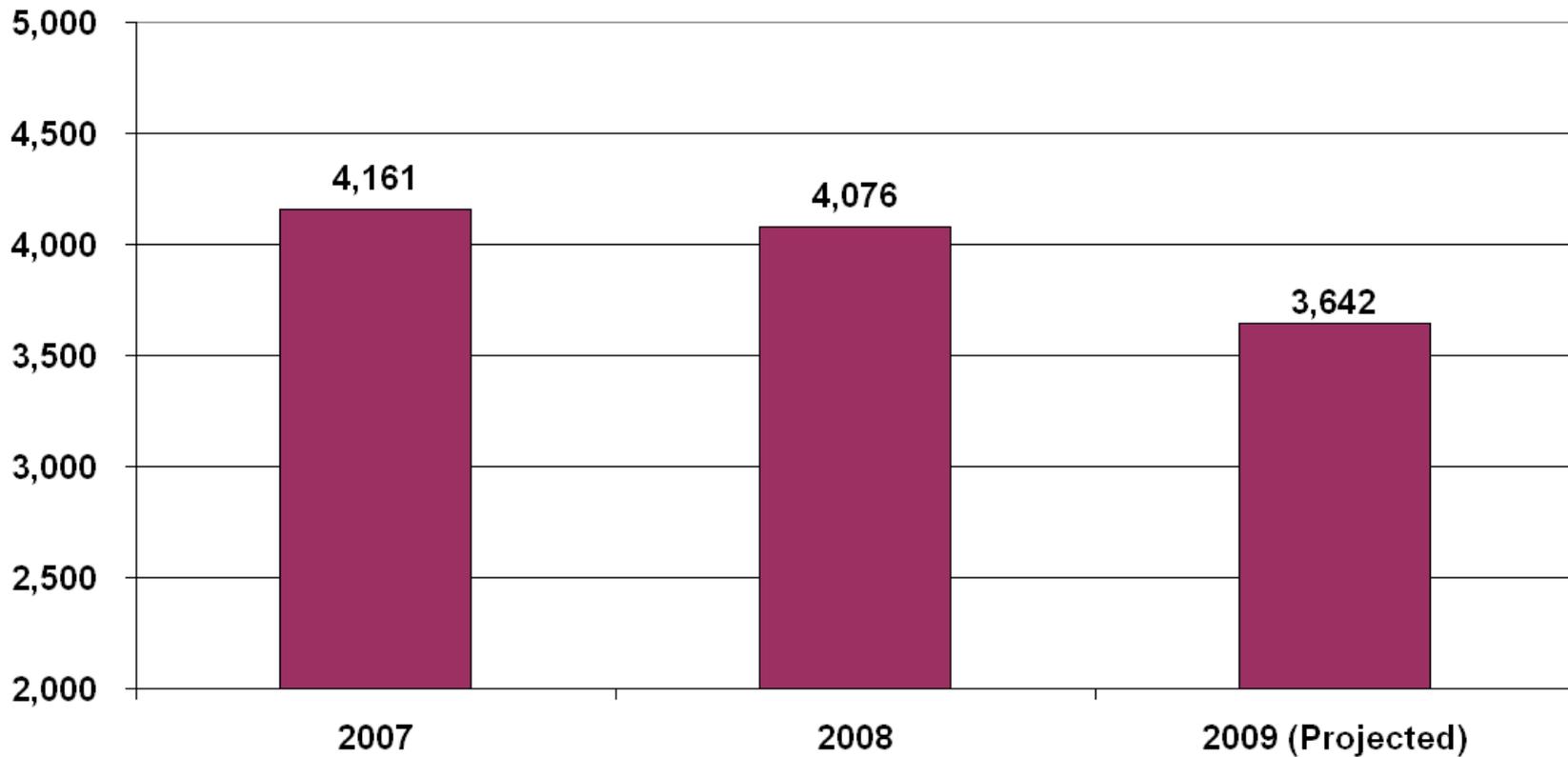
**ROOT CAUSES FOR GAP BETWEEN WHERE WE ARE AND WANT TO BE:**

- 1 Failure to aggressively manage energy consumption as a variable conversion costs.
- 2 Failure to aggressively manage waste streams such as compressed air, water, & steam leaks, etc.
- 3 Limited optimization of utility system operating pressures and temperatures, and limited recovery of waste energy in air and water streams.
- 4 Limited application of new energy efficient technologies.
- 5 Inefficient utility support systems including air conditioning, lighting, compressed air, steam, and water systems



# Hanesbrands Energy Intensity

(Btu / Manufactured Unit)



# Task Lighting w/ Daylight Harvesting

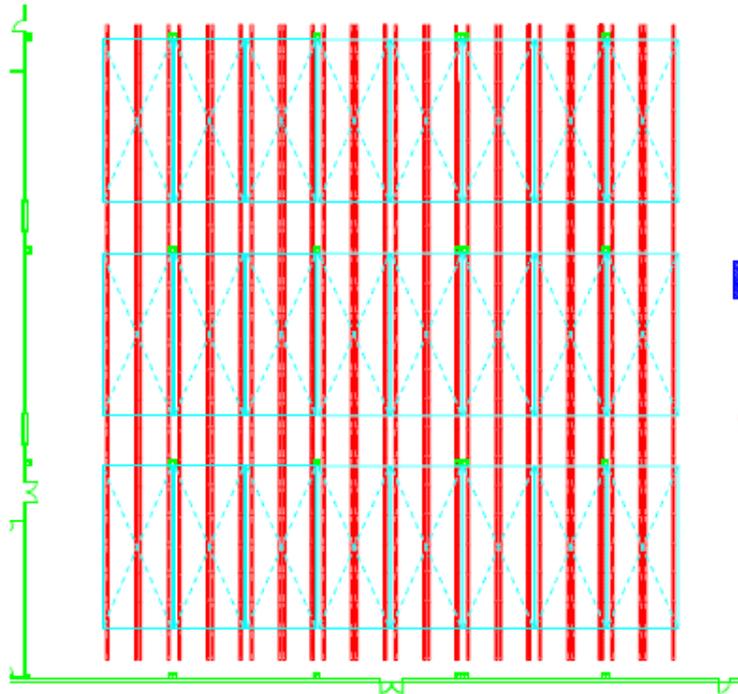


**Standard Design Approach**



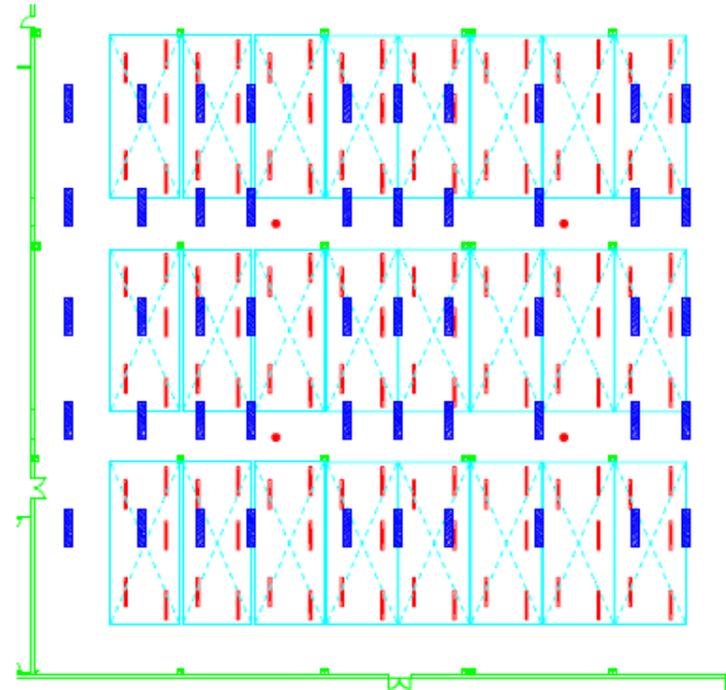
**New Design w/ Task Lighting  
and Daylight Harvesting**

# Lighting Design Concepts



**Standard Design Approach**

- LEGEND
- SKYLIGHT
  - ▬ 8' LIGHT FIXTURE
  - LIGHT SENSOR



**New Design w/ Task Lighting and Daylight Harvesting**

# Lighting Design Comparison

Task Lighting w/ Daylight Harvesting Design Comparison			
System Description	Standard Design	New Design w/ Daylight Harvesting	Energy Reductions Kilowatt-Hours
<b>Manufacturing Area (Sq.Ft.)</b>	195,229	195,229	
<b>Area Lighting</b>			
Number of Fixtures	3,872	660	
Watts/Fixture	110	110	
Annual Operating Hours	8,232	4,459	
Annual Kilowatt Hours	3,506,173	323,723	3,182,450
<b>Task Lighting</b>			
Number of Fixtures	-	4,800	
Watt/Fixture	-	7	
% Utilization	-	6%	
Annual Kilowatt Hours	-	16,596	(16,596)
Installed Watts/Sq.Ft.	2.18	0.54	
<b>Air Conditioning Load</b>			
Air Conditioning Ton-Hours	996,922	96,764	
Air Conditioning Kilowatt-Hours	747,691	72,573	675,118
<b>Annual Kilowatt Hours</b>	<b>4,253,865</b>	<b>412,892</b>	<b>3,840,973</b>

# COMPRESSED AIR MANAGEMENT

# Kaizen Event Area Profile

Event Description:

**Overview of energy usage and investigate energy saving opportunities**

Event dates: 8/26/2009

Preliminary Objectives:

Team to gain better understanding of energy process and science behind the process

Brainstorm energy efficient ideas for current and futures lean events

Evaluate Knitting HVAC Systems for economic mode of operation

Evaluate opportunities for compressed air and vacuum usage

Reduce overall energy usage for next year by 5%

Team Leader Eddie; Co.-Leader Dwian

Team Members: Dwain , Vince ,Boyd , Hugh , Rick, Eddie, Philip , Gwenda , Cathy , Dave and Kevin .

Facilitator Philip

Production Requirements: Maintain current production without disruption due to process changes

Consultant: Dave

Process Information:

Collect data for within the plant and outside the plant in order to get a better understanding of capacity of the equipment

Current Situation and Problems:

Third highest user of energy within North American Hbl Family need to reduce due rising cost and stay competitive in the Market place

# Initial Kaizen Event



Compressed Air Opportunity Identified

# Compressed Air Management

## The Challenge

- Plant Installed Capacity – 3,500 HP (19 rotary screw compressors)
- Over 2,000 Points of Use
- Significant Maintenance Cost
- Wide Spread - Reoccurring Air Leaks
- Lack of an overall “System Approach” to Reduce Compressed Air Cost

# Compressed Air – “System Approach”

Evaluation of Individual Installed Components is Not Enough

- **Supply Side Optimization**

- Reduce Compressor Pressure Set Points and Improve Controls

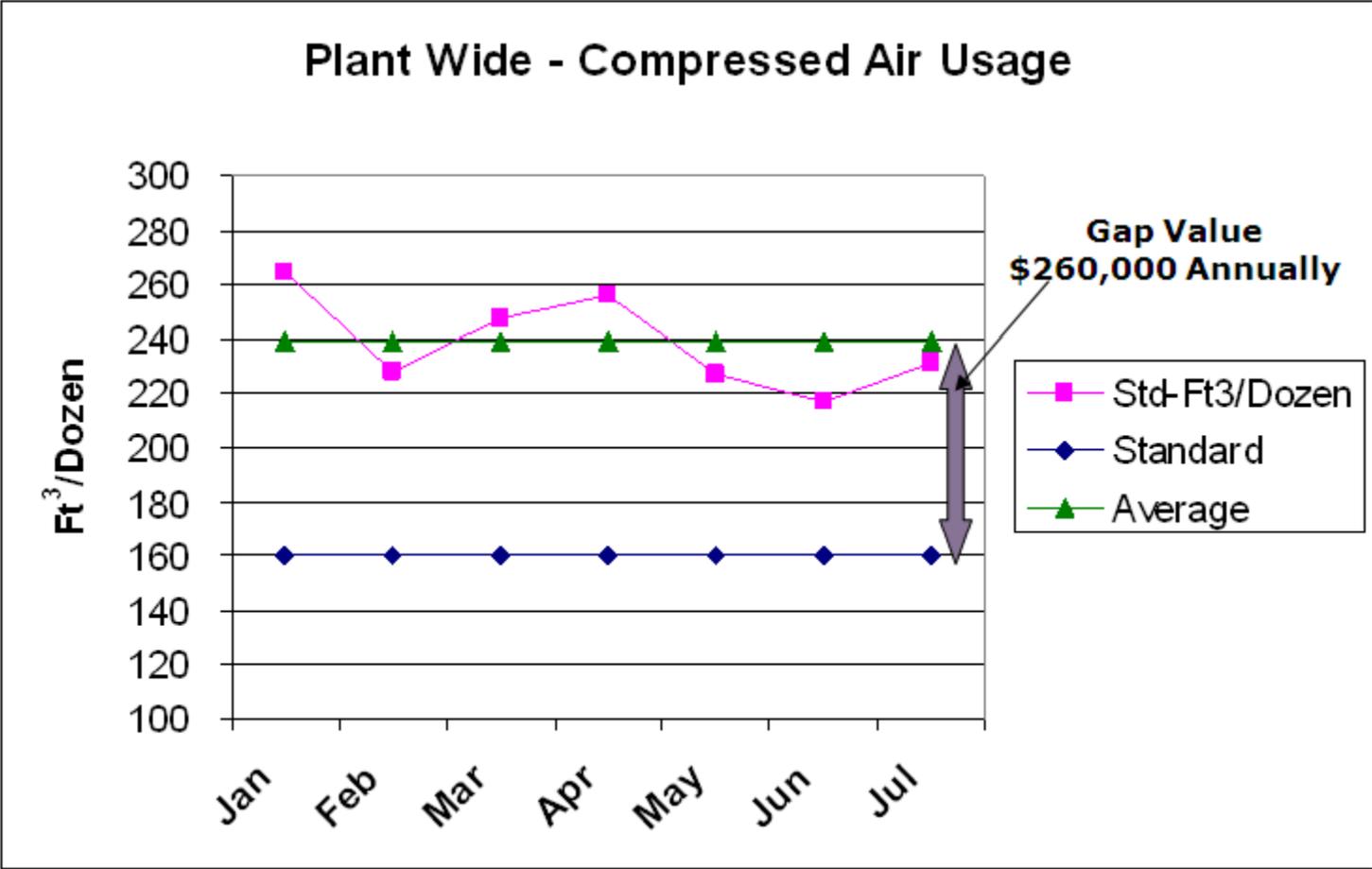
- » Identify and eliminate pressure drop
- » Control all compressors as a system instead of individual compressors
- » Install storage
- » Install metering

- **Demand Side Optimization**

- Manage Air Usage as a Variable Cost of Manufacturing

- » Establish Air Usage Standards – CFM/Unit of Production
- » Allocate Compressed Air Cost to Compressed Air Users
- » Lower Point of Use Pressure – Reduce Pressure Drops
- » Evaluate O-Ring and Seal Materials for Compatibility with Lubricants
- » Quantify Static and Dynamic Air Leaks

# Compressed Air Management



# Compressed Air Kaizen Event Planning

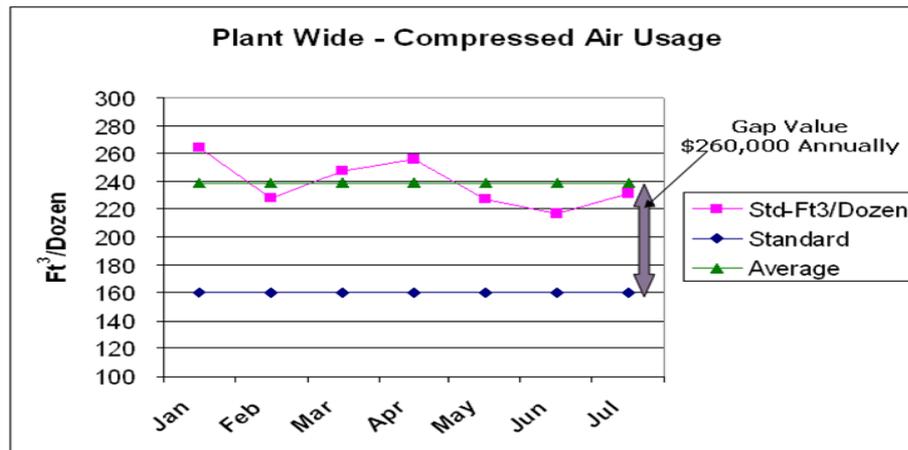
- Define the current situation and why we are doing the event
  - Educate Team on Compressed System and Costs
- Define Goals and Objectives for the event
  - Target is to reduce compressed air system cost 20%
- Collect Energy Baseline Information
  - Meter each compressor's air energy consumption (CFM/BHP)
  - Meter compressed air usage profile (CFM/Department)
  - Establish Machine Compressed Air Usage Standard (CFM/Machine Type; CFM/Unit of Production)
  - Define the GAP (Actual Air Usage Vs Standard Design)

# Compressed Air Kaizen – A3

<b>A3 - STRATEGIC DEPLOYMENT</b>		<b>OWNER</b>	Cathy, Hugh, Philip
<b>VALUE STREAM</b>	<b>PRODUCTION PROCESSES USING COMPRESSED AIR</b>	<b>EXECUTIVE SPONSORS</b>	Kurt
<b>STRATEGIC THEME</b>	<b>SPEND LESS</b>		
<b>OBJECTIVE OF THIS A3</b>	<b>Establish an effective facility-wide system approach to compressed air management to minimize energy consumption, reduce operating costs, and continually reduce emissions to the environment.</b>		
<b>HBI VISION</b>	<i>Our vision is to be the leading apparel essentials company in the world by leveraging both our strong brands and our low-cost, global supply chain.</i>		
<b>HBI HOSHIN</b>	<i>Sell More, Spend Less, &amp; Generate Cash</i>		
<b>HOSHIN FOR THIS A3</b>	<i>Make the Air Count</i>		

## TOP LINE METRIC(S): PERFORMANCE, GAPS, & GOALS

MANAGE TOTAL FACILITY COMPRESSED AIR USAGE TO ALLOWABLE VARIANCE TO STANDARD



### ROOT CAUSES FOR GAP BETWEEN WHERE WE ARE AND WANT TO BE:

- 1 Inability to consistently manage compressed air consumption as a variable conversion costs.
- 2 Lack of focus on managing compressed air waste.
- 3 Limited communication, education, training, understanding and facility-wide involvement.
- 4 Lack of accurate data collection from the standpoint of energy metering and compressed air flow metering.
- 5

STRATEGIC THEMES	STRATEGIC INITIATIVES & ACTIONS	KPI / BENEFITS	RESPONSIBLE	2010												% STATUS / NEXT STEPS		
				A	M	J	J	A	S	O	N	D	J	F	M		A	
<b>Define the Gap -</b> Define and understand the current state of compressed air usage and define the gap between current state and the standard compressed air usage.  <b>LEADER:</b> Energy Coordinator	Develop One-line flow diagram of existing compressed air system and define supply volumes.	Develop one-line diagram	Hugh Smith	A	M	J	J	A	S	O	N	D	J	F	M	A	0%	Visit plant, sketch piping and compressed air system
	Inventory and log power consumption of all air compressors in the system	collect data and build spreadsheet of usage	Hugh Smith, Plant engineer, and Plant Electrician	A	M	J	J	A	S	O	N	D	J	F	M	A	5%	Visit plant, sketch piping and compressed air system; take amp and volt readings
	Measure Plant-Wide departmental usage profile reflect current state. Identify locations for and install meters.	install meters, develop pie chart of dept usage	Hugh Smith, Plant engineer, and Plant Electrician	A	M	J	J	A	S	O	N	D	J	F	M	A	5%	Identify metering requirements, obtain and install metering
	Measure compressed air usage and set standard usage for various machine types through portable metering.	develop optimum usage by machine type	Knitting Dept Technicians	A	M	J	J	A	S	O	N	D	J	F	M	A	0%	Use portable meter to determine compressed air usage by machine type and style family
	Define departmental compressed air usage gaps between current state and standard	develop key user list and gap	Energy Coordinator	A	M	J	J	A	S	O	N	D	J	F	M	A	0%	Quantify data
	Quantify departmental gap value (\$).	identify total \$ opportunity	Energy Coordinator	A	M	J	J	A	S	O	N	D	J	F	M	A	0%	Quantify data
				A	M	J	J	A	S	O	N	D	J	F	M	A	0%	

Target(s): Set the foundation of facility wide compressed air management program - understand true/actual usage and develop aligning standards accordingly.

STRATEGIC THEMES	STRATEGIC INITIATIVES & ACTIONS	KPI / BENEFITS	RESPONSIBLE	2010												% STATUS / NEXT STEPS		
				A	M	J	J	A	S	O	N	D	J <th>F</th> <th>M</th> <th>A</th>	F	M		A	
<b>Optimize Supply -</b> Optimize compressed air generation and distribution system to deliver low cost air.  <b>LEADER:</b> Energy Coordinator	Analyze existing compressed air generation capacity and identify opportunities for optimization - equipment and configuration.	Review One-line flow diagram and data	Facility Engineering Dept. & Third party consultant	A	M	J	J	A	S	O	N	D	J	F	M	A	0%	Create one-line flow diagram
	Evaluate method of compressed air supply system controls and identify opportunities for optimization -	Evaluate and observe air compressor operations	Facility Engineering Dept. & Plant Engineer	A	M	J	J	A	S	O	N	D	J	F	M	A	0%	Create one-line flow diagram
	Analyze existing compressed air distribution piping system and identify opportunities for optimization - pipe system, pressure drops, storage.	Review One-line flow diagram and data	Facility Engineering Dept. & Third party consultant	A	M	J	J	A	S	O	N	D	J	F	M	A	0%	Create one-line flow diagram
				A	M	J	J	A	S	O	N	D	J	F	M	A	0%	
				A	M	J	J	A	S	O	N	D	J	F	M	A	0%	
				A	M	J	J	A	S	O	N	D	J	F	M	A	0%	
				A	M	J	J	A	S	O	N	D	J	F	M	A	0%	
				A	M	J	J	A	S	O	N	D	J	F	M	A	0%	

Target(s): Total facility involvement

STRATEGIC THEMES	STRATEGIC INITIATIVES & ACTIONS	KPI / BENEFITS	RESPONSIBLE	2010												% STATUS / NEXT STEPS		
				A	M	J <th>J</th> <th>A</th> <th>S</th> <th>O</th> <th>N</th> <th>D</th> <th>J<th>F</th><th>M</th><th>A</th> </th>	J	A	S	O	N	D	J <th>F</th> <th>M</th> <th>A</th>	F	M		A	
<b>Optimize Demand -</b> Actively manage and optimize compressed air usage and waste within the facility  <b>LEADER:</b> Plant Manager, Energy Coordinator, Department Managers	Establish standards for each department and develop key performance indicator metric's (KPI)	Spreadsheet report of compressed air standard	Kaizen Team Members	A	M	J	J	A	S	O	N	D	J	F	M	A	0%	Measure machine types under optimum conditions
	Measure and manage compressed air usage against established metric's	Report of meter Readings	Dept Mgrs	A	M	J	J	A	S	O	N	D	J	F	M	A	0%	Develop reporting on the mother energy A3
	Conduct kaizen events throughout the plant to focus on compressed air opportunities	Kaizen Event	Dept Mgrs	A	M	J	J	A	S	O	N	D	J	F	M	A	0%	Conduct Kaizen Event on Compressed air
	Actively manage leaks and compressed air waste.	Repair Leaks	Maintenance Departments	A	M	J	J	A	S	O	N	D	J	F	M	A	0%	Repair leaks as they are identified
				A	M	J	J	A	S	O	N	D	J	F	M	A	0%	
				A	M	J	J	A	S	O	N	D	J	F	M	A	0%	

Thanks!

Questions?

# Glenborough, LLC

## Company Overview

Glenborough, LLC has over 30 years of experience in the real estate investment and management industry.

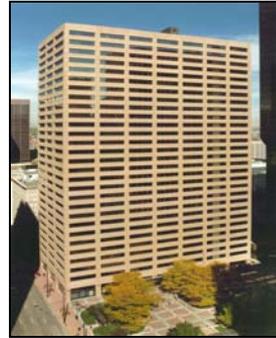
Our focus is on acquiring, managing, leasing and developing high-quality office properties.

Our primary investment markets are in Northern California, Southern California, Denver and Washington, D.C., with over \$2.5 billion of assets under management.

# Company Overview



**La Jolla, CA**  
**Energy Star Score 100”**



**Denver, CO**  
**Energy Star Score “89”**



**Los Angeles, CA**  
**Energy Star Score “84”**



**Washington, DC**  
**Energy Star Score “80”**



**San Bernardino, CA**  
**Energy Star Score “94”**



**San Francisco, CA**  
**Energy Star Score “92”**

# Presenter's Bio

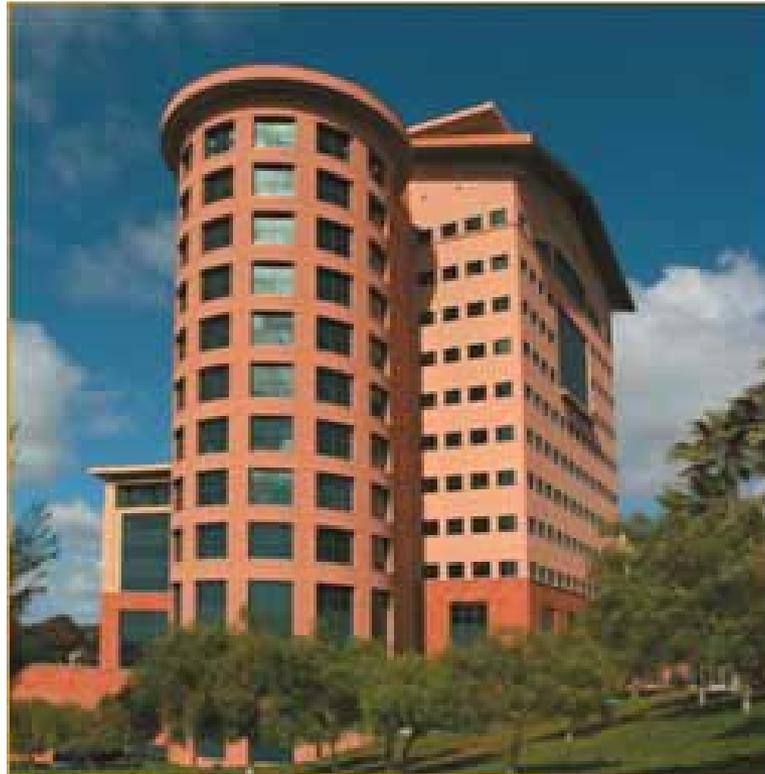
**Carlos Santamaria** is Glenborough's Director of Engineering, a position he has held since 2003.

Mr. Santamaria co-chairs Glenborough's Sustainability program and provides technical assistance and direction for all of its properties nation wide. He is an active member with both BOMA International and Realcomm educational programs, a 2009 International Advisory Council member for Realcomm and is a Subcommittee Member with the DOE's Commercial Real Estate Energy Alliance.

# Energy Management & Sustainability Goals and Objectives

1. Ongoing Partnership with EPA Programs
2. Meet BOMA 7-Point Challenge in Reducing Energy Consumption Portfolio Wide by 30%
3. Implement Sustainability Best Mgt Practices
4. Research & Use Next Generation Technologies
5. Lead Industry in Operational Excellence
6. Obtain ENERGY STAR Partner of Year Award

# Top Energy Project Aventine Building Upgrade



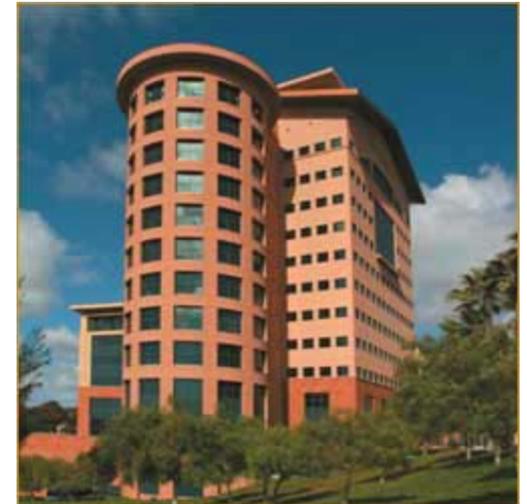
# Top Energy Project Aventine Building Upgrade

Glenborough is proud to share its **Top Energy Project**. This “Upgrade” proves that even an existing building with a ENERGY STAR Score of 84 can improve energy performance and savings. Whether you have a newer building and or an existing building with a “above 80” ENERGY STAR Score, several Energy Cost Saving Opportunities exist!



# The Aventine Upgrade

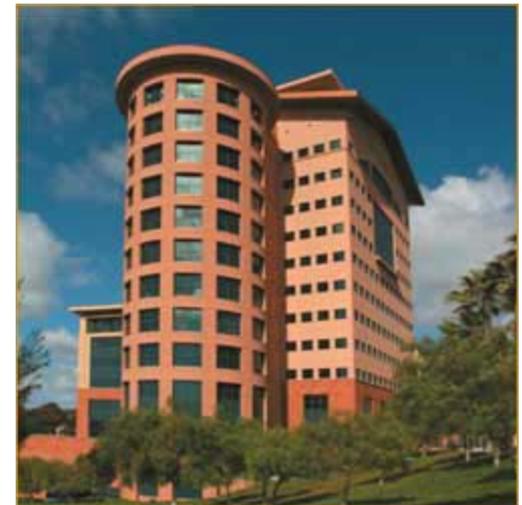
- La Jolla California
- Class-A Office Building
- Built in 1990 – **20 Years Old**
- Approximately 252,957 Sq.Ft.
- 2006 EPA ENERGY STAR Rating 84
- 2006 Electrical Cost at \$2.90 \$per/Sq.Ft.



# The Aventine Upgrade

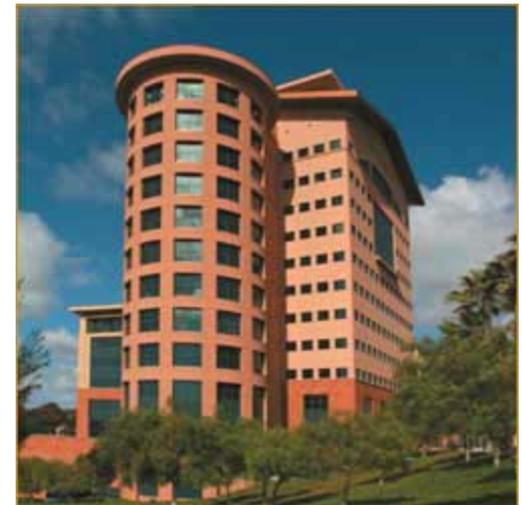
## What Was Done Prior to the Upgrade

- Enrolled in Utility Data Mining Service
- Enrolled in Portfolio Manager
- Conducted Energy PH I & II Audit



# The Aventine Upgrade

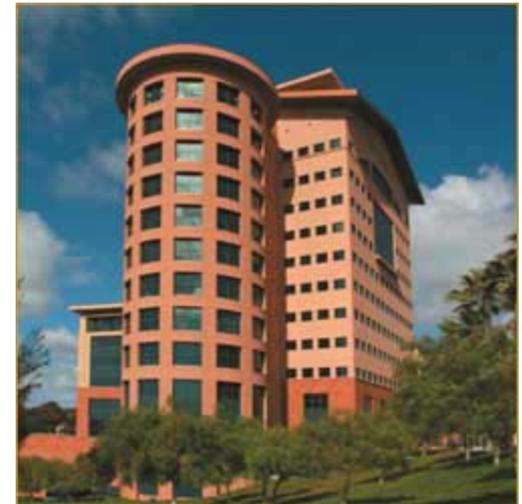
- What Was Done *continued* & What was **Needed** ?
  1. Phase I Action Plan
  2. Upgrade All Lighting at Complex
  3. Install Sensors, Fan & CT VFD's, Smart Irrigation Control, etc.
  4. **Major Chiller Plant Upgrade Needed!**



# The Aventine Upgrade

## What Was Needed

Next Generation  
Technologies



# Initial Value Proposition

## Payback & ROI Calculators

HANDOUT #3



Glenborough LLC  
 Capital budgeting—(ROI) analysis - Example  
 January 1, 2010

Your Building Investment overview		
Project name:	YOUR BUILDING HERE - ANYWHERE USA	
Project contact:	Your Name Here	
Date of request:	June 1, 2009	
General description of project: Upgrade existing equipment with latest Next Generation Technology		
Assumptions		
Initial Investment	\$ 455,000	Yr 0
Annual Energy Cost savings	\$ 118,035	Yr 1
Ongoing Support Costs	\$ 3,990	Yr 2
Rebate	\$ 155,991	Yr 0
Net installed cost of equipment less for energy + rebates	\$ 296,014	Yr 0
General Inflation Rate	3.0%	
Cost of capital	11.75%	
Cap Rate	8.5%	

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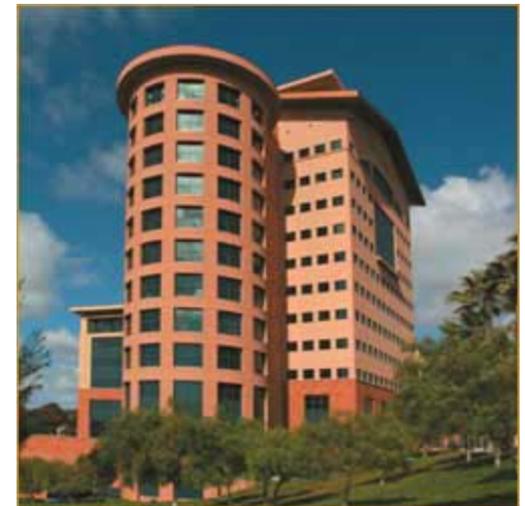


Cash flow and ROI statement	YEAR										
	0	1	2	3	4	5	6	7	8	9	10
<b>BENEFIT DRIVERS</b>											
Financial Benefits:											
Reduced energy cost due to efficiency		118,035	118,035	121,909	124,957	128,001	131,203	134,565	137,929	141,377	144,912
Reduced labor cost - automated system											
Extended equipment life											
Reduced maintenance											
Fewer defects, resulting in less rebo cost/controlling											
Carbon Credits											
Increase share value if public company- GREEN											
<b>Total annual benefits</b>		\$118,035	\$118,035	\$121,909	\$124,957	\$128,001	\$131,203	\$134,565	\$137,929	\$141,377	\$144,912
Implementation Fee (Start)											
<b>Total benefits realized</b>		\$118,035	\$118,035	\$121,909	\$124,957	\$128,001	\$131,203	\$134,565	\$137,929	\$141,377	\$144,912
<b>Costs</b>											
Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	
Total	\$256,037	\$0	\$3,600	\$3,708	\$3,816	\$3,924	\$4,032	\$4,173	\$4,299	\$4,420	\$4,560
<b>Benefits</b>											
Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	
Annual benefit flow	\$118,035	\$118,035	\$121,909	\$124,957	\$128,001	\$131,203	\$134,565	\$137,929	\$141,377	\$144,912	
Cumulative benefit flow	(256,037)	(142,654)	(20,745)	(16,458)	11,178	23,626	38,057	48,489	57,079	64,950	72,112
<b>Discounted benefit flow</b>											
Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	
Discounted costs	\$256,037	\$0	\$2,583	\$2,457	\$2,449	\$2,357	\$2,000	\$1,918	\$1,767	\$1,629	\$1,501
Discounted benefits	0	103,834	85,240	87,358	82,125	73,493	67,410	61,030	55,712	50,269	47,712
<b>Total discounted benefit flow</b>	(256,037)	(152,834)	(67,594)	(6,143)	77,676	70,722	58,329	48,912	41,945	35,211	29,211
<b>Total cumulative discounted benefit flow</b>											
Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	
Total costs	\$256,037	\$0	\$3,600	\$3,708	\$3,816	\$3,924	\$4,032	\$4,173	\$4,299	\$4,420	\$4,560
<b>ROI measure</b>											
IRR ( hurdle Rate)	31.4%										
Net present value	\$347,558										
Return on Investment	32.3%										
Payback (in years)	3.08										
Increase in Building Value per assumed Cap Rate	\$ 5,347,642										
Additional Contribution by XYZ Tenant	\$ 31,988										
Adjusted Payback (in years) after contribution	2.82										

# The Aventine Upgrade

## Opportunity knocks

*“Prior to this chiller upgrade, the building had a tenant not renew its lease as originally planned. Approximately 75-100k in loss revenue was in front of us in 2008. By reducing utility expenses equal to this loss of tenant revenue, the project accomplished two important goals. 1) Revenue recovery & 2) increased NOI.*”

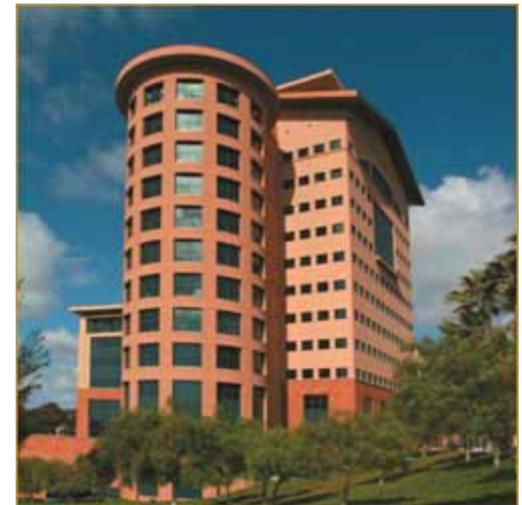


# The Aventine Upgrade

- **Evaluating ALL New Technologies for Major Chiller Plant Upgrade**

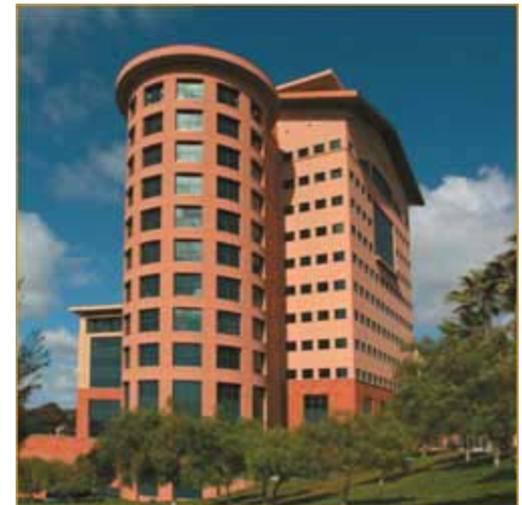
## Develop Base Criteria

1. Overall Plant Efficiency < .5kw/ton
2. "Proven" Technology That will Last
3. Measurement Tool Going Forward to Provide Quantitative Data



# The Aventine Upgrade

- When Deciding on Using Next Generation Technologies
  1. Proven Savings Results
  2. Quantifiable Means to Measure Ongoing Performance
  3. Ability to be Implemented Quickly



# The Aventine Upgrade

- Using Next Generation Technologies

Glenborough Installs **Optimum Energy's** Software Solution /  
**"OptimumLOOP"**

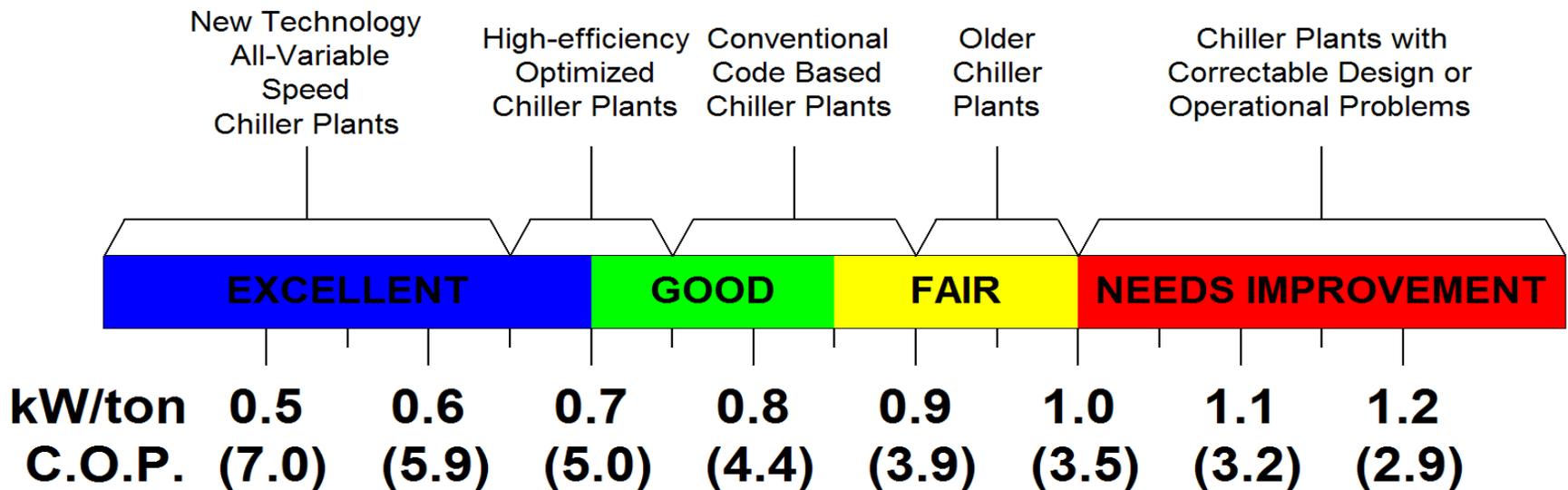
-From a 1.2 KW/per/ton Plant Efficiency

-To a < .50 - .60 KW/per/ton Plant Efficiency

- Patented Optimization Algorithms



# The Aventine Chiller Plant .50-.60/kW/ton



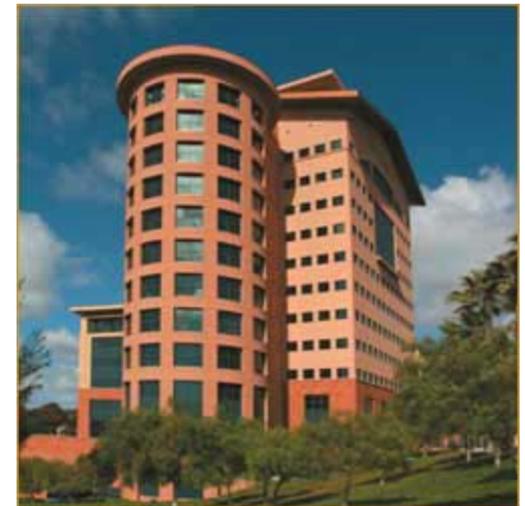
**Most Chiller Plants Operate in the 0.9 – 1.2 kW/ton range. This is where significant performance savings can occur. These operational efficiencies can improve your Energy Star Score significantly!**

# The Aventine Upgrade

Using Next Generation Technologies

**By using – OptimumEnergy's  
OptimumLOOP & Performance  
Assurance Monitoring:**

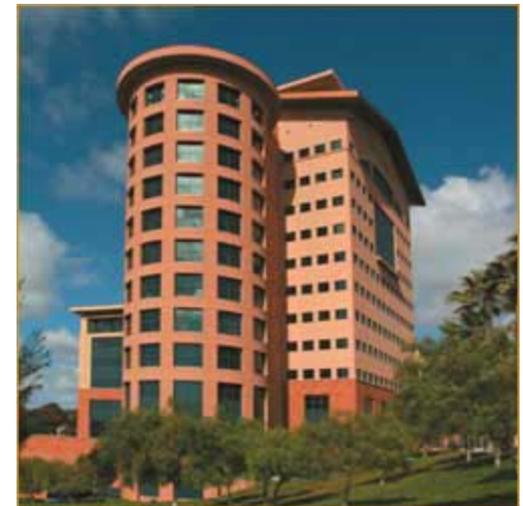
**The Aventine reduced over  
501,745/kilowatts of energy  
totaling \$75,763 in 2008**



# The Aventine Upgrade

## Year 1 RESULTS

- Increased EPA ENERGY STAR score from **84** to **100**
- GHG Emission Reduction From Baseline –284 (MtCO<sub>2</sub>e)
- Pre-Retrofit Electrical Cost at \$2.90 \$per/Sq.Ft.
- Post-Retrofit Electrical Cost at \$2.20 \$per/Sq.Ft.



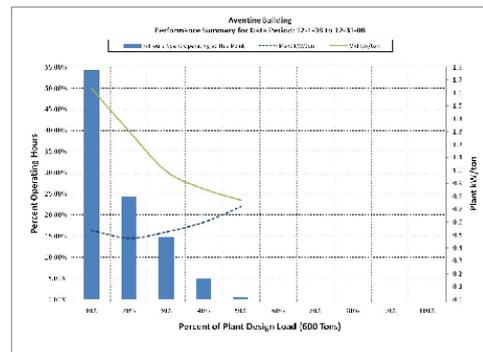
# The Aventine Upgrade

Using Next Generation Technologies for Ongoing Tracking

**Optimum Energy's Performance Assurance Monitoring**



Aventine Performance Data –December 2008

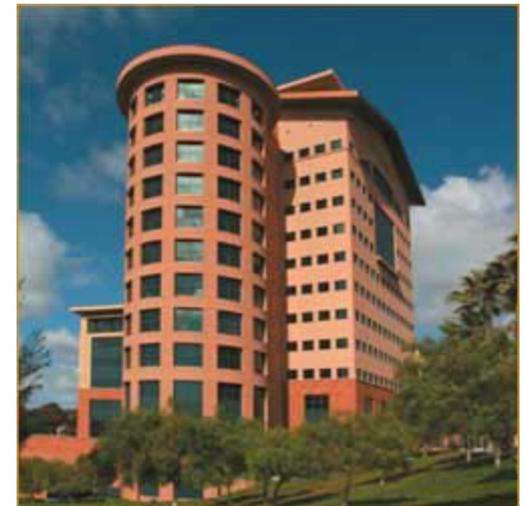


# The Aventine Upgrade

Using Next Generation Technologies  
for Ongoing Tracking

## **Optimum Energy's Performance Assurance Monitoring Benefits**

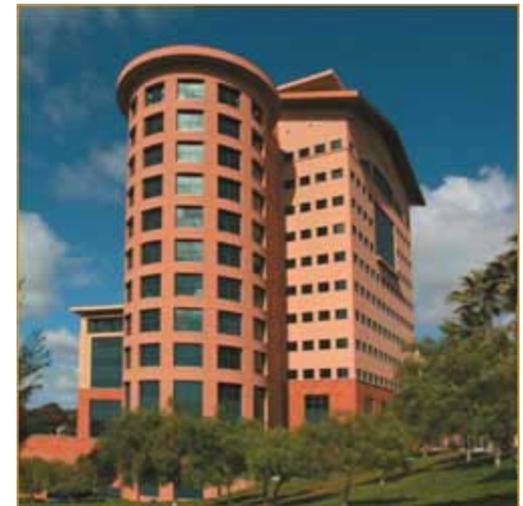
1. Assured Energy Performance
2. No More Plant Retrocommissioning
3. (25/hr.) Efficiency Oversight



# The Aventine Upgrade Summary

By Using Next Generation Technologies, This Property has Achieved the Following since 2008:

- **Reduced GHG CO<sub>2</sub>e by 618,240 lbs.**
- **Saved \$75,763 in Operating Expenses**
- **Reduced 501,745 kilowatts of Energy**
- **Improved Plant Efficiency by over 40%**
- **LEED GAP Analysis Places Bldg at Gold Level – Pursuing Platinum Level**



# Leader in Sustainable & Energy Efficiency

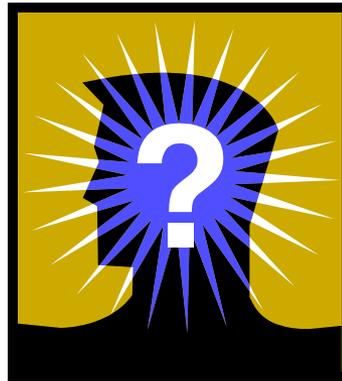
**NAREIT Leader in the Light Gold Award for  
Energy Efficiency - 2005**

EPA Leaders Award for Achieving a Portfolio Wide Average  
ENERGY STAR Score above 75 - 2008

**Flex Your Power Energy Efficiency Award - 2008**

ENERGY STAR Leaders award for Reducing Energy Across  
the Portfolio by over 10% - 2009

# Questions



If you would like to contact us, please feel free to send an email to [carlos.santamaria@glenborough.com](mailto:carlos.santamaria@glenborough.com)

Or call 650-343-9300x522

# Discussion

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- Use \* 6 to un-mute phone
- # 6 to re-mute phone

# Announcements

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- **How to Apply for EPA's ENERGY STAR Partner of the Year Awards: *Key elements to a great application***
- Tuesday, September 29th
- 2:00 – 3:30 pm ET.
- Register at: [energystar.webex.com](https://energystar.webex.com)

# 2009 Web Conferences

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- October - Energy and GHG Management
- November - Energy Management Financing Strategies
- December - No web conference

# 2010 Web Conferences

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- Send suggestions and ideas to:

Walt Tunnessen -

Tunnessen.walt@epa.gov



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- Thank you