Driving Responsibility for Energy Use

Monthly Partner Web Conference
June 16, 2010

Call-in number: 866 299 3188
Conference Code 202 343 9965#

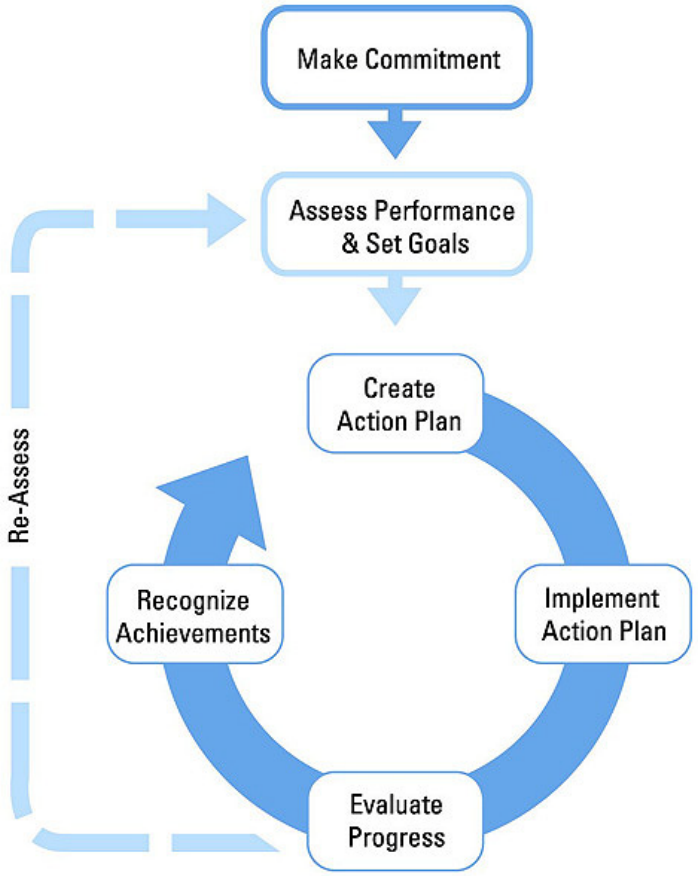
Host: Walt Tunnessen

EPA

Learn more at 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



Web Conference Logistics

- Phones will be Muted

  To ask a question use # 6 to un-mute

  and * 6 – to mute

- Questions – use the chat window or ask question during the Q & A period.

- Presentation slides will be sent by email to all participants following the web conference.

A common barrier:

Whose responsible for managing energy use?

Response	Translation
Everyone!	No one
Purchasing	We're not really accountable
Our energy budget is allocated.	We're definitely not accountable!
The energy team	Their problem, not mine

Driving efficiency

Energy Efficiency = Engineering + Culture Change

- Organizational culture shapes behavior and attitudes towards energy use & management.
- Changing employee behavior requires responsibility and accountably for energy use.

So what are successful strategies for increasing responsibility?

Common Strategies

- Awareness
- Changing budgeting & accounting practices
- Performance standards linked to energy goals
- Financial incentives & bonuses
- Engagement in energy activates

Today's Web Conference

Speakers:

- Dave Chamberlain, Raytheon
- Brad Reed, Toyota
- Questions & Discussion
- Announcements

Raytheon

Customer Success Is Our Mission

Driving Responsibility for Energy Use at Raytheon

ENERGY STAR Web Conference
June 16, 2010

David R. Chamberlain
Raytheon Company
Enterprise Energy Team

Raytheon Sustainability

Presentation Overview

- Company Background

- ENERGY STAR Assessment Matrix & Guidelines
  - How Raytheon Uses These Tools
  - Why You Should Use These Tools
  - Key Energy Management Initiatives at Raytheon

- Summary & Final Thoughts

Raytheon … What We Do

Raytheon is a global technology company that provides innovative solutions to customers in 80 nations.

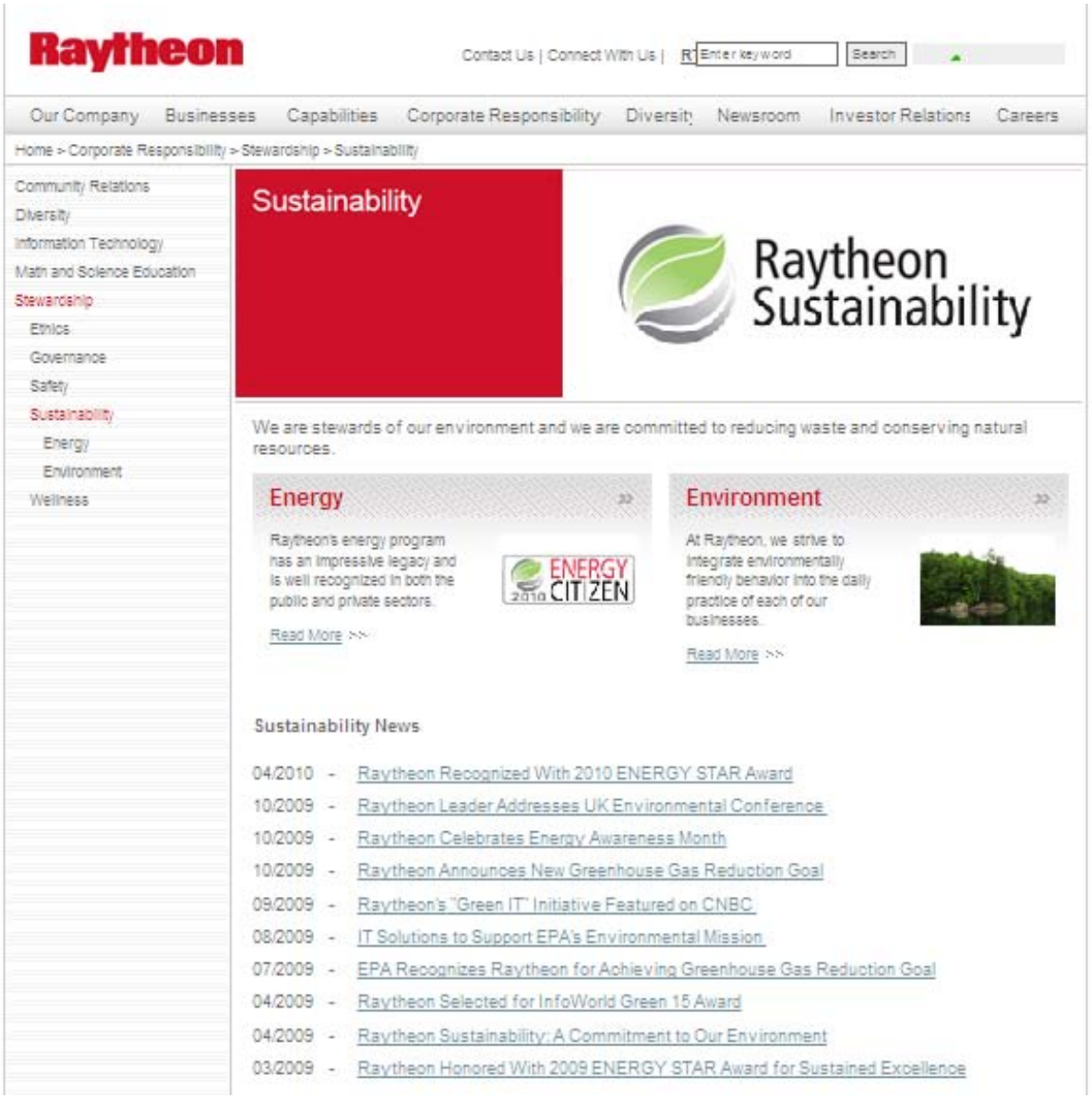
Through strategic vision, disciplined management and world-class talent, Raytheon is delivering operational advantages for customers every day while helping them prepare for the missions of tomorrow.

Supporting approximately 14,000 contracts

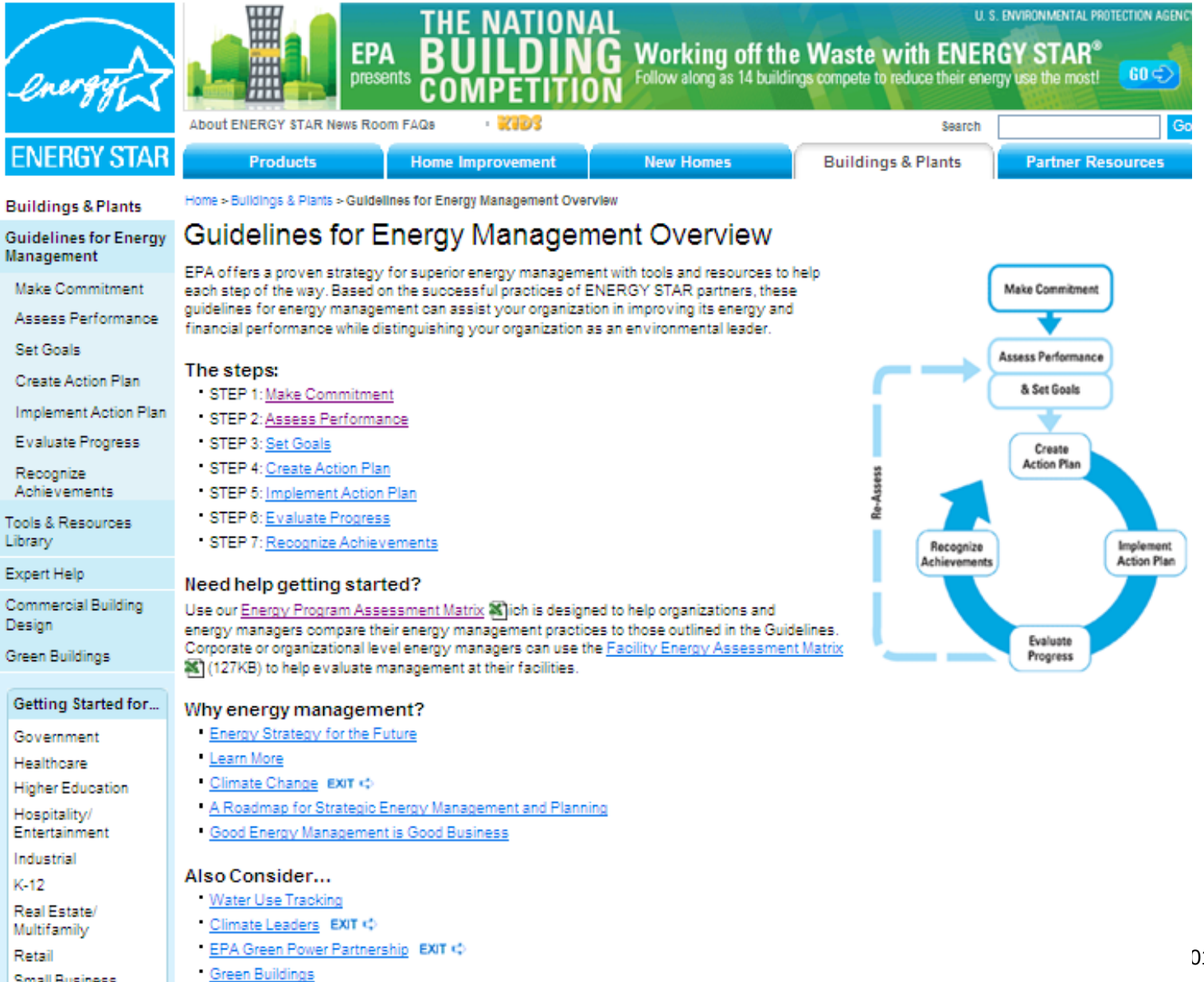
Raytheon Business Headquarters

75,000 employees worldwide, 2009 revenue $25B

Energy and Raytheon Sustainability



ENERGY STAR Web Site – Search "Guidelines"



Energy Management Assessment Matrix

Energy Management Assessment Matrix

Introduction

The U.S. EPA has developed guidelines for establishing and conducting an effective energy management program based on the successful practices of ENERGY STAR partners.

These guidelines, illustrated in the graphic, are structured on seven fundamental management elements that encompass specific activities.

This assessment matrix is designed to help organizations and energy managers compare their energy management practices to those outlined in the Guidelines. The full Guidelines can be viewed on the ENERGY STAR web site -

How To Use The Assessment Matrix

The matrix outlines the key activities identified in the ENERGY STAR Guidelines for Energy Management and three levels of implementation:

~ Little or no evidence
~ Some elements
~ Fully Implemented

1. Compare your program to the Guidelines by identifying the degree of implementation that most closely matches your organization's program.

2. Click on the cell that best matches the level of implementation of your energy program. This will highlight the cell.

3. Print the assessment matrix. You will now have a visual comparison of your program to the elements of the ENERGY STAR Guidelines for Energy Management.

4. Identify the steps needed to fully implement the energy management elements and record these in the Next Steps column.

Click Here To Go To The Matrix

ENERGY STAR Guidelines For Energy Management

Raytheon

Matrix Results for Raytheon – March 2010

ENERGY STAR® Energy Management Assessment Matrix

	Little or no evidence	Some elements	Fully implemented	Next Steps
Make Commitment to Continuous Improvement				
Energy Director	No central or organizational resource Decentralized management	Central or organizational resource not empowered	Empowered central or organizational leader with senior management support	2
Energy Team	No company energy network	Informal organization	Active cross-functional team guiding energy program	2
Energy Policy	No formal policy	Referenced in environmental or other policies	Formal stand-alone EE policy	2
Assess Performance and Opportunities				
Gather and Track Data	Little metering/no tracking	Local or partial metering/tracking/reporting	All facilities report for central consolidation/analysis	2
Normalize	Not addressed	Some unit measures or weather adjustments	All meaningful adjustments for organizational analysis	1
Establish baselines	No baselines	Various facility-established	Standardized organizational base year and metric established	2
Benchmark	Not addressed or only same site historical comparisons	Some internal comparisons among company sites	Regular internal & external comparisons & analyses	1
Analyze	Not addressed	Some attempt to identify and correct spikes	Profiles identifying trends, peaks, valleys & causes	1
Technical assessments and audits	Not conducted	Internal facility reviews	Reviews by multi-functional team of professionals	1
Set Performance Goals				
Determine scope	No quantifiable goals	Short term facility goals or nominal corporate goals	Short & long term facility and corporate goals	2
Estimate potential for improvement	No process in place	Specific projects based on limited	Facility & organization defined based on experience	2
Establish goals	Not addressed	Loosely defined or sporadically applied	Specific & quantifiable at various organizational levels	2

Raytheon

Matrix Results for Raytheon – March 2010

ENERGY STAR® Energy Management Assessment Matrix

	Little or no evidence	Some elements	Fully implemented	Next Steps
Create Action Plan				
Define technical steps and targets	Not addressed	Facility-level consideration as opportunities occur	Detailed multi-level targets with timelines to close gaps	1
Determine roles and resources	Not addressed or done on ad hoc basis	Informal interested person competes for funding	Internal/external roles defined & funding identified	1
Implement Action Plan				
Create a communication plan	Not addressed	Tools targeted for some groups used occasionally	All stakeholders are addressed on regular basis	1
Raise awareness	No promotion of energy efficiency	Periodic references to energy initiatives	All levels of organization support energy goals	1
Build capacity	Indirect training only	Some training for key individuals	Broad training/certification in _____	1
Motivate	No or occasional contact with energy users and staff	Threats for non-performance or periodic reminders	Recognition, financial & performance incentives	1
Track and monitor	No system for monitoring progress	Annual reviews by facilities	Regular reviews & updates of centralized system	1
Evaluate Progress				
Measure results	No reviews	Historical comparisons	Compare usage & costs vs. goals, plans, competitors	1
Review action plan	No reviews	Informal check on progress	Revise plan based on results, feedback & business factors	2
Recognize Achievements				
Provide internal recognition	Not addressed	Identify successful projects	Acknowledge contributions of _____	1
Get external recognition	Not sought	Incidental or vendor acknowledgement	Government/third party highlighting achievements	2

Matrix- Next Steps Tab

Next Steps

Interpreting Your Results

Comparing your program to the level of implementation identified in the Matrix should help you identify the strengths and weaknesses of your program.

The U.S. EPA has observed that organizations fully implementing the practices outlined in the Guidelines achieve the greatest results. Organizations are encouraged to implement the Guidelines as fully as possible.

By highlighting the cells of the matrix, you now can easily tell how well balanced your energy program is across the management elements of the Guidelines. Use this illustration of your energy management program for discussion with staff and management.

Use the "Next Steps" column of the Matrix to develop a plan of action for improving your energy management practices.

Resources and Help

ENERGY STAR offers a variety tools and resources to help organizations strengthen their energy management programs.

Here are some next steps you can take with ENERGY STAR:

1. Read the Guidelines sections for the areas of your program that are not fully implemented.

Go to the Guidelines

2. Become an ENERGY STAR Partner, if you are not already.

Learn More about joining Energy Star

3. Review ENERGY STAR Tools and Resources.

Go to ENERGY STAR Tools web page

4. Find more sector-specific energy management information at www.energystar.gov.

Go to ENERGY STAR Business Improvement web page

5. Contact your ENERGY STAR Account Manager to talk about additional resources.

Click Here To Go Back To Matrix

Enterprise Energy Team Membership List

Business Unit	Team Member	Role
IDS	Steve Fugarazzo	Team Leader
IDS	Liz Welch	Billing & Data Management KFA Co-Lead; Energy Citizen Program Lead
IDS	Tracy Fialli	Supply Management KFA Co-Lead; Organization Integration & Metrics KFA Co-Lead
IDS	Dave Chamberlain	BU Lead, Communication & Outreach KFA Co-lead
IIS	Karen Tempkin	BU Lead; Supply Management KFA Co-Lead
IIS	Joe Hall	Organization Integration & Metrics KFA Co-Lead
IIS	Marvin Reichenau	Team Member
IIS	Jason Moore	Team Member
NCS	Reese Brentzel	BU Lead; Demand Side Management KFA Co-Lead
NCS	David Rodgers	Team Member
NCS	Dave Miller	Team Member
RMS	Lang Lawrence	BU Lead; Demand Side Management KFA Co-Lead
RMS	Patrick Walsh	Team Member
RTSC	Keith Odell	Team Member
RTSC	Randy Taylor	Team Member
RTSC	Michael Brendes	BU Lead
RTSC	David Wright	Team Member
SAS	Chris Cumming	Team Member
SAS	Chanea Banks	Communication & Outreach KFA Co-Lead
SAS	Lupe Villanueva	Team Member; Acting Communication & Outreach KFA Co-Lead
SAS	Mark Faulk	Billing & Data Management KFA Co-Lead
SC	Jack Prior	Team Member
CORP EHS	Nancy Kitsos	Team Member
*updated 5-27-2010		

Raytheon Energy Policy

Raytheon

Company Policy

Hard Copies Uncontrolled - Verify Effective Date Prior to Use

Title: Raytheon Energy Program

Document Number:	000000200-RP
Effective Date:	August 7, 2008
Function:	Engineering
Authorized By:	Vice President – Engineering, Technology, and Mission Assurance

1. **Status**

   1.1 New policy.

2. **Purpose**

   2.1 This policy describes the responsibilities and procedures of Raytheon's Energy Conservation Program.

3. **Applicability**

   3.1 This policy applies to all organizations within Raytheon Company.

4. **Definitions**

   4.1 Business Leadership – The Business President and members of the Business Management Team.

   4.2 Energy Communications Plan – The methodology used to convey information on the use and conservation of energy.

   4.3 Energy Conservation Assessments – A process focused on identifying energy usage and energy consumption reduction opportunities.

   4.4 Energy Conservation Program – The process used to reduce the consumption of all forms of energy.

   4.5 Energy Team – Any group of individuals, recognized by Business Management, who form an active entity focused on conservation of energy.

   4.6 Enterprise Energy Team (EET) – EET is chartered by and reports to the Facilities Leadership Council. Membership is comprised of representative energy professionals from each Business.

   4.7 Facilities Leadership Council (FLC) – FLC is comprised of the Directors of each Business Facilities Department.

   4.8 Operations Council – The Corporate Vice President - Operations and members of the Operations Management Team.

   4.9 Site Leadership – A cross-functional team or an individual responsible for Site operations.

5. **Policy**

   5.1 Raytheon maintains an Energy Conservation Program to assure the most efficient use of natural resources, reducing its environmental impact, which includes greenhouse gas emissions, and energy cost reduction. Raytheon seeks to be good stewards of the environment by conserving energy and increasing its energy efficiency. Key elements of the Energy Conservation Program include: management commitment; setting of goals and objectives; energy consumption and cost measurement, analysis, and management; energy reduction project planning and implementation; employee communication and awareness; and total employee involvement.

6. **Responsibilities**

   6.1 The Operations Council which consists of the Operations Vice Presidents from each business plus the Corporate Vice President - Operations, are responsible for overseeing the implementation of this policy and receives regular program updates.

   6.2 Business Leadership is responsible for consistent implementation of this policy.

   6.3 Site Leadership is responsible for local implementation of this policy.

   6.4 The FLC and the EET are responsible for maintenance of this policy and recommending necessary modifications.

7. **Procedure**

   7.1 Management Commitment

      7.1.1 Raytheon is committed to the conservation of energy and energy efficiency.

      7.1.2 Corporate Engineering ensures that energy conservation best practices are integrated into engineering processes such as design, testing, materials and equipment selection, production and all other engineering areas, including labs.

      7.1.3 Corporate Operations ensures that energy conservation best practices are integrated into all Operations' functions through the Operations Council.

      7.1.4 Business and Site Leadership provide direction and support of the Energy Conservation Program.

   7.2 Goals and Objectives

      7.2.1 The EET and FLC recommend long-term and annual energy goals to the Operations Council. The Operations Council formalizes the goals and communicates the goals to the Business and Site Leadership.

      7.2.2 The goals are conveyed to all employees and occupants by each Business.

      7.2.3 Energy conservation goals are based on long term Business plans and environmental impact.

   7.3 Data Collection and Analysis

      7.3.1 Each Business collects monthly data on electricity, natural gas, and other types of energy consumption and costs from each of its major sites. The data is entered monthly into an on-line Energy Database.

      7.3.2 Energy consumption reports are submitted to Business Management monthly and quarterly, as determined by each Business.

Raytheon Energy Policy

7.3.3 The Operations Council, FLC, EET, and each Business monitor energy consumption and cost trends and performance.

7.4 Energy Reduction Projects

7.4.1 Each Business:

a. Characterizes energy consumption at each major site to identify energy and cost reduction opportunities;

b. Develops detailed energy conservation action plans and submits them to their Business Leadership;

c. Develops a list of energy-related projects and accomplishments that are reviewed and prioritized, at a minimum, during the annual Capital Planning and Annual Operating Plan (AOP) processes;

d. Ensures that new equipment and processes are evaluated from an energy efficiency perspective and the best life cycle cost alternatives are selected and implemented.

7.5 Communication and Awareness

7.5.1 The EET, in conjunction with Corporate and local communications groups, develops communication templates, shares best practices, and develops outreach activities to ensure Energy Conservation Program awareness and expansion.

7.5.2 The EET maintains the Corporate and Business Energy websites.

7.5.3 Each Business, in conjunction with the EET and Corporate and local communications groups, establishes and maintains an Energy Communications Plan. The goal is wide-spread employee participation in the Energy Conservation Program.

7.6 Employee Involvement

7.6.1 The EET develops and implements programs that encourage occupants to conserve energy and communicate their energy savings ideas to the appropriate Business contact.

7.6.2 Each Business and Site maintains an Energy Team that reviews the monthly energy data and metrics and takes appropriate action to ensure all occupants are reducing energy consumption.

7.7 Major Renovations and New Construction

7.7.1 Major renovations and new construction includes energy management and energy-efficient devices.

7.7.2 Facility infrastructure improvements and real estate acquisitions are evaluated from an energy conservation perspective with the alternatives selected based upon the best life cycle costs and the least impact on the environment. These projects shall comply with / Local / County / State / National Energy Codes, but also should address applicable energy conservation concepts from environmental sustainability codes, guidelines and protocols (such as the U.S. Green Building Council Leadership in Energy and Environmental Design, Environmental Protection Agency, ENERGY STAR®, and Company established best practices).

7.8 Energy Procurement

7.8.1 Each Business coordinates energy supply procurement strategies, in accordance with the Enterprise Supply Chain Strategy, to maximize opportunities for best pricing that meet their energy needs and availability requirements. This includes forward pricing options and market forecasts.

7.8.2 Renewable energy options are considered during the Request for Proposal procurement process.

7.9 Energy Conservation Assessments

7.9.1 Energy Conservation Assessments are performed by the EET to ensure compliance with this policy.

7.9.2 Each Business schedules regular energy surveys and annual energy conservation assessments for each of their major sites.

7.9.3 Energy Conservation Assessments are focused on whether each Business and each major site is meeting the requirements of this policy, not on determining where energy conservation opportunities exist. Energy Surveys identify energy conservation opportunities and provide a method to prioritize these opportunities.

7.9.4 Energy Conservation Assessment findings are reported to Site Management and the Business Facilities Director.

8. Related Information

8.1 American Society of Heating, Refrigeration and Air Conditioning Engineers (ASHRAE)

8.2 Local Energy Efficiency Building Codes

8.3 U.S. Department of Energy (DOE)

8.4 U.S. Environmental Protection Agency (EPA) Climate Leaders

8.5 ENERGY STAR Program

8.6 Raytheon Energy Action Program (REAP)

8.7 Illuminating Engineering Society (IES) of North America

8.8 Association of Energy Engineers (AEE)

8.9 E Source

8.10 U. S. Green Building Council (USGBC) Leadership in Energy and Environmental Design (LEED)

8.11 Enterprise Supply Chain Strategy

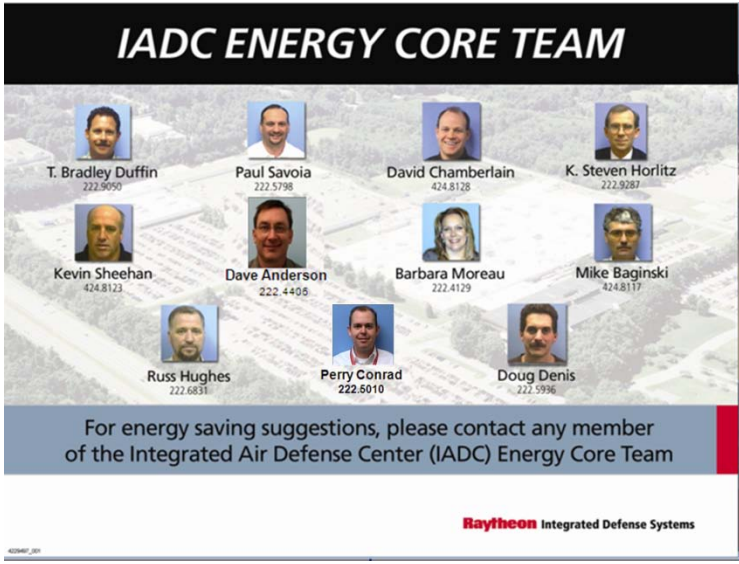
End of Document

Partnerships with Internal Stakeholders

- Information Technology – Green IT
  - Raytheon recognized with InfoWorld Green 15 award
  - Named one of Uptime Institute's 2009 "Global Green 100
- Environmental, Health and Safety (EHS)
  - Earth Day events, employee contests
- Human Resources
  - New Employee Orientations
  - Online Energy Training
- Manufacturing
- Engineering
- Business Development

Critical Step: Develop a Network

- Established network of Energy Champions
  - Anyone who sets a good example for others
  - Promotes energy conservation and efficiency every day
  - The responsibility of the Energy Champion is to:
    - Instill a culture of energy conservation within their respective workspaces with each occupant and with every piece of equipment.
    - Develop conservation strategies specific to their work areas.
    - Identify and implement Energy Conservation Measures (ECMs)
    - Assure there is no backsliding – Savings must be maintained.
    - Share progress, lessons learned, and innovative energy practices with other team members.



Recruit & Recognize Energy Champions

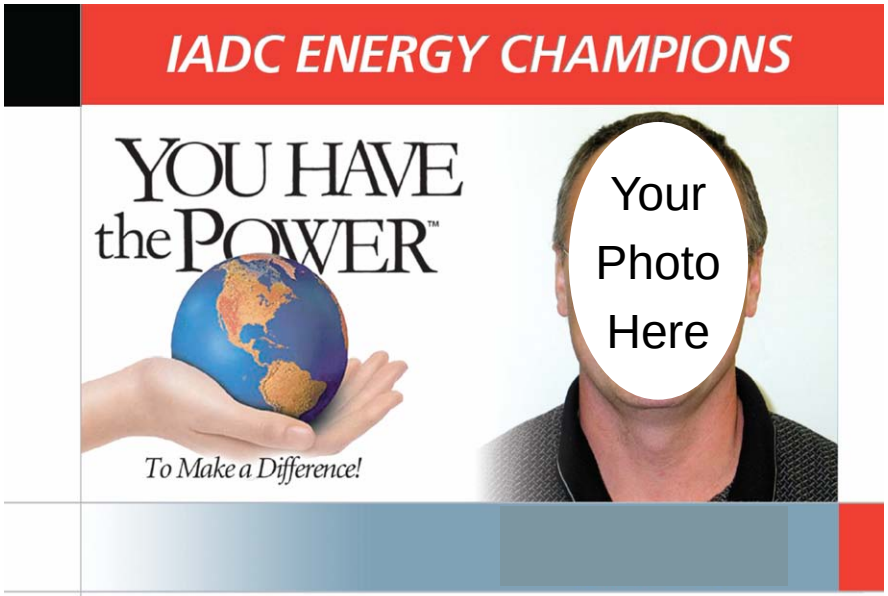
Does preserving the natural environment and conserving our energy resources get you energized? Why not spread that energy among your Raytheon co-workers…

BE AN ENERGY CHAMPION

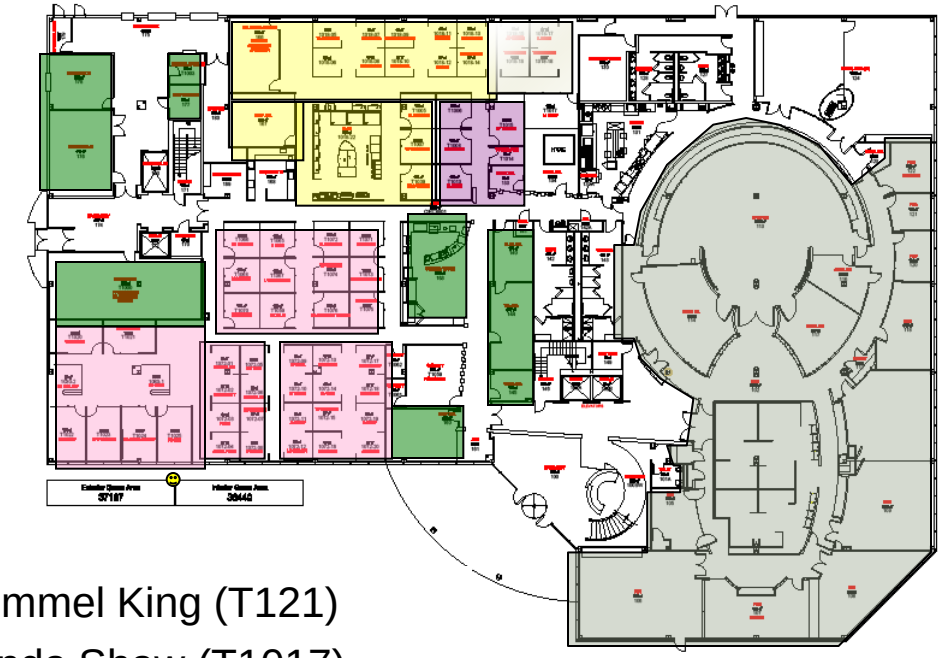
Earn the chance to win an i-Pod® in the process!
Find out how at one of our

Energy Events

El Segundo South:	11:00am - 1:00pm July 10 - 11
El Segundo North:	11:00am - 1:00pm July 12 - 13



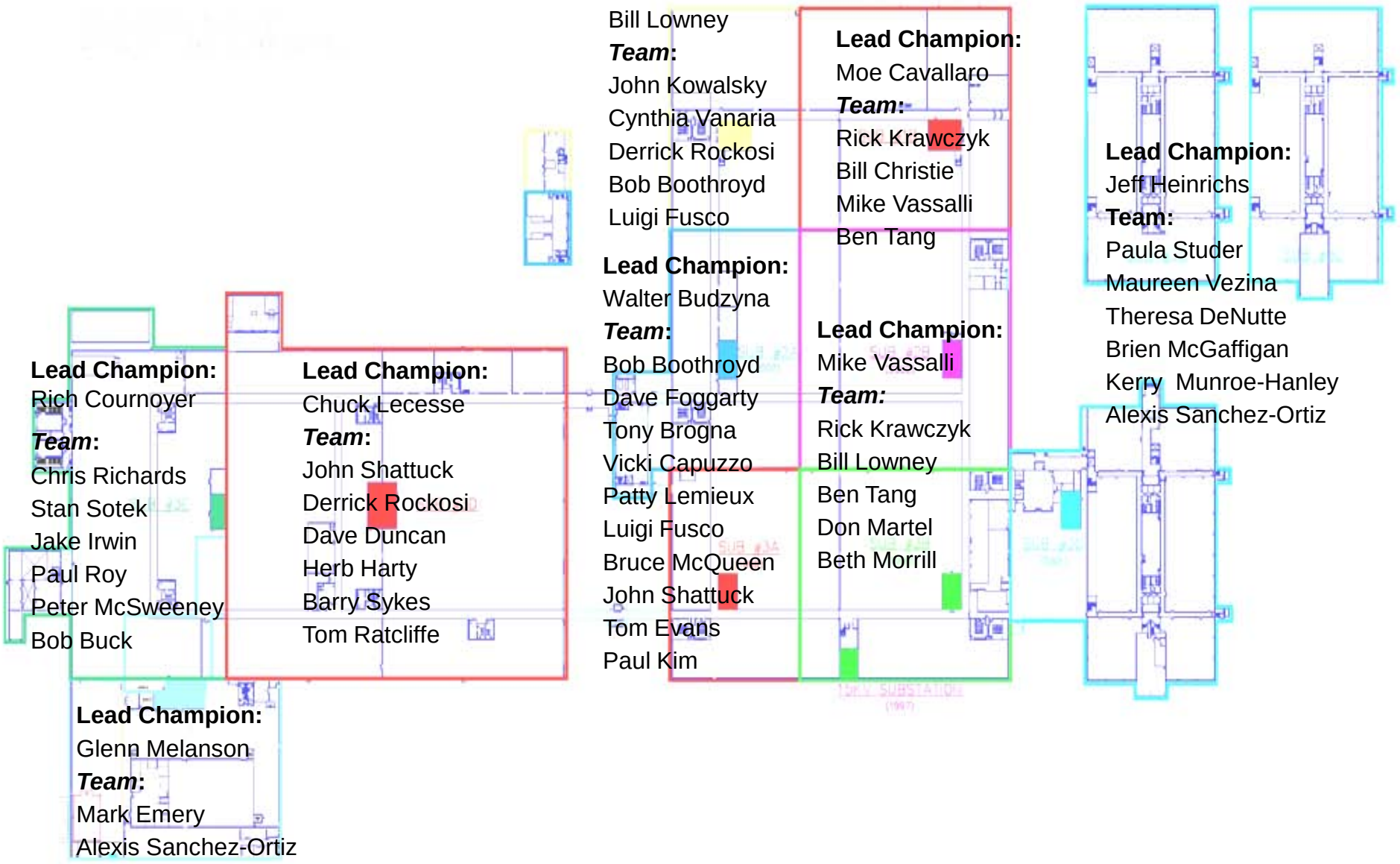
Example of Energy Champions Map – Billerica, MA



- Kimmel King (T121)
- Linda Shaw (T1017)
- Mark Guittarr (1018-18)
- Jason Carima (1018-15)
- Cindy Bastille (1072-16)
- Lori Steen (1018-17)
- Rick Nye (T1025)

Your IADC Energy Champion Team

Raytheon
Integrated Defense Systems



Lead Champion:
Rich Cournoyer

***Team*:**
Chris Richards
Stan Sotek
Jake Irwin
Paul Roy
Peter McSweeney
Bob Buck

Lead Champion:
Chuck Lecesse

***Team*:**
John Shattuck
Derrick Rockosi
Dave Duncan
Herb Harty
Barry Sykes
Tom Ratcliffe

Lead Champion:
Glenn Melanson

***Team*:**
Mark Emery
Alexis Sanchez-Ortiz

Lead Champion:
Bill Lowney

***Team*:**
John Kowalsky
Cynthia Vanaria
Derrick Rockosi
Bob Boothroyd
Luigi Fusco

Lead Champion:
Walter Budzyna

***Team*:**
Bob Boothroyd
Dave Foggarty
Tony Brogna
Vicki Capuzzo
Patty Lemieux
Luigi Fusco
Bruce McQueen
John Shattuck
Tom Evans
Paul Kim

Lead Champion:
Moe Cavallaro

***Team*:**
Rick Krawczyk
Bill Christie
Mike Vassalli
Ben Tang

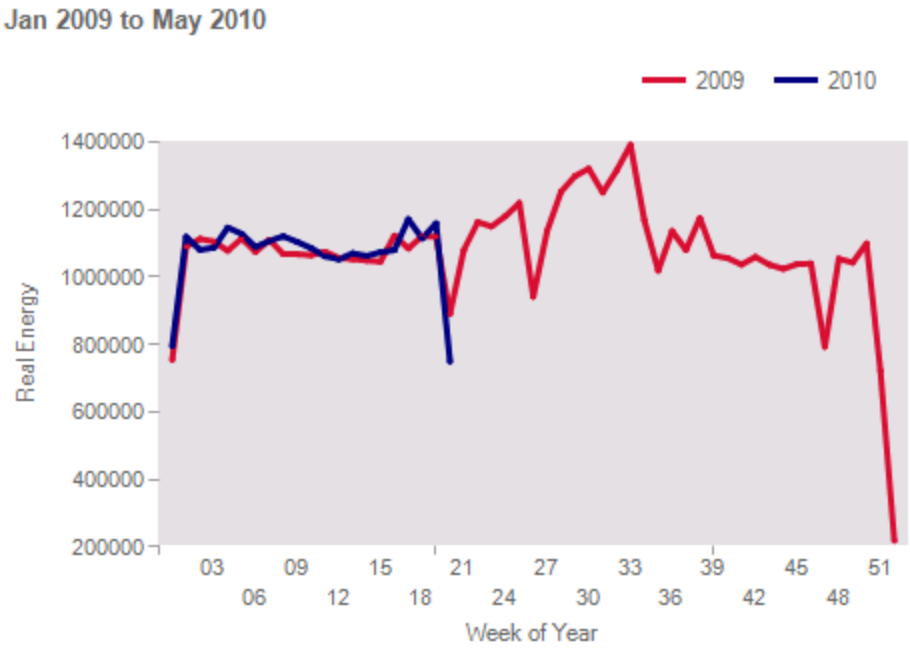
Lead Champion:
Mike Vassalli

Team:
Rick Krawczyk
Bill Lowney
Ben Tang
Don Martel
Beth Morrill

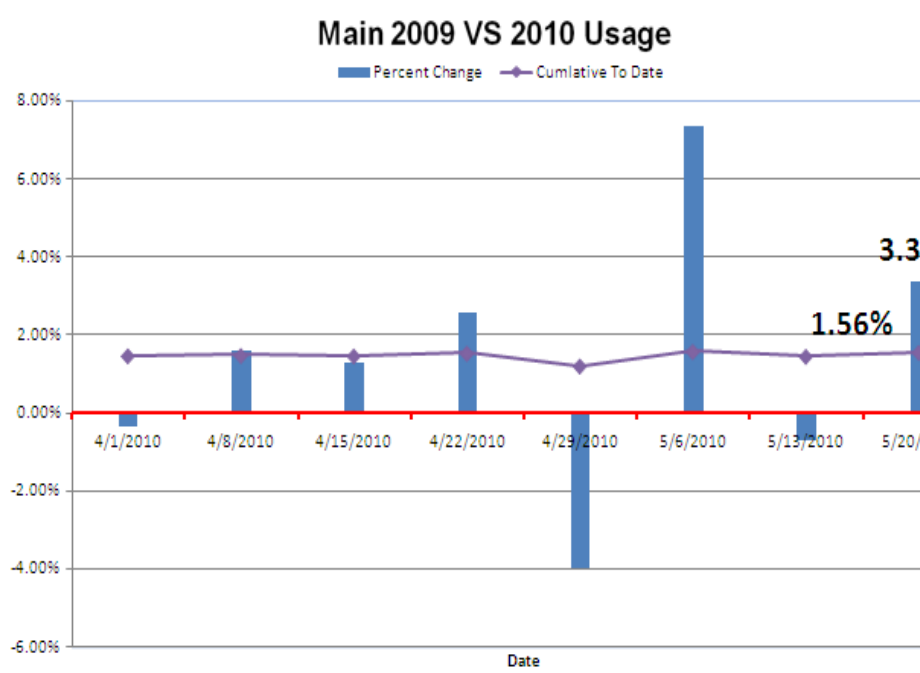
Lead Champion:
Jeff Heinrichs

Team:
Paula Studer
Maureen Vezina
Theresa DeNutte
Brien McGaffigan
Kerry Munroe-Hanley
Alexis Sanchez-Ortiz

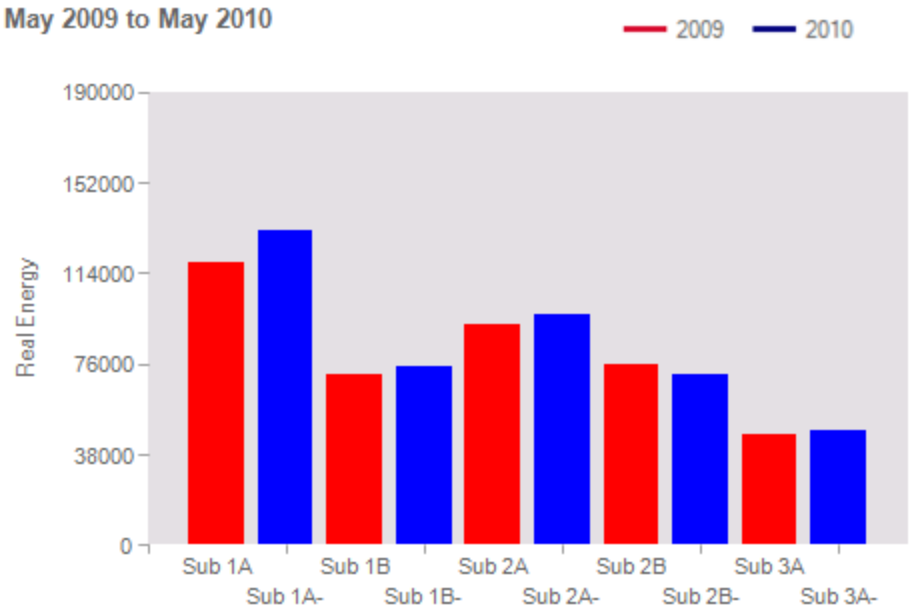
Main Plant 2009 VS 2010



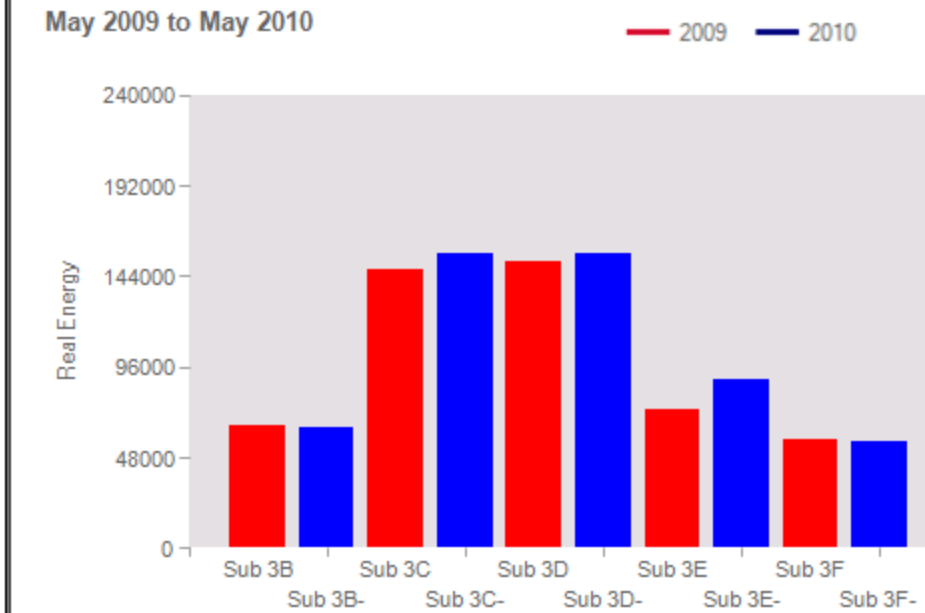
Raytheon (Read-Only)



Sub 1A - 3A

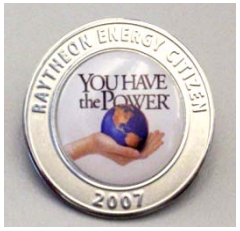


Sub 3B - 3F

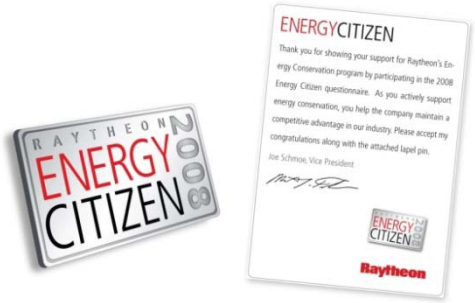


Energy Citizen Background & History

- 2007 Energy Citizens program piloted at IDS
  - 18 work & home questions
  - 10% of IDS employees qualified from July-Dec 2007



- 2008 Energy Citizens – Company Wide
  - 18 questions developed through collaborative effort of Enterprise Energy Team (EET)
  - 29% of all Raytheon employees were qualified



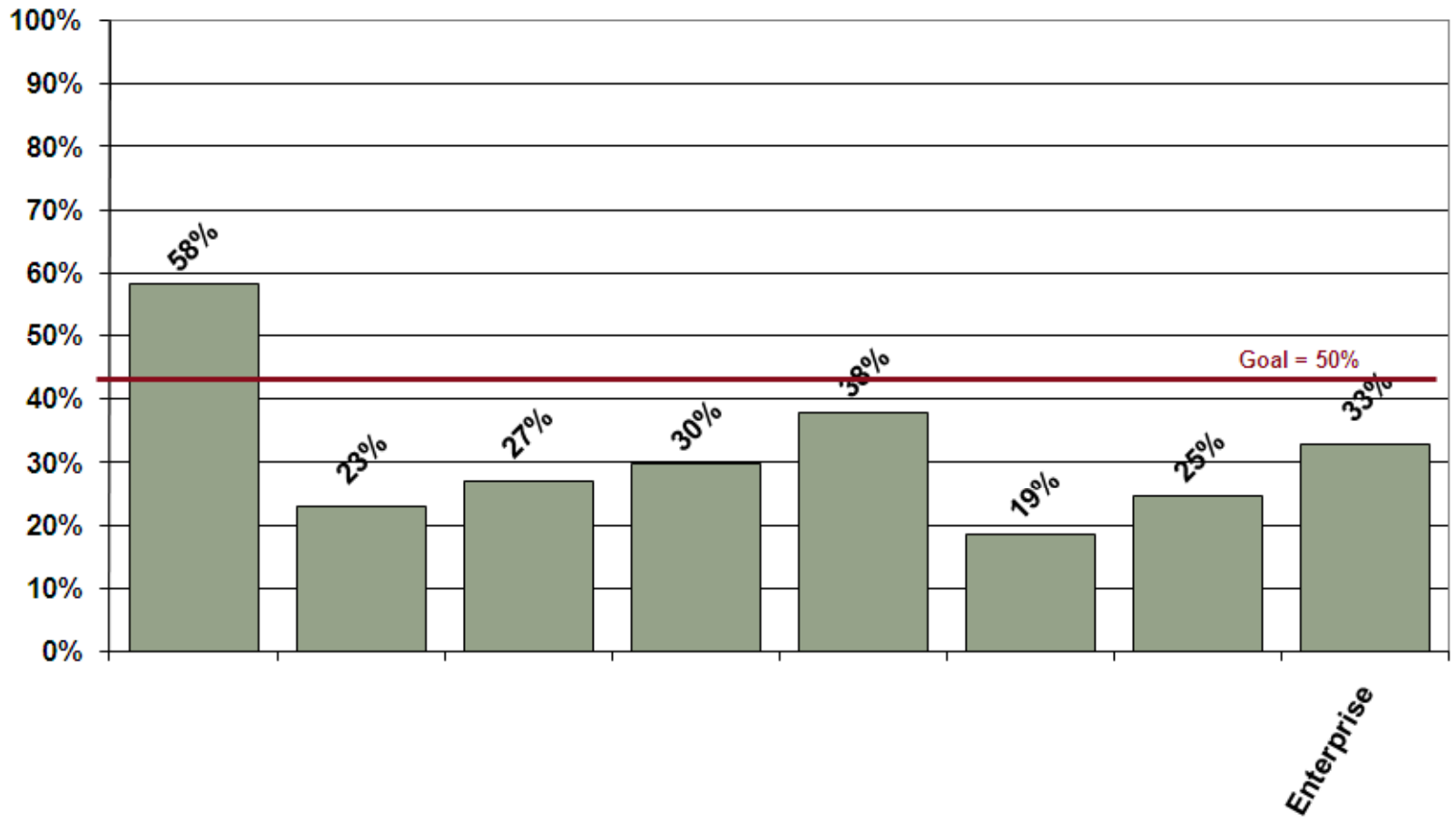
- 2009 Energy Citizens – Company Wide
  - New and improved set of questions (14), including popups w/hotlinks for employees to learn more
  - 44% of all Raytheon employees were qualified

- 2010 Energy Citizens – Company Wide
  - Learning tool instead of quiz, fun and interactive
  - Goal is 50% of Raytheon employees
  - At 33% through May

- 2011 and Future Plans:
  - Considering other tools to engage employees
    - Raytheon Sustainability tool (Groom Energy/Proactively Green)
    - Include Energy Citizens as part of “Sustainability Challenge”

Ultimate vision is 100% or Total Employee Engagement

Raytheon 2010 Energy Citizens (through May)



Expect to exceed 50% goal for 2010

Earth Day Awareness Activities

Corporate Update Archive

Raytheon Celebrates the 40th Anniversary of Earth Day

For the 40th anniversary of Earth Day April 22, 2010, Raytheon is celebrating our commitment to sustainability. At Raytheon, sustainability starts in the workplace and extends far beyond. We are dedicated to engaging our employees, customers, suppliers and communities to protect our environment and conserve natural resources.

The following 40 statistics for 40 years of Earth Day reflect our engagement in upholding sustainable practices at work and at home now and for years to come.

Raytheon's Long-Term Sustainability Goals

1. Raytheon's goal is to reduce absolute greenhouse gas emissions **10 percent** by 2015.
2. Raytheon plans to reduce landfill and incinerated waste disposal **25 percent** normalized by revenue by 2013.
3. Raytheon aims to reduce water consumption **10 percent** by 2013.

Energy Management at Raytheon

4. In 2009, energy consumption declined on an absolute basis by almost **3 percent**, saving approximately **$3 million** in energy costs and has declined **13 percent** since 2002.
5. When measured on a per dollar revenue basis, Raytheon reduced its energy use **10 percent** in 2009.
6. Raytheon's energy per dollar revenue reduction has been **38 percent since 2002.**

Climate Change and Greenhouse Gas Emissions (GHG)

7. Raytheon has been a charter member of the U.S. Environmental Protection Agency's (EPA's) Climate

More Information

Raytheon Sustainability

Environmental Protection Agency (EPA): Earth Day 2010

Related Articles

Our Commitment to Future Generations: Energy Efficiency Update

Renew Your Commitment: Become a 2010 Energy Citizen

Raytheon Recognized for Leadership in Reducing Toxic Material Use

Smart Sprinklers: NCS Fullerton's New Irrigation System Highlighted as Raytheon Sustainability Best Practice

Raytheon Recognized With 2010 ENERGY STAR Award

Energy Awareness Month

Corporate Update Archive

Raytheon Celebrates Energy Awareness Month

October is Energy Awareness Month, and Raytheon is using its 31 days to highlight the company's Energy Champions, support activities promoting an energy conservation culture, and announce a new greenhouse gas reduction goal. The observance is another part of Raytheon Sustainability and its goals of maximizing efficiency and reducing environmental impacts.

Raytheon's New Greenhouse Gas Reduction Goal
Nearly 90 percent of Raytheon's greenhouse gas (GHG) emissions are energy related. So energy awareness plays an important role in helping the company reach its new greenhouse gas reduction goal. As an industry partner in the U.S. Environmental Protection Agency's voluntary Climate Leaders program, Raytheon pledges to reduce its absolute U.S. emissions by 10 percent between 2008 and 2015. Climate Leaders is the country's largest GHG goal-setting program.

This new goal builds upon Raytheon having successfully achieved its first GHG goal. In 2002, as a charter Climate Leaders partner, Raytheon pledged to reduce GHG emissions from its U.S. operations by 33 percent between 2002 and 2009, normalized for revenue and adjusted for inflation. Raytheon not only met but exceeded its reduction goal one year ahead of schedule. By the end of 2008, the company had reduced its emissions 38 percent normalized for revenue and adjusted for inflation.

Energy Champions in the Spotlight
Raytheon is a leader in successfully driving strategies and programs to reduce energy consumption, as demonstrated by five ENERGY STAR awards from the EPA in the last nine years. Much of the credit for these programs goes to the company's Energy Champions – employees who continually seek out energy reduction opportunities, implement concepts, and share their enthusiasm by challenging others to be equally proactive.

More than a dozen Raytheon Energy Champions from across the company and every Raytheon business are being profiled for Energy

Raytheon Sustainability

More Information

Corporate Responsibility Report

Raytheon Sustainability

EPA Climate Leaders Program

Home Energy Checklist

Office Energy Checklist

Resources for Kids

Residential and Commercial Incentives

Other Awareness Activities

#1
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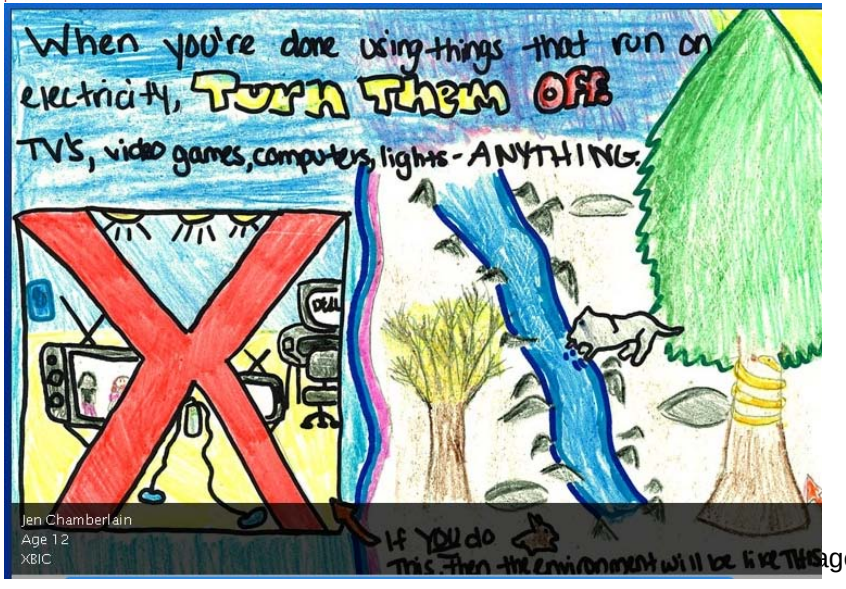

Questions?

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Driving Responsibility By Gaining Employee Buy In

Brad Reed
Asst. Project Manager
Toyota Motor Engineering and Manufacturing North America

Management Involvement

- Start at the top
  - Sounds like a cliché
  - Absolutely must have senior management buy in
  - Unlikely to obtain mid-management buy in if senior management is not on board
  - Or may be spotty

Management Involvement

- Make energy reduction/targets KPIs
  - Talk in terms management understands
  - $/product (energy numbers are fine but that is engineer speak)

Management Involvement

- Make reviews timely
  - 8:45 Monday meeting
  - Review week end targets and performance
- Honda: Confirm targets before leaving on Friday

Team Member Involvement

- Make energy visible
  - Posters, signs, videos, etc.
- Make all grades part of the energy team
  - Production
  - Maintenance
  - Engineering
  - Management
    - Operators and maintenance have to buy in on all projects or process changes before they will work

Team Member Involvement

- Challenge them
  - Race for the Green
  - President's Shut Down Challenge
- Set targets and achieve them
  - Change the equation from
    - It won't work because -----

      TO:
    - What do we have to do to make the target?

Contest Example: Winter 2009 Shutdown Energy Reduction Challenge

Shop	Electric	CA Electric	Total Avg kWH	FY09 Avg kWH	FY08 Avg kWH	% Difference	Rank
Plastics							
Paint Shop 1							
Paint Shop 2							
Assembly Shop 1							
Assembly Shop 2							
Bodyweld Shop 1							
Bodyweld Shop 2							
Stamping							
NAMC Total							

Communications

- Videos
- Team Member meetings
- News Letters
- Magazines
- School Programs
- Etc.

The InsideTrack
TMMK's Weekly Newsletter
The Week of Jan. 26, 2009

Safety • Teamwork • Customer Satisfaction • Respect • Integrity • Continuous Improvement

Plastics Takes Home Energy Reduction Challenge Trophy

Plastics is the latest winner of the President's Energy Reduction Challenge. Plastics achieved an impressive 82.79 percent reduction of energy usage during the December shutdown period. This is the fifth annual President's Challenge, in which energy consumption data is collected shop by shop and then compared with the amount of energy used during the December 2007 shutdown.

The runners up in the competition were Assembly 1 with 48.41 percent reduction and Paint 2 with 39.62 percent reduction.

TMMK President Steve St. Angelo awarded the winning shop with a plaque and banner during the Daily Operations Meeting. He applauded everyone on a job well done. "The shops were very aggressive with their reduction efforts this time around and I'm so pleased everyone took my challenge seriously as ALL shops made significant energy reduction efforts," St. Angelo said.

Plastics undertook some innovative methods for energy reduction during the competition period. Activities included dumping, cleaning and powering down the bumper and rocker sludge systems for the entire shutdown period.

They also shut off all overhead breakers for the entire shop area and dumped sensitive mixroom materials, and developed a schedule to recirculate the remaining paints every four days. In addition, the shop temperature setpoint was reduced to 50 degrees.

It is when all the shops' energy reduction efforts are added together that the cost savings add up. When comparing the results of the December 2008 shutdown versus the December 2007 shutdown, an additional $96,878 was saved for the recent shutdown period. "This reiterates my point that every little bit counts," said St. Angelo.

By coming together we saved the company a substantial amount of money and "with the current business climate it is even more critical that we take advantage of non-production time periods and reduce energy usage to the lowest possible levels," he explained.

Facilities Control Energy Management reminds all team members to continue to kaizen their energy cost saving ideas in the new year, as TMMK and all of North America strive to keep cost down. If you have an energy kaizen you'd like to share please contact your shop's EMO Captain.

The 2008 December Energy Reduction Challenge Winner was Plastics. Pictured above from left: Facilities AGM Curt Kurz, Facilities AM Roger Wallin, Plastics EMO Representative Gary VanGorp, TMMK President Steve St. Angelo, Plastics Manager Rod Derr, Plastics AGM Sid Dickerson, Plastics GM Jon DeLong, and Plastics Executive Coordinator Yasunori Tokuuchi. Assembly 1 finished in second place. Pictured middle from left: Wallin, Maintenance AM John Dotson, Assembly EMO Representative Jessica Matlock, Assembly AGM Charles Luttrell, Assembly Manager Evan Gardner, St. Angelo, Assembly AGM Phyllis Crume, Assembly GM Barry Sharpe, and Manufacturing Executive Coordinator Yoshi Nagatani. Paint 2 finished in third place. Pictured bottom from left: Wallin, Paint Executive Coordinator Tomoaki Nishimito, St. Angelo, Paint Manager Gary Lynn, and DeLong.

New TMC President— Page 2 • Assembly Kaizen Supports FMDS — Page 4

Questions & Discussion

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- *** 6** to mute phone.

Upcoming Web Conferences

June – Driving Responsibility for Energy Use

July – How to Launch an Energy Competition

August – Constant Commissioning

Register online at: energystar.webex.com/meetings

- Thank you