



Engaging Employees to Drive Efficiency Behavior

Better Buildings Summit
May 27-29, 2015

Engaging Employees to Drive Efficiency Behavior

Your Speakers:

- Brad Reed, Toyota, Assistant Manager, Maintenance and Operations, Toyota Technical Centers
- Kathy Pecora, Energy and Conservation Specialist, Will County, IL
- Chris Magee, Executive Director Sustainable Facilities, MGM
- Susan Rochford, VP Sustainability, Legrand

Your Moderator:

- Sandy Glatt, DOE



Engaging Employees to Drive Efficiency Behavior

DOE - Better Buildings Summit

Toyota Engineering & Manufacturing
North America, Inc. (TEMA)

May 29th 2015

Dan Cooper



Toyota North America

Camry
Camry Hybrid



Avalon
Avalon Hybrid



Corolla



Lexus RX 350/450h



Sienna



Tacoma



Tundra



Venza



Highlander
Highlander Hybrid



Sequoia



RAV4



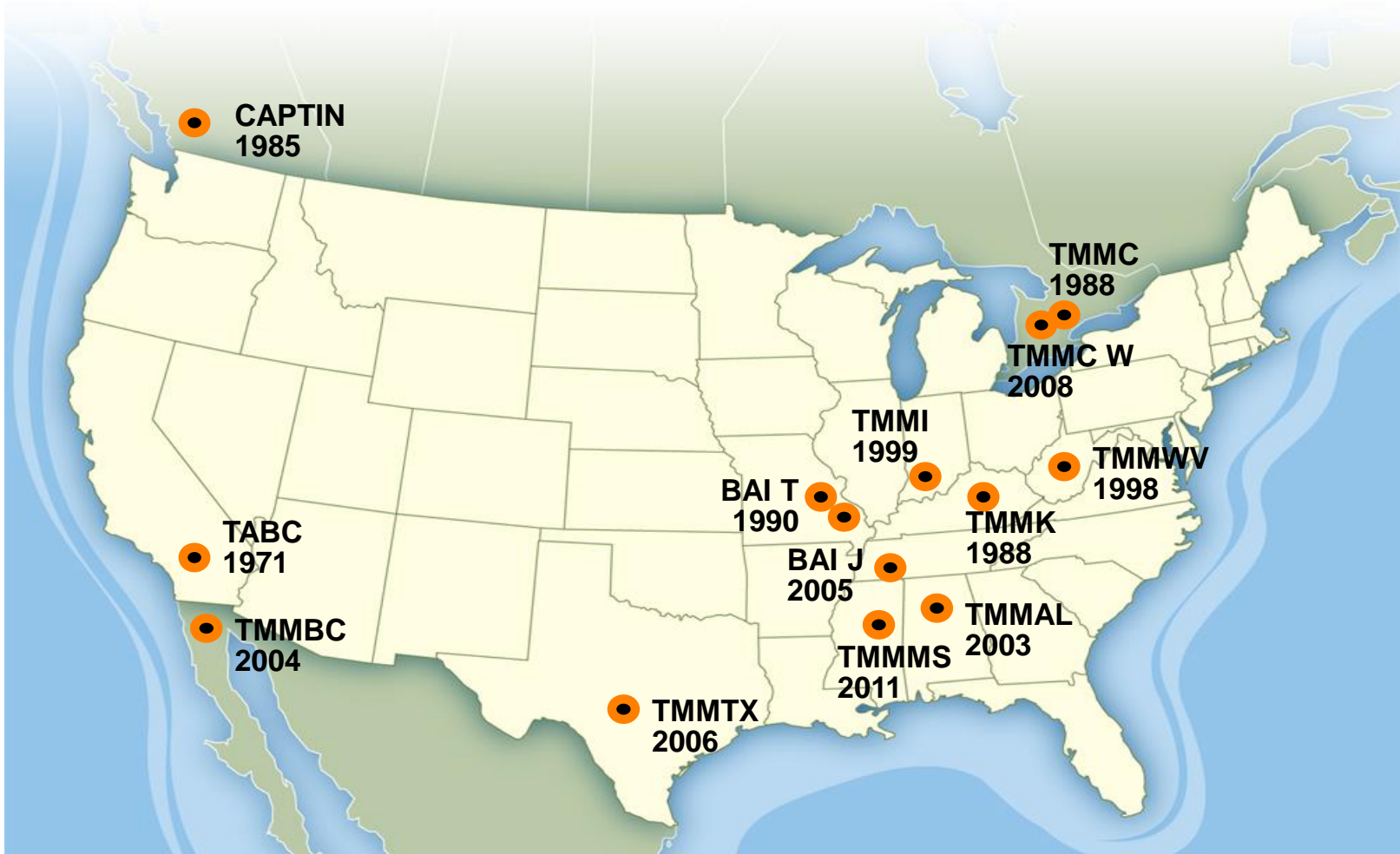


Engage

: to get or keep (attention or interest)

: to participate or become involved in

What do the plants have in common ?





Toyota Way

Challenge

Kaizen

Genchi Genbutsu

Continuous Improvement

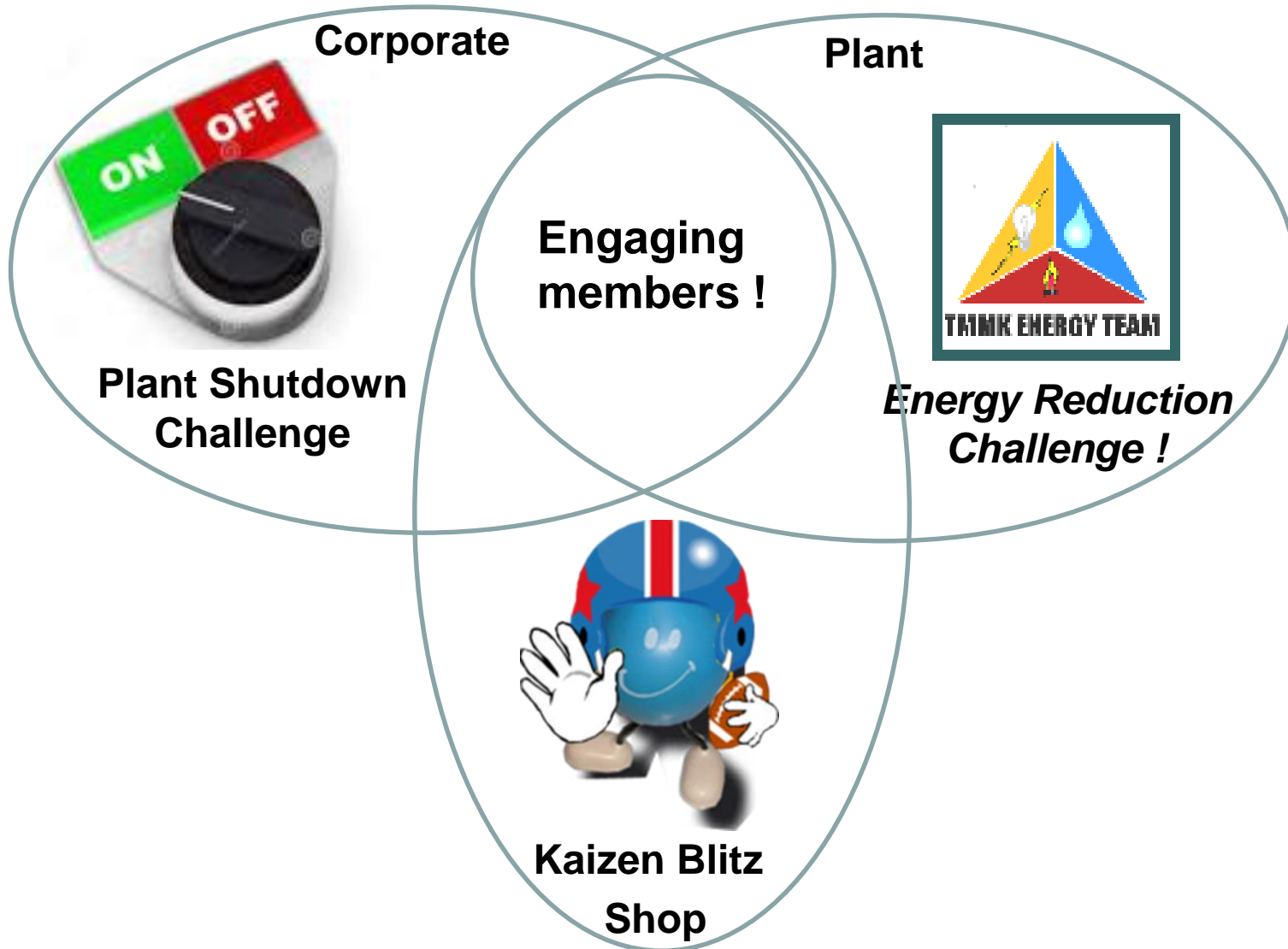
Respect for People

Respect

Teamwork



Engagement Activities





Plant Shutdown Challenge

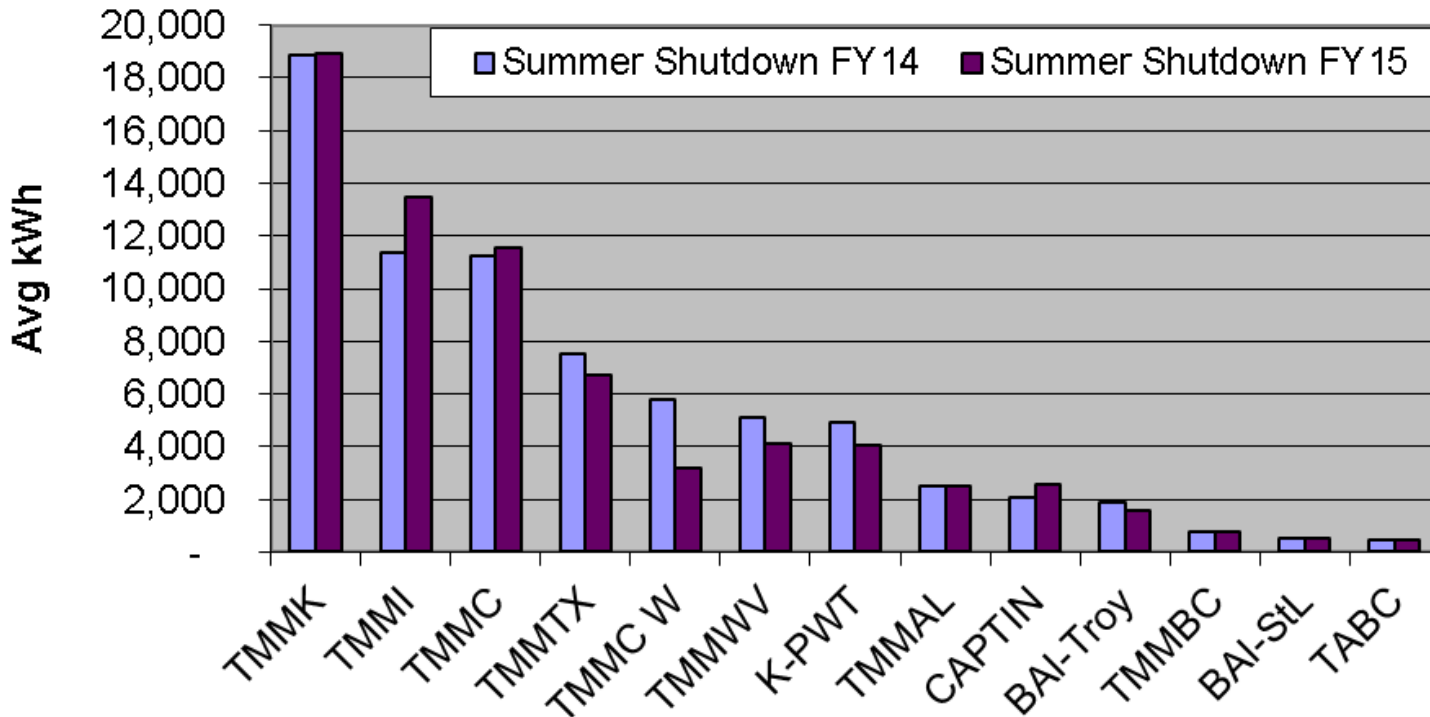
Toyota plants compete against each other

Goal: Reduce energy during plant shutdown

Rules: Baseline is previous year avg. energy

5th year for Challenge
491,000 kWh reduction

Reduction from Previous Year



Plant Shutdown Challenge Recognition



Best Practices:

- Optimize compressors
- Reduce cooling water pumps
- Turn off spot coolers
- Green Weekend

Plaque presentation at Facility Conference
Reigning Plant presents award to new winner
Article in Company newsletter

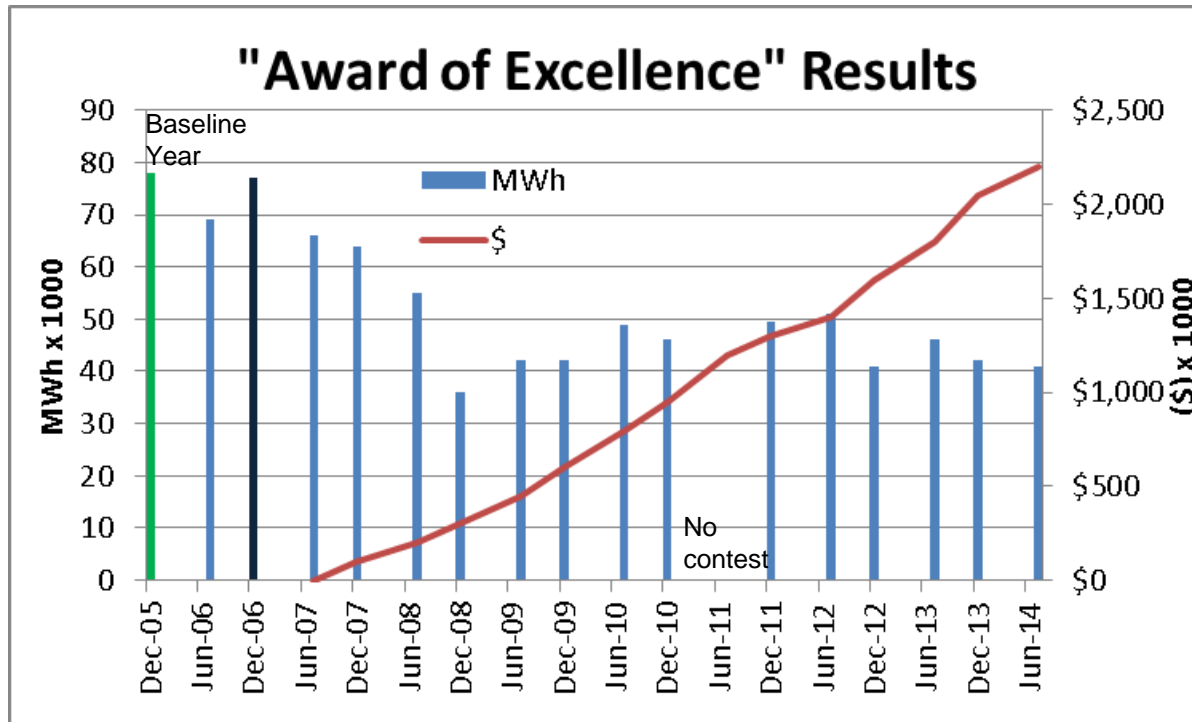


Energy Reduction Challenge !

The shops in plant compete against past performance

Goal: Reduce energy during plant shutdown

Rules: Baseline is previous year avg. energy



- 10th year
- 10 shops
- 32,000 MWh reduction

Energy Reduction Challenge !



Energy Reduction Challenge !

Recognition: “Award of Excellence” presented by President
Article in Company newsletter
Winning Shop recognized (plaque & banner)



Kaizen Blitz

Kaizen: small improvements
Blitz: with concentrated effort



- 6th year for Blitz
- 15,670 MWh identified
- 10,600 MWh implemented

**68%
Implementation**

Goal: Energy, Water & waste (3R's)
Process: 5 teams, 5 days
Utilizing Team approach !



Kaizen Blitz

Benefits: Presents to top management
 T/M input on annual plan

Energy savings



Team Work!





Value to Organization

Team Work

Plants, shops,
departments
working toward
same goal

Best practices

Share activities
with plants & shops
(CA, HVAC, lighting, etc)

Work Place

Engaged T/Ms
Ownership
Motivated

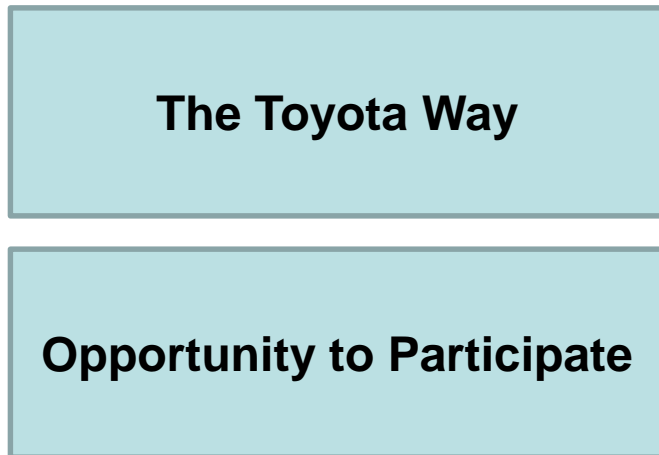
Value

Energy & Cost
reduction
Environmental
benefits



Main Takeaway

- Empower the team members
- One size does not fit all
- Sustain – keep momentum





Thank You!

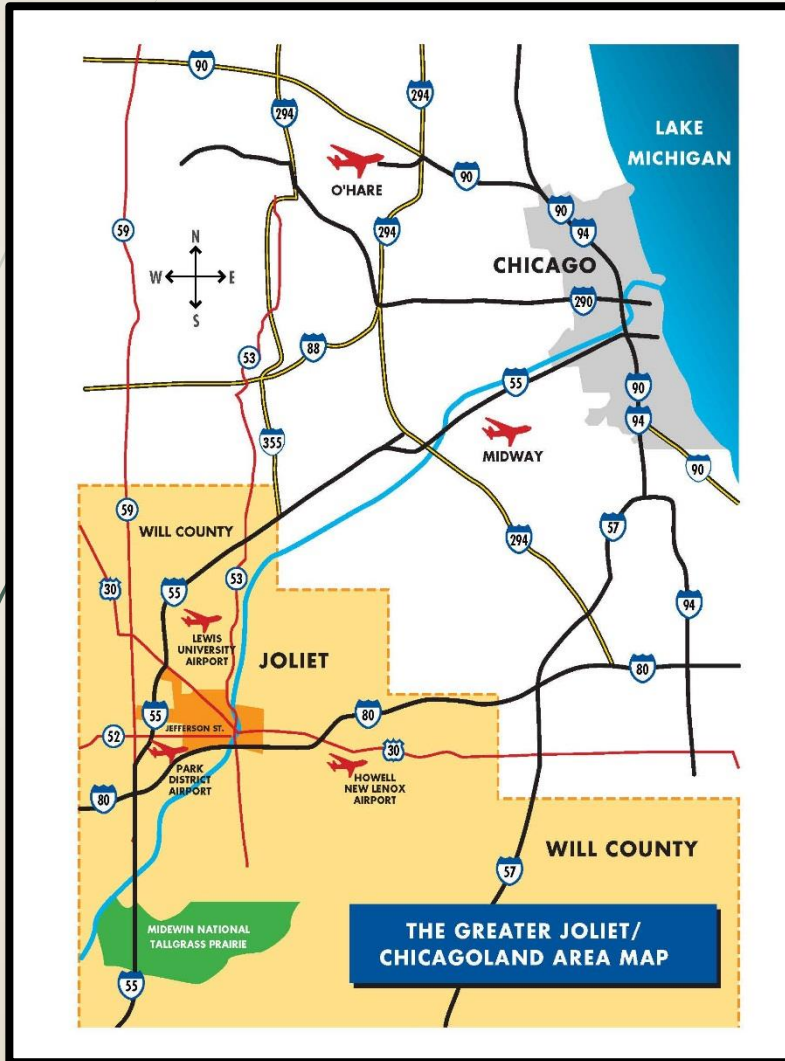
Engaging Staff in Energy Usage Reduction Behaviors



Presented by: Kathy Pecora
Will County, Illinois Energy & Conservation Specialist



Will County, Illinois



- Approximately 30 miles southwest of Chicago
- Founded in 1836
- The County Seat is Joliet
- Joliet
 - Largest city in Will County
 - 4th largest city in Illinois





History of Economic Development 1800's-1970's

- Major Exports: Agriculture, Coal, Limestone
 - Illinois-Michigan Canal
 - Sanitary and Ship Canal
 - Major Railroads
 - Interstate Highway System
- Industrialization of Will County
 - Texaco Oil Refinery
 - United States Steel Corporation
 - Joliet Army Ammunition Production Plant
 - Caterpillar, Inc.



The Great Recession of the late 1970s

- A mass exodus of industry
- Unemployment rate 26.9%
- Commercial collapse of Joliet City Center
- Commercial development relocates west of City Center

Will County Invest to Stabilize Downtown Joliet

- Purchased shuttered businesses
- Retrofits for office use to house County Departments
- Developed a long range plan with the City of Joliet



Will County, Illinois

Demographics & Statistics

- Total population of 677,560
- 29 townships containing:
 - 7 Cities
 - 29 Villages
 - 9-census designated places
- Will County Government is the 3rd largest employer within Will County having 2,065 employees
- Owns over 1,000,000 square feet of building space
- Largest office space lessee in Joliet's City Center



ARRA funds finance Energy Efficiency

- 2010 applies for and receives two million dollars
- Hire consultant to identify EE projects in County owned buildings
- Work is completed at:
 - County Office Building
 - Court Annex
 - Sunny Hill Nursing Home
 - Department of Transportation (Main Site)
- Construction of a Gas to Energy Facility at our Prairie View landfill
- Launched www.willcountygreen.com
- Energy Efficiency & Conservation Plan adopted by County Board June, 2012



Will County joins the Department of Energy's Better Buildings Challenge in 2012





2013
University of Illinois
Smart Energy Design Assistance Center
(SEDAC)

- Five Level Two Energy Efficiency Audits
- 10 years or less ROI
- 12.5% a year or more in annual energy cost savings



Will County Health Department

Site Conditions & General Building Details



- Clinical services, community spaces, family health services, behavioral health services, and an environmental testing lab
- 65,000 square feet
- Approximately 300 employees
- 6,000 – 8,500 total visitors per week
- Hours of operation: 7 am – 7 pm (Monday – Saturday)



Will County Health Department

Annual building consumption and cost



Table 1: Existing Building Data

Annual Consumption	Electricity (kWh)	Natural Gas (Therms)	Annual Utility Cost (\$)
Existing Building Consumption	943,583	35,082	81,211



Obstacles



- ▶ Oldest building in County portfolio
- ▶ Remaining **Useful Life** of Health Department determined to be 5-10 years.
- ▶ Limitations on energy efficiency projects for **this** building.





SEDAC REPORT IDENTIFIED 8 ECRM

Table 2: Calculated Energy and Cost Savings

Calculated Annual Savings from ECRMs and Packages	Annual Facility Savings					
	Electricity (kWh)	Electric Demand (kW)	Natural Gas (Therms)	Energy Cost Savings (\$)	Cost Savings (%)	Energy Savings (%)
ECRM 1: T8 Lighting	112,337	26.4	-2,537	\$6,455	7.9%	1.9%
ECRM 2: Occupancy Sensors	43,055	0	-972	\$2,474	3.0%	0.7%
ECRM 3: LED Exit Signs	13,245	1.5	-299	\$761	0.9%	0.2%
ECRM 4: Computer Management	35,251	0	-796	\$2,026	2.5%	0.6%
ECRM 5: High Efficiency Boiler	0	0	10,116	\$4,842	6.0%	15.0%
ECRM 6: Steam Line Insulation	0	0	695	\$333	0.4%	1.0%
ECRM 7: DDC with Night Setback	6,780	0	2,615	\$1,714	2.1%	4.2%
ECRM 8: Exterior Induction Lighting	41,610	6.8	0	\$2,841	3.5%	2.1%
Package: ECRMs 1 - 8	229,811	34.7	9,218	\$20,102	24.8%	25.4%

Implementation of ECRM1-4 would result in 14.3% energy cost savings, totaling \$11,718 annually



Health Department Main-Interior lighting retro-fit including occupancy sensors and LED Exit Signs



Metrics Summary			
<u>Change Time Period</u>			
Metric	Baseline (Dec 2008)	Current (Feb 2015)	Change
<u>ENERGY STAR score</u> (1-100)	67	72	5(7.5%)
<u>Source EU</u> (kBtu/ft ²)	242.3	223.1	-19.2(-7.9%)
<u>Site EU</u> (kBtu/ft ²)	123.1	122.9	-0.2(-0.2%)
<u>Energy Cost</u> (\$)	148,858.19	113,592.97	-35,265.22(-23.7%)
<u>Total GHG Emissions</u> (Metric Tons CO ₂ e)	944.5	856.7	-87.8(-9.3%)

- \$94,669 cost, \$36,902 in qualifying incentives, **total cost \$57,767**
- Cumulative Energy Cost Reduction of **\$51,721** from December 2012 to February 2015
- ROI of **>3 years**
- **23.7% energy usage reduction achieved with staff engagement**



Director's and upper management support facilitates SUCCE\$\$

- Health Department Director approves Employee outreach to engage staff in energy efficient behaviors in all 5 divisions of the health department
- Presentations given at mandatory monthly meetings
 - Energy reduction behavior was featured topic
 - Equipment audits conducted in each department
 - Health Department Staff creates their own **GREEN TEAM**
 - Health Department Staff become active in Countywide **GREEN TEAM**



Opportunities for Will County

- ▶ Repeat Health Department success countywide
 - ▶ Changed Energy Management Procedures to Utility Cost Reduction Measures
 - ▶ UCRM adopted by County Board April 16, 2015
 - ▶ County Board will consider current Energy Reduction Behavior for all departments seeking funding for Energy Efficiency improvements
 - ▶ Partnering with other government agencies within the County to complete Energy Efficiency Projects





Success = One Building at a Time

Kathy Pecora – Will County Illinois Land Use Department



Driving sustainability through employee engagement

Chris Magee

Executive Director of Sustainable Facilities
MGM Resorts International



17 Resorts – 48,000 Hotel Rooms


740 Acres on the Las Vegas Strip

350 Food & Beverage Outlets

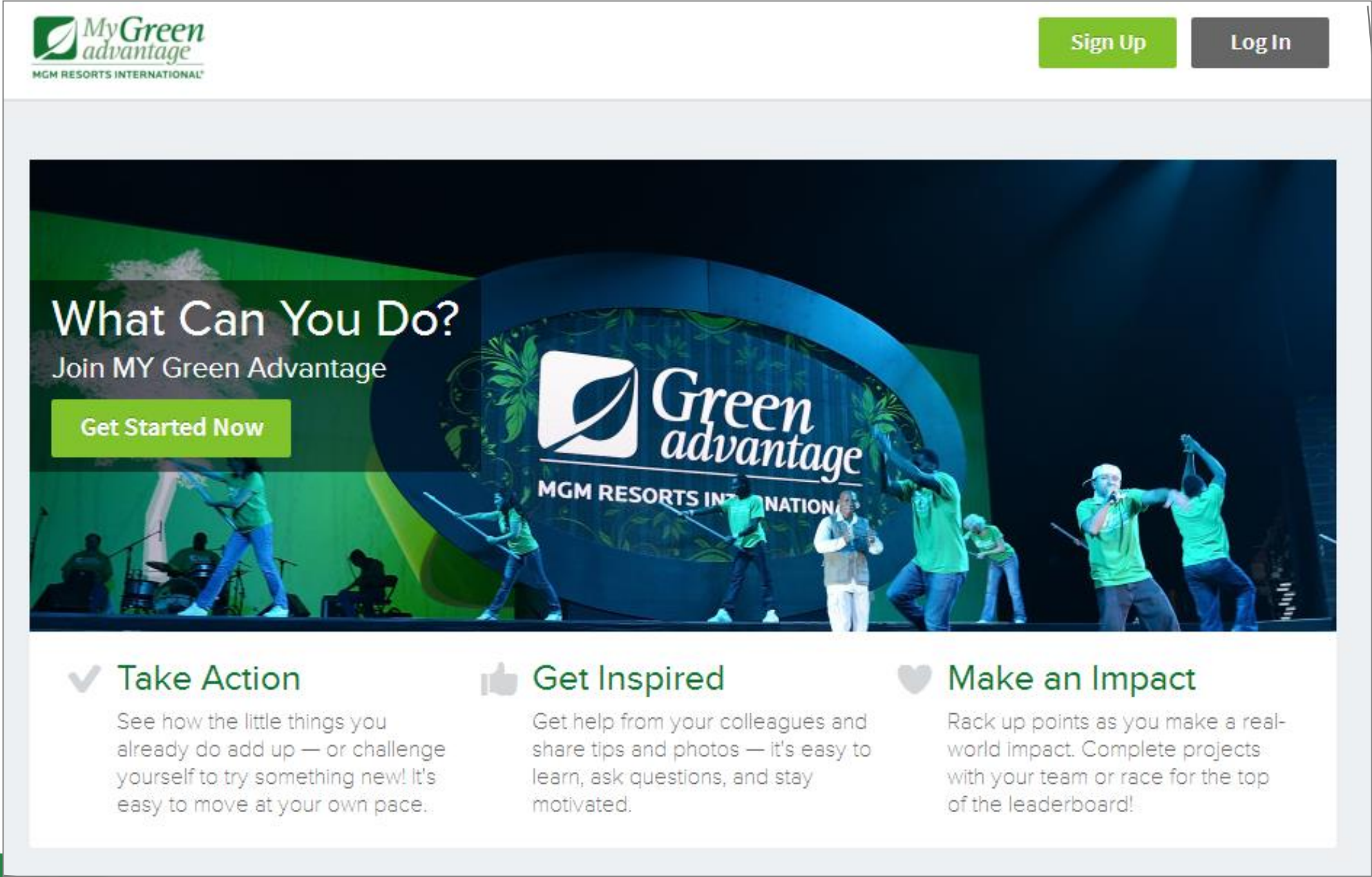
61,000 Employees

3 Million Sq. Ft. of Convention Space

AGENDA

- Program Overview: MY Green Advantage
 - Recognition & Competition
 - Identifying Employee Interests
 - Employee Impact
 - Engagement
- 

The Program



The screenshot shows the top navigation bar with the 'MyGreen advantage' logo on the left and 'Sign Up' and 'Log In' buttons on the right. Below the navigation is a large hero banner with the text 'What Can You Do? Join MY Green Advantage' and a 'Get Started Now' button. The banner features a background image of a band performing on stage with a large 'Green advantage' logo. Below the banner are three columns of content:

- ✓ Take Action**
See how the little things you already do add up — or challenge yourself to try something new! It's easy to move at your own pace.
- 👍 Get Inspired**
Get help from your colleagues and share tips and photos — it's easy to learn, ask questions, and stay motivated.
- ♥ Make an Impact**
Rack up points as you make a real-world impact. Complete projects with your team or race for the top of the leaderboard!



Recognition & Competition



Good Eats
You've earned this achievement!

LEVEL 1 ✓ 25 pts | LEVEL 2 ✓ 345 pts | LEVEL 3 ✓ 370 pts

Actions | Activity | Leaderboard | About

LEVEL 1

- +10 Find out if there are community-supported fisheries near you

LEVEL 2

- +2 Try a natural sweetener
- +2 Eat at a Dine Green certified restaurant

Your Contribution

Beat the Clock
Team with the most points wins!

+ 2,871 pts YOUR CONTRIBUTION

64 DAYS REMAINING

go green save **John Szostek** TOP CONTRIBUTOR - 6,435 POINTS

Identifying Employee Interests

The screenshot displays the 'MyGreen Advantage' website interface. At the top, there is a navigation bar with links for 'Dashboard', 'Browse Projects', 'Teams', 'Achievements', and 'Invite Your Colleagues'. The user's name 'Brittany' and a notification count of '5,721' are visible in the top right corner. The main content area features a large featured project titled 'Green Your Retirement' with a background image of a calculator, glasses, and documents. Below this, three smaller project cards are shown: 'Healthier Lunches' (2,286 participating, 2 months remaining), 'Get Active' (2,242 participating, 2 months remaining), and 'Green Office' (1,431 participating, 2 months remaining). Each card includes a 'Leave Project' and 'View Project' button. To the right of the cards, there is a 'Rate this Project' section with five stars and a 'Think something is missing?' prompt with a 'Suggest a new action for this project' button. A 'Leave Project' button is also present at the bottom right of the project grid.

Employee Impact

18,500
Employees
Signed On



1,300,000
GREEN ACTIONS TAKEN





25 PERCENT
OF TOTAL EMPLOYEE BASE

40 PERCENT
OF MGM RESORTS EMPLOYEES
ENGAGED ON THEIR
MOBILE PHONES



32 MILLION
kWh of energy saved



62 MILLION
gallons of water saved

Engagement



THANK YOU!



What powers you?

10.01 – 10.27

[#legrandenergymarathon](#)

Energy Marathon: Engaging an Entire Workforce

Susan Rochford, Vice President, Energy Efficiency,
Sustainability & Public Policy

Legrand North America

2015 Better Buildings Summit
Washington, DC

Legrand in a Nutshell

WE ARE

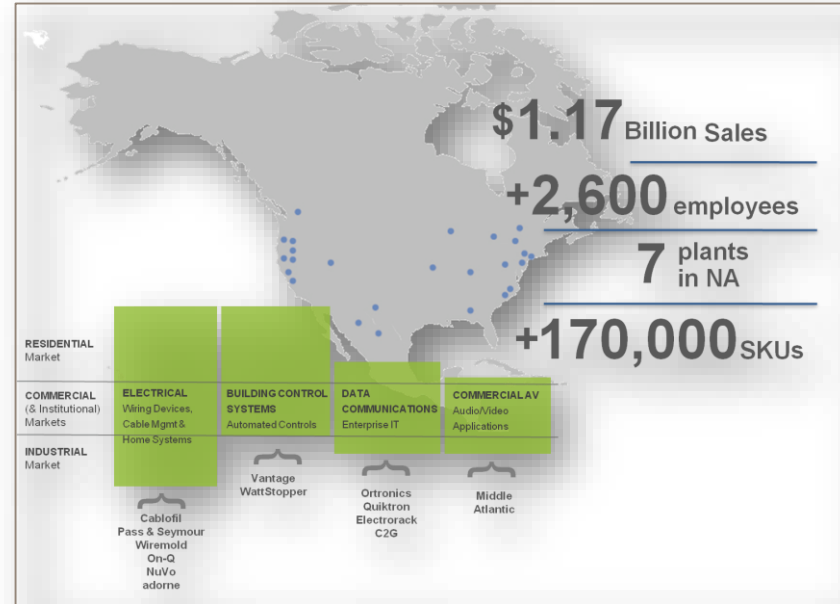
**POWER
LIGHT
& DATA**



transforming the spaces where people live & work.



CONFIDENTIAL & PROPRIETARY INFORMATION



global-minded



WE ARE

\$6 Billion 2014 Revenue

30,000 people united in the belief that together, we can do things better

a public company



in 180 countries

CONFIDENTIAL & PROPRIETARY INFORMATION

Sustainability at Legrand

High Performance Sustainable Buildings



We are dedicated to designing products that are environmentally preferred, and meet the needs of High Performance Buildings.

Operational Excellence



We are focused on increasing resource productivity and reducing the environmental impacts of our operations.

Employee & Community Welfare



We value our employees and the communities in which we work and live. We strive to provide an excellent working experience for our associates and better the communities in which we operate.

2022 Sustainability Operational Goals



25% reduction in corporate energy intensity
**20% at U.S facilities*

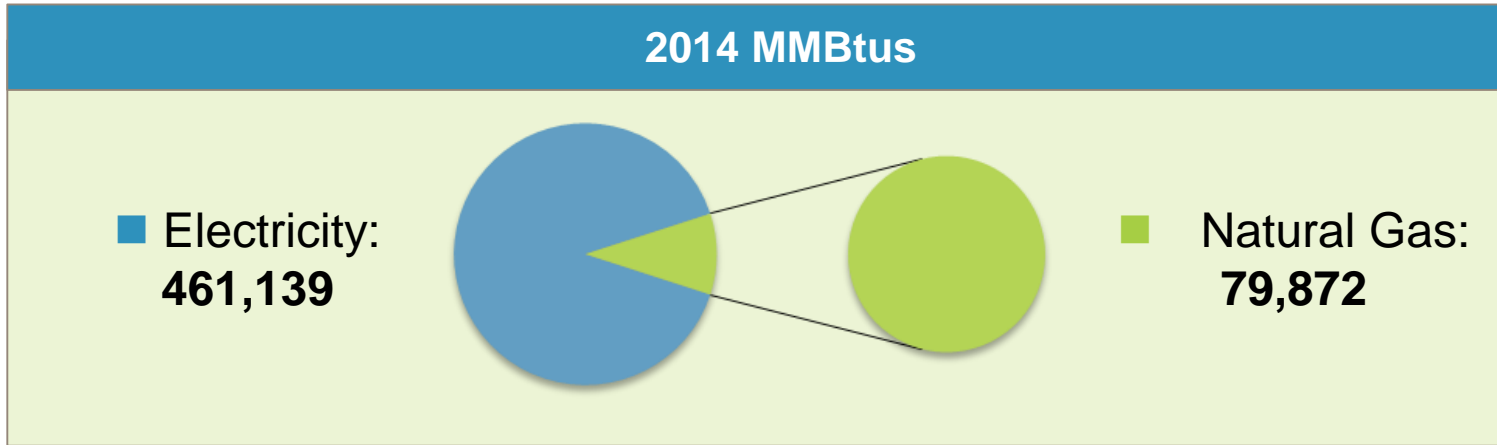


25% reduction in water consumption



0 waste-to-landfill

Our Energy Profile



Legrand, North America Energy Profile (2014)

Facility Type	Number	Sq. Ft.	Headcount	Energy Usage (MMBtu)
Office	7	162,255	324	20,698
Distribution	5	662,281	397	45,196
Manufacturing	7	1,323,422	2,488	481,167
Totals	19	2,147,958	3,209	547,061

Our Energy Strategy

Engaging our People



Evolving Our Processes



Deploying the Right Technologies



Engaging Our People – 1.0

Visible Leadership Commitment
 Dedicated Corporate Energy Manager
 and Designated Site Liaisons
 for Energy

Employee Engagement Initiatives

- Recognizing and Reporting Success
- Energy Education
- Earth Day Poster contest for children of employees
- Legrand Employee Product Purchase Program



Power Down Day – 2.0

On Thursday November 29, 2012 we held our first company-wide Power Down Day

A 24 hour competition to challenge all 2500 employees to save energy

- Unplugging overcrowded receptacles and appliances not being used
- Turning off unnecessary lights (task and overhead)
- Turning off computer, monitor or printer when not being used

RESULT : 24% reduction in energy intensity

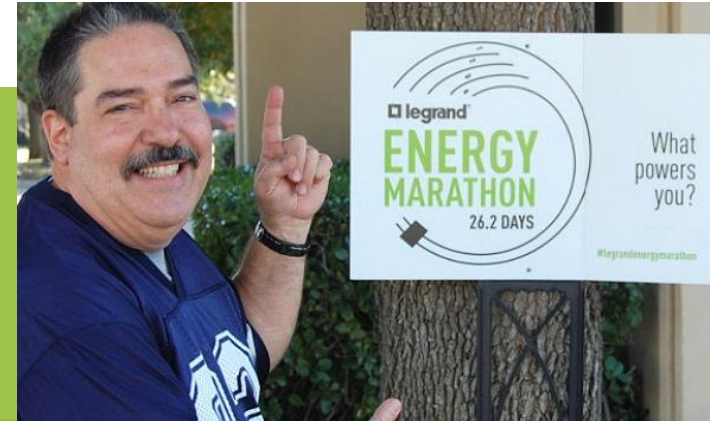
The Legrand Corporate Energy Policy was introduced on Power Down Day

Winning Sites: Employee Luncheon and \$3000 contribution to their local food bank



Energy Marathon Concept – 3.0

Asked 2,500 employees to save energy for 26.2 days



Bring energy efficiency to the forefront, boost energy awareness and have fun



2014 Legrand Energy Marathon

- **Purpose:** Jumpstart our NEW energy intensity reduction commitment of an additional 25% reduction by 2022.
- **When:** Oct 1, 12:00 PM — Oct. 27th, 2:00 PM
- **How:** Similar to the “Power Down Day” held in 2012, this is an inter-site competition to reduce energy intensity but over a 26.2 day period versus one day
 - Multi-functional steering committee in place to organize and run the event; set the ground rules
 - Multi-faceted communications and outreach effort to engage employees, post progress/status and share energy saving tips throughout the event
 - Use of daily main meter readings in October to be tracked against a per site average taken from first 2 weeks of Sept,
 - Weekly themed events to promote energy savings opportunities
- **Winner:** Awarded to the top Site to achieve the highest percent reduction in electrical use
- **Benefit:** If electrical use is reduced across LNA by 10-20% over the 26.2 day period, ~\$30-60K savings possible.

26.2 Days of Energy Savings!



***Energy efficiency.
It's not a sprint, it's a
marathon.***

READY

- Start planning at least 3 months in advance
- Identify and assign Core Team members – include roles and actions
- Detailed project plan covers communications, operations and recognition



Energy Marathon		Last Updated: 10/15/2014							Dates shown are week beginning							Week Due Complete Behind				
Task	Responsibility	7-Jul	14-Jul	21-Jul	28-Jul	4-Aug	11-Aug	18-Aug	25-Aug	1-Sep	8-Sep	15-Sep	22-Sep	29-Sep	6-Oct	13-Oct	20-Oct	27-Oct	3-Nov	Comments
Steering Committee Kick-off																				
Determine time period to measure results against (i.e. Oct 2013 vs Oct 2014, Sept 2014 vs Oct 2014, Average Daily usage or other period)	Jim, Dean, Aaron & Bill																			Each site will capture and record raw energy usage to meters or submeters starting on Wednesday, September 3rd at 12 noon as a start point and then captures and records the same on Tuesday, September 8th at 1pm as an endpoint. This is half the time of the Marathon and will be used to determine the average daily usage. Intensity would not be factored.
Determine how best to obtain the measurement data for each site is a primary concern	Jim, Dean, Aaron & Bill																			Site Energy Managers will be requested to complete the above instructions during the July 23rd Operations meeting and re-confirmed on the August 26th meeting the week before this data is to be
Determine frequency of progressive site reports to the company (i.e. daily or weekly) and how best to communicate (i.e. email, website)	Ronda, Jim, Dean, Bill & Jim																			Daily progress reports via email, a day or two behind on key. Send out daily company-wide email showing who is ahead in the marathon.
Finalize enhancement of initial Logo design	Ambrogio																			Three new drafts produced. SC to make decision.
Finalize list of milestone events (see full list of promotional requests)	Greg & Patrick																			
Draft "What powers you energy list"	Patrick, Bill & Jim																			Patrick has initial ideas. Patrick also email tomorrow
Determine Site Facility Manager duties	Jim, Dean & Bill																			List of site manager's business prepared and their participation will be requested during July 23rd Operations meeting
Draft Communications Plan with detailed actionable steps	Patrick																			See below
Communications Plan:																				
Email Communications																				
Draft website website	Patrick																			

SET

If we look funny, click the link to the right --> [View this email in your browser](#)

STARTING IN 10
days until go time

legrand ENERGY MARATHON
26.2 DAYS

Did you know?

Energy efficiency is in our DNA. We design products that help customers reduce their energy needs and are walking the walk in our own facilities.

Since 2009, we have reduced our energy intensity by **27.8%**, and are working toward a new goal of an **additional 25% reduction by 2022**, from a 2012 baseline.

Your impact counts! Here's the scoop on the Energy Marathon...

legrand ENERGY MARATHON
26.2 DAYS

Schedule:

Oct. 1st, 12:00 PM - Start

- Week 1: How Low Can You Go?
- Week 2: Hit the Lights!
- Week 3: Turn it Off Now!
- Week 4: Energy Blitz

Oct. 27th, 2:00 PM - Finish

* Submissions to weekly contests and drawings will be due 5:00 PM Fridays.

More to come!

What powers you?
10.01 – 10.27
#legrandenergymarathon

Copyright © 2014 Legrand. All rights reserved.
All Legrand Employees

- Prepare Comprehensive Communication Campaign
- Provide “purpose” information for each audience (i.e., tips to save energy at work and at home)
- Maintain interest – avoid “event fatigue” using contests and daily updates on energy savings

Fire look funny, click the link to the right --> [View this email in your browser](#)

legrand ENERGY MARATHON
26.2 DAYS

DAY 14

Plano Has Maintained Its Lead!

Plano is holding strongly to its whopping 56% reduction in energy use, but it's not too late to close the gap!

> Standings to be updated Thursday! Keep your eyes on the prize.

Energy Efficiency Tip:

How Much Electricity Do Appliances Use?

Appliances account for about 13% of your household's energy costs, with refrigeration, cooking, and laundry at the top of the list.

Be sure to look for the **ENERGY STAR** logo when shopping for new appliances.

> Click [here](#) to learn more about appliance efficiency.

TURN it OFF NOW

Due Friday, Oct. 17th – What Powers You?

- Take a picture of your workspace and let us know what would help make YOU more energy efficient at work!
- Enter to win a **NEST or 1 of 20 WattStopper** (less JOP-3050 occupancy sensor/surge protector outlet strips for your home).
- Submissions to weekly contests and drawings should be emailed to sustainability_legrand@legrand.us

SAVE ENERGY & WIN PRIZES!

LED PRIZE PACK **NEST PROGRAMMABLE THERMOSTAT** **WATTSTOPPER ISOLE JOP-3050**

GO

- Deliver communication plan
- Share Energy Marathon site standings
- Energy Waste Citations elevate daily focus
- Encourage best practice sharing amongst leaders

#00001

Energy Waste Citation

-This Should Be Turned Off When Not In Use-

#00001

Energy Waste Citation

-This Should Be Turned Off When Not In Use-

Machine: _____

Date: _____ Location: _____

Time: _____ Issued By: _____

-For Dept. Manager-

Electricity Usage in kWh from Utility Meter		Utility Multiplier	KWh Rate Calculated From Electricity Bill	Baseline					Energy Marathon Start:						
Facility Location(s)	Site Leader			Baseline Start @ 12 noon	Baseline Finish Day 13.1 @ 1 pm	Projected 26.2 Day kWh Total From Baseline	Average Daily Usage	Day 1 @ 12 noon	Day 2 @ 12 noon	Cumulative Difference	Baseline % Change	Savings \$			
1			\$ Per kWh	kWh	kWh	kWh	kWh								
2															
3															
4															
5															
6															
7															
8															
9															
10															
11															
12															
13															
14															
15															
16															
17															

Legrand @LegrandNA

#legrandenergymarathon is finished. @WattStopper Plano wins! We saved 588,540 kWh in just 26.2 days #ReduceOctober

DURING THE 2014 ENERGY MARATHON LEGRAND, NORTH AMERICA SAVED ENOUGH ENERGY TO DRIVE AN ELECTRIC CAR TO THE MOON & BACK 3.3 TIMES

RETWEETS 8
FAVORITE 1

Our Results

Across 18 Sites

- 15.4% Reduction in Energy Consumption
- 588,540 kWh saved
- 406 metric tons CO₂ saved
- \$46,732 saved
- Awareness of sustainability goals
- Visible leadership appreciation of sustainability
- Employee morale boost
- Charitable contribution
- Pizza party
- Recognition by the U.S. Department of Energy
- FUN!



Energy Marathon – an example of cultural shift

- Making sustainability part of our DNA
- Applying lessons learned to other areas of sustainability
- Harnessing friendly competition to unify a diverse organization
- Having confidence in our people to exceed our goals
- Building on our internal success to engage more proactively with our suppliers, partners and customers

Next Steps and Lessons Learned

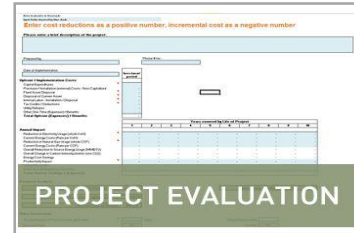
- Leverage the best practices we learned throughout the entire year
- “Check-in” to evaluate site performance since the Marathon
- Share the Energy Marathon “Toolkit” with suppliers and other companies
- Commit to a biennial Energy Marathon – keep the competitive spirit alive!

Want to Know More?

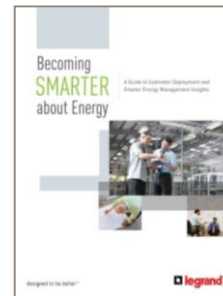
Download the Energy Marathon Toolkit



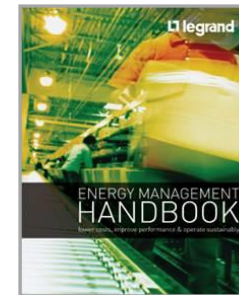
- Share our ideas with others – no cost
- Fact sheet, checklists, action planning, communication and recognition ideas



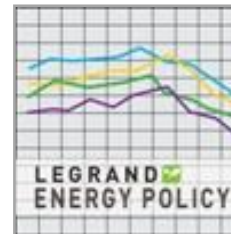
Energy Project Evaluation Tool



10 Lessons in Submetering White Paper



Energy Management Handbook



Energy, Waste and Water Corporate Policies



Organizing for Results Sustainability Tool



High Performance Building White Papers

A large circular graphic on the left side of the slide, divided into several colored segments. The top-left segment is purple and contains the text 'BETTER DAY'. The top-right segment is orange and contains the text 'SUSTAIN'. The bottom segment is green and contains the text 'FINANCIAL'. A large white circle is overlaid on the center of the graphic.

BETTER
DAY

SUSTAIN

QUESTIONS?

SUSAN.ROCHFORD@LEGRAND.US

www.legrand.us/sustainability

FINANCIAL