



ENERGY STAR

ENERGY STAR

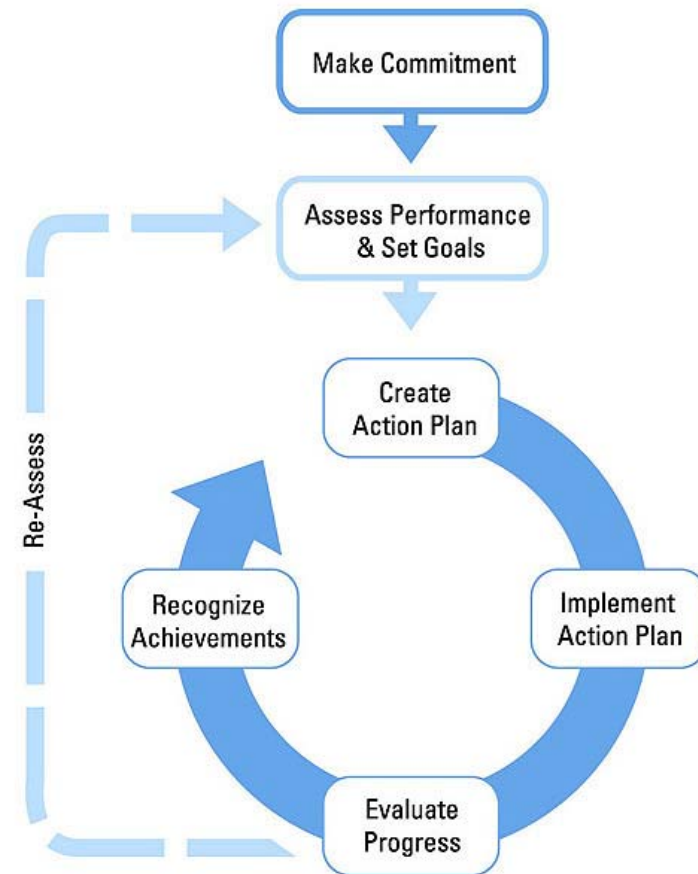
Partners of the Year

April 21, 2004

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



- Mute phone when listening! Improves sound quality for everyone.
- If slides are not advancing, hit refresh or close presentation window and press the re-launch button again.

Today's Web Conference



- Welcome
- Jean Lupinacci – ENERGY STAR
- Cliff Timko – Giant Eagle
- Kamesh Gupta – General Motors
- Questions & Discussion
- Announcements

ENERGY STAR Awards



- Across all partnership categories
- Large and small organizations
- Public Institutions and corporations
- Over 12 award winners for corporate energy management in 2004.

ENERGY STAR Awards



Gives partners an opportunity to:

- Be distinguished as an environmental leader
- Gain public recognition
- Create momentum at high levels of organization
- Secure additional resources to leverage their programs
- Recognize employees

ENERGY STAR Awards



Gives EPA an opportunity to:

- Identify leadership characteristics
- Learn from partners
- Create incentives for energy efficiency upgrades
- Reward environmental protection
- Reinforce achievements of voluntary approach

2004 Awards



Categories

- Leadership in Energy Management
- Excellence in Business & Institutional Outreach
- Sustained Excellence In Energy Management

2004 Award Criteria



1. Organizational Commitment
2. Energy Tracking & Benchmarking
3. Energy Achievements
4. Communications
5. Other efforts across ENERGY STAR

Characteristics Of Winners



- Energy manager with authority across organization
- Solid senior management support
- Measured performance and sustained reductions
- Unique efforts to motivate and train employees
- Internal educational and incentive programs
- External communication with customers, tenants, community

2004 Award Winners



Leadership in Energy Management:

- 3M
- Eastman Kodak Company
- Giant Eagle
- Fremont Unified School District
- Providence Health System
- Transwestern Commercial Services
- University of Michigan
- USAA

2004 Award Winners



- Sustained Excellence in energy management
 - continuous improvement demonstrated over several years
 - consistently strong energy programs
 - establish a benchmark for leadership

2004 Award Winners



Award For Sustained Excellence

- Food Lion
- Hines
- General Motors
- Servidyne Systems

Award PSA



3M
 ConEd Powers Partners
 Exelon Nuclear Company
 a3 Corporation
 Envia Homes
 Energy Services Group
 Enge Homes Colorado, a division of TUSA Homes, Inc.
 EcoEAM, LLC
 Fremont Unified School District
 GE Consumer Products
 General Motors Corporation
 Giant Eagle, Inc.
 Good Earth Lighting, Inc.
 Great Enterprises, Inc.
 Hines
 Lamps Plus Inc.
 Lawr's Companies, Inc.
 MacGrath Associates
 Nevada ENERGY STAR Partners
 Pardee Homes
 Providence Health System
 Public Homes Nevada Operations
 Sea Wall Lighting Products, Inc.
 Serendip Systems, LLC
 ULXNIX
 Transwestern Commercial Services
 University of Michigan
 USA Real Estate Company
 Veridian Homes
 W. S. Martzke, LLC
 Whirlpool Corporation

WE THANK THESE LEADERS FOR BEING A PART OF THE BIGGER PICTURE.

<p>Asa Hardware Corporation American Hotel & Lodging Association CentexPoint Energy Efficiency Network and Partners The Home Depot The Institute for Sustainable Energy at Eastern Connecticut State University Maytag Corporation Minnesota Power, an ALLETE Company Nevada Power Company New England Joint Management Committee New York State Energy Research and Development Authority Northwest Energy Efficiency Alliance Oquirrh Electric Delivery Company</p>	<p>Pacific Gas and Electric Company Perseus Sacramento Municipal Utility District San Diego Gas and Electric Sears, Roebuck and Co. Sierra Pacific Power Company Southern California Edison Southern California Gas Company Southern Minnesota Regional Power Agency Spawning Organizations of NEEP Vermont Energy Investment Corporation Vermont Gas Systems Wisconsin's Focus on Energy Program</p>
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CONGRATULATIONS TO THE 2004 ENERGY STAR® AWARD WINNERS

for helping Americans prevent the greenhouse gas emissions equivalent to about 1.8 million cars and for protecting our environment for future generations. ENERGY STAR is a program administered by the US Environmental Protection Agency and the US Department of Energy, designed to help businesses and individuals protect the environment through superior energy efficiency.





Energy and Environmental Management at Giant Eagle



Cliff Timko
Energy Manager



Giant Eagle's Environmental Policy

- We are dedicated to reducing our environmental impact through strategic leadership and management in all areas of our business. As part of this commitment, we work closely with our suppliers, encouraging them to implement similar practices in their businesses
- We are an EPA ENERGY STAR Partner and member of the USGBC
- We are the first supermarket chain in the country to register a project for LEED certification



Organization

- Conservation Department
 - Director reports to CEO
 - Energy Manager and ENERGY STAR Coordinator
- Energy Program Works Across Departments
 - Design and Construction
 - Equipment Purchasing
 - Maintenance



Organizational Commitment

- 73% of stores benchmarked, 13% awarded the ENERGY STAR
- Register sites for LEED certification
- Purchase Wind Power
- Continuous Commissioning
- Energy Awareness at Store Level
- Food Marketing Institute Energy Services & Technical Committee Member



Energy Efficiency Goals

- Achieve and maintain ENERGY STAR status for 80% of corporate stores by FY-05
- Reduce energy spend by 5% over tariff
- Generate monthly, semiannual, and annual reports that quantify progress of energy management program



Energy Management Plan

- Nine business activities
- Each activity has a matching...
 - Strategy
 - Corporate Responsibility and Goal
 - Facility Responsibility
- Developed from an ENERGY STAR template

	Giant Eagle BUSINESS ACTIVITY	STRATEGY	CORPORATE RESPONSIBILITY GOAL	FACILITY RESPONSIBILITY
1	Commitment to Energy Management	<ul style="list-style-type: none"> • Recognize importance of energy management at all levels of organization. 	<ul style="list-style-type: none"> • Implement corporate energy management plan and outline targets and milestones. • Develop plan to offer monetary and recognition incentives for achieved energy savings. • Designate energy manager 	<ul style="list-style-type: none"> • Utilize corporate and energy efficiency specialist to monitor reduction goals. • Make energy program subject of district facility meetings.
2	Data Collection and Review	<ul style="list-style-type: none"> • Have a thorough understanding of energy usage. • Apply knowledge to supply- and demand-side management to identify opportunities for improvement. 	<ul style="list-style-type: none"> • Update and maintain UM database. • Develop energy reports that provide information and a gauge to management on the progress of the program. • Issue reports on a timely basis. 	<ul style="list-style-type: none"> • Post monthly utility and share annual change with staff. • Provide energy information to energy manager.
3	Benchmarking	<ul style="list-style-type: none"> • Better understand Giant Eagle's energy performance against retail industry averages and top performers. 	<ul style="list-style-type: none"> • Benchmark with ENERGY STAR, both internally and against industry averages, to identify greatest opportunities for savings. • Conduct energy audits for the highest energy use buildings. • Establish internal standards/incentives/competition among properties. 	<ul style="list-style-type: none"> • Share facility benchmark score with staff.
4	Operating &	<ul style="list-style-type: none"> • Maximize low-cost 	<ul style="list-style-type: none"> • Develop O&M best practices 	<ul style="list-style-type: none"> • Post energy-sa



Measuring Performance

- ENERGY STAR Benchmarking
 - Update Portfolio Manager weekly
 - Compare versus national average
 - Share reports with senior and store level management
 - Select lower rated stores for retrofits
 - Track improvements
 - 75 + portfolio average

Facility Name	Rating (1-100)	Actual Annual Energy Intensity (kBtu/sq. ft.)	Annual Energy Intensity Ref. Avg., Rating of 50 (kBtu/sq. ft.)	Annual Energy Cost (B\$ Dollars, 03)	Total Energy Cost per Sq. Ft. (B\$ Dollars, 03)	Total Floor Space (Sq. Ft.)	Label	App
*Sample Building For New Users	70	83.6	100.14	\$417,308.07	\$1.90	220000	No Status As	
Grant Eagle 0002 McKees Rocks	79	241.3	338.07	\$270,347.64	\$3.92	68010	Application - (08-APR-04)	
Grant Eagle 0003 Homersville	90	349.3	379.33	\$195,230.40	\$4.52	34343	No Status As	
Grant Eagle 0004 Bethel Park	94	291.2	574.16	\$299,020.91	\$3.51	86023	2003 Applcnc (13-AUG-03)	
Grant Eagle 0005 New Kensington	NA	233.8	636.34	\$343,091.94	\$3.89	88366	2003 Applcnc (13-AUG-03)	
Grant Eagle 0009 Homersfield	89	241	415.99	\$259,350.74	\$3.14	82852	No Status As	
Grant Eagle 0010 Innes	99	197.4	546.36	\$257,833.10	\$2.43	106241	Application - (08-APR-04)	
Grant Eagle 0014 Village Square	NA	254.6	886.06	\$288,934.69	\$3.13	92188	2003 Applcnc (13-AUG-03)	
Grant Eagle 0017 Shadyside	82	217.9	320.05	\$194,930.34	\$3.52	55408	No Status As	
Grant Eagle 0005 West View	95	214.3	457.08	\$227,577.99	\$3.48	66378	No Status As	
Grant Eagle 0011 Castle Village	91	226.1	402.23	\$177,057.66	\$3.70	47902	2003 Applcnc (13-AUG-03)	
Grant Eagle 0003 Braecliff II	NA	194.4	550.47	\$210,057.80	\$2.99	70186	2003 Applcnc (13-AUG-03)	
Grant Eagle 0024 Robinson Crossroads	NA	244.3	451.13	\$361,460.36	\$3.90	92700	2002 Applcnc (08-APR-02)	
Grant Eagle 0006 Virginia Manor	94	267	510.77	\$141,813.04	\$4.46	31774	2003 Applcnc (13-AUG-03)	
Grant Eagle 0007 Leetsdale	85	271.6	418.46	\$199,550.24	\$4.26	46793	No Status As	
Grant Eagle 0008 Squirrel Hill	80	293.9	481.5	\$147,277.90	\$4.63	31782	2003 Applcnc (19-NOV-03)	
Grant Eagle 0009 Washington	NA	264.9	627.85	\$303,785.68	\$3.39	89600	2003 Applcnc (01-JUL-03)	
Grant Eagle 0040 Shadyside	81	316.2	483.14	\$188,961.43	\$5.41	34912	No Status As	

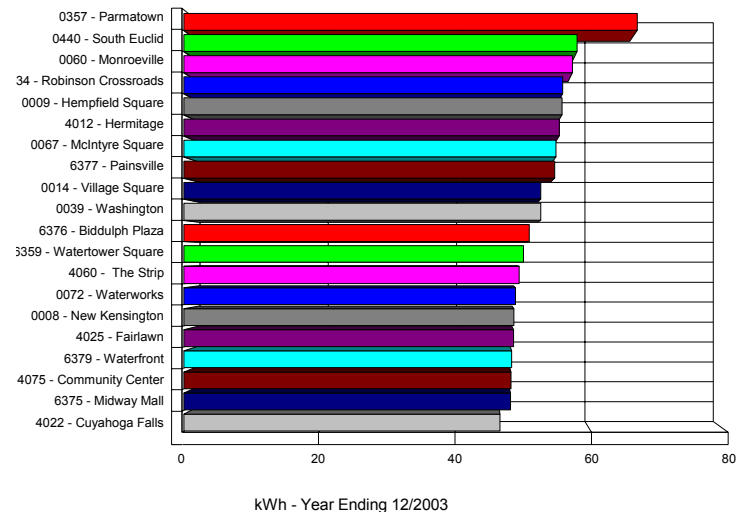
Custom Portfolio Manager view with Store Name, Rating, Energy Intensity, Annual Cost, Cost Per Sq. Ft., and Label Status.



Measuring Performance

- Utility Management Database
 - Reports by operating division, size range, and utility
 - Comparison Report
 - 20/20 Report
 - Baseline year comparison
 - Share reports to compare versus peers

Highest Electricity kWh/SqFt
Store Size Comparison: 75,000+ Square Feet



Twenty Highest kWh/SqFt is part one of the 20/20 Report. The worst offender is GE 357 Parmatown. The second half of this report includes the 20 lowest users.



Measuring Performance

- Energy sub-metering
 - Weekly tracking
 - Monitor 12 to 16 major loads
 - Model a baseline for equipment
 - Compare to baseline after re-commissioning
 - Choose stores based on ENERGY STAR Rating
 - Standard in new stores



Improvement Strategies

- Re-Commissioning
 - Average savings of 12%
- Continuous Commissioning
 - Power monitoring
 - Ongoing maintenance
- Lighting
 - High efficiency fluorescent lighting
 - Wattage / sq. ft. – 3.23 HID to 1.88 fluorescent
 - LED signs



Improvement Strategies



- EMS Controls
 - Nearly corporate wide
 - Remote-communicating
 - Optimize setpoints
 - Schedule lighting and HVAC units
 - Standard for new stores and remodels



Improvement Strategies

- White TPO Roofing
 - ENERGY STAR Recommendation
 - White Roof Calculator
 - Reduced 15 tons of AC
- Occupancy Sensors
 - 40 sensors per store
 - \$6000 savings per year per store



Corporate Citizenship Strategies

- LEED Projects
 - 2 registered projects
 - Modeling, commissioning, daylighting, and dimmable ballasts
 - Excellent compliment to ENERGY STAR
- Wind Power
 - 5 year commitment for 2.9 million kWh
 - Demonstrate commitment to renewable energy



Demonstrate Results


- 2003 Results
 - 2.7 % use reduction
 - 19,903,000 pounds CO₂
 - 1722 cars removed from the road
- Financial Value
 - \$700,000 in savings
 - 46% IRR



Communicate Results


- Internal communication
 - Company intranet
 - Management training
 - E-mail to store/regional management about labels
- External communication
 - Tear off card for customers →
 - Earth Day posters in all stores

This Giant Eagle location has earned the Environmental Protection Agency 2003 ENERGY STAR® Label for Buildings.



To further our environmental commitment, Giant Eagle became an ENERGY STAR partner in the fall of 2001. ENERGY STAR is an Environmental Protection Agency & Department of Energy program designed to promote energy efficiency in products and buildings through partnerships with government, business and consumers. Giant Eagle is one of the nation's grocers working to achieve the ENERGY STAR performance guidelines for their buildings. The stores that meet these guidelines are awarded the ENERGY STAR Label for Buildings.

The Conservation Department coordinates Giant Eagle's efforts with ENERGY STAR. You may contact us at 412-963-2354 for additional information.



Make every day taste better.®



Continuous Improvement in 2004

- Leaders Recognition – 2004 Goal
 - Benchmark all supermarkets, warehouses, and offices
 - Achieve 10, 20, or 30 point improvement or **75 + average score**
 - EPA Recognition for Leaders in October 2004
- LEED Existing Building
 - ENERGY STAR tie-in makes it easier
 - 2 points for a 70
 - 10 points for a 95



Thank You

Email: Cliff.Timko@gianteagle.com

Office: (412) 963-2354



2004 ENERGY STAR Awards. From Left to Right: Karen Andelmo – Giant Eagle ENERGY STAR Coordinator, Spencer Abraham – U.S. Secretary of Energy, and Cliff Timko – Giant Eagle Energy Manager



General Motors Energy Management Program

Kamesh Gupta
WFG Energy & Utility Services Group
Energy Star Web Conference
April 21, 2004

General Motors – A Global Company

- Largest vehicle manufacturer
- Manufacture in 32 countries
- Vehicles sold in 192 countries
- Employees – 325,000 worldwide
- Energy Star – Partner of the year 2002
- Energy Star – Sustained excellence in energy management



Challenges

- Large Organization
- Numerous facilities
- Energy cost not significant compared to total budgets (<1%)
- Requires a culture change



Organization

- Central group to focus on energy conservation efforts
- Upper management commitment
- Bottoms up Implementation



Organization

Energy and Utility Services Group Responsibilities

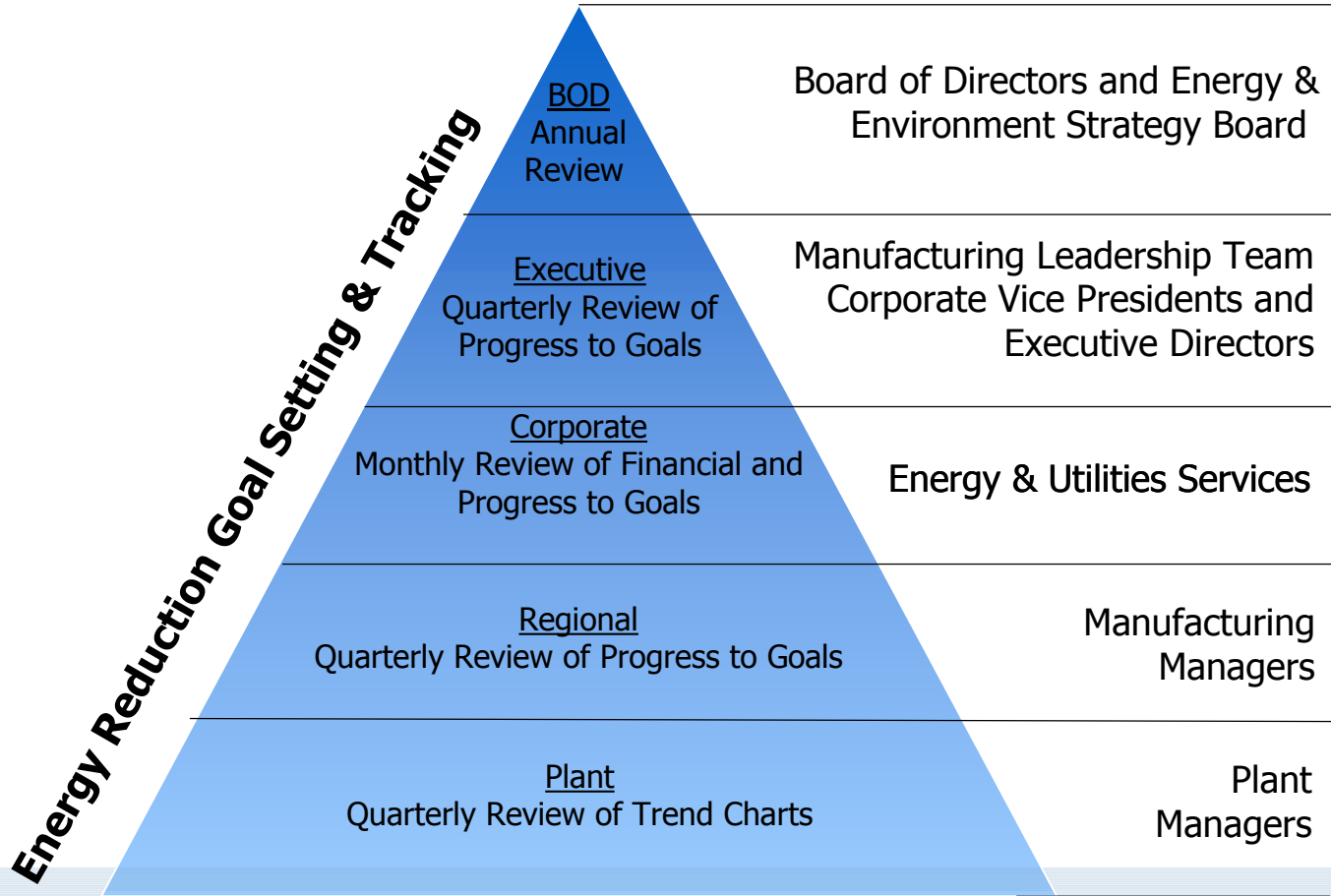
GM – North America

- Buy energy for every facility
- Manage energy and utility operations with personnel at each facility
- Develop and implement strategy for energy conservation



Organization

Upper Management Commitment



Strategy

Energy and Utility Services Group Energy Strategy

- Set aggressive energy reduction goals.
- Track and obtain accurate energy usage information.
- Monitor energy performance on a regular basis.
- Benchmark facilities.
- Develop robust strategies and action plans to achieve conservation
- Drive adoption of Best Practices.
- Dedicate resources for energy reduction initiatives.
- Recognize Achievements.



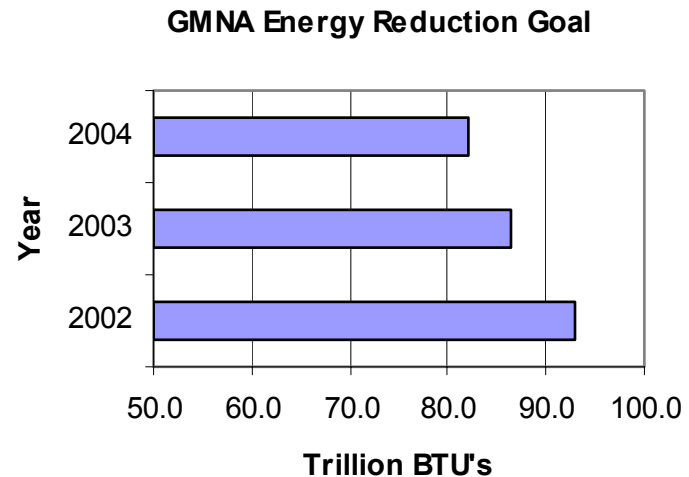
Goals

Aggressive Goals

For the year 2004 GM has set an energy reduction goal of 5% over and above the savings already achieved.

These reductions must be achieved irrespective of production or floor space increases.

No excuses



Tracking Energy

GM 2100

Web based system implemented in 2001

All utility bills and meter readings from every facility are entered directly into the system and are cross-checked with each other.

Generates current usage data and energy usage and cost trend charts.

Allows EUSG to determine where and how energy is being used and spot energy reduction opportunities exist.

Allows auditing of energy reduction projects after implementation to assure that actual savings are occurring.

GM
GLOBAL UTILITIES INFORMATION SYSTEM

Enter your UserID & Password to Login

User Name :

Password :

Login

No User ID? [Click here](#) to request one.

Quick Incident

Name :

Phone Number :

Email Address :

Description :

Submit

Problems logging in?
Call 1-866-238-2100 (1-866-991-2100) from the USA
or 1-416-203-9222/7714 from other countries

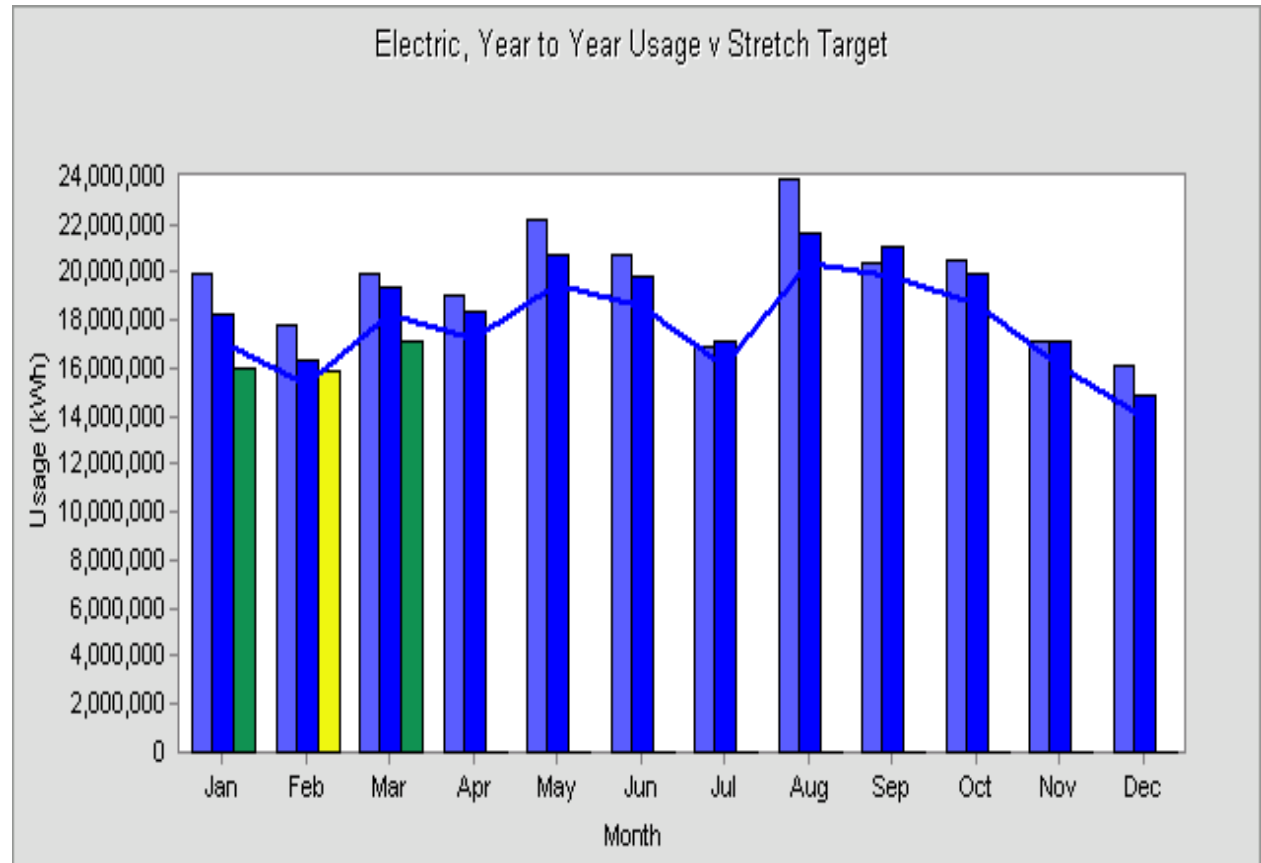
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Tracking Energy

GM 2100

Sample Trend Chart

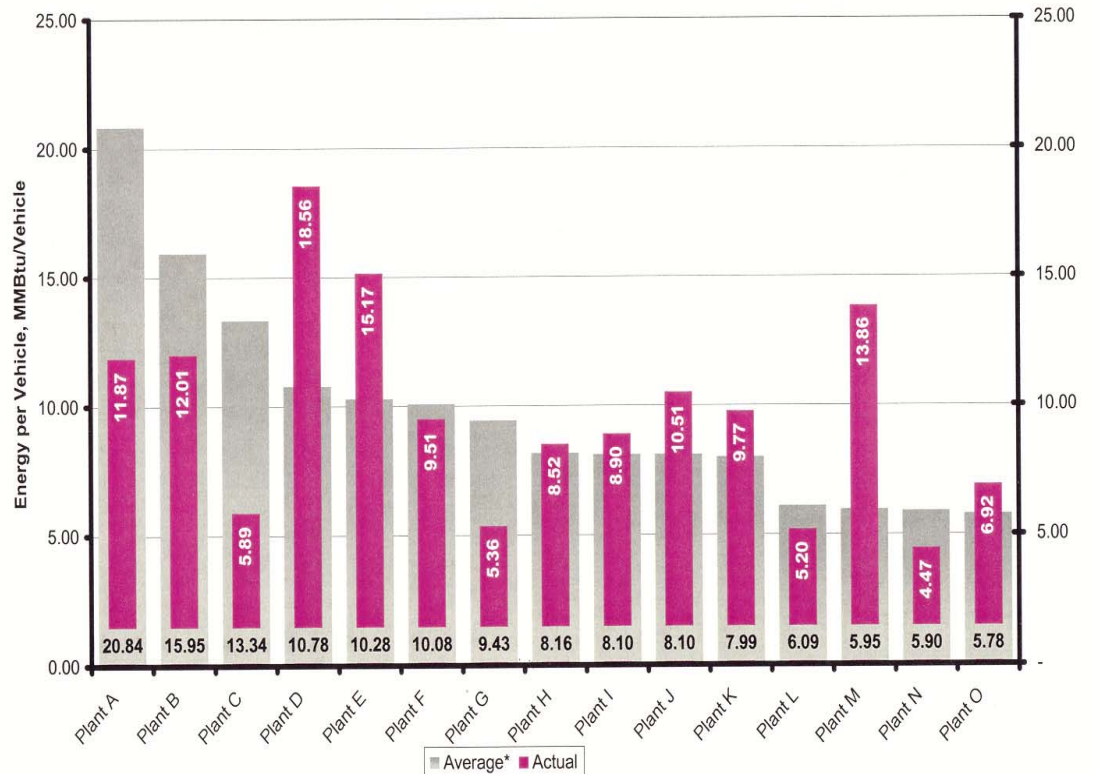


Benchmarking

GM benchmarks energy performance both internally and externally.

This information is used to focus energy reduction initiatives where most needed.

For external benchmarking GM uses the EPA's benchmarking tool that was developed in the EPA energy star focus group.



* Predicted plant energy consumption for average plant operating at actual production volumes under EPA model



Specific Programs

Energy Sufficiency Plan								
Form Used By "BUSINESS UNITS" to Capture Energy Opportunities								
Plant:	Ph.	Date:	Business Unit: All Plants					
SUM:	Ph.	Area Supt.				Ph.		
Energy Saving Opportunity	Location	Shut Down Res. (name)	Shut Down Time	Start Up Res. (name)	Start Up Time	Monitor	Annual Savings	Validate Yes/No
Lights - Moist Sand Booth (78/2&252/1)	Paint - Switch on Column AE-2	name	End 2nd Shift	name	5:30 a.m.	name	\$3,170.00	Yes
Lights - Moist Sand Booth (78/2&252/1)	Paint - Switch at Column AH-3.6 or 3 switches at entrance to the booth	name	End 2nd Shift	name	5:30 a.m.	name	\$3,170.00	Yes
Equipment - Moist Sand Booth Fans (2@100HP)	Paint - AH-3.6, "Green" is on	name	End 2nd Shift	name	5:30 a.m.	name	\$16,051.00	Yes
Equipment - Clean Room Featherduster Fans (3@50HP)	Paint - Above Clean Room	name	End 2nd Shift 8:30 a.m. 11:00 a.m. 1:30 p.m. 2:30 p.m. 6:00 p.m. 8:30 p.m. 11:00 p.m.	name	5:30 a.m. 8:53 a.m. 11:30 a.m. 1:56 p.m. 4:00 p.m. 6:23 p.m. 9:00 p.m. 11:26 p.m.	name	\$16,039.00	Yes
Equipment - Clean Room Recirc. Exhaust Fans (2@250 HP, 2@200 HP, 2@150HP)	Paint - Ducts Beside Clean Room, Check computer on mezzanine (Base Coat, "C" Clear Coat, "A/B" Clearcoat)	name	End 2nd Shift 8:30 a.m. 11:00 a.m. 1:30 p.m. 2:30 p.m. 6:00 p.m. 8:30 p.m. 11:00 p.m.	name	5:30 a.m. 8:53 a.m. 11:30 a.m. 1:56 p.m. 4:00 p.m. 6:23 p.m. 9:00 p.m. 11:26 p.m.	name	\$119,689.00	Yes
Equipment - Clean Room Recirc. Supply Fans (2@250 HP, 2@200 HP, 2@150HP)	Paint - Ducts Beside Clean Room, Check computer on mezzanine (Base Coat, "C" Clear Coat, "A/B" Clearcoat)	name	End 2nd Shift 8:30 a.m. 11:00 a.m. 1:30 p.m. 2:30 p.m. 6:00 p.m. 8:30 p.m. 11:00 p.m.	name	5:30 a.m. 8:53 a.m. 11:30 a.m. 1:56 p.m. 4:00 p.m. 6:23 p.m. 9:00 p.m. 11:26 p.m.	name	\$119,689.00	Yes
Equipment - Spray Booth Central Exhaust (4@300HP, 3@250HP, 2@200HP, 2@50HP)	Paint - Basement (Clearcoat Central #1-3, Basecoat Central #1-3 , and Primer Surfacer #2-3,#5) and Penthouse (Primer Surfacer #1)	name	10 a.m. Saturday/ 8:30 a.m. Sunday	name	10 p.m. Sat./ 3 a.m. Mon.	name	\$66,231.00	Yes
Equipment - ASH Units (11@100HP,10@75HP, 10@60HP, 2@40HP)	Paint - Penthouse (ASH 1, 2, 3, 4, 201, 202, 203 (#1), 205, 206, 207, 208, 210 (#1), 211 (#1), 212, 213, 214, 216 (#2), 217 (#2), 218)	name	10 a.m. Saturday/ 8:30 a.m. Sunday	name	10 p.m. Sat./ 3 a.m. Mon.	name	\$58,721.00	Yes



Specific Programs

COMPRESSED AIR (C.A.) - BEST OF THE BEST				
BEST OF THE BEST	DESCRIPTION	GREEN	YELLOW	RED
No C.A. free blows	Free blowing C.A. (open orifice to atmosphere or drain) to remove moisture or for personal cooling is a waste. Appropriate C.A. trap (Drain-All Type) should be installed to eliminate the 'free blow' to atmosphere and personal cooling with compressed air should be eliminated.	No (zero) 'free blowing' in the facility	Some attempt to eliminate the 'free blowing' of C.A.	Numerous areas with C.A. free blowing
Eliminate Vortex coolers	Vortex type coolers utilize C.A. to generate cooling by expanding the C.A. This is very costly and should be eliminated. To cool Control cabinets (those requiring cooling) should use fans or electric cooling coils. Personal refrigerators using vortex coolers should be eliminated.	No (zero) vortex type coolers in the facility	Active plan being implemented to eliminate Vortex coolers	Vortex Coolers are use in the facility
C.A. vacuum systems eliminated or have isolation valves	C.A. vacuum systems should be replaced with electric vacuum pumps. If this is not feasible, then the C.A. vacuum system should be equipped with shut off valves to secure the C.A. during non-production times and securing of these valves included in the Business Units' Energy Sufficiency Plan.	C.A. is not used for vacuum systems OR the C.A. system used for vacuum system is equipped with isolation valves that are included in ESP	C.A. is used for vacuum system with isolation valves but not included in ESP.	C.A. is used for vacuum system without isolation valves.
Validate end use C.A. pressure settings are correct for application	Excessive pressure on end use devices will increase C.A. volume requirements. All end use device should be checked to verify the pressure reducing valve (PRV) is properly set (not excessive pressure) to meet the requirement of the device. The best plants have visual control on the C.A. gauges indicating proper control range.	Regular checks are made by the Business Unit to verify and reset PRV set points	Sporadic checks are made by the Business Unit to verify and reset PRV set points	No checks are made to verify and reset PRV set points



Other Initiatives

- Paint Shop Weekend Shut Down
- Energy Management System and Metering
- “Green Lights” Program Deployment
- Compressed Air Efficiency Improvement



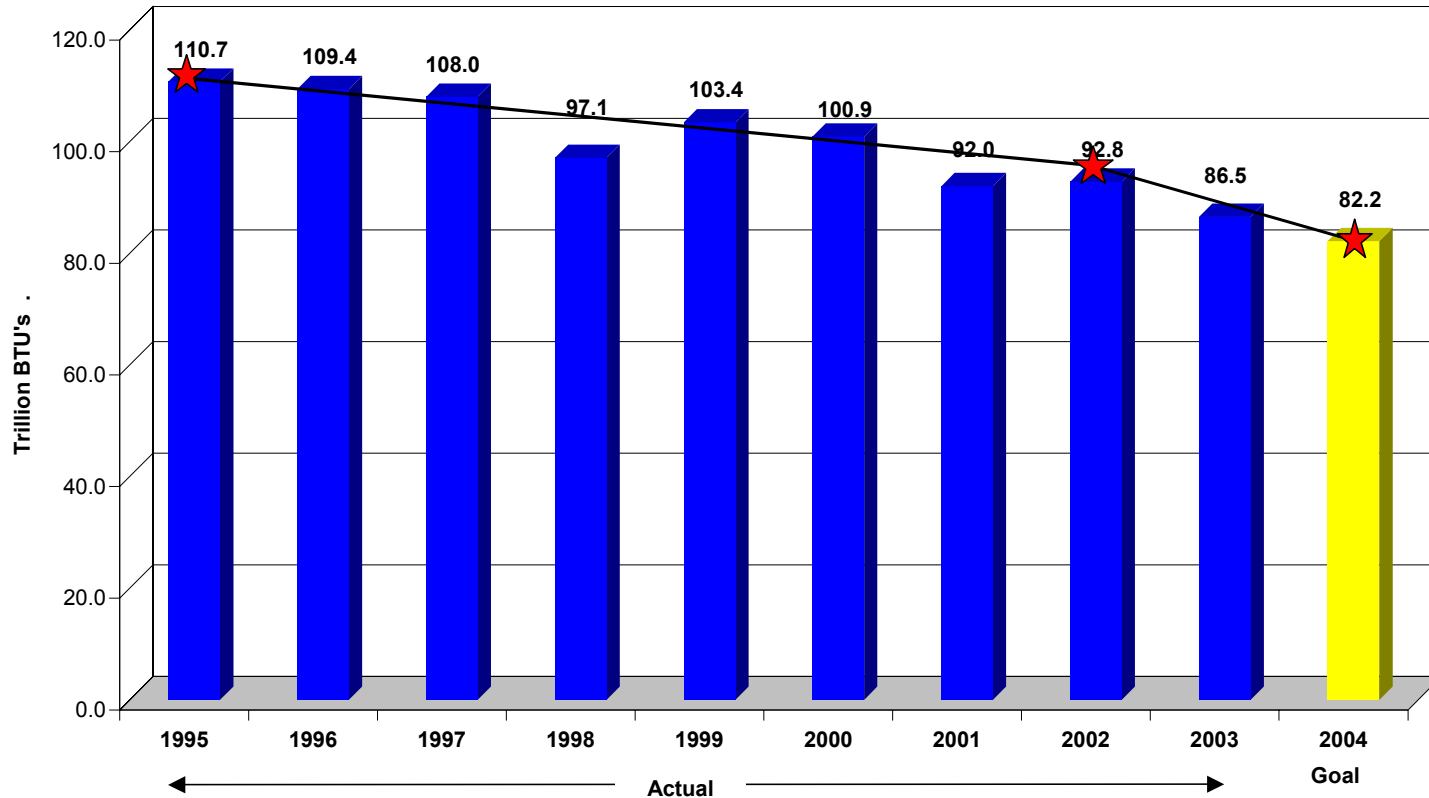
Recognizing Performance

- Annual awards for energy excellence to recognize and promote outstanding energy conservation projects within GM
- Best of the best and sustained excellence awards created to recognize facilities that exhibit the most aggressive implementation of energy conservation practices. Trophy is built after the EPA award that GM has won
- Annual conference of site utility managers and energy engineers to disseminate best practices.

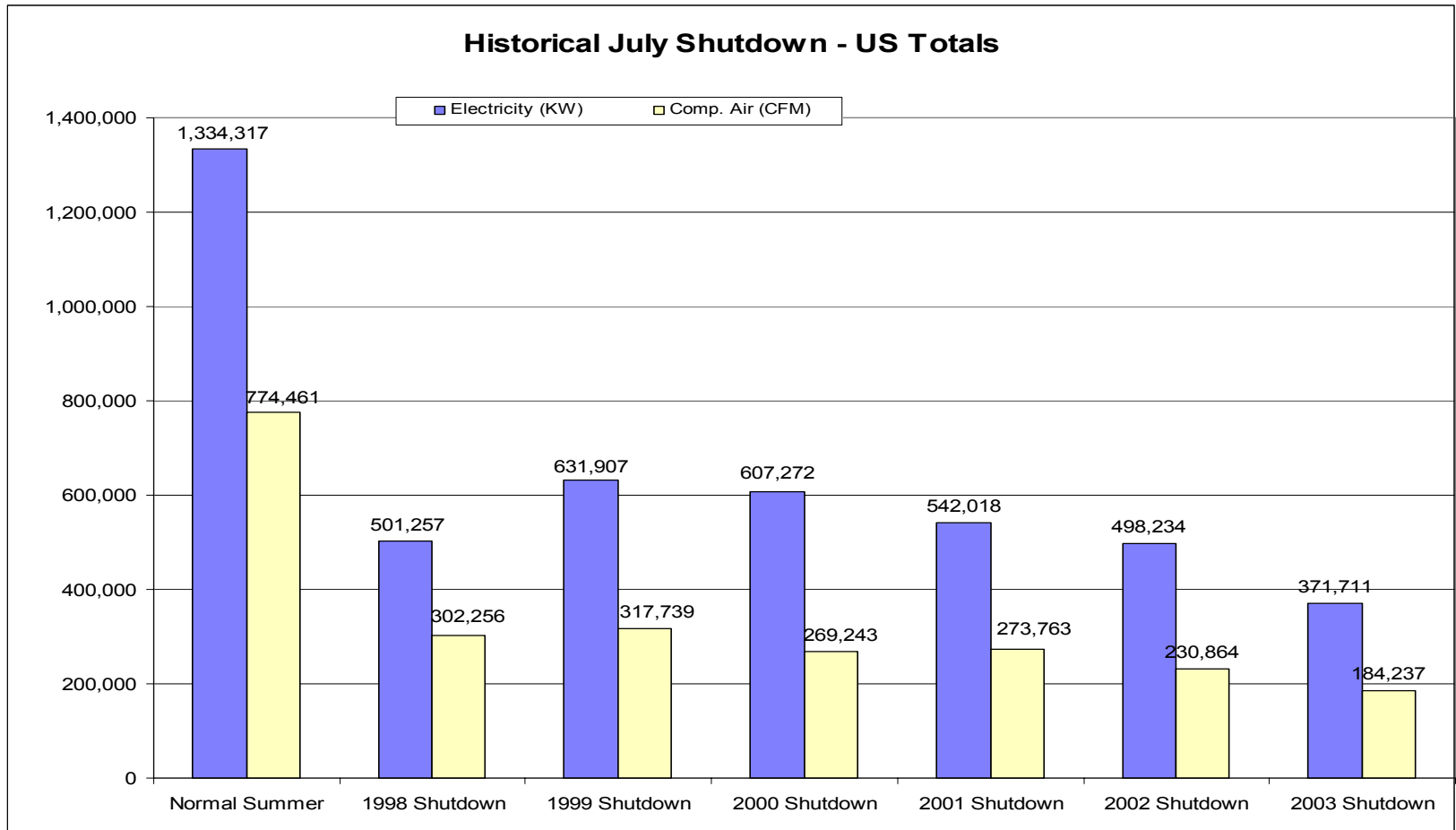


Achievements

Facilities Energy GMNA Energy Use Trend and Goals



Achievements

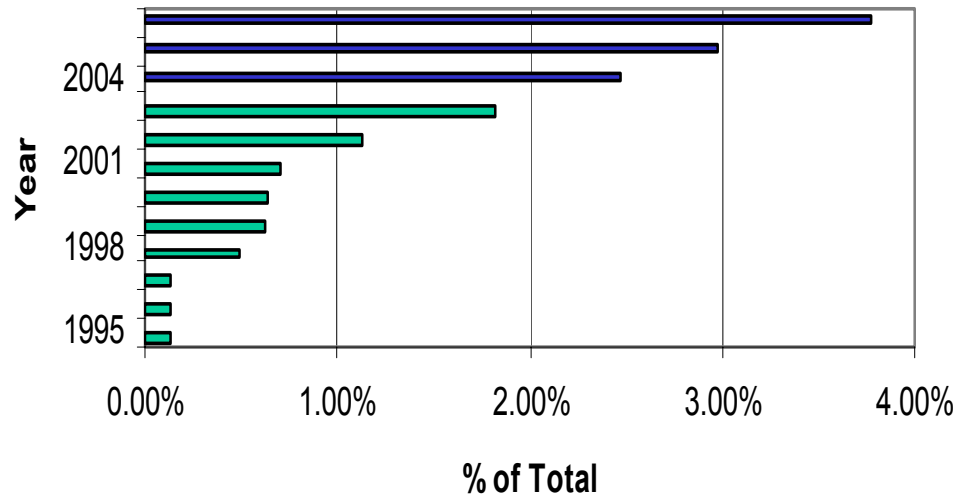


Achievements

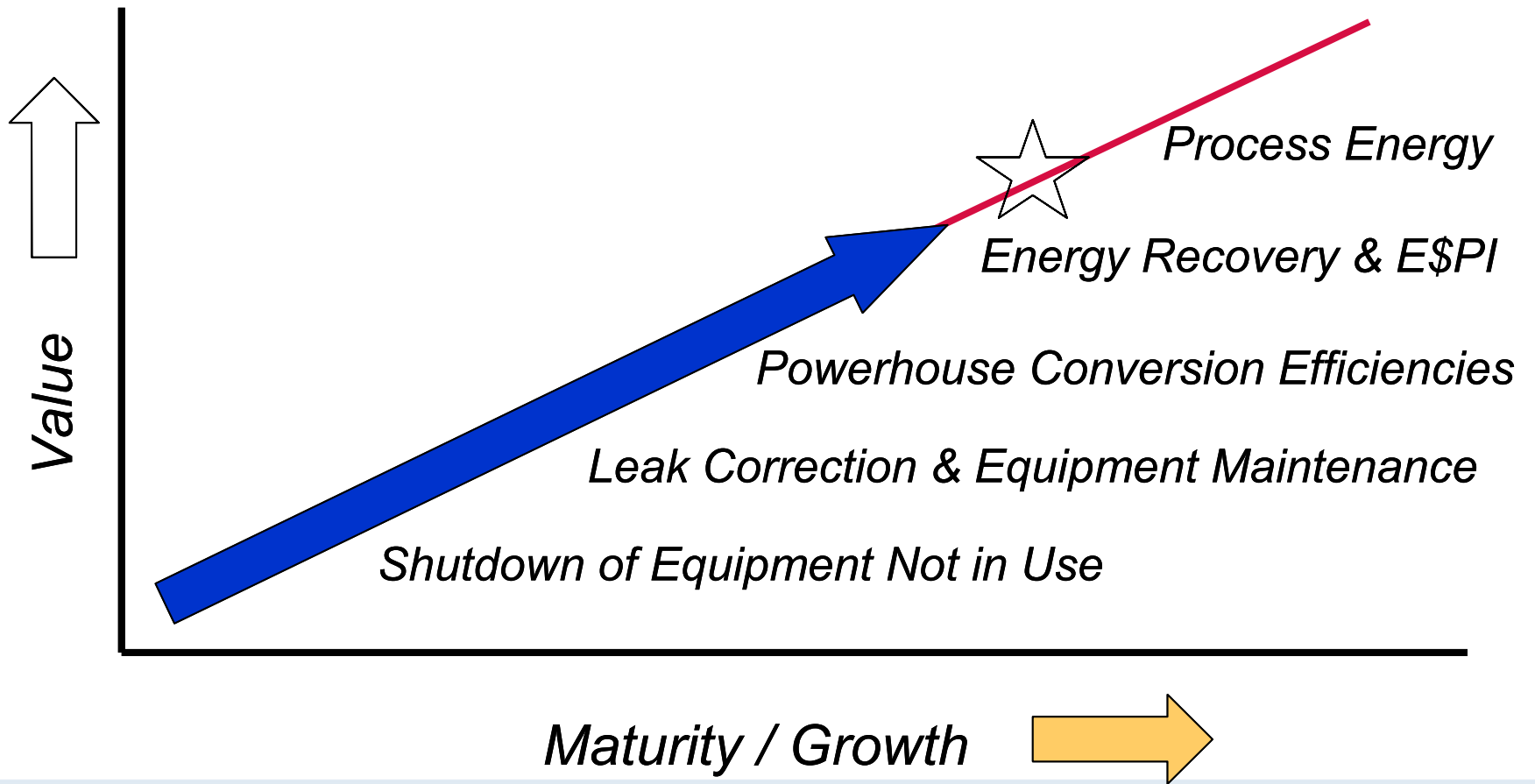
GM is increasing the component of renewable energy in its energy portfolio. Currently 1.5 Trillion BTU of GM's energy requirements are met by renewable energy.

GM is the largest corporate user of landfill gas in the United States.

**GMNA Energy Portfolio
Renewable Component**



Future Opportunities



Other Efforts

- Renewable Portfolio
 - Partner with EPA-Landfill Methane Outreach Program
 - Green Power Market Development Group
- EPA – Energy Star
 - Auto Focus Group - Major industry group with outstanding success
 - Developed Benchmark Metrics
 - Ongoing engagement
- Support E* with other industry groups







ENERGY STAR

Questions & Discussion

Upcoming Web Conferences



May 19 – Managing Energy Across Multiple Sites

June 16 – ENERGY STAR Leaders

July 21 – From 40 to 75: How did you do it?

www.energystar.gov/networking



ENERGY STAR

Thank You!