

CORNING

GovEnergy

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August 6, 2007

GEM

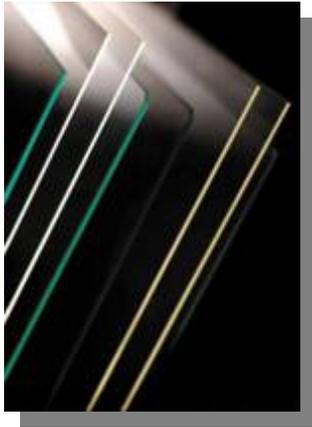
Global Energy
Management

Corning Incorporated

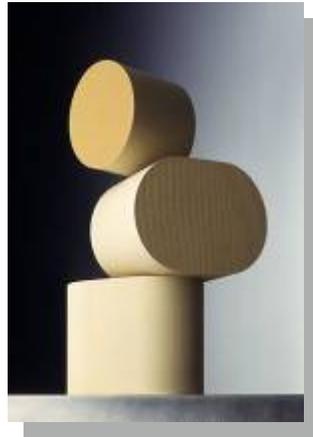
- Founded in 1851
- Headquartered in Corning, New York
- 25,000 employees
- 2006 Revenues \$5.2 Billion
- High energy costs ~ \$200 Million / year



Businesses



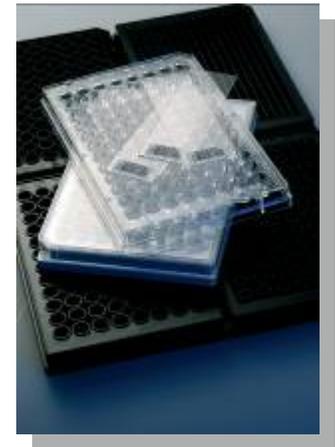
**Display
Technologies**



**Environmental
Technologies**



Telecommunications



**Life
Sciences**

Commitment to Energy Productivity

Strategic Concerns About Energy

- Long-Term Costs
- Supply Reliability and Quality
- Environmental Impacts
- Uncertain climate change legislation
- Customer and Shareholder Inputs

Potential Competitive Advantages

- Breakthrough Energy Productivity Gains
- Reliable and Secure Energy Supplies
- Sustainable Business Practices

Information Gathering

Voice of
the
Customer



DOE
&
EPA



ALCOA

bp

Toyota

FritoLay

OWENS CORNING

Bayer

GM

DU PONT *The miracles of science™*

DOW
Living.
Improved daily.

BASF

3M

United Technologies

What it takes to be World Class

- Energy Policy
- Global Leader
- Senior Sponsorship
- Active Energy Teams
- Reliable Data
- Baseline Data
- Corporate, Division, and Site Goals
- Available Capital
- Technical Action Plan
- Defined Roles, Resources, and Responsibilities
- Long-Term Energy Master Plan
- Education and Training Programs
- Communications Plan

Critical Self-Assessment December 2005

Commitment to Continuous Improvement

Assess Performance and Opportunities

Set Performance Goals

Create Plan

Implement Plan

Evaluate progress

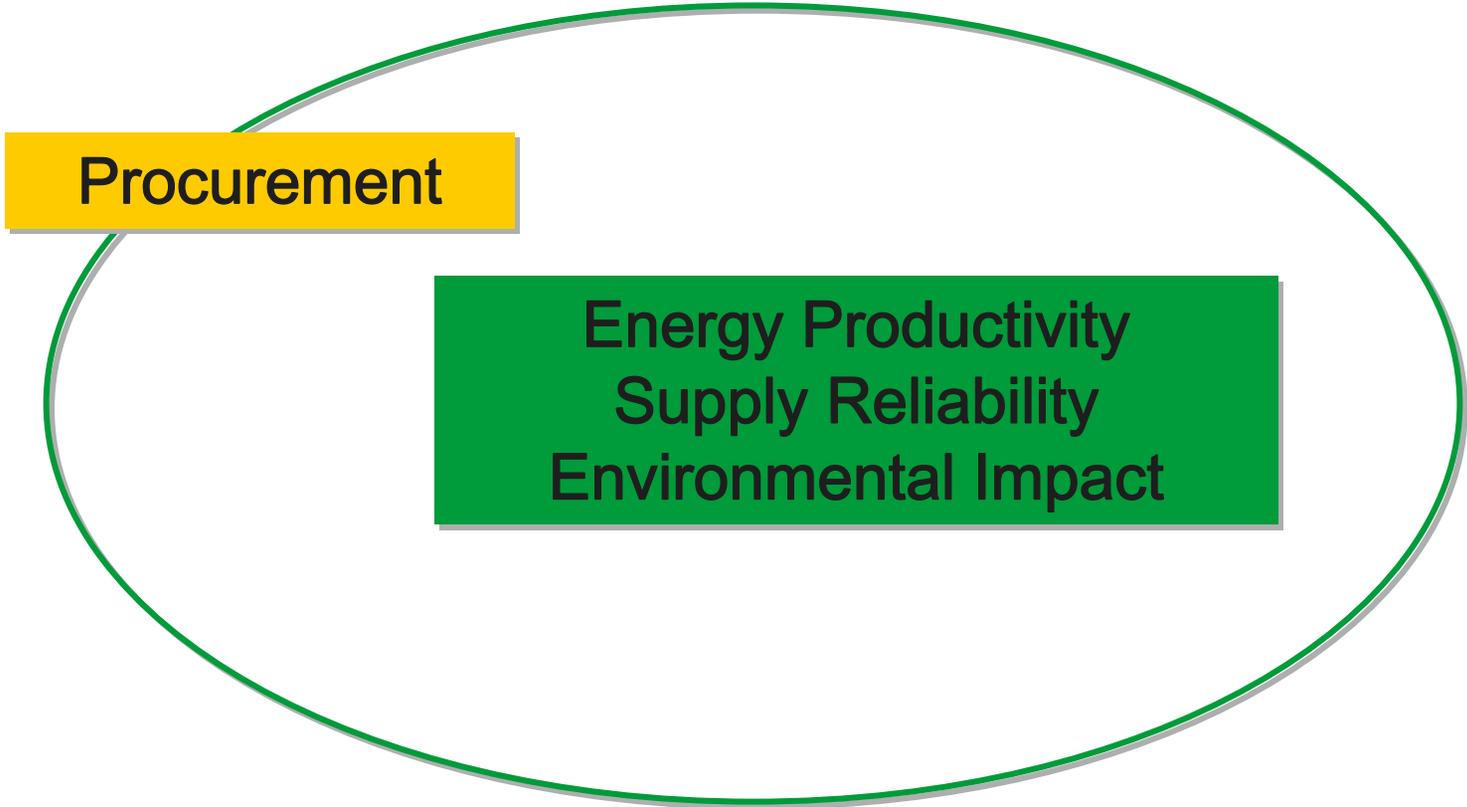
Recognize Achievements



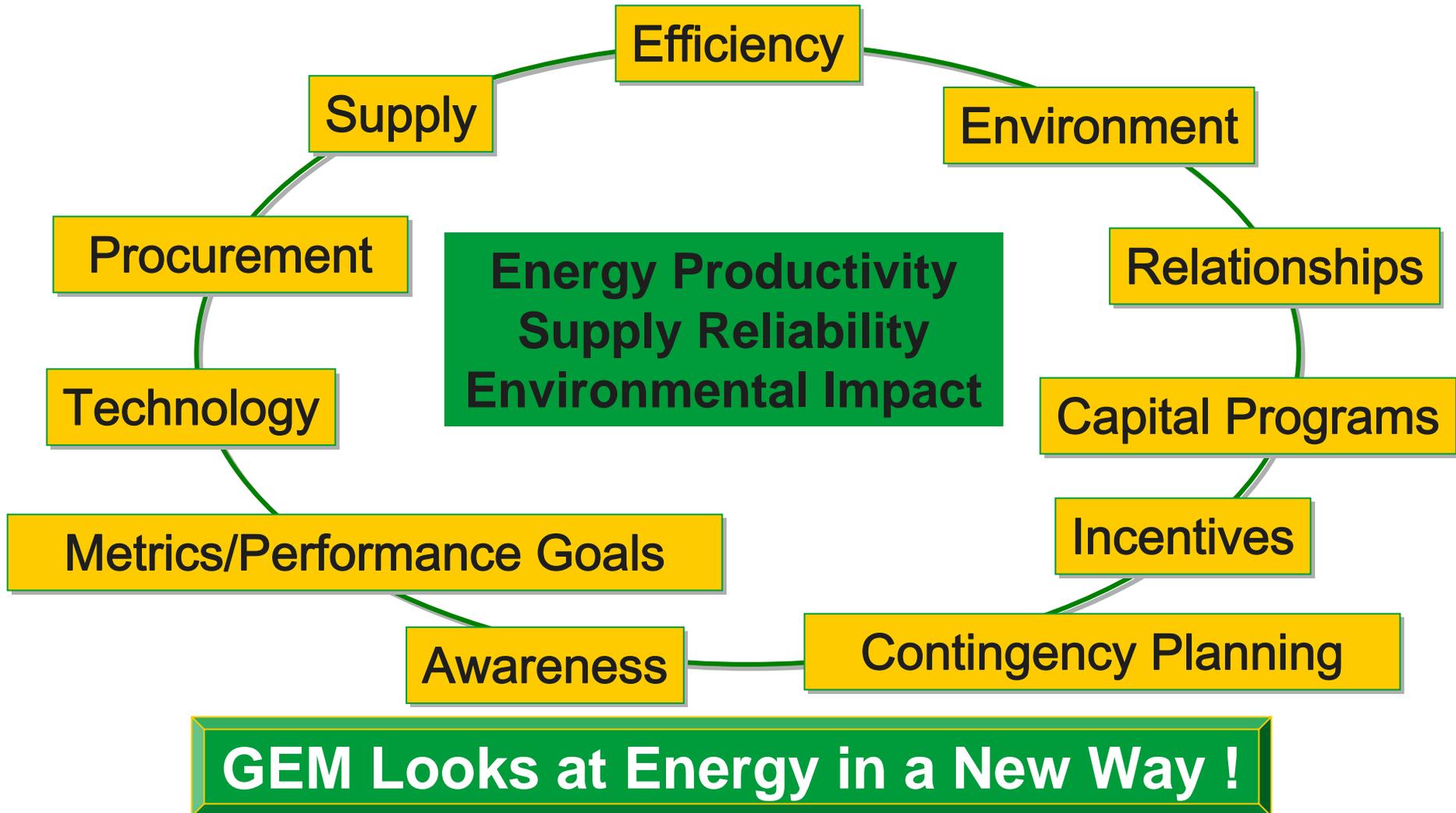
Energy Star Assessment Matrix

Little or no evidence	17
Some elements	6
Fully implemented	0

Previous Considerations in Energy Management



Considerations in Global Energy Management (**GEM**)



GEM Objectives

- To Strategically Manage Global Energy By:
 - Ensuring a **Reliable** Energy Supply
 - **Reducing Consumption** of Energy using an Integrated, Multi-Functional Approach
 - Achieving a Positive **Return On Investment**
 - Utilizing “**Greener**” Energy when Possible
 - Maintaining more **Efficient** and **Productive Buildings**
 - Improving Energy **Productivity**

GEM Scope

Commodities

- Natural gas
- Propane
- Electricity
- Fuel Oil
- Aviation Fuel
- Combustible Gases
 - Oxygen
 - Nitrogen
 - Helium
- Water
- Waste Water

Focal Points

- Productivity
- Supply Reliability
- Environmental Attributes

Initial Locations

- New York State Facilities
- CET Facilities Worldwide
- Danville Plant
- Kennebunk
- Worldwide ~July 2006

Corning Incorporated Worldwide Energy Commitment

- **Mission Statement:**

Corning Incorporated will become world-class in the way it purchases and uses energy, resulting in lower unit costs, potentially lower greenhouse gas emissions, and a healthier environment.

- **Commitment to Energy Management:**

- Cost reduced, optimized returns for energy efficiency investments
- Minimized environmental impacts, conserved natural resources, and potentially lowered greenhouse gas emissions.
- Corning is committed to maintaining a long-term view of energy.

Energy Management Guidelines

- **Continuously improve** energy productivity through effective energy management programs that support manufacturing capabilities while providing a healthy work environment.
- Encourage **ongoing energy conservation** by all employees.
- Implement plans to **protect operations** from energy supply interruptions.
- Secure adequate and **reliable energy** supplies at the most advantageous rates.
- Manage energy supplies to potentially **lower greenhouse gas** content.
- Incorporate **energy productivity** in new product design and development.
- Consider **energy efficiency** in the selection of all real estate, equipment, goods, and services.
- Drive further development and investment in **innovative energy technologies**.
- Engage governmental agencies and utility companies to utilize and develop effective energy productivity **incentives**.
- Support national and regional energy **policy and climate change** activities.

GEM Team Roles and Responsibilities

Corporate Sponsors

- Visible Support and Oversight

Global Energy Manager

- Overall Global Energy Management Policy, Process and Funding

Global Energy Engagement Manager

- Rollout of GEM process to Divisions and Plants

Division Energy Manager (DEM)

- Owns Operating Strategy for the Division

Site Energy Manager (SEM) and Team

- Owns Site Operating Strategy

Corporate Team

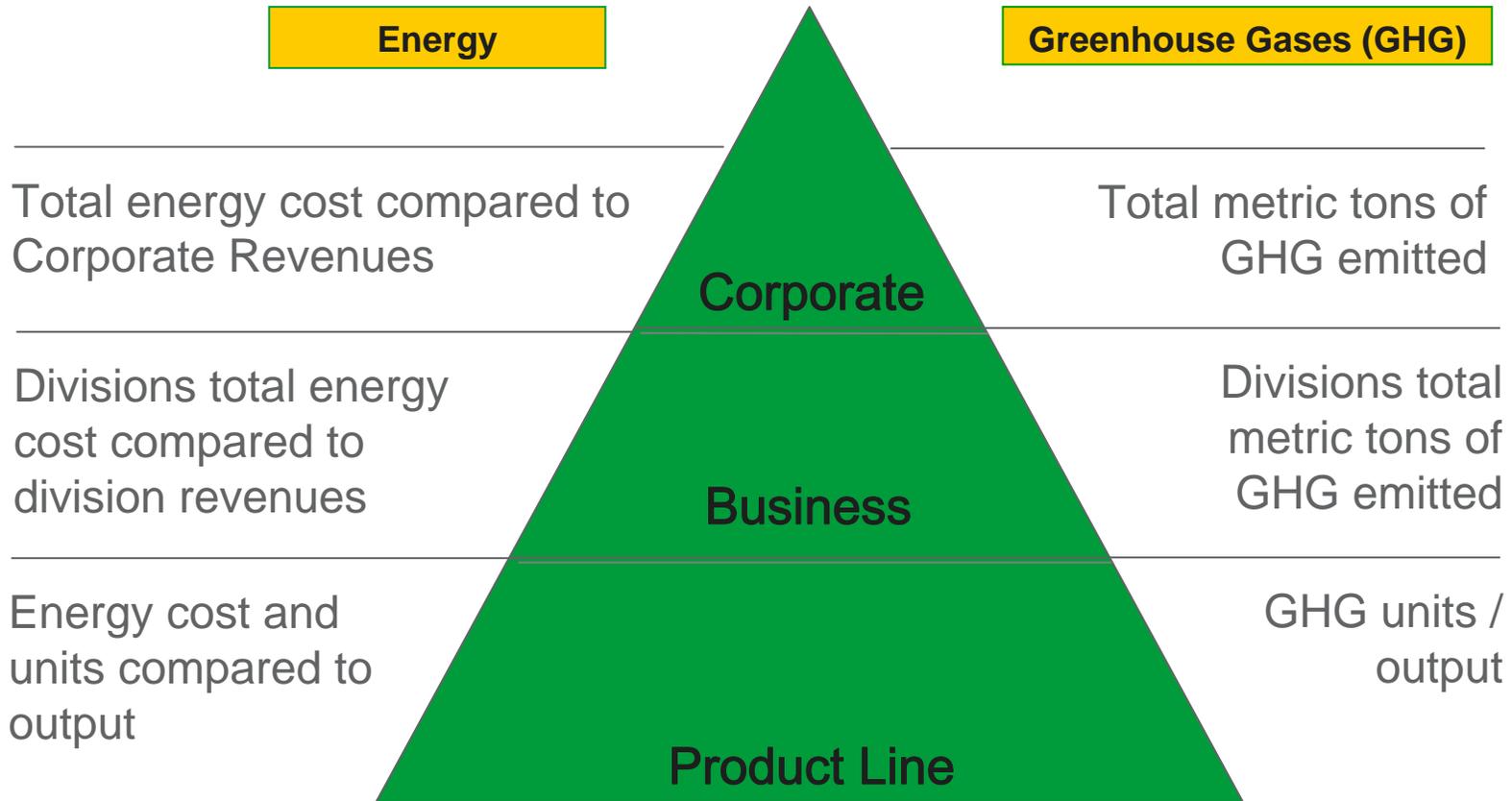
- Supports Corporate, Division and Site Strategies

Corning's Framework for Energy Productivity

**Adopted from the California Loading Order
and the European Union's "Trias Energetica"**

1. Maximize Energy Efficiency
2. Use as much Economically Viable Renewable Energy and Combined Heat and Power (Cogeneration) as possible
3. Partner with Utilities to Maximize the Use of Existing Electric and Gas Grids

Measuring Results



Expected Productivity Gains

Productivity Improvement

- Procurement
- Low Cost / No Cost
- Capital Projects – “Spend to Save”
 - Employee Developed
 - Externally Driven

GEM Support to Divisions and Site Teams

- Capital Pool to Address Energy Opportunities
- Access to Rebates and Incentives
- Technical Support
- Energy Training
- Best Practices
- Web-Based Toolbox
- Integrated and Expanded Energy Procurement
- Continuous Strategic Energy Planning
- Intervention with Regulatory Issues

Critical Self-Assessment March 2007

Commitment to Continuous Improvement

Assess Performance and Opportunities

Set Performance Goals

Create Plan

Implement Plan

Evaluate progress

Recognize Achievements



Energy Star Assessment Matrix

Little or no evidence	17 → 0
Some elements	6 → 14
Fully implemented	0 → 9

GEM Capital Pool

Promising First Year

- Pool assigned in three buckets
 - Efficiency
 - Measurement
 - Reliability
- Multiple projects in 16 sites
 - Lighting, Maintenance management, Pumps, Steam control, Boilers, Burner cooling, Metering, Compressors, HVAC
- Annualized Savings 1.15 year payback (efficiency =.9 year)
- 2007 Capital Assignment doubled!

Accomplishments

Establishing the GEM Program

- Developed:
 - Energy Policy
 - Corning's Commitment to Energy
 - GEM Website

- Cut the reliance on consultants by 75%.

Accomplishments

Corning Internal Projects

- Engagement in all business units
- State incentives
- Avoided rate increase
- Utilized building commissioning
- LEED projects
- NYSERDA grants
- U.S. Dept. of Energy audits
- Electric Reliability Projects

Accomplishments

Corning Internal Projects

- Corning Cogeneration Project
- Integrated Energy Master Plans
 - Erwin Valley & Sullivan Park
 - Reynosa CCS & CLS
- Feasibility study for landfill gas to energy
- Consulting agreement with Syracuse University and Center of Excellence
- Data collection team for ease of information sharing
- Benchmarking completed



Greenhouse Gas Management

Setting the stage

- Joined California Climate Action Registry
 - Protocols recognized by WRI/WBCSD
 - 2005 base line registered
 - 1,002,457 Metric tons CO₂
 - All energy related
 - 721,532 Metric tons CO₂ indirect
- Energy productivity prerequisite for reductions
- Initiated local branch of Upstate Chapter of U.S. Green Building Council
- Three registered LEED projects

On the Horizon

2007 Focus Areas

- Incorporate No Cost / Low Cost Solutions
 - Communications & marketing
 - Promotion of practices, education and training
 - Website, presentations and promotion
 - Energy Summit September 18th&19th
- Spend to Save
 - Continue sound efficiency investments
- Continue developing GEM
- Partner with Manufacturing
- Maximize energy efficiency in building design
- Maximize heat recovery opportunities
 - Syracuse Center of Excellence

Summary

The GEM position is straightforward

- Our goal is to operate our worldwide facilities to increase energy productivity by 20% to 30% within five years relative to 2005 levels.
- We strive to minimize creation of greenhouse gases through effective energy management.
- We will continuously explore opportunities to raise the bar.
- We recognize that the systematic management of energy use is core to competitiveness.

CORNING