



# Driving Energy Efficiency Improvements & Greenhouse Gas Reductions at a Company Level

Gordon Slack

Director, Energy & Climate Change

Dow Chemical Company

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A 108 year old company committed to Sustainable Development

Annual sales of \$46 billion

208 manufacturing sites in 38 countries

42,000 employees worldwide

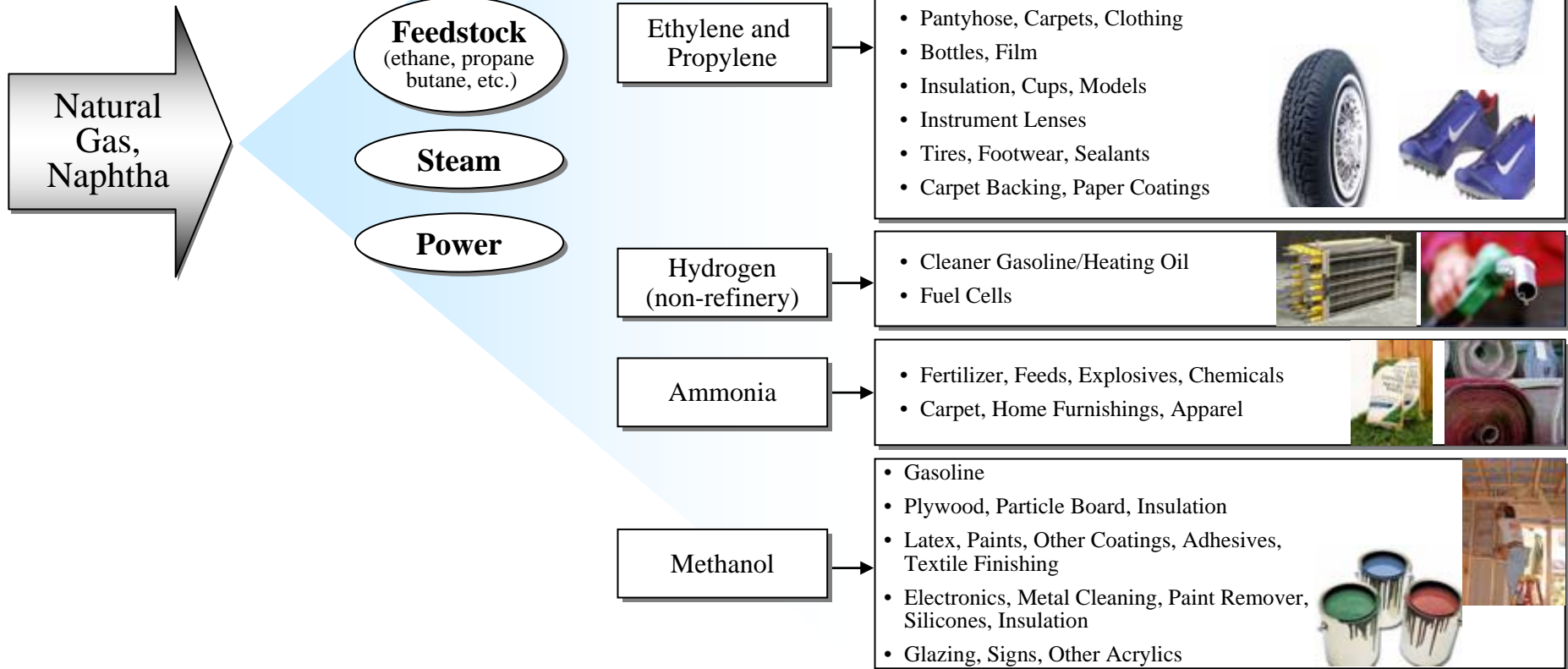
~ 50% of costs from energy & feedstocks

~ 3,500 MW power consumption  
• 75 % cogeneration



**DOW**

# Everyday Connection to Energy

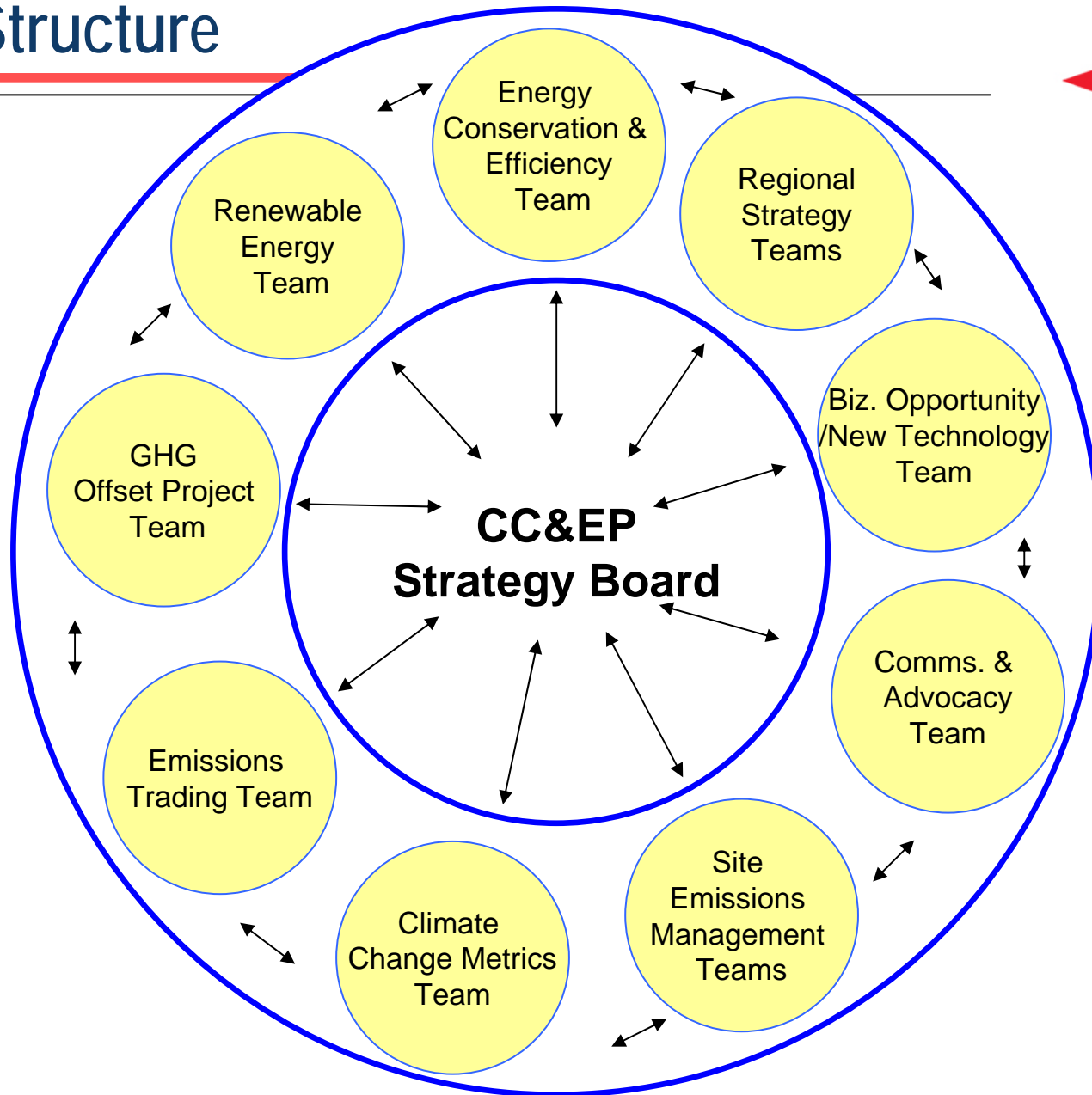




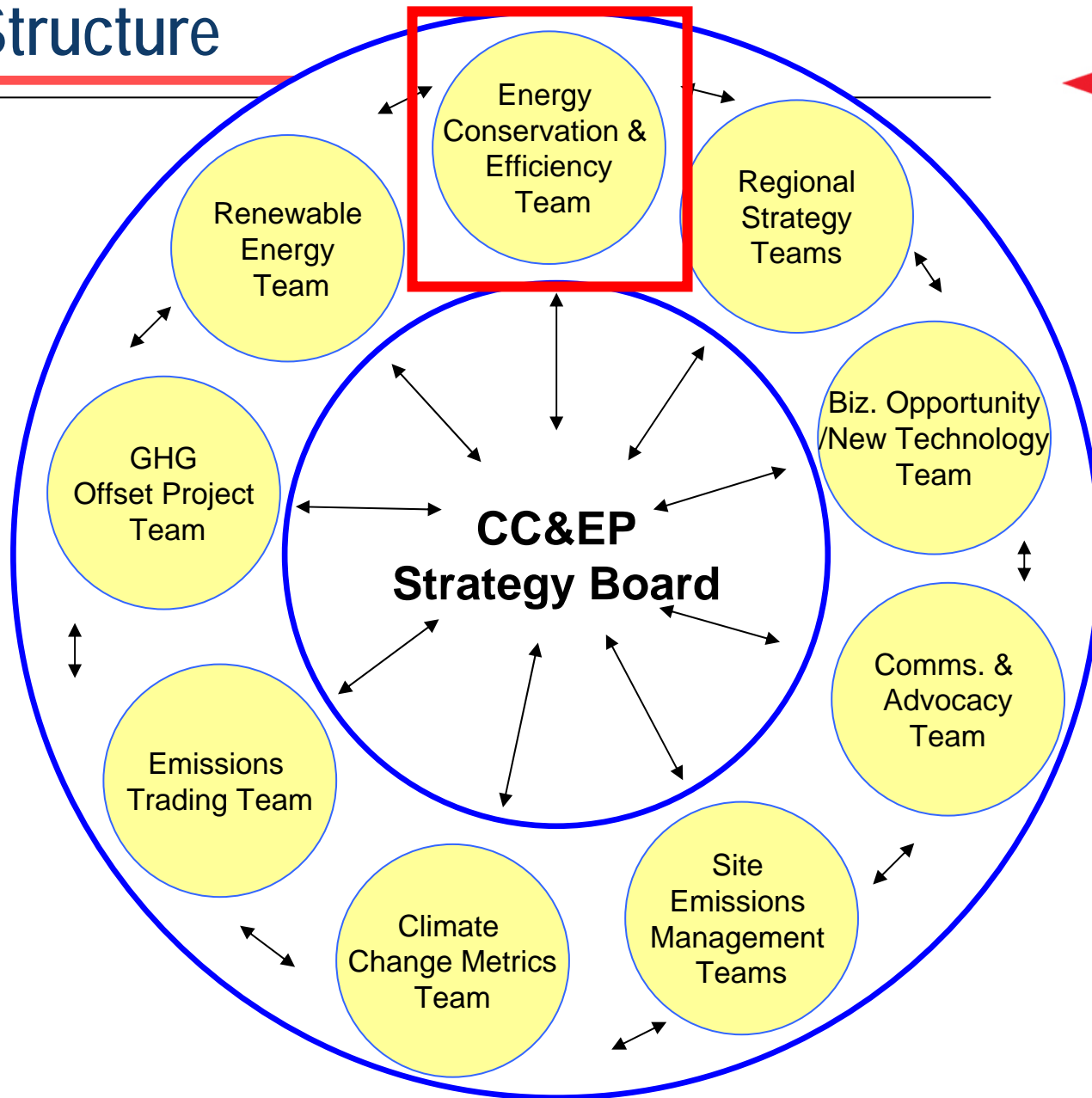
## Part of the Solution

- Energy Efficiency & Conservation
- Optimized Fossil Fuels
- Renewable & Alternative Energy
- Science & Technology Solutions

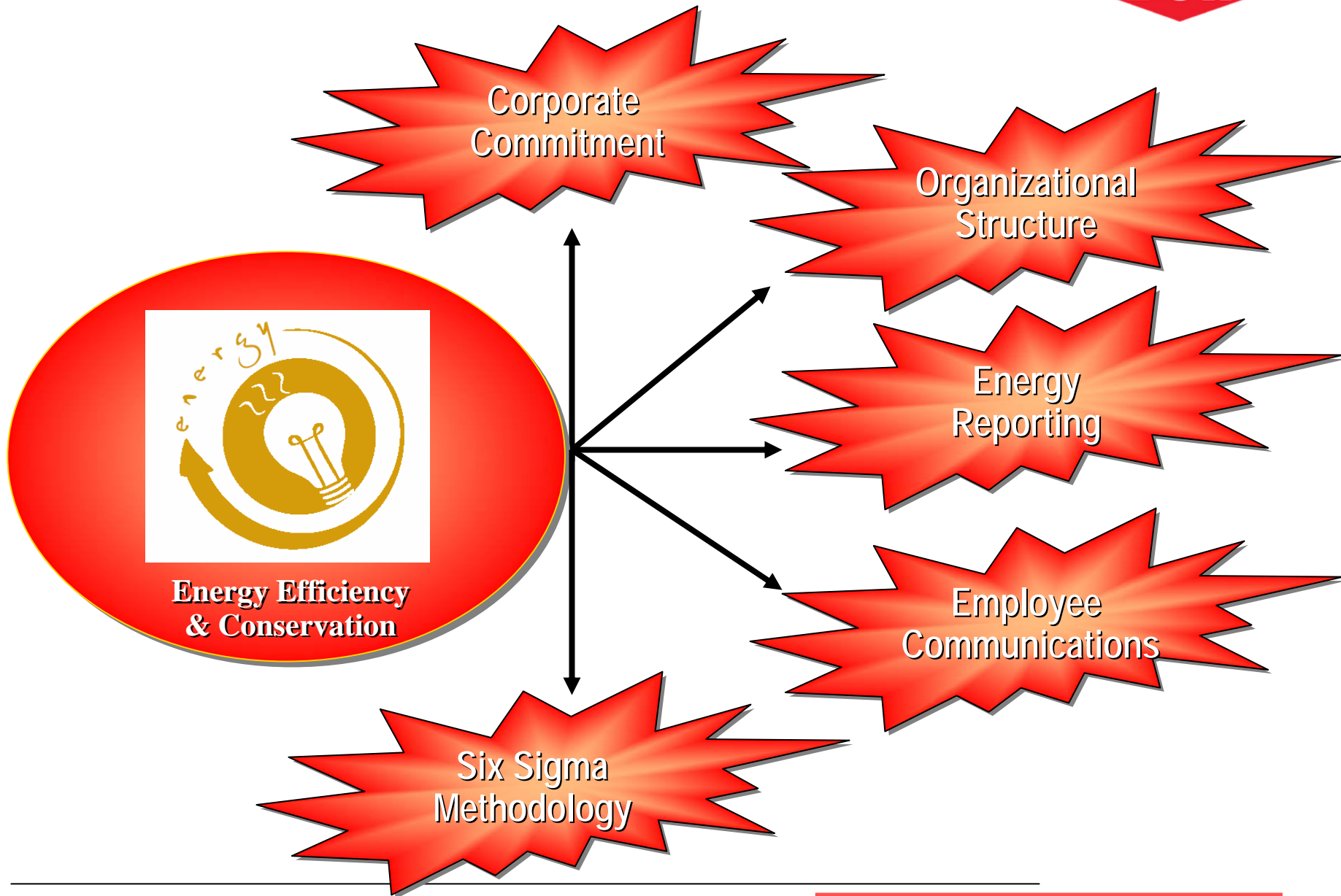
# Team Structure



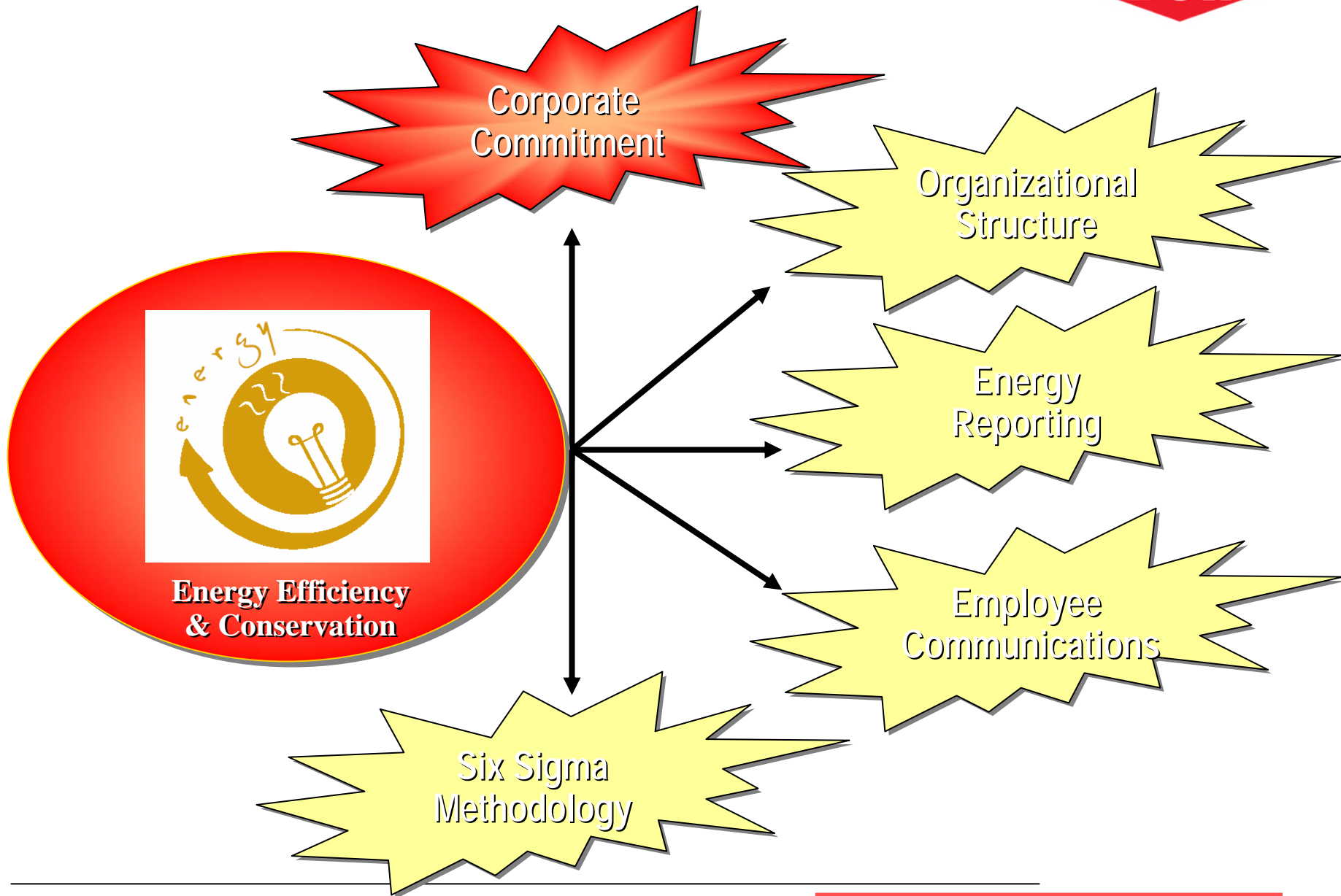
# Team Structure



# Managing Energy Efficiency Improvements



# Managing Energy Efficiency Improvements





# Enhanced Public Reporting

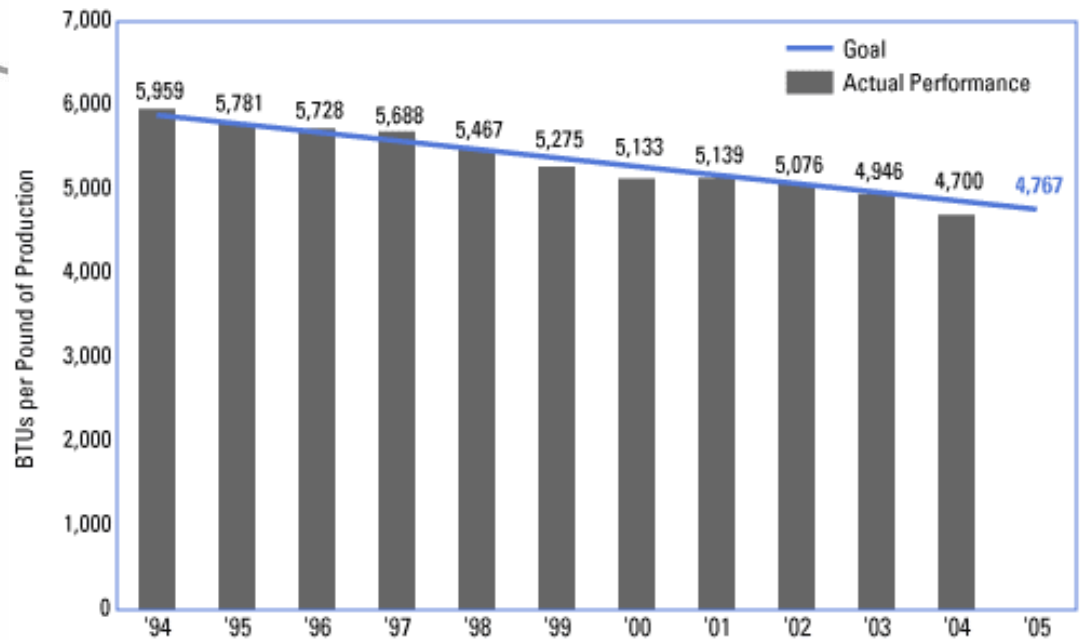


The Dow Global Public Report 2003



1995 Goal: Reduce energy intensity 20% by 2005

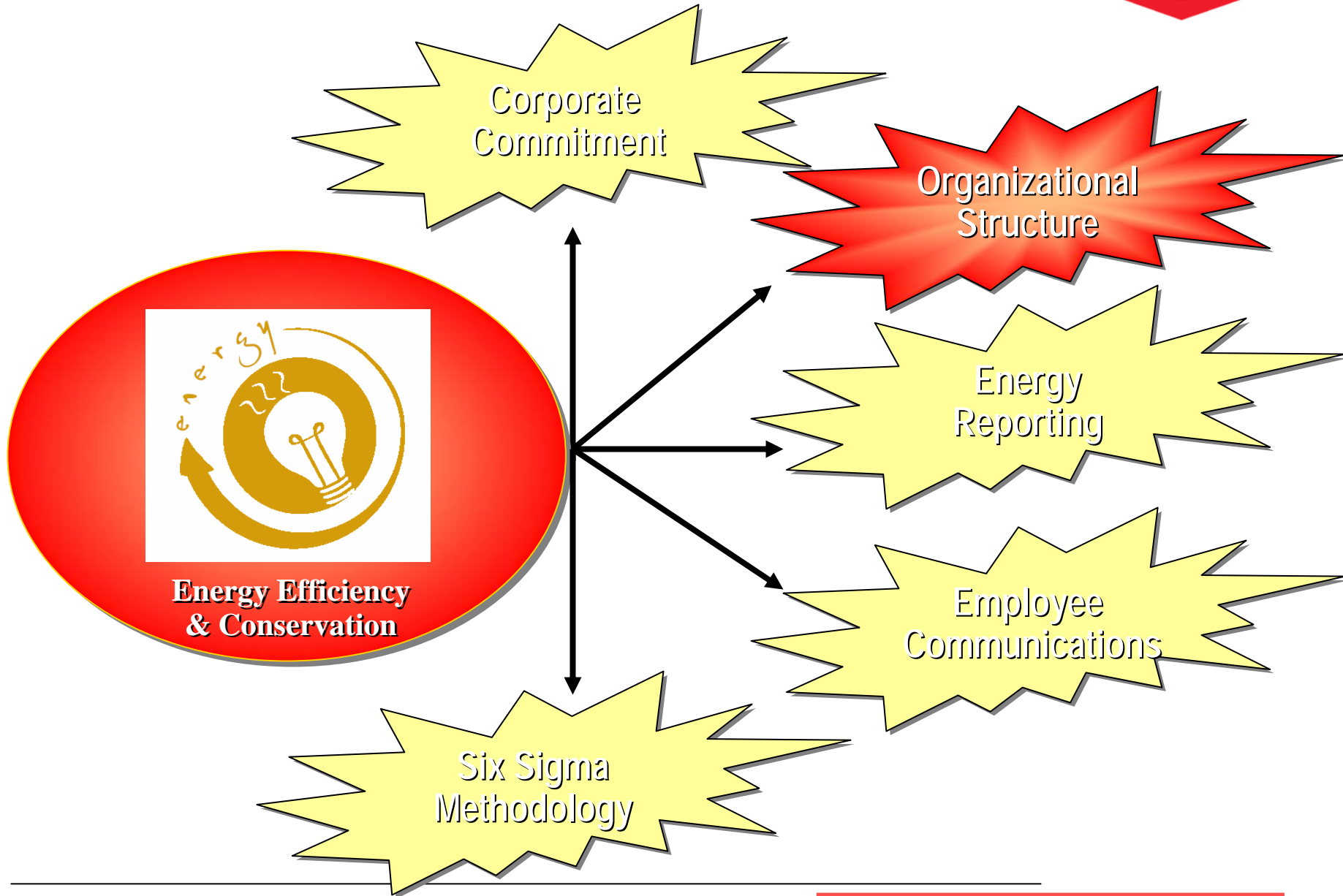
Sustainability



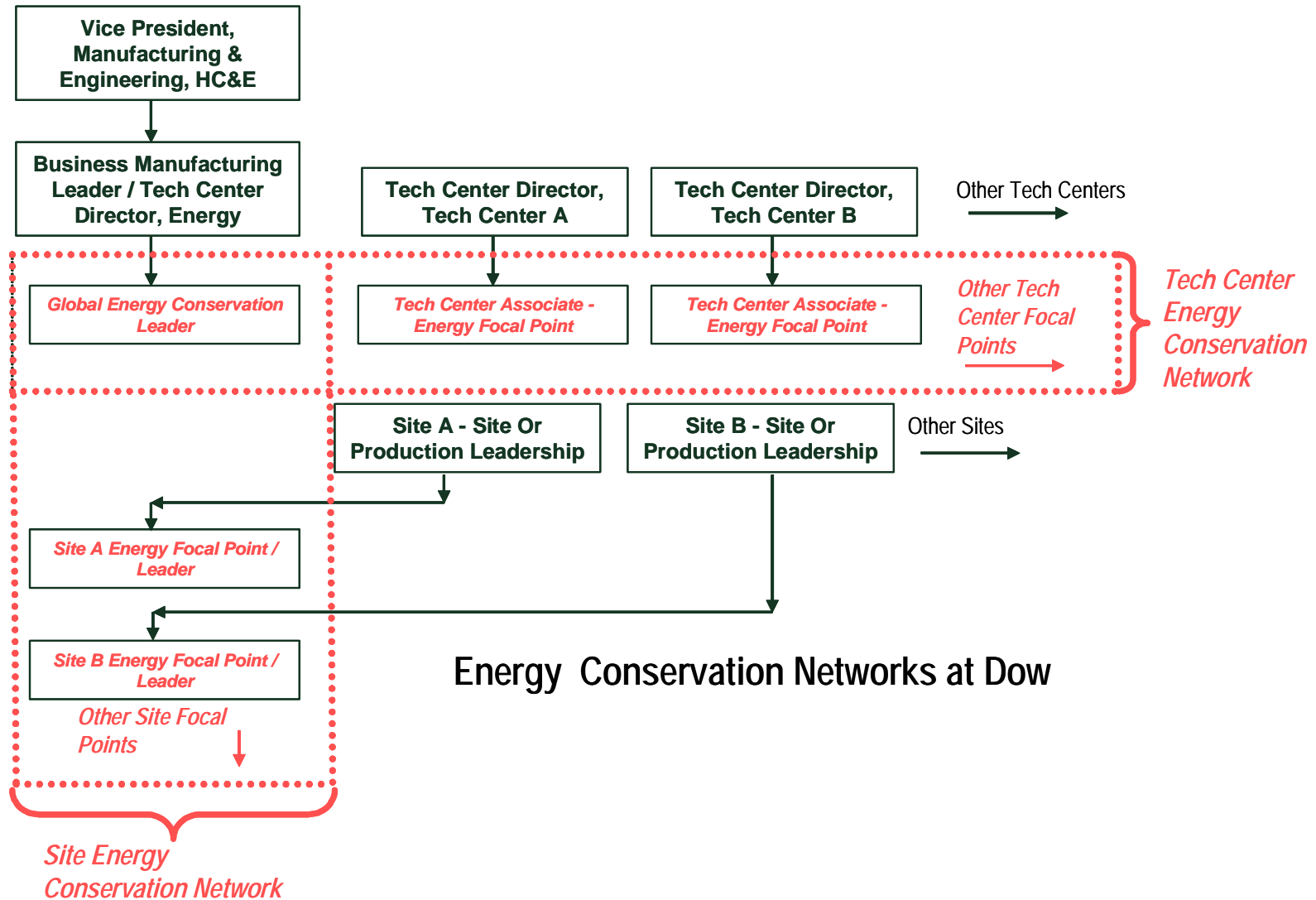
## The Dow Public Report

[www.dowpublicreport.com](http://www.dowpublicreport.com)

# Managing Energy Efficiency Improvements



# Driving Energy Conservation



Energy Conservation Networks at Dow

# The Businesses/Tech Centers

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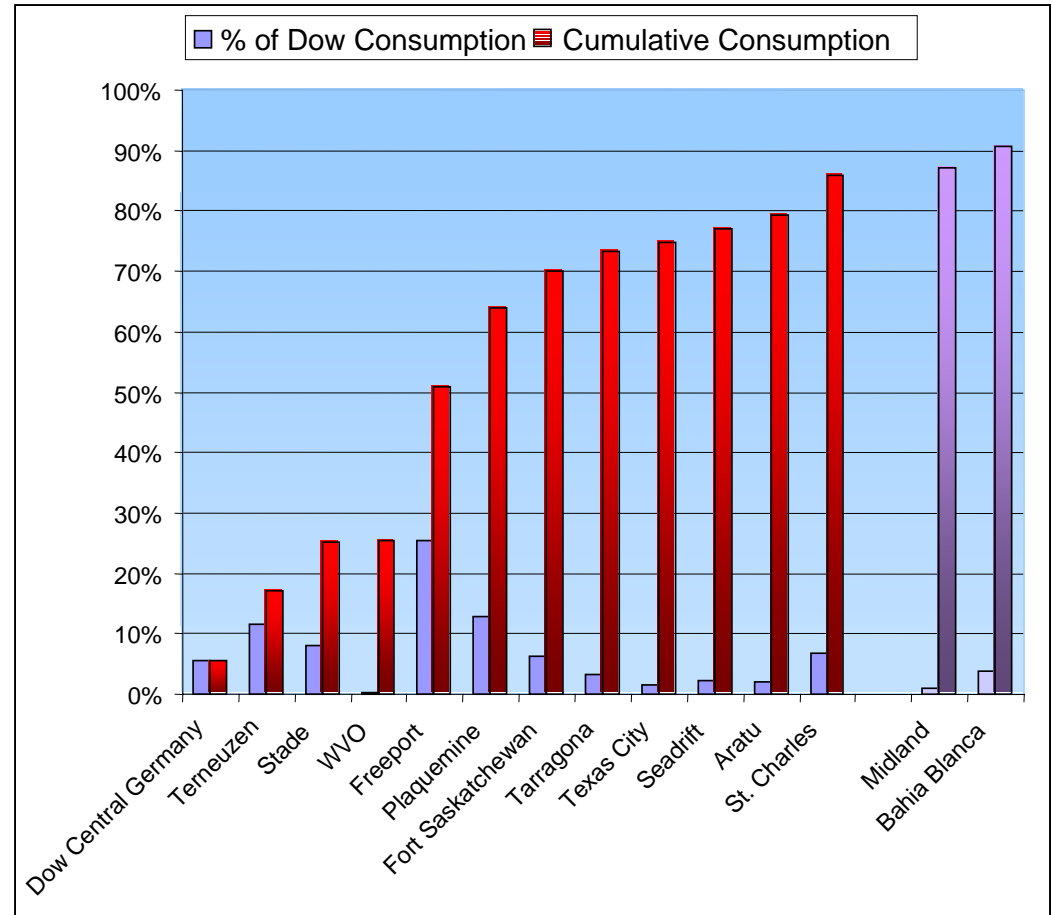
- ✓ 26 Tech Centers: Each have Energy Focal Points leading the business effort
- ✓ Focus: Active engagement through the Tech Center energy focal points, plants and business networks.
- ✓ Engagement: Creative communication activities to engage teams.
- ✓ Results: Projects identified and implemented
- ✓ Strategies: For long term gains



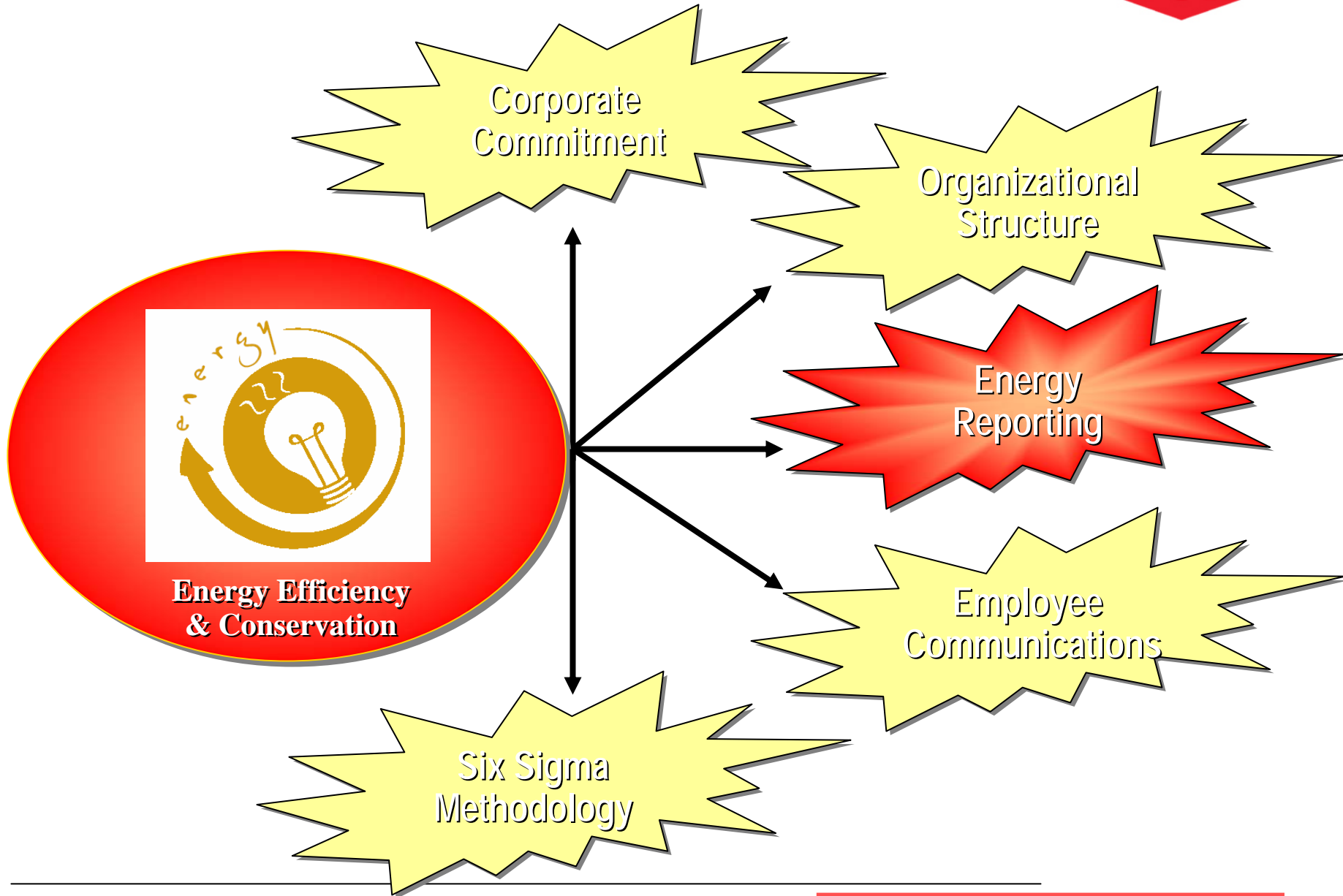
# Site Wide Energy Initiative Leaders



- ✓ Site Wide Energy Initiative Leaders and teams in-place at the 13 largest consuming sites:
- ✓ Represents almost 90% of our total energy consumption



# Managing Energy Efficiency Improvements



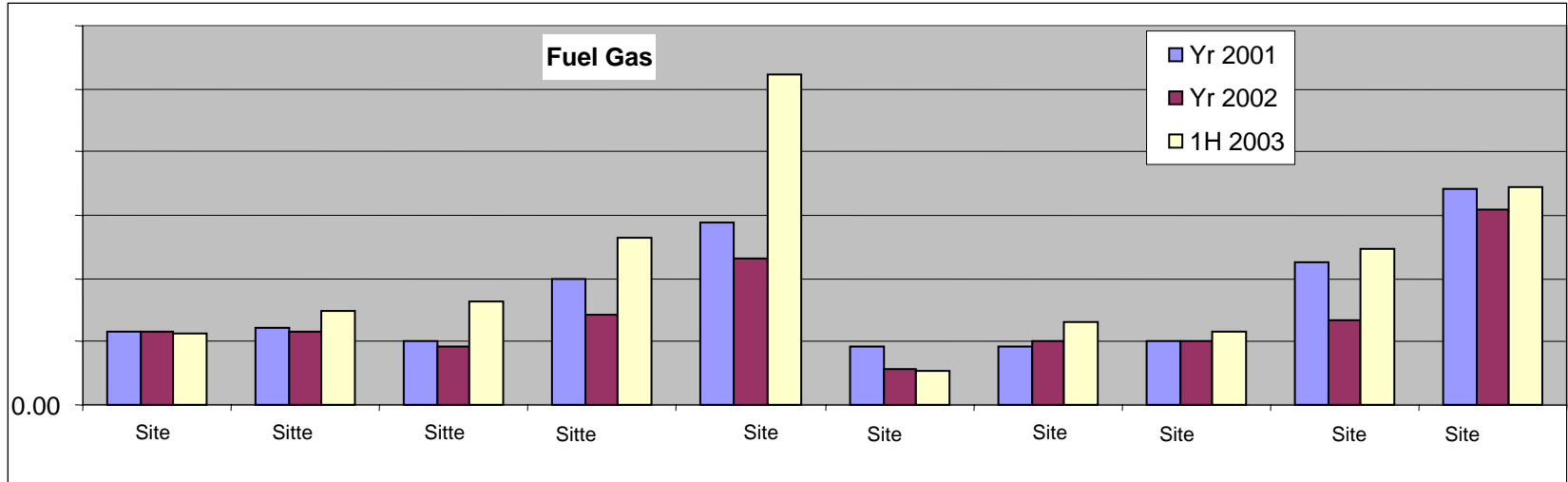


- ✓ Timely/comprehensive consumption monitoring
- ✓ Easy / automatic data entry
- ✓ Classified data for breakdown
- ✓ Visual graphics / tables
- ✓ Data available to all users/management

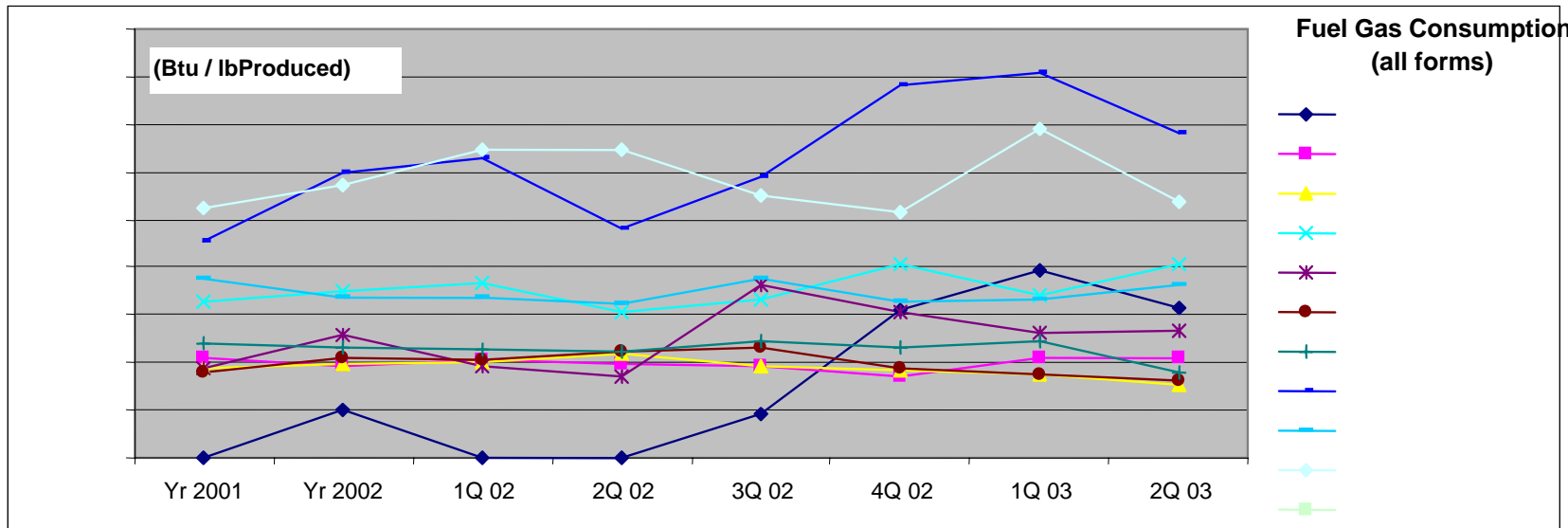
# Example : Fuel Gas Cost and Consumption



Cost  
(\$/ lb)

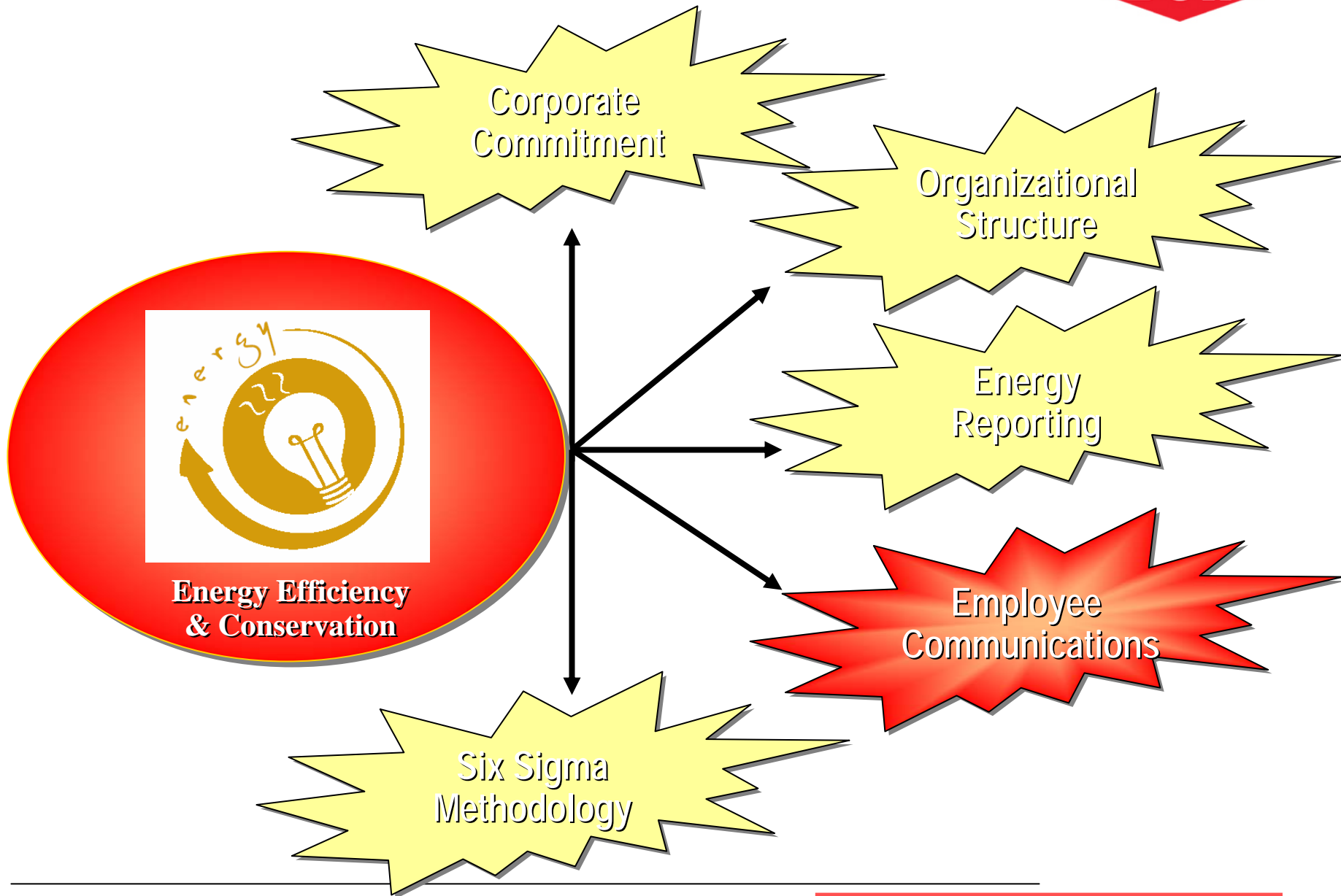


Usage  
(BTU/lb)





# Managing Energy Efficiency Improvements





- **Push Communications**

- Newsline (Intranet-based news service)
- Around Dow (Employee magazine)
- Bi-weekly Energy Efficiency Bulletin
- Dow World News (Global broadcast)
- Webcast Energy Efficiency training

- **Pull Communications**

- Energy Efficiency & Conservation Intranet website
- Electrical Energy Challenge
- WRAP – Waste Reduction Always Pays



## Energy Efficiency & Conservation website

>>Energy Conservation

Energy Systems Technology Center

### Energy Efficiency & Conservation

Welcome to the Energy Efficiency and Conservation web site.

- Wondering how **you**, can help Dow save money?
- Would you like to deliver, **with impact**, to Dow's cash flow?
- Want to improve Dow's environmental impact at the same time?

You can through your efforts on conserving energy and using it more efficiently!

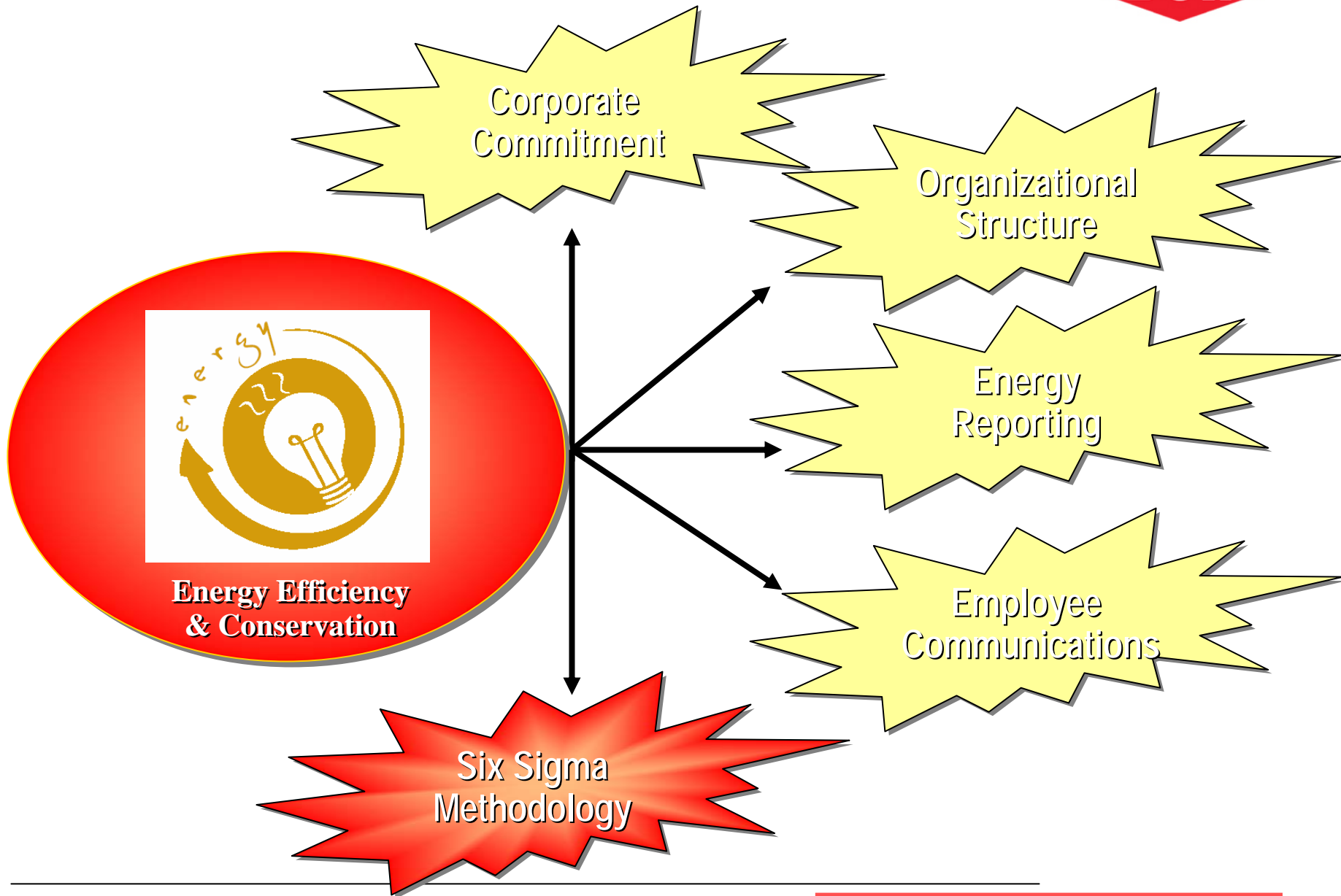
Dow is one of the world's most energy intensive companies, and as a result, our proactive efforts to better use what we have, and better plan for the future has a tremendous impact. As a company we can't control the world economy or fluctuations in energy costs--but we can control how we ourselves manage and use energy in our operations and in the production of products.

At a time when our company is under tremendous pressure to deliver on the bottom line... you and your businesses are in an unprecedented position to contribute. Real dollars, real competitive power and real results!

Use this web site to:

- Get [Current Energy Performance](#)
- Learn about energy improvement [Success Stories](#) at Dow
- Get [Energy Efficiency Improvement Ideas](#)
- Read [Newsline Articles](#) about Energy
- Obtain details on [Energy Savings Calculations and Accounting](#)
- Access [Useful Links](#) to external energy resources
- Find [Contacts](#) within Dow that can provide more information on Energy Efficiency and Conservation
- Find [Site and Business EEC web sites](#)

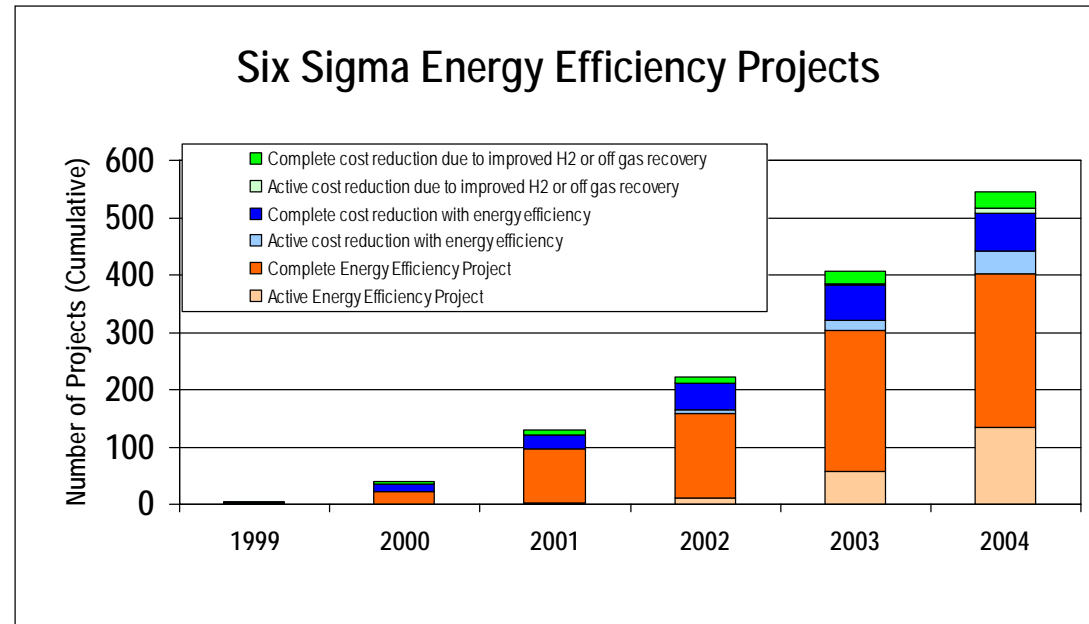
# Managing Energy Efficiency Improvements



# Six Sigma Project Methodology

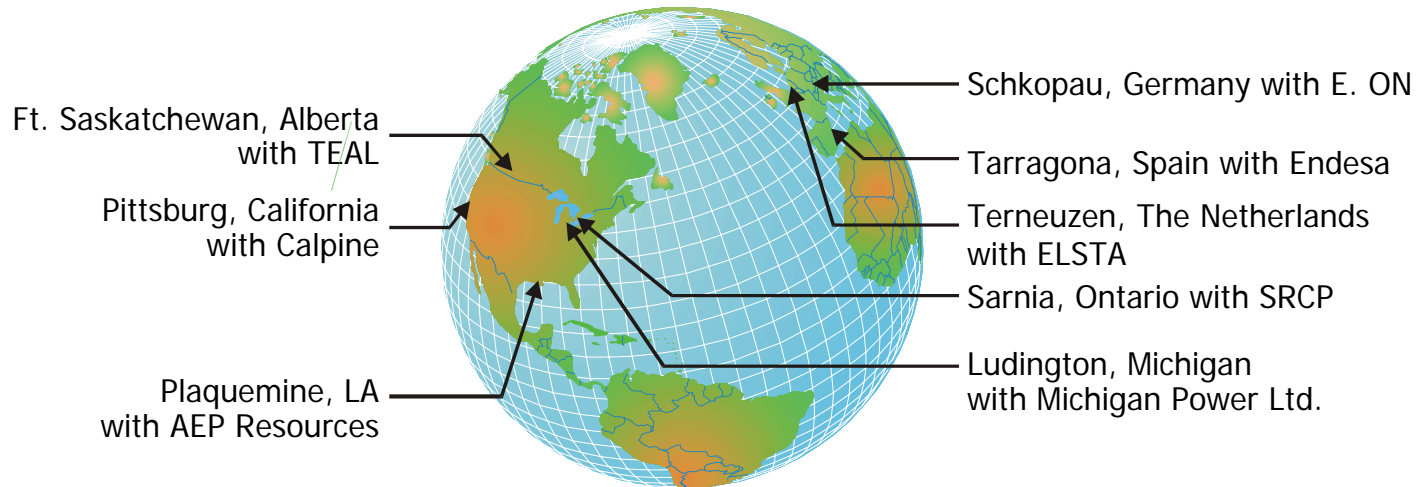


- ✓ Data-based process improvement
- ✓ 3.4 defects per million opportunities
- ✓ Measure-Analyze-Improve-Control
- ✓ Small projects and large systems
- ✓ Web based leveraging results across company



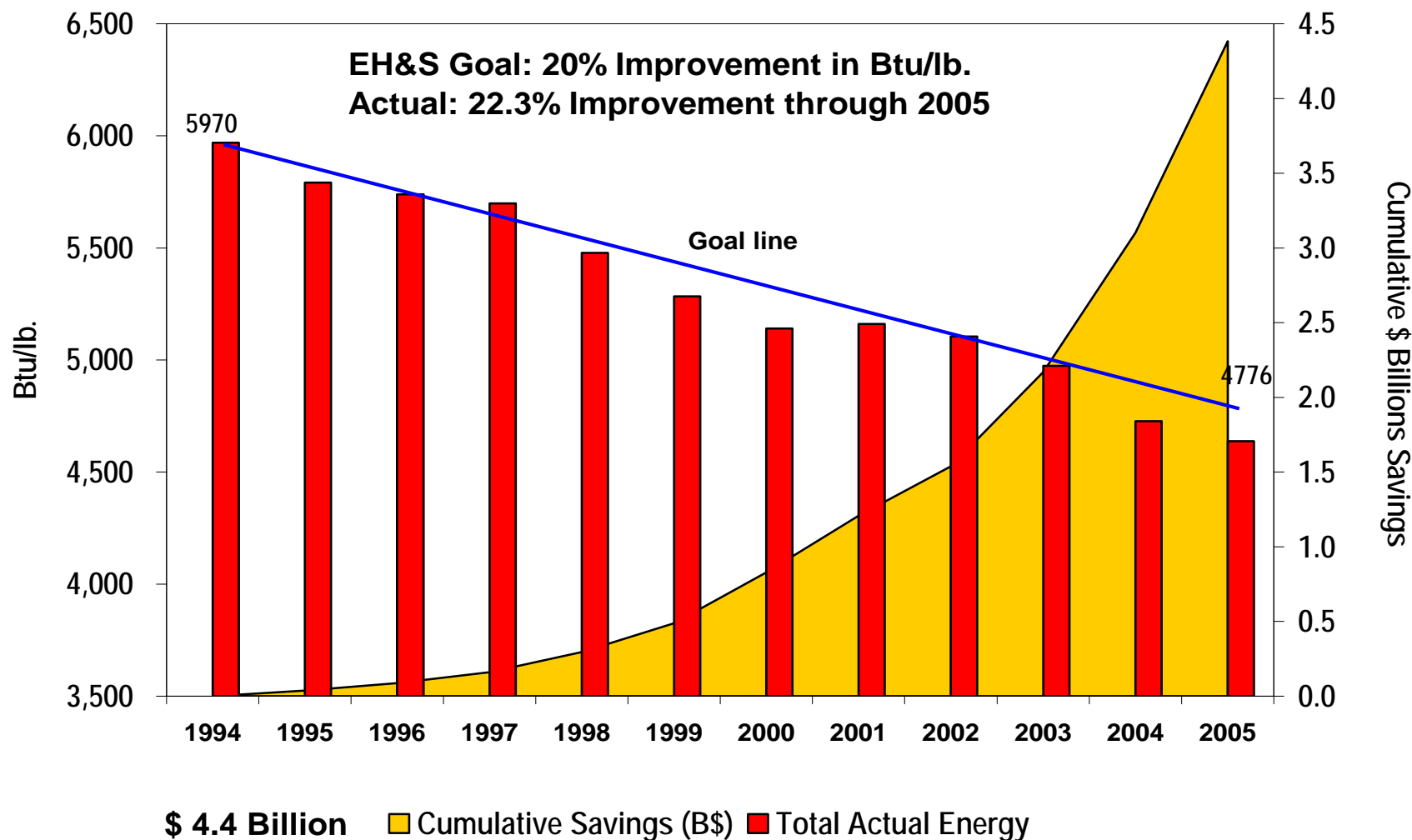
# Results: Ideas, Projects, Savings

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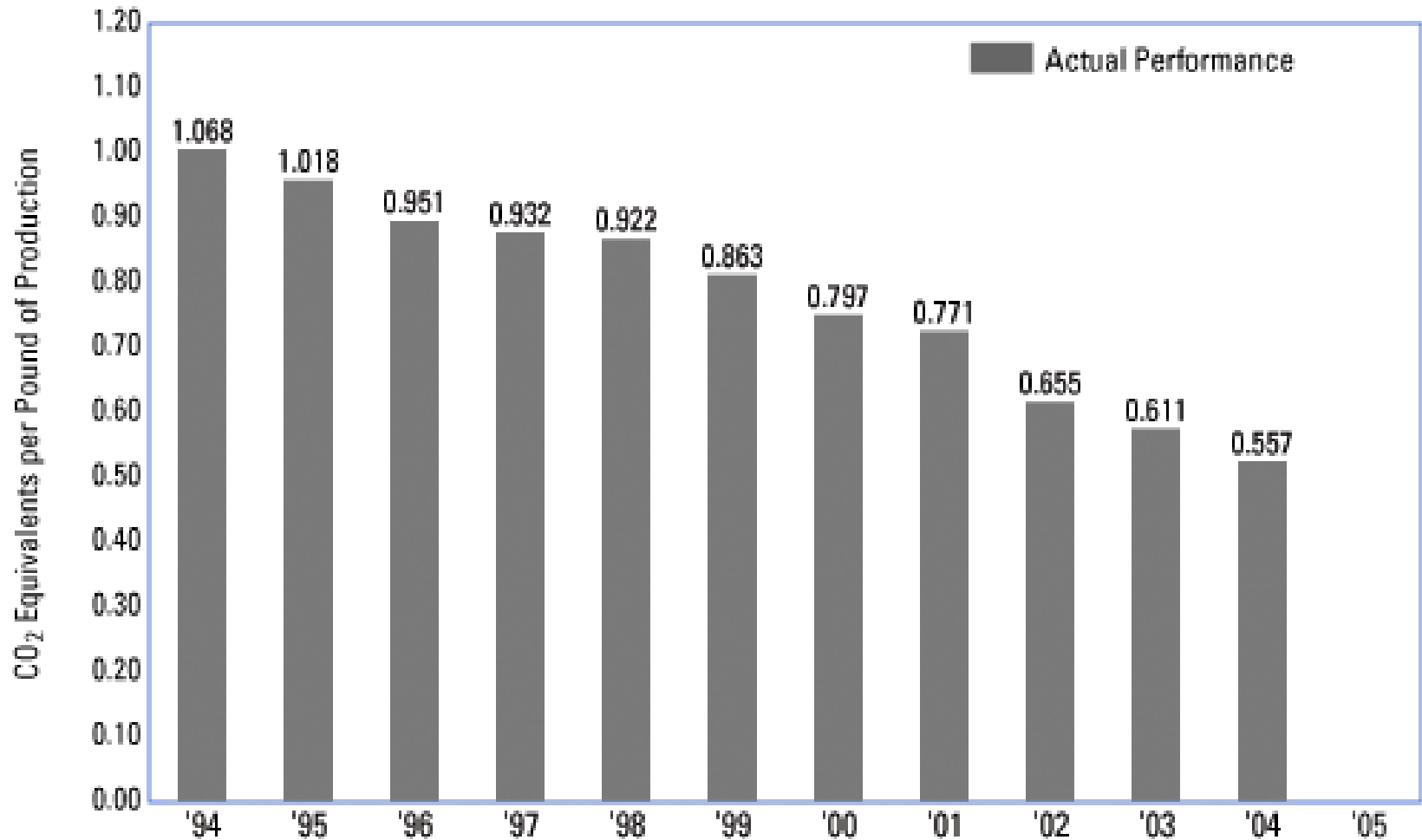
- **Eleven New Cogeneration facilities since 1994**
  - 2004 savings an equivalent of 32.6 Trillion Btu/year
- **System Optimizers**
- **By-Product Hydrogen Use**
- **Waste Elimination Idea Book**

## Energy Intensity Performance





## GHG Intensity







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# Thank you

**Please turn off your lights  
and monitor when you leave.**