

# CHALLENGES TO INDUSTRIAL ENERGY EFFICIENCY

**Brian Castelli**

Executive Vice President  
& Chief Operating Officer,  
Alliance to Save Energy



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**SAVE ENERGY**

*Creating an Energy-Efficient World*

# What is the Alliance?



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- NGO coalition of prominent business, government, environmental and consumer leaders who promote the efficient and clean use of energy worldwide to benefit the environment, economy, and national security.
- Mission: To advance energy efficiency world-wide through policy, education, research, technology deployment, market transformation and communication initiatives.
- Chaired by Senator Mark Pryor (D-AR) and James DeGraffenreidt (CEO Washington Gas) with strong bi-partisan congressional, corporate & public interest leadership.



# Forging Alliances: Business, Govt. & Public Interests



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Alliance enjoys sponsorship by more than 100 businesses and organizations across a broad spectrum of economic sectors

Unique structure with expertise in research, policy advocacy, education, technology deployment, and communications



THE JOHANETTE WALLERSTEIN INSTITUTE



SIEMENS

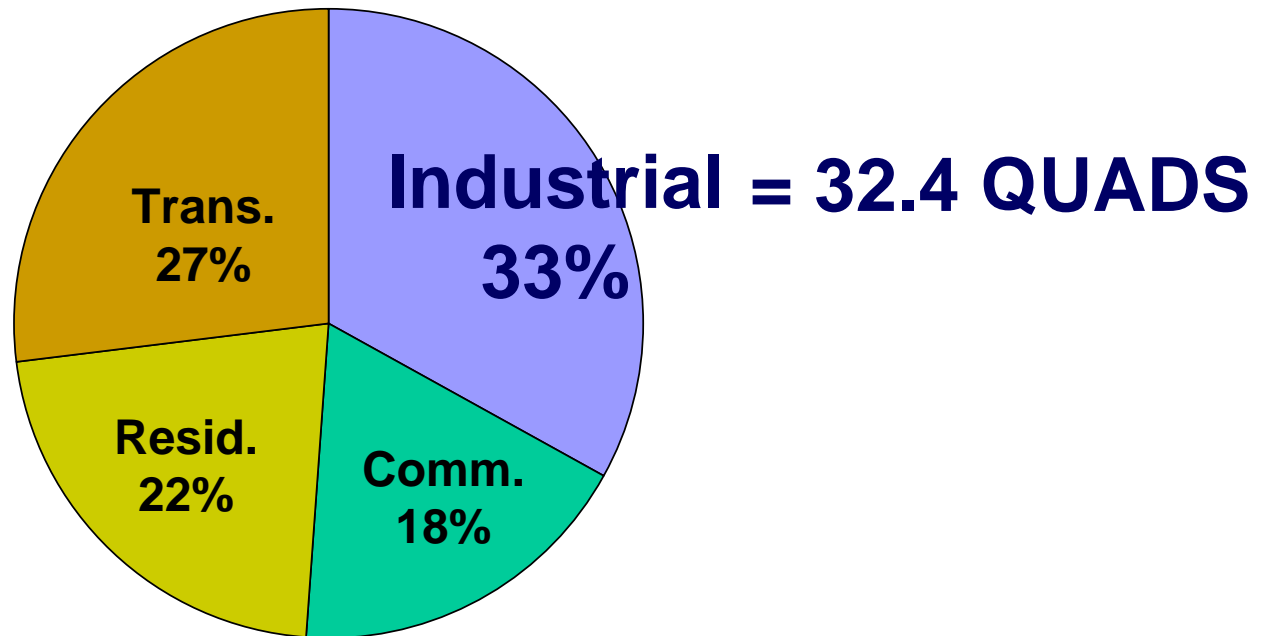


# About Industrial Energy



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## U.S. Energy Consumption by Sector, 2003

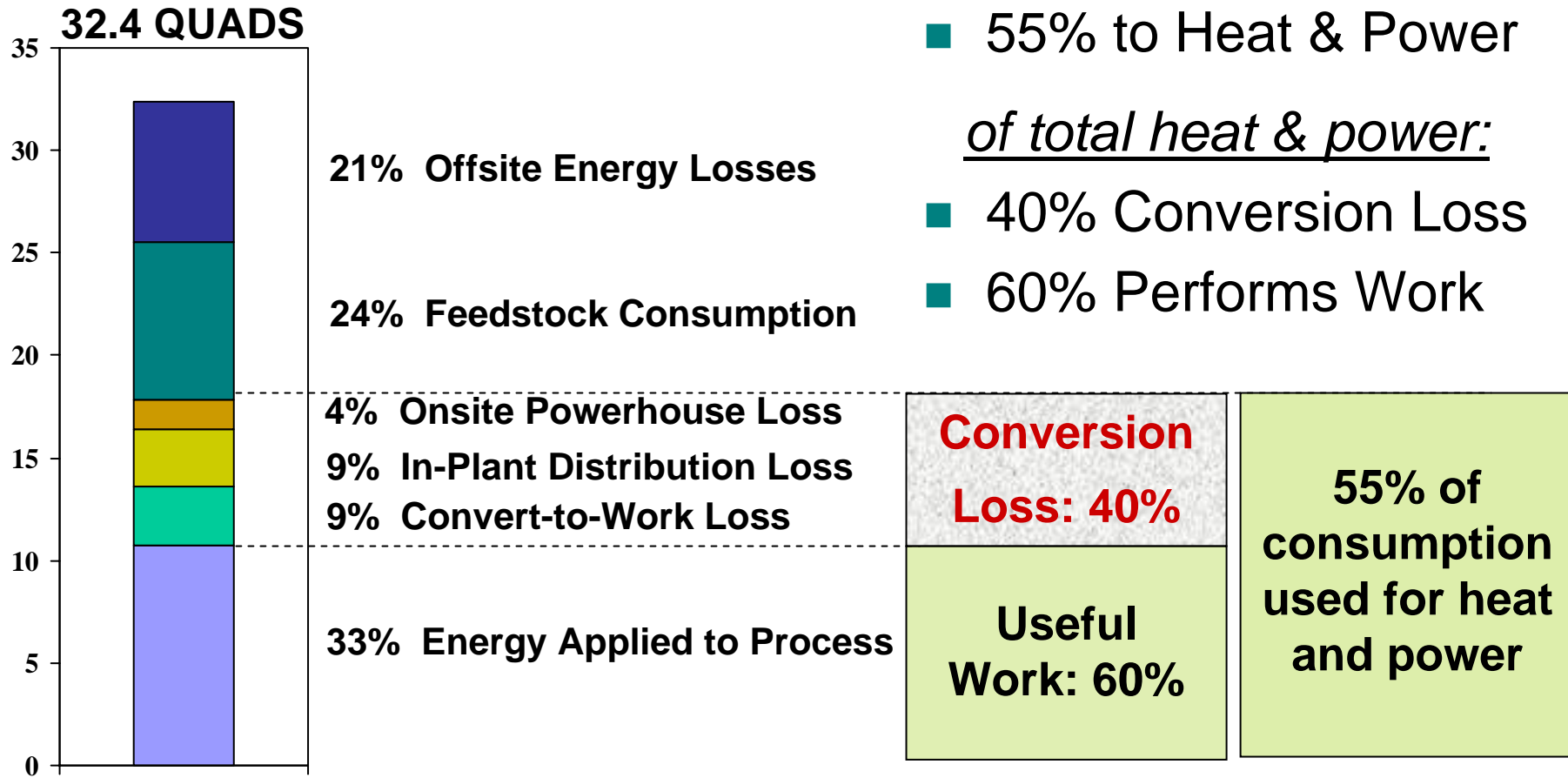


**Total Energy (2003) = 98.2 Quadrillion Btu**

SOURCE: U.S. (DOE-EIA, 2004)



# Where Does Industrial Energy Go?



SOURCE: U.S. (DOE-EIA, 2004; DOE-ITP, 2004)

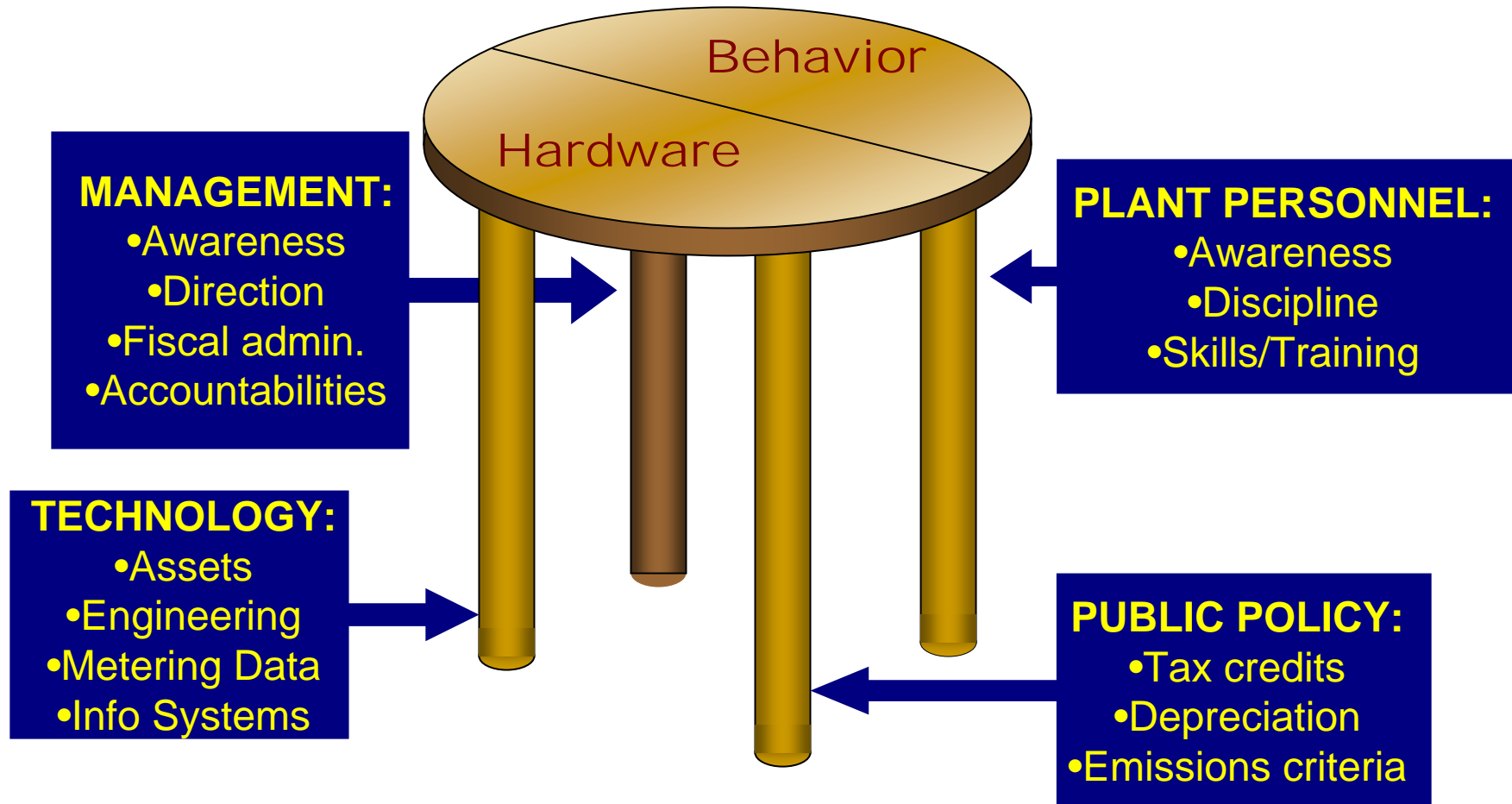
20 February 2006

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# Industrial Energy Efficiency: What Does it Entail?



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# Challenges



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- Public Policy:
  - Reactive or proactive?
- Technology:
  - Near-term? Long-term? For which industries?
- Management:
  - Balancing risk, time, & money
- Plant personnel:
  - Lean staff: lack of time, ability, incentive

# Policy Challenges



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- Hard to advocate something that industry does not demand
- Energy policy today focuses on supply, price
- R&D agenda can't favor single industries
  - Emphasis on common plant utilities, cross-cutting technologies
- Cannot legislate behavior, procedures, management styles

# Technology Challenges

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- Industry prefers to invest in core processes... not in its powerhouses
- High-tech skills, IT investments applied to core process... not the powerhouse
- Many plants aren't getting the most from current energy technology

# Human Resource Challenges



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- Incentives & rewards for on-time performance, not saving energy
  
- Fractured accountability:
  - Dept. A pays for improvements, but Dept. B gets the savings
  
- Inertia:  
Procedures + job descriptions + plant culture =  
“That’s the way we’ve always done it.”

# Management Challenges



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- Balance risk, time, and money to get results.
- Want energy improvements?  
You can get it:

- **Good**
- **Cheap**
- **Fast**



***Pick any two.***

# Industrial Energy Efficiency: Frontiers & Opportunities

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- Boost awareness of energy efficiency:  
What is, how it's attained, what it provides...
- DOE, others have plenty of technical “how-to”  
resources...
- Engage industry decision-makers with the  
appropriate message, using the right messengers:
  - Industry peers
  - Manufacturing associations
  - Financial & insurance companies

# Industrial Energy Efficiency: Frontiers & Opportunities

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- Is “energy efficiency” a stand-alone issue?
- Interest varies directly with energy prices...
- Partner with other industry agendas:
  - Building wealth from internal infrastructure
  - Economic development
  - Risk abatement strategies
  - Demonstrating corporate governance

# Industrial Energy Efficiency: Frontiers & Opportunities

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- Industrial Energy Professionals, from 2006+
  - Engineering competence
  - Lead, motivate, influence staff
  - Understand the risk/time/money trade-off
  - Translate results into financial/business language
  - Periodically re-educate themselves:
    - Mechanical and Information Technologies
    - Finance
    - Manage staff as well as business partnerships  
...with vendors, utilities, suppliers, universities...

# Energy Efficiency's Place in Industry



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## ■ TODAY and beyond

- Stop the bleeding: fix current structures, assets and systems

## ■ 2-5 YEARS and beyond

- Improve maintenance procedures & skills
- Wrap energy-smart choices into standard operating procedures

## ■ 5 YEARS and beyond:

**Leverage energy-smart behavior  
to reduce risk, improve payback  
on emerging renewable energy technologies**

# Alliance to Save Energy: Online at [ase.org](http://ase.org)

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- Industrial Energy Efficiency Clearinghouse
- Corporate Energy Management Case Studies
- *Efficiency & Innovation in U.S. Manufacturing Energy Use*
- *Environmental Strategies for Industrial Development*
- In 2006: Best Practices for Energy Auditing

# Thank You!

## Alliance to Save Energy

1200 18<sup>th</sup> Street, NW  
Washington, D.C. 20036  
Phone: 202.857.0666  
Website: [www.ase.org](http://www.ase.org)



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