



Retailer Energy Alliance

**The Retailer Energy Alliance
Supplier Summit**



Welcome!

- ***Retailer Energy Alliance***
 - Independent consortium
 - Tapping technical expertise of DOE and its National Laboratories.
 - Information network for sharing best practices and ideas.
 - Single voice for retail industry's needs for building energy technologies and services.
 - Shaping Federal building R&D to address business needs.
 - Sets the example in energy efficiency for our country's businesses, communities, and public institutions.
- Established last year and launched with a Retailer Roundtable in February 2008.
- buildings.energy.gov/retailer



Retailer Energy Alliance

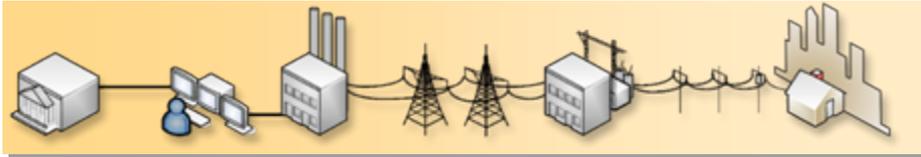
- **Mission:** *Investigate, evaluate, and deploy technologies and systems that significantly improve energy efficiency of retail buildings using the retailer's business case.*
- **Goals:**
 - Provide tools for retailers to tackle building energy efficiency challenges.
 - Reduce energy consumption in retail buildings, including retailers' \$25 billion annual energy bill.
 - Speed market introduction of reliable, affordable, energy-saving technologies.
 - Minimize the impact of volatile energy prices on the bottom line.
 - Safeguard the reliability of energy delivery systems. Shape a future that supports energy security and economic opportunity for our nation.

REA: By Retailers, For Retailers

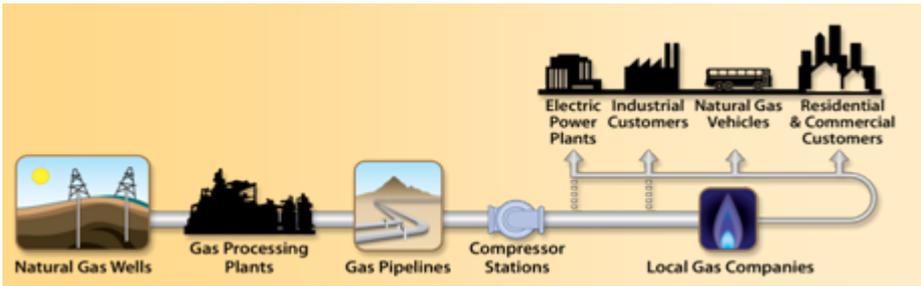
Why Is Buildings Energy Use Important?

Combined residential and commercial buildings sector is the U.S. largest energy consumer

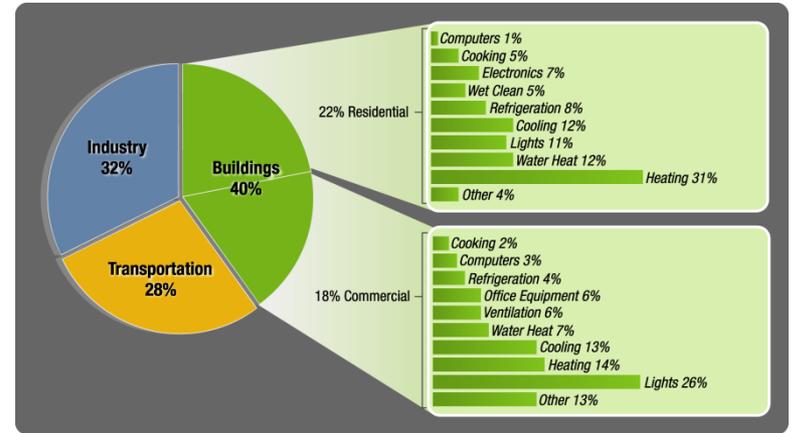
72% of U.S. Electricity



55% of U.S. Natural Gas

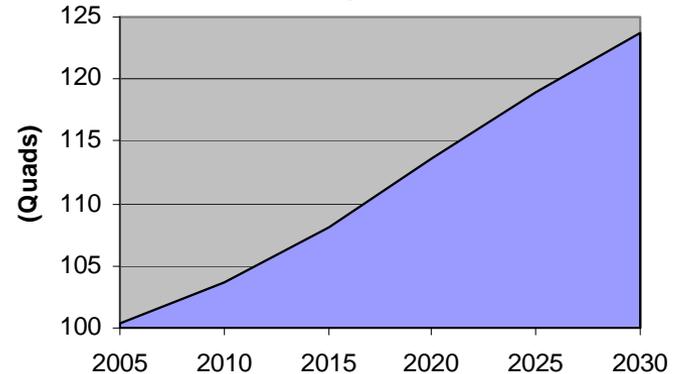


40% of U.S. Primary Energy Consumption



Source: 2007 Buildings Energy Data Book. Tables 1.1.3, 1.2.3, 1.3.3

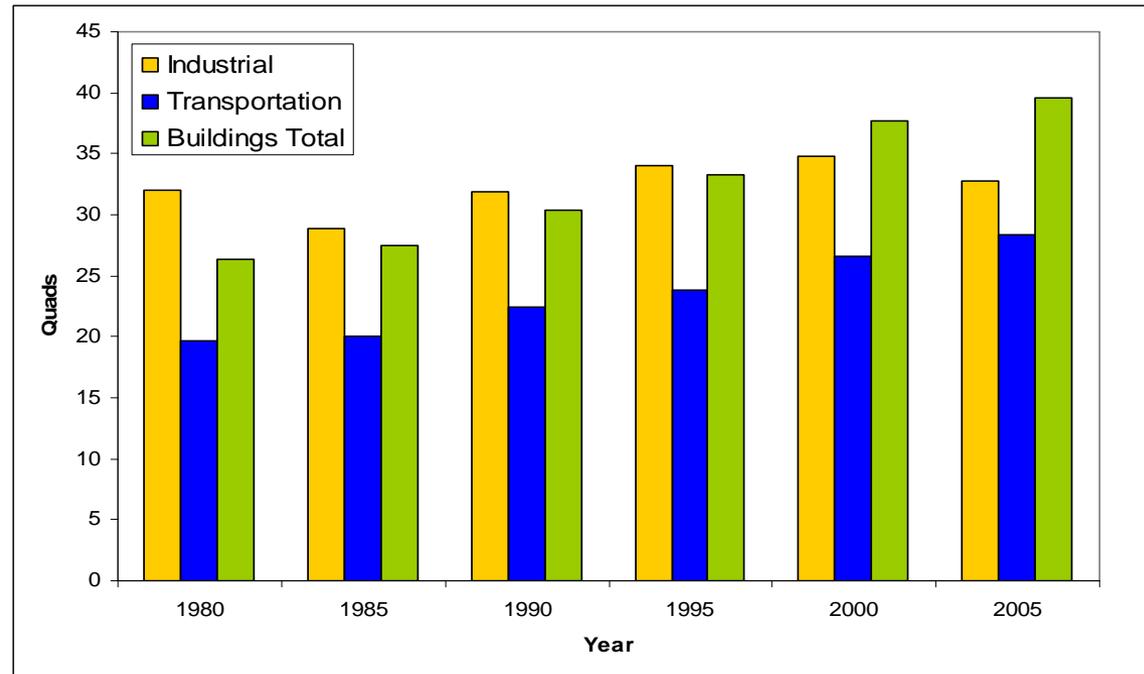
Total U.S. Energy Consumption



Source: 2008 EIA Annual Energy Outlook

Fastest Growing Energy Sector

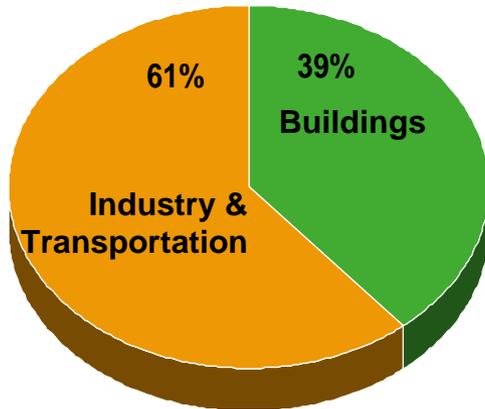
- Buildings sector energy consumption growing faster than any other sector.



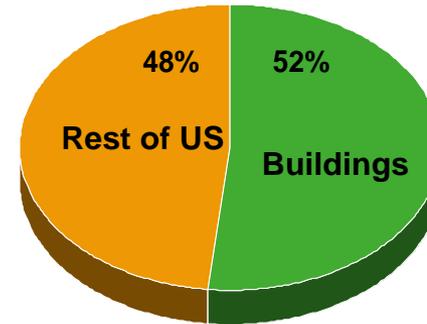
Source: EIA Annual Energy Review, Tables 2.1b-2.1f., June 2007

Buildings Environmental Footprint is Large

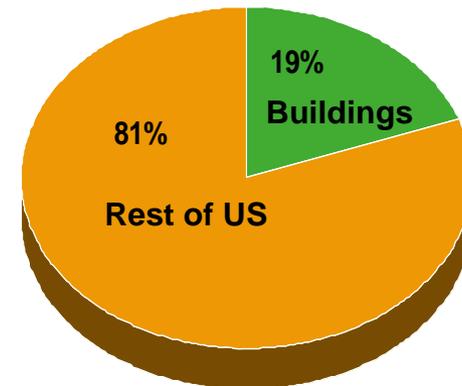
39% of U.S. CO₂ Emissions



52% of U.S. SO₂ Emissions



19% of U.S. NO_x Emissions

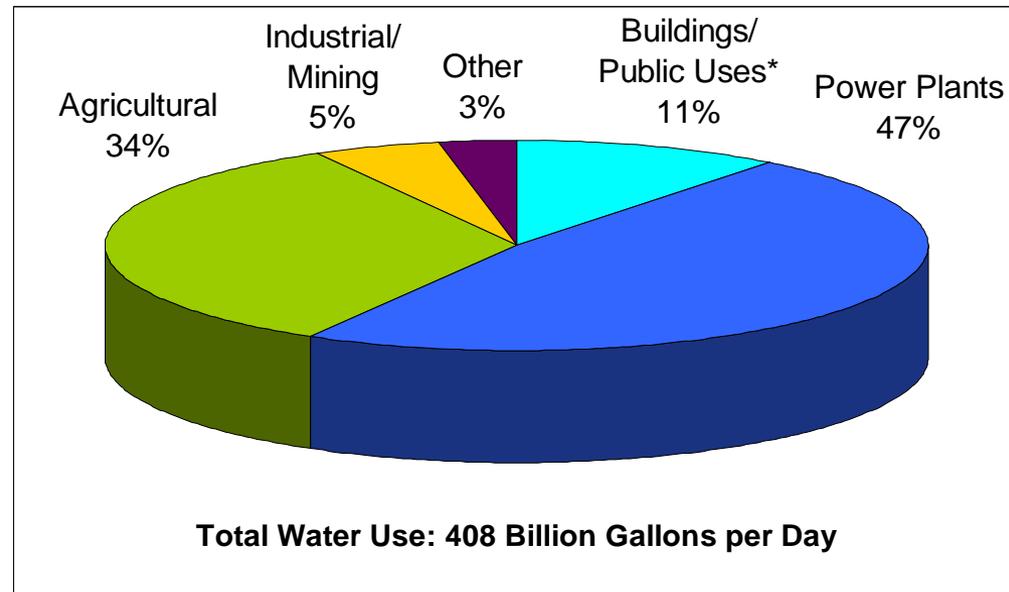


Source: 2007 BED, tables 3.1.1 and table 3.3.1

Buildings Consume Almost Half of U.S. Water

Including electric generation, buildings account for 45% of U.S. water use

- Excluding electricity, we use 100 gallons per day per person for domestic use.
- Approximately 140 billion gallons of water per day is used to provide electricity to buildings.



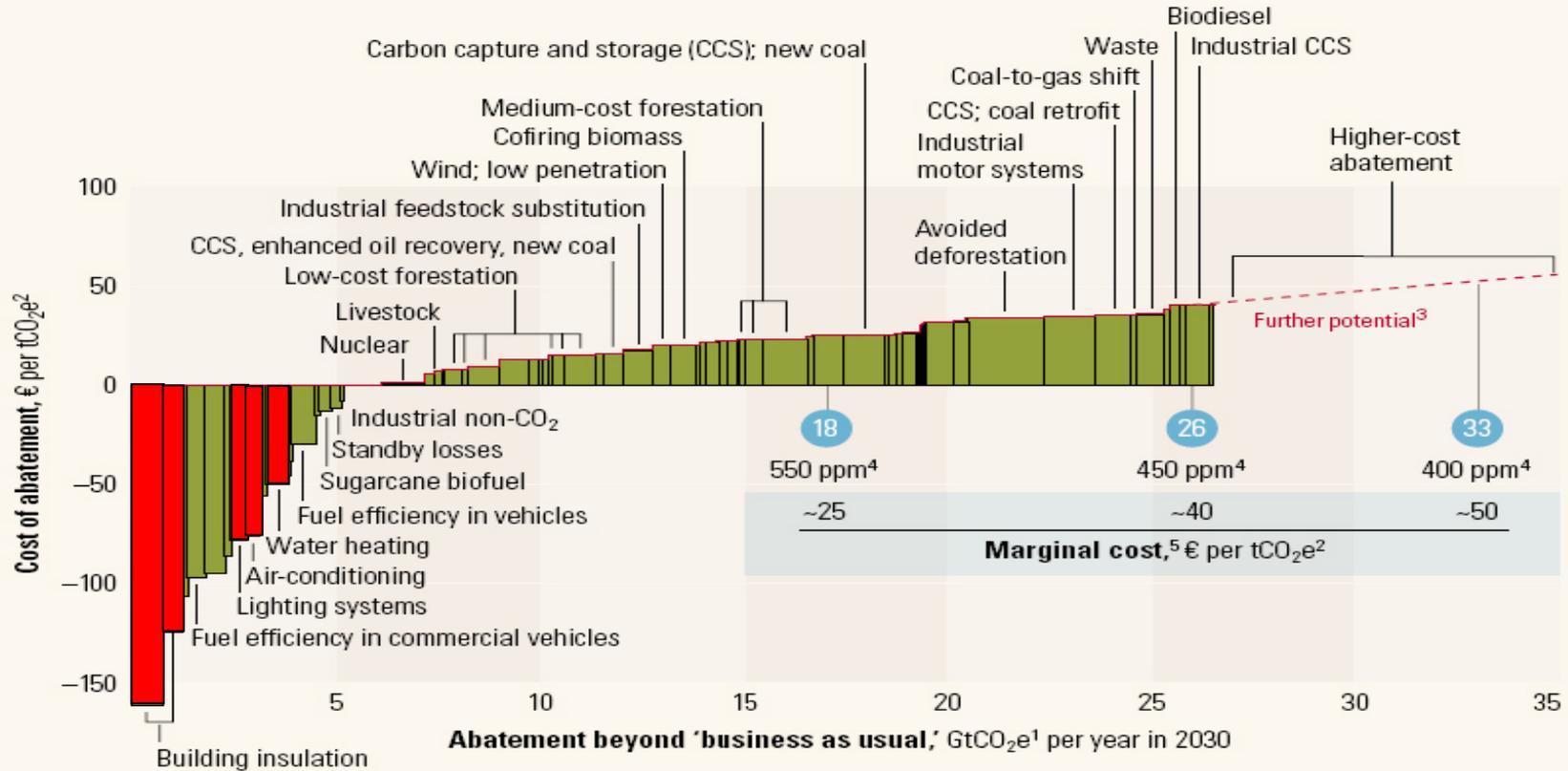
*Does not include self-supplied water of approximately 4 billion gallons/day.

Source: Hutson, S.S., Barber, N.L., Kenny, J.F., Linsey, K.S., Lumia, D.S., and Maupin, M.A., 2004, Estimated use of water in the United States in 2000: Reston, Va., U.S. Geological Survey Circular 1268; www.epa.gov/WaterSense/water/save/use.htm

Low/No-Cost Carbon Reduction Options

Global cost curve for greenhouse gas abatement measures beyond 'business as usual'; greenhouse gases measured in GtCO₂e¹

● Approximate abatement required beyond 'business as usual,' 2030



¹ GtCO₂e = gigaton of carbon dioxide equivalent; "business as usual" based on emissions growth driven mainly by increasing demand for energy and transport around the world and by tropical deforestation.

² tCO₂e = ton of carbon dioxide equivalent.

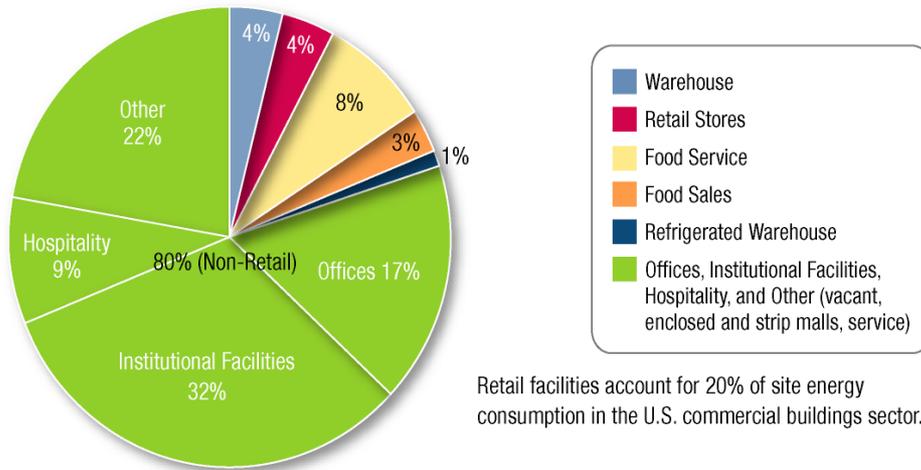
³ Measures costing more than €40 a ton were not the focus of this study.

⁴ Atmospheric concentration of all greenhouse gases recalculated into CO₂ equivalents; ppm = parts per million.

⁵ Marginal cost of avoiding emissions of 1 ton of CO₂ equivalents in each abatement demand scenario.

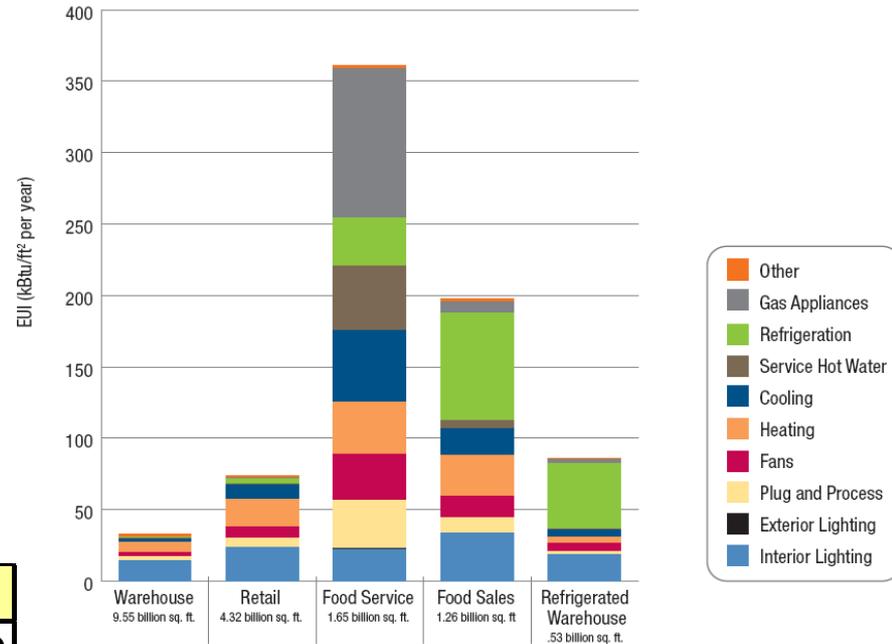
The retail sector has the most immediate opportunity to realize efficiency savings

Site Energy Consumption of Commercial Buildings Sector



Retail facilities account for 20% of site energy consumption in the U.S. commercial buildings sector.

Energy Use Intensity (EUI) by Commercial Building Subsector



Tremendous opportunity to reduce energy intensity in commercial building subsector. Restaurants and grocers have highest energy intensity per square foot.

REA Members	
Total Square Footage	1,873,100,000
Total Revenue	\$780.26 billion
Total # of Stores	42,875

Note: (1) Figures for REA member retailers (Wal-Mart, Best Buy, Food Lion, Kohls, McDonalds, Staples, Target, The Home Depot, Whole Foods, A&P, Arbys, Bealls, Belk, Boston Market, JC Penney, John Deere, Macy's, Hardees, Applebees, Supervalu and Lowes)
 (2) Square footage and revenue figures are approximate and calculated from a variety of sources, including company annual reports, 2008 Directory of Leading Chain Tenants, and web research. Number of stores are domestic only, and include both owned and franchised



DOE's Role?

- Convene critical stakeholders to develop best practices, provide technical tools and training, and ensure openness.
- Collaborate with retailers, manufacturers, and other stakeholders on pilot projects of energy-saving technologies.
- Lead open verification process of results from pilot projects and technical tools.
- Provide retailers with a business case for using technologies and tools to communicate successes to internal and external audiences.
- Facilitate projects to bring energy-efficient technologies to market at a competitive price.

Today's *Supplier Summit* brings retailers and suppliers together to...

- Discuss the challenges retailers face when pursuing cost-effective, energy-efficient strategies and technologies.
- Begin a dialogue to eliminate barriers.
 - Determine where the challenges are.
 - Identify specific technology areas retailers want to improve.
- Understand how retailers and manufacturers can work together to develop, pilot, and implement energy-efficient products.

National Energy Alliances

- **Retailer Energy Alliance**
 - General merchandise, grocery store, restaurant, and warehousing and distribution
- **Commercial Real Estate Energy Alliance**
 - Office, shopping center, hospitality, medical office, GSA
 - Forming this summer
- **Institutional Energy Alliance**
 - State and local government
 - Hospitals (Energy Smart hospitals)
 - Colleges and universities/K-12 Schools (Energy Smart schools)
 - Federal government
 - Forming early next year
- **Commercial Building Industry Energy Alliance**
 - Manufacturers, suppliers, designer community, utilities, ESCOs, finance
 - Forming early next year
- **Interested in joining one of the alliances?**
 - Check buildings.energy.gov/alliances.html (if a retailer, you can sign up online)
 - or e-mail Simone.Katz@ee.doe.gov



Thanks!

Contact:

buildings.energy.gov/retailer

Dru Crawley
Team Lead, Commercial Buildings
Building Technologies Program
US Department of Energy
drury.crawley@ee.doe.gov