Energy's Role in Making the Financial Case for Going Green

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A Changing Landscape Increases Importance of Energy Efficiency

- Energy consumption and costs are rising
- Market volatility is increasing risk and uncertainty
- Managing the risk of climate change is becoming a reality for many organizations.
- Trend toward green building is not necessarily leading to energy-efficient buildings

Energy and Bottom Line

- Quantifiable financial benefits:
  - Commercial properties:
    - 30% reduction in energy use results in 5% increase in net operating income and building asset value
  - Full service hotels:
    - 10% improvement in energy efficiency increases average daily rate by $1.35
  - For Profit hospital:
    5% reduction in energy costs increase earning per share by $.01

Energy and Bottom Line

- ENERGY STAR qualified offices:
  - 35% less energy use
  - $0.50 per square foot less to operate
  - Energy performance persists over multiple years
- Buildings “Designed to earn ENERGY STAR” set aggressive energy use targets.
  - Energy savings can keep green buildings within conventional construction budget

ENERGY STAR-Broad Strategies

Residential

Labeled Products
- -- 40+ products
- --- 1400 manufacturers

Labeled New Homes
- -- 30% more efficient

Home Improvement Services
- -- ducts / home sealing
- -- whole home retrofits

Commercial / Industrial

Corporate energy management
- -- benchmarking, goals, upgrades
- -- whole building labeling for excellence

Labeled Products
- -- for plug loads

Small business initiative

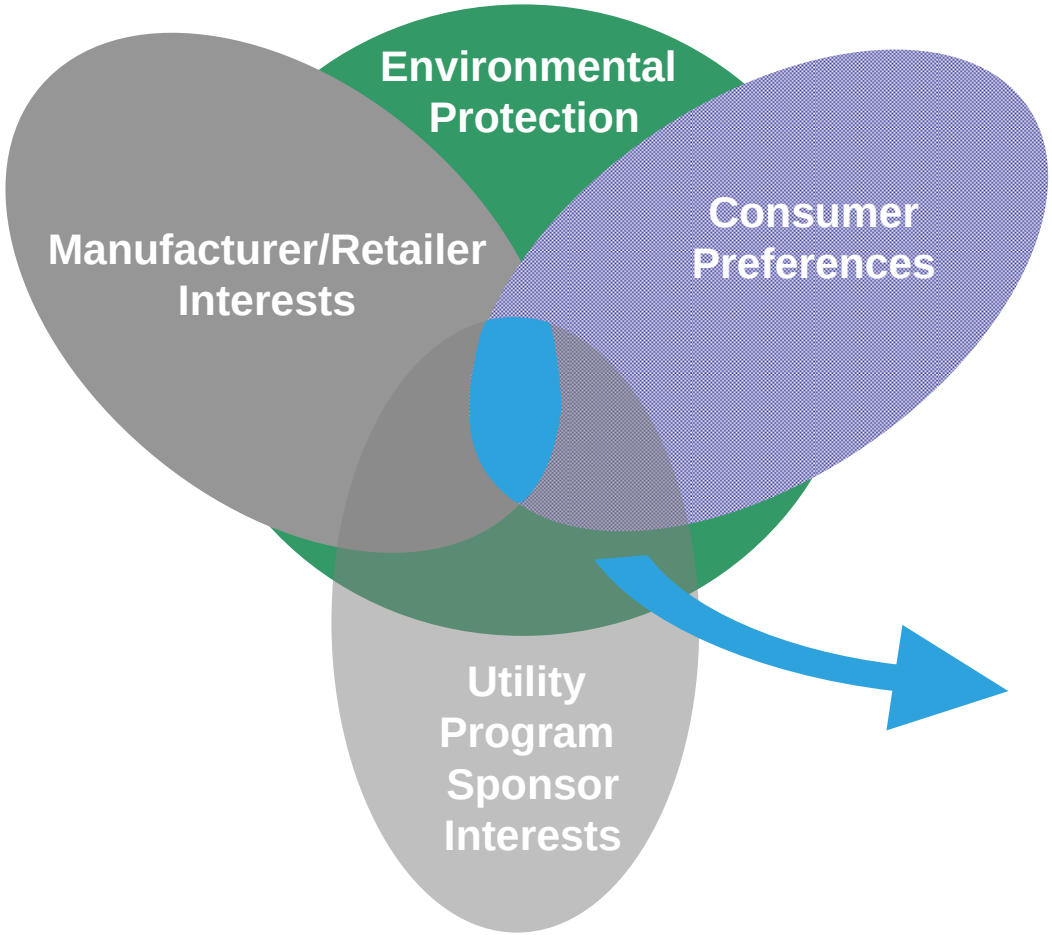
Success to Date

- Started in 1992; now the government backed symbol for helping the environment through energy efficiency
- In 2005, Americans, with help of ENERGY STAR:
  - saved $12 billion on energy bills
  - prevented ghg emissions equal to 23 million cars
- ENERGY STAR recognized by over 60% of Americans

Success to Date

- More than 2 **billion** ENERGY STAR products have been sold to date.
- More than 2,500 builders have constructed over **500,000** ENERGY STAR homes.
- **26,000+** buildings rated using EPA's energy performance rating system:
  - 20% of office buildings,
  - 13% percent of schools,
  - 21% of supermarkets,
  - 34% of hospitals,
  - 9% of hotels have been benchmarked.
- More than **2,600** buildings have earned the ENERGY STAR.

Build Upon Intersection of Market Interests

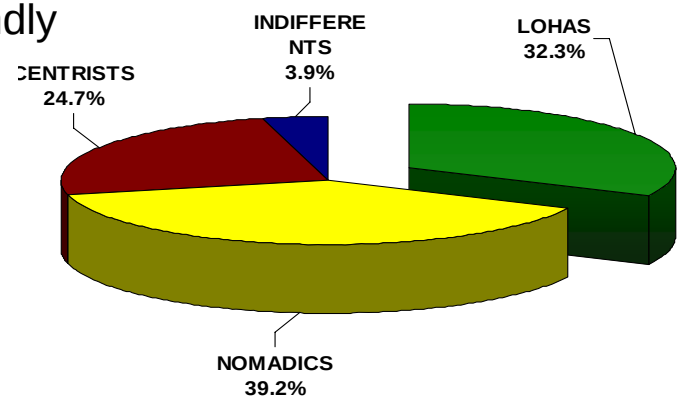


Consumer is Key

Complement Codes and Standards, other Policies

Market Research Supporting Environmental Messaging

- LOHAS Consumer Report (2000+ Adults, 2003)
  - General population
    - 70% choose products that are environmentally friendly
    - 85% agree it is important for products to have the ENERGY STAR label
    - More respondents believe that importance of ENERGY STAR is energy efficiency and environmental friendliness than believe it is saving money on energy bills
  - LOHAS population
    - 32 % of adult population -- up 7% from prior year
    - 91% care about protecting the environment
    - 94% agree it is important for products to have the ENERGY STAR label
    - 99% choose products that are environmentally friendly



Natural Marketing Institute: Lifestyles of Health and Sustainability (LOHAS)

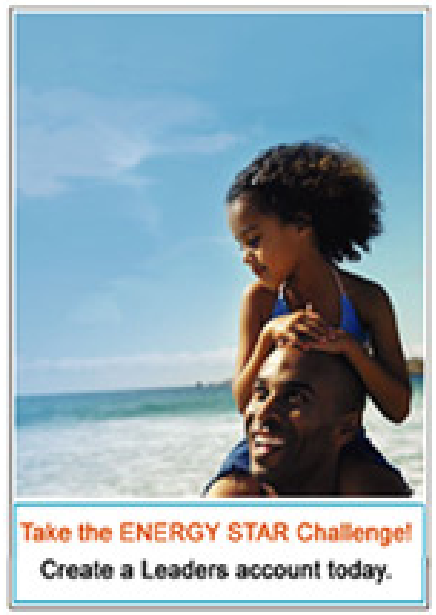
National Marketing Efforts

- ENERGY STAR Change a Light, Change the World Campaign
  - National outreach
  - Working with States, utilities, energy efficiency program sponsors
  - Co-marketing between retailer and manufacturer partners
  - ~75,000 people pledged to help

- ENERGY STAR appliance promotion
- ENERGY STAR Cool Your World

National Call to Action: Building Owners

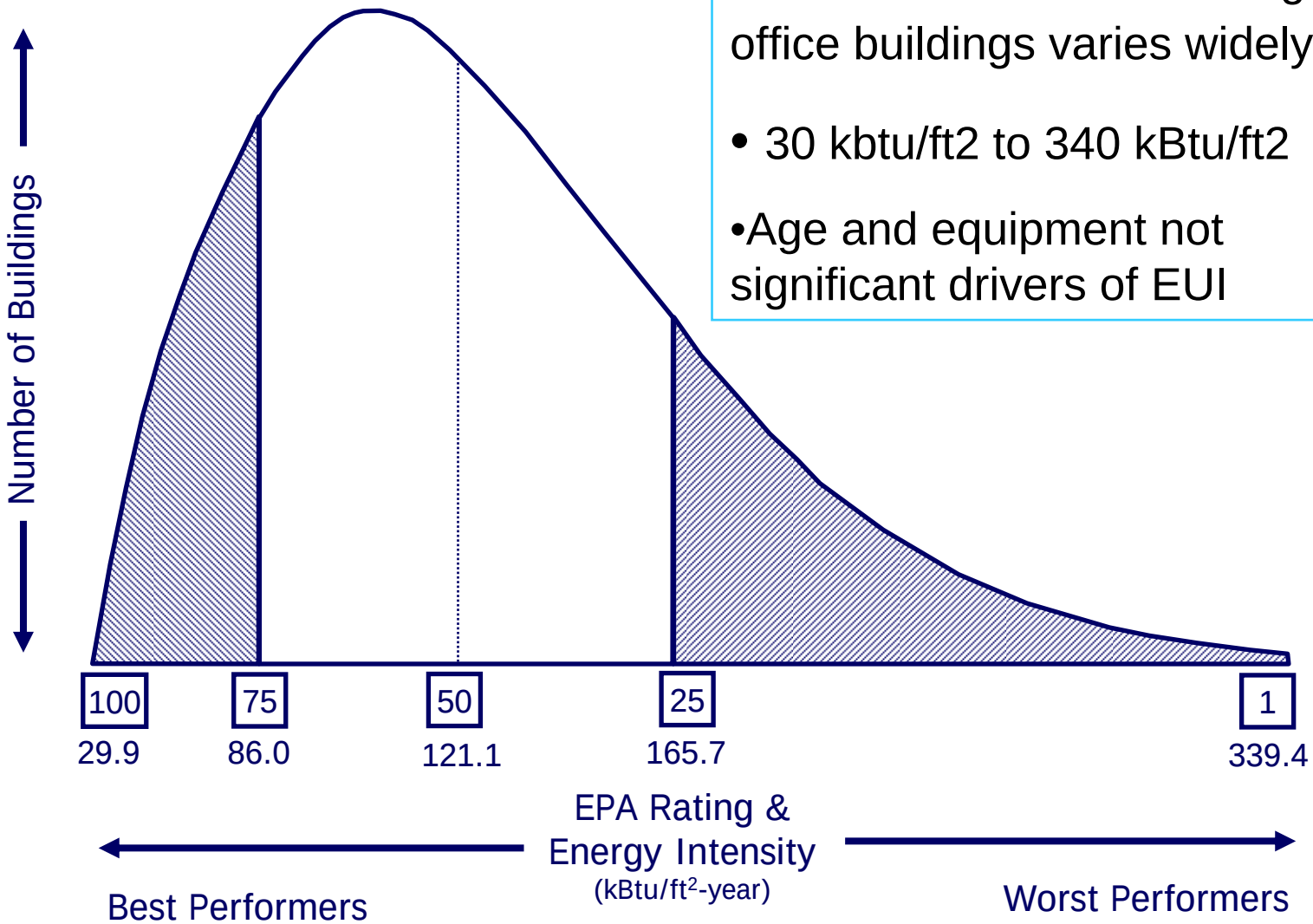
- ENERGY STAR Challenge: Build a Better World 10% at a time.
- Supported by ~50 leading associations and states across all sectors
- National call to action to reduce energy use in all building sectors:
  - Determine energy use of buildings
  - Establish efficiency goal
    - 10% or greater
  - Make improvements
    - Verify results
    - Receive recognition



Commercial Building Opportunities

- Many cost-effective improvements
  - efficient building uses 35% less than average buildings
  - paybacks of less than 3 to 5 years
- Focus on: Whole Building Performance
  - promote integration of systems
  - about energy savings -- not presence of new technology
  - achieve twice the savings for a given investment
- Performance Measurement System
  - can not manage what you can not measure
  - how to measure efficiency / performance
  - determine when is a building efficient
  - provide information linked to real market transactions (like energy bills)

Energy performance gap



- Normalized EUI for existing office buildings varies widely
- 30 kbtu/ft2 to 340 kBtu/ft2
- Age and equipment not significant drivers of EUI

Simple Energy Metric

EPA's Energy Performance Rating System

- Normalize Building Energy Consumption from bills
  - Weather, hours, occupant density, plug load
  - Whole-building "mpg" rating
- Compare
  - Benchmark against similar buildings in national stock
  - Receive 1-100 score
- Reward:
  - Buildings in top 25% qualify for the ENERGY STAR
  - Buildings with intent to perform in top 25% designated "Designed to Earn ENERGY STAR.
  - Organizations with portfolio improvement 10, 20, and 30 point qualify as ENERGY STAR Leader

Simple Energy Metric

- Building types with ratings:
  - Office Buildings:
    - Courthouses
    - Bank branches
  - K -12 Schools
  - Supermarkets/Grocery Stores
  - Hospitals
  - Hotels/Motels
  - Medical Offices
  - Warehouses
  - Residence Halls/Dormitories

ENERGY STAR Strategy

- Estimate Energy Use at Design
  - Target Finder
- Verify energy use in operation
  - Portfolio Manager
- Reduce energy across portfolio
  - ENERGY STAR Guidelines for Energy Management

Energy's Role in Green Building

- Energy efficiency should be foundation for green building
  - Market expects green buildings to be efficient
  - Cost savings largely from efficiency
- Large environmental benefits
- New standardized measurement approaches necessary
  - Older approaches do not deliver consistent energy reductions.

Federal Leadership

- New model for sustainable buildings signed by over 18 agencies
- Focus on energy performance:
  - Establish whole building performance target:
    - Design to Earn ENERGY STAR
  - Reduce energy cost budget 30% from ASHRAE 90.1-2004
    - Increase efficiency of components
  - Measure and verify energy use
    - Compare to design target
    - Use EPA's energy performance rating to earn ENERGY STAR.

If it’s not energy efficient …

…it’s not on a sustainable path.