





Climate Change Legislation and Small Business

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EPA Learn more at energystar.gov



Climate Change Legislation

- **What does it mean for Small Business?**
- **Nobody knows yet.**


EPA



Climate Change Legislation

- Probable size exemptions
 - But small business is about half the economy – Will it be ignored?
 - about half the sq.ft. of commercial/industrial sectors...
 - about 40-50% sector energy use...
- Probable indirect impacts
 - Carbon constraints will increase overall energy costs
 - Either by "Cap and Trade" or "Carbon Tax"
 - State-local mandatory greenhouse gas reporting
 - Mandatory Facility Emissions Benchmarking/ Disclosure at Sale


EPA



Small Emissions Add Up

- Small business could benefit from GHG emissions aggregation
 - Little-no value to small increments, decentralized emissions
 - If aggregated effectively = large, valuable increments
 - Large emitters might provide attractive energy efficiency financing in exchange for "ownership" of millions of small emitters' credits
 - Utility "on bill financing" for efficiency upgrades underway in CA and New England
 - Large finance providers with monthly billing may be interested


EPA



SBA-Backed Loans

- SBA 7a and 504 loans have always been available for energy efficiency
 - SBA has never promoted this fact
 - EPACT 2005 and EISA 2007 specified SBA actions
- National Association of Development Companies
 - SBA certified nonprofits
 - 504 capital-improvement and property purchase loans


EPA



NADCO is Very Interested...


- Benchmark existing buildings before sale/purchase
 - **Operating costs are factor** in building value and loan repayment
- **Identify capital upgrades** to finance at point of sale or to improve owned property
 - Design **reliable upgrades for "positive cash flow"** (recoups capital cost)
- **Track energy savings** performance
 - Aggregate performance data for individual buildings, entire portfolio, state-wide, nationally
 - **Document NADCO instigated savings** and GHG prevention

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Are small businesses interested in energy efficiency?

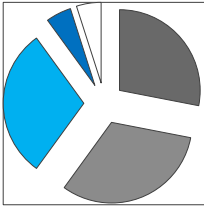
National Small Business Association
2009 Energy Survey




Effect on your business of rising and/or volatile energy prices?


ENERGY STAR


NSBA 2009 Survey



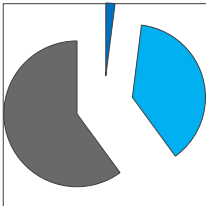
■ Significantly negative - 28%
■ Moderately negative - 30%
■ Mildly negative 30%
■ No effect - 5%
□ Positive - 5%




Have you invested in energy efficiency in the last 18 months?


ENERGY STAR


NSBA 2009 Survey



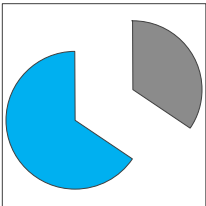
■ Don't Know
■ YES - 38%
■ NO - 60%




Do you plan to invest in energy efficiency this year?


ENERGY STAR


NSBA 2009 Survey



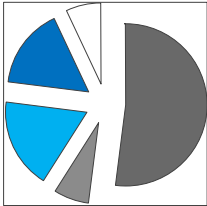
■ NO - 34%
■ YES - 65%




Main obstacle to making your business more energy efficient?


ENERGY STAR


NSBA 2009 Survey




■ Cash flow - 52%
■ Lack of resources - 7%
■ Lack of time - 18%
■ Available technology - 16%
□ Don't know - 7%




Are you familiar with ENERGY STAR label and tech support?



ENERGY STAR

NSBA 2009 Survey




■ NO - 34%
■ YES - 65%




National Small Business Association 

- “Given the extremely difficult economic challenges...over the past two years...a significant number...still investing in energy efficiency is testament to the important leadership role small business can take in any green movement”
 - NSBA Chair Keith Ashmus, Cleveland, Ohio




State and Local Leveraging ENERGY STAR in Energy Policy 




City and County of Denver – LEED and ENERGY STAR for New Construction 

- **Executive Order 123**
 - Requires new construction and major renovations of existing and future **city-owned and operated** buildings to be **Designed to Earn the ENERGY STAR** and benchmarked in EPA’s **Portfolio Manager**.


More at:
<http://www.greenprintdenver.org/about/eo.php>




State of Ohio – ENERGY STAR for State Owned Existing Buildings 

- **Executive Order 2007-02**
 - Establishes that the State of Ohio will use EPA’s **Portfolio Manager** as the benchmarking tool for **state-owned facilities** to establish building baselines and measure and track energy use and carbon emissions within the state.


More at:
<http://www.greenenergyohio.org/page.cfm?pageID=1137>




Washington, D.C. – Benchmarking and Disclosure for Existing Commercial Buildings 

- **Clean and Affordable Energy Act of 2008**
 - Requires that, beginning in 2010, **eligible privately-owned commercial buildings** be benchmarked using **Portfolio Manager** on an annual basis. Energy performance results will be published on a publicly available online database.


More at:
<http://www.dccouncil.washington.dc.us/images/00001/20080819161530.pdf>



California – ENERGY STAR Disclosure During Commercial Real Estate Transactions 

- **Assembly Bill (AB) 1103**
 - By January 1, 2009, upon the request of any commercial building owner, requires all utilities to make available data for uploading into **Portfolio Manager**.
 - By January 1, 2010, requires the disclosure of an ENERGY STAR rating and energy use data as part of **commercial real estate transactions involving the sale, lease, or financing of a whole building**.

More at:
http://info.sen.ca.gov/pub/07-08/bill/asm/ab_1101-1150/ab_1103_bill_20071012_chaptered.pdf



ENERGY STAR® is...

Voluntary climate protection partnership with EPA

Helps organizations save money and protect the environment

Strategic approach to energy management

Brand recognized by over 70% of American households

A Trusted Brand

Trusted Brand survey results showing influence levels across various organizations.

Organization	Some Influence	Great Deal of Influence	Trifling Influence
General	23%	29%	87%
ACMA	20%	35%	84%
ACIA	30%	30%	83%
ACMA	38%	27%	76%
ACMA	32%	28%	75%
ACMA	28%	24%	72%
ACMA	22%	24%	62%
ACMA	32%	22%	61%
ACMA	28%	21%	61%
ACMA	29%	16%	50%
ACMA	25%	14%	48%
ACMA	20%	12%	39%
ACMA	17%	9%	29%
ACMA	18%	6%	26%

ENERGY STAR 2008 Savings

\$18 Billion Annual Utility Bill Savings

27 Million Vehicle Equivalent Emissions Savings

Strategic Energy Management

Free information, tools, software to help:

- Assess current energy performance
- Set reduction goals
- Track savings over time
- Recognize success

National Energy Performance Rating System

Is 28 MPG high or low for a car?

Fuel Efficiency (MPG)

Is 90 kBtu/SF/Year high or low for a hotel?

Energy Performance Rating (1 - 100)

Who's Using ENERGY STAR Portfolio Manager?

- Over 2,400 Partners operating more than 14 billion square feet of space (nearly 20% total U.S. total)
- Over 83,000 buildings, representing more than 11.5 billion square feet of space, measure and track energy performance
- CA, OH, MI

ENERGY STAR Partner Organizations

- US Conference of Mayors (USCM)
- National Association of Counties (NACo)
- Building Owners and Managers Association (BOMA)
- CoStar (Commercial Building Multiple Listing Service)
- American Hotel and Lodging Association (AH&LA)
- Professional Retail Store Maintenance Association (PRSM)
- Stadium Managers Association (SMA)
- National Small Business Association (NSBA)
- National Automobile Dealers Association (NADA)
- American Society of Healthcare Engineers (ASHE)
- International Community Bankers Association (ICBA)
- National Association of Evangelicals (NAE)

and many more.

Energy Efficiency - A CRE Market Differentiator

For Commercial Real Estate Properties:

- Save \$0.50 sq/ft (on average)
- Consume 40% less energy
 - = 35% less Carbon Emissions

AND

- Savings persist over time
- Occupancy/tenant retention is higher
- Savings leveraged into higher asset value upon disposition

Increasing CRE Net Operating Income

Energy Savings	10%	20%	30%
Potential Increase to NOI	1.5%	3.0%	4.5%

Enhancing CRE Property Value

Case Study:

Following an energy efficient upgrade:

- ↓ Operating costs by more than \$0.50/sf
- ↑ Asset value by almost **\$4 million**

*First National Bank Center San Diego
547,448 sf*

Compute Projected Increases in Asset Value

Using the Income Approach to Valuing Assets

Step 1: Compute Total Savings
\$.50/ sf x 547,448 sf = \$273,724

Step 2: Divide Total Savings by Cap Rate
\$273,724 / .07 = **\$3,910,343**

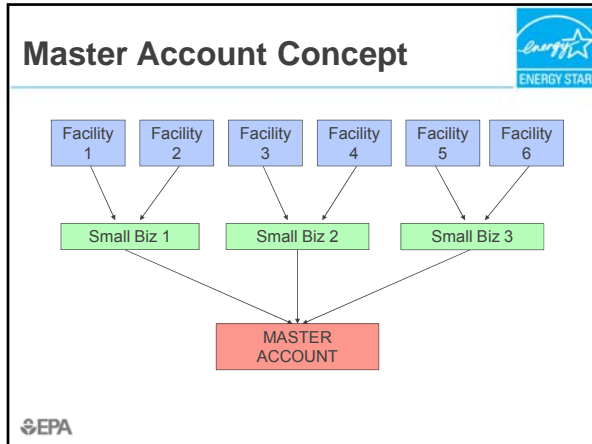
Benchmark & Track Energy Use

- **Portfolio Manager**
 - Free, online, password protected
 - Track energy/water use on multiple meters - track dollar savings
 - Weather-normalized source energy
 - Share with Master Account if wanted
 - Report summarizes CO₂ emissions
- **Initial benchmarking**
 - Data collection - up to 1-2 hours
 - Data input - 15-30 minutes
 - Monthly updates - 5 to 15 minutes

www.energystar.gov/benchmark

Data Needed

General	Space	Energy
Address	Gross floor area	12 consecutive months for each energy type
Year Built	# Rooms	
	# Workers on main shift	
	# Commercial refrigeration freezer units	
	% Gross sf heated	
	% Gross sf cooled	
	Presence of cooking facilities	



Portfolio Manager View

Facility Name	Baseline Weather Normalized Source Energy Intensity kWh/ft ² ·h	Current Weather Normalized Source Energy Intensity kWh/ft ² ·h	Current Site Energy Intensity kWh/ft ² ·h	Annual Energy Cost \$/ft ² ·h	Total Energy Cost per ft ² ·h	Energy Reduction per ft ² ·h	CO ₂ Reduction per ft ² ·h
Facility 1	106.6	93.9	31.1	\$2,400.00	\$0.12	No Savings	0.00
Facility 2	113.7	87.3	22.7	\$4,130.00	\$0.23	11.3	0.0247 t/yr

Identify Upgrade Projects

- Identify under-performing buildings
- Target for energy efficiency improvements.
- Establish baselines to set goals and measure progress

Fire Station	Energy Use Intensity (kWh/ft ² ·h)
Fire Station 1	~100
Fire Station 2	~100
Fire Station 3	~100
Fire Station 4	~300
Fire Station 5	~100
Fire Station 6	~100
Fire Station 7	~100
Fire Station 8	~300
Fire Station 9	~100
Fire Station 10	~100

Track Progress Over Time

- Set a baseline and monitor energy efficiency improvements over time
- View percent improvement in weather-normalized energy use intensity.
- Track reductions in greenhouse gas emissions.
- Monitor energy and water costs

Facility Name	Current Source Energy Intensity kWh/ft ² ·h	Current Site Energy Intensity kWh/ft ² ·h	Annual Energy Cost \$/ft ² ·h	Total Energy Cost per ft ² ·h
Fire Station 1	106.1	12.9	4.1	250.86
Fire Station 2	113.9	18.3	10.7	489.62


Document Savings Results

- Transparency and accountability: Show efficient performance of capital improvement funding
- Quickly, accurately show savings for one or more buildings
 - Energy and water use and costs
 - Solid waste and costs (July 2009)
 - Greenhouse Gas emissions
- Download Portfolio Manager performance metrics into Excel®
- Generate Statement of Energy Performance (SEP) per building
 - Summarizes important performance indicators, such as energy intensity and CO₂ emissions.
- Generate Energy Performance Report showing reductions in key indicators over a user-specified time period.
- Visit www.energystar.gov/benchmark to get started

Statement of Energy Performance

Indicator	Value
Energy Intensity (Site kWh/ft ² ·h)	52
Energy Intensity (Source kWh/ft ² ·h)	173
Emissions (based on site energy use) Greenhouse Gas Emissions (MCO ₂ e/year)	2,352

Energy Performance Report




Comparative Energy Performance Report
Facilities selected: All (25)
Located in:
Date Generated: 12/10/08


Number of facilities in report: 25*

	Year ending 9/2007	Year ending 9/2008	Change
Total Floorpace (sq. ft.)	2,833,760	2,872,451	38,691
Average Rating	69	74	7
Number of Facilities with a Rating	25	25	0
Number of facilities not eligible to receive a rating**	0	0	0
Total Site Energy Use (kBtu)	193,623,841	182,371,128	-11,252,713
Total Weather Normalized Source Energy Use (kBtu)	410,558,125	377,847,428	-32,710,697
Average Weather Normalized Source Energy Intensity (kBtu/Sq. Ft.)	143.9	131.5	-12.3
Average Site Energy Intensity (kBtu/Sq. Ft.)	68.3	63.5	-4.8
Total Site Electric Use (kWh)	25,131,058	23,929,962	-1,201,096
Total Site Natural Gas Use (Therms)	1,079,767	1,007,221	-72,546
Average Annual Source Energy Intensity (kBtu/Sq. Ft.)	143.9	131.7	-12.3


*Only facilities with a full year of energy and attribute data in each of the two comparison years are included in the facility summary.
**Facilities that are not eligible to receive a rating are defined as buildings that currently are ineligible to receive the ENERGY STAR rating due to (1) their operating characteristics, (2) their property type, and/or (3) incomplete energy data for the period being rated.




Beyond Benchmarking




- ENERGY STAR Small Business
 - www.energystar.gov/smallbiz
 - Putting Energy into Profits Guide*
 - Web pages for autodealers, c-stores/grocers, home-based, lodging, restaurants, etc.
- Guidelines for Energy Management
- Calculators to track Return-on-Investment
- Live and recorded trainings
- Communication materials for employees, customers, stakeholders and media
- Platform for local governments to launch
 - EPA community energy efficiency programs







Louisville Kilowatt Crackdown




- "Louisville Energy Alliance" formed in response to Mayor Abramson's launch of the ENERGY STAR Challenge to the community
- The first joint EE campaign led by major commercial real estate organizations in Louisville
 - BOMA (Building Owners and Managers Assoc.)
 - CCIM (Certified Commercial Investment Member)
 - ICSC (International Council of Shopping Centers)
 - IFMA (International Facility Management Assoc.)
 - IREM (Institute for Real Estate Management)











Louisville Kilowatt Crackdown Taking Off with ENERGY STAR




- Louisville's first year as an ENERGY STAR Partner and a model city showed big results:
 - By the end of 2008, the number of ENERGY STAR Partners in Louisville had **doubled** from 7 to 14, and the number of labeled buildings had also **doubled**, from 5 to 10
 - As of December 2008, **232** buildings were registered to participate in the 2009 Louisville Kilowatt Crackdown
 - In the first three quarters of 2008, the number of buildings benchmarked in Portfolio Manager increased **120%**, from 92 to 212.
 - Made use of Portfolio Manager a requirement to document results in a recently awarded Energy Savings Performance Contract.



Commercial/Industrial Resources



- Get Started**
 - Guidelines for Energy Management www.energystar.gov/guidelines
 - Energy Strategy for the Road Ahead www.energystar.gov/energystategy
- Measure & Track Energy Use**
 - Portfolio Manager www.energystar.gov/benchmark
 - Target Finder www.energystar.gov/targetfinder
 - Industrial Energy Performance Indicators www.energystar.gov/epi
- Building & Equipment Improvements**
 - Putting Energy into Profits Small Business Guide www.energystar.gov/smallbizguide
 - Building Upgrade Manual www.energystar.gov/bldgmanual
 - New Building Design Guidance www.energystar.gov/newbuildingdesign
- Tap into Expert Help**
 - Service and Product Provider Directory www.energystar.gov/spd
 - Directory of Energy Efficiency Programs www.energystar.gov/programdirectory
- Calculate Energy Savings**
 - Building Upgrade Value Calculator www.energystar.gov/financialevaulation
 - Financial Value Calculator www.energystar.gov/financialevaulation
 - Cash Flow Opportunity Calculator www.energystar.gov/financialevaulation
- Learn More**
 - Online Training (Live, Pre-recorded, and Self-Guided) www.energystar.gov/businesstraining
- Celebrate Achievements**
 - ENERGY STAR Label & Designed to Earn the ENERGY STAR www.energystar.gov/eslabel
 - ENERGY STAR Small Business Awards www.energystar.gov/smallbiz



Training Opportunities



- ENERGY STAR offers free online interactive training with WebEx, including:
 - ENERGY STAR Overview
 - Benchmarking Energy and Water Use
 - Financing Energy Efficiency Improvements
 - And many more!
- Visit www.energystar.gov/training for a detailed list of training opportunities



Next Steps...



- www.energystar.gov/benchmark to learn about Portfolio Manager
 - NADCO co-sponsor training Webinars
 - www.energystar.gov/businesstraining for Online Training (Live, Pre-recorded, and Self-Guided)
- www.energystar.gov/smallbiz to learn about small business energy savings
 - *Putting Energy into Profits* guide
 - E-mail tech questions

