

ENERGY STAR[®] Snapshot: Measuring Progress in the Commercial and Industrial Sectors Spring 2008

Introduction

Through 2007, commercial and industrial (C&I) leaders have made unprecedented progress in their efforts to improve energy efficiency and reduce greenhouse gas emissions across their buildings and facilities. This includes:

- Hundreds of organizations and individuals stepping forward to take the ENERGY STAR Challenge to improve the energy efficiency of America's buildings by 10 percent or more
- · Measuring the energy performance in tens of thousands of buildings
- · Achieving energy savings across millions of square feet
- Designating more than 4,000 efficient buildings and facilities with the ENERGY STAR label

ENERGY STAR partners are building tremendous momentum for energy efficiency and seeing important results. ENERGY STAR labeled facilities now represent nearly \$1.5 billion annually in savings and prevent 25 billion pounds a year of greenhouse gas emissions, relative to typical facilities.

There is still more work to do. Commercial buildings and industrial facilities consume half the energy used in the United States each year at a cost of over \$200 billion per year. The environmental cost amounts to nearly 50 percent of greenhouse gas emissions in the U.S. At the same time, the nation's buildings represent large opportunities for energy savings that can benefit the environment and the owner's bottom line.

The ENERGY STAR Snapshot provides an at-a-glance summary of the key performance indicators behind these impressive results. The Snapshot brings together the latest national metrics to help you, our partners, see the impact of your efforts. The ENERGY STAR Snapshot can help you watch progress across the country. It provides a look at:

- Participation in the national ENERGY STAR Building Challenge
- Trends in the energy performance rating of commercial and institutional buildings
- State-by-state activity
- Industrial sector participation in ENERGY STAR
- Trends in the use of ENERGY STAR certification for efficient commercial and industrial facilities

The ENERGY STAR Snapshot will be distributed twice a year—look for the next issue this fall.



Participation in the ENERGY STAR Challenge

⇒ Companies, Government Agencies, and Individuals Commit to Reducing Energy Use

As EPA's national call to action, the ENERGY STAR Challenge encourages organizations and individuals to do their part to improve the energy efficiency of U.S. commercial and industrial facilities by 10 percent or more. By the end of 2007, nearly 800 organizations and individuals had joined the Challenge including 150 local governments (see figure below) and about two-thirds of the nation's state governments.



ENERGY STAR Challenge Participants (through December 31, 2007)

Participants in the ENERGY STAR Challenge can be categorized into two groups:

- Organizations and individuals that declare their direct commitment to saving energy in the buildings they own or manage, representing about 70 percent of current participants, and
- Organizations that take the savings message of the ENERGY STAR Challenge to their members or constituents. From the U.S. Conference of Mayors (USCM) to the National Association of Automobile Dealerships (NADA) to the Building Owners and Managers Association (BOMA) International—leading associations are reaching out to members nationwide and motivating them to work toward superior energy performance in their facilities.



⇒ Spotlight on Challenge Activities

Below is a closer look at what two organizations have accomplished since taking the ENERGY STAR Challenge.

The Building Owners and Managers Association (BOMA) International joined EPA in the official launch of the ENERGY STAR Challenge in 2005. To date, BOMA has:

- Increased the value of energy efficiency in the real estate market by sponsoring the BOMA Energy Efficiency Program (BEEP) and promoting industry-proven strategic guidance that is based on successes of ENERGY STAR partners.
- Announced the BOMA 7-Point Challenge to achieve a 30 percent improvement in members' portfolios; about 25 organizations and more than 35 local BOMA chapters have responded to date.
- Targeted ENERGY STAR as the mechanism to track and record improvement.
- Delivered training on ENERGY STAR resources and strategies to more than 10,000 industry members.
- Established the ENERGY STAR/Green Pavilion at the BOMA Annual Convention.
- Integrated the ENERGY STAR building performance rating and other EPA voluntary partnership programs into the BOMA Green Lease.

Since joining the Challenge in December 2006, the National Automobile Dealers Association (NADA) has:

- Launched the Energy Stewardship Initiative to encourage dealerships to meet the goals of the ENERGY STAR Challenge and reduce energy consumption by 10 percent or more.
- Reached out to all dealerships; more than 500 have become ENERGY STAR Small Business and Congregations Network participants.
- Delivered ENERGY STAR training sessions to members; more than 300 NADA members participated in training in 2007.
- Received key recognition at the 2007 Small Business and Congregation ENERGY STAR Awards Ceremony—a special award was presented to NADA by U.S. EPA Administrator Stephen L. Johnson for notable achievements in energy efficiency; three NADA dealerships also won Small Business and Congregations Awards for 2007.

For more information on the Challenge, go to <u>www.energystar.gov/challenge</u>.



Trends in Measuring Building Energy Performance

⇒ Energy Use Benchmarking Gains Momentum

Because benchmarking energy use is critical to identifying energy efficiency opportunities, hundreds of businesses and organizations are taking this first step and using EPA's energy performance rating system to assess the energy use of their buildings. EPA's online tool Portfolio Manager enables building owners and managers to rate their individual commercial buildings on a scale of 1 to 100 against similar buildings, track energy performance over time, and target investments in energy efficiency.

In addition, many state and local government agencies, professional associations, and vendors are offering training, expertise, and networking opportunities to make it easy for their constituents, members, and clients to benchmark their buildings.

As a result, 2007 saw significant growth in the amount of floor space that has now been rated across the country (see figure below), with an increase of more than 50 percent from 5 billion square feet in 2006 to over 7.5 billion square feet in 2007. There is also a significant increase – almost a doubling -- in the square footage that is being repeatedly rated for its energy use, which indicates that regular assessment is becoming a standard practice for many.



Building Rating Activity

To track your building's energy performance, go to www.energystar.gov/benchmark.



\Rightarrow Growth in Energy Use Benchmarking by Building Type

EPA's energy performance rating system is now available for eleven specific building space types that account for more than 60 percent of the carbon emissions that result from commercial buildings. As shown below, there is significant growth in the rated square footage for these building types over the last three years. Office buildings continue to lead with the most rated floor space, followed by schools and then retail and hospitals. In the first year the retail space rating became available (2007), retailers rated more than 1 billion square feet.



Increase in Rated Floor Space by Building Type

Note: Ratings were available only for offices in 1999. They became available for K-12 schools in 2000; supermarkets/grocery stores, hotels, and hospitals in 2001; warehouses/storage buildings, residence halls, medical offices, bank branches, courthouses, and financial centers in 2004; and retail space in 2007. Note: Bank branches and financial institutions were combined in 2007.



⇒ States Engaged in the ENERGY STAR Challenge Lead Benchmarking Progress

States that have taken the ENERGY STAR Challenge lead the way in rating the most floor space in the country. Nine of the top 10 states in cumulative rated floor space to date are Challenge participants, as shown below (additional state data may be found in the appendix beginning on page 11).

The Top 10 States with the Largest Amount of Rated Floor Space:

State	Cumulative Square Feet Rated (in millions, rounded)
California*	900
Texas*	750
New York*	630
Illinois*	400
Florida*	360
Massachusetts	300
Pennsylvania*	290
Virginia*	260
Michigan*	240
Minnesota*	240

(* denotes ENERGY STAR Challenge participants)



(through December 31, 2007)





⇒ ENERGY STAR Industrial Focus on Energy

Nine major industries have come together in Industrial Focuses to pool ideas and work toward energy efficiency improvements. Industrial Focuses provide an opportunity for companies within a single manufacturing industry to network with peers and share industry-specific energy management tools and resources. EPA uses Industrial Focuses to lead a concentrated effort in an industry to:

- Improve energy efficiency of the industry
- Create momentum for continued improvement
- Provide tools to enhance energy performance
- Uncover new energy saving opportunities
- Encourage sharing of ideas

These focuses have contributed to the creation (or recognition) of four energy performance indicators (see below) —with more to come—that enable energy managers and corporate executives to evaluate the energy efficiency of their plants relative to the typical efficiency levels of their industry and to recognize the high performers with the ENERGY STAR label.

	Years		Energy Performance	Fuel and Electricity Costs (in
Focus	Active	Industry Participation ¹	Indicator	Millions) ^{2,3}
Cement Manufacturing	4	50% of U.Sbased clinker ⁴ production capacity	Final	\$1,400
Corn Refining	5	95% of U.Sbased refining capacity	Final	\$950
Food Processing	2	80% of U.S. processed fruit, vegetable, and grain sales	In process	\$1,300
Glass Manufacturing	2	50% of U.S. flat, container, and fiberglass sales	In process	\$1,200
Motor Vehicle Manufacturing	6	75% of the industry with U.Sbased production.	Final, updating	\$1,000
Petrochemical Manufacturing	1	83% of U.S. ethylene production capacity	Exploring options	\$11,600 ⁵
Petroleum Industry	3	64% of U.Sbased refining capacity	Private system recognized by EPA	\$11,200
Pharmaceuticals	3	Over 50% of the global and U.S. manufacturing capacity	In process	\$800
Pulp & Paper	1	70% of U.Sbased companies' global sales	Exploring options	\$7,200

Through December 2007.

^{(1) &}quot;Participation" refers to the extent of participation of an industry in a focus.

^{(2) &}quot;Fuel and electricity costs" refers to the cost paid by each industry for fuel and electricity.

⁽³⁾ Source: "Statistics for Industry Groups and Industries: 2005" Annual Survey of Manufacturers. Table 4. U.S. Census Bureau. November 2006.

⁽⁴⁾ Clinker is the output from a cement kiln.

⁽⁵⁾ Source: "Statistics for Industry Groups and Industries: 2004" Annual Survey of Manufacturers. Table 4. U.S. Census Bureau. December 2005.



Earning the ENERGY STAR Label for High Performance

More than 4,000 top performing buildings—representing over 740 million square feet—earned the ENERGY STAR through 2007 for being energy all-stars. These buildings earned the ENERGY STAR by achieving a score of 75 or higher on EPA's energy performance rating system and meeting relevant requirements for indoor air quality. Their owners spent about \$800 million less on energy bills compared to those of typical buildings.

Notably, almost 500 of these ENERGY STAR buildings use <u>50 percent less</u> energy than average buildings.

Almost 40 industrial plants have also qualified for the ENERGY STAR since that recognition became available in 2006. They include 15 auto assembly plants, 12 cement plants, 3 wet corn milling plants, and 7 oil refineries. Together, these ENERGY STAR labeled plants save an estimated \$700 million annually on energy bills.

Total ENERGY STAR Labeled Buildings	More than 4,000
Total ENERGY STAR Labeled Buildings using 50 percent less energy than average buildings	Almost 500
Total ENERGY STAR Labeled Plants	Almost 40
Note: Numbers are cumulative through December 31, 2007	

The map below shows the number of ENERGY STAR labeled facilities across all states (additional state data may be found in the appendix beginning on page 11).



To label your building, go to <u>www.energystar.gov/eslabel</u>. To label your industrial plant, go to <u>www.energystar.gov/plants</u>.



EPA Recognition for Organization-Wide Improvements

EPA recognizes organizations as ENERGY STAR Leaders when they achieve significant energy efficiency milestones. ENERGY STAR Leaders are organizations that have improved the efficiency across their portfolio of buildings by 10, 20, or 30 percent or have achieved a top performing portfolio with an average rating of 75 or better. Leaders show remarkable commitment to improving the energy performance of buildings and plants by managing energy strategically across the organization's entire portfolio of facilities, not just in individual buildings.

More than 50 ENERGY STAR partners have met these impressive milestones. These Leaders manage over 260 million square feet across more than 4,500 facilities, as presented in the map and table below.

Cumulative Number of ENERGY STAR Leader Facilities by Building Type								
Supermarket/ Grocery	Hospitality	K-12 Education	Real Estate	Banks & Financial Institutions	Healthcare	Residence Halls	Warehouses	Total
2,835	903	675	103	23	5	1	2	4,547



ENERGY STAR Leaders by State

For more information on ENERGY STAR Leaders, go to <u>www.energystar.gov/leaders</u>.



Where Can You Find Out More About ENERGY STAR?

Watch for coverage in your local and national press!

Local and national press coverage on these topics is increasing; 2007 saw more than a doubling of the number of articles about ENERGY STAR in C&I markets.

More than 10 million visitor sessions in 2007 provided key information about ENERGY STAR at <u>www.energystar.gov</u>.

And, if you would like to partner with ENERGY STAR to improve your energy efficiency, visit: <u>www.energystar.gov/joinbuildings</u>.

For more information on rating and labeling activity, including state data, see the Snapshot Appendix.

Appendix

ENERGY STAR Snapshot: Measuring Success in the Commercial and Industrial Markets Spring 2008

I. Benchmarking Activity through December 31, 2007



Cumulative Number and Floor Space of Buildings Rated, By EPA Region/State through 2006 and 2007

	Cumulative Number of Buildings Rated through 2006	Cumulative Number of Buildings Rated through 2007	Percent Increase (from 2006 to 2007 in Number of Buildings Rated)	Cumulative Floor Space of Buildings Rated through 2006 (square feet)	Cumulative Floor Space of Buildings Rated through 2007 (square feet)	Percent Increase (from 2006 to 2007 in Floor Space of Buildings Rated)
EPA Region 1				•		
Connecticut	614	1,008	64%	87,942,152	118,406,667	35%
Maine*	108	235	118%	11,935,402	20,497,326	72%
Massachusetts	906	1,951	115%	197,264,662	299,833,228	52%
New Hampshire*	215	420	95%	14,348,277	28,935,311	102%
Rhode Island	89	213	139%	10,728,390	22,312,209	108%
Vermont*	123	185	50%	8,341,432	12,740,144	53%
Total - Region 1	2,055	4,012	95%	330,560,315	502,724,885	52%
EPA Region 2	1	1		1	1	1
New Jersey	612	1,436	135%	93,637,815	159,375,154	70%
New York*	2,354	3,939	67%	417,207,351	628,134,472	51%
Puerto Rico	16	20	25%	2,609,439	3,390,017	30%
Virgin Islands of the U.S.	4	6	50%	161,350	1,321,821	719%
Total - Region 2	2,986	5,401	81%	513,615,955	792,221,464	54%
EPA Region 3	04	404	4000/	40.570.700	04 047 050	570/
Delaware [*]	81	181	123%	13,578,702	21,317,859	57%
District of Columbia (D.C.)"	367	497	35%	131,143,868	176,299,004	34%
Maryland"	1 259	1,420	71%	139,867,536	200,221,176	43%
	1,230	2,220	659/	166 570 024	264,322,341	41% 56%
West Virginia*	1,314	2,103	111%	13 751 428	25 396 453	30% 85%
Total - Region 3	3 990	6 785	70%	666 554 797	968 199 231	45%
	3,330	0,700	10/8	000,004,707	300,133,231	4370
EPA Region 4						
Alabama*	103	412	300%	27.768.892	47.722.491	72%
Florida*	1.396	3.116	123%	213.156.123	359.709.176	69%
Georgia*	602	1,486	147%	153,981,603	226,838,548	47%
Kentucky*	233	615	164%	32,720,541	61,224,125	87%
Mississippi*	61	215	252%	11,707,833	22,358,558	91%
North Carolina*	1,108	1,881	70%	110,997,935	187,105,183	69%
South Carolina*	303	640	111%	27,050,433	54,769,428	102%
Tennessee*	383	844	120%	61,832,539	98,669,855	60%
Total - Region 4	4,189	9,209	120%	639,215,899	1,058,397,364	66%
EPA Region 5	T		Г	Γ	Γ	
Illinois*	1,168	2,511	115%	249,012,696	395,774,876	59%
Indiana*	333	888	167%	65,331,341	107,682,657	65%
Michigan*	1,184	2,103	78%	175,173,552	238,848,125	36%
Minnesota*	1,087	1,667	53%	171,851,210	236,943,880	38%
Ohio*	600	1,647	175%	132,660,056	226,046,732	70%
Wisconsin*	1,509	2,049	36%	182,243,170	230,266,823	26%
Total - Region 5	5,881	10,865	85%	976,272,025	1,435,563,093	47%

EPA Region 6								
Arkansas	91	252	177%	16,132,499	25,670,112	59%		
Louisiana	321	608	89%	46,663,707	69,511,713	49%		
New Mexico*	63	259	311%	9,115,371	17,854,912	96%		
Oklahoma	275	473	72%	28,111,940	41,040,250	46%		
Texas*	2,697	5,429	101%	503,935,639	744,250,446	48%		
Total - Region 6	3,447	7,021	104%	603,959,156	898,327,432	49%		
EPA Region 7	1	ſ		1	ſ	Γ		
lowa	192	498	159%	30,688,703	61,968,941	102%		
Kansas*	254	417	64%	29,406,947	45,703,940	55%		
Missouri	521	1,069	105%	79,022,252	133,555,601	69%		
Nebraska	146	276	89%	21,417,659	30,546,265	43%		
Total - Region 7	1,113	2,260	103%	160,535,561	271,774,747	69%		
EPA Region 8	1			1	I			
Colorado	985	1,714	74%	138,101,599	188,143,272	36%		
Montana	57	271	375%	7,000,995	18,401,818	163%		
North Dakota	41	106	159%	3,456,592	6,781,501	96%		
South Dakota	37	122	230%	5,226,540	8,489,451	62%		
Utah*	123	593	382%	17,711,382	40,797,196	130%		
Wyoming	51	119	133%	5,298,376	7,619,768	44%		
Total - Region 8	1,294	2,925	126%	176,795,485	270,233,006	53%		
EPA Region 9								
Arizona*	705	1,410	100%	88,606,001	130,408,479	47%		
California*	3,287	7,869	139%	612,737,832	897,489,793	46%		
Guam	13	14	8%	3,542,335	3,708,701	5%		
Hawaii*	95	152	60%	33,211,144	40,786,838	23%		
Marshall Islands	1	1	0%	20,500	20,500	0%		
Navajo Nation	0	1	N/A	0	50,000	N/A		
Nevada	379	1,148	203%	39,139,125	96,035,819	145%		
Northern Mariana Islands	1	1	0%	17,000	17,000	0%		
Pacific Islands	1	1	0%	296,110	296,110	0%		
Trust Territories	0	0	0%	0	0	0%		
U.S. Minor Outlying Islands	2	2	0%	320,000	320,000	0%		
Wake Island	0	0	0%	0	0	0%		
Total - Region 9	4,484	10,599	136%	777,890,046	1,169,133,239	50%		
EDA Decien 40								
EFA Region Tu	111	197	690/	11 000 200	14 499 042	21.0/		
Aldsha	100	221	00%	19 224 829	74,400,942	21%		
	305	ی ۵۱۵	121%	60 286 715	87 172 120	40%		
Washington	290	1 67/	1/20/	11/ 5/2 775	19/ 7/6 206	40% 700/		
Total - Region 10	1 205	3 10/	143%	205 064 717	321 888 650	57%		
	1,290	3,104	1 4U 70	200,004,717	521,000,009	5170		
Total - EPA Region 0	112	216	118%	30 662 260	87 074 765	1200/		
Total - LI A Region U	113	240	11070	39,002,200	07,074,703	12070		
Total - All EPA Regions	30.847	62 427	102%	5.090.126.217	7,775,537,885	53%		
	00,0 11				.,,,,	0070		

*ENERGY STAR Challenge states

II. ENERGY STAR Labeled Building Activity through December 31, 2007





Cumulative Number and Floor Space of ENERGY STAR Labeled Buildings, by EPA Region/State through 2006 and 2007

	Cumulative Number of Buildings Labeled through 2006	Cumulative Number of Buildings Labeled through 2007	Percent Increase (from 2006 to 2007 in Number of Buildings Labeled)	Cumulative Floor Space of Buildings Labeled through 2006 (square feet)	Cumulative Floor Space of Buildings Labeled through 2007 (square feet)	Percent Increase (from 2006 to 2007 in Floor Space of Buildings Labeled)
EPA Region 1						
Connecticut	15	27	80%	6,789,649	8,936,425	32%
Maine*	12	13	8%	581,991	704,991	21%
Massachusetts	87	113	30%	19,247,699	27,866,575	45%
New Hampshire*	5	10	100%	253,007	436,932	73%
Rhode Island	3	3	0%	164,460	164,460	0%
Vermont*	9	10	11%	477,263	485,587	2%
Total - Region 1	131	176	34%	27,514,069	38,594,970	40%
EPA Region 2	1	1	ſ	ſ		
New Jersey	26	41	58%	2,827,552	5,714,606	102%
New York*	78	99	27%	18,754,812	26,922,379	44%
Total - Region 2	104	140	35%	21,582,364	32,636,985	51%
EPA Region 3	I	I				
Delaware*	9	11	22%	1,552,792	1,660,964	7%
District of Columbia (D.C.)*	27	36	33%	13,697,446	16,765,214	22%
Maryland*	87	100	15%	9,301,098	11,298,370	21%
Pennsylvania*	79	103	30%	10,917,198	15,792,325	45%
Virginia*	225	290	29%	17,892,928	25,608,395	43%
West Virginia*	9	11	22%	902,617	2,380,081	164%
Total - Region 3	436	551	26%	54,264,079	73,505,349	35%
EPA Region 4	I	I				
Alabama*	6	6	0%	1,794,446	1,794,446	0%
Florida*	46	66	43%	10,366,131	14,365,502	39%
Georgia*	52	62	19%	16,550,484	19,259,368	16%
Kentucky*	7	19	171%	1,259,609	2,559,785	103%
Mississippi*	4	4	0%	703,757	703,757	0%
North Carolina*	304	384	26%	12,708,911	17,808,046	40%
South Carolina*	62	69	11%	2,184,819	2,485,713	14%
Tennessee*	10	24	140%	3,274,333	4,634,785	42%
Total - Region 4	491	634	29%	48,842,490	63,611,402	30%
EPA Region 5		1	[[
Illinois*	74	97	31%	12,913,523	27,048,807	109%
Indiana*	19	29	53%	4,392,193	5,504,014	25%
Michigan*	50	70	40%	18,455,966	22,066,608	20%
Minnesota*	89	113	27%	22,275,030	28,568,946	28%
Ohio*	114	125	10%	19,516,415	20,426,069	5%
Wisconsin*	85	115	35%	8,538,477	13,792,200	62%
Total - Region 5	431	549	27%	86,091,604	117,406,644	36%

L

EPA Region 6			-	-	-	-		
Arkansas	6	6	0%	1,621,340	1,623,269	0%		
Louisiana	22	24	9%	7,869,008	9,537,716	21%		
New Mexico*	6	6	0%	1,917,836	1,917,836	0%		
Oklahoma	6	6	0%	804,136	804,136	0%		
Texas*	369	520	41%	87,697,673	122,287,030	39%		
Total - Region 6	409	562	37%	99,909,993	136,169,987	36%		
EPA Region 7								
Iowa	30	31	3%	2,085,453	2,151,031	3%		
Kansas*	16	28	75%	661,490	1,803,411	173%		
Missouri	17	18	6%	3,058,064	3,406,083	11%		
Nebraska	8	9	13%	2,085,701	2,625,157	26%		
Total - Region 7	71	86	21%	7,890,708	9,985,682	27%		
EPA Region 8	1		1	1	1	1		
Colorado	152	165	9%	28,664,295	31,876,874	11%		
Montana	6	9	50%	739,271	1,506,605	104%		
North Dakota	6	6	0%	673,814	673,814	0%		
South Dakota	14	14	0%	1,104,076	1,104,076	0%		
Utah*	13	14	8%	1,762,672	1,899,378	8%		
Wyoming	2	2	0%	348,216	348,216	0%		
Total - Region 8	193	210	9%	33,292,344	37,408,963	12%		
EPA Region 9			1	1	1	1		
Arizona*	42	53	26%	9,133,339	10,915,103	20%		
California*	779	917	18%	147,623,911	177,520,181	20%		
Hawaii*	14	20	43%	8,335,038	8,867,421	6%		
Nevada	21	23	10%	2,250,236	2,435,853	8%		
Total - Region 9	856	1,013	18%	167,342,524	199,738,558	19%		
EPA Region 10	1		1	1	1	1		
Alaska*	1	1	0%	736,056	736,056	0%		
Idaho	15	16	7%	1,840,133	2,138,424	16%		
Oregon	35	50	43%	8,400,327	11,632,427	38%		
Washington	53	68	28%	16,907,181	23,222,052	37%		
Total - Region 10	104	135	30%	27,883,697	37,728,959	35%		
Total - All Regions	3,226	4,056	26%	574,613,872	746,787,499	30%		

*ENERGY STAR Challenge states