

**Table B39. Heating equipment, floorspace, 2012**

	Total floorspace (million square feet)									
	Heating equipment (more than one may apply)									
	All buildings	Buildings with space heating	Heat pumps	Furnaces	Individual space heaters	District heat	Boilers	Packaged heating units	Other	
<b>All buildings</b>	87,093	80,078	11,846	8,654	20,766	5,925	22,443	49,188	1,574	
<b>Building floorspace (square feet)</b>										
1,001 to 5,000	8,041	6,699	868	1,091	1,747	Q	400	3,809	Q	
5,001 to 10,000	8,900	7,590	1,038	1,416	2,025	Q	734	4,622	Q	
10,001 to 25,000	14,105	12,744	1,477	2,233	3,115	Q	2,008	8,246	Q	
25,001 to 50,000	11,917	10,911	1,642	1,439	3,021	213	2,707	7,237	Q	
50,001 to 100,000	13,918	13,114	2,664	1,042	2,763	704	4,938	8,489	541	
100,001 to 200,000	12,415	11,941	1,549	683	2,915	1,313	4,258	7,569	Q	
200,001 to 500,000	10,724	10,348	1,527	466	2,970	1,553	4,970	5,991	Q	
Over 500,000	7,074	6,730	1,080	284	2,211	1,974	2,430	3,225	Q	
<b>Principal building activity</b>										
Education	12,239	12,099	2,209	564	1,750	1,155	6,637	6,107	Q	
Food sales	1,252	1,196	Q	Q	336	N	Q	944	Q	
Food service	1,819	1,762	146	266	256	Q	145	1,296	Q	
Health care	4,155	4,109	739	258	967	671	2,285	2,085	Q	
Inpatient	2,374	2,354	506	124	501	563	1,698	1,073	Q	
Outpatient	1,781	1,754	233	133	466	Q	588	1,012	N	
Lodging	5,826	5,696	1,259	638	2,168	621	2,105	2,561	Q	
Mercantile	11,330	10,794	1,419	1,423	2,568	Q	1,138	9,434	872	
Retail (other than mall)	5,439	5,088	441	590	1,007	Q	312	3,964	Q	
Enclosed and strip malls	5,890	5,706	978	832	1,561	Q	826	5,470	860	
Office	15,952	15,753	2,667	1,691	3,727	1,794	4,650	8,407	Q	
Public assembly	5,559	5,323	727	582	1,560	888	1,621	3,016	Q	
Public order and safety	1,440	1,391	Q	Q	253	Q	466	601	Q	
Religious worship	4,557	4,511	581	927	859	N	1,359	2,801	Q	
Service	4,630	4,157	356	497	1,919	Q	433	2,498	Q	
Warehouse and storage	13,077	9,987	1,138	1,294	3,480	Q	841	7,297	Q	
Other	2,002	1,886	Q	Q	737	Q	408	1,257	Q	
Vacant	3,256	1,415	Q	Q	Q	Q	296	886	Q	
<b>Year constructed</b>										
Before 1920	3,983	3,583	371	524	1,442	523	1,221	1,380	Q	
1920 to 1945	6,025	5,527	744	393	1,717	888	2,016	2,589	Q	
1946 to 1959	7,381	6,895	907	685	2,277	446	2,659	3,715	Q	
1960 to 1969	10,362	9,730	1,295	1,168	2,586	1,002	3,506	5,670	Q	
1970 to 1979	10,846	10,045	1,198	1,345	2,923	930	2,763	6,156	Q	
1980 to 1989	15,230	13,723	2,386	1,763	3,424	446	2,973	9,037	Q	
1990 to 1999	13,803	12,389	2,136	1,266	2,996	642	2,970	8,544	397	
2000 to 2003	7,215	6,707	808	551	1,292	Q	1,636	4,281	Q	
2004 to 2007	6,524	5,972	1,174	516	1,160	Q	1,395	4,076	Q	
2008 to 2012	5,723	5,505	826	442	948	Q	1,303	3,741	Q	

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	All buildings	Buildings with space heating	Heat pumps	Furnaces	Individual space heaters	District heat	Boilers	Packaged heating units	Other
<b>All buildings</b>	87,093	80,078	11,846	8,654	20,766	5,925	22,443	49,188	1,574
<b>Census region and division</b>									
Northeast	15,534	15,053	1,397	1,244	4,918	1,981	6,447	7,186	Q
New England	4,302	4,090	400	323	1,529	Q	1,823	1,769	Q
Middle Atlantic	11,232	10,963	998	922	3,389	1,628	4,624	5,417	Q
Midwest	18,919	18,055	1,068	2,511	5,735	906	6,666	10,894	370
East North Central	12,742	12,240	632	1,756	3,668	574	5,083	7,347	Q
West North Central	6,178	5,815	436	755	2,066	332	1,583	3,547	Q
South	34,279	30,499	6,927	3,363	6,519	2,171	5,784	20,049	550
South Atlantic	17,981	15,883	4,909	1,234	3,328	1,148	3,247	10,168	Q
East South Central	4,904	4,692	844	530	1,295	Q	1,077	3,136	Q
West South Central	11,394	9,923	1,174	1,599	1,896	637	1,460	6,745	Q
West	18,360	16,471	2,453	1,536	3,594	867	3,545	11,059	339
Mountain	4,981	4,704	498	554	1,197	482	1,150	2,967	Q
Pacific	13,379	11,767	1,955	983	2,397	385	2,395	8,092	242
<b>Climate region<sup>1</sup></b>									
Very cold/Cold	31,898	30,469	2,150	3,558	10,128	1,926	11,556	17,640	824
Mixed-humid	27,873	26,716	6,182	3,009	6,697	3,002	7,029	15,485	487
Mixed-dry/Hot-dry	12,037	10,484	1,669	995	1,703	Q	1,777	7,351	Q
Hot-humid	12,831	10,090	1,387	937	1,607	362	1,499	7,217	Q
Marine	2,454	2,319	458	Q	631	Q	581	1,495	Q
<b>Number of floors</b>									
One	39,809	34,513	4,642	4,356	8,857	Q	4,257	24,999	1,127
Two	20,206	19,411	2,844	2,518	4,987	Q	5,762	13,422	297
Three	8,140	7,896	1,229	857	2,150	544	3,667	3,918	Q
Four to nine	13,535	12,992	2,089	826	3,398	2,791	6,521	5,180	Q
Ten or more	5,404	5,265	1,041	Q	1,374	1,900	2,236	1,669	Q
<b>Number of workers (main shift)</b>									
Fewer than 5	17,751	12,931	1,366	1,921	3,710	Q	1,908	6,967	Q
5 to 9	8,973	8,492	1,230	1,264	2,274	Q	982	5,320	Q
10 to 19	9,623	8,970	1,234	1,758	2,219	Q	1,219	6,041	Q
20 to 49	14,514	14,126	2,268	1,678	3,752	623	3,764	9,817	448
50 to 99	13,476	13,184	2,409	1,278	3,323	669	4,610	9,055	Q
100 to 249	10,941	10,805	1,490	387	2,390	1,096	4,938	6,596	422
250 or more	11,815	11,570	1,849	367	3,097	3,053	5,021	5,393	Q
<b>Weekly operating hours</b>									
Fewer than 40	8,220	5,763	617	980	1,222	Q	1,180	3,012	Q
40 to 48	15,828	14,867	2,230	2,020	3,696	403	3,907	8,633	Q
49 to 60	20,529	19,365	3,183	2,268	4,971	1,099	5,496	11,950	Q
61 to 84	15,867	15,148	2,427	1,262	3,999	828	3,993	10,640	443
85 to 167	9,395	8,711	724	878	2,183	631	2,266	6,372	364
Open continuously	17,253	16,224	2,666	1,246	4,696	2,792	5,601	8,582	Q

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	All buildings	Buildings with space heating	Heat pumps	Furnaces	Individual space heaters	District heat	Boilers	Packaged heating units	Other	
<b>All buildings</b>	87,093	80,078	11,846	8,654	20,766	5,925	22,443	49,188	1,574	
<b>Ownership and occupancy</b>										
Nongovernment owned	67,550	61,341	8,500	7,472	16,206	3,119	13,405	40,336	1,316	
Owner occupied	30,637	28,745	3,841	3,629	7,363	1,825	6,663	17,635	214	
Leased to tenant(s)	26,115	23,766	3,022	2,880	6,507	730	4,091	17,239	1,021	
Owner occupied and leased	8,873	8,328	1,597	900	2,284	557	2,590	5,102	Q	
Unoccupied	1,925	502	Q	Q	Q	Q	Q	360	Q	
Government owned	19,543	18,736	3,346	1,182	4,561	2,807	9,038	8,852	Q	
Federal	1,573	1,557	212	Q	558	697	471	495	Q	
State	5,539	5,411	636	378	1,375	1,526	2,305	2,213	Q	
Local	12,431	11,768	2,497	753	2,628	584	6,263	6,144	Q	
<b>Party responsible for operation and maintenance of energy systems</b>										
Building owner	73,702	67,644	10,210	7,076	17,425	5,737	20,588	39,517	1,008	
Business owner or tenant	11,309	10,534	1,240	1,325	2,895	Q	1,363	8,598	549	
Property management	1,250	1,073	Q	Q	227	Q	273	652	Q	
Other	832	826	Q	Q	Q	Q	219	422	N	
<b>Provider of direct input on energy-related equipment purchases</b>										
Building owner	76,271	70,099	10,579	7,554	17,932	5,694	20,908	41,565	1,041	
Business owner or tenant	8,256	7,685	800	812	2,297	Q	1,058	6,096	366	
Property management	880	722	Q	Q	201	Q	Q	469	Q	
Other	1,686	1,571	369	Q	337	Q	301	1,058	Q	
<b>Campus or complex activity</b>										
Not part of a campus or complex	52,275	48,779	6,741	5,649	12,576	960	13,400	32,001	828	
Primary or secondary school	4,616	4,486	986	344	647	Q	1,979	2,868	Q	
College or university	4,068	4,008	379	Q	574	2,185	1,163	758	Q	
Office complex	3,456	3,377	681	208	699	Q	894	1,754	Q	
Retail complex	5,159	4,805	675	668	1,508	N	516	4,330	598	
Storage complex	3,212	1,285	Q	Q	560	N	Q	691	N	
Religious campus or complex	1,932	1,896	207	308	242	Q	565	1,152	N	
Health care complex	3,362	3,296	592	250	882	968	1,668	1,509	Q	
Lodging or resort complex	1,295	1,181	255	Q	456	Q	350	383	N	
Transportation complex	554	496	Q	Q	282	Q	Q	233	N	
Government complex	2,107	1,992	259	Q	872	720	715	711	Q	
Other	5,057	4,478	876	769	1,468	Q	915	2,799	Q	

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<b>All buildings</b>	87,093	80,078	11,846	8,654	20,766	5,925	22,443	49,188	1,574
<b>Renovations in buildings constructed before 2008 (more than one may apply)</b>									
Any type of renovation	42,216	40,692	6,295	4,399	12,371	3,964	13,377	25,179	783
Addition or annex	13,022	12,822	2,127	1,526	3,745	1,254	5,423	8,320	Q
Reduction in floorspace	1,753	1,659	303	Q	519	Q	381	991	Q
Roof replacement	20,917	20,344	3,033	2,181	6,534	2,010	8,067	12,038	381
Exterior wall replacement	4,230	4,136	751	466	1,361	353	1,463	2,706	Q
Interior wall reconfiguration	21,340	20,750	3,207	2,233	6,598	2,571	6,940	13,025	313
Window replacement	12,265	12,011	1,850	1,377	3,770	1,431	4,758	6,742	Q
HVAC equipment upgrade	26,779	26,066	4,440	3,075	8,259	2,986	9,286	16,158	499
Lighting upgrade	25,503	24,896	3,933	2,514	8,132	3,037	8,908	15,008	492
Electrical upgrade	16,160	15,661	2,772	1,773	5,398	2,032	5,693	9,467	Q
Plumbing system upgrade	13,828	13,537	2,344	1,500	4,666	1,724	4,987	8,052	Q
Insulation upgrade	7,607	7,371	1,450	1,172	2,509	1,070	2,421	4,417	Q
Fire, safety, or security upgrade	17,196	16,676	3,139	1,736	5,566	2,073	6,630	9,806	Q
Structural upgrade	3,913	3,864	836	449	1,043	697	1,208	2,317	Q
Other	848	751	Q	Q	411	Q	Q	388	Q
No renovations	39,154	33,880	4,725	3,813	7,447	1,770	7,763	20,268	723
Buildings constructed 2008 or later	5,723	5,505	826	442	948	Q	1,303	3,741	Q
<b>Energy sources (more than one may apply)</b>									
Electricity	84,869	80,053	11,846	8,654	20,751	5,925	22,438	49,188	1,570
Natural gas	58,725	58,129	7,560	7,046	15,808	2,833	20,019	37,569	1,194
Fuel oil	20,200	19,670	3,047	870	5,874	3,088	9,340	9,580	Q
District heat	5,964	5,962	556	Q	1,354	5,925	Q	742	Q
District chilled water	4,608	4,561	325	Q	888	3,718	582	756	Q
Propane	7,706	7,332	884	757	2,742	Q	1,772	4,689	277
Other	3,826	3,826	544	429	1,353	335	1,411	2,348	Q
<b>Space-heating energy sources (more than one may apply)</b>									
Electricity	49,030	49,030	11,482	5,040	16,235	1,869	10,721	35,389	1,352
Natural gas	49,511	49,511	5,928	6,837	13,893	350	18,893	32,966	1,094
Fuel oil	4,351	4,351	527	183	1,648	Q	2,556	1,746	Q
District heat	5,925	5,925	556	Q	1,334	5,925	Q	725	Q
Propane	3,067	3,067	385	481	1,217	Q	565	1,963	Q
Other	1,010	1,010	Q	Q	590	Q	Q	411	Q
<b>Primary space-heating energy source</b>									
Electricity	26,205	26,205	7,215	2,270	6,035	Q	2,982	18,523	447
Natural gas	42,988	42,988	3,792	5,778	11,482	Q	17,437	27,826	873
Fuel oil	2,542	2,542	Q	Q	1,008	Q	1,504	757	Q
District heat	5,797	5,797	464	Q	1,271	5,797	Q	650	Q
Propane	1,948	1,948	Q	405	666	N	276	1,193	Q
Other	598	598	Q	Q	305	N	Q	Q	Q

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	All buildings	Buildings with space heating	Heat pumps	Furnaces	Individual space heaters	District heat	Boilers	Packaged heating units	Other
<b>All buildings</b>	87,093	80,078	11,846	8,654	20,766	5,925	22,443	49,188	1,574
<b>Energy end uses (more than one may apply)</b>									
Buildings with space heating	80,078	80,078	11,846	8,654	20,766	5,925	22,443	49,188	1,574
Buildings with cooling	79,294	76,834	11,772	8,514	19,159	5,864	21,579	48,053	1,534
Buildings with water heating	79,015	76,584	11,576	8,420	19,548	5,783	22,020	47,297	1,532
Buildings with cooking	38,546	37,771	6,592	4,005	9,590	3,116	14,847	23,131	1,306
Buildings with manufacturing	5,078	4,790	596	671	2,219	Q	795	3,538	Q
Buildings with electricity generation	25,642	25,155	4,035	1,414	6,857	3,710	11,356	13,943	626
<b>Percent of floorspace heated</b>									
Not heated	7,015	N	N	N	N	N	N	N	N
1 to 50	10,130	10,130	1,390	931	2,964	Q	1,016	6,769	Q
51 to 99	14,650	14,650	2,531	1,628	4,499	1,126	4,532	9,295	550
100	55,298	55,298	7,925	6,095	13,303	4,683	16,895	33,125	980
<b>Heating equipment (more than one may apply)</b>									
Heat pumps	11,846	11,846	11,846	1,347	2,961	556	3,225	5,597	Q
Furnaces	8,654	8,654	1,347	8,654	2,865	Q	1,053	4,165	Q
Individual space heaters	20,766	20,766	2,961	2,865	20,766	1,334	5,203	11,474	667
District heat	5,925	5,925	556	Q	1,334	5,925	Q	725	Q
Boilers	22,443	22,443	3,225	1,053	5,203	Q	22,443	8,817	Q
Packaged heating units	49,188	49,188	5,597	4,165	11,474	725	8,817	49,188	1,147
Other	1,574	1,574	Q	Q	667	Q	Q	1,147	1,574
<b>Cooling equipment (more than one may apply)</b>									
Residential-type central air conditioners	14,765	14,158	1,516	4,906	3,884	Q	2,073	8,975	356
Heat pumps	12,538	12,464	10,037	1,365	3,016	556	3,179	6,851	Q
Individual air conditioners	12,420	11,953	2,015	1,318	6,038	902	5,083	6,096	Q
District chilled water	4,608	4,561	325	Q	888	3,718	582	756	Q
Central chillers	17,041	16,685	2,333	579	4,128	1,948	11,683	7,259	Q
Packaged air conditioning units	45,153	43,820	5,282	4,004	11,336	2,056	11,510	35,944	1,228
Swamp coolers	1,918	1,879	379	Q	713	Q	486	1,416	Q
Other	328	328	Q	Q	Q	Q	Q	Q	N
<b>Main equipment replaced since 1990 (more than one may apply)</b>									
Heating	27,558	27,558	4,825	3,745	8,591	Q	8,332	17,733	461
Cooling	30,702	29,713	5,199	4,192	9,048	1,231	9,016	18,452	510
<b>HVAC conservation features (more than one may apply)</b>									
Economizer cycle	30,749	30,454	4,726	2,221	7,496	4,063	12,065	19,411	707
Regular HVAC maintenance	69,244	67,518	10,742	6,994	15,683	5,591	20,967	42,471	1,340
Building automation system (BAS) <sup>2</sup>	37,051	36,511	5,652	2,267	7,757	4,967	14,726	21,943	1,047

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<b>Equipment usage reduced when building not in full use (more than one may apply)</b>										
Heating	63,167	63,167	9,415	7,390	16,076	4,011	17,877	40,078	1,334	
Cooling	62,516	60,904	9,350	7,194	15,084	4,029	17,152	39,291	1,306	
Lighting	78,594	74,955	11,191	8,237	19,658	5,470	21,363	45,948	1,465	

<sup>1</sup>These climate regions were created by the Building America program, sponsored by the U.S. Department of Energy's Office of Energy Efficiency and Renewable Energy (EERE).

<sup>2</sup>In earlier CBECS publications, BAS was referred to as *Energy Management and Control System (EMCS)*.

Q = Data withheld either because the Relative Standard Error (RSE) was greater than 50 percent or fewer than 20 buildings were sampled.

N = No cases in reporting sample.

Notes: • Because of rounding, data may not sum to totals. • See *Guide to the 2012 CBECS Detailed Tables* or *CBECS Terminology* for definition of terms used in these tables and/or comparison of differences with prior CBECS tables. Both references can be accessed from <http://www.eia.gov/consumption/commercial/data/2012/>

Source: U.S. Energy Information Administration, Office of Energy Consumption and Efficiency Statistics, Form EIA-871A of the 2012 Commercial Buildings Energy Consumption Survey.