



Survey 2000

Commercial and Institutional Building Energy Use

Detailed Statistical Report

December 2002



Natural Resources
Canada

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Canada

Canada

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Commercial and Institutional Building Energy Use Survey 2000
Detailed Statistical Report – December 2002

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Foreword

In 2001, Statistics Canada conducted the first Commercial and Institutional Building Energy Use Survey (CIBEUS) on behalf of the Office of Energy Efficiency (OEE) of Natural Resources Canada (NRCan). CIBEUS contributes to the OEE's mandate – to strengthen and expand Canada's commitment to energy efficiency in order to help address the challenges of climate change – by providing detailed information on the commercial sector that can be used to assess how well Canada is fulfilling its commitment to reducing greenhouse gas emissions.

The main objective of this survey was to collect energy intensity information for commercial and institutional buildings in Canada for the reference year 2000. More precisely, the survey involved collecting information on

- building characteristics
- occupancy characteristics
- energy efficiency characteristics
- energy consumption

This report was prepared by the following staff at the Demand Policy and Analysis Division of the OEE: Jean-François Bilodeau, project leader; David McNabb, who provided overall direction; Michel Blais; Jennifer Smits; and Vincent Fecteau.

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How to Read These Tables

The sample table below illustrates the types of tables presented in this report. This statistical report provides representative results on the number of buildings, total floor space, total energy consumption and energy intensity at a desegregated level for the CIBEUS target population. The CIBEUS target population includes all buildings with an area of at least 93 square metres (1,000 square feet), of which 50 percent or more is devoted to commercial or institutional activities, located in Census Metropolitan Areas (CMAs) or Census Agglomerations (CAs) with populations of 175,000 or greater (populations of 50,000 or greater in the Atlantic provinces).

For each category listed in the left-hand column of a table, characteristics of buildings, such as the estimated number of buildings, floor space, energy consumption and energy intensity, are described in numbers of buildings, square metres (m²), gigajoules (GJ) and gigajoules per square metre (GJ/m²) under the appropriate column on the right. The numbers for buildings, floor space and energy consumption are rounded to the nearest whole number; as a result, these numbers may not add up to the totals indicated and may differ slightly among tables.

Alphabetic symbols used in the statistical tables indicate the extent of the sampling error, or the coefficient of variation, of the estimates. "A" indicates that the estimate has a very low coefficient of variation; "B" indicates the coefficient of variation is somewhat larger; and so forth. Estimates with "A" and "B" indicators are considered precise enough for most purposes. Data with higher coefficients of variation (those with "C" and "D" indicators) are precise enough for some purposes; however, you should use the data with caution. "F" indicates that the estimate had a coefficient of variation of more than 50 percent. Estimates subject to sampling error of that magnitude were not published. The alphabetic symbol "x" indicates cases in which information was suppressed to meet the confidentiality requirements of the *Statistics Act*.

	Total number of buildings		Total floor space (m ²)	
All buildings				
Canada	137,039	A	302,570,981	A
Region				
Atlantic	9,423	A	16,983,536	A
Quebec	32,000	A	71,162,741	A
Ontario	52,182	A	119,870,565	A
Prairies	26,754	A	67,616,918	A
British Columbia	16,681	A	26,937,221	A
<p>The letter beside each estimate classifies its quality as follows: A – Excellent, B – Good, C – Acceptable, D – Use with caution, F – Too unreliable to be published, x – Suppressed to meet the confidentiality requirements of the Statistics Act.</p> <p>Due to rounding the numbers may not add up and may differ slightly among tables.</p> <p>NOTE: Estimates relate only to the surveyed areas of populations of 175,000 and greater, and in Atlantic Canada to populations of 50,000 and greater.</p> <p>Source: Commercial and Institutional Building Energy Use Survey 2000.</p>				

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CHAPTER 1

**Total Number of Buildings and
Total Building Floor Space by
Building Jurisdiction**



Total number of buildings and total building floor space by region

TABLE

1.1

	Total number of buildings		Total floor space (m ²)	
All buildings				
Canada	137,039	A	302,570,981	A
Region				
Atlantic	9,423	A	16,983,536	A
Quebec	32,000	A	71,162,741	A
Ontario	52,182	A	119,870,565	A
Prairies	26,754	A	67,616,918	A
British Columbia	16,681	A	26,937,221	A

The letter beside each estimate classifies its quality as follows: A – Excellent, B – Good, C – Acceptable, D – Use with caution, F – Too unreliable to be published, x – Suppressed to meet the confidentiality requirements of the Statistics Act.

Due to rounding the numbers may not add up and may differ slightly among tables.

NOTE: Estimates relate only to the surveyed areas of populations of 175,000 and greater, and in Atlantic Canada to populations of 50,000 and greater.

Source: Commercial and Institutional Building Energy Use Survey 2000.

TABLE

1.2

Total number of buildings and total building floor space by region by building floor space

TOTAL NUMBER OF BUILDINGS

Building floor space	93–464 m ² (1,000–4,999 sq. ft.)	465–929 m ² (5,000–9,999 sq. ft.)	929–4,645 m ² (10,000–49,999 sq. ft.)	4,645–9,290 m ² (50,000–99,999 sq. ft.)	9,290 m ² and more (100,000 sq. ft. and more)
All buildings					
Canada	53,061 A	30,806 A	39,405 A	7,285 A	6,482 A
Region					
Atlantic	3,772 A	2,267 A	2,502 A	575 B	306 A
Quebec	12,652 A	7,143 A	9,134 A	1,549 B	1,522 B
Ontario	22,015 A	10,661 A	14,232 A	2,718 A	2,557 A
Prairies	9,410 A	5,246 A	8,914 A	1,613 B	1,571 B
British Columbia	5,212 B	5,490 B	4,624 A	829 C	526 C

The letter beside each estimate classifies its quality as follows: A – Excellent, B – Good, C – Acceptable, D – Use with caution,

F – Too unreliable to be published, x – Suppressed to meet the confidentiality requirements of the Statistics Act.

Due to rounding the numbers may not add up and may differ slightly among tables.

NOTE: Estimates relate only to the surveyed areas of populations of 175,000 and greater, and in Atlantic Canada to populations of 50,000 and greater.

Source: Commercial and Institutional Building Energy Use Survey 2000.

TABLE

1.3

Total number of buildings and total building floor space by region by year of construction

TOTAL NUMBER OF BUILDINGS

Year of construction	Before 1920	1920– 1959	1960– 1969	1970– 1979	1980– 1989	1990– 1999
All buildings						
Canada	13,500 A	41,828 A	16,077 A	24,002 A	22,309 A	19,324 A
Region						
Atlantic	820 C	1,924 A	1,247 A	2,016 B	1,801 B	1,615 B
Quebec	3,109 C	9,636 B	4,001 B	4,260 A	6,070 A	4,923 A
Ontario	5,712 B	18,988 A	5,577 A	8,252 A	8,261 A	5,393 A
Prairies	1,348 C	4,967 A	3,258 A	6,716 A	4,715 A	5,750 B
British Columbia	F	6,312 B	1,994 C	2,758 B	1,462 C	1,643 C

The letter beside each estimate classifies its quality as follows: A – Excellent, B – Good, C – Acceptable, D – Use with caution,

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Due to rounding the numbers may not add up and may differ slightly among tables.

NOTE: Estimates relate only to the surveyed areas of populations of 175,000 and greater, and in Atlantic Canada to populations of 50,000 and greater.

Source: Commercial and Institutional Building Energy Use Survey 2000.

TABLE

1.2

TOTAL FLOOR SPACE (m²)

93–464 m ² (1,000–4,999 sq. ft.)		465–929 m ² (5,000–9,999 sq. ft.)		929–4,645 m ² (10,000–49,999 sq. ft.)		4,645–9,290 m ² (50,000–99,999 sq. ft.)		9,290 m ² and more (100,000 sq. ft. and more)	
13,578,022	A	19,808,147	A	80,061,060	A	45,159,524	A	143,964,228	A
956,529	A	1,482,810	A	5,442,899	A	3,855,460	B	5,245,838	A
3,055,674	A	4,497,912	A	17,644,923	A	9,337,988	B	36,626,244	B
5,590,685	A	6,823,271	A	31,391,939	A	17,103,844	A	58,960,826	A
2,477,104	A	3,418,142	A	17,098,768	A	10,054,199	B	34,568,704	B
1,498,030	B	3,586,013	C	8,482,530	A	4,808,033	C	8,562,616	B

TABLE

1.3

TOTAL FLOOR SPACE (m²)

Before 1920	1920– 1959	1960– 1969	1970– 1979	1980– 1989	1990– 1999
18,296,466	56,061,765	42,833,014	82,946,162	50,063,326	52,370,247
B	A	A	A	A	A
F	2,688,607	2,846,814	5,076,530	2,552,315	2,835,751
F	B	B	B	B	B
8,480,818	17,072,443	9,344,452	15,679,999	12,820,450	12,527,716
C	C	B	B	A	B
2,765,774	19,298,415	19,972,661	27,839,419	22,243,166	22,036,087
D	A	B	C	A	C
2,348,674	7,888,202	7,042,128	29,055,118	10,153,310	10,712,385
D	B	A	B	B	C
	9,114,098	3,626,960	5,295,097	2,294,085	4,258,308
	B	C	C	C	B

TABLE

1.4

Total number of buildings and total building floor space by region by number of floors

TOTAL NUMBER OF BUILDINGS

Number of floors →	1		2		3		4-9		10 and more	
All buildings										
Canada	46,330	A	49,145	A	24,251	A	14,913	A	2,401	A
Region										
Atlantic	3,392	A	3,879	A	1,565	B	575	B		x
Quebec	8,253	A	12,520	A	6,133	A	4,790	B	304	C
Ontario	16,677	A	16,787	A	12,135	A	5,366	A	1,217	B
Prairies	12,286	A	9,418	A	2,615	B	1,735	C	700	C
British Columbia	5,721	B	6,540	B	1,801	B	2,449	D		F

The letter beside each estimate classifies its quality as follows: A – Excellent, B – Good, C – Acceptable, D – Use with caution,

F – Too unreliable to be published, x – Suppressed to meet the confidentiality requirements of the Statistics Act.

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Source: Commercial and Institutional Building Energy Use Survey 2000.

TABLE

1.5

Total number of buildings and total building floor space by region by weekly hours of operation

TOTAL NUMBER OF BUILDINGS

Weekly hours of operation →	Less than 40		40-48		49-60		61-84		85-167		Open continuously	
All buildings												
Canada	10,978	A	29,156	A	33,778	A	29,613	A	24,262	A	9,251	A
Region												
Atlantic	499	C	3,201	A	1,973	A	1,309	A	1,636	B	805	B
Quebec	2,841	C	6,049	A	7,966	A	7,012	A	5,602	A	2,529	B
Ontario	4,143	A	11,964	A	12,981	A	11,241	A	8,858	A	2,995	B
Prairies	2,201	B	5,804	A	7,912	A	4,748	A	4,447	A	1,642	B
British Columbia	1,293	C	2,138	B	2,947	B	5,302	B	3,720	B	1,279	D

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Source: Commercial and Institutional Building Energy Use Survey 2000.

TABLE

1.4

TOTAL FLOOR SPACE (m²)

1		2		3		4-9		10 and more	
53,568,594	A	78,166,962	A	41,914,940	A	78,530,577	A	50,389,909	A
4,087,438	C	6,544,991	B	2,499,206	C	3,618,164	A		x
11,170,900	B	20,103,471	B	11,485,429	B	22,683,660	B	5,719,281	C
20,131,311	A	24,447,704	A	19,451,578	A	26,577,685	A	29,262,287	B
14,583,148	A	18,227,568	B	3,606,200	B	17,177,884	C	14,022,117	D
3,595,797	B	8,843,228	B	4,872,527	C	8,473,183	B		F

TABLE

1.5

TOTAL FLOOR SPACE (m²)

Less than 40		40-48		49-60		61-84		85-167		Open continuously	
11,676,404	A	52,396,804	A	63,371,047	A	78,721,436	A	60,317,262	A	36,088,029	A
	F	4,147,598	B	2,783,432	A	3,562,229	A	4,016,912	B	1,710,733	A
2,131,714	C	12,980,800	B	15,428,230	B	15,722,811	A	12,872,198	A	12,026,987	C
5,799,739	B	19,358,556	A	26,851,055	A	40,556,324	B	17,548,220	B	9,756,671	B
1,595,307	C	12,583,439	B	14,388,886	A	12,006,901	B	16,441,855	C	10,600,530	C
1,387,012	C	3,326,411	C	3,919,444	B	6,873,171	B	9,438,076	B	1,993,108	B

TABLE

1.6

Total number of buildings and total building floor space by region by type of ownership

TOTAL NUMBER OF BUILDINGS

Building ownership →	Private individual(s)		Private organization		Non-profit organization		Fed.-prov.-munic.-regional government ^a	
All buildings								
Canada	54,022	A	49,768	A	16,505	A	16,745	A
Region								
Atlantic	3,584	A	3,756	A	889	B	1,193	B
Quebec	13,584	A	10,818	A	3,730	B	3,868	A
Ontario	23,428	A	17,719	A	5,159	A	5,876	A
Prairies	8,269	A	10,051	A	4,672	B	3,763	B
British Columbia	5,157	B	7,423	B	2,055	C	2,045	B

^aIncludes all levels of government (i.e. federal, provincial, municipal and regional).

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Source: Commercial and Institutional Building Energy Use Survey 2000.

TOTAL FLOOR SPACE (m ²)							
Private individual(s)		Private organization		Non-profit organization		Fed.-prov.-munic.-regional government ^a	
59,492,076	A	129,712,194	A	28,445,352	A	84,921,359	A
4,043,631	B	6,924,178	B	928,148	B	5,087,579	A
12,630,126	A	30,251,570	B	5,818,873	B	22,462,172	A
29,731,098	C	49,612,578	A	9,030,932	C	31,495,957	A
7,733,955	B	31,400,740	A	9,005,427	C	19,476,795	C
5,353,266	C	11,523,127	B	3,661,972	D	6,398,855	B

CHAPTER **2**

**Total Number of Buildings and
Total Building Floor Space by
Building Characteristics**



Total number of buildings and total building floor space by building floor space, year of construction, number of floors, predominant type of windows, predominant exterior walls type and predominant roof type

	Total number of buildings		Total floor space (m ²)	
All buildings				
Canada	137,039	A	302,570,981	A
Building floor space				
93–464 m ² (1,000–4,999 sq. ft.)	53,061	A	13,578,022	A
465–929 m ² (5,000–9,999 sq. ft.)	30,806	A	19,808,147	A
929–4,645 m ² (10,000–49,999 sq. ft.)	39,405	A	80,061,060	A
4,645–9,290 m ² (50,000–99,999 sq. ft.)	7,285	A	45,159,524	A
9,290 m ² and more (100,000 sq. ft. and more)	6,482	A	143,964,228	A
Year of construction				
Before 1920	13,500	A	18,296,466	B
1920–1959	41,828	A	56,061,765	A
1960–1969	16,077	A	42,833,014	A
1970–1979	24,002	A	82,946,162	A
1980–1989	22,309	A	50,063,326	A
1990–1999	19,324	A	52,370,247	A
Number of floors				
1	46,330	A	53,568,594	A
2	49,145	A	78,166,962	A
3	24,251	A	41,914,940	A
4–9	14,913	A	78,530,577	A
10 and more	2,401	A	50,389,909	A
Predominant type of window				
Single-glazed	35,696	A	50,805,252	A
Double-glazed ^a	99,333	A	247,855,186	A
Triple-glazed ^b	2,010	A	3,910,543	C

^aIncludes all the different types of windows that are double-glazed (i.e. double-glazed, double-sealed glazed, double-glazed with low-E coating and double-glazed with low-E gas-filled).

^bIncludes all the different types of windows that are triple-glazed (i.e. triple-glazed, triple-glazed with low-E coating and triple-glazed low-E gas-filled).

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Source: Commercial and Institutional Building Energy Use Survey 2000.

This table continues on the next page.



Total number of buildings and total building floor space by building floor space, year of construction, number of floors, predominant type of windows, predominant exterior walls type and predominant roof type

	Total number of buildings		Total floor space (m ²)	
Predominant exterior wall type				
Curtain walls	3,835	B	25,448,753	B
Metal stud framing with surface insulation	13,819	A	42,490,097	B
Metal stud framing without surface insulation		F	3,667,493	B
Wood-frame walls with surface insulation	26,866	A	18,756,542	A
Wood-frame walls without surface insulation	6,853	A	3,157,164	A
Concrete block with interior finishing	54,306	A	130,790,796	A
Concrete block without interior finishing	13,794	A	29,610,992	A
Precast panels	3,911	B	22,955,595	B
Unknown	9,404	A	25,693,550	B
Predominant roof type				
Attic roof fully insulated	17,753	A	23,711,381	A
Attic roof partially insulated	6,257	A	4,789,478	A
Attic roof not insulated	3,451	B	3,861,064	C
Insulated wood-truss roof	17,293	A	16,187,251	A
Not insulated wood-truss roof	5,971	A	7,765,154	B
Insulated metal-truss roof	15,880	A	38,310,621	A
Not insulated metal-truss roof	3,003	A	5,046,174	B
Insulated deck-type roof	48,754	A	155,920,564	A
Not insulated deck-type roof	7,562	A	11,073,646	B
Unknown	11,116	A	35,905,650	A

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Source: Commercial and Institutional Building Energy Use Survey 2000.

This table is a continuation of the previous page. 

TABLE

2.2

Total number of buildings and total building floor space by building floor space, year of construction, number of floors, predominant type of windows, predominant exterior walls type and predominant roof type by region

TOTAL NUMBER OF BUILDINGS

Region →	Atlantic		Quebec		Ontario		Prairies		British Columbia	
All buildings										
Canada	9,423	A	32,000	A	52,182	A	26,754	A	16,681	A
Building floor space										
93–464 m ² (1,000–4,999 sq. ft.)	3,772	A	12,652	A	22,015	A	9,410	A	5,212	B
465–929 m ² (5,000–9,999 sq. ft.)	2,267	A	7,143	A	10,661	A	5,246	A	5,490	B
929–4,645 m ² (10,000–49,999 sq. ft.)	2,502	A	9,134	A	14,232	A	8,914	A	4,624	A
4,645–9,290 m ² (50,000–99,999 sq. ft.)	575	B	1,549	B	2,718	A	1,613	B	829	C
9,290 m ² and more (100,000 sq. ft. and more)	306	A	1,522	B	2,557	A	1,571	B	526	C
Year of construction										
Before 1920	820	C	3,109	C	5,712	B	1,348	C		F
1920–1959	1,924	A	9,636	B	18,988	A	4,967	A	6,312	B
1960–1969	1,247	A	4,001	B	5,577	A	3,258	A	1,994	C
1970–1979	2,016	B	4,260	A	8,252	A	6,716	A	2,758	B
1980–1989	1,801	B	6,070	A	8,261	A	4,715	A	1,462	C
1990–1999	1,615	B	4,923	A	5,393	A	5,750	B	1,643	C
Number of floors										
1	3,392	A	8,253	A	16,677	A	12,286	A	5,721	B
2	3,879	A	12,520	A	16,787	A	9,418	A	6,540	B
3	1,565	B	6,133	A	12,135	A	2,615	B	1,801	B
4–9	575	B	4,790	B	5,366	A	1,735	C	2,449	D
10 and more	x		304	C	1,217	B	700	C		F
Predominant type of window										
Single-glazed	1,893	B	5,885	B	14,773	A	3,727	A	9,418	B
Double-glazed ^a	7,435	A	25,658	A	36,891	A	22,089	A	7,260	A
Triple-glazed ^b	F		457	C	518	D	938	B		x

^aIncludes all the different types of windows that are double-glazed (i.e. double-glazed, double-sealed glazed, double-glazed with low-E coating and double-glazed with low-E gas-filled).

^bIncludes all the different types of windows that are triple-glazed (i.e. triple-glazed, triple-glazed with low-E coating and triple-glazed low-E gas-filled).

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Source: Commercial and Institutional Building Energy Use Survey 2000.

This table continues on the next two pages. 

TOTAL FLOOR SPACE (m²)

Atlantic		Quebec		Ontario		Prairies		British Columbia	
16,983,536	A	71,162,741	A	119,870,565	A	67,616,918	A	26,937,221	A
956,529	A	3,055,674	A	5,590,685	A	2,477,104	A	1,498,030	B
1,482,810	A	4,497,912	A	6,823,271	A	3,418,142	A	3,586,013	C
5,442,899	A	17,644,923	A	31,391,939	A	17,098,768	A	8,482,530	A
3,855,460	B	9,337,988	B	17,103,844	A	10,054,199	B	4,808,033	C
5,245,838	A	36,626,244	B	58,960,826	A	34,568,704	B	8,562,616	B
	F		F	8,480,818	C	2,765,774	D	2,348,674	D
2,688,607	B	17,072,443	C	19,298,415	A	7,888,202	B	9,114,098	B
2,846,814	B	9,344,452	B	19,972,661	B	7,042,128	A	3,626,960	C
5,076,530	B	15,679,999	B	27,839,419	C	29,055,118	B	5,295,097	C
2,552,315	B	12,820,450	A	22,243,166	A	10,153,310	B	2,294,085	C
2,835,751	B	12,527,716	B	22,036,087	C	10,712,385	C	4,258,308	B
4,087,438	C	11,170,900	B	20,131,311	A	14,583,148	A	3,595,797	B
6,544,991	B	20,103,471	B	24,447,704	A	18,227,568	B	8,843,228	B
2,499,206	C	11,485,429	B	19,451,578	A	3,606,200	B	4,872,527	C
3,618,164	A	22,683,660	B	26,577,685	A	17,177,884	C	8,473,183	B
x		5,719,281	C	29,262,287	B	14,022,117	D		F
3,479,220	C	5,823,552	B	26,244,755	A	5,659,537	B	9,598,188	B
13,214,478	A	64,860,025	A	91,708,991	A	60,738,613	A	17,333,079	B
289,839	D	479,165	D		F	1,218,768	D		x

TABLE

2.2

Total number of buildings and total building floor space by building floor space, year of construction, number of floors, predominant type of windows, predominant exterior walls type and predominant roof type by region

TOTAL NUMBER OF BUILDINGS

Region →	Atlantic		Quebec		Ontario		Prairies		British Columbia	
Predominant exterior wall type										
Curtain walls	164	C	850	A	1,846	C	248	D		F
Metal stud framing with surface insulation	1,485	B	4,338	A	3,555	B	3,023	B	1,418	C
Metal stud framing without surface insulation		F	291	D		F	514	C		F
Wood-frame walls with surface insulation	1,924	A	7,404	A	7,033	A	5,428	B	5,078	B
Wood-frame walls without surface insulation	805	B	1,280	C	2,499	C	826	D	1,444	D
Concrete block with interior finishing	2,997	A	11,597	A	23,420	A	10,440	A	5,851	B
Concrete block without interior finishing	529	B	2,400	B	7,021	A	3,215	B	629	D
Precast panels	414	C	1,184	C	1,669	D	363	B		F
Unknown	1,054	B	2,656	B	2,381	C	2,697	B	616	D
Predominant roof type										
Attic roof fully insulated	1,593	B	4,678	A	7,523	A	2,592	B	1,367	C
Attic roof partially insulated	404	C	665	D	3,002	B	1,040	B	1,146	C
Attic roof not insulated	181	C	486	C	1,994	C		F		F
Insulated wood-truss roof	1,186	B	4,275	A	5,622	B	3,267	B	2,943	B
Not insulated wood-truss roof		F	822	C	2,509	C	850	D	1,385	C
Insulated metal-truss roof	1,480	B	3,074	A	6,502	A	3,440	B	1,384	C
Not insulated metal-truss roof	265	D		F	1,554	B		F		F
Insulated deck-type roof	2,299	A	13,294	A	16,727	B	10,201	A	6,232	C
Not insulated deck-type roof	527	D	1,203	B	3,917	B	819	C	1,095	C
Unknown	1,080	A	2,873	B	2,833	B	3,634	B	695	D

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This table is a continuation of the previous two pages. 

TOTAL FLOOR SPACE (m²)

Atlantic		Quebec		Ontario		Prairies		British Columbia	
1,262,231	C	5,281,939	D	12,285,679	D	4,019,782	D		F
2,764,383	C	13,447,496	B		F	6,574,409	C	1,771,595	B
65,791	D	633,716	B		F	1,148,642	B		F
1,406,816	B	5,344,052	B	3,784,023	A	5,157,279	B	3,064,372	B
368,821	B	694,796	D	953,294	B	244,871	C	895,381	D
6,421,047	A	29,068,770	B	51,215,767	A	28,785,148	A	15,300,063	B
1,402,747	B	5,901,270	C	14,762,695	B	6,386,653	D		F
1,266,178	B	5,760,027	C	10,412,483	D	5,181,506	C	335,401	D
2,025,521	C	5,030,676	B	7,110,876	D		F		F
1,704,386	B	7,437,293	A	9,991,976	C	3,351,763	C	1,225,963	C
496,106	D	688,884	C	1,878,586	B	641,694	D	1,084,208	D
108,339	D		F	2,723,436	D		F		F
1,283,909	B	3,574,394	B	5,577,121	C	2,739,494	B	3,012,333	C
166,717	D	882,038	B		F	917,972	D	2,215,714	D
2,235,972	C	9,900,302	B	15,160,194	B	7,096,502	C	3,917,650	B
330,106	D		F	2,478,253	D		F	197,332	C
7,100,513	A	37,685,075	A	62,771,719	B	36,697,365	A	11,665,892	B
	F	1,736,132	C	5,498,055	C	987,485	C		F
2,599,866	B	7,700,459	B	10,208,512	B	13,899,065	C		F

TABLE

2.3

Total number of buildings and total building floor space by year of construction, number of floors, predominant type of windows, predominant exterior walls type and predominant roof type **by building floor space**

TOTAL NUMBER OF BUILDINGS

Building floor space →	93–464 m ² (1,000–4,999 sq. ft.)	465–929 m ² (5,000–9,999 sq. ft.)	929–4,645 m ² (10,000–49,999 sq. ft.)	4,645–9,290 m ² (50,000–99,999 sq. ft.)	9,290 m ² and more (100,000 sq. ft. and more)
All buildings					
Canada	53,061 A	30,806 A	39,405 A	7,285 A	6,482 A
Year of construction					
Before 1920	5,580 A	4,210 C	2,775 B	550 D	F
1920–1959	20,976 A	9,575 A	9,129 A	1,364 B	784 C
1960–1969	5,876 A	3,219 A	5,182 A	664 B	1,136 B
1970–1979	7,636 A	5,298 A	7,797 A	1,278 B	1,992 B
1980–1989	6,811 A	4,000 A	9,009 A	1,625 B	863 B
1990–1999	6,181 A	4,504 A	5,514 A	1,803 B	1,322 A
Number of floors					
1	22,124 A	10,757 A	11,738 A	1,219 B	492 B
2	19,619 A	10,936 A	15,098 A	2,301 B	1,190 B
3	8,962 A	5,778 A	7,106 A	1,689 C	715 C
4–9	2,338 C	3,313 B	5,208 A	1,750 A	2,304 A
10 and more	x	x	255 D	325 C	1,780 B
Predominant type of window					
Single-glazed	15,855 A	8,927 B	9,049 A	1,129 B	736 B
Double-glazed ^a	36,195 A	21,561 A	29,847 A	6,150 A	5,580 A
Triple-glazed ^b	1,011 C	319 C	510 C	x	F

^aIncludes all the different types of windows that are double-glazed (i.e. double-glazed, double-sealed glazed, double-glazed with low-E coating and double-glazed with low-E gas-filled).

^bIncludes all the different types of windows that are triple-glazed (i.e. triple-glazed, triple-glazed with low-E coating and triple-glazed low-E gas-filled).

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Source: Commercial and Institutional Building Energy Use Survey 2000.

This table continues on the next two pages. 

TOTAL FLOOR SPACE (m ²)										
93–464 m ² (1,000–4,999 sq. ft.)		465–929 m ² (5,000–9,999 sq. ft.)		929–4,645 m ² (10,000–49,999 sq. ft.)		4,645–9,290 m ² (50,000–99,999 sq. ft.)		9,290 m ² and more (100,000 sq. ft. and more)		
13,578,022	A	19,808,147	A	80,061,060	A	45,159,524	A	143,964,228	A	
1,366,401	A	2,759,844	C	4,707,947	B	3,410,861	C	6,051,414	D	
5,393,861	A	5,998,745	A	18,011,155	A	8,276,921	B	18,381,083	C	
1,482,733	A	2,103,594	A	10,850,268	A	4,594,582	B	23,801,838	B	
1,891,601	A	3,308,459	A	16,885,593	A	8,216,732	B	52,643,777	B	
1,917,885	A	2,674,292	A	19,135,966	A	9,856,692	B	16,478,491	A	
1,525,541	A	2,963,214	A	10,470,131	A	10,803,736	B	26,607,625	B	
5,383,024	A	7,001,763	A	22,832,127	A	6,953,598	B	11,398,082	A	
5,006,243	A	6,943,017	A	30,440,302	A	14,647,475	B	21,129,924	A	
2,514,313	B	3,780,004	A	13,669,381	A	9,716,601	B	12,234,641	C	
670,915	C	2,064,240	B	12,628,693	B	11,567,949	A	51,598,779	A	
x		x		490,556	D	2,273,901	C	47,602,803	B	
3,854,494	A	5,851,318	B	17,886,288	A	6,919,261	B	16,293,892	B	
9,464,988	A	13,726,552	A	61,313,128	A	38,207,220	A	125,143,298	A	
258,541	B	230,277	C	861,644	B		x		F	

TABLE

2.3

Total number of buildings and total building floor space by year of construction, number of floors, predominant type of windows, predominant exterior walls type and predominant roof type **by building floor space**

TOTAL NUMBER OF BUILDINGS

Building floor space	93–464 m ² (1,000–4,999 sq. ft.)	465–929 m ² (5,000–9,999 sq. ft.)	929–4,645 m ² (10,000–49,999 sq. ft.)	4,645–9,290 m ² (50,000–99,999 sq. ft.)	9,290 m ² and more (100,000 sq. ft. and more)
Predominant exterior wall type					
Curtain walls	900 D	F	1,106 C	635 D	643 B
Metal stud framing with surface insulation	4,234 A	3,710 A	3,800 A	1,182 C	893 C
Metal stud framing without surface insulation	F	509 D	1,017 C	x	x
Wood-frame walls with surface insulation	14,804 A	6,581 B	5,228 A	F	x
Wood-frame walls without surface insulation	4,029 B	2,421 C	402 C	x	x
Concrete block with interior finishing	17,194 A	11,662 A	19,394 A	3,075 A	2,981 A
Concrete block without interior finishing	4,579 A	3,272 A	4,412 B	763 C	769 C
Precast panels	F	234 D	953 D	732 C	711 B
Unknown	3,344 A	1,866 B	3,092 B	677 C	426 B
Predominant roof type					
Attic roof fully insulated	9,645 A	3,687 A	3,578 A	410 B	432 D
Attic roof partially insulated	3,741 B	1,568 B	842 C	F	F
Attic roof not insulated	1,922 B	446 D	F	x	x
Insulated wood-truss roof	7,553 A	5,557 A	3,599 A	F	139 D
Not insulated wood-truss roof	2,695 B	1,373 C	1,678 C	F	x
Insulated metal-truss roof	4,061 A	3,665 A	6,428 A	946 B	780 B
Not insulated metal-truss roof	876 B	919 C	922 C	F	F
Insulated deck-type roof	15,857 A	9,935 A	15,155 A	3,585 A	4,223 A
Not insulated deck-type roof	2,862 B	1,837 B	2,339 C	464 D	x
Unknown	3,850 A	1,819 B	3,917 A	884 C	646 B

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Due to rounding the numbers may not add up and may differ slightly among tables.

NOTE: Estimates relate only to the surveyed areas of populations of 175,000 and greater, and in Atlantic Canada to populations of 50,000 and greater.

Source: Commercial and Institutional Building Energy Use Survey 2000.

This table is a continuation of the previous two pages. 

TOTAL FLOOR SPACE (m ²)									
93–464 m ² (1,000–4,999 sq. ft.)		465–929 m ² (5,000–9,999 sq. ft.)		929–4,645 m ² (10,000–49,999 sq. ft.)		4,645–9,290 m ² (50,000–99,999 sq. ft.)		9,290 m ² and more (100,000 sq. ft. and more)	
264,471	C		F	2,641,533	C	3,695,288	D	18,505,874	C
1,319,792	B	2,543,142	A	7,758,812	A	7,428,632	C	23,439,720	D
	F	282,724	D	1,808,901	B		x		x
3,768,606	A	4,072,499	B	8,993,328	A		F		x
1,046,070	B	1,621,838	C	483,681	C		x		x
4,324,906	A	7,536,642	A	40,198,403	A	18,461,829	A	60,269,017	A
1,114,947	A	2,064,470	A	9,755,410	B	4,568,117	C	12,108,048	B
286,671	D		F	1,663,182	C	4,759,223	C	16,078,096	B
807,641	A	1,176,822	B	6,757,810	C	4,826,982	C	12,124,295	D
2,475,704	A	2,441,277	A	6,519,125	A	2,775,427	B	9,499,847	D
766,488	A	939,574	B	1,574,599	C		F	895,161	C
480,556	B	298,537	D	1,749,141	D		x		x
1,935,566	A	3,391,517	B	6,202,158	A		F	1,904,081	C
715,301	B	903,942	C	4,470,690	D		F		x
1,100,437	A	2,432,378	A	12,896,204	A	5,805,170	B	16,076,432	B
239,872	B	527,253	C	1,956,597	C		F		F
4,227,171	B	6,498,933	A	30,990,783	A	21,676,562	A	92,527,114	A
613,668	B	1,203,222	B	4,987,201	D	3,190,556	D		x
1,023,260	A	1,171,514	B	8,714,562	B	5,775,415	B	19,220,900	C

TABLE

2.4

Total number of buildings and total building floor space by building floor space, number of floors, predominant type of windows, predominant exterior walls type and predominant roof type **by year of construction**

TOTAL NUMBER OF BUILDINGS

Year of construction →	Before 1920		1920– 1959		1960– 1969		1970– 1979		1980– 1989		1990– 1999	
All buildings												
Canada	13,500	A	41,828	A	16,077	A	24,002	A	22,309	A	19,324	A
Building floor space												
93–464 m ² (1,000–4,999 sq. ft.)	5,580	A	20,976	A	5,876	A	7,636	A	6,811	A	6,181	A
465–929 m ² (5,000–9,999 sq. ft.)	4,210	C	9,575	A	3,219	A	5,298	A	4,000	A	4,504	A
929–4,645 m ² (10,000–49,999 sq. ft.)	2,775	B	9,129	A	5,182	A	7,797	A	9,009	A	5,514	A
4,645–9,290 m ² (50,000–99,999 sq. ft.)	550	D	1,364	B	664	B	1,278	B	1,625	B	1,803	B
9,290 m ² and more (100,000 sq. ft. and more)		F	784	C	1,136	B	1,992	B	863	B	1,322	A
Number of floors												
1	1,314	D	10,073	A	5,803	A	10,305	A	9,995	A	8,839	A
2	3,978	A	16,303	A	6,046	A	8,386	A	7,441	A	6,990	A
3	4,805	A	9,801	A	3,081	A	2,502	A	2,416	B	1,645	C
4–9	3,375	B	5,583	B	826	B	1,883	C	1,920	D	1,326	B
10 and more		x	67	D	321	D	926	B	537	C	523	D
Predominant type of window												
Single-glazed	5,445	B	14,231	A	4,756	B	6,298	A	3,652	B	1,314	B
Double-glazed ^a	7,948	A	27,149	A	11,144	A	17,281	A	18,224	A	17,587	A
Triple-glazed ^b		x	448	C	177	D		F	433	C	423	C

^aIncludes all the different types of windows that are double-glazed (i.e. double-glazed, double-sealed glazed, double-glazed with low-E coating and double-glazed with low-E gas-filled).

^bIncludes all the different types of windows that are triple-glazed (i.e. triple-glazed, triple-glazed with low-E coating and triple-glazed low-E gas-filled).

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Source: Commercial and Institutional Building Energy Use Survey 2000.

This table continues on the next two pages. 

TOTAL FLOOR SPACE (m ²)											
Before 1920		1920– 1959		1960– 1969		1970– 1979		1980– 1989		1990– 1999	
18,296,466	B	56,061,765	A	42,833,014	A	82,946,162	A	50,063,326	A	52,370,247	A
1,366,401	A	5,393,861	A	1,482,733	A	1,891,601	A	1,917,885	A	1,525,541	A
2,759,844	C	5,998,745	A	2,103,594	A	3,308,459	A	2,674,292	A	2,963,214	A
4,707,947	B	18,011,155	A	10,850,268	A	16,885,593	A	19,135,966	A	10,470,131	A
3,410,861	C	8,276,921	B	4,594,582	B	8,216,732	B	9,856,692	B	10,803,736	B
6,051,414	D	18,381,083	C	23,801,838	B	52,643,777	B	16,478,491	A	26,607,625	B
	F	8,487,695	B	7,174,344	A	15,030,070	A	13,699,562	A	8,326,872	A
2,392,317	B	17,108,625	A	12,351,308	B	17,680,846	A	13,285,095	A	15,348,770	B
6,276,255	C	10,988,224	A	6,713,901	B	7,275,120	C	4,906,071	C	5,755,370	D
8,565,099	C	18,195,213	B	9,366,782	B	20,388,359	C	11,443,052	B	10,572,072	B
	x	1,282,008	C		F	22,571,768	C	6,729,546	C		F
5,895,043	B	15,161,307	A	10,699,056	B	9,704,338	A	5,959,207	C		F
12,254,480	B	40,604,927	A	32,062,821	A	72,957,927	A	41,980,150	A	47,994,881	A
	x	295,531	D		F	283,898	C		F		F

TABLE

2.4

Total number of buildings and total building floor space by building floor space, number of floors, predominant type of windows, predominant exterior walls type and predominant roof type **by year of construction**

TOTAL NUMBER OF BUILDINGS

Year of construction →	Before 1920		1920– 1959		1960– 1969		1970– 1979		1980– 1989		1990– 1999	
Predominant exterior wall type												
Curtain walls	265	D	1,442	C	285	D	700	C	613	B	530	B
Metal stud framing with surface insulation	250	D	2,283	C	1,434	B	2,362	A	3,602	A	3,887	A
Metal stud framing without surface insulation	x		F		F		585	D	F		F	
Wood-frame walls with surface insulation	5,252	B	10,097	A	2,179	B	2,696	B	2,871	A	3,771	B
Wood-frame walls without surface insulation	1,069	B	3,287	B	909	C	F		603	C	444	C
Concrete block with interior finishing	4,905	A	17,092	A	7,572	A	10,399	A	8,665	A	5,673	A
Concrete block without interior finishing	1,201	C	2,664	A	2,287	A	3,867	A	2,583	C	1,191	B
Precast panels	x		950	D	315	C	1,506	D	430	C	689	C
Unknown	503	C	2,139	B	638	C	1,345	B	2,672	C	2,108	B
Predominant roof type												
Attic roof fully insulated	3,230	B	4,379	B	1,869	B	3,227	B	2,245	A	2,803	A
Attic roof partially insulated	1,927	B	2,912	B	F		670	C	207	D	F	
Attic roof not insulated	946	C	1,074	D	337	C	F		F		x	
Insulated wood-truss roof	1,954	C	6,148	A	2,046	B	1,811	B	1,777	B	3,557	B
Not insulated wood-truss roof	1,130	B	2,277	B	881	D	1,290	D	F		F	
Insulated metal-truss roof	527	D	2,394	B	1,460	B	3,706	A	4,388	A	3,405	A
Not insulated metal-truss roof	x		284	D	554	C	1,280	C	636	C	214	D
Insulated deck-type roof	2,861	C	16,272	A	6,213	A	8,568	A	8,607	A	6,232	A
Not insulated deck-type roof	352	B	2,996	B	1,288	B	1,304	B	1,481	D	140	D
Unknown	537	D	3,093	B	1,027	B	1,447	B	2,476	A	2,536	A

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NOTE: Estimates relate only to the surveyed areas of populations of 175,000 and greater, and in Atlantic Canada to populations of 50,000 and greater.

Source: Commercial and Institutional Building Energy Use Survey 2000.

This table is a continuation of the previous two pages. 

TOTAL FLOOR SPACE (m ²)											
Before 1920		1920– 1959		1960– 1969		1970– 1979		1980– 1989		1990– 1999	
182,561	C	3,853,870	C	2,049,068	C	7,434,708	D	5,668,059	C		F
214,990	D	4,279,296	D		F		F	6,722,033	A	12,104,298	C
x			F	331,057	C		F	826,070	B	771,886	C
3,781,921	B	5,280,417	A	1,379,504	B	2,798,086	C	1,981,609	B	3,535,005	B
563,256	C	1,437,418	B	242,742	C		F	303,978	C	242,110	D
9,544,596	C	31,977,628	A	21,909,573	A	31,624,283	A	17,809,712	A	17,925,004	A
	F	3,440,941	B	4,775,781	B	9,263,156	C	5,779,689	C	2,612,626	B
	x		F	2,270,909	C	10,516,290	B	3,708,242	C	4,917,787	D
255,018	D	3,118,597	B	3,544,863	C		F	7,263,934	D	4,001,046	B
4,071,154	D	3,286,154	B	2,064,341	B	4,066,480	B	3,010,554	B	7,212,698	D
1,611,275	C	1,643,448	B		F	853,233	C	144,788	C		F
322,023	C		F		F	779,284	D		F		x
2,554,605	C	4,969,293	B	2,472,199	B	1,776,282	B	1,688,793	B	2,726,078	B
897,907	C	3,370,170	C	489,315	C		F	68,787	D	164,287	D
	F	5,619,774	C	5,013,300	B	7,542,137	B	7,457,002	A	10,841,680	B
	x		F	484,589	C	1,697,436	C	1,259,204	D		F
4,986,962	C	27,765,601	A	23,941,885	B	48,351,773	B	27,925,092	A	22,949,250	A
	F	2,374,816	B	2,196,935	D	2,936,293	C		F		F
	F	4,716,636	C	4,858,879	C	12,168,555	D	5,604,238	B	7,275,432	C

TABLE

2.5

Total number of buildings and total building floor space by building floor space, year of construction, predominant type of windows, predominant exterior walls type and predominant roof type **by number of floors**

TOTAL NUMBER OF BUILDINGS

Number of floors →	1		2		3		4-9		10 and more	
All buildings										
Canada	46,330	A	49,145	A	24,251	A	14,913	A	2,401	A
Building floor space										
93-464 m ² (1,000-4,999 sq. ft.)	22,124	A	19,619	A	8,962	A	2,338	C		x
465-929 m ² (5,000-9,999 sq. ft.)	10,757	A	10,936	A	5,778	A	3,313	B		x
929-4,645 m ² (10,000-49,999 sq. ft.)	11,738	A	15,098	A	7,106	A	5,208	A	255	D
4,645-9,290 m ² (50,000-99,999 sq. ft.)	1,219	B	2,301	B	1,689	C	1,750	A	325	C
9,290 m ² and more (100,000 sq. ft. and more)	492	B	1,190	B	715	C	2,304	A	1,780	B
Year of construction										
Before 1920	1,314	D	3,978	A	4,805	A	3,375	B		x
1920-1959	10,073	A	16,303	A	9,801	A	5,583	B	67	D
1960-1969	5,803	A	6,046	A	3,081	A	826	B	321	D
1970-1979	10,305	A	8,386	A	2,502	A	1,883	C	926	B
1980-1989	9,995	A	7,441	A	2,416	B	1,920	D	537	C
1990-1999	8,839	A	6,990	A	1,645	C	1,326	B	523	D
Predominant type of window										
Single-glazed	11,620	A	14,250	A	5,923	A	3,533	C	370	D
Double-glazed ^a	33,813	A	34,381	A	18,149	A	10,994	A	1,995	A
Triple-glazed ^b	896	B	514	B		F	386	D		x

^aIncludes all the different types of windows that are double-glazed (i.e. double-glazed, double-sealed glazed, double-glazed with low-E coating and double-glazed with low-E gas-filled).

^bIncludes all the different types of windows that are triple-glazed (i.e. triple-glazed, triple-glazed with low-E coating and triple-glazed low-E gas-filled).

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Source: Commercial and Institutional Building Energy Use Survey 2000.

This table continues on the next two pages. 

TOTAL FLOOR SPACE (m²)

1		2		3		4-9		10 and more	
53,568,594	A	78,166,962	A	41,914,940	A	78,530,577	A	50,389,909	A
5,383,024	A	5,006,243	A	2,514,313	B	670,915	C		x
7,001,763	A	6,943,017	A	3,780,004	A	2,064,240	B		x
22,832,127	A	30,440,302	A	13,669,381	A	12,628,693	B	490,556	D
6,953,598	B	14,647,475	B	9,716,601	B	11,567,949	A	2,273,901	C
11,398,082	A	21,129,924	A	12,234,641	C	51,598,779	A	47,602,803	B
	F	2,392,317	B	6,276,255	C	8,565,099	C		x
8,487,695	B	17,108,625	A	10,988,224	A	18,195,213	B	1,282,008	C
7,174,344	A	12,351,308	B	6,713,901	B	9,366,782	B		F
15,030,070	A	17,680,846	A	7,275,120	C	20,388,359	C	22,571,768	C
13,699,562	A	13,285,095	A	4,906,071	C	11,443,052	B	6,729,546	C
8,326,872	A	15,348,770	B	5,755,370	D	10,572,072	B		F
11,631,149	B	15,560,174	A	7,349,595	B	9,961,388	B	6,302,946	D
41,329,145	A	62,219,820	A	34,362,023	A	66,377,455	A	43,566,744	B
608,300	C	386,968	C		F		F		x

TABLE

2.5

Total number of buildings and total building floor space by building floor space, year of construction, predominant type of windows, predominant exterior walls type and predominant roof type **by number of floors**

TOTAL NUMBER OF BUILDINGS

Number of floors →	1	2	3	4-9	10 and more
Predominant exterior wall type					
Curtain walls	F	984 B	1,263 C	788 B	320 D
Metal stud framing with surface insulation	5,712 A	5,454 A	1,621 B	690 B	F
Metal stud framing without surface insulation	1,382 D	1,687 D	F	x	x
Wood-frame walls with surface insulation	9,017 A	10,947 A	3,692 A	3,210 C	x
Wood-frame walls without surface insulation	2,117 B	2,354 B	1,044 C	F	x
Concrete block with interior finishing	16,799 A	19,203 A	11,271 A	6,206 A	827 A
Concrete block without interior finishing	7,551 A	3,500 A	1,990 B	673 B	x
Precast panels	458 B	1,514 D	435 C	904 D	599 C
Unknown	2,814 A	3,504 A	1,831 B	F	F
Predominant roof type					
Attic roof fully insulated	6,054 A	6,307 A	3,377 B	1,859 C	F
Attic roof partially insulated	1,012 B	3,414 B	1,196 B	F	x
Attic roof not insulated	1,113 C	777 B	1,125 D	414 D	x
Insulated wood-truss roof	6,041 A	6,892 A	3,214 B	1,076 D	x
Not insulated wood-truss roof	1,946 B	2,326 B	954 C	F	x
Insulated metal-truss roof	6,435 A	5,756 A	1,886 B	1,717 B	F
Not insulated metal-truss roof	1,606 B	1,256 B	x	x	x
Insulated deck-type roof	14,540 A	16,271 A	8,927 A	7,234 A	1,782 A
Not insulated deck-type roof	3,414 B	2,505 B	1,291 B	314 C	x
Unknown	4,170 A	3,642 A	2,210 B	887 C	206 D

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Source: Commercial and Institutional Building Energy Use Survey 2000.

This table is a continuation of the previous two pages. 

TOTAL FLOOR SPACE (m²)

1		2		3		4-9		10 and more	
	F	3,235,875	D		F	7,534,911	B	10,684,393	D
8,372,132	B	13,687,719	B		F	5,438,059	C		F
734,852	C	1,775,359	B		F		x		x
5,046,584	A	7,964,827	A	2,955,263	B	2,789,867	B		x
873,904	C	1,131,993	B	556,891	D		F		x
23,371,978	A	34,323,453	A	17,543,468	A	41,303,692	A	14,248,205	B
9,686,213	B	7,228,707	B	8,402,820	C	3,604,308	B		x
1,229,841	B	2,039,070	C	2,034,344	C	5,599,086	B	12,053,254	C
2,654,188	B	6,779,958	B	3,043,027	C		F		F
3,917,264	A	7,587,963	B	4,499,971	D	3,428,692	B		F
653,580	D	2,057,960	B	1,041,268	C	1,036,670	C		x
470,827	C	765,357	D		F		F		x
3,498,441	A	5,736,958	A	4,071,367	C	2,808,564	C		x
1,340,667	B	3,139,559	C	509,947	C		F		x
8,870,996	A	14,436,123	B		F	8,785,862	B		F
2,677,719	C	1,579,060	C		x		x		x
21,060,747	A	31,996,811	A	16,991,249	A	46,890,483	A	38,981,273	B
4,167,026	D	2,806,443	B	3,012,672	D	744,985	C		x
6,911,326	C	8,060,728	B	5,567,357	B	10,595,951	D		F

TABLE

2.6

Total number of buildings and total building floor space by building floor space, year of construction, number of floors, predominant type of windows, predominant exterior walls type and predominant roof type **by weekly hours of operation**

TOTAL NUMBER OF BUILDINGS

Weekly hours of operation →	Less than 40						40–48						49–60						61–84						85–167						Open continuously							
All buildings																																						
Canada	10,978	A	29,156	A	33,778	A	29,613	A	24,262	A	9,251	A																										
Building floor space																																						
93–464 m ² (1,000–4,999 sq. ft.)	5,579	B	12,530	A	13,853	A	9,474	A	8,642	A	2,984	A																										
465–929 m ² (5,000–9,999 sq. ft.)	2,620	A	5,365	A	7,269	A	7,597	B	5,924	B	2,033	C																										
929–4,645 m ² (10,000–49,999 sq. ft.)	2,171	A	8,643	A	9,893	A	9,430	A	6,634	A	2,634	B																										
4,645–9,290 m ² (50,000–99,999 sq. ft.)		F	1,655	A	1,484	A	1,340	B	1,608	B	781	D																										
9,290 m ² and more (100,000 sq. ft. and more)		F	963	B	1,280	B	1,773	B	1,456	A	819	C																										
Year of construction																																						
Before 1920	2,185	B	2,464	B	2,647	B	2,927	C	1,878	B	1,399	D																										
1920–1959	4,787	B	9,063	A	9,401	A	9,231	A	8,098	A	1,248	C																										
1960–1969	1,439	B	3,791	A	4,362	A	3,256	A	2,346	A	883	B																										
1970–1979	1,150	B	5,656	A	6,281	A	4,515	A	4,288	A	2,112	B																										
1980–1989	696	C	4,474	A	6,474	A	4,997	A	3,461	A	2,208	B																										
1990–1999	722	C	3,709	A	4,612	A	4,688	A	4,192	B	1,401	B																										
Number of floors																																						
1	3,574	A	9,201	A	11,336	A	11,142	A	7,986	A	3,090	A																										
2	5,092	B	10,822	A	11,719	A	10,490	A	9,152	A	1,870	C																										
3	2,072	B	6,294	A	5,556	A	4,689	A	4,117	A	1,522	C																										
4–9	221	D	2,596	B	4,170	A	2,547	B	2,835	B	2,544	C																										
10 and more		x	243	C	998	B	745	C		F	225	C																										
Predominant type of window																																						
Single-glazed	5,331	B	6,762	A	8,334	A	7,728	A	5,747	A	1,795	C																										
Double-glazed ^a	5,295	A	21,846	A	25,016	A	21,737	A	18,137	A	7,302	A																										
Triple-glazed ^b		F	549	B	428	C	148	D	379	D		x																										

^aIncludes all the different types of windows that are double-glazed (i.e. double-glazed, double-sealed glazed, double-glazed with low-E coating and double-glazed with low-E gas-filled).

^bIncludes all the different types of windows that are triple-glazed (i.e. triple-glazed, triple-glazed with low-E coating and triple-glazed low-E gas-filled).

The letter beside each estimate classifies its quality as follows: A – Excellent, B – Good, C – Acceptable, D – Use with caution,

F – Too unreliable to be published, x – Suppressed to meet the confidentiality requirements of the Statistics Act.

Due to rounding the numbers may not add up and may differ slightly among tables.

NOTE: Estimates relate only to the surveyed areas of populations of 175,000 and greater, and in Atlantic Canada to populations of 50,000 and greater.

Source: Commercial and Institutional Building Energy Use Survey 2000.

This table continues on the next two pages. 

TOTAL FLOOR SPACE (m²)

Less than 40		40–48		49–60		61–84		85–167		Open continuously	
11,676,404	A	52,396,804	A	63,371,047	A	78,721,436	A	60,317,262	A	36,088,029	A
1,289,614	A	3,365,642	A	3,598,517	A	2,368,185	A	2,263,747	A	692,316	B
1,744,761	B	3,409,309	A	4,796,451	A	4,826,473	B	3,738,058	B	1,293,096	B
3,832,270	A	17,067,768	A	19,227,472	A	19,400,110	A	14,558,221	A	5,975,220	C
	F	10,822,259	A	9,679,468	B	8,237,738	B	9,662,119	B	4,468,823	D
2,520,641	D	17,731,826	B	26,069,140	B	43,888,929	B	30,095,117	B	23,658,575	B
2,194,464	D	3,893,469	D	2,885,743	C	4,642,441	D	2,876,623	D	1,803,727	D
4,722,938	B	11,827,685	B	7,964,646	A	11,524,806	A	10,717,877	B		F
2,792,417	D	6,920,937	B	6,869,582	A	13,374,816	C	9,025,781	B	3,849,481	B
646,076	B	10,529,113	B	17,273,806	A	22,328,864	C	19,072,143	C	13,096,160	C
421,834	C	8,454,553	B	14,395,569	B	12,509,018	B	8,841,790	A	5,440,562	C
898,676	D	10,771,047	B	13,981,699	C	14,341,491	A	9,783,048	B	2,594,285	D
3,120,342	B	11,013,212	A	12,008,190	A	17,679,530	A	8,012,070	A	1,735,250	B
4,388,339	B	17,002,950	A	12,365,246	A	19,882,155	A	20,358,286	A	4,169,985	B
3,137,769	C	10,971,792	B	6,042,730	B	10,500,913	B	7,246,010	C	4,015,726	D
	F	10,027,393	B	14,714,165	A	11,708,944	B	21,417,990	B	19,635,657	C
	x	3,381,457	C	18,240,715	C	18,949,895	D		F	6,531,411	C
5,321,744	B	7,842,329	B	9,424,076	B	13,707,220	B	9,000,959	B	5,508,924	B
6,257,180	B	44,175,510	A	53,052,905	A	64,501,265	B	49,425,969	A	30,442,357	B
	F	378,965	C		F	512,952	D		F		x

TABLE

2.6

Total number of buildings and total building floor space by building floor space, year of construction, number of floors, predominant type of windows, predominant exterior walls type and predominant roof type **by weekly hours of operation**

TOTAL NUMBER OF BUILDINGS

Weekly hours of operation →	Less than 40		40–48		49–60		61–84		85–167		Open continuously	
Predominant exterior wall type												
Curtain walls	x		757	C	629	B	1,638	B	601	C		F
Metal stud framing with surface insulation	933	C	2,524	A	3,662	A	3,353	B	2,165	B	1,181	C
Metal stud framing without surface insulation	x			F	638	C		F		F		x
Wood-frame walls with surface insulation	2,954	A	4,389	A	6,838	A	6,408	A	4,615	B	1,662	C
Wood-frame walls without surface insulation	589	C	2,107	C	2,124	C	1,261	C		F	497	D
Concrete block with interior finishing	4,914	B	10,678	A	11,557	A	11,216	A	11,425	A	4,516	B
Concrete block without interior finishing	727	C	2,296	B	5,010	A	3,141	B	1,868	B	751	C
Precast panels	x			F	1,089	B	378	C	1,115	C	217	C
Unknown	629	C	3,200	A	2,231	C	1,342	B	1,754	B	248	C
Predominant roof type												
Attic roof fully insulated	1,925	B	5,029	B	3,369	A	3,021	A	2,988	B	1,421	B
Attic roof partially insulated	1,041	C	800	C	2,195	C	920	B	1,105	C		F
Attic roof not insulated		F		F	948	D	876	C	716	C		x
Insulated wood-truss roof	1,531	B	2,944	A	3,556	A	4,786	A	2,778	C	1,699	C
Not insulated wood-truss roof	823	C	1,117	B	1,198	C	707	C	1,199	D		F
Insulated metal-truss roof	1,021	C	3,278	A	4,600	A	3,764	A	2,411	A	805	C
Not insulated metal-truss roof	154	D	686	C	1,062	C	452	C	494	C	155	D
Insulated deck-type roof	3,038	C	9,070	A	12,610	A	10,729	A	9,924	A	3,382	B
Not insulated deck-type roof	303	D	2,488	B	1,648	B	1,919	C	898	B		F
Unknown	1,006	C	3,023	A	2,593	B	2,439	B	1,749	B	306	C

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NOTE: Estimates relate only to the surveyed areas of populations of 175,000 and greater, and in Atlantic Canada to populations of 50,000 and greater.

Source: Commercial and Institutional Building Energy Use Survey 2000.

This table is a continuation of the previous two pages. 

TABLE

2.6

TOTAL FLOOR SPACE (m²)

Less than 40		40-48		49-60		61-84		85-167		Open continuously	
	x	2,542,867	C		F	9,969,459	C	4,237,684	C	2,269,298	C
550,106	C	10,336,140	C	6,481,724	B		F	7,702,415	C	2,461,368	B
	x	1,233,073	D	665,983	C	436,305	D	835,956	B		x
1,853,451	B	4,042,179	B	4,438,168	A	3,972,724	A	2,729,279	B	1,720,742	C
256,002	D	825,575	C	956,723	D	662,397	D		F		F
5,402,996	B	22,376,177	A	23,380,257	A	31,928,187	A	25,068,543	A	22,634,636	B
2,468,206	D	4,033,213	B	6,040,974	A	9,605,188	C	5,430,844	C		F
	x	2,697,270	C	9,009,213	D	3,289,710	C	4,281,036	B	3,653,702	D
	F	4,310,309	C	6,033,165	C	3,899,122	B		F	806,512	C
858,965	C	2,990,292	B	6,116,135	D	6,497,200	C	3,879,066	B	3,369,723	C
629,938	D	1,024,870	D	1,023,729	B	845,836	C	840,729	B	424,376	D
36,123	C		F	722,070	D	698,367	D		F		x
970,329	B	2,511,792	B	3,819,867	B	4,264,989	B	2,879,109	C	1,741,164	C
500,841	D	1,001,206	B	783,040	C	568,620	C	1,996,868	D		F
1,037,196	C	12,905,205	B	7,857,521	A	9,199,423	A	6,241,112	B	1,070,163	B
	F		F	1,154,672	C		F	1,005,950	D	258,418	D
3,933,540	C	21,135,360	A	33,182,635	A	44,140,387	B	30,796,162	A	22,732,480	B
	F	3,310,143	C	1,841,636	B		F	820,807	C		F
2,314,605	D	5,632,359	B	6,869,740	C	7,689,117	B	10,394,679	D	3,005,149	D

TABLE

2.7

Total number of buildings and total building floor space by building floor space, year of construction, number of floors, predominant type of windows, predominant exterior walls type and predominant roof type **by type of ownership**

TOTAL NUMBER OF BUILDINGS

Building ownership	Private individual(s)	Private organization	Non-profit organization	Fed.-prov.-munic.-regional government ^a
All buildings				
Canada	54,022 A	49,768 A	16,505 A	16,745 A
Building floor space				
93–464 m ² (1,000–4,999 sq. ft.)	31,034 A	15,244 A	4,657 A	2,126 B
465–929 m ² (5,000–9,999 sq. ft.)	12,280 A	12,085 A	4,400 A	2,042 A
929–4,645 m ² (10,000–49,999 sq. ft.)	8,783 A	16,830 A	6,178 A	7,614 A
4,645–9,290 m ² (50,000–99,999 sq. ft.)	1,008 B	2,758 A	616 C	2,902 B
9,290 m ² and more (100,000 sq. ft. and more)	917 C	2,850 A	F	2,061 A
Year of construction				
Before 1920	5,222 B	4,258 B	3,006 A	1,014 C
1920–1959	20,696 A	11,466 A	5,112 A	4,554 A
1960–1969	5,453 A	5,027 A	2,477 B	3,121 A
1970–1979	7,874 A	9,856 A	2,925 B	3,348 A
1980–1989	8,223 A	10,455 A	1,373 B	2,259 B
1990–1999	6,555 A	8,707 A	1,614 C	2,448 B
Number of floors				
1	17,669 A	19,901 A	3,382 A	5,378 A
2	19,888 A	15,320 A	7,770 A	6,167 A
3	10,427 A	7,109 A	3,800 A	2,914 B
4–9	5,537 A	5,899 A	1,553 C	1,924 A
10 and more	500 D	1,538 B	x	363 B
Predominant type of window				
Single-glazed	14,127 A	12,456 A	4,227 A	4,886 A
Double-glazed ^b	38,843 A	36,832 A	12,007 A	11,651 A
Triple-glazed ^c	1,052 B	479 C	271 D	F

^aIncludes all levels of government (i.e. federal, provincial, municipal and regional).

^bIncludes all the different types of windows that are double-glazed (i.e. double-glazed, double-sealed glazed, double-glazed with low-E coating and double-glazed with low-E gas-filled).

^cIncludes all the different types of windows that are triple-glazed (i.e. triple-glazed, triple-glazed with low-E coating and triple-glazed low-E gas-filled).

The letter beside each estimate classifies its quality as follows: A – Excellent, B – Good, C – Acceptable, D – Use with caution,

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Source: Commercial and Institutional Building Energy Use Survey 2000.

This table continues on the next two pages. 

TOTAL FLOOR SPACE (m ²)							
Private individual(s)		Private organization		Non-profit organization		Fed.-prov.-munic.-regional government ^a	
59,492,076	A	129,712,194	A	28,445,352	A	84,921,359	A
7,591,949	A	4,098,455	A	1,313,580	A	574,038	B
7,606,209	A	8,042,107	A	2,837,683	A	1,322,148	A
16,292,428	A	34,569,347	A	11,285,241	A	17,914,044	A
6,828,800	B	17,041,231	A	4,073,882	C	17,215,611	B
21,172,691	D	65,961,053	A	8,934,965	D	47,895,519	A
3,426,417	C	5,889,262	B	5,916,132	D	3,064,655	C
12,333,167	B	20,997,836	C	5,313,128	B	17,417,634	A
8,073,702	D	11,937,240	A	6,101,034	B	16,721,038	A
17,422,543	C	34,764,404	A	7,548,720	D	23,210,496	B
11,902,486	B	25,684,487	A	1,512,938	C	10,963,414	B
6,333,761	A	30,438,965	B	2,053,399	C	13,544,122	B
12,448,547	A	28,663,659	A	2,895,399	B	9,560,989	A
17,142,874	A	29,865,651	A	9,955,988	A	21,202,449	A
6,822,060	A	11,723,861	A	7,174,014	C	16,195,006	B
11,006,287	A	28,036,833	B	8,419,951	D	31,067,506	B
	F	31,422,190	C		x	6,895,410	B
6,243,332	A	22,852,683	A	5,234,707	B	16,474,531	A
52,755,271	A	105,794,793	A	22,440,580	B	66,864,542	A
493,474	B		F		F		F

TABLE

2.7

Total number of buildings and total building floor space by building floor space, year of construction, number of floors, predominant type of windows, predominant exterior walls type and predominant roof type **by type of ownership**

TOTAL NUMBER OF BUILDINGS

Building ownership	Private individual(s)	Private organization	Non-profit organization	Fed.-prov.-munic.-regional government ^a
Predominant exterior wall type				
Curtain walls	923 C	1,885 B	x	879 D
Metal stud framing with surface insulation	6,166 A	4,696 A	866 B	2,091 B
Metal stud framing without surface insulation	F	823 B	F	F
Wood-frame walls with surface insulation	13,056 A	6,642 A	5,018 A	2,150 B
Wood-frame walls without surface insulation	3,404 B	1,960 C	962 C	F
Concrete block with interior finishing	18,076 A	23,101 A	6,162 A	6,967 A
Concrete block without interior finishing	4,877 A	6,221 A	907 C	1,789 A
Precast panels	1,549 D	1,387 B	F	495 B
Unknown	3,175 B	3,053 A	1,600 B	1,576 C
Predominant roof type				
Attic roof fully insulated	8,895 A	4,619 A	2,916 B	1,323 A
Attic roof partially insulated	2,968 B	1,862 B	909 B	518 D
Attic roof not insulated	1,942 C	896 B	448 D	F
Insulated wood-truss roof	7,579 A	4,605 A	3,104 B	2,005 B
Not insulated wood-truss roof	1,914 B	2,122 C	1,313 B	622 D
Insulated metal-truss roof	6,072 A	6,037 A	1,808 B	1,963 B
Not insulated metal-truss roof	956 B	1,720 B	x	314 D
Insulated deck-type roof	18,341 B	19,994 A	3,827 B	6,592 A
Not insulated deck-type roof	2,707 B	3,718 B	517 C	620 C
Unknown	2,647 B	4,195 A	1,650 B	2,624 B

^aIncludes all levels of government (i.e. federal, provincial, municipal and regional).

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Source: Commercial and Institutional Building Energy Use Survey 2000.

This table is a continuation of the previous two pages. 

TOTAL FLOOR SPACE (m ²)							
Private individual(s)		Private organization		Non-profit organization		Fed.-prov.-munic.-regional government ^a	
1,272,497	C	16,698,259	C		x	7,150,563	B
	F	10,709,055	B	1,253,607	C	12,233,340	C
1,562,564	D	1,025,684	B		F	514,529	B
5,522,857	A	5,594,301	A	3,929,967	B	3,709,416	C
1,351,405	B	1,078,716	D	518,990	D		F
18,156,828	A	61,758,103	A	14,059,122	B	36,816,744	A
4,478,197	B	12,975,923	B		F	8,258,945	B
	F	13,454,578	B		F	4,959,762	B
	F	6,417,575	B	2,898,484	C	11,070,008	D
5,143,217	B	10,336,338	C	4,383,585	D	3,848,241	B
860,055	B	1,393,573	B	807,595	D	1,728,255	C
1,707,888	D	637,295	C	199,062	C		F
4,145,849	A	4,621,971	C	2,507,579	B	4,911,852	B
1,179,478	B		F	1,929,761	D	1,071,086	B
7,152,911	A	15,949,145	A	5,439,132	C	9,769,433	C
859,963	B	3,273,495	C		x		F
31,961,350	C	71,116,322	A	9,165,996	C	43,676,896	A
2,016,639	C	6,493,338	C		F	1,167,088	C
4,464,727	D	12,305,887	B	2,585,337	D	16,549,699	C

CHAPTER **3**

**Total Number of Buildings and
Total Building Floor Space by
Occupancy Characteristics**



Total number of buildings and total building floor space by principal building activity, number of workers, weekly hours of operation and type of ownership

	Total number of buildings		Total floor space (m ²)	
All buildings				
Canada	137,039	A	302,570,981	A
Principal building activity				
Commercial and institutional accommodation	6,268	B	19,834,975	B
Entertainment and recreation	5,526	A	13,028,172	B
Office	15,077	A	57,664,094	A
Food retail	8,044	A	4,470,014	A
Non-food retail	17,913	A	18,313,610	A
Food service	13,254	A	8,007,073	A
Non-food service	20,602	A	18,046,796	A
Shopping malls	9,681	A	32,166,368	A
Warehouse/wholesale	7,410	A	25,205,184	B
Administration	4,837	A	20,715,578	C
Education	11,508	A	56,467,892	A
Health care	5,213	A	14,548,192	A
Public assembly	9,570	A	11,580,589	A
Other	2,138	B	2,522,444	C
Number of workers				
Less than 5	39,466	A	23,535,443	A
5–9	27,468	A	26,065,583	A
10–19	25,812	A	27,013,672	A
20–49	21,035	A	38,559,355	A
50–99	10,754	A	39,204,590	A
100–249	4,385	B	24,519,239	A
250 and more	8,118	A	123,673,100	A

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Source: Commercial and Institutional Building Energy Use Survey 2000.

This table continues on the next page.



Total number of buildings and total building floor space by principal building activity, number of workers, weekly hours of operation and type of ownership

	Total number of buildings		Total floor space (m ²)	
Weekly hours of operation				
Less than 40	10,978	A	11,676,404	A
40–48	29,156	A	52,396,804	A
49–60	33,778	A	63,371,047	A
61–84	29,613	A	78,721,436	A
85–167	24,262	A	60,317,262	A
Open continuously	9,251	A	36,088,029	A
Building ownership				
Private individual(s)	54,022	A	59,492,076	A
Private organization	49,768	A	129,712,194	A
Non-profit organization	16,505	A	28,445,352	A
Fed.-prov.-munic.-regional government ^a	16,745	A	84,921,359	A

^aIncludes all levels of government (i.e. federal, provincial, municipal and regional).

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Due to rounding the numbers may not add up and may differ slightly among tables.

NOTE: Estimates relate only to the surveyed areas of populations of 175,000 and greater, and in Atlantic Canada to populations of 50,000 and greater.

Source: Commercial and Institutional Building Energy Use Survey 2000.

This table is a continuation of the previous page. 

TABLE

3.2

Total number of buildings and total building floor space by principal building activity, number of workers, weekly hours of operation and type of ownership **by region**

TOTAL NUMBER OF BUILDINGS

Region →	Atlantic		Quebec		Ontario		Prairies		British Columbia	
All buildings										
Canada	9,423	A	32,000	A	52,182	A	26,754	A	16,681	A
Principal building activity										
Commercial and institutional accommodation	457	D	1,118	B	1,952	D	1,229	D		F
Entertainment and recreation		F	813	B	2,419	B	1,096	B	950	C
Office	997	B	3,163	A	6,834	A	3,141	A	942	D
Food retail	373	B	2,844	B	2,203	C	1,456	B	1,167	D
Non-food retail	1,127	B	5,240	B	6,380	A	2,193	B	2,973	B
Food service	387	D	3,458	C	5,881	A	1,492	B	2,037	D
Non-food service	1,309	B	4,741	A	9,002	A	3,672	B	1,879	C
Shopping malls	943	B	1,227	B	3,771	A	2,908	B		F
Warehouse/wholesale	1,407	C	2,516	C	1,418	C	1,723	C		F
Administration	354	B	1,323	B	1,290	C	1,078	B	792	C
Education	831	A	2,078	B	4,764	A	2,728	B	1,107	C
Health care	184	C	1,562	C	2,332	C	956	B		F
Public assembly	645	B	1,339	B	3,198	A	2,985	B	1,404	B
Other	161	D	580	B	736	B		F		F
Number of workers										
Less than 5	2,734	B	8,132	B	17,686	A	7,372	A	3,541	B
5–9	2,069	A	5,991	A	9,809	A	6,102	A	3,498	B
10–19	2,067	B	7,112	A	7,550	A	4,006	A	5,078	B
20–49	1,388	A	5,625	A	7,216	A	4,566	A	2,240	B
50–99	626	B	2,780	A	3,652	B	2,114	C	1,582	C
100–249	257	B	951	B	2,222	D	614	A	341	C
250 and more	283	A	1,409	B	4,047	A	1,980	B	400	C

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NOTE: Estimates relate only to the surveyed areas of populations of 175,000 and greater, and in Atlantic Canada to populations of 50,000 and greater.

Source: Commercial and Institutional Building Energy Use Survey 2000.

This table continues on the next two pages. 

TOTAL FLOOR SPACE (m²)

Atlantic		Quebec		Ontario		Prairies		British Columbia	
16,983,536	A	71,162,741	A	119,870,565	A	67,616,918	A	26,937,221	A
694,230	C	3,263,521	C		F	8,187,363	D		F
	F	1,665,927	C	6,877,371	D	2,126,293	C	1,844,988	D
1,173,900	B	8,364,405	C	32,285,393	A	13,917,509	B		F
157,751	D	1,780,011	B	1,308,593	C	821,635	C		F
1,362,580	C	5,975,193	A	4,737,935	B	3,339,240	C	2,898,662	C
	F	1,637,526	C	2,891,485	B	709,288	C	2,069,051	D
986,635	C	4,114,409	C	8,561,231	B	3,346,674	D	1,037,847	D
2,339,492	A	6,856,921	B	12,925,934	A	8,032,415	B	2,011,607	B
3,375,333	D		F	4,371,230	C	4,359,456	D		F
815,274	D		F		F	2,767,636	D		F
3,374,379	A	11,761,951	B	23,522,762	B	13,080,045	C	4,728,755	C
945,481	A	4,471,107	C	4,692,980	A	3,414,569	C	1,024,056	A
473,450	B		F	3,449,108	B	3,372,480	C	1,366,969	C
71,716	D	621,480	C		F	142,313	C		F
1,515,735	B	4,210,757	B	9,439,395	B	5,616,099	B	2,753,457	C
2,006,064	C	6,082,236	B	7,386,928	A	7,758,766	D	2,831,589	C
2,283,651	C	7,573,886	A	8,300,892	A	4,902,847	B	3,952,396	B
3,147,009	A	9,570,906	B	14,385,632	B	7,629,839	A	3,825,969	B
2,585,775	B	8,132,119	B	14,187,215	B	7,745,109	C	6,554,371	D
1,636,059	B	7,513,435	C	9,002,021	B	5,100,143	B	1,267,582	B
3,809,244	A	28,079,402	B	57,168,481	A	28,864,116	B	5,751,858	C

TABLE

3.2

Total number of buildings and total building floor space by principal building activity, number of workers, weekly hours of operation and type of ownership **by region**

TOTAL NUMBER OF BUILDINGS

Region	Atlantic	Quebec	Ontario	Prairies	British Columbia
Weekly hours of operation					
Less than 40	499 C	2,841 C	4,143 A	2,201 B	1,293 C
40–48	3,201 A	6,049 A	11,964 A	5,804 A	2,138 B
49–60	1,973 A	7,966 A	12,981 A	7,912 A	2,947 B
61–84	1,309 A	7,012 A	11,241 A	4,748 A	5,302 B
85–167	1,636 B	5,602 A	8,858 A	4,447 A	3,720 B
Open continuously	805 B	2,529 B	2,995 B	1,642 B	1,279 D
Building ownership					
Private individual(s)	3,584 A	13,584 A	23,428 A	8,269 A	5,157 B
Private organization	3,756 A	10,818 A	17,719 A	10,051 A	7,423 B
Non-profit organization	889 B	3,730 B	5,159 A	4,672 B	2,055 C
Fed.-prov.-munic.-regional government ^a	1,193 B	3,868 A	5,876 A	3,763 B	2,045 B

^aIncludes all levels of government (i.e. federal, provincial, municipal and regional).

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Source: Commercial and Institutional Building Energy Use Survey 2000.

This table is a continuation of the previous two pages. 

TOTAL FLOOR SPACE (m²)

Atlantic		Quebec		Ontario		Prairies		British Columbia	
	F	2,131,714	C	5,799,739	B	1,595,307	C	1,387,012	C
4,147,598	B	12,980,800	B	19,358,556	A	12,583,439	B	3,326,411	C
2,783,432	A	15,428,230	B	26,851,055	A	14,388,886	A	3,919,444	B
3,562,229	A	15,722,811	A	40,556,324	B	12,006,901	B	6,873,171	B
4,016,912	B	12,872,198	A	17,548,220	B	16,441,855	C	9,438,076	B
1,710,733	A	12,026,987	C	9,756,671	B	10,600,530	C	1,993,108	B
4,043,631	B	12,630,126	A	29,731,098	C	7,733,955	B	5,353,266	C
6,924,178	B	30,251,570	B	49,612,578	A	31,400,740	A	11,523,127	B
928,148	B	5,818,873	B	9,030,932	C	9,005,427	C	3,661,972	D
5,087,579	A	22,462,172	A	31,495,957	A	19,476,795	C	6,398,855	B

TABLE

3.3

Total number of buildings and total building floor space by principal building activity, number of workers, weekly hours of operation and type of ownership by building floor space

TOTAL NUMBER OF BUILDINGS

Building floor space →	93–464 m ² (1,000–4,999 sq. ft.)	465–929 m ² (5,000–9,999 sq. ft.)	929–4,645 m ² (10,000–49,999 sq. ft.)	4,645–9,290 m ² (50,000–99,999 sq. ft.)	9,290 m ² and more (100,000 sq. ft. and more)
All buildings					
Canada	53,061 A	30,806 A	39,405 A	7,285 A	6,482 A
Principal building activity					
Commercial and institutional accommodation	508 C	1,763 C	2,736 C	F	F
Entertainment and recreation	1,040 B	1,294 B	2,488 B	326 C	F
Office	5,551 A	3,039 A	3,672 A	994 C	1,821 B
Food retail	6,047 A	658 B	1,296 B	8 C	x
Non-food retail	7,738 A	5,927 B	3,647 A	456 C	144 C
Food service	7,456 A	4,267 B	1,410 C	x	x
Non-food service	11,436 A	4,736 A	3,914 B	473 A	F
Shopping malls	1,809 B	1,979 A	4,693 A	674 B	526 A
Warehouse/wholesale	1,370 B	1,399 B	3,357 B	674 C	609 C
Administration	891 B	1,153 B	1,710 B	587 D	496 C
Education	2,043 B	658 B	5,641 A	1,733 B	1,432 B
Health care	3,215 B	687 C	632 C	F	283 B
Public assembly	3,246 A	2,457 B	3,690 A	F	F
Other	710 D	790 C	518 C	F	x
Number of workers					
Less than 5	26,466 A	7,339 A	5,149 A	456 D	x
5–9	14,254 A	7,486 A	4,891 A	422 D	F
10–19	7,600 A	8,881 A	8,696 A	508 C	127 C
20–49	3,761 A	4,975 A	10,488 A	1,427 C	F
50–99	497 C	1,061 C	6,692 A	1,680 B	824 C
100–249	198 D	F	1,453 A	1,068 B	633 B
250 and more	F	x	2,036 B	1,725 B	4,042 A

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This table continues on the next two pages. 

TOTAL FLOOR SPACE (m ²)									
93–464 m ² (1,000–4,999 sq. ft.)		465–929 m ² (5,000–9,999 sq. ft.)		929–4,645 m ² (10,000–49,999 sq. ft.)		4,645–9,290 m ² (50,000–99,999 sq. ft.)		9,290 m ² and more (100,000 sq. ft. and more)	
13,578,022	A	19,808,147	A	80,061,060	A	45,159,524	A	143,964,228	A
143,470	C	1,104,117	C	6,413,456	C		F	7,955,628	D
281,828	B	849,562	B	5,162,869	B	1,976,521	C		F
1,329,127	A	2,036,767	A	6,799,132	A	6,919,771	C	40,579,297	A
1,495,849	B	442,101	C	2,022,460	B	49,108	D		x
2,164,232	B	3,828,023	B	7,018,996	A	2,635,560	C	2,666,799	D
1,919,404	A	2,605,644	C	2,697,406	C		x		x
2,771,116	A	2,977,825	A	8,128,630	B	3,192,260	B		F
452,977	B	1,335,040	B	8,586,268	A	4,149,871	B	17,642,213	A
420,605	B	918,504	A	6,635,421	B	3,899,170	B	13,331,483	D
217,591	B	748,408	B	3,084,781	B	3,451,432	C	13,213,366	D
621,755	B	413,769	B	15,578,118	A	10,841,694	B	29,012,556	B
659,778	B	448,920	D	1,024,812	B		F	10,476,414	A
879,912	B	1,577,731	B	6,106,726	A		F		F
220,377	D	521,736	C	801,985	C		F		x
6,345,908	A	4,483,887	A	9,398,401	B	2,704,647	D		x
3,696,245	A	4,719,494	A	8,654,794	A	2,623,236	D		F
2,156,201	A	5,970,169	A	14,004,339	A	3,190,738	C	1,692,225	C
1,086,181	B	3,291,817	A	21,609,308	A	7,749,065	B	4,822,984	D
121,741	C	667,817	C	16,339,088	A	10,381,937	B	11,694,006	C
62,431	C		F	3,814,101	A	7,190,312	B	12,793,335	B
	F		x	6,241,029	B	11,319,589	B	105,987,264	A

TABLE

3.3

Total number of buildings and total building floor space by principal building activity, number of workers, weekly hours of operation and type of ownership **by building floor space**

TOTAL NUMBER OF BUILDINGS

Building floor space	93–464 m ² (1,000–4,999 sq. ft.)	465–929 m ² (5,000–9,999 sq. ft.)	929–4,645 m ² (10,000–49,999 sq. ft.)	4,645–9,290 m ² (50,000–99,999 sq. ft.)	9,290 m ² and more (100,000 sq. ft. and more)
Weekly hours of operation					
Less than 40	5,579 B	2,620 A	2,171 A	F	F
40–48	12,530 A	5,365 A	8,643 A	1,655 A	963 B
49–60	13,853 A	7,269 A	9,893 A	1,484 A	1,280 B
61–84	9,474 A	7,597 B	9,430 A	1,340 B	1,773 B
85–167	8,642 A	5,924 B	6,634 A	1,608 B	1,456 A
Open continuously	2,984 A	2,033 C	2,634 B	781 D	819 C
Building ownership					
Private individual(s)	31,034 A	12,280 A	8,783 A	1,008 B	917 C
Private organization	15,244 A	12,085 A	16,830 A	2,758 A	2,850 A
Non-profit organization	4,657 A	4,400 A	6,178 A	616 C	F
Fed.-prov.-munic.-regional government ^a	2,126 B	2,042 A	7,614 A	2,902 B	2,061 A

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This table is a continuation of the previous two pages. 

TOTAL FLOOR SPACE (m ²)									
93–464 m ² (1,000–4,999 sq. ft.)		465–929 m ² (5,000–9,999 sq. ft.)		929–4,645 m ² (10,000–49,999 sq. ft.)		4,645–9,290 m ² (50,000–99,999 sq. ft.)		9,290 m ² and more (100,000 sq. ft. and more)	
1,289,614	A	1,744,761	B	3,832,270	A		F	2,520,641	D
3,365,642	A	3,409,309	A	17,067,768	A	10,822,259	A	17,731,826	B
3,598,517	A	4,796,451	A	19,227,472	A	9,679,468	B	26,069,140	B
2,368,185	A	4,826,473	B	19,400,110	A	8,237,738	B	43,888,929	B
2,263,747	A	3,738,058	B	14,558,221	A	9,662,119	B	30,095,117	B
692,316	B	1,293,096	B	5,975,220	C	4,468,823	D	23,658,575	B
7,591,949	A	7,606,209	A	16,292,428	A	6,828,800	B	21,172,691	D
4,098,455	A	8,042,107	A	34,569,347	A	17,041,231	A	65,961,053	A
1,313,580	A	2,837,683	A	11,285,241	A	4,073,882	C	8,934,965	D
574,038	B	1,322,148	A	17,914,044	A	17,215,611	B	47,895,519	A

TABLE

3.4

Total number of buildings and total building floor space by principal building activity, number of workers, weekly hours of operation and type of ownership by year of construction

TOTAL NUMBER OF BUILDINGS

Year of construction	Before 1920	1920– 1959	1960– 1969	1970– 1979	1980– 1989	1990– 1999
All buildings						
Canada	13,500 A	41,828 A	16,077 A	24,002 A	22,309 A	19,324 A
Principal building activity						
Commercial and institutional accommodation	1,664 C	1,428 D	568 C	1,543 C	F	F
Entertainment and recreation	870 C	1,600 B	631 C	1,183 B	687 C	555 B
Office	2,227 B	4,886 A	1,737 B	1,797 B	1,962 A	2,467 A
Food retail	329 D	3,584 B	628 C	1,057 C	1,351 C	1,094 C
Non-food retail	2,031 C	6,684 B	1,864 B	2,051 A	2,849 B	2,433 A
Food service	1,153 B	6,465 B	981 C	1,216 B	1,366 B	2,073 B
Non-food service	1,217 D	4,829 A	2,614 A	4,992 B	3,985 B	2,964 B
Shopping malls	x	951 D	1,088 B	2,560 A	3,318 A	1,722 B
Warehouse/wholesale	x	1,298 B	1,082 C	1,656 B	1,747 B	1,583 B
Administration	758 C	707 C	396 C	1,439 B	822 B	716 C
Education	739 C	3,694 B	2,055 A	2,362 B	1,644 D	1,016 B
Health care	459 C	1,948 C	535 C	894 C	888 D	488 D
Public assembly	1,627 B	3,151 A	1,392 B	1,008 C	1,078 B	1,313 C
Other	338 D	603 C	F	F	F	280 D
Number of workers						
Less than 5	4,758 A	16,065 A	4,484 A	5,163 A	4,414 B	4,583 B
5–9	2,428 B	8,288 A	3,215 A	5,885 A	4,215 A	3,438 A
10–19	3,098 C	7,515 A	3,607 A	4,200 A	4,481 A	2,911 A
20–49	1,532 B	4,168 B	2,285 A	3,488 A	5,278 B	4,284 A
50–99	1,174 D	2,474 B	620 C	2,514 B	1,928 B	2,043 B
100–249	200 D	F	591 B	617 B	858 B	779 B
250 and more	F	1,978 B	1,274 B	2,135 B	1,135 B	1,286 A

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Source: Commercial and Institutional Building Energy Use Survey 2000.

This table continues on the next two pages. 

TOTAL FLOOR SPACE (m ²)											
Before 1920		1920– 1959		1960– 1969		1970– 1979		1980– 1989		1990– 1999	
18,296,466	B	56,061,765	A	42,833,014	A	82,946,162	A	50,063,326	A	52,370,247	A
1,768,160	D		F	1,221,637	C	9,665,900	D	970,280	D		F
	F	2,217,998	D		F	2,475,339	C	1,417,372	C	1,740,993	C
2,795,074	D	4,617,165	B		F	15,524,412	D	10,412,265	B	17,810,277	C
87,612	D	1,460,945	B	216,741	B	614,551	C	934,672	C	1,155,492	D
2,151,079	C	4,285,621	B	1,534,418	C	2,598,663	B	3,434,322	A	4,309,506	B
443,024	B	4,202,193	B		F	829,038	C	659,263	B	925,486	D
746,862	D	3,106,463	B	2,439,038	C	3,761,133	B	5,674,644	D	2,318,657	B
	x	2,238,608	C	4,642,374	A	11,207,134	A	9,489,165	A	4,560,676	B
	x		F	3,198,745	C	6,180,486	C	3,473,518	B	3,701,302	B
	F	3,373,774	D	680,301	C	10,027,383	D	2,645,020	C	1,295,100	C
	F	11,209,173	B	13,656,584	A	16,459,719	C	5,338,565	D	7,873,435	C
258,847	B	4,270,609	B	3,271,378	C	2,204,290	B	4,194,640	D	348,428	D
1,624,164	B	2,365,556	B	1,988,966	C	1,050,054	C	1,157,642	D	3,394,206	D
	F	482,713	C		F		F	261,960	B	331,407	D
2,030,956	B	7,900,152	A	3,074,795	B	3,111,815	B	4,532,207	D	2,885,518	B
	F	5,339,800	B	2,655,496	B	7,596,112	D	4,665,328	B	2,860,780	A
2,660,471	C	6,454,870	A	5,097,229	B	4,938,087	A	4,663,079	A	3,199,936	B
	F	5,780,490	A	4,977,769	A	6,198,665	A	10,772,096	C	6,978,945	A
3,716,519	D	8,765,019	B	3,250,125	D	10,849,547	B	5,072,770	B	7,550,610	C
	F		F	2,932,713	B	7,684,580	C	4,155,131	B	6,014,133	B
	F	18,918,913	C	20,844,888	B	42,567,357	B	16,202,716	A	22,880,324	B

TABLE

3.4

Total number of buildings and total building floor space by principal building activity, number of workers, weekly hours of operation and type of ownership **by year of construction**

TOTAL NUMBER OF BUILDINGS

Year of construction	Before 1920	1920– 1959	1960– 1969	1970– 1979	1980– 1989	1990– 1999
Weekly hours of operation						
Less than 40	2,185 B	4,787 B	1,439 B	1,150 B	696 C	722 C
40–48	2,464 B	9,063 A	3,791 A	5,656 A	4,474 A	3,709 A
49–60	2,647 B	9,401 A	4,362 A	6,281 A	6,474 A	4,612 A
61–84	2,927 C	9,231 A	3,256 A	4,515 A	4,997 A	4,688 A
85–167	1,878 B	8,098 A	2,346 A	4,288 A	3,461 A	4,192 B
Open continuously	1,399 D	1,248 C	883 B	2,112 B	2,208 B	1,401 B
Building ownership						
Private individual(s)	5,222 B	20,696 A	5,453 A	7,874 A	8,223 A	6,555 A
Private organization	4,258 B	11,466 A	5,027 A	9,856 A	10,455 A	8,707 A
Non-profit organization	3,006 A	5,112 A	2,477 B	2,925 B	1,373 B	1,614 C
Fed.-prov.-munic.-regional government ^a	1,014 C	4,554 A	3,121 A	3,348 A	2,259 B	2,448 B

^aIncludes all levels of government (i.e. federal, provincial, municipal and regional).

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NOTE: Estimates relate only to the surveyed areas of populations of 175,000 and greater, and in Atlantic Canada to populations of 50,000 and greater.

Source: Commercial and Institutional Building Energy Use Survey 2000.

This table is a continuation of the previous two pages. 

TOTAL FLOOR SPACE (m ²)											
Before 1920		1920– 1959		1960– 1969		1970– 1979		1980– 1989		1990– 1999	
2,194,464	D	4,722,938	B	2,792,417	D	646,076	B	421,834	C	898,676	D
3,893,469	D	11,827,685	B	6,920,937	B	10,529,113	B	8,454,553	B	10,771,047	B
2,885,743	C	7,964,646	A	6,869,582	A	17,273,806	A	14,395,569	B	13,981,699	C
4,642,441	D	11,524,806	A	13,374,816	C	22,328,864	C	12,509,018	B	14,341,491	A
2,876,623	D	10,717,877	B	9,025,781	B	19,072,143	C	8,841,790	A	9,783,048	B
1,803,727	D		F	3,849,481	B	13,096,160	C	5,440,562	C	2,594,285	D
3,426,417	C	12,333,167	B	8,073,702	D	17,422,543	C	11,902,486	B	6,333,761	A
5,889,262	B	20,997,836	C	11,937,240	A	34,764,404	A	25,684,487	A	30,438,965	B
5,916,132	D	5,313,128	B	6,101,034	B	7,548,720	D	1,512,938	C	2,053,399	C
3,064,655	C	17,417,634	A	16,721,038	A	23,210,496	B	10,963,414	B	13,544,122	B

TABLE

3.5

Total number of buildings and total building floor space by principal building activity, number of workers, weekly hours of operation and type of ownership **by number of floors**

TOTAL NUMBER OF BUILDINGS

Number of floors →	1		2		3		4-9		10 and more	
All buildings										
Canada	46,330	A	49,145	A	24,251	A	14,913	A	2,401	A
Principal building activity										
Commercial and institutional accommodation		F	1,896	D	1,144	B	2,751	D	155	D
Entertainment and recreation	1,502	B	2,492	A	1,174	D		F		x
Office	2,100	A	4,197	A	3,453	A	3,715	B	1,611	A
Food retail	4,557	B	2,092	C	1,217	B		x		x
Non-food retail	5,740	A	5,593	A	4,900	B		F		x
Food service	3,528	B	6,405	B	2,243	B	1,078	D		x
Non-food service	10,147	A	7,499	A	1,835	B	975	C		F
Shopping malls	5,698	A	3,080	B	653	C		F		x
Warehouse/wholesale	4,114	A	2,752	A	452	C		x		x
Administration	1,324	B	1,063	B	1,174	B	978	B	298	D
Education	2,988	B	4,280	A	2,423	A	1,698	C	119	C
Health care	1,061	C	2,248	C	1,075	C	783	C	46	D
Public assembly	2,535	B	4,986	A	1,737	B	311	C		x
Other	713	C	563	C	771	C		F		x
Number of workers										
Less than 5	16,144	A	14,006	A	7,210	A	2,083	C		x
5-9	10,856	A	10,306	A	4,117	A	2,119	C		x
10-19	9,365	A	9,577	A	4,710	A	2,065	B		x
20-49	5,726	A	8,418	A	4,483	A	2,352	C		x
50-99	1,741	B	3,678	B	2,165	A	3,089	B		x
100-249	1,298	C	1,323	B	600	B	1,008	B	156	D
250 and more	1,199	C	1,838	B	965	C	2,198	A	1,919	A

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Source: Commercial and Institutional Building Energy Use Survey 2000.

This table continues on the next two pages. 

TOTAL FLOOR SPACE (m²)

1		2		3		4-9		10 and more	
53,568,594	A	78,166,962	A	41,914,940	A	78,530,577	A	50,389,909	A
	F	6,188,539	D	1,402,317	C	8,844,532	D	2,923,967	D
1,931,679	B	4,329,204	B		F		F		x
1,160,248	B	3,141,945	A	3,776,979	A	13,923,185	A	35,661,737	A
1,799,807	B	1,888,921	C	653,795	C		x		x
5,498,330	B	5,601,750	A	4,214,037	B	2,999,493	D		x
1,256,443	B	4,319,059	B	1,259,014	C	1,172,556	D		x
7,089,482	B	6,771,936	B	1,432,185	C	2,508,929	A		F
14,699,225	A	12,280,488	A	2,093,116	C	2,838,949	B		x
8,831,229	B	10,231,143	B	1,777,587	D		x		x
1,034,473	B	1,354,257	B	2,942,432	D	8,778,512	C		F
6,891,070	B	15,677,771	A	12,573,803	B	19,458,809	C	1,866,439	C
461,839	C	870,736	B		F	7,613,041	A	2,781,537	B
1,896,406	B	4,970,210	B	1,685,578	B		F		x
542,743	C	541,002	D		F		F		x
10,151,832	B	8,849,442	A	3,398,146	B	1,105,345	C		x
7,100,117	A	7,845,307	A	3,155,258	B	7,892,980	D		x
9,310,832	A	9,644,858	A	5,509,013	B	2,454,684	B		x
8,597,487	A	14,796,398	A	9,707,602	B	5,084,929	D		x
4,283,602	B	14,192,842	B	8,423,054	B	10,789,964	C		x
4,754,114	B	5,731,237	B	4,162,968	D	7,692,311	C		F
9,370,610	B	17,106,878	A	7,558,900	C	43,510,364	A	46,126,348	B

TABLE

3.5

Total number of buildings and total building floor space by principal building activity, number of workers, weekly hours of operation and type of ownership **by number of floors**

TOTAL NUMBER OF BUILDINGS

Number of floors	1		2		3		4-9		10 and more		
Weekly hours of operation											
Less than 40	3,574	A	5,092	B	2,072	B	221	D		x	
40-48	9,201	A	10,822	A	6,294	A	2,596	B	243	C	
49-60	11,336	A	11,719	A	5,556	A	4,170	A	998	B	
61-84	11,142	A	10,490	A	4,689	A	2,547	B	745	C	
85-167	7,986	A	9,152	A	4,117	A	2,835	B		F	
Open continuously	3,090	A	1,870	C	1,522	C	2,544	C	225	C	
Building ownership											
Private individual(s)	17,669	A	19,888	A	10,427	A	5,537	A	500	D	
Private organization	19,901	A	15,320	A	7,109	A	5,899	A	1,538	B	
Non-profit organization	3,382	A	7,770	A	3,800	A	1,553	C		x	
Fed.-prov.-munic.-regional government ^a	5,378	A	6,167	A	2,914	B	1,924	A	363	B	

^aIncludes all levels of government (i.e. federal, provincial, municipal and regional).

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Source: Commercial and Institutional Building Energy Use Survey 2000.

This table is a continuation of the previous two pages. 

TOTAL FLOOR SPACE (m²)

1		2		3		4-9		10 and more	
3,120,342	B	4,388,339	B	3,137,769	C		F		x
11,013,212	A	17,002,950	A	10,971,792	B	10,027,393	B	3,381,457	C
12,008,190	A	12,365,246	A	6,042,730	B	14,714,165	A	18,240,715	C
17,679,530	A	19,882,155	A	10,500,913	B	11,708,944	B	18,949,895	D
8,012,070	A	20,358,286	A	7,246,010	C	21,417,990	B		F
1,735,250	B	4,169,985	B	4,015,726	D	19,635,657	C	6,531,411	C
12,448,547	A	17,142,874	A	6,822,060	A	11,006,287	A		F
28,663,659	A	29,865,651	A	11,723,861	A	28,036,833	B	31,422,190	C
2,895,399	B	9,955,988	A	7,174,014	C	8,419,951	D		x
9,560,989	A	21,202,449	A	16,195,006	B	31,067,506	B	6,895,410	B

TABLE

3.6

Total number of buildings and total building floor space by principal building activity, number of workers and type of ownership by weekly hours of operation

TOTAL NUMBER OF BUILDINGS

Weekly hours of operation →	Less than 40						40–48						49–60						61–84						85–167						Open continuously					
All buildings																																				
Canada	10,978	A	29,156	A	33,778	A	29,613	A	24,262	A	9,251	A																								
Principal building activity																																				
Commercial and institutional accommodation	x		x		x		F		1,475	D	4,262	B																								
Entertainment and recreation	924	C		F	487	C	1,257	C	2,134	A	36	D																								
Office	888	B	6,474	A	5,508	A	1,600	B	512	C		F																								
Food retail	x		x		588	D	2,817	C	3,135	B	1,462	C																								
Non-food retail	519	D	2,851	C	5,983	A	7,041	B	1,442	C		x																								
Food service		F	446	C	756	D	1,927	B	7,775	A	885	B																								
Non-food service	547	C	5,592	A	6,657	A	5,101	B	2,161	B	544	C																								
Shopping malls	x		1,749	B	2,274	A	2,700	A	2,268	A	526	D																								
Warehouse/wholesale	248	D	3,252	A	2,389	A		F	475	B	202	D																								
Administration	251	D	2,163	A	1,393	B	318	D	314	D	398	C																								
Education	1,268	B	3,050	A	3,836	B	1,642	C	1,570	A	141	B																								
Health care		F	947	B	1,913	C	1,294	C		x		F																								
Public assembly	4,304	A	1,171	B	1,650	C	1,729	A	710	D		x																								
Other		x	723	C	156	D	1,018	C	228	D		x																								
Number of workers																																				
Less than 5	6,496	B	8,796	A	8,147	A	7,337	A	6,175	A	2,514	B																								
5–9	1,419	B	6,569	A	8,431	A	5,949	A	3,104	B	1,997	B																								
10–19	732	B	5,677	A	7,524	A	6,059	B	4,144	A	1,675	B																								
20–49	1,037	B	3,635	A	4,754	A	5,629	A	4,641	A	1,338	C																								
50–99	396	D	1,984	B	2,014	A	2,136	B	3,349	B		F																								
100–249	245	D	835	B	763	B	538	C		F	465	C																								
250 and more	652	C	1,661	B	2,145	B	1,965	B	1,311	B	385	B																								
Building ownership																																				
Private individual(s)	2,865	C	11,861	A	14,882	A	12,287	A	9,287	A	2,839	B																								
Private organization	1,561	B	9,979	A	12,610	A	11,162	A	10,219	A	4,237	A																								
Non-profit organization	5,230	A	2,636	A	3,012	B	3,089	B	1,670	C	868	D																								
Fed.-prov.-munic.-regional government ^a	1,323	B	4,680	A	3,274	B	3,076	B	3,086	A	1,307	B																								

^aIncludes all levels of government (i.e. federal, provincial, municipal and regional).

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Source: Commercial and Institutional Building Energy Use Survey 2000.

TOTAL FLOOR SPACE (m²)

Less than 40		40–48		49–60		61–84		85–167		Open continuously	
11,676,404	A	52,396,804	A	63,371,047	A	78,721,436	A	60,317,262	A	36,088,029	A
x		x		x		F		F		13,559,682	C
747,932	C		F	598,186	D		F	6,680,905	B	181,900	C
509,267	B	9,267,221	A	24,997,785	B		F	3,426,041	C		F
x		x		184,788	D	1,903,359	C	1,819,490	B	527,428	D
	F	2,222,893	C	4,174,489	A	8,190,012	B	3,301,922	B		x
	F	171,269	C	518,864	D	900,877	B	5,772,013	B	354,338	C
267,778	B	4,214,845	B	4,575,018	B	6,100,880	C	1,492,354	B		F
x		2,507,778	D	5,597,479	C	17,279,200	A	6,295,503	A	456,131	D
	F	7,939,680	B	4,119,565	B		F	2,536,554	C		F
	F	6,106,773	C	5,008,362	B		F		F		F
5,239,350	C	14,020,362	B	10,562,779	C	7,399,245	B	18,963,504	B	282,652	C
	F	974,246	C	674,654	B	2,038,851	D		x	10,768,110	A
3,014,854	A		F	1,946,607	C	2,511,208	B		F		x
x		480,253	B	166,006	C		F	273,636	D		x
3,250,134	A	4,459,918	B	4,649,272	B	5,843,337	C	4,049,967	B	1,282,814	C
1,183,978	D	7,911,653	B	4,556,581	A	4,035,204	A	4,173,253	C		F
1,063,645	D	5,491,906	A	7,469,070	A	7,158,837	A	4,337,255	A	1,492,959	B
1,074,324	C	7,309,482	A	8,739,716	C	11,091,489	B	6,665,031	A	3,679,312	D
	F	6,822,278	B	5,465,046	B	7,148,342	B	12,990,275	B	5,671,222	D
	F	6,174,039	C	4,418,328	B	4,530,463	C	5,204,426	D	3,771,498	C
3,576,410	C	14,227,528	B	28,073,034	B	38,913,764	B	22,897,054	B	15,985,310	C
1,417,514	D	8,766,509	A	13,995,269	A		F	12,328,257	B	3,675,480	C
869,016	B	20,178,080	A	34,187,567	A	42,985,461	A	18,036,438	A	13,455,631	C
3,924,910	A	4,595,030	C	4,773,620	B	5,884,861	C	4,396,053	C		F
5,464,964	C	18,857,185	B	10,414,590	B	10,542,066	B	25,556,514	B	14,086,040	A

TABLE

3.7

Total number of buildings and total building floor space by principal building activity, number of workers and weekly hours of operation by type of ownership

TOTAL NUMBER OF BUILDINGS

Building ownership	Private individual(s)	Private organization	Non-profit organization	Fed.-prov.-munic.-regional government ^a
All buildings				
Canada	54,022 A	49,768 A	16,505 A	16,745 A
Principal building activity				
Commercial and institutional accommodation	2,067 C	2,295 C	1,297 C	F
Entertainment and recreation	1,561 C	718 B	1,437 B	1,809 B
Office	5,310 A	9,078 A	590 D	x
Food retail	5,218 B	2,560 B	x	F
Non-food retail	10,023 A	7,313 A	F	x
Food service	6,734 A	5,703 A	F	x
Non-food service	11,646 A	8,219 A	x	657 C
Shopping malls	3,403 A	5,972 A	F	x
Warehouse/wholesale	2,579 A	4,694 A	x	F
Administration	397 C	444 D	1,274 B	2,722 A
Education	F	484 C	1,169 B	8,546 A
Health care	2,928 B	1,197 B	327 D	760 D
Public assembly	F	F	8,488 A	640 C
Other	613 C	880 B	F	F
Number of workers				
Less than 5	21,727 A	9,243 A	7,083 A	1,413 B
5–9	13,654 A	9,734 A	2,899 B	1,182 B
10–19	9,671 A	11,002 A	2,898 B	2,240 A
20–49	6,131 A	8,625 A	1,563 B	4,716 A
50–99	1,377 B	5,977 A	1,318 C	2,082 B
100–249	F	2,442 B	256 D	867 B
250 and more	642 C	2,743 A	490 D	4,243 A
Weekly hours of operation				
Less than 40	2,865 C	1,561 B	5,230 A	1,323 B
40–48	11,861 A	9,979 A	2,636 A	4,680 A
49–60	14,882 A	12,610 A	3,012 B	3,274 B
61–84	12,287 A	11,162 A	3,089 B	3,076 B
85–167	9,287 A	10,219 A	1,670 C	3,086 A
Open continuously	2,839 B	4,237 A	868 D	1,307 B

^aIncludes all levels of government (i.e. federal, provincial, municipal and regional).

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Source: Commercial and Institutional Building Energy Use Survey 2000.

TOTAL FLOOR SPACE (m²)

Private individual(s)		Private organization		Non-profit organization		Fed.-prov.-munic.-regional government ^a	
59,492,076	A	129,712,194	A	28,445,352	A	84,921,359	A
4,360,511	D	7,568,321	C		F		F
	F	1,547,977	C		F	4,030,386	B
	F	41,069,863	B		F		x
1,946,570	B	2,232,934	B		x		F
6,535,885	A	11,230,991	A		F		x
2,576,039	A	3,904,974	B		F		x
7,672,213	A	8,571,649	B		x	1,760,363	D
7,933,564	B	23,733,089	A		F		x
4,356,317	B	20,435,061	C		x		F
	F		F		F	9,951,912	B
	F	423,229	D	3,483,414	C	49,989,750	A
782,028	B	1,764,373	D		F	11,041,521	A
	F		F	8,519,107	A		F
565,923	D	919,705	B		F	277,986	D
7,032,797	A	8,366,587	C	6,179,415	B	1,956,644	C
9,564,865	A	7,432,830	A	7,343,811	D	1,724,076	B
7,452,330	A	11,683,497	A	4,088,628	B	3,789,216	A
9,416,189	B	13,886,382	A		F	11,786,460	A
5,539,104	D	20,652,991	A	3,945,092	C	9,067,403	C
4,422,801	C	10,862,530	A		F	8,715,934	C
	F	56,827,377	B	2,900,105	D	47,881,627	A
1,417,514	D	869,016	B	3,924,910	A	5,464,964	C
8,766,509	A	20,178,080	A	4,595,030	C	18,857,185	B
13,995,269	A	34,187,567	A	4,773,620	B	10,414,590	B
	F	42,985,461	A	5,884,861	C	10,542,066	B
12,328,257	B	18,036,438	A	4,396,053	C	25,556,514	B
3,675,480	C	13,455,631	C		F	14,086,040	A

CHAPTER **4**

**Total Number of Buildings and
Total Building Floor Space by
Energy Retrofit Activity in 2000**



Total number of buildings and total building floor space by energy retrofit activity in 2000

TABLE

4.1

	Total number of buildings		Total floor space (m ²)	
All buildings				
Canada	137,039	A	302,570,981	A
Energy retrofit in 2000				
Lighting system	3,981	A	21,631,030	B
Heating equipment	5,632	A	16,293,378	A
Ventilation or air conditioning	4,549	A	23,878,886	B
Roof or wall insulation	2,262	A	16,887,996	C
Basement or foundation, roof structure or surface, or wall siding ^a	4,206	B	17,590,155	C
Other	4,085	A	15,879,953	C

^aIncludes basement or foundation retrofit, roof structure or surface retrofit, and wall-siding retrofit.

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F – Too unreliable to be published, x – Suppressed to meet the confidentiality requirements of the Statistics Act.

Due to rounding the numbers may not add up and may differ slightly among tables.

NOTE: Estimates relate only to the surveyed areas of populations of 175,000 and greater, and in Atlantic Canada to populations of 50,000 and greater.

Source: Commercial and Institutional Building Energy Use Survey 2000.

TABLE

4.2

Total number of buildings and total building floor space by energy retrofit activity in 2000 by region

TOTAL NUMBER OF BUILDINGS

Region	Atlantic		Quebec		Ontario		Prairies		British Columbia	
All buildings										
Canada	9,423	A	32,000	A	52,182	A	26,754	A	16,681	A
Energy retrofit in 2000										
Lighting system	351	D	1,020	C	890	C	758	C	961	C
Heating equipment	423	C	1,526	B	1,456	B	1,278	B	949	D
Ventilation or air conditioning		F	1,418	B	1,483	C	788	B		F
Roof or wall insulation	228	C	620	C	642	C	523	C		F
Basement or foundation, roof structure or surface, or wall siding ^a	343	D	1,026	C	2,000	C	613	B		F
Other	215	C	1,052	C	1,742	C	782	B		F

^aIncludes basement or foundation retrofit, roof structure or surface retrofit, and wall-siding retrofit.

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Source: Commercial and Institutional Building Energy Use Survey 2000.

TABLE

4.3

Total number of buildings and total building floor space by energy retrofit activity in 2000 by building floor space

TOTAL NUMBER OF BUILDINGS

70

Building floor space	93–464 m ² (1,000–4,999 sq. ft.)		465–929 m ² (5,000–9,999 sq. ft.)		929–4,645 m ² (10,000–49,999 sq. ft.)		4,645–9,290 m ² (50,000–99,999 sq. ft.)		9,290 m ² and more (100,000 sq. ft. and more)	
All buildings										
Canada	9,423	A	32,000	A	52,182	A	26,754	A	16,681	A
Energy retrofit in 2000										
Lighting system	351	D	1,020	C	890	C	758	C	961	C
Heating equipment	423	C	1,526	B	1,456	B	1,278	B	949	D
Ventilation or air conditioning		F	1,418	B	1,483	C	788	B		F
Roof or wall insulation	228	C	620	C	642	C	523	C		F
Basement or foundation, roof structure or surface, or wall siding ^a	343	D	1,026	C	2,000	C	613	B		F
Other	215	C	1,052	C	1,742	C	782	B		F

^aIncludes basement or foundation retrofit, roof structure or surface retrofit, and wall-siding retrofit.

The letter beside each estimate classifies its quality as follows: A – Excellent, B – Good, C – Acceptable, D – Use with caution,

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Source: Commercial and Institutional Building Energy Use Survey 2000.

TABLE

4.2

TOTAL FLOOR SPACE (m²)

Atlantic		Quebec		Ontario		Prairies		British Columbia	
16,983,536	A	71,162,741	A	119,870,565	A	67,616,918	A	26,937,221	A
1,313,506	D		F	4,444,367	C	3,690,660	B	3,771,304	D
1,085,098	D	6,820,538	C	3,939,366	C	2,720,182	B		F
625,742	C	13,457,746	C	5,313,706	D	1,933,825	A	2,547,867	D
1,070,016	D		F		F		F	407,205	D
1,063,413	D		F		F		F		F
329,427	B		F	5,952,743	C		F		F

TABLE

4.3

TOTAL FLOOR SPACE (m²)

93–464 m ² (1,000–4,999 sq. ft.)		465–929 m ² (5,000–9,999 sq. ft.)		929–4,645 m ² (10,000–49,999 sq. ft.)		4,645–9,290 m ² (50,000–99,999 sq. ft.)		9,290 m ² and more (100,000 sq. ft. and more)	
16,983,536	A	71,162,741	A	119,870,565	A	67,616,918	A	26,937,221	A
1,313,506	D		F	4,444,367	C	3,690,660	B	3,771,304	D
1,085,098	D	6,820,538	C	3,939,366	C	2,720,182	B		F
625,742	C	13,457,746	C	5,313,706	D	1,933,825	A	2,547,867	D
1,070,016	D		F		F		F	407,205	D
1,063,413	D		F		F		F		F
329,427	B		F	5,952,743	C		F		F

TABLE

4.4

Total number of buildings and total building floor space by energy retrofit activity in 2000 by year of construction

TOTAL NUMBER OF BUILDINGS

Year of construction	Before 1920	1920–1959	1960–1969	1970–1979	1980–1989	1990–1999
All building						
Canada	13,500 A	41,828 A	16,077 A	24,002 A	22,309 A	19,324 A
Energy retrofit in 2000						
Lighting system	274 C	1,616 C	659 C	727 B	390 C	F
Heating equipment	F	1,248 C	1,357 B	1,227 B	1,007 C	456 C
Ventilation or air conditioning	201 C	1,566 C	747 B	705 B	985 C	345 D
Roof or wall insulation	210 D	573 C	F	593 D	218 C	F
Basement or foundation, roof structure or surface, or wall siding ^a	352 C	2,381 C	470 C	569 D	179 D	F
Other	565 C	976 D	465 B	1,213 D	479 C	388 D

^aIncludes basement or foundation retrofit, roof structure or surface retrofit, and wall-siding retrofit.

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Source: Commercial and Institutional Building Energy Use Survey 2000.

TABLE

4.5

Total number of buildings and total building floor space by energy retrofit activity in 2000 by number of floors

TOTAL NUMBER OF BUILDINGS

72

Number of floors	1	2	3	4–9	10 and more
All buildings					
Canada	46,330 A	49,145 A	24,251 A	14,913 A	2,401 A
Energy retrofit in 2000					
Lighting system	812 C	1,549 B	709 B	F	245 C
Heating equipment	1,840 B	2,040 B	878 B	780 D	F
Ventilation or air conditioning	1,629 C	1,199 B	684 B	883 D	F
Roof or wall insulation	482 C	1,139 C	353 D	220 D	F
Basement or foundation, roof structure or surface, or wall siding ^a	1,070 C	1,995 C	505 C	F	F
Other	773 B	1,120 B	848 C	1,259 D	F

^aIncludes basement or foundation retrofit, roof structure or surface retrofit, and wall-siding retrofit.

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Source: Commercial and Institutional Building Energy Use Survey 2000.

TABLE

4.4

TOTAL FLOOR SPACE (m ²)						
Before 1920	1920–1959	1960–1969	1970–1979	1980–1989	1990–1999	
18,296,466	56,061,765	42,833,014	82,946,162	50,063,326	52,370,247	
B	A	A	A	A	A	
F	F	2,923,357	5,793,565	2,487,547		F
F	2,006,380	3,265,292	4,607,447	2,922,262		F
F	F	2,708,451	5,230,187	2,758,557		F
F	F	963,747	6,686,256	951,418		F
F	F	F	5,975,507	724,116		F
F	F	F	6,050,944	1,338,926	748,941	D

TABLE

4.5

TOTAL FLOOR SPACE (m ²)					
1	2	3	4–9	10 and more	
53,568,594	78,166,962	41,914,940	78,530,577	50,389,909	
A	A	A	A	A	
F	4,993,954	2,364,656		4,164,211	C
4,235,450	3,390,483	2,695,896	4,344,987		F
3,457,202	3,110,489	2,700,268	10,351,961		F
3,430,264	2,131,594				F
3,352,161	1,722,417				F
1,091,869	2,288,028				F

TABLE

4.6

Total number of buildings and total building floor space by energy retrofit activity in 2000 by weekly hours of operation

TOTAL NUMBER OF BUILDINGS

Weekly hours of operation →	TOTAL NUMBER OF BUILDINGS					
	Less than 40	40–48	49–60	61–84	85–167	Open continuously
All buildings						
Canada	10,978 A	29,156 A	33,778 A	29,613 A	24,262 A	9,251 A
Energy retrofit in 2000						
Lighting system	F	418 C	1,197 B	723 C	1,288 C	F
Heating equipment	568 C	1,082 B	1,410 B	1,270 B	1,036 C	F
Ventilation or air conditioning	x	693 B	861 B	1,034 D	1,436 C	F
Roof or wall insulation	F	363 C	619 C	540 D	479 C	F
Basement or foundation, roof structure or surface, or wall siding ^a	F	496 C	1,492 D	957 D	890 D	F
Other	F	987 C	655 C	639 C	929 D	F

^aIncludes basement or foundation retrofit, roof structure or surface retrofit, and wall-siding retrofit.

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Source: Commercial and Institutional Building Energy Use Survey 2000.

TABLE

4.7

Total number of buildings and total building floor space by energy retrofit activity in 2000 by type of ownership

TOTAL NUMBER OF BUILDINGS

Building ownership →	TOTAL NUMBER OF BUILDINGS			
	Private individual(s)	Private organization	Non-profit organization	Fed.-prov.-munic.-regional government ^a
All buildings				
Canada	54,022 A	49,768 A	16,505 A	16,745 A
Energy retrofit in 2000				
Lighting system	1,097 B	1,406 B	1,072 D	407 B
Heating equipment	1,667 B	1,497 B	1,709 B	759 C
Ventilation or air conditioning	1,485 C	1,399 B	1,163 C	503 C
Roof or wall insulation	749 C	839 B	276 C	F
Basement or foundation, roof structure or surface, or wall siding ^b	1,718 D	876 B	1,165 C	F
Other	1,012 B	1,316 C	1,320 C	437 C

^aIncludes all levels of government (i.e. federal, provincial, municipal and regional).

^bIncludes basement or foundation retrofit, roof structure or surface retrofit, and wall-siding retrofit.

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Source: Commercial and Institutional Building Energy Use Survey 2000.

TABLE

4.6

TOTAL FLOOR SPACE (m ²)											
Less than 40		40–48		49–60		61–84		85–167		Open continuously	
11,676,404	A	52,396,804	A	63,371,047	A	78,721,436	A	60,317,262	A	36,088,029	A
	F	1,560,332	D	4,626,413	C	2,931,967	B	6,272,005	C		F
374,527	D		F	3,880,454	C	3,932,192	B	3,759,802	C		F
	x		F	5,616,583	D	3,355,476	B	4,022,329	C		F
	F		F		F	4,239,769	C	1,387,064	C		F
	F		F		F	3,750,610	C	2,536,892	D		F
	F		F	1,410,493	D	1,564,132	B	1,921,204	D		F

TABLE

4.7

TOTAL FLOOR SPACE (m ²)											
Private individual(s)		Private organization		Non-profit organization		Fed.-prov.-munic.-regional government ^a					
59,492,076	A	129,712,194	A	28,445,352	A	84,921,359	A				
4,443,978	D	11,690,735	D	2,414,795	D	3,081,522	B				
3,321,865	D	5,934,808	C	2,787,657	C	4,249,048	C				
	F	12,851,026	C	4,357,400	D	4,312,786	C				
	F	10,800,780	D	365,028	C		F				
	F	9,958,822	D	2,197,846	D		F				
1,117,995	C	10,471,366	D	1,909,631	D	2,380,961	D				

CHAPTER **5**

**Total Number of Buildings and
Total Building Floor Space by
Energy Efficiency Features**



Total number of buildings and total building floor space by building conservation features, lighting conservation features and heating/cooling conservation features

	Total number of buildings		Total floor space (m ²)	
All buildings				
Canada	137,039	A	302,570,981	A
Building conservation feature				
Reflective or shading film	28,967	A	122,723,840	A
Awnings or blinds	68,419	A	190,541,035	A
Lighting conservation feature				
Reflectors	29,273	A	115,489,917	A
Energy-efficient ballast	57,906	A	203,268,456	A
Daylight controls	18,050	A	53,313,048	A
Occupancy sensors	9,359	A	51,471,427	A
Time clocks	29,689	A	122,759,999	A
Manual dimmer switches	28,410	A	108,991,406	A
Energy-efficient lamps	40,612	A	180,013,919	A
Other	12,945	A	37,568,865	A
Heating/cooling conservation feature				
Variable air-volume system	37,729	A	144,476,134	A
Outdoor-air economizer	47,212	A	179,171,851	A
Temperature setback	52,022	A	170,332,213	A
Equipment reset	41,666	A	163,840,836	A
Heat recovery system	17,636	A	74,496,900	A
Regular maintenance	106,689	A	276,147,308	A

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Source: Commercial and Institutional Building Energy Use Survey 2000.

TABLE

5.2

Total number of buildings and total building floor space by building conservation features, lighting conservation features and heating/cooling conservation features **by region**

TOTAL NUMBER OF BUILDINGS

Region →	Atlantic		Quebec		Ontario		Prairies		British Columbia	
All buildings										
Canada	9,423	A	32,000	A	52,182	A	26,754	A	16,681	A
Building conservation feature										
Reflective or shading film	1,648	B	5,229	A	12,725	A	5,129	A	4,236	B
Awnings or blinds	5,838	A	9,504	A	27,034	A	17,428	A	8,615	B
Lighting conservation feature										
Reflectors	1,677	B	4,332	A	12,352	A	6,080	B	4,831	B
Energy-efficient ballast	3,841	A	12,656	A	22,240	A	11,644	A	7,525	B
Daylight controls	1,458	B	3,627	A	7,265	A	3,054	A	2,645	B
Occupancy sensors	523	C	1,668	B	4,714	A	1,438	B	1,016	C
Time clocks	1,340	A	7,266	A	13,726	A	3,297	A	4,059	A
Manual dimmer switches	1,342	A	5,609	A	11,988	A	4,975	A	4,495	B
Energy-efficient lamps	2,740	A	6,185	A	16,217	A	9,491	A	5,978	A
Other	580	C	4,541	C	5,209	A	1,920	B	696	C
Heating/cooling conservation feature										
Variable air-volume system	1,929	A	9,901	A	13,360	A	6,873	A	5,667	B
Outdoor-air economizer	3,120	A	11,355	A	16,978	A	11,151	A	4,608	B
Temperature setback	2,756	A	7,908	A	22,473	A	10,810	A	8,076	B
Equipment reset	2,366	A	7,100	A	16,967	A	7,999	A	7,233	B
Heat recovery system	736	B	4,682	A	6,561	A	3,814	A	1,842	C
Regular maintenance	6,404	A	23,430	A	43,521	A	21,465	A	11,870	A

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Source: Commercial and Institutional Building Energy Use Survey 2000.

TOTAL FLOOR SPACE (m²)

Atlantic		Quebec		Ontario		Prairies		British Columbia	
16,983,536	A	71,162,741	A	119,870,565	A	67,616,918	A	26,937,221	A
4,607,972	A	25,621,464	B	57,343,175	A	25,634,947	B	9,516,282	B
11,437,300	A	30,630,411	B	82,457,478	A	49,901,621	A	16,114,224	B
5,118,113	B	27,346,685	B	47,182,632	A	24,831,448	B	11,011,039	A
10,016,827	A	44,718,911	A	83,613,388	A	45,333,455	A	19,585,875	A
3,126,443	B	11,962,033	B	17,717,862	A	12,739,246	A	7,767,464	B
1,231,150	B	17,169,193	C	15,914,126	A	11,190,027	B	5,966,931	C
4,422,108	A	30,741,076	A	47,315,883	A	27,202,534	B	13,078,399	B
2,786,699	A	22,441,268	B	48,489,963	A	27,051,167	B	8,222,310	B
8,456,843	A	32,882,994	B	77,237,633	A	43,096,693	A	18,339,755	A
1,611,389	B	10,183,981	C	15,746,822	B	8,843,229	D	1,183,444	C
4,966,147	A	33,723,249	A	59,359,780	A	34,115,284	B	12,311,674	B
8,227,067	A	48,931,957	A	63,693,385	A	46,782,590	A	11,536,852	A
8,377,713	A	36,354,872	B	64,925,769	A	41,876,779	A	18,797,081	A
8,504,504	A	29,973,140	A	72,427,315	A	38,038,437	A	14,897,440	A
3,199,192	A	20,497,549	B	28,485,164	B	16,236,391	C	6,078,604	B
14,283,302	A	63,013,854	A	112,756,729	A	62,546,082	A	23,547,341	A

TABLE

5.3

Total number of buildings and total building floor space by building conservation features, lighting conservation features and heating/cooling conservation features **by building floor space**

TOTAL NUMBER OF BUILDINGS

Building floor space →	93–464 m ² (1,000–4,999 sq. ft.)		465–929 m ² (5,000–9,999 sq. ft.)		929–4,645 m ² (10,000–49,999 sq. ft.)		4,645–9,290 m ² (50,000–99,999 sq. ft.)		9,290 m ² and more (100,000 sq. ft. and more)	
All buildings										
Canada	53,061	A	30,806	A	39,405	A	7,285	A	6,482	A
Building conservation feature										
Reflective or shading film	6,768	A	6,466	A	9,911	A	2,704	A	3,119	A
Awnings or blinds	21,468	A	16,924	A	20,587	A	4,881	A	4,558	A
Lighting conservation feature										
Reflectors	7,563	A	5,732	B	10,393	A	2,520	B	3,066	A
Energy-efficient ballast	16,939	A	10,628	A	20,508	A	4,743	A	5,088	A
Daylight controls	6,224	A	3,543	B	5,905	A	1,270	B	1,108	A
Occupancy sensors	2,950	B	1,048	C	3,314	B	520	B	1,527	B
Time clocks	6,855	A	8,052	A	9,326	A	2,459	B	2,997	A
Manual dimmer switches	7,683	A	7,331	A	8,298	A	2,318	B	2,780	A
Energy-efficient lamps	10,181	A	7,466	A	13,884	A	4,018	A	5,063	A
Other	4,341	C	2,426	B	4,191	A	956	C	1,030	C
Heating/cooling conservation feature										
Variable air-volume system	10,533	A	7,490	A	12,430	A	3,715	A	3,562	A
Outdoor-air economizer	12,357	A	9,694	A	15,981	A	4,553	A	4,627	A
Temperature setback	16,226	A	9,419	A	18,051	A	4,031	A	4,295	A
Equipment reset	11,160	A	8,143	A	14,095	A	3,754	A	4,513	A
Heat recovery system	5,459	A	2,306	A	6,068	A	1,915	C	1,888	A
Regular maintenance	37,353	A	23,786	A	32,285	A	7,024	A	6,242	A

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NOTE: Estimates relate only to the surveyed areas of populations of 175,000 and greater, and in Atlantic Canada to populations of 50,000 and greater.

Source: Commercial and Institutional Building Energy Use Survey 2000.

TOTAL FLOOR SPACE (m ²)									
93–464 m ² (1,000–4,999 sq. ft.)		465–929 m ² (5,000–9,999 sq. ft.)		929–4,645 m ² (10,000–49,999 sq. ft.)		4,645–9,290 m ² (50,000–99,999 sq. ft.)		9,290 m ² and more (100,000 sq. ft. and more)	
13,578,022	A	19,808,147	A	80,061,060	A	45,159,524	A	143,964,228	A
1,920,231	A	4,168,274	A	19,935,378	A	17,314,781	A	79,385,176	A
5,672,173	A	10,883,073	A	43,231,867	A	30,286,384	A	100,467,537	A
2,032,320	A	3,636,468	B	21,476,389	A	15,434,195	B	72,910,546	A
4,507,983	A	6,825,383	A	43,256,569	A	29,759,073	A	118,919,448	A
1,657,198	A	2,200,352	B	11,625,294	A	8,495,571	B	29,334,633	A
704,251	B	784,194	C	7,971,758	C	3,068,083	B	38,943,140	B
1,835,062	A	5,174,697	A	20,933,392	A	15,009,786	B	79,807,063	A
2,201,364	A	4,511,079	A	17,170,548	A	14,357,325	B	70,751,090	A
2,818,565	A	4,749,025	A	28,203,594	A	25,785,352	A	118,457,383	A
904,830	B	1,716,747	B	8,539,281	A	6,218,398	B	20,189,610	C
2,823,907	A	4,710,755	A	25,490,331	A	22,900,418	A	88,550,723	A
3,307,871	A	6,261,433	A	33,447,784	A	28,179,754	A	107,975,010	A
4,367,110	A	5,981,163	A	36,093,425	A	25,540,646	A	98,349,870	A
2,962,675	A	5,137,042	A	30,890,085	A	23,122,402	A	101,728,631	A
1,447,529	B	1,371,711	A	11,153,771	A	11,134,472	B	49,389,417	B
9,936,820	A	15,188,901	A	67,376,959	A	43,402,630	A	140,241,997	A

TABLE

5.4

Total number of buildings and total building floor space by building conservation features, lighting conservation features and heating/cooling conservation features **by year of construction**

TOTAL NUMBER OF BUILDINGS

Year of construction →	Before 1920		1920– 1959		1960– 1969		1970– 1979		1980– 1989		1990– 1999	
All buildings												
Canada	13,500	A	41,828	A	16,077	A	24,002	A	22,309	A	19,324	A
Building conservation feature												
Reflective or shading film	1,636	B	6,357	A	3,506	A	5,525	A	5,748	A	6,195	A
Awnings or blinds	5,816	A	19,371	A	7,786	A	12,486	A	11,574	A	11,384	A
Lighting conservation feature												
Reflectors	1,847	B	6,609	A	2,777	A	6,683	A	5,342	A	6,014	A
Energy-efficient ballast	3,971	B	15,044	A	6,940	A	11,107	A	9,966	A	10,878	A
Daylight controls	1,271	B	4,409	A	2,328	B	4,316	A	2,683	A	3,042	A
Occupancy sensors	626	C	2,550	C	888	C	1,861	B	2,028	C	1,405	B
Time clocks	3,113	B	7,536	A	2,584	A	5,688	A	5,633	A	5,136	A
Manual dimmer switches	4,000	B	8,374	B	2,809	A	4,523	A	4,660	A	4,043	A
Energy-efficient lamps	3,532	B	11,363	A	4,684	A	7,240	A	6,115	A	7,678	A
Other	1,094	C	4,116	C	981	C	1,615	B	2,424	B	2,715	B
Heating/cooling conservation feature												
Variable air-volume system	2,962	B	9,576	A	3,700	A	5,835	A	8,018	A	7,637	A
Outdoor-air economizer	3,278	B	12,757	A	3,905	A	8,960	A	8,654	A	9,658	A
Temperature setback	4,236	A	15,550	A	5,328	A	8,657	A	8,661	A	9,590	A
Equipment reset	3,239	B	11,795	A	3,500	A	7,454	A	7,323	A	8,355	A
Heat recovery system	1,102	C	4,806	A	1,393	B	2,676	A	3,655	B	4,004	A
Regular maintenance	9,697	A	32,536	A	11,634	A	19,199	A	17,279	A	16,344	A

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NOTE: Estimates relate only to the surveyed areas of populations of 175,000 and greater, and in Atlantic Canada to populations of 50,000 and greater.

Source: Commercial and Institutional Building Energy Use Survey 2000.

TOTAL FLOOR SPACE (m ²)											
Before 1920		1920– 1959		1960– 1969		1970– 1979		1980– 1989		1990– 1999	
18,296,466	B	56,061,765	A	42,833,014	A	82,946,162	A	50,063,326	A	52,370,247	A
1,956,044	B	18,405,093	C	16,470,580	B	36,578,976	B	19,680,897	A	29,632,250	B
9,773,915	C	32,165,856	B	24,568,900	A	56,300,290	A	32,120,377	A	35,611,697	B
3,917,377	D	15,998,535	C	17,123,431	B	36,978,941	B	17,713,932	A	23,757,702	B
7,066,960	C	34,369,774	B	27,962,443	A	64,960,599	A	28,391,186	A	40,517,494	B
2,307,366	D	7,192,065	A	8,276,671	A	17,628,218	A	9,875,919	A	8,032,809	A
1,360,880	D		F	6,123,174	B	14,416,521	B	10,308,120	B	10,186,089	C
4,571,923	C	21,176,951	B	13,573,108	A	35,779,250	B	21,338,720	A	26,320,046	A
7,773,896	C	17,882,332	C	13,999,472	C	34,322,439	B	17,286,148	A	17,727,119	B
11,350,703	C	31,795,618	B	23,593,709	A	56,417,856	A	23,694,058	A	33,161,977	B
	F	6,020,651	B	1,963,126	C	8,988,802	C	7,138,084	B	10,248,434	C
5,409,681	C	20,175,880	A	19,360,838	B	44,733,190	B	27,634,765	A	27,161,780	B
8,441,346	C	28,487,590	B	21,105,954	A	54,265,503	A	31,870,182	A	35,001,276	A
7,488,614	B	33,449,098	B	21,591,456	A	47,970,597	A	25,815,109	A	34,017,339	A
7,506,661	C	25,085,501	A	21,079,704	B	49,664,454	A	27,546,681	A	32,957,834	B
	F	13,603,740	C	8,100,501	B	17,139,613	C	12,876,710	B	19,342,799	B
15,815,301	B	51,003,101	A	38,666,293	A	78,967,425	A	43,816,996	A	47,878,192	A

TABLE

5.5

Total number of buildings and total building floor space by building conservation features, lighting conservation features and heating/cooling conservation features **by number of floors**

TOTAL NUMBER OF BUILDINGS

Number of floors →	1		2		3		4-9		10 and more	
All buildings										
Canada	46,330	A	49,145	A	24,251	A	14,913	A	2,401	A
Building conservation feature										
Reflective or shading film	7,937	A	9,010	A	5,960	A	4,590	A	1,472	B
Awnings or blinds	20,636	A	25,378	A	12,470	A	7,895	A	2,040	A
Lighting conservation feature										
Reflectors	9,317	A	10,611	A	4,720	A	3,488	B	1,137	B
Energy-efficient ballast	17,145	A	20,717	A	9,591	A	8,406	A	2,046	A
Daylight controls	5,732	A	6,598	A	3,220	A	2,273	B	225	B
Occupancy sensors	1,909	B	3,793	B	867	B	2,346	A	443	B
Time clocks	7,784	A	10,622	A	5,339	A	4,932	A	1,012	B
Manual dimmer switches	6,185	A	9,380	A	6,233	A	5,128	B	1,484	B
Energy-efficient lamps	11,424	A	12,841	A	6,948	A	7,464	A	1,935	A
Other	3,618	A	5,521	B	1,917	B	1,573	B	316	D
Heating/cooling conservation feature										
Variable air-volume system	11,376	A	12,415	A	7,022	A	5,175	A	1,742	A
Outdoor-air economizer	14,126	A	15,517	A	8,555	A	7,400	A	1,613	B
Temperature setback	16,910	A	16,747	A	9,623	A	7,367	A	1,376	B
Equipment reset	12,161	A	14,424	A	7,410	A	5,978	A	1,692	A
Heat recovery system	5,457	A	5,953	A	3,239	B	2,178	B	808	C
Regular maintenance	33,219	A	37,663	A	20,216	A	13,270	A	2,322	A

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NOTE: Estimates relate only to the surveyed areas of populations of 175,000 and greater, and in Atlantic Canada to populations of 50,000 and greater.

Source: Commercial and Institutional Building Energy Use Survey 2000.

TOTAL FLOOR SPACE (m²)

1		2		3		4-9		10 and more	
53,568,594	A	78,166,962	A	41,914,940	A	78,530,577	A	50,389,909	A
11,280,913	A	20,304,821	A	11,711,209	A	43,258,186	A	36,168,712	B
23,996,056	A	43,055,633	A	25,957,922	A	52,590,908	A	44,940,515	B
17,708,233	A	26,588,364	A	15,288,008	B	28,118,344	B	27,786,968	B
27,683,444	A	47,149,843	A	23,840,906	A	60,391,902	A	44,202,360	B
10,188,631	A	13,286,184	A	8,408,174	B	13,798,300	A	7,631,759	B
3,874,046	B	7,629,177	B	4,908,397	D	22,352,510	B	12,707,296	C
16,976,256	A	24,386,495	A	15,952,109	B	38,328,520	B	27,116,620	C
8,443,802	A	16,119,661	A	10,610,888	B	39,509,144	B	34,307,910	B
19,061,336	A	34,460,532	A	21,851,998	A	58,990,143	A	45,649,910	B
6,039,410	B	8,993,719	B	7,099,748	D	8,150,773	B		F
16,254,658	A	28,470,224	A	19,343,071	B	37,024,396	A	43,383,785	A
24,476,994	A	37,955,849	A	25,299,583	A	57,756,917	A	33,682,507	C
24,821,144	A	36,597,222	A	24,128,852	A	56,605,817	A	28,179,177	B
20,766,162	A	33,151,729	A	23,478,913	A	43,236,530	A	43,207,501	B
6,108,571	B	13,111,171	B	14,181,708	C	22,549,114	B	18,546,335	C
42,897,318	A	70,086,853	A	38,103,371	A	75,368,060	A	49,691,707	A

TABLE

5.6

Total number of buildings and total building floor space by building conservation features, lighting conservation features and heating/cooling conservation features by weekly hours of operation

TOTAL NUMBER OF BUILDINGS

Weekly hours of operation →	TOTAL NUMBER OF BUILDINGS											
	Less than 40		40–48		49–60		61–84		85–167		Open continuously	
All buildings												
Canada	10,978	A	29,156	A	33,778	A	29,613	A	24,262	A	9,251	A
Building conservation feature												
Reflective or shading film	1,861	B	6,702	A	7,758	A	6,392	A	4,441	A	1,813	C
Awnings or blinds	3,786	A	16,624	A	17,056	A	13,658	A	11,932	A	5,363	A
Lighting conservation feature												
Reflectors	1,368	B	6,538	A	5,803	A	6,952	A	7,377	B	1,234	B
Energy-efficient ballast	3,201	A	11,958	A	15,330	A	12,876	A	11,380	A	3,160	B
Daylight controls	996	C	4,676	A	3,222	A	3,900	A	3,760	B	1,496	B
Occupancy sensors	470	C	1,881	B	3,357	C	1,532	B	1,603	B	516	D
Time clocks	1,647	B	5,533	A	5,690	A	7,247	A	6,997	A	2,573	B
Manual dimmer switches	2,135	B	5,131	B	4,942	A	6,346	A	7,367	A	2,488	B
Energy-efficient lamps	3,131	A	8,408	A	9,686	A	9,143	A	8,130	A	2,113	B
Other		F	2,168	A	2,917	A	2,699	A	2,309	C	1,225	C
Heating/cooling conservation feature												
Variable air-volume system	1,917	B	7,998	A	7,329	A	8,831	A	8,395	A	3,258	B
Outdoor-air economizer	1,959	B	10,490	A	9,611	A	11,131	A	10,321	A	3,701	A
Temperature setback	4,673	A	12,031	A	11,888	A	10,602	A	9,508	A	3,320	B
Equipment reset	2,741	A	8,848	A	8,818	A	10,049	A	8,885	A	2,325	B
Heat recovery system	1,177	B	2,308	C	3,143	A	3,391	A	5,521	A	2,096	B
Regular maintenance	7,361	A	22,443	A	25,928	A	23,394	A	19,808	A	7,755	A

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Source: Commercial and Institutional Building Energy Use Survey 2000.

TOTAL FLOOR SPACE (m²)

Less than 40		40–48		49–60		61–84		85–167		Open continuously	
11,676,404	A	52,396,804	A	63,371,047	A	78,721,436	A	60,317,262	A	36,088,029	A
1,464,133	B	16,467,311	A	31,723,008	B	33,366,175	C	24,144,409	B	15,558,803	C
4,160,722	B	36,906,923	A	39,826,209	A	45,072,164	B	36,648,548	A	27,926,468	B
1,654,042	C	19,703,757	B	20,149,783	B	33,430,426	C	26,510,469	A	14,041,439	C
4,746,343	B	30,720,344	A	44,773,754	A	52,653,657	A	45,988,256	A	24,386,102	B
1,203,002	D	8,931,380	B	6,806,469	A	14,910,179	A	13,172,806	B	8,289,213	B
802,362	D	5,704,556	C	14,744,793	A	6,755,037	B	14,978,529	B		F
2,069,563	C	16,719,436	B	25,066,708	B	30,807,920	A	27,710,028	B	20,386,344	B
1,901,721	C	12,794,066	A	16,798,648	B	28,015,342	C	27,760,144	B	21,721,485	B
4,683,040	B	28,879,032	A	37,074,005	B	48,257,263	B	37,766,377	A	23,354,202	B
1,433,548	D	7,968,730	C	9,085,394	B	9,566,784	C	5,983,076	B	3,531,333	C
1,617,068	B	21,049,277	A	30,576,118	B	43,902,945	B	31,507,979	A	15,822,746	A
2,667,542	C	30,166,633	A	37,921,444	A	44,431,816	A	38,201,186	A	25,783,230	B
7,216,417	B	29,867,388	A	35,494,950	A	37,276,147	A	37,663,093	A	22,814,217	B
5,491,083	B	28,633,158	A	33,220,887	A	48,161,317	B	30,315,404	A	18,018,987	B
1,357,542	D	10,597,261	C	13,161,004	B	15,155,800	B	17,833,564	B	16,391,730	C
10,273,271	A	46,551,553	A	56,215,213	A	71,911,131	A	57,075,256	A	34,120,885	A

TABLE

5.7

Total number of buildings and total building floor space by building conservation features, lighting conservation features and heating/cooling conservation features **by type of ownership**

TOTAL NUMBER OF BUILDINGS

Building ownership	Private individual(s)	Private organization	Non-profit organization	Fed.-prov.-munic.-regional government ^a
All buildings				
Canada	54,022 A	49,768 A	16,505 A	16,745 A
Building conservation feature				
Reflective or shading film	7,785 A	13,502 A	4,040 B	3,641 A
Awnings or blinds	22,440 A	26,160 A	9,299 A	10,519 A
Lighting conservation feature				
Reflectors	9,622 A	11,836 A	2,637 B	5,178 A
Energy-efficient ballast	18,227 A	23,022 A	6,552 A	10,105 A
Daylight controls	6,023 A	7,293 A	2,167 B	2,567 B
Occupancy sensors	3,596 B	2,397 A	1,177 B	2,188 A
Time clocks	9,601 A	11,546 A	3,493 B	5,048 A
Manual dimmer switches	9,301 A	10,652 A	4,674 A	3,783 A
Energy-efficient lamps	11,565 A	14,954 A	5,997 A	8,096 A
Other	4,454 C	5,389 A	1,536 B	1,566 A
Heating/cooling conservation feature				
Variable air-volume system	12,739 A	15,687 A	4,082 A	5,222 A
Outdoor-air economizer	13,837 A	19,698 A	5,383 A	8,294 A
Temperature setback	14,092 A	20,962 A	7,445 A	9,523 A
Equipment reset	12,225 A	16,009 A	5,361 A	8,071 A
Heat recovery system	5,855 A	7,366 A	1,531 B	2,883 B
Regular maintenance	39,443 A	39,430 A	13,073 A	14,743 A

^aIncludes all levels of government (i.e. federal, provincial, municipal and regional).

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Source: Commercial and Institutional Building Energy Use Survey 2000.

TOTAL FLOOR SPACE (m ²)							
Private individual(s)		Private organization		Non-profit organization		Fed.-prov.-munic.-regional government ^a	
59,492,076	A	129,712,194	A	28,445,352	A	84,921,359	A
21,232,648	D	61,766,196	A	5,792,072	B	33,932,923	A
33,815,436	B	83,679,400	A	16,764,410	B	56,281,788	A
21,581,958	D	49,582,271	A	6,930,266	C	37,395,422	A
35,210,795	B	88,056,949	A	14,045,437	B	65,955,274	A
9,915,822	B	25,780,622	A	4,280,942	C	13,335,663	B
6,359,580	D	22,227,823	B	2,633,488	D	20,250,536	A
14,913,587	B	61,804,319	A	7,182,890	B	38,859,203	A
23,150,627	B	45,090,744	A	7,510,978	C	33,239,057	B
30,633,593	B	76,541,547	A	17,274,779	B	55,564,000	A
6,282,834	C	18,294,078	B		F	9,043,535	C
28,972,970	C	66,677,904	A	8,254,776	C	40,570,483	A
20,014,729	A	83,549,084	A	16,346,257	B	59,261,781	A
18,982,764	A	76,055,712	A	14,437,424	B	60,856,313	A
27,117,520	C	69,369,651	A	14,387,325	B	52,966,339	A
7,271,364	B	33,931,817	B	4,778,696	D	28,515,023	A
51,940,965	A	116,616,890	A	25,235,367	A	82,354,086	A

CHAPTER **6**

**Total Number of Buildings and
Total Building Floor Space by
Energy Sources Used**



Total number of buildings and total building floor space by energy sources used

TABLE

6.1

	Total number of buildings		Total floor space (m ²)	
All buildings				
Canada	137,039	A	302,570,981	A
Energy source (more than one may apply)				
Electricity	137,039	A	302,570,981	A
Natural gas	99,100	A	235,770,689	A
Fuel/heating oil	11,500	A	24,032,382	A
Composite ^a	6,241	A	40,842,532	B

^aIncludes diesel or kerosene; bottled gas, liquid petroleum gas or propane; district steam; district hot water; district-chilled water; wood; coal; solar thermal panels; and others.

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Source: Commercial and Institutional Building Energy Use Survey 2000.

TABLE

6.2

Total number of buildings and total building floor space by energy sources used **by region**

TOTAL NUMBER OF BUILDINGS

Region	Atlantic		Quebec		Ontario		Prairies		British Columbia	
All buildings										
Canada	9,423	A	32,000	A	52,182	A	26,754	A	16,681	A
Energy source (more than one may apply)										
Electricity	9,423	A	32,000	A	52,182	A	26,754	A	16,681	A
Natural gas	x		14,750	A	44,681	A	25,137	A	14,533	A
Fuel/heating oil	4,035	A	4,558	A	1,963	B		F	756	D
Composite ^a	1,404	B	1,481	B	2,126	B	961	C	269	D

^aIncludes diesel or kerosene; bottled gas, liquid petroleum gas or propane; district steam; district hot water; district-chilled water; wood; coal; solar thermal panels; and others.

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Source: Commercial and Institutional Building Energy Use Survey 2000.

TABLE

6.3

Total number of buildings and total building floor space by energy sources used **by building floor space**

TOTAL NUMBER OF BUILDINGS

96

Building floor space	93–464 m ² (1,000–4,999 sq. ft.)		465–929 m ² (5,000–9,999 sq. ft.)		929–4,645 m ² (10,000–49,999 sq. ft.)		4,645–9,290 m ² (50,000–99,999 sq. ft.)		9,290 m ² and more (100,000 sq. ft. and more)	
All buildings										
Canada	53,061	A	30,806	A	39,405	A	7,285	A	6,482	A
Energy source (more than one may apply)										
Electricity	53,061	A	30,806	A	39,405	A	7,285	A	6,482	A
Natural gas	34,763	A	22,495	A	31,217	A	5,560	A	5,064	A
Fuel/heating oil	5,001	A	2,769	A	2,932	A	339	C	459	B
Composite ^a	2,149	B	832	C	1,765	A	376	B	1,119	B

^aIncludes diesel or kerosene; bottled gas, liquid petroleum gas or propane; district steam; district hot water; district-chilled water; wood; coal; solar thermal panels; and others.

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Source: Commercial and Institutional Building Energy Use Survey 2000.

TABLE

6.2

TOTAL FLOOR SPACE (m²)

Atlantic		Quebec		Ontario		Prairies		British Columbia	
16,983,536	A	71,162,741	A	119,870,565	A	67,616,918	A	26,937,221	A
16,983,536	A	71,162,741	A	119,870,565	A	67,616,918	A	26,937,221	A
	x	45,620,710	A	101,470,227	A	64,960,414	A	23,719,338	A
8,201,225	A	9,607,025	B		F		F	1,264,136	B
4,264,466	B	6,016,608	B	24,265,843	C	4,866,331	C		F

TABLE

6.3

TOTAL FLOOR SPACE (m²)

93–464 m ² (1,000–4,999 sq. ft.)		465–929 m ² (5,000–9,999 sq. ft.)		929–4,645 m ² (10,000–49,999 sq. ft.)		4,645–9,290 m ² (50,000–99,999 sq. ft.)		9,290 m ² and more (100,000 sq. ft. and more)	
13,578,022	A	19,808,147	A	80,061,060	A	45,159,524	A	143,964,228	A
13,578,022	A	19,808,147	A	80,061,060	A	45,159,524	A	143,964,228	A
9,084,363	A	14,568,598	A	64,015,218	A	33,699,519	A	114,402,991	A
1,378,496	A	1,772,427	A	5,335,033	A	2,436,116	C	13,110,310	C
579,628	B	521,472	C	3,497,807	A	2,540,777	C	33,702,847	B

TABLE

6.4

Total number of buildings and total building floor space by energy sources used **by year of construction**

TOTAL NUMBER OF BUILDINGS

Year of construction	Before 1920	1920– 1959	1960– 1969	1970– 1979	1980– 1989	1990– 1999
All buildings						
Canada	13,500 A	41,828 A	16,077 A	24,002 A	22,309 A	19,324 A
Energy source (more than one may apply)						
Electricity	13,500 A	41,828 A	16,077 A	24,002 A	22,309 A	19,324 A
Natural gas	9,793 B	31,518 A	11,127 A	18,454 A	14,369 A	13,839 A
Fuel/heating oil	2,082 B	3,584 A	2,145 B	1,854 B	1,032 B	804 B
Composite ^a	536 C	872 C	683 B	1,195 B	1,564 B	1,391 B

^aIncludes diesel or kerosene; bottled gas, liquid petroleum gas or propane; district steam; district hot water; district-chilled water; wood; coal; solar thermal panels; and others.

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Source: Commercial and Institutional Building Energy Use Survey 2000.

TABLE

6.5

Total number of buildings and total building floor space by energy sources used **by number of floors**

TOTAL NUMBER OF BUILDINGS

Number of floors	1	2	3	4–9	10 and more
All buildings					
Canada	46,330 A	49,145 A	24,251 A	14,913 A	2,401 A
Energy source (more than one may apply)					
Electricity	46,330 A	49,145 A	24,251 A	14,913 A	2,401 A
Natural gas	33,853 A	34,788 A	18,269 A	10,271 A	1,918 A
Fuel/heating oil	3,085 A	4,701 A	2,457 A	1,111 B	F
Composite ^a	2,113 B	1,904 B	511 B	1,047 B	666 D

^aIncludes diesel or kerosene; bottled gas, liquid petroleum gas or propane; district steam; district hot water; district-chilled water; wood; coal; solar thermal panels; and others.

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Source: Commercial and Institutional Building Energy Use Survey 2000.

TABLE

6.4

TOTAL FLOOR SPACE (m²)

Before 1920		1920– 1959		1960– 1969		1970– 1979		1980– 1989		1990– 1999	
18,296,466	B	56,061,765	A	42,833,014	A	82,946,162	A	50,063,326	A	52,370,247	A
18,296,466	B	56,061,765	A	42,833,014	A	82,946,162	A	50,063,326	A	52,370,247	A
13,959,360	B	46,251,938	A	31,486,761	A	70,882,552	A	34,212,748	A	38,977,330	A
	F	5,412,285	A	4,451,988	B	5,017,101	B	1,729,460	C		F
862,877	C	4,408,211	C	8,209,807	D	16,360,871	D	4,822,319	B	6,178,447	C

TABLE

6.5

TOTAL FLOOR SPACE (m²)

1		2		3		4–9		10 and more	
53,568,594	A	78,166,962	A	41,914,940	A	78,530,577	A	50,389,909	A
53,568,594	A	78,166,962	A	41,914,940	A	78,530,577	A	50,389,909	A
41,401,426	A	61,883,841	A	34,745,876	A	55,681,031	A	42,058,515	B
3,385,267	B	6,633,005	A	2,828,827	B	6,819,759	C		F
2,724,541	B	3,842,072	B	2,675,693	C	9,819,962	B	21,780,264	D

TABLE

6.6

Total number of buildings and total building floor space by energy sources used **by weekly hours of operation**

TOTAL NUMBER OF BUILDINGS

Weekly hours of operation →	TOTAL NUMBER OF BUILDINGS											
	Less than 40		40–48		49–60		61–84		85–167		Open continuously	
All buildings												
Canada	10,978	A	29,156	A	33,778	A	29,613	A	24,262	A	9,251	A
Energy source (more than one may apply)												
Electricity	10,978	A	29,156	A	33,778	A	29,613	A	24,262	A	9,251	A
Natural gas	7,281	A	20,420	A	24,572	A	21,390	A	18,989	A	6,448	A
Fuel/heating oil	877	B	2,959	A	3,375	A	2,327	A	1,104	B	858	B
Composite ^a		F	1,119	C	1,727	A	1,067	C	1,604	B	487	B

^aIncludes diesel or kerosene; bottled gas, liquid petroleum gas or propane; district steam; district hot water; district-chilled water; wood; coal; solar thermal panels; and others.

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Source: Commercial and Institutional Building Energy Use Survey 2000.

TABLE

6.7

Total number of buildings and total building floor space by energy sources used **by type of ownership**

TOTAL NUMBER OF BUILDINGS

Building ownership →	TOTAL NUMBER OF BUILDINGS							
	Private individual(s)		Private organization		Non-profit organization		Fed.-prov.-munic.-regional government ^a	
All buildings								
Canada	54,022	A	49,768	A	16,505	A	16,745	A
Energy source (more than one may apply)								
Electricity	54,022	A	49,768	A	16,505	A	16,745	A
Natural gas	37,719	A	37,038	A	12,607	A	11,736	A
Fuel/heating oil	4,383	A	3,358	A	1,897	A	1,862	B
Composite ^b	2,704	B	2,250	A	329	C	958	B

^aIncludes all levels of government (i.e. federal, provincial, municipal and regional).

^bIncludes diesel or kerosene; bottled gas, liquid petroleum gas or propane; district steam; district hot water; district-chilled water; wood; coal; solar thermal panels; and others.

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Source: Commercial and Institutional Building Energy Use Survey 2000.

TABLE

6.6

TOTAL FLOOR SPACE (m ²)											
Less than 40		40–48		49–60		61–84		85–167		Open continuously	
11,676,404	A	52,396,804	A	63,371,047	A	78,721,436	A	60,317,262	A	36,088,029	A
11,676,404	A	52,396,804	A	63,371,047	A	78,721,436	A	60,317,262	A	36,088,029	A
9,023,764	A	39,596,216	A	49,103,869	A	62,899,987	B	46,901,035	A	28,245,818	B
1,654,166	D	5,554,658	C		F	4,406,838	A	2,272,003	C	4,299,897	A
	F	4,153,481	C	6,741,102	C		F	6,463,495	C	6,788,951	B

TABLE

6.7

TOTAL FLOOR SPACE (m ²)									
Private individual(s)		Private organization		Non-profit organization		Fed.-prov.-munic.-regional government ^a			
59,492,076	A	129,712,194	A	28,445,352	A	84,921,359	A		
59,492,076	A	129,712,194	A	28,445,352	A	84,921,359	A		
46,239,999	B	104,993,849	A	22,764,135	B	61,772,705	A		
4,178,227	B	7,367,939	D	4,324,226	D	8,161,990	A		
	F	15,496,985	B		F	11,445,850	B		

CHAPTER **7**

**Total Number of Buildings and
Total Building Floor Space by
Heating Energy Sources
and Equipment**



Total number of buildings and total building floor space by percentage of the floor heated, space-heating energy sources, main space-heating energy sources, heating equipment and main heating equipment

	Total number of buildings		Total floor space (m ²)	
All buildings				
Canada	137,039	A	302,570,981	A
Percentage of the floor space heated				
Less than 1		F		F
1–50	6,447	A	10,933,457	B
51–99	9,741	A	24,024,071	A
100	120,484	A	267,396,165	A
Energy source for heating (more than one may apply)				
Electricity	68,110	A	151,648,882	A
Natural gas	94,342	A	227,078,807	A
Fuel/heating oil	10,993	A	20,253,214	A
Composite ^a	4,210	B	24,670,613	D
Main energy source for heating				
Electricity	38,288	A	76,937,187	A
Natural gas	87,402	A	202,112,137	A
Fuel/heating oil	8,660	A	12,343,453	A
Composite ^a	2,322	B	10,960,916	B
Heating equipment (more than one may apply)				
Furnaces	59,124	A	70,550,339	A
Heat pumps	8,359	A	31,707,526	B
Individual space heaters	48,663	A	113,531,977	A
Boilers	33,579	A	154,865,773	A
Packaged heating units	33,586	A	102,412,742	A
District steam or hot water or other	8,294	A	33,096,208	B
Main heating equipment				
Furnaces	50,631	A	47,011,460	A
Heat pumps	5,569	A	15,646,462	B
Individual space heaters	23,181	A	31,779,474	A
Boilers	29,680	A	135,192,186	A
Packaged heating units	23,908	A	53,835,287	A
District steam or hot water or other	3,704	A	18,888,822	C
Not heated		F		F
^a Includes the categories of diesel or kerosene; bottled gas, liquid petroleum gas or propane; district steam; district hot water; wood; coal; solar thermal panels; and others.				
The letter beside each estimate classifies its quality as follows: A – Excellent, B – Good, C – Acceptable, D – Use with caution, F – Too unreliable to be published, x – Suppressed to meet the confidentiality requirements of the Statistics Act.				
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NOTE: Estimates relate only to the surveyed areas of populations of 175,000 and greater, and in Atlantic Canada to populations of 50,000 and greater.				
Source: Commercial and Institutional Building Energy Use Survey 2000.				

TABLE

7.2

Total number of buildings and total building floor space by percentage of the floor heated, space-heating energy sources, main space-heating energy sources, heating equipment and main heating equipment **by region**

TOTAL NUMBER OF BUILDINGS

Region →	Atlantic		Quebec		Ontario		Prairies		British Columbia	
All buildings										
Canada	9,423	A	32,000	A	52,182	A	26,754	A	16,681	A
Percentage of the floor space heated										
Less than 1	x		x		x		x		x	
1–50	882	B	1,476	C	1,378	C	858	C	1,852	C
51–99	697	B	1,589	A	4,291	B	879	B	2,285	A
100	7,843	A	28,930	A	46,302	A	24,960	A	12,448	A
Energy source for heating (more than one may apply)										
Electricity	6,481	A	26,078	A	19,506	A	7,274	A	8,771	A
Natural gas	x		12,770	A	43,143	A	24,890	A	13,539	A
Fuel/heating oil	3,866	A	4,341	A	1,866	B	F		732	D
Composite ^a	1,082	C	1,024	C	1,438	C	F		F	
Main energy source for heating										
Electricity	5,045	A	18,446	A	8,643	A	1,690	B	4,463	B
Natural gas	x		10,223	A	41,208	A	24,519	A	11,452	A
Fuel/heating oil	3,609	A	2,921	B	1,499	B	x		F	
Composite ^a	768	D	405	D	621	C	F		F	
Heating equipment (more than one may apply)										
Furnaces	2,996	A	7,666	A	26,278	A	15,589	A	6,594	A
Heat pumps	952	B	2,893	A	2,822	B	438	D	1,254	B
Individual space heaters	4,974	A	19,677	A	11,022	A	6,149	B	6,841	A
Boilers	1,911	A	6,292	A	13,671	A	7,200	A	4,506	B
Packaged heating units	625	A	8,438	A	12,636	A	6,988	A	4,899	B
District steam or hot water or other	508	B	1,715	B	2,463	A	2,198	B	1,409	D
Main heating equipment										
Furnaces	2,732	A	5,925	A	23,660	A	12,653	A	5,661	A
Heat pumps	634	B	1,717	A	2,055	C	F		1,018	C
Individual space heaters	3,530	A	12,245	A	3,409	A	1,706	D	2,291	B
Boilers	1,762	B	5,621	A	11,925	A	6,416	A	3,956	B
Packaged heating units	485	A	5,674	A	9,866	A	4,637	A	3,245	C
District steam or hot water or other	279	C	812	B	1,057	B	1,141	C	F	
Not heated	x		x		x		x		x	

^aIncludes the categories of diesel or kerosene; bottled gas, liquid petroleum gas or propane; district steam; district hot water; wood; coal; solar thermal panels; and others.

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Source: Commercial and Institutional Building Energy Use Survey 2000.

TOTAL FLOOR SPACE (m²)

Atlantic		Quebec		Ontario		Prairies		British Columbia	
16,983,536	A	71,162,741	A	119,870,565	A	67,616,918	A	26,937,221	A
x		x		x		x		x	
1,082,044	B		F	1,901,708	C	1,494,362	C	2,654,896	D
817,534	C	3,219,302	D	10,716,413	C	2,082,094	B	7,188,729	C
15,083,958	A	64,137,445	A	107,146,275	A	63,948,633	A	17,079,853	A
10,996,768	A	54,784,602	A	45,995,089	A	23,480,287	B	16,392,137	B
x		43,501,191	A	97,116,870	A	64,321,390	A	22,139,356	A
7,823,047	A	9,301,016	C	1,875,005	B		F	1,123,706	B
2,979,362	C	1,363,223	B		F		F	387,669	B
8,301,710	A	36,996,021	A	19,413,353	B	3,460,476	B	8,765,627	B
x		29,160,732	A	92,831,302	A	62,753,484	A	17,366,618	A
6,915,063	A	3,960,793	D	962,055	C		x		F
1,766,763	C	1,039,646	C	6,557,687	D		F	304,050	B
4,443,020	C	11,078,301	B	22,787,226	A	24,107,410	A	8,134,382	B
2,520,200	B	6,780,281	B	12,918,363	D		F	5,732,617	C
8,712,179	A	39,500,647	A	34,467,842	A	21,915,724	B	8,935,586	B
5,201,769	A	29,748,439	B	62,270,016	A	44,483,566	B	13,161,982	A
2,525,880	A	29,807,074	B	37,616,547	A	23,553,800	B	8,909,441	B
1,352,255	B		F	13,253,781	C	5,073,562	B	2,606,267	C
3,971,261	C	6,388,057	B	18,140,537	A	12,596,645	A	5,914,960	C
856,165	B	4,537,163	B	5,829,735	D		F	3,819,978	C
5,176,642	A	13,041,708	A	8,762,672	B		F	1,611,423	C
4,656,582	B	21,802,276	B	56,642,724	A	41,241,901	B	10,848,703	B
1,457,478	B	18,789,889	B	21,916,188	A	7,350,836	B	4,320,897	B
865,409	C		F	8,472,540	D	2,545,256	C	407,517	B
x		x		x		x		x	

TABLE

7.3

Total number of buildings and total building floor space by percentage of the floor heated, space-heating energy sources, main space-heating energy sources, heating equipment and main heating equipment **by building floor space**

TOTAL NUMBER OF BUILDINGS

Building floor space	93–464 m ² (1,000–4,999 sq. ft.)		465–929 m ² (5,000–9,999 sq. ft.)		929–4,645 m ² (10,000–49,999 sq. ft.)		4,645–9,290 m ² (50,000–99,999 sq. ft.)		9,290 m ² and more (100,000 sq. ft. and more)		
All buildings											
Canada	53,061	A	30,806	A	39,405	A	7,285	A	6,482	A	
Percentage of the floor space heated											
Less than 1		x		x		x		x		x	
1–50	2,396	B	1,301	B	1,976	B	645	C	129	D	
51–99	3,457	A	2,356	B	2,745	A	530	D	654	C	
100	46,977	A	27,113	A	34,586	A	6,109	A	5,699	A	
Energy source for heating (more than one may apply)											
Electricity	25,595	A	16,168	A	19,584	A	3,809	A	2,953	A	
Natural gas	33,630	A	20,969	A	29,308	A	5,490	A	4,945	A	
Fuel/heating oil	4,811	A	2,610	A	2,844	A	320	C	407	B	
Composite ^a	1,582	B	628	D	1,211	B	144	D	645	D	
Main energy source for heating											
Electricity	16,462	A	8,663	A	9,497	A	2,137	A	1,528	A	
Natural gas	31,437	A	19,559	A	27,105	A	4,855	A	4,446	A	
Fuel/heating oil	3,969	A	2,110	A	2,185	A	177	D	221	C	
Composite ^a	962	C	438	D	519	B	116	C	287	B	
Heating equipment (more than one may apply)											
Furnaces	28,650	A	13,269	A	14,961	A	986	B	1,259	B	
Heat pumps	2,600	B	1,677	B	2,261	A	1,012	C	809	B	
Individual space heaters	15,838	A	12,604	A	15,186	A	2,741	A	2,295	A	
Boilers	6,883	A	6,470	A	12,716	A	3,442	A	4,067	A	
Packaged heating units	8,191	A	7,193	A	12,980	A	2,997	A	2,225	A	
District steam or hot water or other	3,136	B	1,397	B	2,735	B	286	B	740	B	
Main heating equipment											
Furnaces	26,405	A	11,790	A	11,088	A	773	B	574	C	
Heat pumps	2,130	B	1,061	B	1,330	B	686	D	362	C	
Individual space heaters	9,852	A	5,843	B	5,993	A	1,014	B	479	C	
Boilers	6,006	B	5,914	A	11,227	A	2,806	B	3,728	A	
Packaged heating units	6,784	A	5,738	A	8,638	A	1,821	B	927	B	
District steam or hot water or other	1,653	B	424	D	1,030	C	184	C	413	C	
Not heated		x		x		x		x		x	

^aIncludes the categories of diesel or kerosene; bottled gas, liquid petroleum gas or propane; district steam; district hot water; wood; coal; solar thermal panels; and others.

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NOTE: Estimates relate only to the surveyed areas of populations of 175,000 and greater, and in Atlantic Canada to populations of 50,000 and greater.

Source: Commercial and Institutional Building Energy Use Survey 2000.

TOTAL FLOOR SPACE (m²)

93–464 m ² (1,000–4,999 sq. ft.)		465–929 m ² (5,000–9,999 sq. ft.)		929–4,645 m ² (10,000–49,999 sq. ft.)		4,645–9,290 m ² (50,000–99,999 sq. ft.)		9,290 m ² and more (100,000 sq. ft. and more)	
13,578,022	A	19,808,147	A	80,061,060	A	45,159,524	A	143,964,228	A
x		x		x		x		x	
640,123	B	863,698	C	4,145,351	B	3,719,887	C	1,564,397	D
896,137	A	1,606,329	B	4,720,581	A	3,293,514	D	13,507,510	C
12,004,159	A	17,316,590	A	71,036,971	A	38,146,123	A	128,892,321	A
6,508,632	A	10,407,991	A	40,969,736	A	23,756,549	A	70,005,974	A
8,825,623	A	13,525,721	A	60,088,093	A	33,307,382	A	111,331,988	A
1,310,765	A	1,676,810	A	5,128,717	A	2,338,347	C	9,798,576	B
423,765	B	380,640	D	2,250,813	B	1,073,649	D	20,541,747	D
3,936,289	A	5,577,882	A	19,219,994	A	13,602,016	A	34,601,005	B
8,278,184	A	12,615,657	A	55,706,389	A	29,441,721	A	96,070,187	A
1,042,387	A	1,335,200	A	3,986,119	A	1,233,129	D	4,746,618	C
283,559	C	257,878	D	990,402	B	882,658	C	8,546,418	C
7,356,701	A	8,528,816	A	26,890,014	A	5,531,918	B	22,242,890	B
726,944	B	1,012,296	B	5,372,453	A	6,708,079	C	17,887,754	B
4,010,079	A	8,161,186	A	31,854,809	A	17,367,058	A	52,138,846	A
1,867,630	B	4,300,855	A	29,765,974	A	22,092,664	A	96,838,651	A
2,322,655	A	4,578,517	A	27,014,503	A	18,369,030	A	50,128,037	A
913,314	B	897,666	B	5,806,112	B	1,936,821	B	23,542,295	C
6,601,088	A	7,453,038	A	19,953,898	A	4,389,503	B	8,613,934	B
590,910	B	669,111	B	2,896,561	B	4,354,631	D	7,135,250	B
2,272,124	A	3,840,854	A	11,251,079	A	6,325,523	B	8,089,894	C
1,615,427	B	3,903,368	A	26,335,289	A	17,851,848	A	85,486,254	A
1,977,746	A	3,675,546	A	17,473,720	A	10,897,062	B	19,811,214	A
483,123	B	244,701	C	1,992,358	B	1,340,958	C	14,827,682	C
x		x		x		x		x	

TABLE

7.4

Total number of buildings and total building floor space by percentage of the floor heated, space-heating energy sources, main space-heating energy sources, heating equipment and main heating equipment **by year of construction**

TOTAL NUMBER OF BUILDINGS

Year of construction	Before 1920	1920– 1959	1960– 1969	1970– 1979	1980– 1989	1990– 1999
All buildings						
Canada	13,500 A	41,828 A	16,077 A	24,002 A	22,309 A	19,324 A
Percentage of the floor space heated						
Less than 1	x	x	x	x	x	x
1–50	F	1,896 B	1,233 C	1,204 C	960 B	970 C
51–99	1,062 B	3,091 C	1,394 B	1,187 B	1,644 B	1,364 B
100	12,253 A	36,705 A	13,427 A	21,534 A	19,634 A	16,931 A
Energy source for heating (more than one may apply)						
Electricity	6,729 B	18,986 A	7,527 A	11,890 A	12,601 A	10,377 A
Natural gas	8,669 A	30,288 A	10,772 A	18,015 A	13,381 A	13,219 A
Fuel/heating oil	1,976 B	3,506 A	2,076 B	1,733 B	988 B	713 B
Composite ^a	333 C	631 C	395 D	688 C	1,098 C	1,064 C
Main energy source for heating						
Electricity	3,835 C	10,572 A	3,952 A	5,669 A	8,436 A	5,825 A
Natural gas	7,794 A	28,186 A	10,162 A	16,517 A	12,470 A	12,273 A
Fuel/heating oil	1,768 B	2,576 A	1,749 B	1,352 B	711 B	505 C
Composite ^a	102 D	358 D	191 C	388 C	620 C	663 C
Heating equipment (more than one may apply)						
Furnaces	6,139 B	19,381 A	7,154 A	10,759 A	8,605 A	7,085 A
Heat pumps	800 C	2,182 B	753 C	1,400 B	1,529 B	1,694 B
Individual space heaters	5,155 B	13,579 A	5,386 A	9,431 A	8,475 A	6,638 A
Boilers	5,470 A	13,454 A	3,998 A	5,814 A	1,998 A	2,845 B
Packaged heating units	1,086 C	5,148 A	4,302 B	6,831 A	8,685 A	7,533 A
District steam or hot water or other	824 D	1,988 B	988 B	1,059 B	1,611 B	1,824 B
Main heating equipment						
Furnaces	5,125 A	16,890 A	6,317 A	9,080 A	7,237 A	5,982 A
Heat pumps	542 D	1,463 C	303 D	824 C	999 B	1,438 B
Individual space heaters	2,167 C	7,303 B	2,636 B	3,978 A	4,490 A	2,606 A
Boilers	4,972 A	12,226 A	3,622 A	4,819 A	1,629 A	2,412 B
Packaged heating units	590 C	3,092 B	2,533 B	4,567 A	7,040 A	6,086 A
District steam or hot water or other	103 D	718 C	643 C	657 C	842 B	741 C
Not heated	x	x	x	x	x	x

^aIncludes the categories of diesel or kerosene; bottled gas, liquid petroleum gas or propane; district steam; district hot water; wood; coal; solar thermal panels; and others.

The letter beside each estimate classifies its quality as follows: A – Excellent, B – Good, C – Acceptable, D – Use with caution, F – Too unreliable to be published, x – Suppressed to meet the confidentiality requirements of the Statistics Act.

Due to rounding the numbers may not add up and may differ slightly among tables.

NOTE: Estimates relate only to the surveyed areas of populations of 175,000 and greater, and in Atlantic Canada to populations of 50,000 and greater.

Source: Commercial and Institutional Building Energy Use Survey 2000.

TABLE

7.5

Total number of buildings and total building floor space by percentage of the floor heated, space-heating energy sources, main space-heating energy sources, heating equipment and main heating equipment **by number of floors**

TOTAL NUMBER OF BUILDINGS

Number of floors →	1		2		3		4-9		10 and more	
All buildings										
Canada	46,330	A	49,145	A	24,251	A	14,913	A	2,401	A
Percentage of the floor space heated										
Less than 1		F		x		x		x		x
1-50	2,750	B	3,165	B	437	D		F		x
51-99	3,288	B	3,811	A	1,497	B	1,081	A		F
100	39,928	A	42,166	A	22,316	A	13,737	A	2,336	A
Energy source for heating (more than one may apply)										
Electricity	19,768	A	26,803	A	10,697	A	9,835	A	1,007	B
Natural gas	32,972	A	33,075	A	16,947	A	9,444	A	1,903	A
Fuel/heating oil	2,950	A	4,388	A	2,454	A	1,092	B		F
Composite ^a	1,687	B	1,357	B	214	D	520	C		F
Main energy source for heating										
Electricity	10,677	A	15,227	A	6,416	A	5,434	B	534	C
Natural gas	31,849	A	30,035	A	15,541	A	8,224	A	1,753	A
Fuel/heating oil	2,270	B	3,200	A	2,218	B	971	B		x
Composite ^a	1,169	B	681	C	74	C	284	C	114	D
Heating equipment (more than one may apply)										
Furnaces	21,799	A	23,973	A	9,857	A	3,138	B	356	C
Heat pumps	2,343	B	3,019	A	1,315	B	1,315	B	367	D
Individual space heaters	13,674	A	19,988	A	7,170	A	7,193	A	639	B
Boilers	6,673	A	8,508	A	9,436	A	7,437	A	1,525	B
Packaged heating units	13,192	A	11,030	A	5,066	A	3,765	B	533	C
District steam or hot water or other	3,367	B	2,636	B	1,109	C	942	C	240	C
Main heating equipment										
Furnaces	19,142	A	21,211	A	8,308	A	1,832	C		x
Heat pumps	1,786	C	2,071	B	611	C	882	C		F
Individual space heaters	7,430	A	9,446	A	2,924	B	3,214	B		F
Boilers	5,893	A	6,894	A	8,537	A	6,900	A	1,456	B
Packaged heating units	10,161	A	8,126	A	3,660	A	1,716	C		F
District steam or hot water or other	1,554	B	1,394	C	211	D	370	C	175	D
Not heated		F		x		x		x		x

^aIncludes the categories of diesel or kerosene; bottled gas, liquid petroleum gas or propane; district steam; district hot water; wood; coal; solar thermal panels; and others.

The letter beside each estimate classifies its quality as follows: A – Excellent, B – Good, C – Acceptable, D – Use with caution, F – Too unreliable to be published, x – Suppressed to meet the confidentiality requirements of the Statistics Act.

Due to rounding the numbers may not add up and may differ slightly among tables.

NOTE: Estimates relate only to the surveyed areas of populations of 175,000 and greater, and in Atlantic Canada to populations of 50,000 and greater.

Source: Commercial and Institutional Building Energy Use Survey 2000.

TOTAL FLOOR SPACE (m²)

1		2		3		4-9		10 and more	
53,568,594	A	78,166,962	A	41,914,940	A	78,530,577	A	50,389,909	A
	F		x		x		x		x
2,980,414	C	6,042,114	B		F		F		x
2,850,152	B	6,217,556	B	2,163,668	D	9,121,333	B		F
47,522,877	A	65,905,155	A	38,531,535	A	68,718,051	A	46,718,546	B
25,722,370	A	40,995,243	A	16,364,164	A	49,705,833	A	18,861,272	C
40,543,506	A	59,220,874	A	33,104,806	A	53,243,827	A	40,965,794	B
3,009,850	B	6,250,344	B	2,827,342	B	6,751,399	C	1,414,280	B
1,798,644	C	1,775,894	B	570,271	B	5,812,504	C		F
13,569,032	A	18,373,682	A	9,770,516	A	26,269,913	B	8,954,045	C
36,831,876	A	54,828,862	A	29,397,514	A	43,138,070	A	37,915,815	B
1,742,486	B	4,184,235	B	1,991,202	C	4,304,754	C		x
1,210,048	C	778,046	C	755,708	D	4,817,840	C	3,399,275	C
22,703,921	A	25,003,141	A	9,276,137	A	9,152,170	C		F
2,300,682	B	7,964,033	B	3,101,046	C	10,576,723	B		F
18,741,696	A	34,886,093	A	13,721,460	B	36,886,578	B	9,296,151	C
13,026,026	A	26,264,138	A	23,291,503	A	54,235,112	A	38,048,993	B
22,351,785	A	30,775,137	A	16,487,095	A	25,409,628	B	7,389,097	D
3,952,795	C	6,416,113	C	2,015,147	C	13,264,390	C	7,447,762	C
16,798,273	A	20,244,322	A	6,007,747	A	3,697,086	B		x
1,204,087	B	3,953,598	B		F	6,168,580	C		F
8,600,419	B	9,749,259	A	3,307,436	B	7,106,636	B		F
11,007,618	A	21,907,793	A	20,918,543	B	45,481,983	A	35,876,249	B
14,610,409	A	19,847,809	B	8,969,813	B	6,667,184	C	3,740,072	D
1,132,636	B	2,462,044	B	923,056	C		F	4,961,978	D
	F		x		x		x		x

TOTAL FLOOR SPACE (m²)

Less than 40		40–48		49–60		61–84		85–167		Open continuously	
11,676,404	A	52,396,804	A	63,371,047	A	78,721,436	A	60,317,262	A	36,088,029	A
	x		x		x		F		x		x
	F	1,782,092	C	2,119,752	B		F	3,601,484	C		x
667,207	D	4,732,751	D		F	3,966,600	B	8,250,542	C	967,253	C
10,493,411	A	45,881,961	A	55,740,420	A	71,807,801	A	48,465,236	A	35,007,336	A
5,008,143	B	23,287,093	A	33,602,629	A	35,358,866	A	35,192,321	A	19,199,830	B
8,856,994	A	38,518,638	A	48,423,848	A	61,143,943	B	42,994,669	A	27,140,715	B
1,640,473	D	5,433,293	C	2,867,280	A	4,065,097	A	2,154,728	C	4,092,342	A
	F		F	2,271,336	B		F	3,976,839	D	4,318,424	C
1,813,946	C	12,437,963	A	14,594,152	A	20,568,747	A	16,658,785	A	10,863,594	D
8,717,556	B	35,136,477	A	45,361,448	A	54,778,513	B	38,198,530	A	19,919,613	B
1,110,580	D	3,797,454	D	1,895,054	A	2,404,482	B	1,996,878	D	1,139,005	B
	F	1,024,910	C	1,449,238	C	829,592	D	3,463,069	D	4,159,786	C
3,406,410	B	15,059,357	A	14,158,876	A	15,374,336	A	14,711,630	A	7,839,730	D
	F	5,724,107	B	7,843,130	D	5,972,831	B	9,023,430	C	2,027,584	B
2,244,016	D	20,523,556	A	20,213,252	A	25,661,455	A	30,728,091	B	14,161,608	C
7,020,272	B	26,452,689	A	30,007,722	B	38,474,318	C	31,124,778	B	21,785,995	B
	F	17,868,312	A	16,215,236	B	31,773,663	A	26,869,466	B	8,072,595	B
	F	3,997,977	D	5,831,383	C	5,332,003	B	7,574,024	B	9,693,144	D
3,327,257	B	10,039,717	A	10,674,964	A	10,124,596	B	9,916,111	B	2,928,816	C
	F	4,071,612	C	2,393,211	C	4,132,209	C	3,413,138	D	701,114	B
546,760	C	7,295,487	B	7,514,096	B	9,114,416	B	5,196,204	A	2,112,510	B
6,289,969	B	21,429,429	A	28,178,173	B	35,255,174	C	28,907,539	B	15,131,903	B
365,680	C	8,395,093	B	12,214,984	B	18,363,322	A	8,691,585	A	5,804,624	C
211,560	C	1,165,466	C	2,324,464	D	1,591,618	B	4,192,684	D		F
	x		x		x		F		x		x

TABLE

7.7

Total number of buildings and total building floor space by percentage of the floor heated, space-heating energy sources, main space-heating energy sources, heating equipment and main heating equipment **by type of ownership**

TOTAL NUMBER OF BUILDINGS

Building ownership	Private individual(s)	Private organization	Non-profit organization	Fed.-prov.-munic.-regional government ^a
All buildings				
Canada	54,022 A	49,768 A	16,505 A	16,745 A
Percentage of the floor space heated				
Less than 1	F	x	x	x
1–50	2,707 B	2,335 B	934 C	471 C
51–99	4,609 A	3,370 A	885 C	878 C
100	46,503 A	44,042 A	14,686 A	15,253 A
Energy source for heating (more than one may apply)				
Electricity	26,303 A	26,977 A	6,570 A	8,259 A
Natural gas	35,321 A	35,243 A	12,208 A	11,570 A
Fuel/heating oil	4,222 A	3,049 A	1,868 A	1,853 B
Composite ^b	2,178 B	1,260 B	F	681 C
Main energy source for heating				
Electricity	16,503 A	15,176 A	3,097 B	3,513 A
Natural gas	33,037 A	31,442 A	11,614 A	11,309 A
Fuel/heating oil	3,293 A	2,418 A	1,711 B	1,239 B
Composite ^b	986 C	711 C	F	542 C
Heating equipment (more than one may apply)				
Furnaces	26,564 A	20,714 A	8,618 A	3,227 A
Heat pumps	3,178 B	3,104 A	964 B	1,114 B
Individual space heaters	18,900 A	19,519 A	4,812 A	5,433 A
Boilers	8,515 A	9,651 A	5,883 A	9,530 A
Packaged heating units	10,329 A	16,264 A	2,707 B	4,286 A
District steam or hot water or other	2,695 B	3,048 A	570 C	1,981 B
Main heating equipment				
Furnaces	23,986 A	17,084 A	7,519 A	2,042 B
Heat pumps	2,448 B	2,080 A	298 D	743 B
Individual space heaters	10,418 A	9,003 A	2,051 B	1,710 B
Boilers	7,639 B	8,075 A	4,987 A	8,979 A
Packaged heating units	8,393 A	11,910 A	1,365 B	2,240 B
District steam or hot water or other	935 B	1,595 B	286 D	888 B
Not heated	F	x	x	x

^aIncludes all levels of government (i.e. federal, provincial, municipal and regional).

^bIncludes the categories of diesel or kerosene; bottled gas, liquid petroleum gas or propane; district steam; district hot water; wood; coal; solar thermal panels; and others.

The letter beside each estimate classifies its quality as follows: A – Excellent, B – Good, C – Acceptable, D – Use with caution, F – Too unreliable to be published, x – Suppressed to meet the confidentiality requirements of the Statistics Act.

Due to rounding the numbers may not add up and may differ slightly among tables.

NOTE: Estimates relate only to the surveyed areas of populations of 175,000 and greater, and in Atlantic Canada to populations of 50,000 and greater.

Source: Commercial and Institutional Building Energy Use Survey 2000.

TOTAL FLOOR SPACE (m²)

Private individual(s)		Private organization		Non-profit organization		Fed.-prov.-munic.-regional government ^a	
59,492,076	A	129,712,194	A	28,445,352	A	84,921,359	A
	F		x		x		x
2,285,324	B	4,876,181	C		F	1,630,683	C
7,631,583	B	9,798,251	C	2,508,773	D	4,085,464	C
49,524,049	B	114,966,607	A	23,795,310	B	79,110,199	A
29,777,772	A	70,251,995	A	9,952,187	B	41,666,927	A
43,383,497	B	100,886,913	A	21,952,991	B	60,855,406	A
3,943,349	B	4,068,547	A	4,246,974	D	7,994,344	A
	F	5,219,116	C		F	7,558,392	B
18,526,541	A	38,874,785	A	2,955,066	B	16,580,795	A
37,764,039	B	85,608,854	A	21,177,397	B	57,561,847	A
2,486,932	C	2,670,495	B	3,729,942	D	3,456,084	B
663,446	C	2,486,905	D		F	7,227,619	C
19,801,879	A	30,664,181	A	12,180,968	B	7,903,310	B
7,080,593	D	12,697,854	B	2,798,048	C	9,131,031	B
24,925,033	A	50,557,078	A	8,488,463	B	29,561,404	B
20,140,332	D	54,189,155	A	17,293,642	B	63,242,643	A
16,023,224	A	50,993,846	A	5,767,116	B	29,628,557	B
2,559,559	B	14,594,696	D	1,330,675	D	14,611,278	B
14,940,959	A	21,731,932	A	7,134,335	A	3,204,234	A
	F	5,916,911	B		F	4,709,721	B
9,597,269	A	17,598,544	A	1,903,061	C	2,680,600	B
	F	43,220,418	A	15,507,322	B	57,906,064	A
10,916,923	B	32,888,285	A	2,573,098	C	7,456,981	B
920,149	B		F		F	8,868,745	B
	F		x		x		x

CHAPTER **8**

**Total Number of Buildings and
Total Building Floor Space by
Cooling Energy Sources
and Equipment**



Total number of buildings and total building floor space by percentage of the floor cooled, space-cooling energy sources, cooling equipment and main cooling equipment

	Total number of buildings		Total floor space (m ²)	
All buildings				
Canada	137,039	A	302,570,981	A
Percentage of the floor space cooled				
Not cooled	37,143	A	46,699,316	A
1–50	30,481	A	62,316,378	A
51–99	21,163	A	74,112,398	A
100	48,251	A	119,442,889	A
Space-cooling energy source				
Electricity	89,416	A	226,437,399	A
Natural gas	12,987	A	28,154,145	A
Fuel/heating oil	125	D		F
Composite ^a	1,303	A	15,027,200	C
Cooling equipment (more than one may apply)				
Residential-type air conditioners	23,070	A	27,692,580	A
Heat pumps	8,200	A	21,838,677	A
Individual room air conditioners	17,035	A	43,194,594	A
District-chilled water from outside source	949	B	15,366,625	C
Central chillers	9,328	A	89,548,914	A
Packaged air-conditioning units	54,973	A	139,812,402	A
Swamp coolers	505	C	3,737,797	D
Other	3,354	B		F
Composite ^b	4,662	B	30,380,530	C
Main cooling equipment				
Residential-type air conditioners	21,057	A	21,151,898	A
Heat pumps	6,949	A	16,297,720	B
Individual room air conditioners	10,227	A	14,679,863	A
District-chilled water from outside source	724	B	9,082,376	C
Central chillers	8,107	A	77,216,736	A
Packaged air-conditioning units	50,736	A	106,063,299	A
Composite ^b	2,820	B	20,462,149	C
Not cooled	37,143	A	46,699,316	A

^aIncludes the air-conditioning categories of fuel/heating oil; diesel or kerosene; bottled gas, liquid petroleum gas or propane; district-chilled water; and others.

^bIncludes the categories of district-chilled water from outside source; swamp coolers; and others.

The letter beside each estimate classifies its quality as follows: A – Excellent, B – Good, C – Acceptable, D – Use with caution,

F – Too unreliable to be published, x – Suppressed to meet the confidentiality requirements of the Statistics Act.

Due to rounding the numbers may not add up and may differ slightly among tables.

NOTE: Estimates relate only to the surveyed areas of populations of 175,000 and greater, and in Atlantic Canada to populations of 50,000 and greater.

Source: Commercial and Institutional Building Energy Use Survey 2000.

TABLE

8.2

Total number of buildings and total building floor space by percentage of the floor cooled, space-cooling energy sources, cooling equipment and main cooling equipment **by region**

TOTAL NUMBER OF BUILDINGS

Region →	Atlantic		Quebec		Ontario		Prairies		British Columbia	
All buildings										
Canada	9,423	A	32,000	A	52,182	A	26,754	A	16,681	A
Percentage of the floor space cooled										
Not cooled	4,088	A	7,751	A	8,362	A	7,728	A	9,214	B
1–50	2,334	A	7,799	A	12,812	A	5,785	B	1,752	C
51–99	834	A	5,626	B	9,084	A	3,508	B	2,111	C
100	2,166	A	10,823	A	21,924	A	9,734	A	3,604	B
Space-cooling energy source										
Electricity	5,164	A	22,165	A	39,810	A	16,410	A	5,868	B
Natural gas	x		2,437	C	5,475	B	3,278	B	1,798	B
Fuel/heating oil	94	D	x		x		x		x	
Composite ^a	F		381	C	381	C	300	B	F	
Cooling equipment (more than one may apply)										
Residential-type air conditioners	440	C	3,880	A	13,470	A	4,713	A	566	C
Heat pumps	850	B	3,480	A	1,882	C	1,019	D	969	B
Individual room air conditioners	1,460	A	5,152	A	8,499	A	1,139	B	785	C
District-chilled water from outside source	x		286	C	377	C	254	C	9	D
Central chillers	346	B	3,738	C	2,677	B	2,318	B	248	D
Packaged air-conditioning units	2,722	A	12,675	A	23,055	A	11,743	A	4,779	B
Swamp coolers	x		F		F		113	C	F	
Other	x		F		1,475	D	332	C	1,196	D
Composite ^b	F		703	B	1,959	C	649	B	1,292	D
Main cooling equipment										
Residential-type air conditioners	412	C	3,602	A	12,388	A	4,225	A	429	D
Heat pumps	767	B	2,845	A	1,718	C	F		759	B
Individual room air conditioners	1,260	A	2,971	A	4,592	A	727	B	677	C
District-chilled water from outside source	x		240	D	257	C	F		x	
Central chillers	260	B	3,041	C	2,491	B	2,158	B	157	D
Packaged air-conditioning units	2,615	A	11,246	A	21,811	A	10,707	A	4,358	B
Composite ^b	x		544	C	820	B	F		F	
Not cooled	4,088	A	7,751	A	8,362	A	7,728	A	9,214	B

^aIncludes the air-conditioning categories of fuel/heating oil; diesel or kerosene; bottled gas, liquid petroleum gas or propane; district-chilled water; and others.

^bIncludes the categories of district-chilled water from outside source; swamp coolers; and others.

The letter beside each estimate classifies its quality as follows: A – Excellent, B – Good, C – Acceptable, D – Use with caution,

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Due to rounding the numbers may not add up and may differ slightly among tables.

NOTE: Estimates relate only to the surveyed areas of populations of 175,000 and greater, and in Atlantic Canada to populations of 50,000 and greater.

Source: Commercial and Institutional Building Energy Use Survey 2000.

TOTAL FLOOR SPACE (m²)

Atlantic		Quebec		Ontario		Prairies		British Columbia	
16,983,536	A	71,162,741	A	119,870,565	A	67,616,918	A	26,937,221	A
5,257,791	B	8,695,510	C	10,700,316	B	12,026,271	C	10,019,429	B
4,909,428	B	18,581,566	A	18,673,647	A	16,097,145	C	4,054,592	B
1,848,904	B	19,390,162	C	32,462,131	B	13,854,623	B	6,556,578	C
4,967,413	A	24,495,503	A	58,034,471	B	25,638,879	A	6,306,623	B
11,245,685	A	56,038,010	A	93,964,516	A	51,062,702	A	14,126,486	A
x		7,270,808	C	11,021,038	C	5,376,608	B	4,485,691	C
F		x		x		x		x	
F		3,221,718	D	F		F		87,736	D
568,501	C	4,893,315	B	12,428,605	A	7,171,590	B	F	
1,995,632	B	5,964,852	A	5,875,725	D	F		3,632,825	C
2,476,732	B	14,860,268	C	17,594,227	B	5,979,168	C	2,284,200	B
x		4,301,741	C	F		F		70,358	D
2,545,258	A	17,806,742	C	40,642,031	A	26,430,039	C	2,124,843	B
6,496,963	A	42,307,989	A	53,305,102	A	29,992,545	A	7,709,802	B
x		F		F		F		F	
x		990,707	D	F		979,628	B	F	
F		4,873,286	C	F		3,825,625	D	F	
397,613	D	3,798,188	B	8,987,359	B	5,794,141	C	F	
1,457,364	C	4,028,801	B	F		F		F	
1,786,454	C	4,507,894	C	5,073,454	B	1,206,326	C	2,105,736	B
x		3,102,541	D	F		1,142,505	B	x	
2,296,299	A	13,465,430	C	33,786,057	A	25,727,624	C	1,941,326	B
5,670,146	A	32,738,414	A	43,398,995	A	17,457,991	A	6,797,753	B
x		3,928,504	C	13,145,470	D	1,838,555	A	F	
5,257,791	B	8,695,510	C	10,700,316	B	12,026,271	C	10,019,429	B

TABLE

8.3

Total number of buildings and total building floor space by percentage of the floor cooled, space-cooling energy sources, cooling equipment and main cooling equipment **by building floor space**

TOTAL NUMBER OF BUILDINGS

Building floor space	93–464 m ² (1,000–4,999 sq. ft.)	465–929 m ² (5,000–9,999 sq. ft.)	929–4,645 m ² (10,000–49,999 sq. ft.)	4,645–9,290 m ² (50,000–99,999 sq. ft.)	9,290 m ² and more (100,000 sq. ft. and more)
All buildings					
Canada	53,061 A	30,806 A	39,405 A	7,285 A	6,482 A
Percentage of the floor space cooled					
Not cooled	16,359 A	8,811 A	10,119 A	1,293 B	F
1–50	10,540 A	7,092 A	10,213 A	1,456 A	1,181 B
51–99	6,373 A	5,033 A	5,849 A	1,926 B	1,981 A
100	19,789 A	9,870 A	13,224 A	2,609 B	2,759 A
Space-cooling energy source					
Electricity	34,494 A	18,965 A	25,581 A	4,983 A	5,392 A
Natural gas	3,532 B	3,856 A	3,972 B	1,124 C	504 C
Fuel/heating oil	x	x	x	x	x
Composite ^a	197 D	F	375 C	126 C	417 C
Cooling equipment (more than one may apply)					
Residential-type air conditioners	11,557 A	4,909 A	5,682 A	259 C	663 D
Heat pumps	2,352 A	1,978 A	2,400 B	1,076 D	395 B
Individual room air conditioners	6,378 A	3,572 A	5,255 A	744 B	1,086 B
District-chilled water from outside source	F	x	282 D	99 D	447 C
Central chillers	2,481 D	1,084 C	2,332 B	828 A	2,602 A
Packaged air-conditioning units	15,907 A	13,135 A	19,445 A	3,800 A	2,686 A
Swamp coolers	x	x	F	F	F
Other	F	F	775 C	379 D	F
Composite ^b	F	F	1,224 B	600 C	825 C
Main cooling equipment					
Residential-type air conditioners	11,306 A	4,448 A	4,655 A	F	569 D
Heat pumps	2,218 B	1,798 B	1,583 A	1,063 D	287 D
Individual room air conditioners	4,682 A	2,255 B	2,696 A	319 C	274 D
District-chilled water from outside source	x	x	F	F	299 C
Central chillers	2,272 D	938 D	1,808 C	780 A	2,308 A
Packaged air-conditioning units	15,297 A	12,164 A	18,052 A	3,285 A	1,938 A
Composite ^b	F	F	492 C	466 C	545 B
Not cooled	16,359 A	8,811 A	10,119 A	1,293 B	F

^aIncludes the air-conditioning categories of fuel/heating oil; diesel or kerosene; bottled gas, liquid petroleum gas or propane; district-chilled water; and others.

^bIncludes the categories of district-chilled water from outside source; swamp coolers; and others.

The letter beside each estimate classifies its quality as follows: A – Excellent, B – Good, C – Acceptable, D – Use with caution,

F – Too unreliable to be published, x – Suppressed to meet the confidentiality requirements of the Statistics Act.

Due to rounding the numbers may not add up and may differ slightly among tables.

NOTE: Estimates relate only to the surveyed areas of populations of 175,000 and greater, and in Atlantic Canada to populations of 50,000 and greater.

Source: Commercial and Institutional Building Energy Use Survey 2000.

TOTAL FLOOR SPACE (m ²)									
93–464 m ² (1,000–4,999 sq. ft.)		465–929 m ² (5,000–9,999 sq. ft.)		929–4,645 m ² (10,000–49,999 sq. ft.)		4,645–9,290 m ² (50,000–99,999 sq. ft.)		9,290 m ² and more (100,000 sq. ft. and more)	
13,578,022	A	19,808,147	A	80,061,060	A	45,159,524	A	143,964,228	A
4,175,776	A	5,664,188	B	20,821,024	A	7,750,892	B	8,287,437	D
2,907,856	A	4,728,472	A	20,004,591	A	9,335,176	A	25,340,282	B
1,576,349	A	3,177,400	A	11,027,453	A	12,692,306	B	45,638,891	A
4,918,041	A	6,238,087	A	28,207,992	A	15,381,151	A	64,697,618	A
8,792,928	A	12,139,371	A	51,532,603	A	31,549,392	A	122,423,105	A
818,376	A	2,555,163	A	8,196,628	C	6,369,459	C	10,214,519	C
x		x		x		x		x	
62,691	D		F	816,482	C	869,858	C	13,156,606	C
2,776,943	B	3,266,521	A	9,192,934	A	1,547,239	C	10,908,942	B
648,535	B	1,284,179	A	4,403,069	A	6,879,855	D	8,623,040	B
1,501,433	A	2,256,678	A	10,457,369	B	5,216,731	B	23,762,384	B
	F		x	608,464	D	656,741	D	14,051,950	C
497,982	C	647,386	C	6,273,135	C	6,026,858	A	76,103,553	A
4,377,364	A	8,321,800	A	40,153,319	A	23,206,044	A	63,753,875	A
	x		x	340,402	D		F		F
	F		F	1,612,564	C	2,328,232	D		F
	F		F	2,521,072	B	3,814,854	C	23,333,986	D
2,724,680	B	2,964,603	A	7,632,170	A		F	7,362,562	C
612,142	B	1,169,764	B	3,105,038	A	6,800,246	D	4,610,531	C
1,125,851	A	1,472,499	B	4,665,470	A	1,985,795	C	5,430,248	C
	x		x		F		F	8,014,859	C
442,659	C	553,792	D	5,082,434	D	5,779,648	A	65,358,203	A
4,214,796	A	7,695,763	A	37,385,240	A	19,498,818	A	37,268,682	A
	F		F	1,369,686	C	2,876,243	C	15,646,565	D
4,175,776	A	5,664,188	B	20,821,024	A	7,750,892	B	8,287,437	D

TABLE

8.4

Total number of buildings and total building floor space by percentage of the floor cooled, space-cooling energy sources, cooling equipment and main cooling equipment **by year of construction**

TOTAL NUMBER OF BUILDINGS

Year of construction	Before 1920	1920– 1959	1960– 1969	1970– 1979	1980– 1989	1990– 1999
All buildings						
Canada	13,500 A	41,828 A	16,077 A	24,002 A	22,309 A	19,324 A
Percentage of the floor space cooled						
Not cooled	4,481 C	13,118 A	4,538 A	6,156 A	5,027 A	3,823 A
1–50	2,761 B	8,693 B	4,281 A	6,701 A	4,230 A	3,816 A
51–99	2,001 B	7,092 B	2,100 B	2,462 A	3,885 A	3,623 B
100	4,258 B	12,925 A	5,158 A	8,682 A	9,167 A	8,061 A
Space-cooling energy source						
Electricity	8,863 A	26,822 A	9,435 A	16,221 A	14,341 A	13,735 A
Natural gas	F	3,251 B	2,307 B	1,839 A	2,919 B	2,297 B
Fuel/heating oil	x	x	x	x	75 D	x
Composite ^a	F	176 D	159 D	173 D	252 B	369 D
Cooling equipment (more than one may apply)						
Residential-type air conditioners	3,134 B	6,769 B	2,654 A	3,679 B	3,256 A	3,577 A
Heat pumps	1,201 C	1,642 B	604 C	1,195 B	1,634 B	1,924 B
Individual room air conditioners	2,765 B	6,723 A	2,112 B	2,071 A	2,236 C	1,127 B
District-chilled water from outside source	x	F	161 D	177 D	139 D	F
Central chillers	488 C	3,795 C	914 B	2,310 B	877 B	944 B
Packaged air-conditioning units	3,075 B	14,760 A	6,664 A	10,511 A	11,242 A	8,721 A
Swamp coolers	x	F	F	x	x	F
Other	x	474 D	F	F	448 C	F
Composite ^b	285 D	742 C	670 C	1,430 D	617 B	918 D
Main cooling equipment						
Residential-type air conditioners	2,859 B	6,250 B	2,443 A	3,471 B	2,684 A	3,349 A
Heat pumps	1,072 C	1,204 B	518 C	965 B	1,470 B	1,721 B
Individual room air conditioners	2,015 B	3,965 B	1,230 B	1,186 B	1,075 B	757 C
District-chilled water from outside source	x	F	121 D	91 D	F	F
Central chillers	286 C	3,450 C	784 B	2,061 B	830 B	697 A
Packaged air-conditioning units	2,580 B	13,431 A	6,068 A	9,580 A	10,880 A	8,197 A
Composite ^b	F	F	497 C	582 D	343 C	F
Not cooled	4,481 C	13,118 A	4,538 A	6,156 A	5,027 A	3,823 A

^aIncludes the air-conditioning categories of fuel/heating oil; diesel or kerosene; bottled gas, liquid petroleum gas or propane; district-chilled water; and others.

^bIncludes the categories of district-chilled water from outside source; swamp coolers; and others.

The letter beside each estimate classifies its quality as follows: A – Excellent, B – Good, C – Acceptable, D – Use with caution,

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Due to rounding the numbers may not add up and may differ slightly among tables.

NOTE: Estimates relate only to the surveyed areas of populations of 175,000 and greater, and in Atlantic Canada to populations of 50,000 and greater.

Source: Commercial and Institutional Building Energy Use Survey 2000.

TOTAL FLOOR SPACE (m ²)											
Before 1920		1920– 1959		1960– 1969		1970– 1979		1980– 1989		1990– 1999	
18,296,466	B	56,061,765	A	42,833,014	A	82,946,162	A	50,063,326	A	52,370,247	A
4,388,607	C	15,092,420	A	5,256,965	A	12,074,059	C	6,057,576	C	3,829,690	B
4,722,038	D	10,473,303	B	12,836,249	A	18,319,724	C	7,964,198	A	8,000,866	A
5,295,044	D	16,757,351	C	6,702,623	B	16,437,608	A	10,234,043	A	18,685,729	B
3,890,777	B	13,738,691	A	18,037,178	B	36,114,771	B	25,807,509	A	21,853,962	A
13,459,389	B	36,091,599	A	33,068,594	A	64,963,083	A	35,817,168	A	43,037,566	A
	F	4,238,713	D	5,225,896	B	3,739,675	C	7,840,216	C	6,652,578	D
	x	x	x	x	x	x	x	F	F	x	x
	F	F	F	2,156,325	C	F	F	1,452,779	D	F	F
	F	6,659,218	B	3,971,068	B	5,630,077	B	3,771,723	B	4,032,029	B
	F	3,247,365	C	1,765,435	A	4,611,744	C	3,574,542	B	6,761,566	C
6,438,722	D	12,709,363	C	7,645,922	B	7,103,055	B	7,029,011	C	2,268,522	B
	x	F	F	2,443,970	C	F	F	1,449,507	D	F	F
1,380,920	D	13,426,205	D	11,680,930	C	36,414,516	B	10,955,265	B	15,691,078	C
4,807,599	B	24,216,010	B	21,247,724	A	36,868,860	A	26,420,430	A	26,251,779	B
	x	F	F	F	F	x	x	x	x	293,094	D
	x	F	F	F	F	F	F	2,327,066	C	982,932	C
809,420	D	3,749,399	D	F	F	F	F	2,894,988	C	2,798,764	D
	F	5,567,657	C	3,348,256	B	3,474,880	B	2,608,588	B	3,042,439	B
	F	1,847,079	D	613,481	C	3,116,792	D	3,306,804	B	5,857,846	D
3,842,317	D	3,180,415	B	2,738,607	D	1,809,218	B	1,354,861	C	1,754,445	C
	x	F	F	1,794,330	C	3,133,099	D	F	F	F	F
	F	10,511,587	D	10,957,749	C	28,867,212	B	10,795,134	B	15,040,900	C
3,716,083	B	17,487,746	A	16,900,464	A	23,141,204	A	23,984,795	A	20,833,007	B
	F	F	F	3,017,492	C	F	F	1,955,569	C	2,011,920	D
4,388,607	C	15,092,420	A	5,256,965	A	12,074,059	C	6,057,576	C	3,829,690	B

TABLE

8.5

Total number of buildings and total building floor space by percentage of the floor cooled, space-cooling energy sources, cooling equipment and main cooling equipment **by number of floors**

TOTAL NUMBER OF BUILDINGS

Number of floors →	1		2		3		4-9		10 and more	
All buildings										
Canada	46,330	A	49,145	A	24,251	A	14,913	A	2,401	A
Percentage of the floor space cooled										
Not cooled	16,249	A	13,669	A	4,487	A	2,710	D		x
1-50	9,436	A	12,010	A	6,543	A	2,299	B	194	D
51-99	4,489	A	8,004	A	4,159	A	3,773	A	739	B
100	16,157	A	15,463	A	9,061	A	6,130	A	1,440	B
Space-cooling energy source										
Electricity	26,204	A	31,495	A	18,529	A	11,028	A	2,160	A
Natural gas	4,564	A	5,120	B	1,656	C	1,519	D		F
Fuel/heating oil	x		x		x		x		x	
Composite ^a	259	C	296	C	83	C	448	C	217	D
Cooling equipment (more than one may apply)										
Residential-type air conditioners	6,104	A	8,341	A	6,339	A	2,058	B	228	D
Heat pumps	2,182	A	3,260	B	859	B	1,718	B		F
Individual room air conditioners	3,190	A	5,787	B	3,971	A	3,817	A	270	D
District-chilled water from outside source		F		F	55	C	450	C	244	D
Central chillers	940	C	2,241	D	1,501	C	3,044	B	1,601	B
Packaged air-conditioning units	19,175	A	19,512	A	9,308	A	6,155	A	824	B
Swamp coolers		F		F	x		F		x	
Other		F	1,486	D	615	C		F		F
Composite ^b	1,037	D	1,645	D	656	C	703	C		F
Main cooling equipment										
Residential-type air conditioners	5,793	A	7,529	A	5,841	A	1,801	B		x
Heat pumps	1,937	A	3,190	B	706	C	958	C		x
Individual room air conditioners	2,168	A	3,561	B	2,763	A	1,617	C		F
District-chilled water from outside source		x		F	47	C	411	C	119	D
Central chillers	717	D		F	1,265	C	2,746	B	1,336	B
Packaged air-conditioning units	18,611	A	18,435	A	8,727	A	4,568	A	394	C
Composite ^b	855	D	718	C	460	D	513	C		F
Not cooled	16,249	A	13,669	A	4,487	A	2,710	D		x

^aIncludes the air-conditioning categories of fuel/heating oil; diesel or kerosene; bottled gas, liquid petroleum gas or propane; district-chilled water; and others.

^bIncludes the categories of district-chilled water from outside source; swamp coolers; and others.

The letter beside each estimate classifies its quality as follows: A – Excellent, B – Good, C – Acceptable, D – Use with caution,

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Due to rounding the numbers may not add up and may differ slightly among tables.

NOTE: Estimates relate only to the surveyed areas of populations of 175,000 and greater, and in Atlantic Canada to populations of 50,000 and greater.

Source: Commercial and Institutional Building Energy Use Survey 2000.

TOTAL FLOOR SPACE (m²)

1		2		3		4-9		10 and more	
53,568,594	A	78,166,962	A	41,914,940	A	78,530,577	A	50,389,909	A
14,022,017	A	16,854,173	A	6,569,342	B	9,147,022	D		x
14,041,408	A	23,262,354	A	9,451,885	B	13,456,238	C	2,104,493	B
7,751,117	B	14,619,640	B	10,472,124	C	27,894,312	B	13,375,206	C
17,754,052	A	23,430,795	A	15,421,590	A	28,033,004	A	34,803,448	B
34,868,140	A	53,950,049	A	28,481,179	A	63,208,972	A	45,929,060	A
5,035,548	A	9,020,839	B	7,347,148	D	5,162,130	D		F
	x		x		x		x		x
	F	1,196,694	C	693,518	D	5,569,425	C		F
5,243,567	A	10,051,091	B	6,170,627	C	4,281,785	B		F
2,633,145	B	7,232,003	C	1,453,620	B	8,338,976	B	2,180,933	D
3,290,657	B	9,099,536	A	7,409,339	C	18,545,982	B	4,849,080	D
	F	851,462	D		F	5,973,020	C	7,513,381	D
1,129,180	D	6,755,477	C	5,953,549	C	34,688,083	B	41,022,625	B
30,020,871	A	41,037,808	A	20,765,660	A	33,763,547	B	14,224,515	C
	F	200,281	D		x		F		x
814,366	C	1,448,786	C	2,313,502	D		F		F
1,147,313	B	1,766,387	B	2,774,197	D	6,568,836	C		F
4,750,086	A	8,417,723	B	5,376,230	C	2,455,099	C		x
2,366,086	B	6,472,535	C	940,185	C	5,301,319	D		x
1,655,859	B	4,520,303	B	2,542,456	B	5,116,151	C	845,094	C
	x	443,019	D		F	5,192,991	C	2,829,447	D
1,003,443	D	4,471,773	B	4,933,335	D	33,158,312	B	33,649,873	B
28,933,363	A	35,967,719	A	18,975,274	A	17,150,608	A	5,036,335	D
837,740	C	1,462,736	C	2,578,118	D	6,202,066	C		F
14,022,017	A	16,854,173	A	6,569,342	B	9,147,022	D		x

TOTAL FLOOR SPACE (m ²)											
Less than 40		40–48		49–60		61–84		85–167		Open continuously	
11,676,404	A	52,396,804	A	63,371,047	A	78,721,436	A	60,317,262	A	36,088,029	A
5,908,467	B	8,468,565	A	10,172,763	B	10,518,749	B	6,935,798	B		F
1,936,953	C	16,522,676	A	9,785,192	A	11,504,371	B	16,388,405	C	6,178,780	A
1,461,645	D	14,692,535	B	16,341,593	C	11,527,552	A	19,410,742	B	10,678,331	D
2,369,338	D	12,713,028	A	27,071,498	A	45,170,765	B	17,582,317	A	14,535,943	B
5,402,262	B	35,414,936	A	46,693,608	A	61,333,940	A	50,492,119	A	27,100,532	B
	F	9,155,072	C	6,376,240	C	4,494,946	B	4,392,163	B		F
	x		x		x		x		x		x
	F		F	2,383,172	D		F		F	3,562,798	D
1,662,155	D	5,685,190	A	5,927,583	A	6,015,076	C	6,056,750	C	2,345,826	D
144,990	D	4,355,430	C	3,790,736	B	4,173,340	B	7,721,864	C	1,652,317	B
1,334,921	C	10,466,915	B	6,084,504	C	6,494,610	C	7,034,358	B	11,779,285	C
	x		F	2,012,900	D		F		F	3,692,844	D
	F	9,163,180	C	19,635,516	C	28,746,823	C	14,544,381	C	16,246,314	C
2,806,865	C	25,956,474	A	28,241,007	A	35,076,052	A	31,615,914	A	16,116,090	C
	x		F		x		x	264,064	D		x
	x	2,257,840	D	1,219,444	D		F	1,319,179	D	499,751	D
	x	5,406,199	C	3,332,028	C		F	3,858,958	D	3,736,948	D
1,647,567	D	4,505,352	A	4,909,365	A	4,114,374	D	3,992,183	D	1,983,058	D
144,990	D	3,946,635	C	2,574,480	C	2,345,837	C	6,453,710	D		F
844,572	D	4,960,273	D	1,650,477	B	1,528,988	C	1,995,272	C	3,700,282	B
	x		F		F		x		F	3,260,810	D
	F	6,764,897	C	18,981,348	C	21,443,395	B	13,784,833	C	15,110,553	C
1,888,543	B	21,276,163	A	22,090,127	A	31,282,500	A	23,321,573	A	6,204,394	B
	x	2,474,920	D	2,992,486	C		F	3,833,893	D	3,562,701	D
5,908,467	B	8,468,565	A	10,172,763	B	10,518,749	B	6,935,798	B		F

TABLE

8.7

Total number of buildings and total building floor space by percentage of the floor cooled, space-cooling energy sources, cooling equipment and main cooling equipment **by type of ownership**

TOTAL NUMBER OF BUILDINGS

Building ownership	Private individual(s)	Private organization	Non-profit organization	Fed.-prov.-munic.-regional government ^a
All buildings				
Canada	54,022 A	49,768 A	16,505 A	16,745 A
Percentage of the floor space cooled				
Not cooled	13,412 A	10,776 A	7,403 A	5,552 A
1–50	12,525 A	11,309 A	2,571 A	4,077 A
51–99	8,662 A	7,669 A	2,263 B	2,569 B
100	19,422 A	20,013 A	4,268 A	4,547 A
Space-cooling energy source				
Electricity	36,413 A	34,795 A	8,050 A	10,158 A
Natural gas	5,473 B	5,339 A	1,112 B	1,064 C
Fuel/heating oil	x	F	x	x
Composite ^b	F	672 B	x	317 C
Cooling equipment (more than one may apply)				
Residential-type air conditioners	13,097 A	6,569 A	2,291 B	1,112 B
Heat pumps	2,790 A	3,226 A	1,019 D	1,165 C
Individual room air conditioners	7,863 A	5,481 A	1,739 B	1,952 A
District-chilled water from outside source	F	489 B	x	314 C
Central chillers	2,726 D	4,034 A	555 D	2,013 B
Packaged air-conditioning units	17,466 A	25,754 A	5,123 A	6,631 A
Swamp coolers	F	F	x	F
Other	1,655 D	1,176 B	x	288 C
Composite ^c	1,964 D	1,682 B	F	702 B
Main cooling equipment				
Residential-type air conditioners	12,393 A	5,712 A	2,171 B	781 B
Heat pumps	2,769 B	2,546 A	541 D	1,093 D
Individual room air conditioners	5,432 A	2,592 A	1,122 B	1,082 B
District-chilled water from outside source	F	327 D	x	254 C
Central chillers	2,304 D	3,473 A	436 D	1,893 B
Packaged air-conditioning units	16,743 A	23,525 A	4,582 A	5,887 A
Composite ^c	969 D	1,144 B	x	456 B
Not cooled	13,412 A	10,776 A	7,403 A	5,552 A

^aIncludes all levels of government (i.e. federal, provincial, municipal and regional).

^bIncludes the air-conditioning categories of fuel/heating oil; diesel or kerosene; bottled gas, liquid petroleum gas or propane; district-chilled water; and others.

^cIncludes the categories of district-chilled water from outside source; swamp coolers; and others.

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Due to rounding the numbers may not add up and may differ slightly among tables.

NOTE: Estimates relate only to the surveyed areas of populations of 175,000 and greater, and in Atlantic Canada to populations of 50,000 and greater.

Source: Commercial and Institutional Building Energy Use Survey 2000.

TOTAL FLOOR SPACE (m ²)							
Private individual(s)		Private organization		Non-profit organization		Fed.-prov.-munic.-regional government ^a	
59,492,076	A	129,712,194	A	28,445,352	A	84,921,359	A
7,646,001	A	10,940,298	B	10,598,370	C	17,514,648	B
10,105,895	A	22,870,771	A	6,507,119	C	22,832,593	B
14,838,587	B	30,070,529	B	5,747,162	C	23,456,121	B
26,901,594	D	65,830,596	A	5,592,701	B	21,117,998	A
46,207,943	A	105,818,282	A	16,888,644	A	57,522,530	A
5,693,454	D	13,522,619	B		F	7,149,856	D
	x		F		x		x
	F	8,807,573	D		x	5,722,482	C
8,393,398	B	10,382,423	A	4,661,732	D	4,255,027	B
6,267,762	D	6,821,154	A		F	7,476,792	C
6,829,936	C	17,556,778	B	6,420,127	D	12,387,753	A
	F	9,067,045	C		x	5,936,345	C
	F	45,981,654	B		F	26,622,978	B
20,693,641	A	72,643,954	A	8,966,530	B	37,508,277	A
	F		F		x	1,013,809	C
	F	3,910,948	C		x	1,406,253	C
	F	11,432,635	C		F	6,186,045	C
7,562,468	B	6,804,005	B	4,503,814	D	2,281,611	C
5,896,874	D	4,504,421	B		F	5,198,034	D
3,075,754	B	4,292,713	B		F	4,658,784	B
	F	3,633,038	D		x	5,115,170	D
8,969,712	D	41,844,986	B		F	24,838,567	B
19,298,315	A	55,043,739	A	7,689,378	B	24,031,866	A
	F	6,282,032	B		x	6,397,849	C
7,646,001	A	10,940,298	B	10,598,370	C	17,514,648	B

CHAPTER **9**

**Total Number of Buildings and
Total Building Floor Space by
Energy Sources for
Water Heating**



Total number of buildings and total building floor space by water-heating energy sources

TABLE

9.1

	Total number of buildings		Total floor space (m ²)	
All buildings				
Canada	137,039	A	302,570,981	A
Energy source for water heating				
Electricity	66,888	A	122,504,385	A
Natural gas	66,757	A	166,548,706	A
Fuel/heating oil	3,587	A	7,056,246	B
Composite ^a	1,564	C	21,242,469	D
Not heated	2,426	B	1,371,182	B

^aIncludes the categories of diesel or kerosene; bottled gas, liquid petroleum gas or propane; district steam; district hot water; wood; coal; solar thermal panels; and others.

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Source: Commercial and Institutional Building Energy Use Survey 2000.

TABLE

9.2

Total number of buildings and total building floor space by water-heating energy sources **by region**

TOTAL NUMBER OF BUILDINGS

Region →	Atlantic		Quebec		Ontario		Prairies		British Columbia	
All buildings										
Canada	9,423	A	32,000	A	52,182	A	26,754	A	16,681	A
Energy source for water heating										
Electricity	7,353	A	23,873	A	22,832	A	4,784	A	8,046	A
Natural gas	x		6,664	A	29,502	A	21,574	A	9,016	A
Fuel/heating oil	1,787	A	1,147	C		F		x		F
Composite ^a	424	C	194	D		F		F	17	C
Not heated		F	450	D	908	C	722	D		F

^aIncludes the categories of diesel or kerosene; bottled gas, liquid petroleum gas or propane; district steam; district hot water; wood; coal; solar thermal panels; and others.

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Source: Commercial and Institutional Building Energy Use Survey 2000.

TABLE

9.3

Total number of buildings and total building floor space by water-heating energy sources **by building floor space**

TOTAL NUMBER OF BUILDINGS

138

Building floor space →	93–464 m ² (1,000–4,999 sq. ft.)		465–929 m ² (5,000–9,999 sq. ft.)		929–4,645 m ² (10,000–49,999 sq. ft.)		4,645–9,290 m ² (50,000–99,999 sq. ft.)		9,290 m ² and more (100,000 sq. ft. and more)	
All buildings										
Canada	53,061	A	30,806	A	39,405	A	7,285	A	6,482	A
Energy source for water heating										
Electricity	27,641	A	16,210	A	18,163	A	2,799	A	2,075	A
Natural gas	23,207	A	13,752	A	21,188	A	4,654	A	3,957	A
Fuel/heating oil	1,374	B	752	C	1,277	B	112	D	73	D
Composite ^a		F		F	514	C	78	D	589	D
Not heated	1,601	B	496	D	330	C		x		x

^aIncludes the categories of diesel or kerosene; bottled gas, liquid petroleum gas or propane; district steam; district hot water; wood; coal; solar thermal panels; and others.

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Source: Commercial and Institutional Building Energy Use Survey 2000.

TABLE

9.2

TOTAL FLOOR SPACE (m²)

Atlantic		Quebec		Ontario		Prairies		British Columbia	
16,983,536	A	71,162,741	A	119,870,565	A	67,616,918	A	26,937,221	A
13,289,194	A	44,000,428	A	43,088,433	A	10,285,585	B	11,840,745	A
x		24,091,978	A	68,929,721	A	56,577,654	A	16,949,353	B
3,038,702	B		F		F		x		F
1,605,185	C	658,974	C		F		F	276,884	B
	F	352,317	D	505,548	C	327,618	D		F

TABLE

9.3

TOTAL FLOOR SPACE (m²)

93–464 m ² (1,000–4,999 sq. ft.)		465–929 m ² (5,000–9,999 sq. ft.)		929–4,645 m ² (10,000–49,999 sq. ft.)		4,645–9,290 m ² (50,000–99,999 sq. ft.)		9,290 m ² and more (100,000 sq. ft. and more)	
13,578,022	A	19,808,147	A	80,061,060	A	45,159,524	A	143,964,228	A
6,688,147	A	10,479,761	A	38,127,817	A	18,012,750	A	49,195,911	A
6,281,395	A	8,742,063	A	42,927,713	A	28,152,673	A	80,444,862	A
414,119	B	485,073	C	2,476,871	B	765,663	D		F
	F		F	1,152,333	C	620,520	D		F
440,891	C	356,540	D	573,751	C		x		x

TABLE

9.4

Total number of buildings and total building floor space by water-heating energy sources by year of construction

TOTAL NUMBER OF BUILDINGS

Year of construction	Before 1920		1920–1959		1960–1969		1970–1979		1980–1989		1990–1999	
All buildings												
Canada	13,500	A	41,828	A	16,077	A	24,002	A	22,309	A	19,324	A
Energy source for water heating												
Electricity	5,955	B	19,077	A	7,875	A	11,424	A	12,604	A	9,953	A
Natural gas	6,502	A	22,243	A	7,617	A	12,540	A	9,219	A	8,637	A
Fuel/heating oil	1,190	B	1,035	B	536	B	507	C	128	C	192	D
Composite ^a		F		F		F	447	D		F	176	D
Not heated		x	596	D		x		F	460	D	696	C

^aIncludes the categories of diesel or kerosene; bottled gas, liquid petroleum gas or propane; district steam; district hot water; wood; coal; solar thermal panels; and others.

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Source: Commercial and Institutional Building Energy Use Survey 2000.

TABLE

9.5

Total number of buildings and total building floor space by water-heating energy sources by number of floors

TOTAL NUMBER OF BUILDINGS

140

Number of floors	1		2		3		4–9		10 and more	
All buildings										
Canada	46,330	A	49,145	A	24,251	A	14,913	A	2,401	A
Energy source for water heating										
Electricity	24,893	A	24,547	A	10,159	A	6,565	A	725	B
Natural gas	19,297	A	23,756	A	13,548	A	8,835	A	1,320	B
Fuel/heating oil	498	C	1,432	B	1,409	B	248	C		x
Composite ^a	429	D	136	C	188	D	395	C		F
Not heated	1,724	B	619	D		x		x		x

^aIncludes the categories of diesel or kerosene; bottled gas, liquid petroleum gas or propane; district steam; district hot water; wood; coal; solar thermal panels; and others.

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Source: Commercial and Institutional Building Energy Use Survey 2000.

TABLE

9.4

TOTAL FLOOR SPACE (m ²)											
Before 1920		1920–1959		1960–1969		1970–1979		1980–1989		1990–1999	
18,296,466	B	56,061,765	A	42,833,014	A	82,946,162	A	50,063,326	A	52,370,247	A
4,681,227	B	21,785,876	B	16,287,432	A	28,001,160	A	26,825,238	A	24,923,453	B
11,160,427	B	32,365,313	A	20,739,109	A	49,693,745	A	22,246,208	A	30,343,904	B
	F	1,433,732	B	1,142,790	C	1,024,245	C		F		F
	F		F		F		F	1,766,231	D		F
	x	247,076	D		x		F		F	546,904	C

TABLE

9.5

TOTAL FLOOR SPACE (m ²)											
1		2		3		4–9		10 and more			
53,568,594	A	78,166,962	A	41,914,940	A	78,530,577	A	50,389,909	A		
29,793,379	A	35,156,915	A	12,917,424	A	31,142,260	A	13,494,408	D		
23,586,271	A	42,876,387	A	28,917,849	A	45,217,989	A	25,950,210	B		
679,173	C	1,919,275	B	1,130,507	C		F		x		
	F	554,475	D	784,705	C	5,124,587	C		F		
880,176	B	371,212	C		x		x		x		

TABLE

9.6

Total number of buildings and total building floor space by water-heating energy sources by weekly hours of operation

TOTAL NUMBER OF BUILDINGS

Weekly hours of operation →	TOTAL NUMBER OF BUILDINGS					
	Less than 40	40–48	49–60	61–84	85–167	Open continuously
All buildings						
Canada	10,978 A	29,156 A	33,778 A	29,613 A	24,262 A	9,251 A
Energy source for water heating						
Electricity	5,020 B	14,869 A	16,299 A	15,847 A	10,922 A	3,932 A
Natural gas	5,697 A	13,619 A	16,120 A	13,001 A	13,195 A	5,126 B
Fuel/heating oil	195 D	674 C	1,077 B	599 C	562 C	480 D
Composite ^a	F	203 D	F	F	347 D	302 C
Not heated	F	F	751 D	724 C	F	x

^aIncludes the categories of diesel or kerosene; bottled gas, liquid petroleum gas or propane; district steam; district hot water; wood; coal; solar thermal panels; and others.

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Source: Commercial and Institutional Building Energy Use Survey 2000.

TABLE

9.7

Total number of buildings and total building floor space by water-heating energy sources by type of ownership

TOTAL NUMBER OF BUILDINGS

Building ownership →	TOTAL NUMBER OF BUILDINGS			
	Private individual(s)	Private organization	Non-profit organization	Fed.-prov.-munic.-regional government ^a
All buildings				
Canada	54,022 A	49,768 A	16,505 A	16,745 A
Energy source for water heating				
Electricity	28,084 A	25,949 A	5,883 A	6,972 A
Natural gas	24,213 A	23,725 A	9,805 A	9,014 A
Fuel/heating oil	1,266 A	774 B	958 B	589 C
Composite ^b	797 D	391 D	F	302 C
Not heated	1,257 C	870 C	x	F

^aIncludes all levels of government (i.e. federal, provincial, municipal and regional).

^bIncludes the categories of diesel or kerosene; bottled gas, liquid petroleum gas or propane; district steam; district hot water; wood; coal; solar thermal panels; and others.

The letter beside each estimate classifies its quality as follows: A – Excellent, B – Good, C – Acceptable, D – Use with caution,

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Due to rounding the numbers may not add up and may differ slightly among tables.

NOTE: Estimates relate only to the surveyed areas of populations of 175,000 and greater, and in Atlantic Canada to populations of 50,000 and greater.

Source: Commercial and Institutional Building Energy Use Survey 2000.

TABLE

9.6

TOTAL FLOOR SPACE (m ²)											
Less than 40		40–48		49–60		61–84		85–167		Open continuously	
11,676,404	A	52,396,804	A	63,371,047	A	78,721,436	A	60,317,262	A	36,088,029	A
3,916,519	B	19,613,753	A	25,950,300	A	35,563,792	A	24,317,762	A	13,142,259	C
7,749,931	B	30,026,459	A	39,248,448	A	34,289,403	A	35,493,403	A	19,741,062	B
116,899	D		F	1,243,785	B	896,426	C	783,902	C	1,441,768	B
	F		F	1,052,295	D		F		F	4,561,388	C
	F		F	592,073	C	414,591	D		F		x

TABLE

9.7

TOTAL FLOOR SPACE (m ²)											
Private individual(s)		Private organization		Non-profit organization		Fed.-prov.-munic.-regional government ^a					
59,492,076	A	129,712,194	A	28,445,352	A	84,921,359	A				
27,012,138	A	63,408,231	A	6,296,045	B	25,787,971	A				
24,569,678	A	71,149,255	A	19,013,254	B	51,816,519	A				
734,285	B	936,743	B		F	2,681,612	B				
	F		F		F	6,589,260	C				
518,005	C	604,925	C		x		F				

CHAPTER **10**

**Total Energy Consumption (All Fuels)
and Energy Intensity (All Fuels)**



Total energy consumption and energy intensity by building characteristics, occupancy characteristics, energy efficiency features, heating energy sources and equipment, cooling energy sources and equipment, and water-heating energy sources

	Total energy consumption (GJ)		Total energy intensity (GJ/m ²)	
All buildings				
Canada	479,651,868	A	1.59	A
Building floor space				
93–464 m ² (1,000–4,999 sq. ft.)	27,976,962	A	2.06	A
465–929 m ² (5,000–9,999 sq. ft.)	35,573,989	A	1.80	A
929–4,645 m ² (10,000–49,999 sq. ft.)	108,024,461	A	1.35	A
4,645–9,290 m ² (50,000–99,999 sq. ft.)	53,312,576	A	1.18	A
9,290 m ² and more (100,000 sq. ft. and more)	254,763,880	B	1.77	A
Year of construction				
Before 1920	26,220,150	B	1.43	A
1920–1959	93,938,144	A	1.68	A
1960–1969	70,399,195	B	1.64	A
1970–1979	151,535,574	B	1.83	A
1980–1989	68,028,462	A	1.36	A
1990–1999	69,530,344	A	1.33	A
Number of floors				
1	75,829,474	A	1.42	A
2	108,217,469	A	1.38	A
3	54,066,177	A	1.29	A
4–9	119,362,928	A	1.52	A
10 and more	122,175,820	C	2.42	C
Predominant type of window				
Single-glazed	73,758,837	A	1.45	A
Double-glazed ^a	400,344,447	A	1.62	A
Triple-glazed ^b	5,548,584	C	1.42	A

^aIncludes all the different types of windows that are double-glazed (i.e. double-glazed, double-sealed glazed, double-glazed with low-E coating and double-glazed with low-E gas-filled).

^bIncludes all the different types of windows that are triple-glazed (i.e. triple-glazed, triple-glazed with low-E coating and triple-glazed low-E gas-filled).

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This table continues on the next two pages.



TABLE

10.1

Total energy consumption and energy intensity by building characteristics, occupancy characteristics, energy efficiency features, heating energy sources and equipment, cooling energy sources and equipment, and water-heating energy sources

Total energy consumption (GJ) Total energy intensity (GJ/m²)

Predominant exterior wall type

Curtain walls	38,897,798	B	1.53	A
Metal stud framing with surface insulation		F	2.38	C
Metal stud framing without surface insulation	4,027,243	B	1.10	A
Wood-frame walls with surface insulation	30,608,429	A	1.63	A
Wood-frame walls without surface insulation	4,982,551	C	1.58	B
Concrete block with interior finishing	195,221,830	A	1.49	A
Concrete block without interior finishing	39,418,812	A	1.33	A
Precast panels	37,584,762	B	1.64	A
Unknown	27,734,742	B	1.08	A

Predominant roof type

Attic roof fully insulated	28,493,127	B	1.20	A
Attic roof partially insulated	8,730,387	B	1.82	A
Attic roof not insulated	6,857,821	C	1.78	A
Insulated wood-truss roof	21,733,262	A	1.34	A
Not insulated wood-truss roof	16,116,496	C	2.08	A
Insulated metal-truss roof	48,027,892	A	1.25	A
Not insulated metal-truss roof	7,046,564	C	1.40	A
Insulated deck-type roof	280,305,221	B	1.80	A
Not insulated deck-type roof	16,852,476	B	1.52	A
Unknown	45,488,622	A	1.27	A

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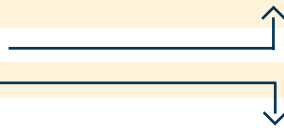
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Total energy consumption and energy intensity by building characteristics, occupancy characteristics, energy efficiency features, heating energy sources and equipment, cooling energy sources and equipment, and water-heating energy sources

	Total energy consumption (GJ)		Total energy intensity (GJ/m ²)	
Principal building activity				
Commercial and institutional accommodation	31,274,131	B	1.58	A
Entertainment and recreation	21,655,093	B	1.66	A
Office	119,733,138	C	2.08	C
Food retail	12,466,426	A	2.79	A
Non-food retail	24,797,238	A	1.35	A
Food service	26,760,999	A	3.34	A
Non-food service	24,866,914	A	1.38	A
Shopping malls	42,572,865	A	1.32	A
Warehouse/wholesale	33,396,516	D	1.32	B
Administration	33,339,890	C	1.61	A
Education	52,995,989	A	0.94	A
Health care	35,750,050	A	2.46	A
Public assembly	17,044,829	B	1.47	A
Other	2,997,790	B	1.19	A
Number of workers				
Less than 5	30,295,062	A	1.29	A
5–9	33,844,855	A	1.30	A
10–19	41,758,940	A	1.55	A
20–49	52,686,608	A	1.37	A
50–99	59,431,540	A	1.52	A
100–249	34,757,290	B	1.42	A
250 and more	226,877,574	B	1.83	A
Weekly hours of operation				
Less than 40	12,754,811	A	1.09	A
40–48	64,106,869	A	1.22	A
49–60	85,167,736	A	1.34	A
61–84	146,432,957	C	1.86	B
85–167	93,587,252	A	1.55	A
Open continuously	77,602,243	B	2.15	A

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TABLE

10.1

Total energy consumption and energy intensity by building characteristics, occupancy characteristics, energy efficiency features, heating energy sources and equipment, cooling energy sources and equipment, and water-heating energy sources

	Total energy consumption (GJ)		Total energy intensity (GJ/m ²)	
Building ownership				
Private individual(s)	128,476,763	C	2.16	B
Private organization	197,680,427	A	1.52	A
Non-profit organization	36,210,940	A	1.27	A
Fed.-prov.-munic.-regional government ^c	117,283,738	A	1.38	A
Building conservation feature				
Reflective or shading film	219,387,129	B	1.79	A
Awnings or blinds	323,432,219	A	1.70	A
Lighting conservation feature				
Reflectors	211,793,366	B	1.83	A
Energy-efficient ballast	337,279,486	A	1.66	A
Daylight controls	73,294,168	A	1.37	A
Occupancy sensors	84,795,272	B	1.65	A
Time clocks	187,309,905	A	1.53	A
Manual dimmer switches	220,587,822	B	2.02	A
Energy-efficient lamps	305,680,664	A	1.70	A
Other	57,399,256	B	1.53	A
Heating/cooling conservation feature				
Variable air-volume system	257,896,368	A	1.79	A
Outdoor-air economizer	264,105,699	A	1.47	A
Temperature setback	249,367,130	A	1.46	A
Equipment reset	282,725,384	A	1.73	A
Heat recovery system	120,061,615	A	1.61	A
Regular maintenance	445,621,853	A	1.61	A

^cIncludes all levels of government (i.e. federal, provincial, municipal and regional).

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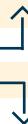
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Total energy consumption and energy intensity by building characteristics, occupancy characteristics, energy efficiency features, heating energy sources and equipment, cooling energy sources and equipment, and water-heating energy sources

	Total energy consumption (GJ)		Total energy intensity (GJ/m ²)	
Percentage of the floor space heated				
Less than 1		F	0.79	B
1–50	14,272,987	B	1.31	A
51–99	39,791,291	B	1.66	A
100	425,415,061	A	1.59	A
Energy source for heating (more than one may apply)				
Electricity	206,932,806	A	1.36	A
Natural gas	393,093,850	A	1.73	A
Fuel/heating oil	28,835,635	A	1.42	A
Composite ^d		F	3.51	B
Main energy source for heating				
Electricity	95,974,647	A	1.25	A
Natural gas	343,025,981	A	1.70	A
Fuel/heating oil	13,208,949	A	1.07	A
Composite ^d	27,269,761	B	2.49	A
Heating equipment (more than one may apply)				
Furnaces	112,986,681	A	1.60	A
Heat pumps	43,767,256	B	1.38	A
Individual space heaters	160,491,787	A	1.41	A
Boilers	260,254,710	B	1.68	A
Packaged heating units	144,526,571	A	1.41	A
District steam or hot water or other	62,339,075	B	1.88	A

^dIncludes the categories of diesel or kerosene; bottled gas, liquid petroleum gas or propane; district steam; district hot water; wood; coal; solar thermal panels; and others.

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TABLE
10.1

Total energy consumption and energy intensity by building characteristics, occupancy characteristics, energy efficiency features, heating energy sources and equipment, cooling energy sources and equipment, and water-heating energy sources

	Total energy consumption (GJ)		Total energy intensity (GJ/m ²)	
Main heating equipment				
Furnaces	70,438,051	A	1.50	A
Heat pumps	18,363,538	C	1.17	A
Individual space heaters	40,429,950	A	1.27	A
Boilers	224,884,156	B	1.66	A
Packaged heating units	80,936,581	A	1.50	A
District steam or hot water or other	44,427,062	C	2.35	A
Not heated		F	0.79	B
Percentage of the floor space cooled				
Not cooled	54,264,705	A	1.16	A
1–50	80,694,146	A	1.29	A
51–99	120,776,818	A	1.63	A
100	223,916,199	B	1.87	A
Space-cooling energy source				
Electricity	380,598,416	A	1.68	A
Natural gas	41,294,708	A	1.47	A
Fuel/heating oil		F	1.75	A
Composite ^e	28,881,298	C	1.92	A
Cooling equipment (more than one may apply)				
Residential-type air conditioners	41,938,717	A	1.51	A
Heat pumps	31,069,453	B	1.42	A
Individual room air conditioners	68,158,015	B	1.58	A
District-chilled water from outside source	29,456,643	C	1.92	A
Central chillers	186,476,070	B	2.08	A
Packaged air-conditioning units	213,331,410	A	1.53	A
Swamp coolers		F	2.16	A
Composite ^f		F	2.94	B
Other		F	3.84	B

^eIncludes the air-conditioning categories of fuel/heating oil; diesel or kerosene; bottled gas, liquid petroleum gas or propane; district-chilled water; and others.

^fIncludes the categories of district-chilled water from outside source; swamp coolers; and others.

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Total energy consumption and energy intensity by building characteristics, occupancy characteristics, energy efficiency features, heating energy sources and equipment, cooling energy sources and equipment, and water-heating energy sources

	Total energy consumption (GJ)		Total energy intensity (GJ/m ²)	
Main cooling equipment				
Residential-type air conditioners	30,281,956	A	1.43	A
Heat pumps	19,593,857	C	1.20	A
Individual room air conditioners	18,524,946	A	1.26	A
District-chilled water from outside source	18,365,434	C	2.02	A
Central chillers	142,010,763	A	1.84	A
Packaged air-conditioning units	152,384,024	A	1.44	A
Composite ^f		F	3.06	B
Not cooled	54,264,705	A	1.16	A
Energy source for water heating				
Electricity	159,412,932	A	1.30	A
Natural gas	254,619,915	A	1.53	A
Fuel/heating oil	8,439,878	A	1.20	B
Composite ^d		F	3.83	B
Not heated	1,416,231	C	1.03	A

^dIncludes the categories of diesel or kerosene; bottled gas, liquid petroleum gas or propane; district steam; district hot water; wood; coal; solar thermal panels; and others.

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TABLE

10.2

Total energy consumption and energy intensity by building characteristics, occupancy characteristics, energy efficiency features, heating energy sources and equipment, cooling energy sources and equipment, and water-heating energy sources **by region**

TOTAL ENERGY CONSUMPTION (GJ)

Region →	Atlantic		Quebec		Ontario		Prairies		British Columbia	
All buildings										
Canada	19,240,817	A	99,587,849	A	205,977,611	B	109,721,846	A	45,123,745	A
Building floor space										
93–464 m ² (1,000–4,999 sq. ft.)	1,451,490	A	5,027,579	A	10,484,173	A	7,315,938	A	3,697,782	C
465–929 m ² (5,000–9,999 sq. ft.)	1,081,067	A	4,563,801	A	14,190,056	A	5,426,133	A	10,312,932	C
929–4,645 m ² (10,000–49,999 sq. ft.)	5,010,829	A	20,072,501	A	44,215,530	A	26,404,678	B	12,320,922	B
4,645–9,290 m ² (50,000–99,999 sq. ft.)	2,560,067	B	13,457,565	C	18,942,066	A	13,161,832	B	5,191,045	C
9,290 m ² and more (100,000 sq. ft. and more)	9,137,364	A	56,466,403	C	118,145,785	C	57,413,264	B	13,601,064	B
Year of construction										
Before 1920		F	3,610,458	D	11,280,579	C	4,717,214	D		F
1920–1959	2,714,800	B	31,958,744	D	29,559,203	A	14,404,671	B	15,300,725	B
1960–1969	4,391,350	C	9,832,638	B	36,718,035	D	13,175,854	B	6,281,317	C
1970–1979	5,270,677	A	22,836,865	B		F	45,248,512	B	8,471,202	C
1980–1989	2,321,521	A	15,311,411	B	29,715,428	A	16,073,302	A	4,606,800	C
1990–1999	3,679,384	D	16,037,733	C	28,996,046	B	16,102,294	B	4,714,887	B
Number of floors										
1	5,534,169	C	16,774,579	C	23,902,338	A	20,855,426	A	8,762,961	C
2	4,694,046	A	25,154,193	B	35,503,217	A	27,782,696	B	15,083,318	B
3	2,086,654	B	14,651,132	B	23,350,929	A	6,354,701	B	7,622,760	C
4–9	6,535,068	B	35,776,538	C	39,645,048	A	26,200,268	B	11,206,007	B
10 and more		x	7,231,407	C		F	28,528,755	D	2,448,699	B
Predominant type of window										
Single-glazed	2,969,949	B	7,906,233	B	34,492,383	A	10,390,002	B	18,000,269	B
Double-glazed ^a	15,781,293	A	90,776,326	A	169,142,548	B	97,529,397	A	27,114,883	B
Triple-glazed ^b		F		F		F	1,802,447	D		x

^aIncludes all the different types of windows that are double-glazed (i.e. double-glazed, double-sealed glazed, double-glazed with low-E coating and double-glazed with low-E gas-filled).

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TOTAL ENERGY INTENSITY (GJ/m²)

Atlantic		Quebec		Ontario		Prairies		British Columbia	
1.13	A	1.40	A	1.72	A	1.62	A	1.68	A
1.52	A	1.65	A	1.88	A	2.95	A	2.47	A
0.73	A	1.01	A	2.08	A	1.59	A	2.88	A
0.92	A	1.14	A	1.41	A	1.54	A	1.45	A
0.66	A	1.44	A	1.11	A	1.31	A	1.08	B
1.74	A	1.54	A	2.00	C	1.66	A	1.59	A
0.88	A	0.97	A	1.33	A	1.71	A	2.45	B
1.01	A	1.87	A	1.53	A	1.83	A	1.68	A
1.54	B	1.05	A	1.84	B	1.87	A	1.73	A
1.04	A	1.46	A	2.50	B	1.56	A	1.60	A
0.91	A	1.19	A	1.34	A	1.58	A	2.01	B
1.30	C	1.28	A	1.32	A	1.50	A	1.11	A
1.35	B	1.50	B	1.19	A	1.43	A	2.44	B
0.72	A	1.25	A	1.45	A	1.52	A	1.71	A
0.83	A	1.28	A	1.20	A	1.76	A	1.56	B
1.81	A	1.58	A	1.49	A	1.53	A	1.32	A
x		1.26	A	2.86	D	2.03	A	2.12	B
0.85	A	1.36	A	1.31	A	1.84	A	1.88	A
1.19	A	1.40	A	1.84	B	1.61	A	1.56	A
1.69	A	1.89	B	1.22	A	1.48	A	x	

TABLE 10.2

Total energy consumption and energy intensity by building characteristics, occupancy characteristics, energy efficiency features, heating energy sources and equipment, cooling energy sources and equipment, and water-heating energy sources **by region**

TOTAL ENERGY CONSUMPTION (GJ)

Region	Atlantic		Quebec		Ontario		Prairies		British Columbia	
Predominant exterior wall type										
Curtain walls	3,588,317	C	5,626,967	D	18,642,511	D		F		F
Metal stud framing with surface insulation	2,417,679	B	22,594,268	C		F	9,879,656	C	4,383,895	C
Metal stud framing without surface insulation		F	1,106,390	A		F	979,925	C		F
Wood-frame walls with surface insulation	1,455,510	B	4,799,071	B	6,740,286	B	9,684,949	B	7,928,613	D
Wood-frame walls without surface insulation	410,771	C	543,094	C		F	443,967	D		F
Concrete block with interior finishing	6,354,753	A	45,664,778	C	73,985,836	A	45,331,709	A	23,884,755	B
Concrete block without interior finishing	1,831,142	C	6,337,173	C	18,044,116	A	11,886,749	D		F
Precast panels	1,262,029	C	8,135,915	C	15,809,432	C		F		F
Unknown	1,833,781	B	4,780,193	B	7,478,613	D	11,006,237	C		F
Predominant roof type										
Attic roof fully insulated	1,604,536	B	6,939,813	A	12,836,649	C	4,430,915	C	2,681,215	D
Attic roof partially insulated	418,774	C	1,798,438	D	3,573,566	C	1,262,779	C	1,676,830	D
Attic roof not insulated	185,628	D		F		F		F		F
Insulated wood-truss roof	1,057,834	B	3,924,235	C	9,529,060	B	4,871,101	C	2,351,032	B
Not insulated wood-truss roof	181,620	D	1,409,064	B		F		F		F
Insulated metal-truss roof	2,166,427	D	12,684,377	B	16,292,617	A	11,608,748	C	5,275,723	C
Not insulated metal-truss roof	176,905	C		F	3,788,346	D		F	538,878	D
Insulated deck-type roof	10,048,275	A	56,844,549	B	126,987,832	D	65,031,220	A	21,393,345	B
Not insulated deck-type roof		F	2,785,322	C	7,991,755	C	1,815,932	C		F
Unknown	2,758,476	A	11,307,814	D	12,350,174	B	16,388,435	C		F
Principal building activity										
Commercial and institutional accommodation	693,959	D	4,206,524	C		F	11,068,710	D		F
Entertainment and recreation		F	2,413,208	C		F	4,029,117	C		F
Office	972,698	A	7,389,927	C		F	25,237,755	B		F
Food retail	445,900	D	4,362,744	B	3,542,305	C	2,995,696	C		F
Non-food retail	926,573	B	5,583,586	B	5,026,499	B	6,407,342	C	6,853,238	D
Food service		F	4,788,887	C	10,810,452	A	3,439,200	B	6,946,913	D
Non-food service	709,269	C	5,320,568	C	11,100,107	B	6,398,591	D		F
Shopping malls	5,460,932	C	11,213,952	D	13,505,989	A	8,990,321	B	3,401,672	C
Warehouse/wholesale	1,734,438	C		F	4,601,971	D	5,245,294	D		F
Administration	942,359	D		F		F		F	5,194,874	D
Education	3,147,297	A	11,090,562	C	21,760,120	A	13,941,598	B	3,056,410	B
Health care	2,076,296	A	9,218,814	D	11,326,053	B	10,093,219	C	3,035,668	A
Public assembly	438,706	B		F	4,412,834	B	5,136,681	C	1,095,317	B
Other		F	411,290	C	1,828,832	D	369,242	B		F

The letter beside each estimate classifies its quality as follows: A – Excellent, B – Good, C – Acceptable, D – Use with caution,

F – Too unreliable to be published, x – Suppressed to meet the confidentiality requirements of the Statistics Act.

Due to rounding the numbers may not add up and may differ slightly among tables.

NOTE: Estimates relate only to the surveyed areas of populations of 175,000 and greater, and in Atlantic Canada to populations of 50,000 and greater.

Source: Commercial and Institutional Building Energy Use Survey 2000.

This table is a continuation of the previous two pages.

This table continues on the next two pages.

TOTAL ENERGY INTENSITY (GJ/m²)

Atlantic		Quebec		Ontario		Prairies		British Columbia	
2.84	C	1.07	A	1.52	A	2.19	A	0.85	D
0.87	B	1.68	A	3.45	C	1.50	A	2.47	B
1.32	B	1.75	A	1.13	A	0.85	A	0.63	A
1.03	B	0.90	A	1.78	A	1.88	A	2.59	B
1.11	B	0.78	A	1.86	D	1.81	B	2.02	C
0.99	A	1.57	A	1.44	A	1.57	A	1.56	A
1.31	A	1.07	A	1.22	A	1.86	A	1.14	A
1.00	A	1.41	A	1.52	A	2.26	A	2.05	B
0.91	A	0.95	A	1.05	A	1.09	A	1.87	A
0.94	A	0.93	A	1.28	A	1.32	A	2.19	C
0.84	A	2.61	B	1.90	B	1.97	C	1.55	B
1.71	B	1.79	B	1.84	B	1.24	A	1.31	A
0.82	A	1.10	B	1.71	A	1.78	A	0.78	B
1.09	D	1.60	A	2.12	A	2.51	A	2.08	C
0.97	C	1.28	A	1.07	A	1.64	A	1.35	A
0.54	A	0.79	A	1.53	B	1.60	A	2.73	B
1.42	A	1.51	A	2.02	B	1.77	A	1.83	A
0.67	B	1.60	C	1.45	A	1.84	A	1.91	B
1.06	A	1.47	B	1.21	A	1.18	A	1.79	A
1.00	B	1.29	A	2.23	A	1.35	A	1.72	A
1.53	A	1.45	A	1.57	B	1.89	A	1.97	A
0.83	A	0.88	A	2.59	D	1.81	A	1.36	A
2.83	A	2.45	B	2.71	A	3.65	A	2.79	C
0.68	A	0.93	B	1.06	A	1.92	A	2.36	C
1.11	B	2.92	A	3.74	A	4.85	A	3.36	B
0.72	B	1.29	A	1.30	A	1.91	A	1.29	C
2.33	A	1.64	B	1.04	A	1.12	A	1.69	B
0.51	A	1.69	B	1.05	B	1.20	A	0.87	A
1.16	A	1.22	A	1.67	A	2.30	B	1.58	A
0.93	A	0.94	A	0.93	A	1.07	A	0.65	A
2.20	A	2.06	A	2.41	A	2.96	A	2.96	A
0.93	A	2.04	B	1.28	A	1.52	B	0.80	B
1.82	C	0.66	A	1.31	C	2.59	B	0.87	B

TABLE

10.2

Total energy consumption and energy intensity by building characteristics, occupancy characteristics, energy efficiency features, heating energy sources and equipment, cooling energy sources and equipment, and water-heating energy sources **by region**

TOTAL ENERGY CONSUMPTION (GJ)

Region →	Atlantic		Quebec		Ontario		Prairies		British Columbia	
Number of workers										
Less than 5	1,685,616	C	4,683,010	B	12,172,541	B	6,706,661	B		F
5–9	1,520,908	B	4,466,156	A	13,198,380	A	10,943,386	C	3,716,025	C
10–19	1,818,650	C	9,524,395	B	12,189,924	A	8,450,332	B	9,775,639	C
20–49	2,466,227	B	13,772,553	B	17,584,621	A	13,616,040	A	5,247,166	B
50–99	2,166,895	B	12,635,908	B	20,650,287	C	13,450,209	C	10,528,242	D
100–249	2,087,208	C	9,801,010	D	12,646,902	C	7,866,149	C	2,356,021	C
250 and more	7,495,314	B	44,704,817	C	117,534,955	C	48,689,070	B	8,453,418	B
Weekly hours of operation										
Less than 40		F	1,985,745	C	6,304,105	B	2,330,990	B	1,543,196	D
40–48	2,877,165	B	15,573,683	C	22,981,419	A	18,015,249	B	4,659,353	D
49–60	2,403,265	B	20,129,391	C	34,275,563	B	22,267,817	A	6,091,700	B
61–84	6,921,332	B	18,341,711	B		F	19,157,357	B	10,497,984	C
85–167	3,406,683	A	16,975,144	A	29,301,675	B	27,970,800	A	15,932,949	B
Open continuously	3,041,595	A	26,582,176	D	21,600,276	C	19,979,633	B	6,398,563	B
Building ownership										
Private individual(s)	4,748,748	C	17,468,706	C		F	13,730,708	B	9,483,481	C
Private organization	7,162,266	B	43,404,614	C	71,262,887	A	52,833,814	B	23,016,846	B
Non-profit organization	1,032,537	C	6,678,416	B	9,628,853	B	13,938,877	C		F
Fed.-prov.-munic.-regional government ^c	6,297,266	A	32,036,114	B	42,040,751	A	29,218,446	B	7,691,162	A
Building conservation feature										
Reflective or shading film	5,574,026	C	38,424,083	D	121,754,437	C	38,563,727	B	15,070,855	B
Awnings or blinds	14,560,047	A	42,114,994	C	158,979,433	B	81,544,523	A	26,233,222	B
Lighting conservation feature										
Reflectors	4,675,893	A	44,959,359	C	101,943,297	D	44,324,789	B	15,890,028	B
Energy-efficient ballast	12,751,140	A	67,307,306	B	155,846,704	B	73,968,952	A	27,405,384	B
Daylight controls	4,188,870	C	12,298,430	A	26,783,497	A	18,502,278	A	11,521,093	B
Occupancy sensors	1,343,328	B	28,912,437	D	22,893,714	B	22,896,754	C	8,749,038	D
Time clocks	6,392,132	B	54,044,540	B	66,568,202	A	41,506,832	B	18,798,199	B
Manual dimmer switches	3,508,002	A	38,655,748	C	114,478,121	C	48,494,308	B	15,451,643	B
Energy-efficient lamps	10,036,975	A	52,324,532	C	144,144,032	C	72,682,615	B	26,492,511	B
Other		F	17,633,387	C	17,509,125	B		F	2,019,149	D

^cIncludes all levels of government (i.e. federal, provincial, municipal and regional).

The letter beside each estimate classifies its quality as follows: A – Excellent, B – Good, C – Acceptable, D – Use with caution,

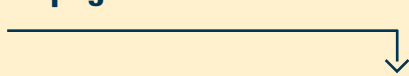
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Source: Commercial and Institutional Building Energy Use Survey 2000.

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This table continues on the next two pages. 

TOTAL ENERGY INTENSITY (GJ/m²)

Atlantic		Quebec		Ontario		Prairies		British Columbia	
1.11	A	1.11	A	1.29	A	1.19	A	1.83	C
0.76	B	0.73	A	1.79	A	1.41	A	1.31	A
0.80	A	1.26	A	1.47	A	1.72	A	2.47	B
0.78	A	1.44	A	1.22	A	1.78	A	1.37	A
0.84	A	1.55	A	1.46	A	1.74	A	1.61	A
1.28	C	1.30	B	1.40	A	1.54	A	1.86	B
1.97	A	1.59	A	2.06	C	1.69	A	1.47	A
0.77	A	0.93	A	1.09	A	1.46	A	1.11	B
0.69	A	1.20	A	1.19	A	1.43	A	1.40	A
0.86	A	1.30	A	1.28	A	1.55	A	1.55	A
1.94	A	1.17	A	2.26	C	1.60	A	1.53	B
0.85	A	1.32	A	1.67	A	1.70	A	1.69	A
1.78	A	2.21	A	2.21	A	1.88	A	3.21	A
1.17	C	1.38	A	2.79	B	1.78	A	1.77	A
1.03	A	1.43	A	1.44	A	1.68	A	2.00	A
1.11	A	1.15	B	1.07	A	1.55	A	1.35	B
1.24	A	1.43	A	1.33	A	1.50	A	1.20	A
1.21	B	1.50	A	2.12	C	1.50	A	1.58	A
1.27	A	1.37	A	1.93	B	1.63	A	1.63	A
0.91	A	1.64	A	2.16	C	1.79	A	1.44	A
1.27	A	1.51	A	1.86	B	1.63	A	1.40	A
1.34	C	1.03	A	1.51	A	1.45	A	1.48	A
1.09	A	1.68	B	1.44	A	2.05	A	1.47	A
1.45	A	1.76	A	1.41	A	1.53	A	1.44	A
1.26	A	1.72	A	2.36	B	1.79	A	1.88	A
1.19	A	1.59	A	1.87	B	1.69	A	1.44	A
2.09	C	1.73	B	1.11	A	1.91	A	1.71	B

TABLE
10.2

Total energy consumption and energy intensity by building characteristics, occupancy characteristics, energy efficiency features, heating energy sources and equipment, cooling energy sources and equipment, and water-heating energy sources **by region**

TOTAL ENERGY CONSUMPTION (GJ)

Region →	Atlantic		Quebec		Ontario		Prairies		British Columbia	
Heating/cooling conservation feature										
Variable air-volume system	7,088,968	B	48,915,792	A	124,051,319	C	57,530,132	B	20,310,157	B
Outdoor-air economizer	11,716,760	A	70,555,589	B	87,790,148	A	75,864,339	A	18,178,863	B
Temperature setback	11,706,882	A	56,799,702	B	86,513,108	A	65,481,491	A	28,865,946	B
Equipment reset	11,416,859	A	43,830,366	B	137,804,115	C	67,116,645	B	22,557,399	A
Heat recovery system	5,427,504	C	35,306,886	C	42,239,855	B	29,150,760	B	7,936,610	B
Regular maintenance	16,985,339	A	91,336,589	A	196,513,015	B	102,880,888	A	37,906,022	A
Percentage of the floor space heated										
Less than 1		x		x		x		x		x
1–50	798,528	B		F	2,745,461	C	2,616,021	D		F
51–99	815,514	A		F	16,383,490	D	4,399,873	B	10,762,278	C
100	17,626,775	A	88,505,205	A	186,743,933	B	102,672,343	A	29,866,804	B
Energy source for heating (more than one may apply)										
Electricity	11,455,053	A	75,281,938	B	59,957,058	A	33,484,790	C	26,753,967	B
Natural gas		x	76,146,355	B	173,594,282	B	105,915,054	A	37,438,158	A
Fuel/heating oil	10,150,940	B	13,352,087	B	2,751,468	B		F	2,432,208	A
Composite ^d	5,677,227	B	2,316,308	B		F		F	1,367,417	B
Main energy source for heating										
Electricity	7,369,375	A	47,581,386	B	22,794,668	B	4,209,833	C	14,019,385	C
Natural gas		x	46,704,227	A	166,203,091	B	100,888,258	A	29,230,404	A
Fuel/heating oil	8,611,971	B	2,845,051	B	1,132,179	B		x		F
Composite ^d	3,259,471	C	2,450,726	C	15,742,946	C		F	1,244,958	B
Heating equipment (more than one may apply)										
Furnaces	5,556,077	C	18,104,355	C	31,844,528	A	40,291,291	B	17,190,429	B
Heat pumps	3,532,608	D	7,429,863	B		F		F	6,721,822	C
Individual space heaters	8,724,781	B	57,623,064	B	45,581,883	A	32,425,460	B	16,136,599	B
Boilers	6,503,087	A	46,148,166	B	120,566,843	C	67,289,511	B	19,747,103	A
Packaged heating units	5,273,068	B	40,726,912	B	47,177,382	A	36,619,812	B	14,729,397	B
District steam or hot water or other	2,290,032	B		F	25,134,556	C	10,757,864	C	3,297,474	B

^dIncludes the categories of diesel or kerosene; bottled gas, liquid petroleum gas or propane; district steam; district hot water; wood; coal; solar thermal panels; and others.

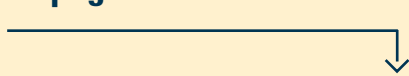
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Source: Commercial and Institutional Building Energy Use Survey 2000.

This table is a continuation of the previous two pages. 

This table continues on the next two pages. 

TOTAL ENERGY INTENSITY (GJ/m²)

Atlantic		Quebec		Ontario		Prairies		British Columbia	
1.43	A	1.45	A	2.09	B	1.69	A	1.65	A
1.42	A	1.44	A	1.38	A	1.62	A	1.58	A
1.40	A	1.56	A	1.33	A	1.56	A	1.54	A
1.34	A	1.46	A	1.90	B	1.76	A	1.51	A
1.70	B	1.72	A	1.48	A	1.80	A	1.31	A
1.19	A	1.45	A	1.74	A	1.64	A	1.61	A
x		x		x		x		x	
0.74	B	0.96	A	1.44	A	1.75	B	1.68	D
1.00	B	2.31	A	1.53	A	2.11	B	1.50	A
1.17	A	1.38	A	1.74	A	1.61	A	1.75	A
1.04	A	1.37	A	1.30	A	1.43	A	1.63	A
x		1.75	A	1.79	A	1.65	A	1.69	A
1.30	A	1.44	A	1.47	A	1.14	A	2.16	A
1.91	B	1.70	A	4.06	B	2.81	A	3.53	A
0.89	A	1.29	A	1.17	A	1.22	B	1.60	A
x		1.60	A	1.79	B	1.61	A	1.68	A
1.25	A	0.72	B	1.18	A	x		1.23	A
1.84	B	2.36	A	2.40	A	3.54	A	4.09	A
1.25	C	1.63	A	1.40	A	1.67	A	2.11	A
1.40	C	1.10	A	1.41	A	2.11	B	1.17	A
1.00	B	1.46	A	1.32	A	1.48	A	1.81	A
1.25	A	1.55	A	1.94	C	1.51	A	1.50	A
2.09	B	1.37	A	1.25	A	1.55	A	1.65	A
1.69	A	1.93	A	1.90	A	2.12	A	1.27	B

TABLE 10.2

Total energy consumption and energy intensity by building characteristics, occupancy characteristics, energy efficiency features, heating energy sources and equipment, cooling energy sources and equipment, and water-heating energy sources **by region**

TOTAL ENERGY CONSUMPTION (GJ)

Region →	Atlantic		Quebec		Ontario		Prairies		British Columbia	
Main heating equipment										
Furnaces	4,374,161	C	7,830,813	B	26,509,268	A	21,098,913	A	10,624,895	C
Heat pumps	623,708	B	3,982,026	B		F		F	3,988,588	D
Individual space heaters	4,530,368	B	14,836,885	A	12,181,142	B		F		F
Boilers	5,607,392	A	29,436,405	A	111,019,387	D	62,050,055	B	16,770,917	B
Packaged heating units	2,400,357	D	27,219,567	B	29,341,251	A	14,090,440	B	7,884,966	C
District steam or hot water or other	1,704,831	C		F	17,734,130	C	7,301,737	C	1,410,671	B
Not heated		x		x		x		x		x
Percentage of the floor space cooled										
Not cooled	3,879,692	B	9,453,045	C	10,895,307	B	13,821,714	C	16,214,948	C
1–50	4,162,054	B	23,246,170	A	23,430,964	A	22,548,355	B	7,306,602	B
51–99	4,563,349	C	35,594,245	D	44,080,138	B	26,027,628	B	10,511,458	C
100	6,635,722	B	31,294,389	A	127,571,202	D	47,324,148	B	11,090,738	B
Space-cooling energy source										
Electricity	14,797,728	A	78,313,782	A	176,412,850	B	87,911,890	A	23,162,165	B
Natural gas		x	11,814,195	D	12,430,911	B	9,025,329	B	8,024,272	C
Fuel/heating oil		F		x		x		x		x
Composite ^e	1,038,039	C		F		F		F		F
Cooling equipment (more than one may apply)										
Residential-type air conditioners	563,969	B	6,571,710	B	17,212,910	A	12,879,475	C		F
Heat pumps		F	8,458,822	B		F		F	5,836,780	B
Individual room air conditioners	2,515,370	B	26,970,224	D	23,066,225	A	11,763,875	D	3,842,322	A
District-chilled water from outside source		x	6,642,973	D		F		F		F
Central chillers	4,698,328	C	32,736,936	D	100,083,726	D	45,976,291	C	2,980,789	B
Packaged air-conditioning units	8,909,152	A	65,258,104	B	73,956,294	A	49,330,973	A	15,876,886	B
Swamp coolers		x		F		F		F		F
Composite ^f		F	6,794,700	D		F		F		F
Other		x		F		F	2,094,779	C		F

^eIncludes the air-conditioning categories of fuel/heating oil; diesel or kerosene; bottled gas, liquid petroleum gas or propane; district-chilled water; and others.

^fIncludes the categories of district-chilled water from outside source; swamp coolers; and others.


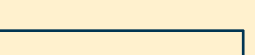
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Source: Commercial and Institutional Building Energy Use Survey 2000.

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TOTAL ENERGY INTENSITY (GJ/m²)

Atlantic		Quebec		Ontario		Prairies		British Columbia	
1.10	C	1.23	A	1.46	A	1.67	A	1.80	A
0.73	A	0.88	A	1.56	A	1.13	A	1.04	B
0.88	A	1.14	A	1.39	A	1.40	A	2.74	D
1.20	A	1.35	A	1.96	C	1.50	A	1.55	A
1.65	C	1.45	A	1.34	A	1.92	A	1.82	B
1.97	A	2.47	A	2.09	A	2.87	A	3.46	A
x		x		x		x		x	
0.74	A	1.09	A	1.02	A	1.15	A	1.62	B
0.85	A	1.25	A	1.25	A	1.40	A	1.80	A
2.47	B	1.84	A	1.36	A	1.88	A	1.60	A
1.34	A	1.28	A	2.20	B	1.85	A	1.76	A
1.32	A	1.40	A	1.88	B	1.72	A	1.64	A
x		1.62	A	1.13	A	1.68	A	1.79	A
1.82	A	x		x		x		x	
1.73	B	1.66	C	1.68	A	2.87	A	2.53	D
0.99	B	1.34	A	1.38	A	1.80	A	1.79	A
1.50	D	1.42	A	1.40	A	1.28	A	1.61	A
1.02	A	1.81	A	1.31	A	1.97	A	1.68	A
x		1.54	B	1.70	A	2.93	A	2.79	D
1.85	B	1.84	A	2.46	C	1.74	A	1.40	A
1.37	A	1.54	A	1.39	A	1.64	A	2.06	A
x		1.27	A	1.85	A	2.42	A	3.18	D
2.86	A	1.39	B	3.52	C	2.44	A	1.86	A
x		0.69	A	4.44	A	2.14	A	1.89	A

TABLE

10.2

Total energy consumption and energy intensity by building characteristics, occupancy characteristics, energy efficiency features, heating energy sources and equipment, cooling energy sources and equipment, and water-heating energy sources **by region**

TOTAL ENERGY CONSUMPTION (GJ)

Region →	Atlantic		Quebec		Ontario		Prairies		British Columbia	
Main cooling equipment										
Residential-type air conditioners	268,607	B	4,014,121	B	10,744,733	A	11,340,073	D		F
Heat pumps	980,251	B	4,203,636	C		F		F		F
Individual room air conditioners	1,714,990	C	4,063,463	B	7,266,169	B	1,823,847	C	3,656,476	A
District-chilled water from outside source		x		F		F	3,750,347	D		x
Central chillers	4,392,372	C		F	63,793,659	B	44,240,901	C	2,755,541	B
Packaged air-conditioning units	7,530,800	B	45,264,718	A	57,438,053	A	29,015,643	A	13,134,811	B
Composite ^f		x		F		F	5,034,687	C		F
Not cooled	3,879,692	B	9,453,045	C	10,895,307	B	13,821,714	C	16,214,948	C
Energy source for water heating										
Electricity	13,861,331	A	59,478,464	B	56,461,249	B	11,990,314	B	17,621,574	B
Natural gas		x	35,450,296	B	97,796,182	A	92,359,216	A	29,014,222	B
Fuel/heating oil	3,783,292	A	3,111,543	C		F		x		F
Composite ^d	2,184,205	C	2,105,210	D		F		F	1,204,580	B
Not heated		F		F		F		F		F

^dIncludes the categories of diesel or kerosene; bottled gas, liquid petroleum gas or propane; district steam; district hot water; wood; coal; solar thermal panels; and others.

^fIncludes the categories of district-chilled water from outside source; swamp coolers; and others.

The letter beside each estimate classifies its quality as follows: A – Excellent, B – Good, C – Acceptable, D – Use with caution, F – Too unreliable to be published, x – Suppressed to meet the confidentiality requirements of the Statistics Act.

Due to rounding the numbers may not add up and may differ slightly among tables.

NOTE: Estimates relate only to the surveyed areas of populations of 175,000 and greater, and in Atlantic Canada to populations of 50,000 and greater.

Source: Commercial and Institutional Building Energy Use Survey 2000.

This table is a continuation of the previous two pages. 

TOTAL ENERGY INTENSITY (GJ/m²)

Atlantic		Quebec		Ontario		Prairies		British Columbia	
0.68	B	1.06	A	1.20	A	1.96	A	1.80	A
0.67	A	1.04	A	1.50	A	1.25	A	1.13	A
0.96	A	0.90	B	1.43	A	1.51	B	1.74	A
x		1.65	C	1.92	A	3.28	B	x	
1.91	B	1.99	A	1.89	B	1.72	A	1.42	A
1.33	A	1.38	A	1.32	A	1.66	A	1.93	A
x		1.47	C	3.70	C	2.74	B	1.85	A
0.74	A	1.09	A	1.02	A	1.15	A	1.62	B
1.04	A	1.35	A	1.31	A	1.17	A	1.49	A
x		1.47	A	1.42	A	1.63	A	1.71	A
1.25	A	1.08	D	1.26	A	x		1.71	A
1.36	A	3.19	A	4.20	A	3.20	A	4.35	A
F		0.72	D	1.41	B	0.80	B	1.25	A

TABLE 10.3

Total energy consumption and energy intensity by building characteristics, occupancy characteristics, energy efficiency features, heating energy sources and equipment, cooling energy sources and equipment, and water-heating energy sources **by building floor space**

TOTAL ENERGY CONSUMPTION (GJ)

Building floor space	93–464 m ² (1,000–4,999 sq. ft.)	465–929 m ² (5,000–9,999 sq. ft.)	929–4,645 m ² (10,000–49,999 sq. ft.)	4,645–9,290 m ² (50,000–99,999 sq. ft.)	9,290 m ² and more (100,000 sq. ft. and more)
All buildings					
Canada	27,976,962 A	35,573,989 A	108,024,461 A	53,312,576 A	254,763,880 B
Year of construction					
Before 1920	2,368,591 B	F	6,697,644 B	3,805,205 C	7,741,029 D
1920–1959	10,338,733 A	11,147,958 A	26,538,235 A	8,115,334 C	37,797,884 D
1960–1969	2,755,820 A	3,243,005 A	12,985,124 A	5,227,507 B	46,187,739 C
1970–1979	5,193,084 B	5,348,813 B	25,303,528 B	11,580,314 B	104,109,836 C
1980–1989	3,271,310 A	5,525,566 B	22,921,456 A	13,105,763 C	23,204,367 A
1990–1999	4,049,424 A	4,700,967 B	13,578,474 A	11,478,453 B	35,723,026 B
Number of floors					
1	13,663,110 A	12,341,989 B	26,061,635 A	6,326,487 B	17,436,252 C
2	9,340,255 A	13,067,315 A	41,551,623 A	15,858,659 B	28,399,619 B
3	4,207,509 A	7,330,923 B	18,521,632 A	12,204,015 C	11,802,098 B
4–9	758,398 B	2,821,943 C	20,481,721 C	15,066,203 A	80,234,664 A
10 and more	x	x	F	3,857,212 C	116,891,248 C
Predominant type of window					
Single-glazed	7,616,159 A	12,447,142 C	23,547,307 A	8,355,405 B	21,792,825 B
Double-glazed ^a	19,992,557 A	22,752,988 A	83,142,865 A	44,924,758 A	229,531,278 B
Triple-glazed ^b	368,246 D	373,859 C	1,334,289 C	x	3,439,777 D
Predominant exterior wall type					
Curtain walls	660,214 D	F	3,702,555 C	3,373,770 C	30,580,962 C
Metal stud framing with surface insulation	3,053,622 C	3,627,322 C	9,082,700 A	9,940,688 C	F
Metal stud framing without surface insulation	F	293,927 D	1,802,863 C	x	x
Wood-frame walls with surface insulation	7,484,129 A	9,067,222 C	11,501,376 A	F	x
Wood-frame walls without surface insulation	1,331,300 B	F	439,830 C	x	x
Concrete block with interior finishing	9,752,361 A	14,700,022 A	55,033,280 A	24,388,164 A	91,348,003 A
Concrete block without interior finishing	2,072,101 A	2,605,635 B	15,539,677 B	4,402,525 C	14,798,874 B
Precast panels	331,988 D	F	4,167,296 D	5,671,317 C	27,202,115 C
Unknown	2,622,873 C	1,284,193 B	6,754,883 C	4,364,756 C	12,708,037 C

^aIncludes all the different types of windows that are double-glazed (i.e. double-glazed, double-sealed glazed, double-glazed with low-E coating and double-glazed with low-E gas-filled).

^bIncludes all the different types of windows that are triple-glazed (i.e. triple-glazed, triple-glazed with low-E coating and triple-glazed low-E gas-filled). The letter beside each estimate classifies its quality as follows: A – Excellent, B – Good, C – Acceptable, D – Use with caution, F – Too unreliable to be published, x – Suppressed to meet the confidentiality requirements of the Statistics Act.

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Source: Commercial and Institutional Building Energy Use Survey 2000.

This table continues on the next two pages. 

TOTAL ENERGY INTENSITY (GJ/m²)

93–464 m ² (1,000–4,999 sq. ft.)		465–929 m ² (5,000–9,999 sq. ft.)		929–4,645 m ² (10,000–49,999 sq. ft.)		4,645–9,290 m ² (50,000–99,999 sq. ft.)		9,290 m ² and more (100,000 sq. ft. and more)	
2.06	A	1.80	A	1.35	A	1.18	A	1.77	A
1.73	A	2.03	B	1.42	A	1.12	A	1.28	B
1.92	A	1.86	A	1.47	A	0.98	A	2.06	A
1.86	A	1.54	A	1.20	A	1.14	A	1.94	B
2.75	A	1.62	A	1.50	A	1.41	A	1.98	B
1.71	A	2.07	B	1.20	A	1.33	A	1.41	A
2.65	A	1.59	A	1.30	A	1.06	A	1.34	A
2.54	A	1.76	B	1.14	A	0.91	A	1.53	B
1.87	A	1.88	A	1.37	A	1.08	A	1.34	A
1.67	A	1.94	A	1.35	A	1.26	A	0.96	A
1.13	A	1.37	B	1.62	A	1.30	A	1.55	A
x		x		2.87	D	1.70	A	2.46	C
1.98	A	2.13	A	1.32	A	1.21	A	1.34	A
2.11	A	1.66	A	1.36	A	1.18	A	1.83	A
1.42	C	1.62	B	1.55	B	x		1.36	A
2.50	A	1.70	B	1.40	A	0.91	B	1.65	A
2.31	B	1.43	B	1.17	A	1.34	A	3.22	B
1.04	A	1.04	B	1.00	A	x		x	
1.99	A	2.23	B	1.28	A	0.82	A	x	
1.27	A	1.98	C	0.91	A	x		x	
2.25	A	1.95	A	1.37	A	1.32	A	1.52	A
1.86	A	1.26	A	1.59	A	0.96	A	1.22	A
1.16	B	1.26	A	2.51	A	1.19	A	1.69	A
3.25	B	1.09	A	1.00	A	0.90	A	1.05	A

TABLE 10.3

Total energy consumption and energy intensity by building characteristics, occupancy characteristics, energy efficiency features, heating energy sources and equipment, cooling energy sources and equipment, and water-heating energy sources **by building floor space**

TOTAL ENERGY CONSUMPTION (GJ)

Building floor space →	93–464 m ² (1,000–4,999 sq. ft.)	465–929 m ² (5,000–9,999 sq. ft.)	929–4,645 m ² (10,000–49,999 sq. ft.)	4,645–9,290 m ² (50,000–99,999 sq. ft.)	9,290 m ² and more (100,000 sq. ft. and more)
Predominant roof type					
Attic roof fully insulated	4,918,469 A	3,392,762 C	5,829,546 A	2,429,778 B	11,922,572 D
Attic roof partially insulated	1,523,366 B	2,798,542 D	2,006,772 C	589,375 D	1,812,331 D
Attic roof not insulated	749,142 C	427,419 D	F	x	x
Insulated wood-truss roof	3,447,034 A	5,943,254 A	7,076,284 B	2,419,676 D	F
Not insulated wood-truss roof	1,280,834 C	887,343 D	F	F	x
Insulated metal-truss roof	2,393,346 A	3,483,111 B	15,166,442 A	6,250,996 B	20,733,997 B
Not insulated metal-truss roof	351,121 C	1,052,096 C	F	F	1,232,404 D
Insulated deck-type roof	9,190,409 B	12,585,407 B	44,669,414 A	27,836,058 A	186,023,933 C
Not insulated deck-type roof	1,241,114 B	3,776,530 D	7,554,307 C	F	x
Unknown	2,882,129 C	1,227,526 B	8,715,350 B	6,174,648 B	26,488,969 C
Principal building activity					
Commercial and institutional accommodation	185,250 C	2,027,569 C	11,900,330 D	F	11,969,996 D
Entertainment and recreation	447,415 C	1,087,033 B	9,188,416 C	3,938,671 D	6,993,558 D
Office	1,657,690 A	2,051,172 A	8,490,570 B	10,686,702 C	96,847,003 D
Food retail	4,089,583 B	1,163,085 D	6,369,313 C	100,110 C	x
Non-food retail	2,293,133 A	7,011,666 D	7,827,989 B	2,537,101 C	5,127,349 D
Food service	8,479,605 A	10,778,688 B	6,377,766 D	x	x
Non-food service	3,758,503 A	3,172,253 B	11,821,691 B	3,100,678 C	F
Shopping malls	1,022,810 C	2,967,485 C	9,593,399 B	3,456,743 C	25,532,428 B
Warehouse/wholesale	705,180 B	823,840 B	7,115,941 B	3,300,257 C	F
Administration	281,039 B	750,069 B	5,394,270 B	5,784,429 C	21,130,083 D
Education	F	684,157 C	16,135,831 A	9,164,340 B	25,200,539 B
Health care	730,527 B	506,087 D	1,344,231 C	F	28,877,725 A
Public assembly	2,211,236 B	2,149,965 C	5,274,573 B	F	F
Other	303,870 D	400,921 C	1,190,139 D	F	x
Number of workers					
Less than 5	9,546,135 A	5,234,067 A	12,559,404 B	2,652,775 D	x
5–9	7,924,288 A	6,568,667 A	11,771,580 B	2,764,465 D	F
10–19	5,194,122 A	13,312,292 B	16,527,324 A	3,886,564 C	F
20–49	4,141,743 B	6,277,756 B	26,103,488 A	10,794,153 C	5,369,468 C
50–99	241,030 D	F	27,681,544 B	10,364,768 C	19,444,343 C
100–249	91,739 D	F	5,188,389 B	8,598,045 B	18,421,606 B
250 and more	F	x	8,192,732 B	14,251,808 A	203,571,288 B



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TOTAL ENERGY INTENSITY (GJ/m²)

93–464 m ² (1,000–4,999 sq. ft.)		465–929 m ² (5,000–9,999 sq. ft.)		929–4,645 m ² (10,000–49,999 sq. ft.)		4,645–9,290 m ² (50,000–99,999 sq. ft.)		9,290 m ² and more (100,000 sq. ft. and more)	
1.99	A	1.39	B	0.89	A	0.88	A	1.26	A
1.99	A	2.98	B	1.27	A	0.96	A	2.02	B
1.56	A	1.43	A	2.14	B	x		x	
1.78	A	1.75	A	1.14	A	0.88	C	1.50	C
1.79	B	0.98	A	2.25	A	2.18	C	x	
2.17	A	1.43	A	1.18	A	1.08	A	1.29	A
1.46	B	2.00	B	1.64	B	1.05	A	1.04	B
2.17	A	1.94	A	1.44	A	1.28	A	2.01	A
2.02	A	3.14	B	1.51	A	1.11	A	x	
2.82	B	1.05	A	1.00	A	1.07	A	1.38	A
1.29	B	1.84	B	1.86	A	1.23	A	1.50	A
1.59	B	1.28	A	1.78	A	1.99	A	1.47	B
1.25	A	1.01	A	1.25	A	1.54	A	2.39	C
2.73	A	2.63	B	3.15	A	2.04	A	x	
1.06	A	1.83	C	1.12	A	0.96	B	1.92	B
4.42	A	4.14	A	2.36	B	x		x	
1.36	A	1.07	A	1.45	A	0.97	A	3.08	A
2.26	A	2.22	B	1.12	A	0.83	A	1.45	A
1.68	B	0.90	A	1.07	A	0.85	A	1.61	B
1.29	A	1.00	A	1.75	A	1.68	A	1.60	A
2.91	C	1.65	C	1.04	A	0.85	A	0.87	A
1.11	A	1.13	B	1.31	A	2.21	A	2.76	A
2.51	A	1.36	A	0.86	A	0.82	A	2.65	A
1.38	B	0.77	A	1.48	D	0.84	A	x	
1.50	A	1.17	A	1.34	A	0.98	A	x	
2.14	A	1.39	A	1.36	A	1.05	A	0.76	B
2.41	A	2.23	A	1.18	A	1.22	B	1.68	C
3.81	A	1.91	A	1.21	A	1.39	A	1.11	B
1.98	B	2.55	C	1.69	A	1.00	A	1.66	A
1.47	A	3.73	A	1.36	A	1.20	A	1.44	A
7.67	B	x		1.31	A	1.26	A	1.92	A

TABLE 10.3

Total energy consumption and energy intensity by building characteristics, occupancy characteristics, energy efficiency features, heating energy sources and equipment, cooling energy sources and equipment, and water-heating energy sources **by building floor space**

TOTAL ENERGY CONSUMPTION (GJ)

Building floor space →	93–464 m ² (1,000–4,999 sq. ft.)		465–929 m ² (5,000–9,999 sq. ft.)		929–4,645 m ² (10,000–49,999 sq. ft.)		4,645–9,290 m ² (50,000–99,999 sq. ft.)		9,290 m ² and more (100,000 sq. ft. and more)	
Weekly hours of operation										
Less than 40	2,371,843	B	2,303,244	B	3,558,769	B		F	2,324,592	D
40–48	5,317,844	B	3,546,073	A	19,189,532	A	11,747,144	B	24,306,276	B
49–60	4,997,632	A	6,246,829	B	24,007,085	A	10,611,739	A	39,304,452	B
61–84	5,465,372	B	9,471,919	C	23,975,175	A	8,938,288	B		F
85–167	6,867,335	A	10,799,776	C	25,954,584	A	12,707,440	B	37,258,117	B
Open continuously	2,956,937	B	3,206,149	C	11,339,316	D		F	52,988,240	B
Building ownership										
Private individual(s)	13,196,110	A	12,750,413	A	21,238,319	A	7,678,280	B		F
Private organization	10,364,705	A	17,441,955	B	49,076,869	A	19,808,550	A	100,988,347	B
Non-profit organization	2,650,944	B	3,963,139	B	14,029,645	A	4,921,545	C	10,645,667	D
Fed.-prov.-munic.-regional government ^c		F	1,418,482	B	23,679,629	A	20,904,201	B	69,516,223	A
Building conservation feature										
Reflective or shading film	3,374,098	A	8,218,252	B	27,007,335	B	21,555,021	A	159,232,423	C
Awnings or blinds	12,736,218	A	20,689,905	A	60,496,279	A	37,113,302	A	192,396,515	B
Lighting conservation feature										
Reflectors	5,756,617	B	7,576,147	B	28,889,341	A	19,147,032	B	150,424,229	C
Energy-efficient ballast	10,952,902	A	10,360,629	B	63,400,117	A	34,257,455	A	218,308,382	B
Daylight controls	3,943,083	B	4,366,401	C	13,208,923	A	7,947,624	B	43,828,138	A
Occupancy sensors	1,839,077	D	897,770	D	10,092,977	B	4,182,615	B	67,782,833	B
Time clocks	4,071,586	B	10,904,760	A	30,951,611	B	17,285,959	B	124,095,989	A
Manual dimmer switches	5,345,306	A	10,949,513	A	28,295,394	B	20,141,434	B	155,856,175	C
Energy-efficient lamps	6,491,837	A	8,462,843	A	40,078,301	A	29,674,332	A	220,973,350	B
Other	1,681,758	B	2,906,587	C	11,354,309	B	9,741,210	B	31,715,391	C
Heating/cooling conservation feature										
Variable air-volume system	6,899,650	A	9,557,934	B	38,913,626	A	27,930,213	A	174,594,945	B
Outdoor-air economizer	8,263,763	A	9,861,442	A	49,435,986	A	34,799,766	A	161,744,741	A
Temperature setback	9,682,676	A	10,450,202	A	50,117,097	A	28,278,168	A	150,838,988	A
Equipment reset	8,109,694	A	8,814,174	B	42,710,919	A	28,377,274	A	194,713,323	B
Heat recovery system	4,183,696	B	1,834,859	B	16,744,177	B	15,314,522	C	81,984,361	B
Regular maintenance	21,306,894	A	26,586,697	A	94,883,006	A	51,457,497	A	251,387,759	B

^cIncludes all levels of government (i.e. federal, provincial, municipal and regional).



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This table continues on the next two pages. 

TOTAL ENERGY INTENSITY (GJ/m²)

93–464 m ² (1,000–4,999 sq. ft.)		465–929 m ² (5,000–9,999 sq. ft.)		929–4,645 m ² (10,000–49,999 sq. ft.)		4,645–9,290 m ² (50,000–99,999 sq. ft.)		9,290 m ² and more (100,000 sq. ft. and more)	
1.84	A	1.32	A	0.93	A	0.96	A	0.92	A
1.58	A	1.04	A	1.12	A	1.09	A	1.37	A
1.39	A	1.30	A	1.25	A	1.10	A	1.51	A
2.31	A	1.96	B	1.24	A	1.09	A	2.25	C
3.03	A	2.89	A	1.78	A	1.32	A	1.24	A
4.27	A	2.48	B	1.90	A	1.59	A	2.24	A
1.74	A	1.68	A	1.30	A	1.12	A	3.48	B
2.53	A	2.17	A	1.42	A	1.16	A	1.53	A
2.02	A	1.40	A	1.24	A	1.21	B	1.19	B
3.08	C	1.07	A	1.32	A	1.21	A	1.45	A
1.76	A	1.97	A	1.35	A	1.24	A	2.01	B
2.25	A	1.90	A	1.40	A	1.23	A	1.92	A
2.83	A	2.08	A	1.35	A	1.24	A	2.06	B
2.43	A	1.52	A	1.47	A	1.15	A	1.84	A
2.38	A	1.98	B	1.14	A	0.94	A	1.49	A
2.61	C	1.14	A	1.27	A	1.36	A	1.74	A
2.22	A	2.11	A	1.48	A	1.15	A	1.55	A
2.43	A	2.43	A	1.65	A	1.40	A	2.20	B
2.30	A	1.78	A	1.42	A	1.15	A	1.87	A
1.86	A	1.69	A	1.33	A	1.57	A	1.57	A
2.44	A	2.03	A	1.53	A	1.22	A	1.97	B
2.50	A	1.57	A	1.48	A	1.23	A	1.50	A
2.22	A	1.75	A	1.39	A	1.11	A	1.53	A
2.74	A	1.72	A	1.38	A	1.23	A	1.91	A
2.89	A	1.34	A	1.50	A	1.38	A	1.66	A
2.14	A	1.75	A	1.41	A	1.19	A	1.79	A

TABLE 10.3

Total energy consumption and energy intensity by building characteristics, occupancy characteristics, energy efficiency features, heating energy sources and equipment, cooling energy sources and equipment, and water-heating energy sources by **building floor space**

TOTAL ENERGY CONSUMPTION (GJ)

Building floor space	93–464 m ² (1,000–4,999 sq. ft.)	465–929 m ² (5,000–9,999 sq. ft.)	929–4,645 m ² (10,000–49,999 sq. ft.)	4,645–9,290 m ² (50,000–99,999 sq. ft.)	9,290 m ² and more (100,000 sq. ft. and more)
Percentage of the floor space heated					
Less than 1	x	x	x	x	x
1–50	734,628 B	625,190 C	5,960,061 D	5,568,279 C	1,384,830 D
51–99	2,158,340 B	3,899,430 C	5,819,204 A	3,310,387 C	24,603,930 C
100	25,045,478 A	31,039,197 A	96,121,354 A	44,433,910 A	228,775,121 B
Energy source for heating (more than one may apply)					
Electricity	11,489,974 A	18,722,097 B	51,761,204 A	26,007,680 A	98,951,851 B
Natural gas	21,581,587 A	27,872,821 A	85,901,602 A	43,475,451 A	214,262,390 B
Fuel/heating oil	1,869,765 A	1,586,014 A	6,062,756 A	2,771,796 D	16,545,303 B
Composite ^d	566,908 C	357,585 C	4,121,392 B	1,150,253 C	F
Main energy source for heating					
Electricity	6,158,039 A	8,991,635 C	21,976,676 A	12,683,357 A	46,164,939 C
Natural gas	19,819,792 A	25,241,193 A	79,381,137 A	38,496,405 A	180,087,453 B
Fuel/heating oil	1,515,692 B	1,180,412 A	3,949,742 A	1,051,860 C	5,511,243 C
Composite ^d	444,924 D	150,575 C	2,593,065 C	1,080,953 D	23,000,245 B
Heating equipment (more than one may apply)					
Furnaces	14,702,774 A	15,117,890 B	37,568,713 A	6,585,027 B	39,012,276 B
Heat pumps	899,264 B	900,232 B	5,318,856 A	8,644,618 C	28,004,287 C
Individual space heaters	5,857,565 A	13,123,509 B	46,112,461 A	20,388,629 A	75,009,623 B
Boilers	3,708,640 B	9,037,592 B	39,778,559 A	27,273,850 A	180,456,068 C
Packaged heating units	7,782,788 B	12,153,509 A	35,848,307 A	21,215,380 B	67,526,588 A
District steam or hot water or other	2,020,553 B	2,246,294 D	9,577,507 B	2,239,629 B	46,255,092 C
Main heating equipment					
Furnaces	13,148,941 A	11,239,489 A	26,092,602 A	4,709,030 C	15,247,989 C
Heat pumps	704,436 C	642,849 B	2,776,527 B	F	8,389,857 C
Individual space heaters	2,856,012 A	F	17,724,715 A	6,110,931 B	7,892,006 D
Boilers	2,931,596 B	7,619,756 B	34,796,646 A	21,545,954 A	157,990,203 C
Packaged heating units	6,738,877 B	9,994,634 A	22,078,815 A	13,641,853 C	28,482,402 B
District steam or hot water or other	1,558,584 C	220,803 D	4,431,315 C	1,454,938 C	36,761,423 C
Not heated	x	x	x	x	x



^dIncludes the categories of diesel or kerosene; bottled gas, liquid petroleum gas or propane; district steam; district hot water; wood; coal; solar thermal panels; and others.

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NOTE: Estimates relate only to the surveyed areas of populations of 175,000 and greater, and in Atlantic Canada to populations of 50,000 and greater.

Source: Commercial and Institutional Building Energy Use Survey 2000.

This table is a continuation of the previous two pages. 
 This table continues on the next two pages. 

TOTAL ENERGY INTENSITY (GJ/m²)

93–464 m ² (1,000–4,999 sq. ft.)		465–929 m ² (5,000–9,999 sq. ft.)		929–4,645 m ² (10,000–49,999 sq. ft.)		4,645–9,290 m ² (50,000–99,999 sq. ft.)		9,290 m ² and more (100,000 sq. ft. and more)	
	x		x		x		x		x
1.15	A	0.72	B	1.44	B	1.50	A	0.89	B
2.41	A	2.43	B	1.23	A	1.01	A	1.82	A
2.09	A	1.79	A	1.35	A	1.16	A	1.77	A
1.77	A	1.80	A	1.26	A	1.09	A	1.41	A
2.45	A	2.06	A	1.43	A	1.31	A	1.92	A
1.43	A	0.95	A	1.18	A	1.19	B	1.69	A
1.34	C	0.94	B	1.83	A	1.07	C	3.92	B
1.56	A	1.61	B	1.14	A	0.93	A	1.33	A
2.39	A	2.00	A	1.42	A	1.31	A	1.87	B
1.45	A	0.88	A	0.99	A	0.85	A	1.16	C
1.57	D	0.58	B	2.62	B	1.22	B	2.69	A
2.00	A	1.77	A	1.40	A	1.19	A	1.75	A
1.24	A	0.89	A	0.99	A	1.29	A	1.57	A
1.46	A	1.61	A	1.45	A	1.17	A	1.44	A
1.99	A	2.10	A	1.34	A	1.23	A	1.86	B
3.35	A	2.65	A	1.33	A	1.15	A	1.35	A
2.21	B	2.50	C	1.65	A	1.16	A	1.96	A
1.99	A	1.51	A	1.31	A	1.07	B	1.77	A
1.19	A	0.96	A	0.96	B	1.34	A	1.18	A
1.26	A	1.52	D	1.58	A	0.97	A	0.98	A
1.81	A	1.95	A	1.32	A	1.21	A	1.85	B
3.41	A	2.72	A	1.26	A	1.25	A	1.44	A
3.23	A	0.90	C	2.22	A	1.09	B	2.48	A
x		x		x		x		x	

TABLE 10.3

Total energy consumption and energy intensity by building characteristics, occupancy characteristics, energy efficiency features, heating energy sources and equipment, cooling energy sources and equipment, and water-heating energy sources by **building floor space**

TOTAL ENERGY CONSUMPTION (GJ)

Building floor space	93–464 m ² (1,000–4,999 sq. ft.)	465–929 m ² (5,000–9,999 sq. ft.)	929–4,645 m ² (10,000–49,999 sq. ft.)	4,645–9,290 m ² (50,000–99,999 sq. ft.)	9,290 m ² and more (100,000 sq. ft. and more)
Percentage of the floor space cooled					
Not cooled	6,553,377 A	9,914,006 C	22,661,799 A	7,416,856 B	F
1–50	5,351,723 A	7,827,696 B	25,507,960 A	10,054,495 A	31,952,271 B
51–99	2,939,279 A	7,191,443 B	17,203,583 A	14,910,572 B	78,531,940 B
100	13,132,583 A	10,640,844 A	42,651,118 A	20,930,653 B	136,561,001 C
Space-cooling energy source					
Electricity	19,473,131 A	20,604,256 A	76,581,541 A	35,800,492 A	228,138,997 B
Natural gas	2,251,071 B	5,956,169 B	9,815,447 B	9,752,433 D	13,519,588 C
Fuel/heating oil	x	x	x	x	x
Composite ^e	F	89,571 D	1,501,998 B	1,638,792 D	25,402,892 C
Cooling equipment (more than one may apply)					
Residential-type air conditioners	4,451,934 A	5,314,161 B	12,487,113 A	1,894,969 C	17,790,540 C
Heat pumps	884,774 B	1,027,392 B	6,192,016 B	8,532,636 D	14,432,635 B
Individual room air conditioners	2,739,533 A	3,722,107 C	14,648,041 B	6,061,116 B	40,987,218 C
District-chilled water from outside source	F	x	1,219,208 B	1,571,766 D	26,433,141 C
Central chillers	1,052,875 C	722,725 C	11,872,341 D	8,089,953 A	164,738,177 C
Packaged air-conditioning units	13,334,313 A	17,020,934 A	59,634,070 A	27,964,240 A	95,377,853 B
Swamp coolers	x	x	286,868 D	F	F
Composite ^f	738,892 D	F	5,066,360 C	6,527,448 C	F
Other	F	F	3,640,047 D	3,773,197 D	F
Main cooling equipment					
Residential-type air conditioners	4,257,339 A	4,600,359 B	9,961,462 B	360,913 D	11,101,883 D
Heat pumps	783,147 B	850,106 B	2,985,858 B	8,298,387 D	6,676,359 D
Individual room air conditioners	2,197,064 B	2,760,865 D	5,736,755 A	1,843,820 D	5,986,443 B
District-chilled water from outside source	x	x	782,121 D	F	16,195,407 C
Central chillers	961,723 D	596,423 C	F	7,882,714 A	121,977,773 A
Packaged air-conditioning units	12,694,086 A	16,499,426 A	53,118,299 A	22,536,902 A	47,535,312 A
Composite ^f	F	F	F	4,972,985 C	F
Not cooled	6,553,377 A	9,914,006 C	22,661,799 A	7,416,856 B	F

^eIncludes the air-conditioning categories of fuel/heating oil; diesel or kerosene; bottled gas, liquid petroleum gas or propane; district-chilled water; and others.

^fIncludes the categories of district-chilled water from outside source; swamp coolers; and others.



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TOTAL ENERGY INTENSITY (GJ/m²)

93–464 m ² (1,000–4,999 sq. ft.)		465–929 m ² (5,000–9,999 sq. ft.)		929–4,645 m ² (10,000–49,999 sq. ft.)		4,645–9,290 m ² (50,000–99,999 sq. ft.)		9,290 m ² and more (100,000 sq. ft. and more)	
1.57	A	1.75	A	1.09	A	0.96	A	0.93	A
1.84	A	1.66	A	1.28	A	1.08	A	1.26	A
1.86	A	2.26	A	1.56	A	1.17	A	1.72	A
2.67	A	1.71	A	1.51	A	1.36	A	2.11	B
2.21	A	1.70	A	1.49	A	1.13	A	1.86	A
2.75	A	2.33	B	1.20	A	1.53	A	1.32	A
x		x		x		x		x	
F		0.74	C	1.84	C	1.88	B	1.93	A
1.60	A	1.63	A	1.36	A	1.22	A	1.63	A
1.36	B	0.80	A	1.41	A	1.24	A	1.67	A
1.82	A	1.65	B	1.40	A	1.16	A	1.72	A
7.87	D	x		2.00	D	2.39	B	1.88	A
2.11	B	1.12	B	1.89	A	1.34	A	2.16	B
3.05	A	2.05	A	1.49	A	1.21	A	1.50	A
x		x		0.84	B	2.14	B	2.33	A
1.75	C	1.23	B	2.01	A	1.71	A	3.29	B
1.18	A	1.20	B	2.26	A	1.62	A	4.62	A
1.56	A	1.55	A	1.31	A	0.77	A	1.51	B
1.28	B	0.73	A	0.96	A	1.22	A	1.45	A
1.95	A	1.87	C	1.23	A	0.93	B	1.10	B
x		x		1.65	C	2.17	B	2.02	A
2.17	C	1.08	B	2.08	A	1.36	A	1.87	A
3.01	A	2.14	A	1.42	A	1.16	A	1.28	A
1.88	D	1.23	B	2.17	B	1.73	A	3.44	B
1.57	A	1.75	A	1.09	A	0.96	A	0.93	A

TABLE

10.3

Total energy consumption and energy intensity by building characteristics, occupancy characteristics, energy efficiency features, heating energy sources and equipment, cooling energy sources and equipment, and water-heating energy sources by **building floor space**

TOTAL ENERGY CONSUMPTION (GJ)

Building floor space →	93–464 m ² (1,000–4,999 sq. ft.)		465–929 m ² (5,000–9,999 sq. ft.)		929–4,645 m ² (10,000–49,999 sq. ft.)		4,645–9,290 m ² (50,000–99,999 sq. ft.)		9,290 m ² and more (100,000 sq. ft. and more)	
Energy source for water heating										
Electricity	10,158,574	A	17,043,872	B	44,214,944	A	17,692,881	A	70,302,661	B
Natural gas	17,346,639	A	18,680,755	A	65,864,574	A	36,880,760	A	115,847,187	A
Fuel/heating oil	832,157	C	482,751	C	3,825,490	B	566,274	D	2,733,205	B
Composite ^d		F		F	2,639,281	C	766,472	D		F
Not heated	370,092	D		F		F		x		x

^dIncludes the categories of diesel or kerosene; bottled gas, liquid petroleum gas or propane; district steam; district hot water; wood; coal; solar thermal panels; and others.

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TOTAL ENERGY INTENSITY (GJ/m²)

93–464 m ² (1,000–4,999 sq. ft.)		465–929 m ² (5,000–9,999 sq. ft.)		929–4,645 m ² (10,000–49,999 sq. ft.)		4,645–9,290 m ² (50,000–99,999 sq. ft.)		9,290 m ² and more (100,000 sq. ft. and more)	
1.52	A	1.63	A	1.16	A	0.98	A	1.43	A
2.76	A	2.14	A	1.53	A	1.31	A	1.44	A
2.01	A	1.00	A	1.54	A	0.74	A	0.94	D
1.57	B	0.75	C	2.29	B	1.24	C	4.03	A
0.84	B	0.74	C	1.36	B	x		x	

TABLE
10.4

Total energy consumption and energy intensity by building characteristics, occupancy characteristics, energy efficiency features, heating energy sources and equipment, cooling energy sources and equipment, and water-heating energy sources **by year of construction**

TOTAL ENERGY CONSUMPTION (GJ)							
Year of construction →	Before 1920	1920– 1959	1960– 1969	1970– 1979	1980– 1989	1990– 1999	
All buildings							
Canada	26,220,150 B	93,938,144 A	70,399,195 B	151,535,574 B	68,028,462 A	69,530,344 A	
Building floor space							
93–464 m ² (1,000–4,999 sq. ft.)	2,368,591 B	10,338,733 A	2,755,820 A	5,193,084 B	3,271,310 A	4,049,424 A	
465–929 m ² (5,000–9,999 sq. ft.)	F	11,147,958 A	3,243,005 A	5,348,813 B	5,525,566 B	4,700,967 B	
929–4,645 m ² (10,000–49,999 sq. ft.)	6,697,644 B	26,538,235 A	12,985,124 A	25,303,528 B	22,921,456 A	13,578,474 A	
4,645–9,290 m ² (50,000–99,999 sq. ft.)	3,805,205 C	8,115,334 C	5,227,507 B	11,580,314 B	13,105,763 C	11,478,453 B	
9,290 m ² and more (100,000 sq. ft. and more)	7,741,029 D	37,797,884 D	46,187,739 C	104,109,836 C	23,204,367 A	35,723,026 B	
Number of floors							
1	F	12,155,838 A	9,358,038 A	23,943,054 B	14,871,964 A	11,148,903 A	
2	3,443,910 B	28,399,217 A	12,528,439 A	23,908,793 B	19,196,162 A	20,740,947 B	
3	6,516,893 B	15,342,238 A	9,417,143 B	9,087,686 B	8,825,942 D	4,876,275 C	
4–9	11,614,799 C	35,310,928 C	13,241,211 B	28,507,370 B	14,559,264 B	16,129,358 C	
10 and more	x	2,729,923 B	F	F	10,575,130 C	F	
Predominant type of window							
Single-glazed	10,001,781 C	24,966,384 A	12,733,366 A	14,598,219 B	7,222,207 C	F	
Double-glazed ^a	15,924,077 B	68,449,776 B	57,576,791 C	136,538,741 B	57,879,450 A	63,975,611 A	
Triple-glazed ^b	x	F	F	F	F	F	
Predominant exterior wall type							
Curtain walls	F	3,840,769 B	3,634,137 D	13,540,532 D	7,107,291 C	10,294,726 D	
Metal stud framing with surface insulation	F	6,732,405 D	F	F	9,556,458 A	16,301,124 C	
Metal stud framing without surface insulation	x	1,618,871 C	310,040 D	F	807,675 C	517,662 C	
Wood-frame walls with surface insulation	8,574,433 D	7,471,857 A	1,439,152 A	4,554,230 C	3,759,492 B	4,809,265 C	
Wood-frame walls without surface insulation	711,619 C	F	310,572 C	220,862 D	F	304,593 D	
Concrete block with interior finishing	12,347,180 C	61,059,191 B	28,753,428 A	47,403,879 A	23,861,284 A	21,796,869 A	
Concrete block without interior finishing	3,664,581 D	4,946,030 B	6,290,158 B	12,363,888 C	8,476,764 C	3,677,390 C	
Precast panels	x	F	3,705,703 C	19,193,451 C	6,201,607 D	6,364,729 D	
Unknown	F	3,806,457 B	F	F	7,169,748 D	5,463,987 B	

^aIncludes all the different types of windows that are double-glazed (i.e. double-glazed, double-sealed glazed, double-glazed with low-E coating and double-glazed with low-E gas-filled).

^bIncludes all the different types of windows that are triple-glazed (i.e. triple-glazed, triple-glazed with low-E coating and triple-glazed low-E gas-filled).

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This table continues on the next two pages. 

TOTAL ENERGY INTENSITY (GJ/m²)

Before 1920	1920– 1959	1960– 1969	1970– 1979	1980– 1989	1990– 1999
1.43 A	1.68 A	1.64 A	1.83 A	1.36 A	1.33 A
1.73 A	1.92 A	1.86 A	2.75 A	1.71 A	2.65 A
2.03 B	1.86 A	1.54 A	1.62 A	2.07 B	1.59 A
1.42 A	1.47 A	1.20 A	1.50 A	1.20 A	1.30 A
1.12 A	0.98 A	1.14 A	1.41 A	1.33 A	1.06 A
1.28 B	2.06 A	1.94 B	1.98 B	1.41 A	1.34 A
5.12 B	1.43 A	1.30 A	1.59 A	1.09 A	1.34 A
1.44 A	1.66 A	1.01 A	1.35 A	1.44 A	1.35 A
1.04 A	1.40 A	1.40 A	1.25 A	1.80 A	0.85 B
1.36 A	1.94 A	1.41 A	1.40 A	1.27 A	1.53 A
x	2.13 A	3.58 A	2.93 B	1.57 A	1.35 A
1.70 B	1.65 A	1.19 A	1.50 A	1.21 A	1.25 A
1.30 A	1.69 A	1.80 A	1.87 A	1.38 A	1.33 A
x	1.77 C	1.25 C	1.40 B	1.38 A	1.33 A
F	1.00 B	1.77 C	1.82 A	1.25 A	1.64 A
0.66 A	1.57 A	3.46 B	3.63 B	1.42 A	1.35 B
x	1.42 A	0.94 A	1.29 A	0.98 A	0.67 A
2.27 B	1.42 A	1.04 A	1.63 A	1.90 A	1.36 B
1.26 A	1.63 D	1.28 A	0.60 D	F	1.26 C
1.29 A	1.91 A	1.31 A	1.50 A	1.34 A	1.22 A
0.98 B	1.44 A	1.32 A	1.33 A	1.47 A	1.41 A
x	F	1.63 B	1.83 A	1.67 B	1.29 A
1.13 A	1.22 A	1.15 B	0.92 A	0.99 A	1.37 A

TABLE
10.4

Total energy consumption and energy intensity by building characteristics, occupancy characteristics, energy efficiency features, heating energy sources and equipment, cooling energy sources and equipment, and water-heating energy sources **by year of construction**

TOTAL ENERGY CONSUMPTION (GJ)

Year of construction →	Before 1920	1920– 1959	1960– 1969	1970– 1979	1980– 1989	1990– 1999
Predominant roof type						
Attic roof fully insulated	4,276,604 C	4,451,462 B	2,498,240 B	4,785,168 B	3,806,090 C	F
Attic roof partially insulated	2,420,905 C	3,194,015 C	F	2,019,109 D	F	F
Attic roof not insulated	416,366 C	F	F	F	F	x
Insulated wood-truss roof	4,545,936 C	6,271,768 A	2,865,963 B	1,810,510 B	2,410,363 C	3,828,721 C
Not insulated wood-truss roof	1,465,288 D	6,509,989 D	505,722 C	F	63,880 C	F
Insulated metal-truss roof	F	9,253,726 D	5,760,560 B	10,272,745 B	9,816,707 B	12,327,354 B
Not insulated metal-truss roof	x	F	642,222 D	1,852,895 C	F	F
Insulated deck-type roof	10,418,714 D	49,088,227 B	48,732,919 C	101,723,404 C	37,781,425 A	32,560,532 B
Not insulated deck-type roof	F	5,242,652 C	2,229,964 C	3,585,624 D	F	309,774 C
Unknown	F	5,892,258 C	5,542,885 D	16,438,014 D	6,344,130 B	9,997,571 C
Principal building activity						
Commercial and institutional accommodation	F	F	1,948,258 C	16,348,963 D	F	F
Entertainment and recreation	F	F	F	4,447,503 C	1,825,905 D	2,959,837 C
Office	3,071,636 D	6,835,872 B	F	F	12,263,089 B	23,075,688 C
Food retail	F	4,329,216 C	624,342 C	1,853,208 D	2,438,931 C	3,113,168 D
Non-food retail	F	5,743,591 C	1,755,567 C	3,094,937 C	4,592,461 B	4,808,224 C
Food service	1,147,725 B	12,707,118 B	1,899,078 C	3,258,709 C	3,194,248 C	4,554,121 C
Non-food service	1,117,828 D	2,979,347 B	4,365,872 D	6,684,478 C	6,745,520 C	2,973,869 C
Shopping malls	x	3,156,706 C	5,811,579 B	16,646,272 C	9,931,838 A	6,978,492 C
Warehouse/wholesale	x	F	2,535,164 C	6,489,077 C	3,529,539 C	3,621,516 B
Administration	F	5,296,496 D	1,762,120 D	18,425,014 D	3,500,690 C	1,389,809 C
Education	F	11,422,224 B	12,844,963 B	15,613,146 C	5,367,158 D	6,034,970 B
Health care	298,598 B	10,723,810 B	8,887,479 C	4,615,479 C	10,859,029 D	F
Public assembly	2,690,175 C	2,945,735 B	1,642,084 B	F	1,938,302 D	F
Other	F	334,107 C	F	F	645,187 A	279,413 D
Number of workers						
Less than 5	2,783,469 B	11,249,444 B	4,077,732 C	3,728,350 B	4,943,485 D	3,512,582 C
5–9	2,202,880 B	9,214,368 C	2,848,880 B	9,342,350 C	7,212,116 B	3,024,260 A
10–19	F	11,591,664 B	4,896,454 B	7,989,068 B	6,691,690 B	4,220,164 C
20–49	3,832,928 C	7,900,053 B	6,956,612 B	8,626,973 B	15,491,163 C	9,878,878 A
50–99	F	11,469,386 C	4,769,623 D	19,500,237 C	6,338,984 B	11,486,465 C
100–249	F	F	4,597,891 B	9,510,424 C	4,698,511 B	9,147,264 D
250 and more	3,926,574 D	36,947,583 D	42,252,002 D	92,838,171 D	22,652,512 A	28,260,731 B


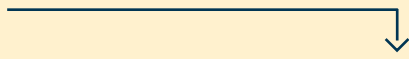
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F – Too unreliable to be published, x – Suppressed to meet the confidentiality requirements of the Statistics Act.

Due to rounding the numbers may not add up and may differ slightly among tables.

NOTE: Estimates relate only to the surveyed areas of populations of 175,000 and greater, and in Atlantic Canada to populations of 50,000 and greater.

Source: Commercial and Institutional Building Energy Use Survey 2000.

This table is a continuation of the previous two pages. 
 This table continues on the next two pages. 

TOTAL ENERGY INTENSITY (GJ/m²)

Before 1920	1920– 1959	1960– 1969	1970– 1979	1980– 1989	1990– 1999
1.05 B	1.35 A	1.21 A	1.18 A	1.26 B	1.20 A
1.50 A	1.94 B	1.24 A	2.37 B	3.00 C	1.21 B
1.29 A	2.08 B	1.23 A	2.16 B	1.25 A	x
1.78 B	1.26 A	1.16 B	1.02 A	1.43 A	1.40 A
1.63 C	1.93 B	1.03 A	2.65 A	0.93 A	1.26 B
0.32 B	1.65 A	1.15 A	1.36 A	1.32 A	1.14 A
x	1.03 A	1.33 C	1.09 A	1.92 C	1.62 D
2.09 A	1.77 A	2.04 B	2.10 B	1.35 A	1.42 A
F	2.21 B	1.02 A	1.22 A	1.74 C	1.90 D
0.99 A	1.25 A	1.14 B	1.35 B	1.13 A	1.37 A
1.61 A	1.57 A	1.59 A	1.69 A	1.23 B	1.26 A
1.33 C	2.07 A	1.90 A	1.80 A	1.29 A	1.70 A
1.10 A	1.48 A	3.45 B	3.35 B	1.18 A	1.30 A
1.23 C	2.96 A	2.88 A	3.02 B	2.61 A	2.69 A
2.23 D	1.34 B	1.14 A	1.19 A	1.34 A	1.12 B
2.59 A	3.02 A	2.00 C	3.93 B	4.85 A	4.92 A
1.50 C	0.96 B	1.79 B	1.78 A	1.19 A	1.28 A
x	1.41 A	1.25 A	1.49 B	1.05 A	1.53 A
x	1.99 A	0.79 A	1.05 A	1.02 B	0.98 A
1.10 B	1.57 A	2.59 C	1.84 A	1.32 A	1.07 B
0.89 A	1.02 A	0.94 A	0.95 A	1.01 A	0.77 A
1.15 A	2.51 A	2.72 A	2.09 A	2.59 A	1.05 B
1.66 A	1.25 A	0.83 B	1.65 B	1.67 A	1.80 B
F	0.69 B	0.82 A	0.89 A	2.46 A	0.84 A
1.37 A	1.42 A	1.33 B	1.20 A	1.09 A	1.22 A
0.75 C	1.73 A	1.07 A	1.23 A	1.55 B	1.06 A
2.39 B	1.80 A	0.96 A	1.62 A	1.44 A	1.32 B
1.00 B	1.37 A	1.40 A	1.39 A	1.44 A	1.42 A
1.58 A	1.31 A	1.47 B	1.80 A	1.25 A	1.52 A
F	1.92 A	1.57 A	1.24 A	1.13 A	1.52 B
1.74 B	1.95 A	2.03 B	2.18 B	1.40 A	1.24 A

TABLE
10.4

Total energy consumption and energy intensity by building characteristics, occupancy characteristics, energy efficiency features, heating energy sources and equipment, cooling energy sources and equipment, and water-heating energy sources **by year of construction**

TOTAL ENERGY CONSUMPTION (GJ)								
Year of construction →	Before 1920	1920– 1959	1960– 1969	1970– 1979	1980– 1989	1990– 1999		
Weekly hours of operation								
Less than 40	3,188,109 C	4,604,035 B	3,014,210 C	546,229 B	669,755 C	732,473 D		
40–48	2,690,197 B	16,363,118 B	8,332,875 B	16,126,254 B	8,868,098 B	11,726,327 C		
49–60	3,238,006 C	11,651,633 A	9,306,476 B	27,452,848 B	15,196,119 A	18,322,654 D		
61–84	7,950,620 D	17,309,953 B	F	F	15,016,065 B	19,495,545 A		
85–167	6,163,421 D	20,889,959 B	12,155,989 B	24,780,473 B	14,944,472 A	14,652,937 B		
Open continuously	2,989,796 D	F	9,068,762 B	24,489,878 C	13,333,953 C	4,600,408 C		
Building ownership								
Private individual(s)	5,318,968 D	21,249,358 B	F	F	14,737,725 A	10,938,711 B		
Private organization	10,761,968 C	40,840,883 C	17,761,314 A	55,512,849 A	31,994,785 A	40,808,629 B		
Non-profit organization	5,234,189 C	7,137,446 B	8,688,005 C	10,489,486 C	2,375,259 C	2,286,554 D		
Fed.-prov.-munic.-regional government ^c	4,905,025 C	24,710,456 A	21,688,181 A	31,562,933 B	18,920,693 B	15,496,450 C		
Building conservation feature								
Reflective or shading film	2,308,661 C	35,123,941 D	F	82,217,318 D	25,455,377 A	38,962,122 B		
Awnings or blinds	13,325,211 B	56,176,439 B	46,515,055 C	112,987,543 C	47,595,193 A	46,832,778 B		
Lighting conservation feature								
Reflectors	3,767,773 C	31,999,827 D	F	85,083,062 D	23,963,984 A	32,035,592 B		
Energy-efficient ballast	10,253,293 C	59,480,452 B	50,067,449 C	125,262,637 C	38,497,707 A	53,717,948 B		
Daylight controls	3,778,956 D	10,171,759 A	10,992,095 B	26,446,341 A	12,309,397 B	9,595,621 B		
Occupancy sensors	2,042,628 D	F	9,872,985 C	25,022,432 C	12,146,344 A	14,508,860 D		
Time clocks	6,649,798 C	41,003,690 C	20,205,550 B	55,256,915 B	29,613,058 B	34,580,893 B		
Manual dimmer switches	12,138,998 C	37,913,520 C	F	85,410,023 D	26,103,394 B	26,618,803 B		
Energy-efficient lamps	13,462,671 C	53,037,818 C	45,704,448 C	111,453,696 C	34,744,539 A	47,277,493 B		
Other	4,065,703 D	7,492,779 B	3,083,541 D	20,128,338 D	7,802,218 B	14,826,676 B		
Heating/cooling conservation feature								
Variable air-volume system	6,164,663 B	32,524,997 B	39,325,094 D	97,961,535 C	40,976,912 A	40,943,166 B		
Outdoor-air economizer	8,768,544 B	49,605,388 C	30,835,983 A	81,387,398 A	42,998,868 A	50,509,519 A		
Temperature setback	11,498,420 B	58,036,813 B	32,210,696 A	67,284,654 A	34,173,034 A	46,163,513 A		
Equipment reset	9,529,003 B	38,792,170 A	46,641,896 C	103,140,519 C	38,733,307 A	45,888,490 B		
Heat recovery system	3,772,027 C	27,040,784 D	13,788,314 B	26,178,032 C	23,504,650 B	25,777,809 B		
Regular maintenance	21,134,414 B	87,229,198 A	64,760,778 B	146,306,222 B	60,422,767 A	65,768,472 A		

^cIncludes all levels of government (i.e. federal, provincial, municipal and regional).

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Source: Commercial and Institutional Building Energy Use Survey 2000.

This table is a continuation of the previous two pages.

This table continues on the next two pages.

TOTAL ENERGY INTENSITY (GJ/m²)

Before 1920	1920– 1959	1960– 1969	1970– 1979	1980– 1989	1990– 1999
1.45 A	0.97 A	1.08 A	0.85 A	1.59 B	0.82 A
0.69 C	1.38 A	1.20 A	1.53 A	1.05 A	1.09 B
1.12 A	1.46 A	1.35 A	1.59 A	1.06 A	1.31 A
1.71 C	1.50 A	2.13 C	2.60 C	1.20 A	1.36 A
2.14 A	1.95 A	1.35 A	1.30 A	1.69 A	1.50 A
1.66 A	2.48 A	2.36 A	1.87 A	2.45 A	1.77 A
1.55 A	1.72 A	2.76 C	3.10 C	1.24 A	1.73 A
1.83 B	1.95 A	1.49 A	1.60 A	1.25 A	1.34 A
0.88 B	1.34 A	1.42 B	1.39 A	1.57 A	1.11 B
1.60 B	1.42 A	1.30 A	1.36 A	1.73 A	1.14 A
1.18 A	1.91 A	2.14 B	2.25 B	1.29 A	1.31 A
1.36 A	1.75 A	1.89 B	2.01 B	1.48 A	1.32 A
0.96 A	2.00 A	2.04 B	2.30 B	1.35 A	1.35 A
1.45 A	1.73 A	1.79 B	1.93 A	1.36 A	1.33 A
1.64 A	1.41 A	1.33 A	1.50 A	1.25 A	1.19 A
1.50 A	2.34 A	1.61 A	1.74 A	1.18 A	1.42 A
1.45 A	1.94 A	1.49 A	1.54 A	1.39 A	1.31 A
1.56 A	2.12 A	2.31 B	2.49 B	1.51 A	1.50 A
1.19 A	1.67 A	1.94 B	1.98 B	1.47 A	1.43 A
1.27 C	1.24 A	1.57 B	2.24 A	1.09 A	1.45 B
1.14 A	1.61 A	2.03 B	2.19 B	1.48 A	1.51 A
1.04 A	1.74 A	1.46 A	1.50 A	1.35 A	1.44 A
1.54 A	1.74 A	1.49 A	1.40 A	1.32 A	1.36 A
1.27 A	1.55 A	2.21 B	2.08 B	1.41 A	1.39 A
1.10 B	1.99 A	1.70 A	1.53 A	1.83 A	1.33 A
1.34 A	1.71 A	1.67 A	1.85 A	1.38 A	1.37 A

TABLE
10.4

Total energy consumption and energy intensity by building characteristics, occupancy characteristics, energy efficiency features, heating energy sources and equipment, cooling energy sources and equipment, and water-heating energy sources **by year of construction**

TOTAL ENERGY CONSUMPTION (GJ)

Year of construction →	Before 1920	1920– 1959	1960– 1969	1970– 1979	1980– 1989	1990– 1999
Percentage of the floor space heated						
Less than 1	x	x	x	x	x	x
1–50	F	F	2,586,277 C	2,766,930 D	1,847,014 C	2,048,369 D
51–99	F	F	5,318,071 D	4,445,993 C	6,969,328 B	F
100	21,001,311 B	82,327,453 B	62,491,930 B	144,222,846 B	59,205,907 A	56,165,613 A
Energy source for heating (more than one may apply)						
Electricity	13,386,935 C	47,670,096 B	24,026,060 A	56,100,157 B	31,576,000 A	34,173,558 B
Natural gas	17,063,651 B	82,822,749 B	56,416,757 C	134,706,431 B	49,305,898 A	52,778,363 A
Fuel/heating oil	3,221,396 D	9,224,249 A	5,799,752 A	6,459,207 B	1,712,080 D	F
Composite ^d	F	5,368,544 D	F	F	6,429,320 D	3,677,015 D
Main energy source for heating						
Electricity	F	F	9,069,886 B	21,207,985 B	17,469,951 A	17,440,173 B
Natural gas	16,229,702 B	62,380,084 A	51,846,483 C	119,977,205 C	43,949,483 A	48,643,024 A
Fuel/heating oil	2,079,202 C	3,284,714 B	2,013,073 A	2,912,258 B	680,504 B	F
Composite ^d	F	4,625,262 D	7,466,837 C	7,338,321 C	5,922,312 D	1,173,740 D
Heating equipment (more than one may apply)						
Furnaces	8,765,056 D	25,100,076 B	14,825,789 B	33,684,104 B	16,603,630 A	14,008,026 B
Heat pumps	F	6,185,855 C	3,982,436 C	10,910,423 D	7,093,863 C	12,683,059 D
Individual space heaters	9,910,567 C	37,992,001 C	18,435,812 A	43,217,477 B	24,672,206 A	26,263,725 B
Boilers	13,371,109 B	50,998,722 B	44,345,104 D	104,701,708 C	17,570,070 B	29,267,996 B
Packaged heating units	4,243,893 D	19,394,669 A	18,210,103 A	46,470,134 B	28,643,589 A	27,564,183 A
District steam or hot water or other	1,204,371 D	F	9,028,516 B	10,528,484 B	10,629,992 B	7,228,216 D
Main heating equipment						
Furnaces	4,960,438 C	20,802,311 B	9,496,732 B	12,809,162 A	11,662,008 B	10,707,399 B
Heat pumps	F	4,242,696 C	365,040 C	F	3,100,848 C	5,347,333 B
Individual space heaters	F	7,548,707 B	4,302,910 C	7,584,759 B	9,136,181 B	7,929,765 C
Boilers	12,745,011 B	33,724,398 A	39,607,295 D	97,653,087 C	14,826,686 B	26,327,679 B
Packaged heating units	F	10,029,505 C	8,512,716 B	22,219,283 B	21,640,491 B	17,292,946 B
District steam or hot water or other	F	F	8,111,586 C	8,463,331 C	7,656,036 C	1,891,013 C
Not heated	x	x	x	x	x	x

^dIncludes the categories of diesel or kerosene; bottled gas, liquid petroleum gas or propane; district steam; district hot water; wood; coal; solar thermal panels; and others.

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Source: Commercial and Institutional Building Energy Use Survey 2000.

This table is a continuation of the previous two pages.

This table continues on the next two pages.

TOTAL ENERGY INTENSITY (GJ/m²)

Before 1920	1920– 1959	1960– 1969	1970– 1979	1980– 1989	1990– 1999
x	x	x	x	x	x
0.90 A	1.69 C	1.18 A	1.63 B	1.10 A	0.88 A
1.82 A	1.72 A	1.74 A	1.34 A	1.69 B	1.65 A
1.37 A	1.67 A	1.66 A	1.85 A	1.34 A	1.30 A
1.46 A	1.75 A	1.18 A	1.46 A	1.14 A	1.18 A
1.41 A	1.83 A	1.85 A	1.95 A	1.50 A	1.41 A
0.97 A	1.75 A	1.38 A	1.38 A	1.00 B	2.23 D
2.38 C	1.90 A	3.99 A	4.26 B	2.29 B	2.08 C
1.99 B	1.68 B	0.81 A	1.43 A	1.04 A	1.06 A
1.42 A	1.70 A	1.88 B	1.94 B	1.45 A	1.43 A
0.70 C	1.09 A	1.07 A	0.99 B	0.90 A	2.72 D
2.73 D	1.94 A	3.38 A	2.33 A	2.87 B	1.35 B
1.90 B	1.75 A	1.47 A	1.58 A	1.36 A	1.75 A
1.97 A	1.30 A	1.13 B	1.71 A	1.37 A	1.22 A
1.47 B	1.96 A	1.34 A	1.46 A	1.14 A	1.16 A
1.16 A	1.60 A	1.80 B	1.98 B	1.52 A	1.30 A
1.92 A	1.50 A	1.18 A	1.55 A	1.29 A	1.39 A
1.48 C	2.11 A	2.26 A	1.71 A	2.06 A	1.26 A
1.44 A	1.88 A	1.31 A	1.27 A	1.34 A	1.66 A
2.08 A	1.41 A	1.00 A	1.34 A	1.19 A	0.84 A
F	1.55 A	1.23 B	1.25 A	1.04 A	1.14 A
1.14 A	1.40 A	1.80 B	2.02 B	1.48 A	1.35 A
2.45 C	1.64 A	1.24 A	1.83 A	1.33 A	1.44 A
2.73 D	2.51 A	2.84 A	2.06 A	2.09 B	1.94 B
x	x	x	x	x	x

TABLE
10.4

Total energy consumption and energy intensity by building characteristics, occupancy characteristics, energy efficiency features, heating energy sources and equipment, cooling energy sources and equipment, and water-heating energy sources **by year of construction**

TOTAL ENERGY CONSUMPTION (GJ)

Year of construction	Before 1920	1920–1959	1960–1969	1970–1979	1980–1989	1990–1999
Percentage of the floor space cooled						
Not cooled	7,728,381 D	20,582,362 A	4,676,329 A	12,422,668 C	5,494,231 D	3,360,736 B
1–50	5,616,843 C	14,984,089 B	17,073,701 A	22,772,964 B	10,334,489 B	9,912,061 B
51–99	7,237,937 D	31,724,886 D	10,729,599 B	29,685,336 B	15,278,102 A	26,120,959 C
100	5,636,990 C	26,646,808 A	37,919,566 D	86,654,606 D	36,921,640 A	30,136,589 A
Space-cooling energy source						
Electricity	17,198,978 B	65,138,317 B	58,291,990 C	129,237,959 B	50,127,346 A	60,603,825 A
Natural gas	F	6,924,288 D	8,556,711 C	5,755,880 C	12,377,891 C	6,523,713 B
Fuel/heating oil	x	x	x	x	50,383 D	x
Composite ^e	F	F	6,601,659 C	F	2,319,600 C	1,680,970 D
Cooling equipment (more than one may apply)						
Residential-type air conditioners	3,247,161 C	9,749,786 C	6,781,093 C	10,111,776 C	5,546,953 B	6,501,947 B
Heat pumps	F	4,913,108 D	3,158,472 A	6,899,383 C	3,399,911 C	9,155,254 C
Individual room air conditioners	5,477,160 C	F	11,691,794 B	13,148,362 B	10,172,134 C	2,407,052 C
District-chilled water from outside source	x	F	6,959,406 C	F	2,545,819 C	1,558,049 D
Central chillers	F	F	F	86,425,742 D	17,230,043 B	24,692,369 C
Packaged air-conditioning units	7,871,263 B	46,136,430 C	31,381,487 A	57,040,894 A	36,488,848 A	34,412,489 B
Swamp coolers	x	F	F	x	x	F
Composite ^f	2,300,049 D	6,110,820 D	F	F	4,831,619 C	3,420,097 C
Other	x	719,187 D	F	F	3,770,687 C	F
Main cooling equipment						
Residential-type air conditioners	2,423,817 D	8,283,235 D	5,143,202 D	5,688,563 D	3,735,276 C	5,007,863 C
Heat pumps	F	F	496,419 C	4,263,014 D	3,019,826 C	6,329,351 D
Individual room air conditioners	3,698,659 C	4,408,469 B	3,356,095 B	1,966,577 B	3,068,624 D	2,026,522 C
District-chilled water from outside source	x	F	5,677,851 C	5,669,459 D	1,138,136 D	F
Central chillers	F	F	F	48,918,553 B	17,070,324 B	24,032,575 C
Packaged air-conditioning units	5,834,143 B	30,407,673 A	22,112,714 A	35,405,298 A	32,347,055 A	26,277,141 A
Composite ^f	F	F	8,099,514 C	F	3,293,125 C	2,496,157 D
Not cooled	7,728,381 D	20,582,362 A	4,676,329 A	12,422,668 C	5,494,231 D	3,360,736 B

^eIncludes the air-conditioning categories of fuel/heating oil; diesel or kerosene; bottled gas, liquid petroleum gas or propane; district-chilled water; and others.

^fIncludes the categories of district-chilled water from outside source; swamp coolers; and others.



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NOTE: Estimates relate only to the surveyed areas of populations of 175,000 and greater, and in Atlantic Canada to populations of 50,000 and greater.

Source: Commercial and Institutional Building Energy Use Survey 2000.

This table is a continuation of the previous two pages. 
 This table continues on the next two pages. 

TOTAL ENERGY INTENSITY (GJ/m²)

Before 1920	1920– 1959	1960– 1969	1970– 1979	1980– 1989	1990– 1999
1.76 B	1.36 A	0.89 A	1.03 A	0.91 A	0.88 A
1.19 B	1.43 A	1.33 A	1.24 A	1.30 A	1.24 A
1.37 B	1.89 A	1.60 A	1.81 A	1.49 A	1.40 A
1.45 A	1.94 A	2.10 B	2.40 B	1.43 A	1.38 A
1.28 A	1.80 A	1.76 A	1.99 A	1.40 A	1.41 A
2.53 D	1.63 A	1.64 A	1.54 A	1.58 A	0.98 B
x	x	x	x	0.93 A	x
2.72 D	1.71 A	3.06 A	1.88 A	1.60 A	0.96 B
0.89 A	1.46 A	1.71 B	1.80 A	1.47 A	1.61 A
1.89 A	1.51 A	1.79 A	1.50 A	0.95 A	1.35 A
0.85 B	1.99 A	1.53 A	1.85 A	1.45 A	1.06 A
x	1.70 A	2.85 A	1.85 A	1.76 A	0.96 B
1.29 A	2.07 A	2.44 C	2.37 B	1.57 A	1.57 A
1.64 A	1.91 A	1.48 A	1.55 A	1.38 A	1.31 A
x	1.56 A	4.04 C	x	x	1.38 B
2.84 C	1.63 A	3.61 A	3.61 C	1.67 A	1.22 B
x	1.18 C	3.91 A	4.93 A	1.62 A	1.68 C
0.78 A	1.49 A	1.54 B	1.64 A	1.43 A	1.65 A
2.04 A	1.25 A	0.81 A	1.37 A	0.91 A	1.08 A
0.96 C	1.39 A	1.23 B	1.09 A	2.26 C	1.16 A
x	1.73 A	3.16 A	1.81 A	2.52 B	0.88 C
1.41 A	2.28 A	2.42 C	1.69 A	1.58 A	1.60 A
1.57 A	1.74 A	1.31 A	1.53 A	1.35 A	1.26 A
2.96 C	1.66 A	2.68 A	4.10 B	1.68 A	1.24 C
1.76 B	1.36 A	0.89 A	1.03 A	0.91 A	0.88 A

TABLE

10.4

Total energy consumption and energy intensity by building characteristics, occupancy characteristics, energy efficiency features, heating energy sources and equipment, cooling energy sources and equipment, and water-heating energy sources by year of construction

TOTAL ENERGY CONSUMPTION (GJ)

Year of construction →	Before 1920	1920– 1959	1960– 1969	1970– 1979	1980– 1989	1990– 1999
Energy source for water heating						
Electricity	8,832,953 D	35,846,629 C	17,089,216 A	39,856,180 B	29,337,416 A	28,450,538 C
Natural gas	15,655,395 B	53,341,967 A	30,427,235 A	76,159,181 A	34,380,253 A	44,655,884 A
Fuel/heating oil	1,481,717 C	3,106,941 C	1,194,334 B	1,354,594 C	F	F
Composite ^d	F	5,251,658 D	F	F	5,667,137 D	1,054,023 D
Not heated	x	F	x	F	F	F

^dIncludes the categories of diesel or kerosene; bottled gas, liquid petroleum gas or propane; district steam; district hot water; wood; coal; solar thermal panels; and others.

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Source: Commercial and Institutional Building Energy Use Survey 2000.

This table is a continuation of the previous two pages. 

TOTAL ENERGY INTENSITY (GJ/m²)

Before 1920	1920– 1959	1960– 1969	1970– 1979	1980– 1989	1990– 1999
1.89 B	1.65 A	1.05 A	1.42 A	1.09 A	1.14 A
1.40 A	1.65 A	1.47 A	1.53 A	1.55 A	1.47 A
0.60 D	2.17 B	1.05 A	1.32 A	1.43 A	0.98 B
4.46 D	2.05 A	3.97 A	4.44 B	3.21 A	1.70 B
x	0.77 C	x	1.34 A	0.77 C	1.20 C

TABLE
10.5

Total energy consumption and energy intensity by building characteristics, occupancy characteristics, energy efficiency features, heating energy sources and equipment, cooling energy sources and equipment, and water-heating energy sources **by number of floors**

TOTAL ENERGY CONSUMPTION (GJ)

Number of floors →	1		2		3		4–9		10 and more	
All buildings										
Canada	75,829,474	A	108,217,469	A	54,066,177	A	119,362,928	A	122,175,820	C
Building floor space										
93–464 m ² (1,000–4,999 sq. ft.)	13,663,110	A	9,340,255	A	4,207,509	A	758,398	B		x
465–929 m ² (5,000–9,999 sq. ft.)	12,341,989	B	13,067,315	A	7,330,923	B	2,821,943	C		x
929–4,645 m ² (10,000–49,999 sq. ft.)	26,061,635	A	41,551,623	A	18,521,632	A	20,481,721	C		F
4,645–9,290 m ² (50,000–99,999 sq. ft.)	6,326,487	B	15,858,659	B	12,204,015	C	15,066,203	A	3,857,212	C
9,290 m ² and more (100,000 sq. ft. and more)	17,436,252	C	28,399,619	B	11,802,098	B	80,234,664	A	116,891,248	C
Year of construction										
Before 1920		F	3,443,910	B	6,516,893	B	11,614,799	C		x
1920–1959	12,155,838	A	28,399,217	A	15,342,238	A	35,310,928	C	2,729,923	B
1960–1969	9,358,038	A	12,528,439	A	9,417,143	B	13,241,211	B		F
1970–1979	23,943,054	B	23,908,793	B	9,087,686	B	28,507,370	B		F
1980–1989	14,871,964	A	19,196,162	A	8,825,942	D	14,559,264	B	10,575,130	C
1990–1999	11,148,903	A	20,740,947	B	4,876,275	C	16,129,358	C		F
Predominant type of window										
Single-glazed	16,992,553	B	22,678,260	A	9,886,335	B	14,922,643	B	9,279,046	D
Double-glazed ^a	58,028,797	A	84,970,447	A	43,761,741	A	101,346,160	A	112,237,301	D
Triple-glazed ^b	808,125	C	568,763	D		F		F		x
Predominant exterior wall type										
Curtain walls		F	3,775,111	D	1,973,690	C	13,350,697	B	17,469,435	D
Metal stud framing with surface insulation	14,853,709	C	18,751,563	B	3,872,918	C	9,071,680	D		F
Metal stud framing without surface insulation	690,688	C	1,503,316	B		F		x		x
Wood-frame walls with surface insulation	11,121,088	C	11,542,931	A	3,840,733	B	4,103,678	C		x
Wood-frame walls without surface insulation	1,093,258	B		F		F	410,100	D		x
Concrete block with interior finishing	29,668,981	A	48,796,169	A	26,833,878	A	67,567,307	B	22,355,496	A
Concrete block without interior finishing	11,924,908	B	12,045,072	C	8,455,680	B	6,277,558	B		x
Precast panels	816,731	B	2,473,286	C	2,663,411	D	7,549,461	B	24,081,873	C
Unknown	3,331,247	C	7,480,150	B		F	10,837,932	D		F

^aIncludes all the different types of windows that are double-glazed (i.e. double-glazed, double-sealed glazed, double-glazed with low-E coating and double-glazed with low-E gas-filled).

^bIncludes all the different types of windows that are triple-glazed (i.e. triple-glazed, triple-glazed with low-E coating and triple-glazed low-E gas-filled). The letter beside each estimate classifies its quality as follows: A – Excellent, B – Good, C – Acceptable, D – Use with caution, F – Too unreliable to be published, x – Suppressed to meet the confidentiality requirements of the Statistics Act.

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Source: Commercial and Institutional Building Energy Use Survey 2000.

This table continues on the next two pages. 

TOTAL ENERGY INTENSITY (GJ/m²)

1		2		3		4-9		10 and more	
1.42	A	1.38	A	1.29	A	1.52	A	2.42	C
2.54	A	1.87	A	1.67	A	1.13	A		x
1.76	B	1.88	A	1.94	A	1.37	B		x
1.14	A	1.37	A	1.35	A	1.62	A	2.87	D
0.91	A	1.08	A	1.26	A	1.30	A	1.70	A
1.53	B	1.34	A	0.96	A	1.55	A	2.46	C
5.12	B	1.44	A	1.04	A	1.36	A		x
1.43	A	1.66	A	1.40	A	1.94	A	2.13	A
1.30	A	1.01	A	1.40	A	1.41	A	3.58	A
1.59	A	1.35	A	1.25	A	1.40	A	2.93	B
1.09	A	1.44	A	1.80	A	1.27	A	1.57	A
1.34	A	1.35	A	0.85	B	1.53	A	1.35	A
1.46	A	1.46	A	1.35	A	1.50	A	1.47	A
1.40	A	1.37	A	1.27	A	1.53	A	2.58	C
1.33	B	1.47	A	2.06	C	1.41	A		x
1.46	D	1.17	A	0.82	C	1.77	A	1.64	A
1.77	B	1.37	A	0.92	B	1.67	B	5.07	A
0.94	A	0.85	A	1.16	A		x		x
2.20	B	1.45	A	1.30	A	1.47	A		x
1.25	B	1.63	D	2.83	D	0.78	A		x
1.27	A	1.42	A	1.53	A	1.64	A	1.57	A
1.23	A	1.67	A	1.01	A	1.74	A		x
0.66	A	1.21	A	1.31	B	1.35	A	2.00	A
1.26	B	1.10	A	1.30	B	0.94	A	1.30	A

TABLE
10.5

Total energy consumption and energy intensity by building characteristics, occupancy characteristics, energy efficiency features, heating energy sources and equipment, cooling energy sources and equipment, and water-heating energy sources **by number of floors**

TOTAL ENERGY CONSUMPTION (GJ)

Number of floors →	1		2		3		4–9		10 and more	
Predominant roof type										
Attic roof fully insulated	5,735,781	B	7,092,392	B	4,592,764	C	4,651,800	B		F
Attic roof partially insulated	1,194,594	C	4,813,466	C	1,283,589	C	1,438,737	D		x
Attic roof not insulated	733,712	C		F		F		F		x
Insulated wood-truss roof	5,341,475	B	8,818,664	B	3,508,791	C	4,012,150	D		x
Not insulated wood-truss roof	1,586,001	C	6,443,808	D		F		F		x
Insulated metal-truss roof	12,418,214	A	17,297,986	B	4,184,365	C	12,718,568	B		F
Not insulated metal-truss roof	2,377,952	D	3,626,305	D		x		x		x
Insulated deck-type roof	29,238,520	A	44,318,498	A	25,271,010	B	76,090,529	B	105,386,665	D
Not insulated deck-type roof	5,130,592	D	5,375,167	B	4,486,119	D	1,442,155	C		x
Unknown	12,072,632	D	8,862,952	B	6,859,290	C	11,420,296	C		F
Principal building activity										
Commercial and institutional accommodation		F		F	1,674,075	D	15,239,441	D	4,617,984	D
Entertainment and recreation	2,565,647	C	7,762,183	B		F		F		x
Office	1,530,000	B	4,072,454	B	4,268,679	A	17,819,116	A	92,042,888	D
Food retail	5,669,057	B	5,011,138	C	1,711,619	D		x		x
Non-food retail	9,590,655	C	5,853,176	A	5,552,032	C	3,801,375	D		x
Food service	5,779,743	B	14,122,070	B	3,784,558	C		F		x
Non-food service	8,403,059	B	10,952,996	B	2,461,557	D	2,708,433	D		F
Shopping malls	20,207,978	B	15,560,208	A	2,093,249	C	4,588,289	C		x
Warehouse/wholesale	7,218,330	B	12,325,272	C	1,388,516	D		x		x
Administration	1,267,659	C	2,027,022	C	4,800,740	D	11,300,000	C		F
Education	8,543,285	B	15,269,630	A	9,899,296	B	17,113,170	B		F
Health care	557,898	C	1,182,082	C		F	19,077,548	B	8,730,169	B
Public assembly	2,693,835	C	5,072,268	B	2,268,058	C		F		x
Other	469,119	C	597,546	C	1,642,974	D		F		x
Number of workers										
Less than 5	12,659,552	B	11,693,003	B	4,733,226	B	1,152,094	C		x
5–9	9,639,710	A	11,713,896	A	5,754,326	D		F		x
10–19	16,304,922	B	14,069,564	A	7,744,269	B	3,476,236	B		x
20–49	11,180,802	A	22,413,661	A	13,103,379	C	5,717,317	C		x
50–99	5,088,099	B	22,345,613	B	10,385,651	B	19,407,821	C		x
100–249	5,855,126	C	7,415,305	B	4,378,199	C	13,628,014	C		F
250 and more	15,101,264	C	18,566,429	A	7,967,126	B	69,296,706	B	115,946,048	C



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This table is a continuation of the previous two pages.  

This table continues on the next two pages. 

TOTAL ENERGY INTENSITY (GJ/m²)

1		2		3		4-9		10 and more	
1.46	A	0.93	A	1.02	B	1.36	A	1.50	A
1.83	B	2.34	B	1.23	B	1.39	B	x	
1.56	A	2.05	B	2.63	A	1.02	A	x	
1.53	A	1.54	A	0.86	B	1.43	B	x	
1.18	B	2.05	B	2.05	D	2.46	A	x	
1.40	A	1.20	A	0.81	B	1.45	B	1.31	A
0.89	A	2.30	B	x		x		x	
1.39	A	1.39	A	1.49	A	1.62	A	2.70	B
1.23	A	1.92	B	1.49	B	1.94	A	x	
1.75	B	1.10	A	1.23	A	1.08	A	1.32	A
2.80	A	1.36	A	1.19	B	1.72	B	1.58	A
1.33	A	1.79	A	1.58	C	1.82	A	x	
1.32	A	1.30	A	1.13	A	1.28	A	2.58	D
3.15	A	2.65	A	2.62	A	x		x	
1.74	B	1.04	A	1.32	B	1.27	B	x	
4.60	A	3.27	A	3.01	A	2.62	A	x	
1.19	A	1.62	A	1.72	B	1.08	B	1.40	B
1.37	A	1.27	A	1.00	A	1.62	B	x	
0.82	A	1.20	A	0.78	A	x		x	
1.23	B	1.50	A	1.63	A	1.29	A	2.11	A
1.24	A	0.97	A	0.79	A	0.88	A	1.16	D
1.21	A	1.36	A	2.20	A	2.51	A	3.14	A
1.42	A	1.02	A	1.35	A	2.31	A	x	
0.86	A	1.10	A	1.29	C	0.72	B	x	
1.25	A	1.32	A	1.39	A	1.04	A	x	
1.36	A	1.49	A	1.82	A	0.85	A	x	
1.75	A	1.46	A	1.41	A	1.42	B	x	
1.30	A	1.51	A	1.35	A	1.12	A	x	
1.19	B	1.57	A	1.23	A	1.80	A	x	
1.23	A	1.29	A	1.05	A	1.77	A	1.60	A
1.61	B	1.09	A	1.05	A	1.59	A	2.51	C

TABLE
10.5

Total energy consumption and energy intensity by building characteristics, occupancy characteristics, energy efficiency features, heating energy sources and equipment, cooling energy sources and equipment, and water-heating energy sources **by number of floors**

TOTAL ENERGY CONSUMPTION (GJ)

Number of floors →	1		2		3		4-9		10 and more	
Weekly hours of operation										
Less than 40	3,443,445	B	4,878,699	B	3,585,925	C		F		x
40-48	12,578,949	A	18,895,433	A	11,401,992	B	14,158,856	C	7,071,638	D
49-60	17,802,254	C	14,794,770	A	8,663,152	B	15,916,460	B	27,991,100	C
61-84	24,308,706	A	27,970,894	A	9,947,966	A	19,565,252	B		F
85-167	12,693,755	A	34,989,270	A	12,288,481	B	25,480,771	B		F
Open continuously	5,002,365	B	6,688,404	D	8,178,661	D	43,402,538	C	14,330,275	B
Building ownership										
Private individual(s)	21,142,871	B	25,723,098	A	11,183,276	B	14,551,496	A		F
Private organization	37,500,800	A	45,113,043	A	15,888,030	A	50,125,885	B	49,052,670	C
Non-profit organization	4,565,630	C	11,403,650	A	8,819,134	C	11,422,527	C		x
Fed.-prov.-munic.-regional government ^c	12,620,173	B	25,977,679	A	18,175,738	B	43,263,021	A	17,247,128	B
Building conservation feature										
Reflective or shading film	15,769,210	C	26,517,893	B	16,328,723	A	68,494,014	B	92,277,289	D
Awnings or blinds	33,939,756	A	59,874,614	A	32,897,006	A	85,063,257	A	111,657,587	C
Lighting conservation feature										
Reflectors	24,784,593	B	38,915,389	A	16,477,153	B	46,688,624	B		F
Energy-efficient ballast	38,785,144	A	64,408,105	A	29,842,877	A	93,486,391	A	110,756,969	D
Daylight controls	10,152,517	A	15,727,269	A	10,777,322	B	19,481,568	A	17,155,493	B
Occupancy sensors	5,300,963	C	10,139,747	C	7,562,086	C	36,002,781	C	25,789,695	C
Time clocks	25,600,355	B	34,173,491	A	19,130,082	B	63,996,335	B	44,409,642	B
Manual dimmer switches	11,796,507	A	26,130,480	A	18,023,829	B	65,460,128	B		F
Energy-efficient lamps	26,981,257	B	50,203,868	A	24,396,949	A	90,210,634	A	113,887,956	C
Other	12,636,703	D	12,922,941	B	6,503,307	C	12,836,357	B		F
Heating/cooling conservation feature										
Variable air-volume system	24,849,618	B	43,377,315	A	23,816,844	B	53,874,354	A	111,978,236	C
Outdoor-air economizer	35,670,270	A	50,691,482	A	32,664,380	A	85,863,473	A	59,216,095	B
Temperature setback	35,894,582	A	48,281,991	A	30,566,798	A	87,206,078	A	47,417,682	B
Equipment reset	31,311,852	B	45,699,570	A	29,067,059	A	64,512,079	A	112,134,824	D
Heat recovery system	9,378,643	B	17,199,106	B	17,924,958	C	42,213,965	C	33,344,943	C
Regular maintenance	58,957,679	A	98,988,692	A	49,810,970	A	116,304,604	A	121,559,908	C

^cIncludes all levels of government (i.e. federal, provincial, municipal and regional).



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This table is a continuation of the previous two pages. 
 This table continues on the next two pages. 

TOTAL ENERGY INTENSITY (GJ/m²)

1		2		3		4-9		10 and more	
1.10	A	1.11	A	1.14	A	0.82	A		x
1.14	A	1.11	A	1.04	A	1.41	A	2.09	A
1.48	A	1.20	A	1.43	A	1.08	A	1.53	A
1.37	A	1.41	A	0.95	A	1.67	A	3.41	C
1.58	A	1.72	A	1.70	A	1.19	A	2.48	A
2.88	A	1.60	B	2.04	A	2.21	A	2.19	A
1.70	A	1.50	A	1.64	A	1.32	A	4.63	A
1.31	A	1.51	A	1.36	A	1.79	A	1.56	A
1.58	A	1.15	A	1.23	A	1.36	B		x
1.32	A	1.23	A	1.12	A	1.39	A	2.50	A
1.40	B	1.31	A	1.39	A	1.58	A	2.55	D
1.41	A	1.39	A	1.27	A	1.62	A	2.48	C
1.40	A	1.46	A	1.08	A	1.66	A	3.06	C
1.40	A	1.37	A	1.25	A	1.55	A	2.51	C
1.00	A	1.18	A	1.28	A	1.41	A	2.25	A
1.37	B	1.33	A	1.54	B	1.61	A	2.03	A
1.51	A	1.40	A	1.20	A	1.67	A	1.64	A
1.40	A	1.62	A	1.70	A	1.66	A	2.89	B
1.42	A	1.46	A	1.12	A	1.53	A	2.49	C
2.09	B	1.44	A	0.92	B	1.57	A	1.72	A
1.53	A	1.52	A	1.23	A	1.46	A	2.58	C
1.46	A	1.34	A	1.29	A	1.49	A	1.76	A
1.45	A	1.32	A	1.27	A	1.54	A	1.68	A
1.51	A	1.38	A	1.24	A	1.49	A	2.60	C
1.54	A	1.31	A	1.26	A	1.87	A	1.80	A
1.37	A	1.41	A	1.31	A	1.54	A	2.45	C

TABLE
10.5

Total energy consumption and energy intensity by building characteristics, occupancy characteristics, energy efficiency features, heating energy sources and equipment, cooling energy sources and equipment, and water-heating energy sources **by number of floors**

TOTAL ENERGY CONSUMPTION (GJ)

Number of floors →	1	2	3	4-9	10 and more
Percentage of the floor space heated					
Less than 1	F	x	x	x	x
1-50	2,854,388 C	9,527,282 C	F	F	x
51-99	4,457,031 B	10,090,804 C	F	14,702,370 C	F
100	68,346,126 A	88,598,783 A	49,357,678 A	103,691,833 A	115,420,641 D
Energy source for heating (more than one may apply)					
Electricity	35,567,139 A	54,116,300 A	20,891,688 B	68,726,027 B	27,631,652 D
Natural gas	59,907,741 A	90,379,589 A	45,313,687 A	89,189,457 A	108,303,377 D
Fuel/heating oil	3,655,093 B	6,827,704 B	3,390,525 C	11,395,210 B	3,567,103 B
Composite ^d	2,492,305 D	2,206,345 B	1,506,070 C	14,585,091 B	F
Main energy source for heating					
Electricity	19,930,178 C	20,732,935 A	9,953,543 A	35,620,639 C	9,737,352 C
Natural gas	51,520,831 A	83,178,481 A	39,832,326 A	66,204,236 A	102,290,106 D
Fuel/heating oil	2,001,544 B	3,271,656 A	2,066,303 B	5,654,786 C	x
Composite ^d	F	1,033,797 C	2,214,005 D	11,883,267 B	9,933,700 C
Heating equipment (more than one may apply)					
Furnaces	32,880,087 B	41,443,789 A	13,860,376 B	14,952,585 C	F
Heat pumps	2,397,166 B	7,783,537 B	3,341,581 D	16,245,545 C	F
Individual space heaters	26,003,589 B	47,530,114 A	16,303,551 B	54,337,651 B	16,316,883 C
Boilers	17,494,038 A	31,261,262 A	26,108,727 A	82,764,505 B	102,626,178 D
Packaged heating units	33,795,207 A	42,055,081 A	22,463,666 B	32,418,127 A	F
District steam or hot water or other	5,385,165 C	9,973,136 B	3,432,853 B	28,782,093 D	14,765,828 C
Main heating equipment					
Furnaces	20,107,190 A	32,962,585 A	9,544,487 B	7,528,172 D	x
Heat pumps	1,348,037 C	4,007,610 C	F	F	3,056,101 D
Individual space heaters	12,677,143 B	12,546,487 B	3,669,513 C	7,658,280 B	F
Boilers	15,071,386 A	25,574,225 A	22,006,506 A	64,416,532 A	97,815,508 D
Packaged heating units	24,460,512 B	29,617,298 B	14,360,400 B	7,097,366 B	F
District steam or hot water or other	1,993,278 C	3,508,664 B	2,490,148 C	F	11,729,061 C
Not heated	F	x	x	x	x

^dIncludes the categories of diesel or kerosene; bottled gas, liquid petroleum gas or propane; district steam; district hot water; wood; coal; solar thermal panels; and others.



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Due to rounding the numbers may not add up and may differ slightly among tables.

NOTE: Estimates relate only to the surveyed areas of populations of 175,000 and greater, and in Atlantic Canada to populations of 50,000 and greater.

Source: Commercial and Institutional Building Energy Use Survey 2000.

This table is a continuation of the previous two pages. 
 This table continues on the next two pages. 

TOTAL ENERGY INTENSITY (GJ/m²)

1		2		3		4-9		10 and more	
0.80	B		x		x		x		x
0.96	A	1.58	B	0.76	A	1.40	A		x
1.56	A	1.62	A	1.75	A	1.61	A	1.84	A
1.44	A	1.34	A	1.28	A	1.51	A	2.47	C
1.38	A	1.32	A	1.28	A	1.38	A	1.46	A
1.48	A	1.53	A	1.37	A	1.68	A	2.64	C
1.21	B	1.09	A	1.20	A	1.69	A	2.52	A
1.39	C	1.24	B	2.64	A	2.51	A	4.48	A
1.47	B	1.13	A	1.02	A	1.36	A	1.09	A
1.40	A	1.52	A	1.35	A	1.53	A	2.70	C
1.15	A	0.78	A	1.04	A	1.31	C		x
1.82	C	1.33	C	2.93	A	2.47	A	2.92	A
1.45	A	1.66	A	1.49	A	1.63	A	2.23	B
1.04	A	0.98	A	1.08	A	1.54	A	1.80	B
1.39	A	1.36	A	1.19	A	1.47	A	1.76	A
1.34	A	1.19	A	1.12	A	1.53	A	2.70	C
1.51	A	1.37	A	1.36	A	1.28	A	1.87	B
1.36	A	1.55	A	1.70	B	2.17	A	1.98	A
1.20	A	1.63	A	1.59	A	2.04	B		x
1.12	A	1.01	A	1.12	B	1.29	A	1.21	A
1.47	B	1.29	A	1.11	B	1.08	A	1.29	A
1.37	A	1.17	A	1.05	A	1.42	A	2.73	C
1.67	A	1.49	A	1.60	A	1.06	A	1.44	A
1.76	B	1.43	A	2.70	A	2.63	A	2.36	B
0.80	B		x		x		x		x

TABLE
10.5

Total energy consumption and energy intensity by building characteristics, occupancy characteristics, energy efficiency features, heating energy sources and equipment, cooling energy sources and equipment, and water-heating energy sources **by number of floors**

TOTAL ENERGY CONSUMPTION (GJ)

Number of floors →	1		2		3		4-9		10 and more	
Percentage of the floor space cooled										
Not cooled	17,286,301	B	19,546,743	A	7,379,457	B	9,876,775	D		x
1-50	16,901,201	A	32,184,341	A	12,693,628	B	15,035,556	B	3,879,420	A
51-99	15,458,595	C	22,177,521	B	10,654,097	B	47,069,359	C	25,417,247	C
100	26,183,377	A	34,308,865	A	23,338,995	B	47,381,239	A		F
Space-cooling energy source										
Electricity	51,266,971	A	78,771,224	A	36,895,003	A	99,572,926	A	114,092,292	C
Natural gas	7,474,785	A	13,144,290	B	10,893,684	D	6,826,775	C		F
Fuel/heating oil		x		x		x		x		x
Composite ^e		F	1,125,491	D	1,803,685	D	10,303,508	C	14,887,689	D
Cooling equipment (more than one may apply)										
Residential-type air conditioners	6,490,400	A	17,484,177	C	7,728,339	B	7,463,488	C		F
Heat pumps	2,295,118	B	8,750,897	C	1,402,606	B	14,659,077	C	3,961,755	C
Individual room air conditioners	4,471,626	B	13,563,036	A	7,750,061	B	30,934,709	D	11,438,584	D
District-chilled water from outside source	567,113	D		F		F	10,932,230	C	15,189,667	D
Central chillers		F	10,537,534	B	6,767,020	B	60,421,897	B	106,465,504	D
Packaged air-conditioning units	47,622,118	A	58,637,712	A	29,254,074	A	51,346,676	B	26,470,829	C
Swamp coolers		F	265,177	D		x		F		x
Composite ^f	1,291,427	B	3,365,078	C	5,351,258	D	10,763,232	C		F
Other	697,103	C	2,972,064	D	4,333,462	D		F		F
Main cooling equipment										
Residential-type air conditioners	5,758,148	A	13,540,338	C	6,539,090	B		F		x
Heat pumps	1,981,362	B	7,126,462	D	839,733	C		F		x
Individual room air conditioners	2,149,203	B	6,526,313	B	2,743,091	B	5,025,840	B	2,080,499	B
District-chilled water from outside source		x	428,829	C		F	9,509,558	C	6,876,810	D
Central chillers		F	7,642,216	B	5,291,312	B	58,665,259	B	68,355,664	B
Packaged air-conditioning units	45,717,387	A	51,281,864	A	26,163,089	A	22,487,100	A	6,734,584	D
Composite ^f	880,761	C	2,553,533	D	5,110,404	D	10,950,708	C		F
Not cooled	17,286,301	B	19,546,743	A	7,379,457	B	9,876,775	D		x

^eIncludes the air-conditioning categories of fuel/heating oil; diesel or kerosene; bottled gas, liquid petroleum gas or propane; district-chilled water; and others.

^fIncludes the categories of district-chilled water from outside source; swamp coolers; and others.



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NOTE: Estimates relate only to the surveyed areas of populations of 175,000 and greater, and in Atlantic Canada to populations of 50,000 and greater.

Source: Commercial and Institutional Building Energy Use Survey 2000.

This table is a continuation of the previous two pages. 
 This table continues on the next two pages. 

TOTAL ENERGY INTENSITY (GJ/m²)

1		2		3		4-9		10 and more	
1.23	A	1.16	A	1.12	B	1.08	A		x
1.20	A	1.38	A	1.34	A	1.12	A	1.84	A
1.99	A	1.52	A	1.02	A	1.69	A	1.90	A
1.47	A	1.46	A	1.51	A	1.69	A	2.66	C
1.47	A	1.46	A	1.30	A	1.58	A	2.48	C
1.48	A	1.46	A	1.48	B	1.32	A	1.86	B
	x		x		x		x		x
2.00	B	0.94	A	2.60	A	1.85	A	2.07	A
1.24	A	1.74	A	1.25	A	1.74	B	1.42	A
0.87	A	1.21	A	0.96	A	1.76	A	1.82	A
1.36	B	1.49	A	1.05	A	1.67	A	2.36	A
1.59	C	1.20	A	2.59	A	1.83	A	2.02	A
2.02	B	1.56	A	1.14	A	1.74	A	2.60	C
1.59	A	1.43	A	1.41	A	1.52	A	1.86	A
1.49	B	1.32	C		x	1.50	A		x
1.13	A	1.91	A	1.93	A	1.64	A	3.79	B
0.86	A	2.05	A	1.87	A	1.41	A	4.93	A
1.21	A	1.61	A	1.22	B	1.72	C		x
0.84	A	1.10	A	0.89	B	1.53	A		x
1.30	A	1.44	B	1.08	A	0.98	B	2.46	A
	x	0.97	A	2.33	A	1.83	A	2.43	A
2.05	B	1.71	A	1.07	A	1.77	A	2.03	B
1.58	A	1.43	A	1.38	A	1.31	A	1.34	A
1.05	B	1.75	A	1.98	A	1.77	A	4.59	A
1.23	A	1.16	A	1.12	B	1.08	A		x

TABLE
10.5

Total energy consumption and energy intensity by building characteristics, occupancy characteristics, energy efficiency features, heating energy sources and equipment, cooling energy sources and equipment, and water-heating energy sources **by number of floors**

TOTAL ENERGY CONSUMPTION (GJ)

Number of floors →	1		2		3		4-9		10 and more	
Energy source for water heating										
Electricity	39,321,341	A	43,490,888	A	14,445,033	A	44,527,584	C	17,628,085	D
Natural gas	35,962,935	A	64,801,420	A	38,927,473	A	70,386,868	A	44,541,220	B
Fuel/heating oil	829,201	D	2,774,353	C	1,398,048	C	3,223,614	B		x
Composite ^d		F	672,858	C	1,530,482	C	12,660,636	B		F
Not heated	985,686	D	251,715	D		x		x		x

^dIncludes the categories of diesel or kerosene; bottled gas, liquid petroleum gas or propane; district steam; district hot water; wood; coal; solar thermal panels; and others.

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This table is a continuation of the previous two pages. 

TOTAL ENERGY INTENSITY (GJ/m²)

1		2		3		4-9		10 and more	
1.32	A	1.24	A	1.12	A	1.43	A	1.31	A
1.52	A	1.51	A	1.35	A	1.56	A	1.72	A
1.22	A	1.45	B	1.24	A	1.01	C	x	
1.27	C	1.21	C	1.95	B	2.47	A	4.58	A
1.12	B	0.68	B	x		x		x	

TABLE 10.6

Total energy consumption and energy intensity by building characteristics, occupancy characteristics, energy efficiency features, heating energy sources and equipment, cooling energy sources and equipment, and water-heating energy sources **by weekly hours of operation**

TOTAL ENERGY CONSUMPTION (GJ)

Weekly hours of operation →	Less than 40	40–48	49–60	61–84	85–167	Open continuously
All buildings						
Canada	12,754,811 A	64,106,869 A	85,167,736 A	146,432,957 C	93,587,252 A	77,602,243 B
Building floor space						
93–464 m ² (1,000–4,999 sq. ft.)	2,371,843 B	5,317,844 B	4,997,632 A	5,465,372 B	6,867,335 A	2,956,937 B
465–929 m ² (5,000–9,999 sq. ft.)	2,303,244 B	3,546,073 A	6,246,829 B	9,471,919 C	10,799,776 C	3,206,149 C
929–4,645 m ² (10,000–49,999 sq. ft.)	3,558,769 B	19,189,532 A	24,007,085 A	23,975,175 A	25,954,584 A	11,339,316 D
4,645–9,290 m ² (50,000–99,999 sq. ft.)	F	11,747,144 B	10,611,739 A	8,938,288 B	12,707,440 B	F
9,290 m ² and more (100,000 sq. ft. and more)	2,324,592 D	24,306,276 B	39,304,452 B	F	37,258,117 B	52,988,240 B
Year of construction						
Before 1920	3,188,109 C	2,690,197 B	3,238,006 C	7,950,620 D	6,163,421 D	2,989,796 D
1920–1959	4,604,035 B	16,363,118 B	11,651,633 A	17,309,953 B	20,889,959 B	F
1960–1969	3,014,210 C	8,332,875 B	9,306,476 B	F	12,155,989 B	9,068,762 B
1970–1979	546,229 B	16,126,254 B	27,452,848 B	F	24,780,473 B	24,489,878 C
1980–1989	669,755 C	8,868,098 B	15,196,119 A	15,016,065 B	14,944,472 A	13,333,953 C
1990–1999	732,473 D	11,726,327 C	18,322,654 D	19,495,545 A	14,652,937 B	4,600,408 C
Number of floors						
1	3,443,445 B	12,578,949 A	17,802,254 C	24,308,706 A	12,693,755 A	5,002,365 B
2	4,878,699 B	18,895,433 A	14,794,770 A	27,970,894 A	34,989,270 A	6,688,404 D
3	3,585,925 C	11,401,992 B	8,663,152 B	9,947,966 A	12,288,481 B	8,178,661 D
4–9	F	14,158,856 C	15,916,460 B	19,565,252 B	25,480,771 B	43,402,538 C
10 and more	x	7,071,638 D	27,991,100 C	F	F	14,330,275 B
Predominant type of window						
Single-glazed	6,338,743 B	8,147,451 A	13,963,046 B	20,287,364 B	15,440,353 B	9,581,881 B
Double-glazed ^a	6,334,136 A	55,589,968 A	70,087,447 A	125,327,445 D	75,397,146 A	67,608,304 B
Triple-glazed ^b	F	369,450 C	F	F	F	x

^aIncludes all the different types of windows that are double-glazed (i.e. double-glazed, double-sealed glazed, double-glazed with low-E coating and double-glazed with low-E gas-filled).

^bIncludes all the different types of windows that are triple-glazed (i.e. triple-glazed, triple-glazed with low-E coating and triple-glazed low-E gas-filled).

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Source: Commercial and Institutional Building Energy Use Survey 2000.

This table continues on the next two pages. 

TOTAL ENERGY INTENSITY (GJ/m²)

Less than 40		40–48		49–60		61–84		85–167		Open continuously	
1.09	A	1.22	A	1.34	A	1.86	B	1.55	A	2.15	A
1.84	A	1.58	A	1.39	A	2.31	A	3.03	A	4.27	A
1.32	A	1.04	A	1.30	A	1.96	B	2.89	A	2.48	B
0.93	A	1.12	A	1.25	A	1.24	A	1.78	A	1.90	A
0.96	A	1.09	A	1.10	A	1.09	A	1.32	A	1.59	A
0.92	A	1.37	A	1.51	A	2.25	C	1.24	A	2.24	A
1.45	A	0.69	C	1.12	A	1.71	C	2.14	A	1.66	A
0.97	A	1.38	A	1.46	A	1.50	A	1.95	A	2.48	A
1.08	A	1.20	A	1.35	A	2.13	C	1.35	A	2.36	A
0.85	A	1.53	A	1.59	A	2.60	C	1.30	A	1.87	A
1.59	B	1.05	A	1.06	A	1.20	A	1.69	A	2.45	A
0.82	A	1.09	B	1.31	A	1.36	A	1.50	A	1.77	A
1.10	A	1.14	A	1.48	A	1.37	A	1.58	A	2.88	A
1.11	A	1.11	A	1.20	A	1.41	A	1.72	A	1.60	B
1.14	A	1.04	A	1.43	A	0.95	A	1.70	A	2.04	A
0.82	A	1.41	A	1.08	A	1.67	A	1.19	A	2.21	A
x		2.09	A	1.53	A	3.41	C	2.48	A	2.19	A
1.19	A	1.04	A	1.48	A	1.48	A	1.72	A	1.74	A
1.01	A	1.26	A	1.32	A	1.94	B	1.53	A	2.22	A
0.84	C	0.97	A	1.25	A	1.59	C	1.45	A	x	

TABLE 10.6

Total energy consumption and energy intensity by building characteristics, occupancy characteristics, energy efficiency features, heating energy sources and equipment, cooling energy sources and equipment, and water-heating energy sources **by weekly hours of operation**

TOTAL ENERGY CONSUMPTION (GJ)

Weekly hours of operation →	Less than 40	40–48	49–60	61–84	85–167	Open continuously
Predominant exterior wall type						
Curtain walls	x	3,505,575 C	F	13,438,826 C	5,891,034 D	5,577,867 C
Metal stud framing with surface insulation	595,681 D	13,931,446 C	F	F	10,806,176 C	5,481,594 B
Metal stud framing without surface insulation	x	F	533,964 D	F	706,509 B	x
Wood-frame walls with surface insulation	2,551,138 B	3,960,848 C	5,003,437 B	8,261,793 C	7,372,402 B	3,458,811 C
Wood-frame walls without surface insulation	F	852,321 C	F	525,051 C	F	F
Concrete block with interior finishing	5,747,988 B	25,757,205 A	30,502,928 A	42,923,742 A	42,306,700 A	47,983,266 C
Concrete block without interior finishing	2,406,224 D	4,125,782 C	9,217,044 B	11,969,539 B	6,842,502 C	F
Precast panels	x	F	10,887,894 D	4,568,872 C	8,663,091 C	7,999,067 D
Unknown	899,743 D	5,168,534 C	5,781,640 C	4,794,584 C	9,913,025 D	1,177,216 C
Predominant roof type						
Attic roof fully insulated	1,368,927 D	2,351,474 A	F	6,639,742 B	5,240,922 B	5,770,419 C
Attic roof partially insulated	F	921,439 D	1,349,248 D	1,893,036 D	2,738,969 D	575,317 C
Attic roof not insulated	29,085 B	F	F	916,303 C	F	x
Insulated wood-truss roof	1,202,648 B	2,638,065 B	3,959,088 C	6,021,539 B	5,262,892 C	2,649,029 D
Not insulated wood-truss roof	431,025 C	1,439,653 C	677,410 C	861,150 C	F	F
Insulated metal-truss roof	871,870 C	12,903,004 B	9,770,377 B	14,622,865 B	7,589,858 B	2,269,917 C
Not insulated metal-truss roof	F	F	F	F	1,177,621 C	F
Insulated deck-type roof	3,921,301 B	30,187,041 B	43,071,208 A	F	51,173,405 A	51,416,988 B
Not insulated deck-type roof	F	4,034,114 D	4,458,212 C	F	2,297,587 D	F
Unknown	2,445,791 D	6,588,707 B	F	9,613,844 C	10,800,107 D	4,767,001 D
Principal building activity						
Commercial and institutional accommodation	x	x	x	F	F	21,643,085 C
Entertainment and recreation	1,308,647 D	F	F	3,136,456 D	12,504,340 C	401,963 D
Office	628,446 B	12,970,047 B	35,173,803 B	F	5,645,266 B	F
Food retail	x	x	157,783 D	5,158,876 C	5,520,703 B	1,548,679 D
Non-food retail	F	2,334,382 C	6,189,708 C	12,403,636 B	3,530,299 C	x
Food service	F	833,789 D	1,282,404 D	3,426,081 C	18,692,596 B	2,006,647 C
Non-food service	429,590 C	4,930,629 C	5,099,009 B	8,885,001 B	2,798,483 C	F
Shopping malls	x	2,742,422 D	F	21,269,921 A	7,804,442 B	F
Warehouse/wholesale	F	6,809,073 C	4,651,079 B	F	2,087,816 C	F
Administration	F	8,414,303 B	6,969,940 B	F	F	F
Education	4,805,898 C	13,489,444 B	11,097,760 C	6,239,588 C	17,110,648 B	252,651 D
Health care	F	F	727,744 B	F	x	27,850,797 A
Public assembly	3,848,211 B	F	3,130,158 D	2,757,041 B	F	x
Other	x	771,319 A	229,462 C	1,228,171 D	F	x



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F – Too unreliable to be published, x – Suppressed to meet the confidentiality requirements of the Statistics Act.

Due to rounding the numbers may not add up and may differ slightly among tables.

NOTE: Estimates relate only to the surveyed areas of populations of 175,000 and greater, and in Atlantic Canada to populations of 50,000 and greater.

Source: Commercial and Institutional Building Energy Use Survey 2000.

This table is a continuation of the previous two pages. 
 This table continues on the next two pages. 

TOTAL ENERGY INTENSITY (GJ/m²)

Less than 40		40–48		49–60		61–84		85–167		Open continuously	
	x	1.38	A	1.63	A	1.35	A	1.39	A	2.46	A
1.08	B	1.35	B	1.69	B	3.97	B	1.40	A	2.23	A
	x	1.11	A	0.80	A	1.22	B	0.85	A		x
1.38	A	0.98	A	1.13	A	2.08	B	2.70	A	2.01	A
1.34	B	1.03	A	2.00	C	0.79	B		F	1.16	B
1.06	A	1.15	A	1.30	A	1.34	A	1.69	A	2.12	A
0.97	A	1.02	A	1.53	A	1.25	A	1.26	A	2.39	A
	x	2.02	A	1.21	A	1.39	A	2.02	B	2.19	A
1.06	B	1.20	A	0.96	A	1.23	A	1.01	A	1.46	B
1.59	A	0.79	A	1.16	A	1.02	A	1.35	A	1.71	A
1.99	B	0.90	A	1.32	B	2.24	B	3.26	B	1.36	A
0.81	C	2.65	A	1.49	B	1.31	B	1.64	B		x
1.24	A	1.05	A	1.04	A	1.41	B	1.83	A	1.52	B
0.86	B	1.44	C	0.87	B	1.51	A	2.46	C	2.68	A
0.84	A	1.00	A	1.24	A	1.59	A	1.22	A	2.12	B
0.99	A	0.68	A	2.09	B	0.97	A	1.17	C	4.56	A
1.00	A	1.43	A	1.30	A	2.28	C	1.66	A	2.26	A
0.79	A	1.22	A	2.42	B	1.14	A	2.80	D	2.11	A
1.06	A	1.17	A	1.64	B	1.25	A	1.04	A	1.59	A
	x		x		x	2.11	B	1.47	A	1.60	A
1.75	A	2.04	B	1.61	B	0.98	B	1.87	A	2.21	B
1.23	A	1.40	A	1.41	A	3.49	C	1.65	A	1.29	A
	x		x	0.85	B	2.71	A	3.03	A	2.94	B
0.72	A	1.05	B	1.48	A	1.51	B	1.07	B		x
1.79	C	4.87	B	2.47	B	3.80	B	3.24	A	5.66	B
1.60	B	1.17	A	1.11	A	1.46	A	1.88	B	1.95	A
	x	1.09	A	1.65	C	1.23	A	1.24	A	3.27	D
0.67	A	0.86	A	1.13	A	1.08	A	0.82	B	2.78	A
0.82	A	1.38	B	1.39	A	1.72	A	2.30	B	1.69	A
0.92	A	0.96	A	1.05	A	0.84	A	0.90	A	0.89	C
0.81	C	2.30	B	1.08	A	2.38	B		x	2.59	A
1.28	A	1.83	C	1.61	A	1.10	A	1.35	A		x
	x	1.61	A	1.38	A	0.77	A		F		x

TABLE 10.6

Total energy consumption and energy intensity by building characteristics, occupancy characteristics, energy efficiency features, heating energy sources and equipment, cooling energy sources and equipment, and water-heating energy sources **by weekly hours of operation**

TOTAL ENERGY CONSUMPTION (GJ)

Weekly hours of operation →	Less than 40	40–48	49–60	61–84	85–167	Open continuously
Number of workers						
Less than 5	4,284,895 A	4,145,136 B	5,682,987 B	6,656,883 C	7,655,162 C	1,869,998 C
5–9	1,281,547 C	8,681,870 B	5,674,465 B	6,648,320 B	6,374,348 B	F
10–19	951,308 C	5,248,092 A	11,726,946 B	11,650,842 C	8,162,792 B	4,018,960 C
20–49	1,316,266 D	9,101,010 B	9,259,883 C	12,443,334 A	13,319,880 A	F
50–99	F	6,977,942 B	6,168,088 B	9,539,324 B	23,424,266 B	F
100–249	F	10,238,634 D	5,584,339 B	5,007,484 C	6,965,904 C	6,466,840 C
250 and more	3,319,632 D	19,714,184 B	41,071,028 B	F	27,684,899 B	40,601,060 C
Building ownership						
Private individual(s)	1,597,633 C	10,545,515 B	19,105,382 B	F	21,852,145 B	6,613,227 C
Private organization	1,082,557 B	25,047,722 B	47,363,734 A	59,640,637 A	33,575,869 A	30,969,909 D
Non-profit organization	4,603,082 A	3,843,028 B	5,918,624 B	5,616,204 C	8,587,338 C	F
Fed.-prov.-munic.-regional government ^c	5,471,540 C	24,670,604 B	12,779,995 B	12,413,255 B	29,571,900 B	32,376,443 A
Building conservation feature						
Reflective or shading film	2,076,518 C	18,841,349 A	45,466,747 B	F	29,734,352 B	37,447,244 C
Awnings or blinds	4,308,402 B	42,593,887 A	52,322,520 A	F	57,403,432 A	60,681,789 B
Lighting conservation feature						
Reflectors	2,238,449 C	26,514,734 B	29,216,837 B	F	40,818,511 A	29,387,516 D
Energy-efficient ballast	4,553,215 B	40,463,210 A	61,601,391 A	111,966,067 D	66,597,614 A	52,097,990 B
Daylight controls	1,591,146 D	11,881,902 C	6,663,333 A	16,665,760 A	16,989,101 B	19,502,926 B
Occupancy sensors	718,699 D	11,026,083 D	21,165,279 A	8,762,374 B	22,097,106 C	F
Time clocks	2,560,084 C	23,233,255 B	37,258,657 B	39,860,471 A	36,418,581 A	47,978,857 C
Manual dimmer switches	2,705,906 C	21,491,009 B	25,099,349 B	F	42,854,176 B	53,094,881 B
Energy-efficient lamps	4,968,375 B	37,923,907 A	53,982,305 B	F	54,804,982 A	51,204,821 B
Other	1,250,764 D	10,930,494 C	14,527,908 C	13,463,792 B	11,746,607 C	5,479,691 C
Heating/cooling conservation feature						
Variable air-volume system	1,858,783 C	29,681,498 B	43,743,640 B	F	52,321,719 A	34,970,241 A
Outdoor-air economizer	2,880,715 B	39,261,768 A	52,716,717 A	60,459,678 A	55,023,252 A	53,763,570 B
Temperature setback	7,772,220 B	38,653,613 A	53,287,460 B	47,892,244 A	54,490,066 A	47,271,528 B
Equipment reset	5,870,719 B	38,669,913 A	49,316,336 B	F	47,868,942 A	35,788,338 A
Heat recovery system	1,481,070 C	15,460,263 C	17,446,545 B	22,159,157 B	25,457,878 B	38,056,704 C
Regular maintenance	10,900,126 A	59,264,341 A	78,461,750 A	135,821,345 D	87,739,650 A	73,434,642 B

^cIncludes all levels of government (i.e. federal, provincial, municipal and regional).



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NOTE: Estimates relate only to the surveyed areas of populations of 175,000 and greater, and in Atlantic Canada to populations of 50,000 and greater.

Source: Commercial and Institutional Building Energy Use Survey 2000.

This table is a continuation of the previous two pages. 
 This table continues on the next two pages. 

TOTAL ENERGY INTENSITY (GJ/m²)

Less than 40		40–48		49–60		61–84		85–167		Open continuously	
1.32	A	0.93	A	1.22	A	1.14	A	1.89	B	1.46	A
1.08	B	1.10	B	1.25	A	1.65	A	1.53	B	1.23	A
0.89	B	0.96	A	1.57	A	1.63	B	1.88	A	2.69	B
1.23	B	1.25	A	1.06	A	1.12	A	2.00	A	1.97	A
1.00	A	1.02	A	1.13	A	1.33	A	1.80	A	2.15	A
1.18	A	1.66	A	1.26	A	1.11	A	1.34	B	1.71	A
0.93	A	1.39	A	1.46	A	2.43	C	1.21	A	2.54	A
1.13	A	1.20	B	1.37	A	3.56	B	1.77	A	1.80	A
1.25	A	1.24	A	1.39	A	1.39	A	1.86	A	2.30	A
1.17	A	0.84	B	1.24	A	0.95	A	1.95	A	1.57	B
1.00	A	1.31	A	1.23	A	1.18	A	1.16	A	2.30	A
1.42	A	1.14	A	1.43	A	2.57	C	1.23	A	2.41	A
1.04	A	1.15	A	1.31	A	2.35	C	1.57	A	2.17	A
1.35	A	1.35	A	1.45	A	2.50	C	1.54	A	2.09	A
0.96	A	1.32	A	1.38	A	2.13	C	1.45	A	2.14	A
1.32	B	1.33	A	0.98	A	1.12	A	1.29	A	2.35	A
0.90	A	1.93	A	1.44	A	1.30	A	1.48	A	2.48	A
1.24	A	1.39	A	1.49	A	1.29	A	1.31	A	2.35	A
1.42	A	1.68	A	1.49	A	2.69	C	1.54	A	2.44	A
1.06	A	1.31	A	1.46	A	2.13	C	1.45	A	2.19	A
0.87	A	1.37	B	1.60	B	1.41	A	1.96	A	1.55	A
1.15	A	1.41	A	1.43	A	2.17	C	1.66	A	2.21	A
1.08	A	1.30	A	1.39	A	1.36	A	1.44	A	2.09	A
1.08	A	1.29	A	1.50	A	1.28	A	1.45	A	2.07	A
1.07	A	1.35	A	1.48	A	2.18	C	1.58	A	1.99	A
1.09	A	1.46	B	1.33	A	1.46	A	1.43	A	2.32	A
1.06	A	1.27	A	1.40	A	1.89	B	1.54	A	2.15	A

TABLE 10.6

Total energy consumption and energy intensity by building characteristics, occupancy characteristics, energy efficiency features, heating energy sources and equipment, cooling energy sources and equipment, and water-heating energy sources **by weekly hours of operation**

TOTAL ENERGY CONSUMPTION (GJ)

Weekly hours of operation →	Less than 40		40–48		49–60		61–84		85–167		Open continuously		
Percentage of the floor space heated													
Less than 1	x		x		x		F		x		x		
1–50	F	1,431,461	D		1,535,215	B		F	7,517,241	C		x	
51–99	F		F		F		4,799,385	B	15,487,390	C	2,418,772	B	
100		11,001,037	A	55,267,568	A	74,917,255	A	138,759,979	D	70,582,621	A	74,886,600	B
Energy source for heating (more than one may apply)													
Electricity	4,759,784	B	25,627,108	A	42,013,080	A	45,852,264	A	46,018,610	A	42,661,961	C	
Natural gas	10,500,236	A	51,296,533	A	73,960,775	A	123,084,715	D	73,279,025	A	60,972,566	B	
Fuel/heating oil	1,380,193	D	4,014,613	B	4,100,120	B	8,197,359	B	1,868,266	C	9,275,084	A	
Composite ^d	F		F		3,105,592	C		F	7,223,981	D	12,887,156	B	
Main energy source for heating													
Electricity	1,433,087	C	12,299,944	A	15,617,418	C	23,564,027	B	21,542,797	B		F	
Natural gas	10,256,820	A	46,654,315	A	65,688,793	A		F	63,099,792	A	41,628,997	B	
Fuel/heating oil	1,002,434	D	2,299,712	B	1,650,339	A	4,522,332	C	1,723,224	C	2,010,908	A	
Composite ^d	F		F		F		2,502,899	D		F	12,442,710	B	
Heating equipment (more than one may apply)													
Furnaces	4,169,827	B	19,631,847	B	21,924,582	B	23,790,173	A	29,902,327	B	13,567,926	C	
Heat pumps	1,109,010	D	6,500,754	C		F	7,988,967	B	13,823,675	D	3,902,306	C	
Individual space heaters	2,100,051	D	19,660,786	A	28,711,884	B	35,080,057	A	42,916,473	A	32,022,535	D	
Boilers	7,287,427	B	33,382,251	A	43,459,195	B		F	39,330,925	A	45,179,639	C	
Packaged heating units	F		21,162,113	B	22,597,414	B	40,705,594	A	39,936,251	A	18,572,598	B	
District steam or hot water or other	777,299	D	6,108,201	D	7,776,407	C	7,647,933	B	12,716,772	C	27,312,463	D	
Main heating equipment													
Furnaces	3,986,658	B	12,239,016	B	13,181,982	A	14,630,544	B	19,422,723	B	6,977,129	C	
Heat pumps	F		5,041,337	D	2,344,040	D	4,634,696	C		F	1,434,432	B	
Individual space heaters	425,074	D	6,626,666	B	8,484,436	B	13,277,695	C	8,555,980	B	3,060,100	C	
Boilers	6,559,080	B	27,599,616	B	39,756,847	B		F	36,074,985	A	26,790,317	B	
Packaged heating units	449,259	C	9,776,403	B	18,315,137	C	22,666,241	A	16,942,327	A	12,787,214	C	
District steam or hot water or other	384,951	D		F	3,061,454	D	2,974,033	B	8,631,995	D	26,550,799	D	



^dIncludes the categories of diesel or kerosene; bottled gas, liquid petroleum gas or propane; district steam; district hot water; wood; coal; solar thermal panels; and others.

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Source: Commercial and Institutional Building Energy Use Survey 2000.

This table is a continuation of the previous two pages. 
 This table continues on the next two pages. 

TOTAL ENERGY INTENSITY (GJ/m²)

Less than 40		40–48		49–60		61–84		85–167		Open continuously	
	x		x		x	1.05	A		x		x
1.49	A	0.80	B	0.72	A	0.97	A	2.09	B		x
1.48	B	1.57	B	1.60	A	1.21	A	1.88	A	2.50	A
1.05	A	1.20	A	1.34	A	1.93	B	1.46	A	2.14	A
0.95	A	1.10	A	1.25	A	1.30	A	1.31	A	2.22	A
1.19	A	1.33	A	1.53	A	2.01	B	1.70	A	2.25	A
0.84	A	0.74	A	1.43	A	2.02	A	0.87	B	2.27	A
	F	2.23	A	1.37	B	5.10	A	1.82	A	2.98	A
0.79	A	0.99	A	1.07	B	1.15	A	1.29	A	1.98	A
1.18	A	1.33	A	1.45	A	2.11	B	1.65	A	2.09	A
0.90	A	0.61	B	0.87	A	1.88	B	0.86	B	1.77	A
	F	2.78	B	1.51	C	3.02	C	2.09	A	2.99	A
1.22	A	1.30	A	1.55	A	1.55	A	2.03	A	1.73	A
0.99	A	1.14	A	1.33	A	1.34	A	1.53	A	1.92	A
0.94	A	0.96	A	1.42	A	1.37	A	1.40	A	2.26	A
1.04	A	1.26	A	1.45	A	2.38	C	1.26	A	2.07	A
0.96	A	1.18	A	1.39	A	1.28	A	1.49	A	2.30	A
1.16	B	1.53	A	1.33	A	1.43	A	1.68	A	2.82	A
1.20	A	1.22	A	1.23	A	1.45	A	1.96	A	2.38	A
1.02	A	1.24	A	0.98	A	1.12	A	1.16	C	2.05	A
0.78	B	0.91	A	1.13	A	1.46	A	1.65	A	1.45	A
1.04	A	1.29	A	1.41	A	2.50	C	1.25	A	1.77	A
1.23	A	1.16	A	1.50	A	1.23	A	1.95	A	2.20	A
1.82	C	2.42	B	1.32	C	1.87	A	2.06	A	2.82	A

TABLE 10.6

Total energy consumption and energy intensity by building characteristics, occupancy characteristics, energy efficiency features, heating energy sources and equipment, cooling energy sources and equipment, and water-heating energy sources **by weekly hours of operation**

TOTAL ENERGY CONSUMPTION (GJ)

Weekly hours of operation →	Less than 40	40–48	49–60	61–84	85–167	Open continuously
Percentage of the floor space cooled						
Not cooled	6,370,653 B	7,865,979 A	12,187,849 B	12,152,748 C	10,519,682 B	F
1–50	2,463,874 C	18,547,674 B	11,857,729 A	14,454,817 A	20,717,046 B	12,653,007 B
51–99	1,244,387 D	18,998,602 B	27,117,503 C	16,511,986 A	32,347,920 B	F
100	2,675,898 C	18,694,614 B	34,004,656 A	F	30,002,604 A	35,225,021 B
Space-cooling energy source						
Electricity	5,645,376 B	47,479,472 A	65,195,054 A	123,149,323 D	76,766,528 A	62,362,664 B
Natural gas	1,142,357 D	10,226,021 C	7,227,266 C	7,130,047 B	8,906,292 C	F
Fuel/heating oil	x	x	x	x	x	x
Composite ^e	F	F	3,420,141 C	6,698,047 D	F	7,593,972 C
Cooling equipment (more than one may apply)						
Residential-type air conditioners	1,419,175 C	6,835,817 B	7,144,986 A	8,394,180 B	11,339,732 C	6,804,826 D
Heat pumps	F	4,463,269 C	4,364,662 B	7,078,725 C	10,860,156 C	4,087,294 B
Individual room air conditioners	1,731,503 D	11,552,953 C	8,832,622 C	7,691,633 B	11,015,468 B	27,333,835 D
District-chilled water from outside source	x	F	3,190,011 D	6,879,947 D	F	7,871,007 C
Central chillers	F	17,428,861 C	28,094,742 B	F	16,670,495 C	39,373,941 C
Packaged air-conditioning units	3,059,968 C	34,200,884 A	41,862,071 A	46,159,781 A	50,249,293 A	37,799,414 C
Swamp coolers	x	F	x	x	F	x
Composite ^f	x	9,453,697 D	5,093,688 C	F	8,050,906 D	6,959,470 C
Other	x	F	F	F	2,533,262 D	1,365,267 C
Main cooling equipment						
Residential-type air conditioners	1,408,575 C	4,564,642 B	5,714,942 B	5,238,569 B	7,428,008 D	F
Heat pumps	F	3,994,425 D	2,496,355 D	2,659,805 C	8,508,750 D	F
Individual room air conditioners	F	3,114,223 C	2,004,108 B	2,266,181 B	3,526,607 C	6,589,131 B
District-chilled water from outside source	x	F	2,880,843 D	x	F	6,613,631 C
Central chillers	F	14,479,414 C	26,580,023 C	46,926,135 D	15,967,901 C	36,684,170 C
Packaged air-conditioning units	2,223,675 B	25,318,166 A	31,484,762 B	39,032,536 A	40,349,003 A	13,975,881 B
Composite ^f	x	4,770,021 D	4,699,697 C	F	7,287,300 D	7,538,872 C
Not cooled	6,370,653 B	7,865,979 A	12,187,849 B	12,152,748 C	10,519,682 B	F

^eIncludes the air-conditioning categories of fuel/heating oil; diesel or kerosene; bottled gas, liquid petroleum gas or propane; district-chilled water; and others.

^fIncludes the categories of district-chilled water from outside source; swamp coolers; and others.

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NOTE: Estimates relate only to the surveyed areas of populations of 175,000 and greater, and in Atlantic Canada to populations of 50,000 and greater.

Source: Commercial and Institutional Building Energy Use Survey 2000.

This table is a continuation of the previous two pages. 

This table continues on the next two pages. 

TOTAL ENERGY INTENSITY (GJ/m²)

Less than 40		40–48		49–60		61–84		85–167		Open continuously	
1.08	A	0.93	A	1.20	A	1.16	B	1.52	A	1.10	A
1.27	A	1.12	A	1.21	A	1.26	A	1.26	A	2.05	A
0.85	A	1.29	B	1.66	A	1.43	A	1.67	A	2.30	A
1.13	A	1.47	A	1.26	A	2.29	C	1.71	A	2.42	A
1.05	A	1.34	A	1.40	A	2.01	B	1.52	A	2.30	A
1.34	B	1.12	A	1.13	A	1.59	A	2.03	A	2.31	A
x		x		x		x		x		x	
1.23	B	2.78	A	1.44	C	1.69	A	1.86	A	2.13	A
0.85	A	1.20	A	1.21	A	1.40	A	1.87	A	2.90	A
1.49	D	1.02	A	1.15	A	1.70	B	1.41	A	2.47	A
1.30	A	1.10	B	1.45	A	1.18	A	1.57	A	2.32	A
x		2.40	A	1.58	D	1.66	A	1.87	A	2.13	A
1.20	B	1.90	A	1.43	A	2.90	C	1.15	A	2.42	A
1.09	A	1.32	A	1.48	A	1.32	A	1.59	A	2.35	A
x		2.24	A	x		x		1.95	A	x	
x		1.75	A	1.53	B	4.29	B	2.09	A	1.86	A
x		1.48	A	1.53	C	4.84	A	1.92	A	2.73	A
0.85	A	1.01	A	1.16	A	1.27	B	1.86	A	2.99	A
1.49	D	1.01	A	0.97	A	1.13	A	1.32	A	2.07	A
1.21	B	0.63	B	1.21	A	1.48	A	1.77	B	1.78	A
x		3.82	A	1.57	D	x		1.95	A	2.03	A
1.21	B	2.14	A	1.40	A	2.19	B	1.16	B	2.43	A
1.18	A	1.19	A	1.43	A	1.25	A	1.73	A	2.25	A
x		1.93	B	1.57	B	5.10	A	1.90	A	2.12	A
1.08	A	0.93	A	1.20	A	1.16	B	1.52	A	1.10	A

TABLE

10.6

Total energy consumption and energy intensity by building characteristics, occupancy characteristics, energy efficiency features, heating energy sources and equipment, cooling energy sources and equipment, and water-heating energy sources **by weekly hours of operation**

TOTAL ENERGY CONSUMPTION (GJ)

Weekly hours of operation →	Less than 40		40–48		49–60		61–84		85–167		Open continuously	
Energy source for water heating												
Electricity	3,346,877	A	19,786,575	A	31,518,814	B	46,438,971	A	30,229,445	A	28,092,248	D
Natural gas	9,456,241	B	39,949,047	A	56,831,528	A	48,124,765	A	59,938,221	A	40,320,114	B
Fuel/heating oil	F		1,392,400	C	2,100,451	D	1,156,104	C	952,543	C	2,706,142	B
Composite ^d	F		F		F		F		F		13,055,374	B
Not heated	F		84,434	D	F		416,598	D	F		x	

^dIncludes the categories of diesel or kerosene; bottled gas, liquid petroleum gas or propane; district steam; district hot water; wood; coal; solar thermal panels; and others.

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Source: Commercial and Institutional Building Energy Use Survey 2000.

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TOTAL ENERGY INTENSITY (GJ/m²)

Less than 40		40–48		49–60		61–84		85–167		Open continuously	
0.85	A	1.01	A	1.21	A	1.31	A	1.24	A	2.14	A
1.22	A	1.33	A	1.45	A	1.40	A	1.69	A	2.04	A
1.13	A	0.54	C	1.69	C	1.29	B	1.22	A	1.88	A
3.29	B	2.78	A	1.66	D	5.14	A	2.21	A	2.86	A
0.46	C	0.56	C	1.25	C	1.00	A	1.16	C		x

TABLE

10.7

Total energy consumption and energy intensity by building characteristics, occupancy characteristics, energy efficiency features, heating energy sources and equipment, cooling energy sources and equipment, and water-heating energy sources **by type of ownership**

TOTAL ENERGY CONSUMPTION (GJ)

Building ownership	Private individual(s)		Private organization		Non-profit organization		Fed.-prov.-munic.-regional government ^a	
All buildings								
Canada	128,476,763	C	197,680,427	A	36,210,940	A	117,283,738	A
Building floor space								
93–464 m ² (1,000–4,999 sq. ft.)	13,196,110	A	10,364,705	A	2,650,944	B		F
465–929 m ² (5,000–9,999 sq. ft.)	12,750,413	A	17,441,955	B	3,963,139	B	1,418,482	B
929–4,645 m ² (10,000–49,999 sq. ft.)	21,238,319	A	49,076,869	A	14,029,645	A	23,679,629	A
4,645–9,290 m ² (50,000–99,999 sq. ft.)	7,678,280	B	19,808,550	A	4,921,545	C	20,904,201	B
9,290 m ² and more (100,000 sq. ft. and more)		F	100,988,347	B	10,645,667	D	69,516,223	A
Year of construction								
Before 1920	5,318,968	D	10,761,968	C	5,234,189	C	4,905,025	C
1920–1959	21,249,358	B	40,840,883	C	7,137,446	B	24,710,456	A
1960–1969		F	17,761,314	A	8,688,005	C	21,688,181	A
1970–1979		F	55,512,849	A	10,489,486	C	31,562,933	B
1980–1989	14,737,725	A	31,994,785	A	2,375,259	C	18,920,693	B
1990–1999	10,938,711	B	40,808,629	B	2,286,554	D	15,496,450	C
Number of floors								
1	21,142,871	B	37,500,800	A	4,565,630	C	12,620,173	B
2	25,723,098	A	45,113,043	A	11,403,650	A	25,977,679	A
3	11,183,276	B	15,888,030	A	8,819,134	C	18,175,738	B
4–9	14,551,496	A	50,125,885	B	11,422,527	C	43,263,021	A
10 and more		F	49,052,670	C		x	17,247,128	B
Predominant type of window								
Single-glazed	8,317,586	A	35,556,868	A	6,967,638	B	22,916,745	A
Double-glazed ^b	119,283,606	D	160,896,473	A	28,132,852	B	92,031,516	A
Triple-glazed ^c	875,571	C		F		F		F

^aIncludes all levels of government (i.e. federal, provincial, municipal and regional).

^bIncludes all the different types of windows that are double-glazed (i.e. double-glazed, double-sealed glazed, double-glazed with low-E coating and double-glazed with low-E gas-filled).

^cIncludes all the different types of windows that are triple-glazed (i.e. triple-glazed, triple-glazed with low-E coating and triple-glazed low-E gas-filled).

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This table continues on the next two pages. 

TOTAL ENERGY INTENSITY (GJ/m²)

Private individual(s)		Private organization		Non-profit organization		Fed.-prov.-munic.-regional government ^a	
2.16	B	1.52	A	1.27	A	1.38	A
1.74	A	2.53	A	2.02	A	3.08	C
1.68	A	2.17	A	1.40	A	1.07	A
1.30	A	1.42	A	1.24	A	1.32	A
1.12	A	1.16	A	1.21	B	1.21	A
3.48	B	1.53	A	1.19	B	1.45	A
1.55	A	1.83	B	0.88	B	1.60	B
1.72	A	1.95	A	1.34	A	1.42	A
2.76	C	1.49	A	1.42	B	1.30	A
3.10	C	1.60	A	1.39	A	1.36	A
1.24	A	1.25	A	1.57	A	1.73	A
1.73	A	1.34	A	1.11	B	1.14	A
1.70	A	1.31	A	1.58	A	1.32	A
1.50	A	1.51	A	1.15	A	1.23	A
1.64	A	1.36	A	1.23	A	1.12	A
1.32	A	1.79	A	1.36	B	1.39	A
4.63	A	1.56	A	x		2.50	A
1.33	A	1.56	A	1.33	A	1.39	A
2.26	B	1.52	A	1.25	A	1.38	A
1.77	A	1.15	A	1.44	A	1.48	B

TABLE
10.7

Total energy consumption and energy intensity by building characteristics, occupancy characteristics, energy efficiency features, heating energy sources and equipment, cooling energy sources and equipment, and water-heating energy sources **by type of ownership**

TOTAL ENERGY CONSUMPTION (GJ)								
Building ownership	Private individual(s)		Private organization		Non-profit organization		Fed.-prov.-munic.-regional government ^a	
Predominant exterior wall type								
Curtain walls	3,705,466	D	26,078,567	C	x		8,778,216	B
Metal stud framing with surface insulation		F	13,689,662	B	F		17,177,656	C
Metal stud framing without surface insulation	1,582,387	D	810,974	C	F		1,004,002	A
Wood-frame walls with surface insulation	8,255,290	A	12,146,264	B	5,534,266	B	4,672,609	C
Wood-frame walls without surface insulation	1,234,806	B		F	644,064	C		F
Concrete block with interior finishing	30,301,478	B	96,609,914	A	17,026,535	B	51,283,903	A
Concrete block without interior finishing	6,574,153	B	18,539,029	B	3,742,782	D	10,562,847	B
Precast panels		F	19,646,117	B		F	11,953,906	C
Unknown		F	7,288,692	B		F	11,618,127	C
Predominant roof type								
Attic roof fully insulated	6,662,507	B	14,071,513	C	3,822,814	C	3,936,294	A
Attic roof partially insulated		F	3,330,562	C	1,106,143	C	2,055,496	C
Attic roof not insulated		F	820,490	C	232,291	C		F
Insulated wood-truss roof	6,837,606	A	6,196,207	C	3,282,673	C	5,416,776	B
Not insulated wood-truss roof	1,410,379	B		F		F	2,504,321	B
Insulated metal-truss roof	9,978,557	B	24,135,542	A	4,715,280	C	9,198,512	B
Not insulated metal-truss roof	1,548,517	D	4,196,712	D		x	1,271,548	D
Insulated deck-type roof		F	111,077,210	A	15,142,441	C	70,265,047	A
Not insulated deck-type roof	2,759,973	C	10,231,019	C	1,532,691	D	2,328,792	D
Unknown		F	14,208,882	B		F	18,434,942	B
Principal building activity								
Commercial and institutional accommodation		F	14,144,246	D		F		F
Entertainment and recreation		F	2,191,347	C	5,728,609	D	6,996,807	B
Office		F	58,917,005	A		F		x
Food retail	5,357,630	B	6,328,114	B		x		F
Non-food retail	8,110,046	B	16,324,735	B		F		x
Food service	9,038,243	A	14,155,577	B		F		x
Non-food service	8,696,970	B	12,309,018	B		x		F
Shopping malls	14,328,863	D	27,733,310	A		F		x
Warehouse/wholesale	4,267,329	B		F		x	232,592	D
Administration		F		F	2,028,303	D	18,537,658	C
Education		F		F	3,213,318	C	46,714,583	A
Health care	962,765	B		F		F	27,839,536	A
Public assembly		F		F	10,437,504	A		F
Other	388,543	D	1,511,758	C		F	492,123	C

^aIncludes all levels of government (i.e. federal, provincial, municipal and regional).



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This table continues on the next two pages. 

TOTAL ENERGY INTENSITY (GJ/m²)

Private individual(s)	Private organization	Non-profit organization	Fed.-prov.-munic.-regional government ^a
2.91 B	1.56 A	x	1.23 B
3.72 B	1.28 A	1.83 B	1.40 A
1.01 A	0.79 A	1.12 C	1.95 A
1.49 A	2.17 B	1.41 A	1.26 A
0.91 A	2.66 C	1.24 A	1.12 A
1.67 A	1.56 A	1.21 A	1.39 A
1.47 A	1.43 A	0.96 B	1.28 A
1.10 A	1.46 A	2.08 C	2.41 A
0.92 A	1.14 A	1.36 B	1.05 A
1.30 A	1.36 A	0.87 A	1.02 A
2.60 C	2.39 A	1.37 B	1.19 A
2.30 B	1.29 B	1.17 A	1.42 A
1.65 A	1.34 A	1.31 A	1.10 B
1.20 A	2.63 A	1.45 B	2.34 A
1.40 A	1.51 A	0.87 B	0.94 A
1.80 C	1.28 B	x	1.44 B
2.62 B	1.56 A	1.65 A	1.61 A
1.37 A	1.58 A	1.10 B	2.00 B
2.08 B	1.15 A	1.38 B	1.11 A
1.59 A	1.87 A	1.39 B	1.13 A
1.97 A	1.42 A	1.42 C	1.74 A
3.97 B	1.43 A	1.32 A	x
2.75 A	2.83 A	x	2.83 A
1.24 A	1.45 A	0.63 A	x
3.51 A	3.63 A	2.28 B	x
1.13 A	1.44 A	x	2.16 A
1.81 B	1.17 A	0.66 C	x
0.98 A	1.40 B	x	1.00 D
1.42 A	1.66 A	0.72 D	1.86 A
0.97 A	1.33 B	0.92 A	0.93 A
1.23 A	2.50 B	2.63 B	2.52 A
0.50 A	F	1.23 A	2.35 A
0.69 A	1.64 C	0.80 A	1.77 A

TABLE
10.7

Total energy consumption and energy intensity by building characteristics, occupancy characteristics, energy efficiency features, heating energy sources and equipment, cooling energy sources and equipment, and water-heating energy sources **by type of ownership**

TOTAL ENERGY CONSUMPTION (GJ)								
Building ownership	Private individual(s)		Private organization		Non-profit organization		Fed.-prov.-munic.-regional government ^a	
Number of workers								
Less than 5	9,079,273	A	11,379,458	C	7,307,859	B	2,528,472	C
5–9	12,589,271	A	11,736,485	A	7,279,259	D	2,239,840	C
10–19	13,335,780	B	17,653,274	B	5,180,398	C	5,589,487	B
20–49	11,530,550	A	21,023,405	A	4,198,809	D	15,933,844	B
50–99	10,300,253	D	31,540,931	B	7,557,623	C	10,032,734	C
100–249	6,781,429	D	13,644,191	A		F	13,607,713	C
250 and more		F	90,702,684	B		F	67,351,647	A
Weekly hours of operation								
Less than 40	1,597,633	C	1,082,557	B	4,603,082	A	5,471,540	C
40–48	10,545,515	B	25,047,722	B	3,843,028	B	24,670,604	B
49–60	19,105,382	B	47,363,734	A	5,918,624	B	12,779,995	B
61–84		F	59,640,637	A	5,616,204	C	12,413,255	B
85–167	21,852,145	B	33,575,869	A	8,587,338	C	29,571,900	B
Open continuously	6,613,227	C	30,969,909	D		F	32,376,443	A
Building conservation feature								
Reflective or shading film		F	95,204,351	B	7,468,108	C	43,553,745	A
Awnings or blinds		F	132,290,145	A	20,941,879	B	78,707,608	A
Lighting conservation feature								
Reflectors		F	76,199,512	B	9,944,376	C	50,153,407	A
Energy-efficient ballast	95,658,697	D	136,022,858	A	17,397,395	B	88,200,536	A
Daylight controls	12,821,259	B	32,674,611	A	5,974,311	C	21,823,988	A
Occupancy sensors	8,007,804	D	41,034,581	C	4,927,714	D	30,825,173	B
Time clocks	25,261,121	B	97,436,852	A	11,655,596	C	52,956,336	A
Manual dimmer switches		F	81,160,936	B	10,015,704	C	53,482,162	A
Energy-efficient lamps		F	117,893,471	A	22,547,778	B	76,976,768	A
Other	15,024,890	D	24,958,670	B	3,686,802	D	13,728,894	C
Heating/cooling conservation feature								
Variable air-volume system		F	100,506,492	A	10,284,648	B	62,036,450	A
Outdoor-air economizer	32,377,970	B	128,346,818	A	20,311,703	B	83,069,208	A
Temperature setback	32,727,321	B	117,217,701	A	20,733,777	B	78,688,331	A
Equipment reset		F	106,625,348	A	19,803,160	B	74,727,546	A
Heat recovery system	13,949,202	B	55,652,849	B	5,740,869	D	44,718,696	A
Regular maintenance	118,409,766	D	180,470,488	A	32,519,515	A	114,222,083	A

^aIncludes all levels of government (i.e. federal, provincial, municipal and regional).



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TOTAL ENERGY INTENSITY (GJ/m²)

Private individual(s)	Private organization	Non-profit organization	Fed.-prov.-munic.-regional government ^a
1.29 A	1.36 A	1.18 A	1.29 A
1.32 A	1.58 A	0.99 A	1.30 A
1.79 A	1.51 A	1.27 B	1.48 A
1.22 A	1.51 A	1.21 C	1.35 A
1.86 A	1.53 A	1.92 A	1.11 A
1.53 A	1.26 A	1.40 B	1.56 A
4.04 B	1.60 A	1.37 C	1.41 A
1.13 A	1.25 A	1.17 A	1.00 A
1.20 B	1.24 A	0.84 B	1.31 A
1.37 A	1.39 A	1.24 A	1.23 A
3.56 B	1.39 A	0.95 A	1.18 A
1.77 A	1.86 A	1.95 A	1.16 A
1.80 A	2.30 A	1.57 B	2.30 A
3.45 C	1.54 A	1.29 A	1.28 A
2.71 C	1.58 A	1.25 A	1.40 A
3.50 B	1.54 A	1.43 A	1.34 A
2.72 B	1.54 A	1.24 A	1.34 A
1.29 A	1.27 A	1.40 A	1.64 A
1.26 A	1.85 A	1.87 A	1.52 A
1.69 A	1.58 A	1.62 A	1.36 A
3.28 C	1.80 A	1.33 A	1.61 A
2.88 C	1.54 A	1.31 A	1.39 A
2.39 A	1.36 A	0.93 B	1.52 B
2.94 B	1.51 A	1.25 A	1.53 A
1.62 A	1.54 A	1.24 A	1.40 A
1.72 A	1.54 A	1.44 A	1.29 A
3.01 B	1.54 A	1.38 A	1.41 A
1.92 A	1.64 A	1.20 B	1.57 A
2.28 B	1.55 A	1.29 A	1.39 A

TABLE
10.7

Total energy consumption and energy intensity by building characteristics, occupancy characteristics, energy efficiency features, heating energy sources and equipment, cooling energy sources and equipment, and water-heating energy sources **by type of ownership**

TOTAL ENERGY CONSUMPTION (GJ)

Building ownership	Private individual(s)	Private organization	Non-profit organization	Fed.-prov.-munic.-regional government ^a
Percentage of the floor space heated				
Less than 1	F	x	x	x
1–50	1,982,602 C	6,552,347 D	3,164,900 D	2,573,137 D
51–99	12,662,359 C	14,511,006 C	F	F
100	113,788,086 D	176,593,233 A	28,755,113 A	106,278,628 A
Energy source for heating (more than one may apply)				
Electricity	39,561,064 A	106,167,833 A	13,127,383 B	48,076,526 A
Natural gas	110,605,465 D	164,244,518 A	29,840,127 A	88,403,739 A
Fuel/heating oil	4,942,970 C	5,517,682 B	3,634,397 C	14,740,586 B
Composite ^d	F	10,747,707 D	F	19,573,205 B
Main energy source for heating				
Electricity	23,760,845 B	54,130,266 B	4,785,527 C	13,298,009 A
Natural gas	F	135,127,775 A	27,852,614 B	79,823,393 A
Fuel/heating oil	3,629,845 D	2,741,299 A	2,644,562 B	4,193,243 B
Composite ^d	820,158 D	5,657,247 D	F	19,864,119 B
Heating equipment (more than one may apply)				
Furnaces	34,385,198 B	47,742,204 A	18,633,541 B	12,225,739 C
Heat pumps	11,360,854 D	16,278,043 C	2,976,340 D	13,152,019 C
Individual space heaters	36,101,683 B	76,072,714 B	10,551,196 B	37,766,193 B
Boilers	F	95,911,593 B	18,980,961 B	78,498,714 A
Packaged heating units	27,651,928 B	71,514,504 A	9,782,872 C	35,577,267 B
District steam or hot water or other	3,444,533 C	F	2,195,991 D	27,867,523 A
Main heating equipment				
Furnaces	25,382,473 A	29,613,002 A	11,174,444 B	4,268,131 B
Heat pumps	F	6,409,529 C	372,681 D	5,071,644 B
Individual space heaters	10,787,440 B	23,161,578 B	F	3,161,743 C
Boilers	F	73,189,087 A	16,967,568 B	70,881,049 A
Packaged heating units	20,875,261 B	45,574,740 A	2,856,845 C	11,629,736 C
District steam or hot water or other	1,031,738 B	F	F	22,166,461 B
Not heated	F	x	x	x

^aIncludes all levels of government (i.e. federal, provincial, municipal and regional).



^dIncludes the categories of diesel or kerosene; bottled gas, liquid petroleum gas or propane; district steam; district hot water; wood; coal; solar thermal panels; and others.


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This table is a continuation of the previous two pages.  

This table continues on the next two pages. 

TOTAL ENERGY INTENSITY (GJ/m²)

Private individual(s)	Private organization	Non-profit organization	Fed.-prov.-munic.-regional government ^a
0.86 D	x	x	x
0.87 A	1.34 B	1.48 B	1.58 A
1.66 A	1.48 A	1.71 A	2.04 A
2.30 B	1.54 A	1.21 A	1.34 A
1.33 A	1.51 A	1.32 A	1.15 A
2.55 B	1.63 A	1.36 A	1.45 A
1.25 C	1.36 A	0.86 C	1.84 A
4.91 A	2.06 A	1.57 A	2.59 A
1.28 A	1.39 A	1.62 A	0.80 A
2.65 B	1.58 A	1.32 A	1.39 A
1.46 D	1.03 A	0.71 B	1.21 A
1.24 B	2.27 B	1.59 A	2.75 A
1.74 A	1.56 A	1.53 A	1.55 B
1.60 A	1.28 A	1.06 B	1.44 A
1.45 A	1.50 A	1.24 B	1.28 A
3.32 C	1.77 A	1.10 A	1.24 A
1.73 A	1.40 A	1.70 A	1.20 A
1.35 A	1.98 A	1.65 A	1.91 A
1.70 A	1.36 A	1.57 A	1.33 A
1.44 A	1.08 A	0.73 C	1.08 A
1.12 A	1.32 A	1.74 B	1.18 B
3.44 C	1.69 A	1.09 A	1.22 A
1.91 A	1.39 A	1.11 A	1.56 A
1.12 A	2.38 A	1.87 A	2.50 A
0.86 D	x	x	x

TABLE
10.7

Total energy consumption and energy intensity by building characteristics, occupancy characteristics, energy efficiency features, heating energy sources and equipment, cooling energy sources and equipment, and water-heating energy sources **by type of ownership**

TOTAL ENERGY CONSUMPTION (GJ)

Building ownership	Private individual(s)	Private organization	Non-profit organization	Fed.-prov.-munic.-regional government ^a
Percentage of the floor space cooled				
Not cooled	7,620,899 A	16,421,975 C	12,195,879 C	18,025,951 B
1–50	15,305,486 A	29,110,872 A	8,348,885 C	27,928,903 A
51–99	27,562,863 B	52,993,713 B	7,142,261 C	33,077,981 B
100	F	99,153,866 A	8,523,915 C	38,250,903 A
Space-cooling energy source				
Electricity	112,386,152 D	162,983,431 A	22,598,833 B	82,630,000 A
Natural gas	8,383,434 C	19,719,726 B	F	9,866,318 D
Fuel/heating oil	x	F	x	x
Composite ^e	F	14,682,058 D	x	13,439,930 C
Cooling equipment (more than one may apply)				
Residential-type air conditioners	13,655,094 B	15,065,879 A	6,115,125 D	7,102,619 C
Heat pumps	F	8,193,323 A	F	10,041,976 C
Individual room air conditioners	7,537,621 C	36,580,450 C	5,615,655 C	18,424,289 A
District-chilled water from outside source	F	14,913,918 D	x	13,905,058 C
Central chillers	F	82,077,380 B	F	41,548,416 A
Packaged air-conditioning units	36,451,001 A	111,540,255 A	14,555,795 B	50,784,360 A
Swamp coolers	F	F	x	1,717,833 D
Composite ^f	F	19,399,829 C	F	12,666,843 C
Other	F	6,233,678 C	x	2,872,501 C
Main cooling equipment				
Residential-type air conditioners	12,284,772 B	8,230,505 B	5,848,279 D	3,918,400 D
Heat pumps	F	4,277,344 B	F	F
Individual room air conditioners	4,222,271 B	6,465,325 B	2,114,397 C	5,722,952 B
District-chilled water from outside source	F	5,676,021 D	x	12,077,822 C
Central chillers	F	76,317,182 B	F	38,448,734 B
Packaged air-conditioning units	34,416,230 A	76,184,596 A	11,628,245 B	30,154,952 A
Composite ^f	F	9,783,499 C	x	14,821,297 C
Not cooled	7,620,899 A	16,421,975 C	12,195,879 C	18,025,951 B

^aIncludes all levels of government (i.e. federal, provincial, municipal and regional).

^eIncludes the air-conditioning categories of fuel/heating oil; diesel or kerosene; bottled gas, liquid petroleum gas or propane; district-chilled water; and others.

^fIncludes the categories of district-chilled water from outside source; swamp coolers; and others.


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TOTAL ENERGY INTENSITY (GJ/m²)

Private individual(s)	Private organization	Non-profit organization	Fed.-prov.-munic.-regional government ^a
1.00 A	1.50 A	1.15 A	1.03 A
1.51 A	1.27 A	1.28 A	1.22 A
1.86 A	1.76 A	1.24 B	1.41 A
2.90 B	1.51 A	1.52 B	1.81 A
2.43 B	1.54 A	1.34 A	1.44 A
1.47 A	1.46 A	1.86 A	1.38 B
x	1.45 C	x	x
1.70 B	1.67 A	x	2.35 A
1.63 A	1.45 A	1.31 C	1.67 A
1.58 A	1.20 A	2.28 A	1.34 A
1.10 A	2.08 A	0.87 B	1.49 A
2.07 A	1.64 A	x	2.34 A
3.96 B	1.79 A	1.43 C	1.56 A
1.76 A	1.54 A	1.62 A	1.35 A
1.66 A	2.77 A	x	1.69 B
4.71 A	1.70 A	1.44 A	2.05 A
5.03 A	1.59 A	x	2.04 A
1.62 A	1.21 A	1.30 C	1.72 B
1.36 A	0.95 A	1.55 B	1.19 A
1.37 A	1.51 A	0.80 D	1.23 A
2.11 A	1.56 B	x	2.36 A
2.79 B	1.82 A	1.43 C	1.55 A
1.78 A	1.38 A	1.51 A	1.25 A
5.24 A	1.56 A	x	2.32 A
1.00 A	1.50 A	1.15 A	1.03 A

TABLE

10.7

Total energy consumption and energy intensity by building characteristics, occupancy characteristics, energy efficiency features, heating energy sources and equipment, cooling energy sources and equipment, and water-heating energy sources **by type of ownership**

TOTAL ENERGY CONSUMPTION (GJ)

Building ownership →	Private individual(s)		Private organization		Non-profit organization		Fed.-prov.-munic.-regional government ^a	
Energy source for water heating								
Electricity	36,803,564	A	90,159,870	A	6,638,967	B	25,810,531	A
Natural gas	42,352,352	A	114,801,718	A	27,270,639	B	70,195,206	A
Fuel/heating oil	1,079,440	B	937,207	C	1,667,450	C	4,755,780	B
Composite ^d		F		F		F	19,328,544	B
Not heated	346,926	D	864,212	D		x		F

^aIncludes all levels of government (i.e. federal, provincial, municipal and regional).

^dIncludes the categories of diesel or kerosene; bottled gas, liquid petroleum gas or propane; district steam; district hot water; wood; coal; solar thermal panels; and others.

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TOTAL ENERGY INTENSITY (GJ/m²)

Private individual(s)		Private organization		Non-profit organization		Fed.-prov.-munic.-regional government ^a	
1.36	A	1.42	A	1.05	A	1.00	A
1.72	A	1.61	A	1.43	A	1.35	A
1.47	A	1.00	B	0.62	C	1.77	A
5.04	A	2.28	A	1.50	A	2.93	A
0.67	B	1.43	B	x		1.00	A

CHAPTER 11

**Total Electricity Consumption
and Electricity Intensity**



Total electricity consumption and electricity intensity by building characteristics, occupancy characteristics, energy efficiency features, heating energy sources and equipment, cooling energy sources and equipment, and water-heating energy sources

	Total electricity consumption (GJ)		Total electricity intensity (GJ/m ²)	
All buildings				
Canada	221,609,202	A	0.73	A
Building floor space				
93–464 m ² (1,000–4,999 sq. ft.)	13,239,699	A	0.98	A
465–929 m ² (5,000–9,999 sq. ft.)	13,812,732	A	0.70	A
929–4,645 m ² (10,000–49,999 sq. ft.)	46,789,901	A	0.58	A
4,645–9,290 m ² (50,000–99,999 sq. ft.)	28,296,207	A	0.63	A
9,290 m ² and more (100,000 sq. ft. and more)	119,470,663	A	0.83	A
Year of construction				
Before 1920	11,643,349	B	0.64	A
1920–1959	43,974,422	B	0.78	A
1960–1969	26,268,111	A	0.61	A
1970–1979	63,469,397	A	0.77	A
1980–1989	35,830,275	A	0.72	A
1990–1999	40,423,647	A	0.77	A
Number of floors				
1	33,187,283	A	0.62	A
2	50,173,248	A	0.64	A
3	25,149,782	A	0.60	A
4–9	61,362,862	A	0.78	A
10 and more	51,736,027	A	1.03	A
Predominant type of window				
Single-glazed	31,535,209	A	0.62	A
Double-glazed ^a	187,041,690	A	0.75	A
Triple-glazed ^b	3,032,302	C	0.78	A

^aIncludes all the different types of windows that are double-glazed (i.e. double-glazed, double-sealed glazed, double-glazed with low-E coating and double-glazed with low-E gas-filled).

^bIncludes all the different types of windows that are triple-glazed (i.e. triple-glazed, triple-glazed with low-E coating and triple-glazed low-E gas-filled).

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TABLE

11.1

Total electricity consumption and electricity intensity by building characteristics, occupancy characteristics, energy efficiency features, heating energy sources and equipment, cooling energy sources and equipment, and water-heating energy sources

	Total electricity consumption (GJ)		Total electricity intensity (GJ/m ²)	
Predominant exterior wall type				
Curtain walls	22,033,828	B	0.87	A
Metal stud framing with surface insulation	35,714,735	C	0.84	A
Metal stud framing without surface insulation	1,630,184	B	0.44	A
Wood-frame walls with surface insulation	11,903,904	A	0.63	A
Wood-frame walls without surface insulation	1,465,231	B	0.46	A
Concrete block with interior finishing	98,009,992	A	0.75	A
Concrete block without interior finishing	17,506,366	A	0.59	A
Precast panels	19,160,574	B	0.83	A
Unknown	14,184,388	B	0.55	A
Predominant roof type				
Attic roof fully insulated	16,005,858	B	0.68	A
Attic roof partially insulated	3,709,512	B	0.77	A
Attic roof not insulated	2,741,338	D	0.71	A
Insulated wood-truss roof	10,212,841	A	0.63	A
Not insulated wood-truss roof	5,289,676	C	0.68	A
Insulated metal-truss roof	23,347,735	A	0.61	A
Not insulated metal-truss roof	2,901,991	C	0.58	A
Insulated deck-type roof	129,610,645	A	0.83	A
Not insulated deck-type roof	5,706,595	B	0.52	A
Unknown	22,083,010	A	0.62	A

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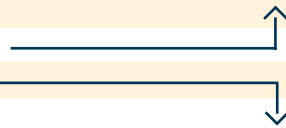
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Total electricity consumption and electricity intensity by building characteristics, occupancy characteristics, energy efficiency features, heating energy sources and equipment, cooling energy sources and equipment, and water-heating energy sources

	Total electricity consumption (GJ)		Total electricity intensity (GJ/m ²)	
Principal building activity				
Commercial and institutional accommodation	10,462,366	B	0.53	A
Entertainment and recreation	12,104,002	C	0.93	A
Office	55,867,829	A	0.97	A
Food retail	8,302,547	A	1.86	A
Non-food retail	9,527,628	A	0.52	A
Food service	10,703,223	A	1.34	A
Non-food service	10,499,137	A	0.58	A
Shopping malls	23,203,294	A	0.72	A
Warehouse/wholesale		F	0.79	C
Administration	16,997,997	C	0.82	A
Education	22,552,160	A	0.40	A
Health care	13,583,604	A	0.93	A
Public assembly	6,329,638	B	0.55	A
Other	1,468,577	B	0.58	A
Number of workers				
Less than 5	13,854,663	A	0.59	A
5–9	14,923,453	A	0.57	A
10–19	16,603,704	A	0.61	A
20–49	25,125,921	A	0.65	A
50–99	27,260,700	A	0.70	A
100–249	17,028,708	B	0.69	A
250 and more	106,812,052	A	0.86	A
Weekly hours of operation				
Less than 40	5,056,280	A	0.43	A
40–48	29,140,841	A	0.56	A
49–60	44,319,307	A	0.70	A
61–84	60,511,003	B	0.77	A
85–167	47,605,965	A	0.79	A
Open continuously	34,975,805	C	0.97	A

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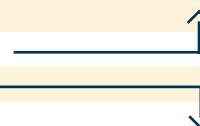
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TABLE

11.1

Total electricity consumption and electricity intensity by building characteristics, occupancy characteristics, energy efficiency features, heating energy sources and equipment, cooling energy sources and equipment, and water-heating energy sources

	Total electricity consumption (GJ)		Total electricity intensity (GJ/m ²)	
Building ownership				
Private individual(s)	51,506,905	A	0.87	A
Private organization	106,908,100	A	0.82	A
Non-profit organization	13,435,054	A	0.47	A
Fed.-prov.-munic.-regional government ^c	49,759,142	A	0.59	A
Building conservation feature				
Reflective or shading film	105,542,203	A	0.86	A
Awnings or blinds	148,952,258	A	0.78	A
Lighting conservation feature				
Reflectors	93,557,717	A	0.81	A
Energy-efficient ballast	156,905,854	A	0.77	A
Daylight controls	35,224,842	A	0.66	A
Occupancy sensors	46,209,510	B	0.90	A
Time clocks	96,680,027	A	0.79	A
Manual dimmer switches	100,629,497	A	0.92	A
Energy-efficient lamps	143,409,908	A	0.80	A
Other	28,910,579	A	0.77	A
Heating/cooling conservation feature				
Variable air-volume system	116,539,736	A	0.81	A
Outdoor-air economizer	134,600,213	A	0.75	A
Temperature setback	128,099,617	A	0.75	A
Equipment reset	126,838,131	A	0.77	A
Heat recovery system	62,329,023	B	0.84	A
Regular maintenance	207,814,746	A	0.75	A

^cIncludes all levels of government (i.e. federal, provincial, municipal and regional).

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Total electricity consumption and electricity intensity by building characteristics, occupancy characteristics, energy efficiency features, heating energy sources and equipment, cooling energy sources and equipment, and water-heating energy sources

	Total electricity consumption (GJ)		Total electricity intensity (GJ/m ²)	
Percentage of the floor space heated				
Less than 1		F	0.79	B
1–50	7,418,007	B	0.68	A
51–99	21,885,127	B	0.91	A
100	192,133,538	A	0.72	A
Energy source for heating (more than one may apply)				
Electricity	115,030,769	A	0.76	A
Natural gas	165,013,258	A	0.73	A
Fuel/heating oil	9,298,791	A	0.46	A
Composite ^d	26,509,657	D	1.07	A
Main energy source for heating				
Electricity	67,422,751	A	0.88	A
Natural gas	138,105,136	A	0.68	A
Fuel/heating oil	5,445,485	A	0.44	A
Composite ^d	10,463,300	B	0.95	A
Heating equipment (more than one may apply)				
Furnaces	45,264,940	A	0.64	A
Heat pumps	26,081,020	C	0.82	A
Individual space heaters	85,006,690	A	0.75	A
Boilers	110,525,413	A	0.71	A
Packaged heating units	71,822,389	A	0.70	A
District steam or hot water or other	31,495,182	C	0.95	A

^dIncludes the categories of diesel or kerosene; bottled gas, liquid petroleum gas or propane; district steam; district hot water; wood; coal; solar thermal panels; and others.

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	Total electricity consumption (GJ)		Total electricity intensity (GJ/m ²)	
Main heating equipment				
Furnaces	30,538,391	A	0.65	A
Heat pumps	12,253,642	C	0.78	A
Individual space heaters	23,524,968	A	0.74	A
Boilers	90,098,245	A	0.67	A
Packaged heating units	41,707,894	A	0.77	A
District steam or hot water or other	23,313,531	D	1.23	B
Not heated		F	0.79	B
Percentage of the floor space cooled				
Not cooled	17,306,724	A	0.37	A
1–50	34,650,104	A	0.56	A
51–99	65,579,585	B	0.88	A
100	104,072,789	A	0.87	A
Space-cooling energy source				
Electricity	183,974,794	A	0.81	A
Natural gas	18,068,916	A	0.64	A
Fuel/heating oil		F	1.03	A
Composite ^e	11,904,220	C	0.79	A
Cooling equipment (more than one may apply)				
Residential-type air conditioners	18,405,169	A	0.66	A
Heat pumps	15,919,995	B	0.73	A
Individual room air conditioners	34,179,881	C	0.79	B
District-chilled water from outside source	11,876,817	C	0.77	A
Central chillers	84,726,013	A	0.95	A
Packaged air-conditioning units	109,328,319	A	0.78	A
Swamp coolers	3,260,693	D	0.87	A
Composite ^f	29,717,989	D	0.98	A
Other		F	1.14	A

^eIncludes the air-conditioning categories of fuel/heating oil; diesel or kerosene; bottled gas, liquid petroleum gas or propane; district-chilled water; and others.

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	Total electricity consumption (GJ)		Total electricity intensity (GJ/m ²)	
Main cooling equipment				
Residential-type air conditioners	13,396,610	B	0.63	A
Heat pumps	11,577,492	C	0.71	A
Individual room air conditioners	7,837,186	A	0.53	A
District-chilled water from outside source	6,677,133	C	0.74	A
Central chillers	71,310,507	A	0.92	A
Packaged air-conditioning units	78,747,836	A	0.74	A
Composite ^f	21,432,846	D	1.05	A
Not cooled	17,306,724	A	0.37	A
Energy source for water heating				
Electricity	93,301,606	A	0.76	A
Natural gas	114,217,033	A	0.69	A
Fuel/heating oil	3,454,041	A	0.49	A
Composite ^d		F	1.07	A
Not heated	802,344	B	0.59	A

^dIncludes the categories of diesel or kerosene; bottled gas, liquid petroleum gas or propane; district steam; district hot water; wood; coal; solar thermal panels; and others.

^fIncludes the categories of district-chilled water from outside source; swamp coolers; and others.

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NOTE: Estimates relate only to the surveyed areas of populations of 175,000 and greater, and in Atlantic Canada to populations of 50,000 and greater.

Source: Commercial and Institutional Building Energy Use Survey 2000.

This table is a continuation of the previous two pages. 

TABLE

11.2

Total electricity consumption and electricity intensity by building characteristics, occupancy characteristics, energy efficiency features, heating energy sources and equipment, cooling energy sources and equipment, and water-heating energy sources **by region**

TOTAL ELECTRICITY CONSUMPTION (GJ)

Region →	Atlantic		Quebec		Ontario		Prairies		British Columbia	
All buildings										
Canada	11,308,879	A	53,953,706	B	91,061,467	A	45,483,848	A	19,801,302	A
Building floor space										
93–464 m ² (1,000–4,999 sq. ft.)	1,078,345	A	2,838,405	A	5,031,654	A	2,727,152	A	1,564,143	D
465–929 m ² (5,000–9,999 sq. ft.)	710,058	A	2,121,566	A	6,226,939	A	2,090,933	B	2,663,237	C
929–4,645 m ² (10,000–49,999 sq. ft.)	3,784,141	B	10,514,876	A	16,951,174	A	10,361,470	B	5,178,240	B
4,645–9,290 m ² (50,000–99,999 sq. ft.)	1,375,232	C	7,468,300	C	11,716,288	A	4,911,194	C	2,825,191	C
9,290 m ² and more (100,000 sq. ft. and more)	4,361,102	A	31,010,559	C	51,135,412	A	25,393,098	C	7,570,491	B
Year of construction										
Before 1920		F	1,466,293	D	6,258,775	D	2,084,072	D	1,452,484	D
1920–1959	1,613,696	B		F	13,876,801	B	5,344,397	C	5,578,350	C
1960–1969	1,829,416	C	4,896,697	B	11,769,884	B	4,747,839	B	3,024,274	D
1970–1979	3,442,737	B	10,543,792	B	25,800,717	D	18,941,211	B	4,740,940	C
1980–1989	1,598,030	B	10,455,462	B	14,297,612	A	7,066,220	B	2,412,952	C
1990–1999	2,443,274	C	9,030,285	B	19,057,677	C	7,300,109	B	2,592,302	B
Number of floors										
1	3,449,739	B	9,246,686	B	9,913,949	A	7,949,490	A	2,627,420	B
2	3,257,305	A	12,379,484	B	16,645,320	A	11,512,442	B	6,378,696	B
3	1,291,978	B	6,823,340	B	11,243,726	A	2,345,595	C	3,445,143	C
4–9	3,074,823	B	21,288,773	D	20,294,863	A	10,234,309	B	6,470,094	B
10 and more		x	4,215,423	D	32,963,609	B	13,442,011	D		F
Predominant type of window										
Single-glazed	1,599,567	B	3,318,482	B	16,683,628	B	4,057,067	C	5,876,466	B
Double-glazed ^a	9,492,944	A	50,271,822	B	72,802,705	A	40,557,319	B	13,916,900	B
Triple-glazed ^b		F		F		F	869,461	D		x

^aIncludes all the different types of windows that are double-glazed (i.e. double-glazed, double-sealed glazed, double-glazed with low-E coating and double-glazed with low-E gas-filled).

^bIncludes all the different types of windows that are triple-glazed (i.e. triple-glazed, triple-glazed with low-E coating and triple-glazed low-E gas-filled).

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Source: Commercial and Institutional Building Energy Use Survey 2000.

This table continues on the next two pages. 

TOTAL ELECTRICITY INTENSITY (GJ/m²)

Atlantic		Quebec		Ontario		Prairies		British Columbia	
0.67	A	0.76	A	0.76	A	0.67	A	0.74	A
1.13	A	0.93	A	0.90	A	1.10	A	1.04	C
0.48	A	0.47	A	0.91	A	0.61	A	0.74	B
0.70	A	0.60	A	0.54	A	0.61	A	0.61	A
0.36	A	0.80	A	0.69	A	0.49	A	0.59	B
0.83	A	0.85	A	0.87	A	0.73	A	0.88	A
0.39	A	0.39	A	0.74	A	0.75	A	0.62	A
0.60	B	1.03	B	0.72	A	0.68	A	0.61	A
0.64	A	0.52	A	0.59	A	0.67	A	0.83	A
0.68	A	0.67	A	0.93	A	0.65	A	0.90	A
0.63	A	0.82	A	0.64	A	0.70	A	1.05	A
0.86	A	0.72	A	0.86	A	0.68	A	0.61	A
0.84	A	0.83	A	0.49	A	0.55	A	0.73	A
0.50	A	0.62	A	0.68	A	0.63	A	0.72	A
0.52	B	0.59	A	0.58	A	0.65	A	0.71	B
0.85	A	0.94	B	0.76	A	0.60	A	0.76	A
x		0.74	A	1.13	A	0.96	A	0.76	A
0.46	A	0.57	A	0.64	A	0.72	A	0.61	A
0.72	A	0.78	A	0.79	A	0.67	A	0.80	A
0.75	B	0.76	B	0.82	A	0.71	B	x	

11.2

TABLE

Total electricity consumption and electricity intensity by building characteristics, occupancy characteristics, energy efficiency features, heating energy sources and equipment, cooling energy sources and equipment, and water-heating energy sources **by region**

TOTAL ELECTRICITY CONSUMPTION (GJ)

Region	Atlantic	Quebec	Ontario	Prairies	British Columbia
Predominant exterior wall type					
Curtain walls	1,440,641 C	3,291,491 D	11,606,915 D	F	1,026,515 D
Metal stud framing with surface insulation	1,438,479 B	10,531,263 C	F	3,698,324 C	2,320,126 C
Metal stud framing without surface insulation	F	332,529 B	F	488,311 A	115,232 D
Wood-frame walls with surface insulation	879,410 A	2,294,013 B	3,062,945 B	3,526,718 B	2,140,819 C
Wood-frame walls without surface insulation	238,133 C	F	634,564 D	145,653 D	197,203 D
Concrete block with interior finishing	3,842,721 A	26,659,721 C	36,934,560 A	19,183,433 A	11,389,558 B
Concrete block without interior finishing	1,235,677 D	3,483,882 D	7,416,039 B	F	F
Precast panels	1,003,175 B	4,067,497 C	9,537,071 C	4,079,285 D	F
Unknown	1,196,576 B	3,043,634 B	3,482,786 D	5,160,791 D	F
Predominant roof type					
Attic roof fully insulated	1,169,746 B	3,653,989 A	8,364,009 D	1,753,016 D	1,065,098 D
Attic roof partially insulated	201,118 D	281,350 C	2,081,656 C	451,439 C	693,949 D
Attic roof not insulated	53,839 D	F	F	F	125,688 D
Insulated wood-truss roof	848,503 C	1,875,864 B	4,237,304 B	2,078,091 C	1,173,080 B
Not insulated wood-truss roof	126,415 D	576,123 C	F	F	F
Insulated metal-truss roof	1,045,849 B	5,976,327 A	8,113,705 A	5,061,145 C	3,150,709 C
Not insulated metal-truss roof	86,888 C	F	1,006,338 D	F	366,740 D
Insulated deck-type roof	5,915,137 A	34,429,437 C	53,694,945 B	26,635,581 A	8,935,545 B
Not insulated deck-type roof	F	746,854 B	2,642,591 B	F	F
Unknown	1,475,333 C	5,637,374 D	6,714,731 C	6,898,357 C	F
Principal building activity					
Commercial and institutional accommodation	354,884 C	1,535,152 D	F	3,017,564 D	F
Entertainment and recreation	F	1,342,408 C	F	1,893,661 C	F
Office	784,064 A	5,951,594 C	33,883,888 A	13,420,897 B	F
Food retail	407,768 D	3,315,332 B	2,019,230 C	1,893,515 C	F
Non-food retail	611,693 C	3,053,541 A	2,236,624 B	2,280,097 C	1,345,673 C
Food service	F	1,692,457 B	4,719,423 A	1,129,691 B	2,436,959 D
Non-food service	568,478 D	2,342,426 C	5,403,836 B	1,736,514 C	447,883 D
Shopping malls	2,572,813 B	5,768,438 D	7,957,200 A	5,024,657 C	1,880,186 B
Warehouse/wholesale	1,350,683 C	F	1,520,427 C	2,293,918 D	120,172 D
Administration	F	2,864,238 D	F	F	F
Education	1,431,595 A	5,170,231 C	8,850,099 A	5,066,158 C	2,034,078 B
Health care	1,003,995 A	F	4,483,950 A	3,650,620 C	794,299 B
Public assembly	92,656 B	F	1,919,693 C	1,685,263 D	346,151 C
Other	F	259,275 C	964,773 D	106,922 A	F

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This table is a continuation of the previous two pages.

This table continues on the next two pages.

TOTAL ELECTRICITY INTENSITY (GJ/m²)

Atlantic		Quebec		Ontario		Prairies		British Columbia	
1.14	B	0.62	A	0.94	A	1.16	B	0.39	D
0.52	A	0.78	A	0.99	A	0.56	A	1.31	B
0.52	C	0.52	A	0.47	A	0.43	A	0.28	B
0.63	A	0.43	A	0.81	A	0.68	A	0.70	A
0.65	C	0.36	A	0.67	C	0.59	B	0.22	A
0.60	A	0.92	B	0.72	A	0.67	A	0.74	A
0.88	B	0.59	C	0.50	A	0.71	A	0.72	A
0.79	A	0.71	A	0.92	A	0.79	A	1.41	C
0.59	B	0.61	A	0.49	A	0.51	A	0.92	A
0.69	A	0.49	A	0.84	A	0.52	A	0.87	C
0.41	C	0.41	A	1.11	B	0.70	C	0.64	C
0.50	A	0.54	B	0.77	B	0.71	A	0.56	C
0.66	B	0.52	A	0.76	A	0.76	A	0.39	B
0.76	D	0.65	B	0.59	A	0.88	B	0.76	C
0.47	A	0.60	A	0.54	A	0.71	A	0.80	A
0.26	B	0.47	A	0.41	A	0.90	A	1.86	B
0.83	A	0.91	A	0.86	A	0.73	A	0.77	A
0.40	A	0.43	B	0.48	B	0.68	C	0.66	B
0.57	A	0.73	B	0.66	A	0.50	A	0.91	A
0.51	A	0.47	A	0.64	A	0.37	B	0.82	B
1.42	B	0.81	A	0.91	B	0.89	A	1.00	A
0.67	A	0.71	A	1.05	A	0.96	A	0.95	A
2.58	A	1.86	B	1.54	A	2.30	A	1.66	C
0.45	A	0.51	A	0.47	A	0.68	A	0.46	A
1.04	B	1.03	A	1.63	A	1.59	B	1.18	B
0.58	C	0.57	A	0.63	B	0.52	A	0.43	C
1.10	A	0.84	A	0.62	A	0.63	A	0.93	A
0.40	A	1.16	B	0.35	A	0.53	A	0.26	B
0.77	A	0.56	A	0.93	A	0.83	B	0.92	A
0.42	A	0.44	A	0.38	A	0.39	A	0.43	B
1.06	A	0.82	A	0.96	A	1.07	A	0.78	A
0.20	A	0.78	A	0.56	A	0.50	B	0.25	A
0.71	B	0.42	A	0.69	A	0.75	B	0.29	C

TABLE

11.2

Total electricity consumption and electricity intensity by building characteristics, occupancy characteristics, energy efficiency features, heating energy sources and equipment, cooling energy sources and equipment, and water-heating energy sources **by region**

TOTAL ELECTRICITY CONSUMPTION (GJ)

Region →	Atlantic	Quebec	Ontario	Prairies	British Columbia
Number of workers					
Less than 5	F	2,835,024 C	5,389,245 B	2,491,384 B	1,945,770 D
5–9	1,097,890 B	2,445,321 B	5,679,335 A	4,162,347 B	1,538,560 D
10–19	1,063,842 B	4,440,529 A	5,176,794 A	3,262,188 B	2,660,352 C
20–49	1,675,303 A	7,099,099 B	8,659,490 B	5,287,891 B	2,404,139 B
50–99	1,747,710 B	6,535,602 B	8,951,733 C	5,204,895 C	F
100–249	967,267 C	4,336,307 C	6,980,143 C	3,399,247 B	1,345,744 C
250 and more	3,563,628 B	26,261,825 D	50,224,726 A	21,675,896 B	5,085,977 C
Weekly hours of operation					
Less than 40	185,930 D	907,257 D	2,258,889 B	874,911 C	829,292 D
40–48	1,945,462 B	6,903,059 B	11,022,777 A	7,119,011 B	2,150,532 D
49–60	1,741,162 C	10,175,611 B	19,190,015 C	10,558,347 A	2,654,173 C
61–84	3,187,555 A	10,735,105 B	34,919,474 C	7,836,866 B	3,832,003 B
85–167	2,506,092 B	9,551,966 A	15,383,144 B	12,316,557 B	7,848,205 B
Open continuously	1,742,678 A	F	8,287,168 B	6,778,155 B	2,487,097 C
Building ownership					
Private individual(s)	2,935,276 B	8,849,159 B	29,263,735 C	5,586,284 B	4,872,451 D
Private organization	4,603,333 A	28,784,292 C	38,768,690 B	25,319,051 B	9,432,734 B
Non-profit organization	360,656 C	2,533,838 B	4,581,810 C	3,837,772 B	F
Fed.-prov.-munic.-regional government ^c	3,409,614 B	13,786,416 B	18,447,231 A	10,740,741 B	3,375,139 A
Building conservation feature					
Reflective or shading film	2,971,315 B	24,552,466 D	51,585,183 A	18,486,529 C	7,946,710 B
Awnings or blinds	8,102,449 A	26,001,442 D	70,118,777 A	31,930,558 A	12,799,032 B
Lighting conservation feature					
Reflectors	2,725,761 A	26,060,316 D	38,704,378 B	17,328,080 B	8,739,181 B
Energy-efficient ballast	7,400,040 A	37,743,807 C	66,054,386 A	31,762,912 A	13,944,708 B
Daylight controls	2,242,837 C	6,422,042 A	12,561,732 A	7,728,491 A	6,269,740 B
Occupancy sensors	716,301 C	F	12,437,949 B	10,128,099 C	4,666,342 C
Time clocks	3,659,641 B	29,788,663 C	33,792,063 B	18,813,357 B	10,626,304 B
Manual dimmer switches	1,828,943 A	23,265,486 D	46,133,424 A	22,260,763 B	7,140,880 B
Energy-efficient lamps	5,184,598 A	29,537,146 C	63,773,970 A	31,704,489 B	13,209,705 B
Other	1,843,879 D	8,292,735 C	10,566,381 B	7,387,103 D	820,481 C

^cIncludes all levels of government (i.e. federal, provincial, municipal and regional).


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This table continues on the next two pages. 

TOTAL ELECTRICITY INTENSITY (GJ/m²)

Atlantic		Quebec		Ontario		Prairies		British Columbia	
0.79	B	0.67	A	0.57	A	0.44	A	0.71	B
0.55	B	0.40	A	0.77	A	0.54	C	0.54	C
0.47	A	0.59	A	0.62	A	0.67	A	0.67	B
0.53	A	0.74	A	0.60	A	0.69	A	0.63	A
0.68	A	0.80	A	0.63	A	0.67	A	0.74	A
0.59	A	0.58	B	0.78	A	0.67	A	1.06	B
0.94	A	0.94	A	0.88	A	0.75	A	0.88	A
0.24	B	0.43	B	0.39	A	0.55	B	0.60	B
0.47	A	0.53	A	0.57	A	0.57	A	0.65	A
0.63	B	0.66	A	0.71	A	0.73	A	0.68	A
0.89	A	0.68	A	0.86	A	0.65	A	0.56	B
0.62	A	0.74	A	0.88	A	0.75	A	0.83	A
1.02	A	1.30	B	0.85	A	0.64	B	1.25	A
0.73	B	0.70	A	0.98	A	0.72	A	0.91	A
0.66	A	0.95	A	0.78	A	0.81	A	0.82	A
0.39	A	0.44	A	0.51	A	0.43	B	0.58	B
0.67	A	0.61	A	0.59	A	0.55	A	0.53	A
0.64	A	0.96	B	0.90	A	0.72	A	0.84	A
0.71	A	0.85	B	0.85	A	0.64	A	0.79	A
0.53	A	0.95	B	0.82	A	0.70	A	0.79	A
0.74	A	0.84	A	0.79	A	0.70	A	0.71	A
0.72	B	0.54	A	0.71	A	0.61	A	0.81	A
0.58	B	1.06	C	0.78	A	0.91	A	0.78	A
0.83	A	0.97	B	0.71	A	0.69	A	0.81	A
0.66	A	1.04	B	0.95	A	0.82	A	0.87	A
0.61	A	0.90	A	0.83	A	0.74	A	0.72	A
1.14	B	0.81	A	0.67	A	0.84	A	0.69	B

TABLE
11.2

Total electricity consumption and electricity intensity by building characteristics, occupancy characteristics, energy efficiency features, heating energy sources and equipment, cooling energy sources and equipment, and water-heating energy sources **by region**

TOTAL ELECTRICITY CONSUMPTION (GJ)

Region →	Atlantic		Quebec		Ontario		Prairies		British Columbia	
Heating/cooling conservation feature										
Variable air-volume system	4,023,794	A	24,145,132	A	53,278,305	A	26,081,674	B	9,010,831	B
Outdoor-air economizer	6,661,656	A	39,407,104	B	48,083,781	A	31,750,621	A	8,697,050	B
Temperature setback	6,136,156	A	32,310,932	C	46,900,359	A	28,168,924	A	14,583,246	B
Equipment reset	6,167,985	A	20,633,741	B	60,918,767	A	28,117,346	B	11,000,292	B
Heat recovery system	2,570,226	B	21,748,159	D	22,072,262	C	12,174,132	B	3,764,243	C
Regular maintenance	10,099,330	A	49,713,130	B	87,731,218	A	42,353,198	A	17,917,871	A
Percentage of the floor space heated										
Less than 1		x		x		x		x		x
1–50	554,035	B		F	1,367,212	D		F		F
51–99	381,884	B	3,269,831	D		F	2,149,256	B	5,771,495	C
100	10,372,960	A	47,934,869	B	79,276,868	A	42,421,682	A	12,127,160	A
Energy source for heating (more than one may apply)										
Electricity	8,190,129	A	44,208,740	B	34,149,777	B	16,143,279	C	12,338,843	B
Natural gas		x	35,556,814	C	70,493,490	A	42,566,516	A	16,396,438	B
Fuel/heating oil	3,970,028	A	3,718,738	C	989,915	C	60,650	D	559,461	C
Composite ^d	2,792,443	B	1,431,348	C		F		F	508,380	C
Main energy source for heating										
Electricity	6,300,578	A	33,557,844	C	17,428,132	C	3,162,247	C	6,973,949	B
Natural gas		x	17,949,363	A	67,216,934	A	40,805,996	A	12,132,844	A
Fuel/heating oil	3,446,070	A	1,334,868	C	429,179	C		x		F
Composite ^d	1,562,231	C	1,105,171	D	5,882,496	D		F	438,065	D
Heating equipment (more than one may apply)										
Furnaces	2,724,317	C	7,774,445	C	13,223,084	A	15,695,479	B	5,847,614	C
Heat pumps	2,135,613	C	4,486,828	B		F		F	4,446,952	C
Individual space heaters	5,770,892	A	34,269,798	C	24,114,635	A	14,701,828	B	6,149,536	B
Boilers	2,760,212	A	22,929,085	D	47,504,467	B	27,916,115	B	9,415,534	B
Packaged heating units	2,826,708	A	21,508,365	A	25,325,521	A	14,314,221	B	7,847,573	B
District steam or hot water or other	1,105,233	B		F	11,208,711	C	3,610,397	B	1,659,562	C



^dIncludes the categories of diesel or kerosene; bottled gas, liquid petroleum gas or propane; district steam; district hot water; wood; coal; solar thermal panels; and others.

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Due to rounding the numbers may not add up and may differ slightly among tables.

NOTE: Estimates relate only to the surveyed areas of populations of 175,000 and greater, and in Atlantic Canada to populations of 50,000 and greater.

Source: Commercial and Institutional Building Energy Use Survey 2000.

This table is a continuation of the previous two pages. 
 This table continues on the next two pages. 

TOTAL ELECTRICITY INTENSITY (GJ/m²)

Atlantic		Quebec		Ontario		Prairies		British Columbia	
0.81	A	0.72	A	0.90	A	0.76	A	0.73	A
0.81	A	0.81	A	0.75	A	0.68	A	0.75	A
0.73	A	0.89	A	0.72	A	0.67	A	0.78	A
0.73	A	0.69	A	0.84	A	0.74	A	0.74	A
0.80	A	1.06	B	0.77	A	0.75	A	0.62	A
0.71	A	0.79	A	0.78	A	0.68	A	0.76	A
x		x		x		x		x	
0.51	B	0.72	A	0.72	A	0.59	B	0.71	C
0.47	A	1.02	A	0.96	A	1.03	A	0.80	A
0.69	A	0.75	A	0.74	A	0.66	A	0.71	A
0.74	A	0.81	A	0.74	A	0.69	A	0.75	A
x		0.82	A	0.73	A	0.66	A	0.74	A
0.51	A	0.40	A	0.53	A	0.46	B	0.50	A
0.94	A	1.05	B	1.10	A	1.02	A	1.31	B
0.76	A	0.91	A	0.90	A	0.91	B	0.80	A
x		0.62	A	0.72	A	0.65	A	0.70	A
0.50	A	0.34	A	0.45	B	x		0.47	A
0.88	A	1.06	B	0.90	A	1.14	C	1.44	B
0.61	B	0.70	A	0.58	A	0.65	A	0.72	A
0.85	A	0.66	A	0.93	A	0.81	B	0.78	A
0.66	A	0.87	A	0.70	A	0.67	A	0.69	A
0.53	A	0.77	C	0.76	A	0.63	A	0.72	A
1.12	A	0.72	A	0.67	A	0.61	A	0.88	A
0.82	A	1.29	B	0.85	A	0.71	A	0.64	A

TABLE 11.2

Total electricity consumption and electricity intensity by building characteristics, occupancy characteristics, energy efficiency features, heating energy sources and equipment, cooling energy sources and equipment, and water-heating energy sources **by region**

TOTAL ELECTRICITY CONSUMPTION (GJ)

Region →	Atlantic		Quebec		Ontario		Prairies		British Columbia	
Main heating equipment										
Furnaces	2,379,633	C	3,668,130	B	11,340,735	A	9,238,034	B	3,911,859	D
Heat pumps	565,356	B	2,988,783	B		F		F	2,429,628	D
Individual space heaters	3,625,666	A	9,168,646	A	7,506,726	B		F	1,132,158	C
Boilers	2,397,357	A	11,111,735	B	43,133,801	B	25,677,723	B	7,777,630	B
Packaged heating units	1,629,876	B	14,875,119	B	15,623,123	A	5,577,626	B	4,002,150	C
District steam or hot water or other	710,991	B		F	7,345,185	D	2,602,379	C	520,143	C
Not heated	x		x		x		x		x	
Percentage of the floor space cooled										
Not cooled	1,733,068	A	3,721,324	C	3,615,256	A	3,816,362	B	4,420,713	B
1–50	2,963,333	B	9,963,038	B	9,511,737	A	9,108,914	C	3,103,082	C
51–99	1,876,930	C	21,831,550	D	25,999,147	B	10,248,971	A	5,622,988	C
100	4,735,549	A	18,437,795	A	51,935,326	B	22,309,601	B	6,654,519	B
Space-cooling energy source										
Electricity	9,151,890	A	45,637,481	B	78,133,286	A	38,686,538	A	12,365,598	B
Natural gas	x		5,022,149	D	5,705,120	B	3,036,949	B	4,304,698	C
Fuel/heating oil	F		x		x		x		x	
Composite ^e	F		2,128,986	D		F		F		F
Cooling equipment (more than one may apply)										
Residential-type air conditioners	421,246	C	2,959,293	B	7,552,216	A	5,396,844	C		F
Heat pumps	1,603,349	C	3,483,071	B		F		F	2,926,835	D
Individual room air conditioners	1,676,674	B		F	10,117,428	B	4,661,112	B	1,623,052	B
District-chilled water from outside source	x		2,673,043	C		F		F		F
Central chillers	2,593,849	B		F	40,883,339	B	20,997,448	C	2,200,348	B
Packaged air-conditioning units	5,556,086	A	38,531,254	C	37,178,399	A	20,660,356	A	7,402,223	B
Swamp coolers	x			F		F		F		F
Composite ^f	F		2,765,861	C		F		F		F
Other	x			F		F	936,280	C		F

^eIncludes the air-conditioning categories of fuel/heating oil; diesel or kerosene; bottled gas, liquid petroleum gas or propane; district-chilled water; and others.

^fIncludes the categories of district-chilled water from outside source; swamp coolers; and others.

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This table continues on the next two pages.

TOTAL ELECTRICITY INTENSITY (GJ/m²)

Atlantic		Quebec		Ontario		Prairies		British Columbia	
0.60	C	0.57	A	0.63	A	0.73	A	0.66	A
0.66	A	0.66	A	1.03	B	0.44	B	0.64	A
0.70	A	0.70	A	0.86	A	0.66	A	0.70	A
0.51	A	0.51	A	0.76	A	0.62	A	0.72	A
1.12	A	0.79	A	0.71	A	0.76	A	0.93	A
0.82	B	1.84	A	0.87	A	1.02	B	1.28	B
x		x		x		x		x	
0.33	A	0.43	A	0.34	A	0.32	A	0.44	A
0.60	A	0.54	A	0.51	A	0.57	A	0.77	A
1.02	A	1.13	B	0.80	A	0.74	A	0.86	A
0.95	A	0.75	A	0.89	A	0.87	A	1.06	A
0.81	A	0.81	A	0.83	A	0.76	A	0.88	A
x		0.69	B	0.52	A	0.56	A	0.96	A
1.08	A	x		x		x		x	
0.90	A	0.66	A	0.78	A	0.94	A	0.90	C
0.74	B	0.60	A	0.61	A	0.75	A	0.79	A
0.80	B	0.58	A	0.98	B	0.49	A	0.81	A
0.68	A	1.08	C	0.58	A	0.78	A	0.71	A
x		0.62	A	0.78	A	0.96	A	0.94	C
1.02	A	1.01	B	1.01	A	0.79	A	1.04	A
0.86	A	0.91	A	0.70	A	0.69	A	0.96	A
x		0.44	A	1.24	A	0.79	A	1.19	D
2.44	B	0.57	A	1.11	A	0.83	A	0.94	A
x		0.32	C	1.23	A	0.96	A	0.97	A

TABLE

11.2

Total electricity consumption and electricity intensity by building characteristics, occupancy characteristics, energy efficiency features, heating energy sources and equipment, cooling energy sources and equipment, and water-heating energy sources **by region**

TOTAL ELECTRICITY CONSUMPTION (GJ)

Region →	Atlantic		Quebec		Ontario		Prairies		British Columbia	
Main cooling equipment										
Residential-type air conditioners	216,712	C	1,855,317	B	5,066,589	B	4,559,506	D		F
Heat pumps	790,554	A	2,146,530	B		F		F		F
Individual room air conditioners	1,085,757	B	1,915,792	C	2,702,696	B	629,456	C	1,503,485	B
District-chilled water from outside source	x		2,015,960	D		F	1,087,358	C		x
Central chillers	2,426,801	B		F	30,413,595	A	20,301,696	C	2,099,808	B
Packaged air-conditioning units	4,942,858	A	25,945,045	A	28,281,783	A	12,678,147	A	6,900,002	B
Composite ^f	x		2,301,090	C		F	1,830,411	B		F
Not cooled	1,733,068	A	3,721,324	C	3,615,256	A	3,816,362	B	4,420,713	B
Energy source for water heating										
Electricity	8,879,254	A	38,114,887	B	31,920,785	B	6,414,801	B	7,971,880	B
Natural gas	x		14,476,890	B	48,771,069	A	37,905,370	A	13,063,703	B
Fuel/heating oil	1,630,999	A	1,170,743	D		F	x			F
Composite ^d	1,117,636	C	525,056	C		F		F	418,037	D
Not heated		F		F	381,024	D		F		F

^dIncludes the categories of diesel or kerosene; bottled gas, liquid petroleum gas or propane; district steam; district hot water; wood; coal; solar thermal panels; and others.

^fIncludes the categories of district-chilled water from outside source; swamp coolers; and others.

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Source: Commercial and Institutional Building Energy Use Survey 2000.

This table is a continuation of the previous two pages. 

TOTAL ELECTRICITY INTENSITY (GJ/m²)

Atlantic		Quebec		Ontario		Prairies		British Columbia	
0.55	B	0.49	A	0.56	A	0.79	A	0.78	A
0.54	A	0.53	A	1.06	B	0.47	A	0.77	B
0.61	A	0.42	B	0.53	A	0.52	B	0.71	A
x		0.65	A	0.74	A	0.95	C	x	
1.06	A	1.19	C	0.90	A	0.79	A	1.08	A
0.87	A	0.79	A	0.65	A	0.73	A	1.02	A
x		0.59	A	1.21	A	1.00	B	0.89	A
0.33	A	0.43	A	0.34	A	0.32	A	0.44	A
0.67	A	0.87	A	0.74	A	0.62	A	0.67	A
x		0.60	A	0.71	A	0.67	A	0.77	A
0.54	A	0.41	B	0.50	C	x		0.86	A
0.70	A	0.80	A	1.12	A	1.04	A	1.51	B
0.32	C	0.52	C	0.75	A	0.53	B	0.38	A

TABLE

11.3

Total electricity consumption and electricity intensity by building characteristics, occupancy characteristics, energy efficiency features, heating energy sources and equipment, cooling energy sources and equipment, and water-heating energy sources by **building floor space**

TOTAL ELECTRICITY CONSUMPTION (GJ)

Building floor space	93–464 m ² (1,000–4,999 sq. ft.)	465–929 m ² (5,000–9,999 sq. ft.)	929–4,645 m ² (10,000–49,999 sq. ft.)	4,645–9,290 m ² (50,000–99,999 sq. ft.)	9,290 m ² and more (100,000 sq. ft. and more)
All buildings					
Canada	13,239,699 A	13,812,732 A	46,789,901 A	28,296,207 A	119,470,663 A
Year of construction					
Before 1920	1,053,028 B	1,280,108 D	2,734,862 B	1,731,997 B	F
1920–1959	4,565,000 B	4,352,778 A	10,638,829 A	4,243,468 C	F
1960–1969	1,286,008 A	1,399,193 A	5,882,239 B	2,633,919 B	15,066,752 B
1970–1979	2,213,938 B	2,389,858 B	9,808,889 A	5,660,860 B	43,395,853 B
1980–1989	1,820,688 A	2,150,547 B	9,807,087 A	8,221,533 B	13,830,421 A
1990–1999	2,301,036 A	2,240,249 B	7,917,996 A	5,804,430 B	22,159,936 B
Number of floors					
1	6,513,887 A	4,271,673 A	10,819,779 A	3,479,540 C	8,102,404 B
2	4,614,315 A	5,517,590 A	18,460,473 A	7,594,233 B	13,986,636 B
3	1,714,290 A	2,352,416 B	8,918,385 A	6,212,604 C	5,952,087 C
4–9	393,258 C	1,665,584 C	7,626,614 B	8,736,899 A	42,940,507 B
10 and more	x	x	F	2,272,930 D	48,489,029 B
Predominant type of window					
Single-glazed	3,284,518 A	3,319,500 B	8,514,377 A	3,680,405 B	12,736,411 C
Double-glazed ^a	9,763,872 A	10,286,153 A	37,762,337 A	24,586,621 A	104,642,707 A
Triple-glazed ^b	191,309 C	207,080 D	513,188 D	x	F
Predominant exterior wall type					
Curtain walls	299,045 D	F	1,913,160 C	2,531,184 D	17,053,223 C
Metal stud framing with surface insulation	1,693,958 C	1,851,129 B	4,737,670 A	5,309,179 C	F
Metal stud framing without surface insulation	F	F	678,578 C	x	x
Wood-frame walls with surface insulation	3,956,988 A	2,519,526 B	4,477,616 A	F	x
Wood-frame walls without surface insulation	629,852 C	724,324 C	108,099 C	x	x
Concrete block with interior finishing	4,260,564 A	6,507,580 A	23,830,533 A	12,050,367 B	51,360,948 B
Concrete block without interior finishing	1,004,283 A	1,279,099 B	5,981,703 B	1,861,083 C	7,380,198 C
Precast panels	210,245 D	83,972 D	2,141,297 D	3,735,447 C	12,989,613 B
Unknown	921,294 C	462,822 B	2,921,245 B	2,368,391 D	7,510,636 C

^aIncludes all the different types of windows that are double-glazed (i.e. double-glazed, double-sealed glazed, double-glazed with low-E coating and double-glazed with low-E gas-filled).

^bIncludes all the different types of windows that are triple-glazed (i.e. triple-glazed, triple-glazed with low-E coating and triple-glazed low-E gas-filled).

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TOTAL ELECTRICITY INTENSITY (GJ/m²)

93–464 m ² (1,000–4,999 sq. ft.)		465–929 m ² (5,000–9,999 sq. ft.)		929–4,645 m ² (10,000–49,999 sq. ft.)		4,645–9,290 m ² (50,000–99,999 sq. ft.)		9,290 m ² and more (100,000 sq. ft. and more)	
0.98	A	0.70	A	0.58	A	0.63	A	0.83	A
0.77	A	0.46	A	0.58	A	0.51	A	0.80	C
0.85	A	0.73	A	0.59	A	0.51	A	1.10	B
0.87	A	0.67	A	0.54	A	0.57	A	0.63	A
1.17	A	0.72	B	0.58	A	0.69	A	0.82	A
0.95	A	0.80	A	0.51	A	0.83	A	0.84	A
1.51	A	0.76	A	0.76	A	0.54	A	0.83	A
1.21	A	0.61	A	0.47	A	0.50	A	0.71	A
0.92	A	0.79	A	0.61	A	0.52	A	0.66	A
0.68	A	0.62	A	0.65	A	0.64	A	0.49	A
0.59	A	0.81	B	0.60	A	0.76	A	0.83	A
x		x		F		1.00	A	1.02	A
0.85	A	0.57	A	0.48	A	0.53	A	0.78	A
1.03	A	0.75	A	0.62	A	0.64	A	0.84	A
0.74	B	0.90	B	0.60	C	x		0.83	A
1.13	A	0.69	A	0.72	B	0.68	B	0.92	A
1.28	B	0.73	B	0.61	A	0.71	A	0.94	A
0.41	A	0.52	B	0.38	A	x		x	
1.05	A	0.62	A	0.50	A	0.29	A	x	
0.60	B	0.45	C	0.22	A	x		x	
0.99	A	0.86	A	0.59	A	0.65	A	0.85	A
0.90	A	0.62	A	0.61	B	0.41	A	0.61	A
0.73	B	0.50	A	1.29	C	0.78	A	0.81	A
1.14	B	0.39	A	0.43	A	0.49	B	0.62	A

TABLE 11.3

Total electricity consumption and electricity intensity by building characteristics, occupancy characteristics, energy efficiency features, heating energy sources and equipment, cooling energy sources and equipment, and water-heating energy sources by **building floor space**

TOTAL ELECTRICITY CONSUMPTION (GJ)

Building floor space	93–464 m ² (1,000–4,999 sq. ft.)	465–929 m ² (5,000–9,999 sq. ft.)	929–4,645 m ² (10,000–49,999 sq. ft.)	4,645–9,290 m ² (50,000–99,999 sq. ft.)	9,290 m ² and more (100,000 sq. ft. and more)
Predominant roof type					
Attic roof fully insulated	2,469,634 A	1,577,566 C	2,644,203 A	1,684,269 B	7,630,186 D
Attic roof partially insulated	574,659 B		1,074,440 D		448,455 C
Attic roof not insulated	404,618 C	155,311 D		x	x
Insulated wood-truss roof	1,705,656 A	2,741,338 A	3,521,451 B	1,184,784 D	1,059,613 D
Not insulated wood-truss roof	586,868 C			F	x
Insulated metal-truss roof	1,192,647 B	2,187,605 C	6,709,155 A	3,321,517 B	9,936,811 A
Not insulated metal-truss roof	134,061 C	356,973 C		F	779,363 D
Insulated deck-type roof	4,554,241 B	3,817,958 A	21,102,634 A	15,486,716 A	84,649,096 B
Not insulated deck-type roof	606,302 B	831,452 C	2,077,403 B		x
Unknown	1,011,012 C	424,272 B	4,192,757 B	2,749,906 C	13,705,062 B
Principal building activity					
Commercial and institutional accommodation	69,737 C		3,385,883 D		4,195,942 D
Entertainment and recreation	295,815 C	548,707 B	4,570,177 C	1,955,546 C	F
Office	834,485 A	917,761 A	4,434,977 B	6,737,595 C	42,943,011 B
Food retail	2,600,440 B	879,704 D	4,359,954 C	80,706 C	x
Non-food retail	872,141 A	1,856,026 B	3,777,949 A	1,194,002 C	1,827,510 D
Food service	3,760,247 A	4,053,227 B	2,451,800 D		x
Non-food service	1,916,314 A	1,326,209 B	4,189,551 B	2,413,472 C	F
Shopping malls	508,633 B	1,050,208 C	5,413,595 B	2,346,605 C	13,884,253 A
Warehouse/wholesale	413,313 C	307,162 B	3,149,387 B	1,995,374 D	F
Administration	119,268 C	284,192 B	2,676,015 C	2,892,779 D	11,025,742 D
Education		F 178,928 B	5,173,718 A	3,785,876 B	12,745,605 B
Health care	323,576 A		F 949,570 C		F 9,861,236 A
Public assembly	766,626 C	907,771 D	1,798,167 B		F
Other	91,072 C	160,570 C	459,157 C		F
Number of workers					
Less than 5	4,691,426 A	2,284,163 B	4,953,988 B		F
5–9	3,689,984 A	2,649,606 A	4,849,897 B		F
10–19	2,380,804 A	4,318,804 B	6,772,081 A	2,154,222 C	977,793 D
20–49	1,974,185 B	2,712,268 A	11,960,230 A	4,786,400 D	3,692,837 D
50–99	103,593 C	633,809 D	11,956,067 A	4,718,275 C	9,848,955 C
100–249		F	F 2,744,941 B	5,381,404 B	7,644,612 B
250 and more		F	x 3,552,696 C	7,566,291 B	95,337,026 A



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1.00	A	0.65	B	0.41	A	0.61	A	0.80	A
0.75	B	1.45	C	0.68	B	0.41	C	0.50	A
0.84	B	0.52	B	0.80	C		x		x
0.88	A	0.81	A	0.57	A	0.43	C	0.56	B
0.82	B	0.40	B	0.67	A	0.85	C		x
1.08	A	0.90	B	0.52	A	0.57	A	0.62	A
0.56	A	0.68	B	0.55	D	0.49	A	0.66	B
1.08	A	0.59	A	0.68	A	0.71	A	0.91	A
0.99	A	0.69	B	0.42	B	0.61	A		x
0.99	B	0.36	A	0.48	A	0.48	A	0.71	A
0.49	A	0.90	D	0.53	A	0.43	A	0.53	C
1.05	B	0.65	A	0.89	A	0.99	A	1.00	B
0.63	A	0.45	A	0.65	A	0.97	A	1.06	A
1.74	A	1.99	B	2.16	A	1.64	A		x
0.40	A	0.48	A	0.54	A	0.45	A	0.69	A
1.96	A	1.56	A	0.91	A		x		x
0.69	A	0.45	A	0.52	B	0.76	B	0.67	C
1.12	A	0.79	B	0.63	A	0.57	B	0.79	A
0.98	C	0.33	A	0.47	A	0.51	B	1.06	C
0.55	B	0.38	A	0.87	B	0.84	A	0.83	A
1.07	D	0.43	A	0.33	A	0.35	A	0.44	A
0.49	A	0.78	B	0.93	B	1.08	A	0.94	A
0.87	B	0.58	C	0.29	A	0.39	A	1.01	A
0.41	B	0.31	B	0.57	A	0.58	A		x
0.74	A	0.51	A	0.53	B	0.65	B		x
1.00	A	0.56	A	0.56	A	0.74	A	0.28	C
1.10	A	0.72	A	0.48	A	0.68	B	0.58	B
1.82	A	0.82	A	0.55	A	0.62	A	0.77	B
0.85	C	0.95	B	0.73	A	0.45	A	0.84	A
0.83	B	1.83	A	0.72	A	0.75	A	0.60	A
3.18	B		x	0.57	B	0.67	A	0.90	A

TABLE 11.3

Total electricity consumption and electricity intensity by building characteristics, occupancy characteristics, energy efficiency features, heating energy sources and equipment, cooling energy sources and equipment, and water-heating energy sources by **building floor space**

TOTAL ELECTRICITY CONSUMPTION (GJ)

Building floor space	93–464 m ² (1,000–4,999 sq. ft.)	465–929 m ² (5,000–9,999 sq. ft.)	929–4,645 m ² (10,000–49,999 sq. ft.)	4,645–9,290 m ² (50,000–99,999 sq. ft.)	9,290 m ² and more (100,000 sq. ft. and more)
Weekly hours of operation					
Less than 40	1,262,677 B	943,502 D	1,215,011 B	F	917,521 D
40–48	2,573,873 A	1,448,318 A	8,584,566 A	6,373,659 A	10,160,424 B
49–60	1,854,716 A	2,137,895 A	9,975,359 A	6,130,403 A	24,220,933 B
61–84	2,325,731 B	3,496,282 B	9,732,610 A	5,635,119 B	39,321,261 C
85–167	3,467,344 A	4,335,962 C	12,896,961 A	6,358,110 B	20,547,588 B
Open continuously	1,755,356 B	1,450,773 D	4,385,393 C	F	24,302,937 D
Building ownership					
Private individual(s)	6,689,555 A	6,044,874 A	9,865,613 A	5,286,047 B	23,620,816 D
Private organization	4,882,704 A	5,646,167 A	22,788,792 A	11,570,832 A	62,019,606 B
Non-profit organization	992,435 B	1,570,417 B	4,552,878 A	1,975,366 C	4,343,958 D
Fed.-prov.-munic.-regional government ^c	F	551,274 A	9,582,618 A	9,463,961 B	29,486,284 A
Building conservation feature					
Reflective or shading film	1,671,772 B	3,042,170 A	11,913,770 A	12,451,985 A	76,462,507 B
Awnings or blinds	5,473,070 A	8,612,320 A	25,675,376 A	19,688,009 A	89,503,483 A
Lighting conservation feature					
Reflectors	2,676,319 B	3,330,486 C	13,246,536 A	9,863,980 A	64,440,397 B
Energy-efficient ballast	5,069,894 A	4,869,584 B	26,953,084 A	18,413,894 A	101,599,396 A
Daylight controls	1,766,164 B	2,161,913 C	5,879,463 A	4,839,402 B	20,577,900 A
Occupancy sensors	724,231 D	F	3,888,451 B	2,388,192 B	38,667,582 C
Time clocks	2,089,632 B	5,117,890 A	11,682,598 A	9,348,707 B	68,441,200 A
Manual dimmer switches	2,163,543 A	4,840,600 B	11,859,407 B	11,758,065 B	70,007,882 B
Energy-efficient lamps	2,904,957 A	3,522,655 A	17,096,359 A	16,727,446 A	103,158,490 A
Other	1,127,817 C	1,258,964 C	5,936,054 B	5,584,343 C	15,003,402 C
Heating/cooling conservation feature					
Variable air-volume system	2,995,680 A	4,391,889 B	18,495,318 A	16,046,203 A	74,610,646 A
Outdoor-air economizer	4,141,825 A	4,632,391 A	22,823,280 A	18,552,348 A	84,450,370 A
Temperature setback	4,380,160 A	4,531,557 B	22,658,361 A	15,566,947 A	80,962,591 A
Equipment reset	3,560,831 B	4,193,856 B	18,265,263 A	15,528,333 A	85,289,847 A
Heat recovery system	2,296,327 B	643,033 B	7,582,574 B	8,088,225 C	43,718,863 B
Regular maintenance	10,100,275 A	11,405,776 A	41,302,276 A	27,506,564 A	117,499,856 A

^cIncludes all levels of government (i.e. federal, provincial, municipal and regional).

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TOTAL ELECTRICITY INTENSITY (GJ/m²)

93–464 m ² (1,000–4,999 sq. ft.)		465–929 m ² (5,000–9,999 sq. ft.)		929–4,645 m ² (10,000–49,999 sq. ft.)		4,645–9,290 m ² (50,000–99,999 sq. ft.)		9,290 m ² and more (100,000 sq. ft. and more)	
0.98	A	0.54	B	0.32	B	0.31	A	0.36	B
0.76	A	0.42	A	0.50	A	0.59	A	0.57	A
0.52	A	0.45	A	0.52	A	0.63	A	0.93	A
0.98	A	0.72	A	0.50	A	0.68	A	0.90	A
1.53	A	1.16	A	0.89	A	0.66	A	0.68	A
2.54	A	1.12	C	0.73	A	0.69	B	1.03	B
0.88	A	0.79	A	0.61	A	0.77	A	1.12	A
1.19	A	0.70	A	0.66	A	0.68	A	0.94	A
0.76	B	0.55	A	0.40	A	0.48	A	0.49	B
1.18	C	0.42	A	0.53	A	0.55	A	0.62	A
0.87	A	0.73	A	0.60	A	0.72	A	0.96	A
0.96	A	0.79	A	0.59	A	0.65	A	0.89	A
1.32	A	0.92	A	0.62	A	0.64	A	0.88	A
1.12	A	0.71	A	0.62	A	0.62	A	0.85	A
1.07	A	0.98	B	0.51	A	0.57	A	0.70	A
1.03	C	0.69	C	0.49	B	0.78	A	0.99	A
1.14	A	0.99	A	0.56	A	0.62	A	0.86	A
0.98	A	1.07	A	0.69	A	0.82	A	0.99	A
1.03	A	0.74	A	0.61	A	0.65	A	0.87	A
1.25	A	0.73	A	0.70	A	0.90	A	0.74	A
1.06	A	0.93	A	0.73	A	0.70	A	0.84	A
1.25	A	0.74	A	0.68	A	0.66	A	0.78	A
1.00	A	0.76	A	0.63	A	0.61	A	0.82	A
1.20	A	0.82	A	0.59	A	0.67	A	0.84	A
1.59	A	0.47	A	0.68	A	0.73	A	0.89	A
1.02	A	0.75	A	0.61	A	0.63	A	0.84	A

TABLE 11.3

Total electricity consumption and electricity intensity by building characteristics, occupancy characteristics, energy efficiency features, heating energy sources and equipment, cooling energy sources and equipment, and water-heating energy sources by **building floor space**

TOTAL ELECTRICITY CONSUMPTION (GJ)

Building floor space	93–464 m ² (1,000–4,999 sq. ft.)	465–929 m ² (5,000–9,999 sq. ft.)	929–4,645 m ² (10,000–49,999 sq. ft.)	4,645–9,290 m ² (50,000–99,999 sq. ft.)	9,290 m ² and more (100,000 sq. ft. and more)
Percentage of the floor space heated					
Less than 1	x	x	x	x	x
1–50	400,295 B	358,774 C	2,875,735 C	3,264,548 C	518,656 D
51–99	1,167,582 B	1,382,183 C	3,040,400 B	2,207,774 D	14,087,189 D
100	11,633,307 A	12,061,602 A	40,749,925 A	22,823,885 A	104,864,818 A
Energy source for heating (more than one may apply)					
Electricity	6,655,030 A	7,127,951 A	25,931,926 A	15,847,040 A	59,468,822 B
Natural gas	8,534,675 A	10,335,985 A	31,067,793 A	21,145,942 A	93,928,862 A
Fuel/heating oil	702,207 A	631,544 A	2,017,679 A	677,936 C	5,269,426 B
Composite ^d	356,465 B	175,378 C	3,026,045 C	550,824 D	F
Main energy source for heating					
Electricity	4,558,325 A	3,612,143 A	15,198,650 A	9,303,041 A	34,750,592 C
Natural gas	7,831,869 A	9,603,741 A	28,168,609 A	18,219,051 A	74,281,865 A
Fuel/heating oil	543,743 A	498,068 A	1,451,330 B	257,333 C	2,695,011 B
Composite ^d	267,246 C	88,607 D	1,847,471 D	516,782 D	7,743,194 B
Heating equipment (more than one may apply)					
Furnaces	6,096,498 A	5,340,310 A	15,159,215 A	2,817,598 B	15,851,319 B
Heat pumps	644,173 C	570,363 B	3,079,776 B	5,098,726 D	16,687,982 C
Individual space heaters	3,398,000 A	4,529,504 A	21,760,292 A	11,952,581 A	43,366,312 B
Boilers	1,317,408 B	2,993,955 B	13,653,945 A	12,147,104 A	80,413,001 B
Packaged heating units	3,919,268 B	4,775,385 A	16,993,229 A	11,993,059 B	34,141,449 A
District steam or hot water or other	877,379 B	701,257 D	4,428,480 B	1,145,492 B	24,342,574 D
Main heating equipment					
Furnaces	5,541,784 A	4,782,831 A	11,337,852 A	2,184,632 B	6,691,292 C
Heat pumps	508,075 D	440,473 C	1,599,387 B	F	5,843,961 C
Individual space heaters	2,015,251 A	2,147,389 B	8,758,319 A	4,293,650 C	6,310,359 D
Boilers	987,565 A	2,622,769 B	11,455,099 A	9,218,482 A	65,814,330 B
Packaged heating units	3,493,854 B	3,726,262 A	11,069,854 A	7,904,260 B	15,513,665 B
District steam or hot water or other	654,655 C	82,835 C	2,445,548 C	833,438 C	F
Not heated	x	x	x	x	x


^dIncludes the categories of diesel or kerosene; bottled gas, liquid petroleum gas or propane; district steam; district hot water; wood; coal; solar thermal panels; and others.


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TOTAL ELECTRICITY INTENSITY (GJ/m²)

93–464 m ² (1,000–4,999 sq. ft.)		465–929 m ² (5,000–9,999 sq. ft.)		929–4,645 m ² (10,000–49,999 sq. ft.)		4,645–9,290 m ² (50,000–99,999 sq. ft.)		9,290 m ² and more (100,000 sq. ft. and more)	
	x		x		x		x		x
0.63	B	0.42	B	0.69	A	0.88	A	0.33	A
1.30	A	0.86	A	0.64	A	0.67	A	1.04	A
0.97	A	0.70	A	0.57	A	0.60	A	0.81	A
1.02	A	0.68	A	0.63	A	0.67	A	0.85	A
0.97	A	0.76	A	0.52	A	0.63	A	0.84	A
0.54	A	0.38	A	0.39	A	0.29	A	0.54	A
0.84	B	0.46	B	1.34	B	0.51	A	1.09	A
1.16	A	0.65	A	0.79	A	0.68	A	1.00	A
0.95	A	0.76	A	0.51	A	0.62	A	0.77	A
0.52	A	0.37	A	0.36	A	0.21	A	0.57	B
0.94	B	0.34	A	1.87	C	0.59	B	0.91	A
0.83	A	0.63	A	0.56	A	0.51	A	0.71	A
0.89	A	0.56	A	0.57	A	0.76	A	0.93	A
0.85	A	0.56	A	0.68	A	0.69	A	0.83	A
0.71	B	0.70	A	0.46	A	0.55	A	0.83	A
1.69	A	1.04	A	0.63	A	0.65	A	0.68	A
0.96	B	0.78	B	0.76	B	0.59	A	1.03	A
0.84	A	0.64	A	0.57	A	0.50	A	0.78	A
0.86	B	0.66	A	0.55	A	0.89	A	0.82	B
0.89	A	0.56	A	0.78	A	0.68	A	0.78	A
0.61	A	0.67	B	0.43	A	0.52	A	0.77	A
1.77	A	1.01	A	0.63	A	0.73	A	0.78	A
1.36	A	0.34	A	1.23	C	0.62	A	1.30	B
x		x		x		x		x	

TABLE
11.3

Total electricity consumption and electricity intensity by building characteristics, occupancy characteristics, energy efficiency features, heating energy sources and equipment, cooling energy sources and equipment, and water-heating energy sources by **building floor space**

TOTAL ELECTRICITY CONSUMPTION (GJ)

Building floor space	93–464 m ² (1,000–4,999 sq. ft.)	465–929 m ² (5,000–9,999 sq. ft.)	929–4,645 m ² (10,000–49,999 sq. ft.)	4,645–9,290 m ² (50,000–99,999 sq. ft.)	9,290 m ² and more (100,000 sq. ft. and more)
Percentage of the floor space cooled					
Not cooled	2,960,068 A	2,125,144 B	7,133,063 A	2,425,989 B	2,662,460 D
1–50	1,962,816 A	3,554,075 B	10,587,568 A	5,360,459 A	13,185,185 B
51–99	1,472,450 B	2,799,129 A	9,182,697 A	8,607,177 B	43,518,132 B
100	6,844,365 A	5,334,385 A	19,886,572 A	11,902,582 B	60,104,886 B
Space-cooling energy source					
Electricity	9,471,043 A	9,518,828 A	36,298,519 A	20,464,374 A	108,222,029 A
Natural gas	927,341 B	2,433,664 B	3,491,345 B	5,385,753 C	5,830,812 B
Fuel/heating oil	x	x	x	x	x
Composite ^e	112,297 D	F	806,222 C	693,557 D	10,244,921 D
Cooling equipment (more than one may apply)					
Residential-type air conditioners	1,862,478 A	2,310,491 B	5,409,332 B	1,362,070 D	7,460,798 C
Heat pumps	555,878 B	649,129 B	3,208,729 A	F	7,456,918 C
Individual room air conditioners	1,192,400 A	1,583,812 B	6,660,941 B	3,087,089 C	21,655,639 D
District-chilled water from outside source	F	x	575,228 B	F	10,582,660 C
Central chillers	544,505 C	413,504 C	4,846,039 C	4,837,204 B	74,084,760 B
Packaged air-conditioning units	6,577,140 A	7,766,466 A	27,876,514 A	15,346,121 A	51,762,079 B
Swamp coolers	x	x	106,230 D	F	F
Composite ^f	320,271 C	112,074 D	2,715,425 C	3,660,985 C	F
Other	F	F	2,067,566 D	F	F
Main cooling equipment					
Residential-type air conditioners	1,822,579 A	2,164,203 B	4,324,976 B	186,001 D	4,898,851 D
Heat pumps	474,872 B	513,163 B	2,007,248 A	F	F
Individual room air conditioners	960,542 B	1,130,528 D	2,299,194 A	F	2,409,362 C
District-chilled water from outside source	x	x	321,318 D	F	5,813,245 C
Central chillers	454,358 D	301,574 C	4,259,796 C	4,700,255 B	61,594,525 B
Packaged air-conditioning units	6,371,710 A	7,466,186 A	25,173,204 A	13,371,384 A	26,365,351 A
Composite ^f	F	111,934 D	F	2,568,535 D	F
Not cooled	2,960,068 A	2,125,144 B	7,133,063 A	2,425,989 B	2,662,460 D

^eIncludes the air-conditioning categories of fuel/heating oil; diesel or kerosene; bottled gas, liquid petroleum gas or propane; district-chilled water; and others.

^fIncludes the categories of district-chilled water from outside source; swamp coolers; and others.


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TOTAL ELECTRICITY INTENSITY (GJ/m²)

93–464 m ² (1,000–4,999 sq. ft.)		465–929 m ² (5,000–9,999 sq. ft.)		929–4,645 m ² (10,000–49,999 sq. ft.)		4,645–9,290 m ² (50,000–99,999 sq. ft.)		9,290 m ² and more (100,000 sq. ft. and more)	
0.71	A	0.38	A	0.34	A	0.31	A	0.32	B
0.68	A	0.75	A	0.53	A	0.57	A	0.52	A
0.93	A	0.88	A	0.83	A	0.68	A	0.95	A
1.39	A	0.86	A	0.71	A	0.77	A	0.93	A
1.08	A	0.78	A	0.70	A	0.65	A	0.88	A
1.13	A	0.95	A	0.43	A	0.85	A	0.57	A
x		x		x		x		x	
1.79	C	0.39	B	0.99	D	0.80	B	0.78	A
0.67	A	0.71	A	0.59	A	0.88	B	0.68	A
0.86	B	0.51	A	0.73	A	0.59	B	0.86	A
0.79	A	0.70	A	0.64	B	0.59	A	0.91	B
2.78	C	x		F		0.97	B	0.75	A
1.09	B	0.64	B	0.77	A	0.80	A	0.97	A
1.50	A	0.93	A	0.69	A	0.66	A	0.81	A
x		x		0.31	A	1.33	A	0.75	A
0.76	B	0.39	A	1.08	B	0.96	A	0.98	A
0.51	A	0.38	A	1.28	A	0.88	A	1.21	A
0.67	A	0.73	A	0.57	A	0.40	B	0.67	A
0.78	B	0.44	A	0.65	A	0.59	B	0.99	B
0.85	A	0.77	B	0.49	A	0.52	B	0.44	A
x		x		0.68	C	0.89	B	0.73	A
1.03	B	0.54	A	0.84	B	0.81	A	0.94	A
1.51	A	0.97	A	0.67	A	0.69	A	0.71	A
0.69	C	0.39	A	1.16	B	0.89	A	1.08	B
0.71	A	0.38	A	0.34	A	0.31	A	0.32	B

TABLE

11.3

Total electricity consumption and electricity intensity by building characteristics, occupancy characteristics, energy efficiency features, heating energy sources and equipment, cooling energy sources and equipment, and water-heating energy sources by **building floor space**

TOTAL ELECTRICITY CONSUMPTION (GJ)

Building floor space →	93–464 m ² (1,000–4,999 sq. ft.)	465–929 m ² (5,000–9,999 sq. ft.)	929–4,645 m ² (10,000–49,999 sq. ft.)	4,645–9,290 m ² (50,000–99,999 sq. ft.)	9,290 m ² and more (100,000 sq. ft. and more)
Energy source for water heating					
Electricity	6,114,439 A	7,066,230 A	21,641,255 A	11,331,292 A	47,148,391 B
Natural gas	6,757,570 A	6,673,777 A	24,894,511 A	18,076,623 A	57,814,553 A
Fuel/heating oil	306,652 B	206,380 B	1,193,614 B	165,608 C	1,581,786 C
Composite ^d	F	F	1,800,244 D	284,089 C	F
Not heated	233,566 D	F	426,765 D	x	x

^dIncludes the categories of diesel or kerosene; bottled gas, liquid petroleum gas or propane; district steam; district hot water; wood; coal; solar thermal panels; and others.

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This table is a continuation of the previous two pages. 

TOTAL ELECTRICITY INTENSITY (GJ/m²)

93–464 m ² (1,000–4,999 sq. ft.)		465–929 m ² (5,000–9,999 sq. ft.)		929–4,645 m ² (10,000–49,999 sq. ft.)		4,645–9,290 m ² (50,000–99,999 sq. ft.)		9,290 m ² and more (100,000 sq. ft. and more)	
0.91	A	0.67	A	0.57	A	0.63	A	0.96	A
1.08	A	0.76	A	0.58	A	0.64	A	0.72	A
0.74	A	0.43	A	0.48	A	0.22	A	0.54	C
1.42	B	0.45	A	1.56	C	0.46	B	1.07	A
0.53	B	0.40	B	0.74	A	x		x	

TABLE 11.4

Total electricity consumption and electricity intensity by building characteristics, occupancy characteristics, energy efficiency features, heating energy sources and equipment, cooling energy sources and equipment, and water-heating energy sources **by year of construction**

TOTAL ELECTRICITY CONSUMPTION (GJ)

Year of construction	Before 1920	1920– 1959	1960– 1969	1970– 1979	1980– 1989	1990– 1999
All buildings						
Canada	11,643,349 B	43,974,422 B	26,268,111 A	63,469,397 A	35,830,275 A	40,423,647 A
Building floor space						
93–464 m ² (1,000–4,999 sq. ft.)	1,053,028 B	4,565,000 B	1,286,008 A	2,213,938 B	1,820,688 A	2,301,036 A
465–929 m ² (5,000–9,999 sq. ft.)	1,280,108 D	4,352,778 A	1,399,193 A	2,389,858 B	2,150,547 B	2,240,249 B
929–4,645 m ² (10,000–49,999 sq. ft.)	2,734,862 B	10,638,829 A	5,882,239 B	9,808,889 A	9,807,087 A	7,917,996 A
4,645–9,290 m ² (50,000–99,999 sq. ft.)	1,731,997 B	4,243,468 C	2,633,919 B	5,660,860 B	8,221,533 B	5,804,430 B
9,290 m ² and more (100,000 sq. ft. and more)	F	F	15,066,752 B	43,395,853 B	13,830,421 A	22,159,936 B
Number of floors						
1	F	5,221,588 A	3,848,113 A	10,617,943 B	7,136,824 A	5,626,143 A
2	1,479,721 C	12,648,017 A	5,355,867 A	9,809,412 B	9,849,237 A	11,030,993 B
3	3,058,439 C	5,772,151 B	4,289,338 C	4,340,966 B	4,674,120 D	3,014,767 C
4–9	6,220,771 D	F	6,391,192 B	12,630,587 B	7,985,104 B	8,572,954 C
10 and more	x	770,411 B	6,383,601 D	26,070,489 D	6,184,990 C	F
Predominant type of window						
Single-glazed	3,336,412 B	8,772,537 A	5,662,008 B	7,103,311 B	2,954,518 C	F
Double-glazed ^a	8,245,104 C	34,878,841 C	20,579,282 A	56,264,841 B	31,020,808 A	36,052,813 A
Triple-glazed ^b	x	F	F	101,245 D	F	664,409 D
Predominant exterior wall type						
Curtain walls	F	2,333,778 C	1,525,633 C	7,357,095 D	4,472,148 C	F
Metal stud framing with surface insulation	F	3,098,253 D	F	F	5,018,732 A	8,212,191 B
Metal stud framing without surface insulation	x	484,126 D	120,614 C	F	431,918 A	293,331 C
Wood-frame walls with surface insulation	2,465,655 B	3,142,891 B	590,655 B	1,425,485 B	1,936,948 B	2,342,270 B
Wood-frame walls without surface insulation	158,560 B	586,948 C	107,841 C	187,365 D	F	137,404 D
Concrete block with interior finishing	6,637,682 C	30,389,717 C	12,055,992 A	21,145,588 A	12,986,645 A	14,794,368 A
Concrete block without interior finishing	F	1,868,092 B	2,681,622 C	5,695,318 C	3,313,061 C	2,057,723 C
Precast panels	x	F	2,372,323 C	8,361,024 C	3,320,291 C	4,392,920 D
Unknown	76,155 C	1,358,621 B	2,488,959 D	F	4,063,419 D	2,148,399 B

^aIncludes all the different types of windows that are double-glazed (i.e. double-glazed, double-sealed glazed, double-glazed with low-E coating and double-glazed with low-E gas-filled).

^bIncludes all the different types of windows that are triple-glazed (i.e. triple-glazed, triple-glazed with low-E coating and triple-glazed low-E gas-filled).

The letter beside each estimate classifies its quality as follows: A – Excellent, B – Good, C – Acceptable, D – Use with caution,

F – Too unreliable to be published, x – Suppressed to meet the confidentiality requirements of the Statistics Act.

Due to rounding the numbers may not add up and may differ slightly among tables.

NOTE: Estimates relate only to the surveyed areas of populations of 175,000 and greater, and in Atlantic Canada to populations of 50,000 and greater.

Source: Commercial and Institutional Building Energy Use Survey 2000.

This table continues on the next two pages. 

TOTAL ELECTRICITY INTENSITY (GJ/m²)

Before 1920	1920– 1959	1960– 1969	1970– 1979	1980– 1989	1990– 1999
0.64 A	0.78 A	0.61 A	0.77 A	0.72 A	0.77 A
0.77 A	0.85 A	0.87 A	1.17 A	0.95 A	1.51 A
0.46 A	0.73 A	0.67 A	0.72 B	0.80 A	0.76 A
0.58 A	0.59 A	0.54 A	0.58 A	0.51 A	0.76 A
0.51 A	0.51 A	0.57 A	0.69 A	0.83 A	0.54 A
0.80 C	1.10 B	0.63 A	0.82 A	0.84 A	0.83 A
0.87 B	0.62 A	0.54 A	0.71 A	0.52 A	0.68 A
0.62 B	0.74 A	0.43 A	0.55 A	0.74 A	0.72 A
0.49 A	0.53 A	0.64 A	0.60 A	0.95 A	0.52 B
0.73 A	1.08 B	0.68 A	0.62 A	0.70 A	0.81 A
x	0.60 A	0.88 A	1.16 A	0.92 A	0.98 A
0.57 A	0.58 A	0.53 A	0.73 A	0.50 B	1.09 A
0.67 A	0.86 A	0.64 A	0.77 A	0.74 A	0.75 A
x	1.09 D	0.38 B	0.36 B	0.87 A	0.67 A
F	0.61 B	0.74 B	0.99 A	0.79 A	0.97 A
0.51 B	0.72 B	0.68 A	1.16 A	0.75 A	0.68 A
x	0.43 A	0.36 A	0.50 B	0.52 A	0.38 B
0.65 A	0.60 A	0.43 A	0.51 A	0.98 A	0.66 A
0.28 A	0.41 B	0.44 B	F	F	0.57 C
0.70 B	0.95 B	0.55 A	0.67 A	0.73 A	0.83 A
0.51 A	0.54 A	0.56 B	0.61 B	0.57 B	0.79 B
x	0.46 B	1.04 C	0.80 A	0.90 A	0.89 B
0.30 C	0.44 B	0.70 B	0.54 A	0.56 A	0.54 A

TABLE

11.4

Total electricity consumption and electricity intensity by building characteristics, occupancy characteristics, energy efficiency features, heating energy sources and equipment, cooling energy sources and equipment, and water-heating energy sources **by year of construction**

TOTAL ELECTRICITY CONSUMPTION (GJ)

Year of construction	Before 1920	1920– 1959	1960– 1969	1970– 1979	1980– 1989	1990– 1999
Predominant roof type						
Attic roof fully insulated	F	2,627,966 C	976,661 B	2,453,908 B	2,176,001 B	F
Attic roof partially insulated	1,241,924 C	F	F	632,020 B	F	F
Attic roof not insulated	155,538 C	F	F	594,149 D	F	x
Insulated wood-truss roof	1,786,667 C	2,714,365 A	1,136,720 B	1,272,640 C	1,464,663 C	1,837,787 C
Not insulated wood-truss roof	534,150 D	2,313,568 D	148,786 C	F	F	F
Insulated metal-truss roof	F	3,492,330 C	2,361,958 B	4,997,543 B	5,486,146 B	6,493,603 B
Not insulated metal-truss roof	x	F	211,748 D	587,653 C	782,029 C	F
Insulated deck-type roof	F	26,709,229 C	15,893,270 B	41,716,569 B	21,260,013 A	19,668,379 A
Not insulated deck-type roof	F	1,304,109 B	1,037,962 D	F	983,376 D	174,697 D
Unknown	F	1,801,661 C	3,780,462 C	7,416,847 D	3,359,860 C	5,264,045 C
Principal building activity						
Commercial and institutional accommodation	F	F	610,346 C	4,982,990 C	300,888 C	F
Entertainment and recreation	F	F	F	2,091,152 C	957,159 D	1,718,262 C
Office	1,564,137 D	3,936,897 C	F	F	8,743,653 B	16,123,906 C
Food retail	60,034 D	2,571,507 D	466,583 C	1,002,711 C	1,970,594 D	2,231,118 C
Non-food retail	1,260,902 D	1,714,229 C	777,876 C	1,390,347 C	2,062,007 A	2,322,268 B
Food service	421,099 B	4,944,907 B	973,702 D	1,261,472 C	1,247,813 C	1,854,231 B
Non-food service	544,597 D	1,802,576 B	1,860,108 D	1,931,323 B	3,218,393 C	1,142,139 B
Shopping malls	x	F	2,793,864 B	8,192,663 B	5,823,458 B	4,541,539 C
Warehouse/wholesale	x	F	886,593 C	3,511,672 D	1,249,858 B	2,140,006 C
Administration	F	F	F	9,237,545 D	2,283,815 C	714,811 C
Education	F	3,403,802 B	5,557,889 B	6,950,202 C	2,332,993 B	3,664,499 B
Health care	103,992 B	3,407,356 B	3,182,436 C	2,142,810 B	4,446,458 D	F
Public assembly	888,291 C	1,218,330 C	569,956 C	F	F	F
Other	F	113,023 C	F	F	377,477 A	150,035 D
Number of workers						
Less than 5	1,089,690 B	5,212,361 B	2,035,096 C	1,997,561 C	1,718,671 B	1,801,284 C
5–9	1,152,307 C	3,846,702 C	1,202,834 A	3,244,347 B	3,854,756 C	1,622,506 B
10–19	1,289,157 C	3,974,080 A	2,363,903 B	3,537,438 B	3,357,212 B	2,081,914 B
20–49	2,357,301 D	4,671,106 B	2,208,465 B	3,321,348 A	7,199,381 C	5,368,320 A
50–99	F	5,163,922 C	F	7,629,899 C	2,942,105 B	5,713,284 B
100–249	F	F	1,920,033 B	3,849,219 B	3,109,249 B	4,512,395 C
250 and more	1,709,172 D	F	14,263,408 B	39,889,585 C	13,648,901 A	19,323,943 C



The letter beside each estimate classifies its quality as follows: A – Excellent, B – Good, C – Acceptable, D – Use with caution,

F – Too unreliable to be published, x – Suppressed to meet the confidentiality requirements of the Statistics Act.

Due to rounding the numbers may not add up and may differ slightly among tables.

NOTE: Estimates relate only to the surveyed areas of populations of 175,000 and greater, and in Atlantic Canada to populations of 50,000 and greater.

Source: Commercial and Institutional Building Energy Use Survey 2000.

This table is a continuation of the previous two pages. 
 This table continues on the next two pages. 

TOTAL ELECTRICITY INTENSITY (GJ/m²)

Before 1920	1920– 1959	1960– 1969	1970– 1979	1980– 1989	1990– 1999
0.51 A	0.80 A	0.47 A	0.60 A	0.72 A	0.79 A
0.77 B	0.80 D	0.49 A	0.74 B	1.43 C	0.81 B
0.48 A	0.86 C	0.57 A	0.76 B	0.35 A	x
0.70 A	0.55 B	0.46 A	0.72 B	0.87 B	0.67 A
0.59 C	0.69 B	0.30 A	0.75 A	0.53 A	1.00 D
0.28 A	0.62 A	0.47 A	0.66 A	0.74 A	0.60 A
x	0.47 A	0.44 C	0.35 A	0.62 B	F
0.87 B	0.96 B	0.66 A	0.86 A	0.76 A	0.86 A
0.70 D	0.55 A	0.47 B	0.58 B	0.37 D	1.07 D
0.36 A	0.38 A	0.78 A	0.61 B	0.60 A	0.72 A
0.56 A	0.66 B	0.50 A	0.52 B	0.31 B	0.46 A
1.06 C	0.96 A	0.89 B	0.84 B	0.68 A	0.99 A
0.56 B	0.85 B	0.85 A	1.29 A	0.84 A	0.91 A
0.69 A	1.76 B	2.15 A	1.63 A	2.11 A	1.93 B
0.59 A	0.40 A	0.51 B	0.54 B	0.60 A	0.54 A
0.95 A	1.18 A	1.03 A	1.52 B	1.89 A	2.00 B
F	0.58 B	0.76 B	0.51 A	0.57 B	0.49 A
x	0.82 B	0.60 A	0.73 A	0.61 A	1.00 A
x	1.42 A	0.28 A	0.57 B	0.36 A	0.58 B
0.47 B	0.69 A	F	0.92 A	0.86 A	0.55 A
0.33 A	0.30 A	0.41 A	0.42 A	0.44 B	0.47 A
0.40 A	0.80 A	0.97 A	0.97 A	1.06 A	0.86 B
0.55 B	0.52 B	0.29 B	0.50 C	0.70 A	0.68 B
0.58 A	0.23 B	0.50 A	0.76 A	1.44 A	0.45 A
0.54 A	0.66 A	0.66 B	0.64 B	0.38 B	0.62 A
0.39 B	0.72 A	0.45 A	0.43 B	0.83 A	0.57 B
0.48 A	0.62 A	0.46 A	0.72 A	0.72 A	0.65 A
0.61 A	0.81 A	0.44 A	0.54 A	0.67 A	0.77 A
0.95 B	0.59 B	0.70 B	0.70 A	0.58 A	0.76 A
0.61 D	1.08 A	0.65 B	0.50 A	0.75 A	0.75 A
0.76 B	0.95 B	0.68 A	0.94 A	0.84 A	0.84 A

TABLE 11.4

Total electricity consumption and electricity intensity by building characteristics, occupancy characteristics, energy efficiency features, heating energy sources and equipment, cooling energy sources and equipment, and water-heating energy sources **by year of construction**

TOTAL ELECTRICITY CONSUMPTION (GJ)

Year of construction →	Before 1920	1920– 1959	1960– 1969	1970– 1979	1980– 1989	1990– 1999
Weekly hours of operation						
Less than 40	1,203,950 D	2,083,372 B	973,474 C	167,945 B	218,564 C	F
40–48	1,441,774 C	7,196,569 C	3,174,103 C	6,155,517 B	5,249,059 B	5,923,819 C
49–60	1,367,146 C	3,495,298 A	4,577,150 B	15,328,128 B	8,681,778 A	10,869,806 D
61–84	2,811,215 D	7,104,382 A	8,103,263 C	21,348,191 D	8,354,241 B	12,789,712 A
85–167	F	9,957,498 B	6,042,257 B	11,840,532 B	8,027,235 A	7,954,111 B
Open continuously	F	F	3,397,864 C	8,629,086 B	5,299,399 C	2,477,224 C
Building ownership						
Private individual(s)	F	10,710,322 B	F	F	8,033,161 A	5,369,146 B
Private organization	3,669,643 B	F	8,612,934 A	28,031,466 B	18,022,700 A	26,481,608 B
Non-profit organization	2,473,268 D	2,674,187 B	3,447,887 C	2,801,546 C	1,083,852 D	954,315 D
Fed.-prov.-munic.-regional government ^c	2,031,058 C	8,500,163 A	9,113,285 A	13,805,495 B	8,690,563 B	7,618,578 B
Building conservation feature						
Reflective or shading film	1,130,003 C	F	12,686,538 B	33,112,261 C	15,447,229 A	24,140,852 B
Awnings or blinds	7,231,478 C	27,975,871 D	16,237,413 B	44,677,217 B	25,237,774 A	27,592,504 B
Lighting conservation feature						
Reflectors	2,301,170 D	F	10,927,389 B	31,960,045 C	13,192,542 A	17,568,045 B
Energy-efficient ballast	5,586,842 D	29,683,739 C	17,471,829 B	52,095,634 B	20,426,013 A	31,641,797 B
Daylight controls	1,772,169 D	4,148,465 A	5,596,251 B	11,749,889 A	6,911,857 A	5,046,212 B
Occupancy sensors	1,109,306 D	F	5,021,659 C	11,422,242 B	7,075,637 B	8,113,684 D
Time clocks	2,965,884 C	22,209,042 D	9,562,867 B	26,206,364 A	16,065,351 A	19,670,519 B
Manual dimmer switches	6,670,576 C	22,047,222 D	10,002,988 C	33,445,313 C	15,115,000 A	13,348,399 B
Energy-efficient lamps	7,360,856 C	26,352,359 D	15,277,314 B	45,766,020 B	19,822,034 A	28,831,325 B
Other	F	4,437,614 C	1,095,708 D	8,557,984 D	5,501,250 B	7,402,917 C
Heating/cooling conservation feature						
Variable air-volume system	3,336,259 C	13,767,658 B	12,826,709 B	39,894,862 B	22,960,952 A	23,753,296 B
Outdoor-air economizer	4,567,603 C	24,969,088 D	14,052,194 A	38,093,146 A	24,536,369 A	28,381,813 A
Temperature setback	4,970,808 B	28,991,174 C	14,255,677 A	33,685,100 A	19,869,779 A	26,327,078 A
Equipment reset	4,558,905 C	16,291,180 A	14,819,080 B	42,503,655 B	21,553,864 A	27,111,448 B
Heat recovery system	2,264,381 D	F	5,717,640 B	13,626,536 C	11,852,639 B	12,668,052 B
Regular maintenance	10,523,078 B	41,208,362 B	24,268,488 A	61,062,180 B	32,964,684 A	37,787,955 A

^cIncludes all levels of government (i.e. federal, provincial, municipal and regional).


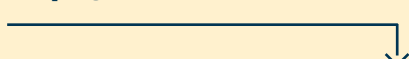
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 This table continues on the next two pages. 

TOTAL ELECTRICITY INTENSITY (GJ/m²)

Before 1920	1920– 1959	1960– 1969	1970– 1979	1980– 1989	1990– 1999
0.55 B	0.44 A	0.35 B	0.26 A	0.52 B	0.46 B
0.37 A	0.61 B	0.46 B	0.58 A	0.62 A	0.55 A
0.47 A	0.44 A	0.67 A	0.89 A	0.60 A	0.78 A
0.61 A	0.62 A	0.61 A	0.96 A	0.67 A	0.89 A
1.32 A	0.93 A	0.67 A	0.62 A	0.91 A	0.81 A
0.57 A	1.52 B	0.88 A	0.66 A	0.97 A	0.95 B
1.01 B	0.87 A	0.63 A	1.08 A	0.67 A	0.85 A
0.62 A	1.05 B	0.72 A	0.81 A	0.70 A	0.87 A
0.42 A	0.50 A	0.57 B	0.37 B	0.72 A	0.46 B
0.66 B	0.49 A	0.55 A	0.59 A	0.79 A	0.56 A
0.58 A	1.03 B	0.77 A	0.91 A	0.78 A	0.81 A
0.74 A	0.87 A	0.66 A	0.79 A	0.79 A	0.77 A
0.59 A	1.10 B	0.64 A	0.86 A	0.74 A	0.74 A
0.79 A	0.86 A	0.62 A	0.80 A	0.72 A	0.78 A
0.77 A	0.58 A	0.68 A	0.67 A	0.70 A	0.63 A
0.82 A	1.48 B	0.82 A	0.79 A	0.69 A	0.80 A
0.65 A	1.05 B	0.70 A	0.73 A	0.75 A	0.75 A
0.86 A	1.23 B	0.71 A	0.97 A	0.87 A	0.75 A
0.65 A	0.83 B	0.65 A	0.81 A	0.84 A	0.87 A
0.60 A	0.74 A	0.56 B	0.95 A	0.77 A	0.72 A
0.62 A	0.68 A	0.66 A	0.89 A	0.83 A	0.87 A
0.54 A	0.88 B	0.67 A	0.70 A	0.77 A	0.81 A
0.66 A	0.87 A	0.66 A	0.70 A	0.77 A	0.77 A
0.61 A	0.65 A	0.70 A	0.86 A	0.78 A	0.82 A
0.66 A	1.19 C	0.71 A	0.80 A	0.92 A	0.65 A
0.67 A	0.81 A	0.63 A	0.77 A	0.75 A	0.79 A

TABLE

11.4

Total electricity consumption and electricity intensity by building characteristics, occupancy characteristics, energy efficiency features, heating energy sources and equipment, cooling energy sources and equipment, and water-heating energy sources by year of construction

TOTAL ELECTRICITY CONSUMPTION (GJ)

Year of construction	Before 1920	1920– 1959	1960– 1969	1970– 1979	1980– 1989	1990– 1999
Percentage of the floor space heated						
Less than 1	x	x	x	x	x	x
1–50	F	F	1,167,198 D	1,312,322 C	1,205,818 C	1,333,792 D
51–99	F	F	F	3,023,703 D	3,681,127 B	F
100	7,994,622 B	38,726,475 B	22,780,290 A	59,033,567 B	30,937,118 A	32,661,465 A
Energy source for heating (more than one may apply)						
Electricity	5,991,848 D	25,506,358 D	11,685,859 A	27,839,496 B	20,629,471 A	23,377,738 B
Natural gas	7,080,184 B	37,035,488 C	18,571,037 A	53,001,038 B	22,386,328 A	26,939,182 A
Fuel/heating oil	1,275,567 D	2,669,127 A	1,378,792 A	2,117,637 B	815,376 D	F
Composite ^d	F	F	F	F	2,449,524 C	1,983,360 D
Main energy source for heating						
Electricity	F	F	6,498,651 B	13,211,753 B	13,414,519 A	13,630,320 B
Natural gas	6,813,782 B	23,454,763 A	16,718,336 B	45,872,078 B	20,095,892 A	25,150,285 A
Fuel/heating oil	992,419 D	1,378,847 B	662,582 A	1,174,894 B	265,713 C	F
Composite ^d	F	F	2,385,626 C	3,110,866 C	2,047,940 C	F
Heating equipment (more than one may apply)						
Furnaces	2,617,133 B	10,793,740 B	5,763,523 B	12,783,953 B	6,881,066 A	6,425,526 B
Heat pumps	F	3,851,000 C	2,155,337 C	5,692,853 C	4,154,831 C	7,906,358 D
Individual space heaters	3,431,308 B	21,308,565 D	9,630,433 B	18,657,286 B	14,386,390 A	17,592,709 B
Boilers	5,933,075 B	23,250,058 D	14,751,877 B	42,015,812 B	8,984,955 B	15,589,636 B
Packaged heating units	1,772,368 D	9,790,040 A	9,443,102 A	19,794,111 B	15,274,211 A	15,748,557 B
District steam or hot water or other	589,139 D	F	3,336,706 B	4,493,586 B	4,418,949 B	4,605,206 D
Main heating equipment						
Furnaces	2,064,510 C	9,337,954 B	3,765,829 B	5,530,885 A	4,985,530 B	4,853,683 B
Heat pumps	F	2,372,160 D	191,280 D	F	2,276,643 D	3,499,349 B
Individual space heaters	873,341 C	4,037,425 A	2,361,709 C	3,717,494 B	5,817,833 B	6,717,166 D
Boilers	5,635,171 B	10,942,191 A	12,597,419 B	38,958,701 C	7,932,062 B	14,032,701 B
Packaged heating units	F	5,070,458 B	4,463,175 B	9,906,619 B	11,634,196 B	10,179,828 B
District steam or hot water or other	F	F	2,885,782 C	3,566,311 B	3,177,800 C	1,106,712 D
Not heated	x	x	x	x	x	x

^dIncludes the categories of diesel or kerosene; bottled gas, liquid petroleum gas or propane; district steam; district hot water; wood; coal; solar thermal panels; and others.


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Source: Commercial and Institutional Building Energy Use Survey 2000.

This table is a continuation of the previous two pages. 

This table continues on the next two pages. 

TOTAL ELECTRICITY INTENSITY (GJ/m²)

Before 1920	1920– 1959	1960– 1969	1970– 1979	1980– 1989	1990– 1999
x	x	x	x	x	x
0.56 A	0.80 B	0.53 B	0.77 A	0.72 A	0.57 A
1.27 B	0.74 A	0.76 B	0.91 A	0.89 A	0.94 A
0.52 A	0.79 A	0.61 A	0.76 A	0.70 A	0.76 A
0.66 B	0.94 B	0.57 A	0.72 A	0.75 A	0.81 A
0.59 A	0.82 A	0.61 A	0.77 A	0.68 A	0.72 A
0.39 A	0.51 A	0.33 A	0.45 A	0.48 A	0.96 C
1.23 D	0.80 A	0.91 A	1.29 A	0.87 A	1.12 B
0.96 C	1.22 B	0.58 A	0.89 A	0.80 A	0.83 A
0.59 A	0.64 A	0.61 A	0.74 A	0.66 A	0.74 A
0.34 A	0.46 A	0.35 A	0.40 A	0.35 A	1.18 C
1.44 D	0.79 A	1.08 C	0.99 A	0.99 A	0.73 A
0.57 A	0.75 A	0.57 A	0.60 A	0.56 A	0.80 A
1.57 A	0.81 A	0.61 B	0.89 A	0.80 A	0.76 A
0.51 A	1.10 B	0.70 A	0.63 A	0.67 A	0.78 A
0.52 A	0.73 C	0.60 A	0.80 A	0.78 A	0.69 A
0.80 A	0.76 A	0.61 A	0.66 A	0.69 A	0.80 A
0.72 D	1.25 B	0.84 B	0.73 A	0.86 A	0.80 A
0.60 A	0.84 A	0.52 A	0.55 A	0.57 A	0.75 A
1.78 A	0.79 A	0.52 B	0.83 A	0.87 A	0.55 A
0.53 A	0.83 A	0.68 B	0.61 A	0.66 A	0.97 A
0.50 A	0.46 A	0.57 A	0.80 A	0.79 A	0.72 A
0.90 C	0.83 B	0.65 A	0.82 A	0.72 A	0.85 A
1.44 D	1.74 B	1.01 B	0.87 A	0.87 A	1.14 C
x	x	x	x	x	x

TABLE

11.4

Total electricity consumption and electricity intensity by building characteristics, occupancy characteristics, energy efficiency features, heating energy sources and equipment, cooling energy sources and equipment, and water-heating energy sources **by year of construction**

TOTAL ELECTRICITY CONSUMPTION (GJ)

Year of construction	Before 1920	1920–1959	1960–1969	1970–1979	1980–1989	1990–1999
Percentage of the floor space cooled						
Not cooled	2,067,282 C	6,128,904 A	1,489,669 A	4,454,659 C	1,776,633 B	1,389,576 B
1–50	2,810,231 C	5,576,065 A	6,700,132 B	10,141,424 B	4,129,038 A	5,293,213 B
51–99	F	F	5,089,456 B	13,808,134 B	9,920,669 A	13,420,259 C
100	2,524,046 C	13,170,174 A	12,988,854 B	35,065,180 C	20,003,935 A	20,320,599 A
Space-cooling energy source						
Electricity	9,209,353 C	34,800,898 C	21,754,835 A	54,042,537 B	27,969,565 A	36,197,607 B
Natural gas	F	2,472,082 C	3,654,429 C	2,785,443 C	5,595,238 C	3,197,566 C
Fuel/heating oil	x	x	x	x	22,411 D	x
Composite ^e	665,293 C	F	1,946,911 B	F	F	F
Cooling equipment (more than one may apply)						
Residential-type air conditioners	F	4,004,876 C	2,051,639 C	3,345,225 B	3,324,457 C	3,807,810 B
Heat pumps	F	2,449,694 D	1,011,883 C	3,384,136 D	2,281,392 C	4,097,508 C
Individual room air conditioners	2,797,117 D	F	4,754,648 B	5,089,187 A	3,929,395 C	1,805,706 C
District-chilled water from outside source	x	F	2,009,648 B	F	F	F
Central chillers	F	F	8,763,728 C	34,913,035 C	9,373,148 B	15,061,527 D
Packaged air-conditioning units	3,368,308 B	26,222,980 D	14,189,194 A	25,320,194 A	19,663,198 A	20,564,444 B
Swamp coolers	x	F	F	x	x	F
Composite ^f	877,474 C	3,045,772 D	F	F	2,792,734 C	1,934,759 D
Other	x	F	F	F	2,283,086 C	F
Main cooling equipment						
Residential-type air conditioners	F	3,466,757 D	1,812,305 C	1,711,532 C	2,369,763 C	2,593,251 C
Heat pumps	F	F	213,520 C	F	2,066,691 C	2,978,909 C
Individual room air conditioners	1,582,986 C	1,734,604 C	893,199 C	1,038,734 B	1,050,677 C	1,536,987 C
District-chilled water from outside source	x	F	1,379,320 C	2,419,831 D	F	F
Central chillers	F	F	8,083,064 C	23,963,462 B	9,219,845 B	14,671,310 D
Packaged air-conditioning units	2,690,802 B	14,939,340 A	10,958,375 A	16,733,639 A	17,656,998 A	15,768,683 B
Composite ^f	F	F	2,817,979 C	F	1,689,668 D	F
Not cooled	2,067,282 C	6,128,904 A	1,489,669 A	4,454,659 C	1,776,633 B	1,389,576 B

^eIncludes the air-conditioning categories of fuel/heating oil; diesel or kerosene; bottled gas, liquid petroleum gas or propane; district-chilled water; and others.

^fIncludes the categories of district-chilled water from outside source; swamp coolers; and others.



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 This table continues on the next two pages. 

TOTAL ELECTRICITY INTENSITY (GJ/m²)

Before 1920	1920– 1959	1960– 1969	1970– 1979	1980– 1989	1990– 1999
0.47 A	0.41 A	0.28 A	0.37 A	0.29 A	0.36 A
0.60 A	0.53 A	0.52 A	0.55 A	0.52 A	0.66 A
0.80 C	1.14 B	0.76 A	0.84 A	0.97 A	0.72 A
0.65 A	0.96 A	0.72 A	0.97 A	0.78 A	0.93 A
0.68 A	0.96 A	0.66 A	0.83 A	0.78 A	0.84 A
0.80 D	0.58 B	0.70 A	0.74 A	0.71 B	0.48 A
x	x	x	x	0.41 B	x
1.05 D	0.66 A	0.90 A	0.80 A	0.87 A	0.67 A
0.52 A	0.60 A	0.52 B	0.59 A	0.88 A	0.94 A
1.44 B	0.75 B	0.57 B	0.73 A	0.64 A	0.61 A
0.43 A	1.24 C	0.62 B	0.72 A	0.56 B	0.80 A
x	0.66 A	0.82 A	0.80 A	0.87 A	0.57 A
0.61 B	1.18 B	0.75 A	0.96 A	0.86 A	0.96 A
0.70 A	1.08 A	0.67 A	0.69 A	0.74 A	0.78 A
x	0.96 A	1.62 C	x	x	0.64 B
1.08 D	0.81 A	0.79 A	1.17 A	0.96 A	0.69 A
x	F	0.82 A	1.46 A	0.98 A	0.93 C
0.46 A	0.62 A	0.54 B	0.49 A	0.91 A	0.85 B
1.63 A	0.82 B	0.35 A	0.73 B	0.62 A	0.51 A
0.41 B	0.55 A	0.33 A	0.57 A	0.78 C	0.88 A
x	0.67 A	0.77 B	0.77 A	1.06 B	0.55 A
0.66 B	1.40 B	0.74 A	0.83 A	0.85 A	0.98 A
0.72 A	0.85 A	0.65 A	0.72 A	0.74 A	0.76 A
0.98 B	0.63 A	0.93 B	1.27 A	0.86 A	0.74 B
0.47 A	0.41 A	0.28 A	0.37 A	0.29 A	0.36 A

TABLE

11.4

Total electricity consumption and electricity intensity by building characteristics, occupancy characteristics, energy efficiency features, heating energy sources and equipment, cooling energy sources and equipment, and water-heating energy sources **by year of construction**

TOTAL ELECTRICITY CONSUMPTION (GJ)

Year of construction →	Before 1920	1920– 1959	1960– 1969	1970– 1979	1980– 1989	1990– 1999
Energy source for water heating						
Electricity	2,567,886 B	21,206,735 D	9,504,927 A	20,721,456 A	19,710,098 A	19,590,504 C
Natural gas	8,160,593 C	21,575,426 A	12,174,408 A	33,202,262 A	15,348,875 A	23,755,470 A
Fuel/heating oil	F	1,133,830 B	426,190 B	640,473 C	F	F
Composite ^d	F	F	F	F	1,882,346 D	F
Not heated	x	F	x	F	F	F

^dIncludes the categories of diesel or kerosene; bottled gas, liquid petroleum gas or propane; district steam; district hot water; wood; coal; solar thermal panels; and others.

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TOTAL ELECTRICITY INTENSITY (GJ/m²)

Before 1920		1920– 1959		1960– 1969		1970– 1979		1980– 1989		1990– 1999	
0.55	A	0.97	B	0.58	A	0.74	A	0.73	A	0.79	A
0.73	A	0.67	A	0.59	A	0.67	A	0.69	A	0.78	A
0.31	A	0.79	A	0.37	B	0.63	B	0.58	B	0.31	A
	F	0.73	A	0.85	A	1.30	A	1.07	A	0.89	A
	x	0.49	C		x	1.00	A	0.28	A	0.60	B

TABLE
11.5

Total electricity consumption and electricity intensity by building characteristics, occupancy characteristics, energy efficiency features, heating energy sources and equipment, cooling energy sources and equipment, and water-heating energy sources **by number of floors**

TOTAL ELECTRICITY CONSUMPTION (GJ)

Number of floors →	1		2		3		4–9		10 and more	
All buildings										
Canada	33,187,283	A	50,173,248	A	25,149,782	A	61,362,862	A	51,736,027	A
Building floor space										
93–464 m ² (1,000–4,999 sq. ft.)	6,513,887	A	4,614,315	A	1,714,290	A	393,258	C		x
465–929 m ² (5,000–9,999 sq. ft.)	4,271,673	A	5,517,590	A	2,352,416	B	1,665,584	C		x
929–4,645 m ² (10,000–49,999 sq. ft.)	10,819,779	A	18,460,473	A	8,918,385	A	7,626,614	B		F
4,645–9,290 m ² (50,000–99,999 sq. ft.)	3,479,540	C	7,594,233	B	6,212,604	C	8,736,899	A	2,272,930	D
9,290 m ² and more (100,000 sq. ft. and more)	8,102,404	B	13,986,636	B	5,952,087	C	42,940,507	B	48,489,029	B
Year of construction										
Before 1920		F	1,479,721	C	3,058,439	C	6,220,771	D		x
1920–1959	5,221,588	A	12,648,017	A	5,772,151	B		F	770,411	B
1960–1969	3,848,113	A	5,355,867	A	4,289,338	C	6,391,192	B	6,383,601	D
1970–1979	10,617,943	B	9,809,412	B	4,340,966	B	12,630,587	B	26,070,489	D
1980–1989	7,136,824	A	9,849,237	A	4,674,120	D	7,985,104	B	6,184,990	C
1990–1999	5,626,143	A	11,030,993	B	3,014,767	C	8,572,954	C		F
Predominant type of window										
Single-glazed	5,252,938	A	8,734,122	A	3,960,894	B	6,967,091	B		F
Double-glazed ^a	27,592,143	A	41,208,210	A	20,910,103	A	52,513,873	B	44,817,361	B
Triple-glazed ^b	342,202	B	230,916	C		F		F		x
Predominant exterior wall type										
Curtain walls		F	1,669,552	C	897,789	C	6,833,840	B	11,163,845	D
Metal stud framing with surface insulation	6,964,218	C	8,692,681	B	2,070,774	D	4,656,877	D		F
Metal stud framing without surface insulation	298,064	C	749,227	B		F		x		x
Wood-frame walls with surface insulation	3,743,293	A	5,032,665	A	1,430,957	B	1,696,989	C		x
Wood-frame walls without surface insulation	497,153	D	564,815	D	179,911	C		F		x
Concrete block with interior finishing	13,647,813	A	23,323,527	A	12,542,991	A	35,153,168	C	13,342,493	B
Concrete block without interior finishing	4,804,439	B	5,404,909	D	4,221,555	C	2,509,489	B		x
Precast panels	377,673	B	1,255,224	C	1,477,993	C	4,369,168	B	11,680,516	C
Unknown	1,385,829	C	3,480,647	B		F	5,866,934	D		F

^aIncludes all the different types of windows that are double-glazed (i.e. double-glazed, double-sealed glazed, double-glazed with low-E coating and double-glazed with low-E gas-filled).

^bIncludes all the different types of windows that are triple-glazed (i.e. triple-glazed, triple-glazed with low-E coating and triple-glazed low-E gas-filled).

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This table continues on the next two pages. 

TOTAL ELECTRICITY INTENSITY (GJ/m²)

1		2		3		4-9		10 and more	
0.62	A	0.64	A	0.60	A	0.78	A	1.03	A
1.21	A	0.92	A	0.68	A	0.59	A	x	
0.61	A	0.79	A	0.62	A	0.81	B	x	
0.47	A	0.61	A	0.65	A	0.60	A	F	
0.50	A	0.52	A	0.64	A	0.76	A	1.00	A
0.71	A	0.66	A	0.49	A	0.83	A	1.02	A
0.87	B	0.62	B	0.49	A	0.73	A	x	
0.62	A	0.74	A	0.53	A	1.08	B	0.60	A
0.54	A	0.43	A	0.64	A	0.68	A	0.88	A
0.71	A	0.55	A	0.60	A	0.62	A	1.16	A
0.52	A	0.74	A	0.95	A	0.70	A	0.92	A
0.68	A	0.72	A	0.52	B	0.81	A	0.98	A
0.45	A	0.56	A	0.54	A	0.70	A	1.05	A
0.67	A	0.66	A	0.61	A	0.79	A	1.03	A
0.56	B	0.60	B	1.37	C	0.86	A	x	
0.92	B	0.52	A	0.37	C	0.91	A	1.04	A
0.83	A	0.64	A	0.49	B	0.86	A	1.24	A
0.41	A	0.42	A	0.44	B	x		x	
0.74	A	0.63	A	0.48	A	0.61	A	x	
0.57	C	0.50	C	0.32	B	0.39	A	x	
0.58	A	0.68	A	0.71	A	0.85	A	0.94	A
0.50	A	0.75	A	0.50	A	0.70	A	x	
0.31	A	0.62	A	0.73	A	0.78	A	0.97	A
0.52	B	0.51	A	0.65	C	0.51	A	0.89	B

11.5

TABLE

Total electricity consumption and electricity intensity by building characteristics, occupancy characteristics, energy efficiency features, heating energy sources and equipment, cooling energy sources and equipment, and water-heating energy sources **by number of floors**

TOTAL ELECTRICITY CONSUMPTION (GJ)

Number of floors →	1		2		3		4-9		10 and more	
Predominant roof type										
Attic roof fully insulated	2,928,821	B	3,995,889	B	2,616,150	D	2,448,386	B		F
Attic roof partially insulated	570,191	C	2,116,644	C	448,577	C	574,099	C		x
Attic roof not insulated	350,163	D		F		F		F		x
Insulated wood-truss roof	2,537,432	B	4,460,199	B	1,650,465	B	1,546,889	C		x
Not insulated wood-truss roof	546,358	C	2,548,099	D		F		F		x
Insulated metal-truss roof	5,665,672	A	7,846,008	A	2,272,767	C	6,839,923	B		F
Not insulated metal-truss roof	948,721	D		F		x		x		x
Insulated deck-type roof	13,478,998	A	21,355,874	A	11,315,742	B	41,075,055	B	42,384,976	B
Not insulated deck-type roof	1,443,168	C	1,606,314	B		F		F		x
Unknown	4,717,757	D	4,437,518	B	3,280,488	C	5,889,881	C		F
Principal building activity										
Commercial and institutional accommodation		F		F	663,463	C	4,319,735	C	1,798,243	D
Entertainment and recreation	1,459,920	D	3,795,815	B	3,499,754	D		F		x
Office	686,274	B	2,318,974	C	2,594,174	A	11,246,236	B	39,022,172	A
Food retail	3,890,413	B	3,412,100	C	925,422	D		x		x
Non-food retail	3,173,381	B	3,000,991	A	1,878,784	B	1,474,472	D		x
Food service	2,493,915	B	6,109,525	A	1,187,941	C	911,841	D		x
Non-food service	3,039,671	A	3,931,052	B		F	1,987,702	D		F
Shopping malls	10,178,456	B	9,277,597	B	1,187,688	D	2,475,757	C		x
Warehouse/wholesale	3,551,852	B	5,530,583	C	823,820	D		x		x
Administration	555,405	C	851,416	C	2,298,608	D	6,238,789	C		F
Education	2,633,843	B	5,442,968	A	4,155,573	B	9,397,385	B	922,391	C
Health care		F	764,280	C		F	7,032,887	A	2,497,301	B
Public assembly	800,090	C	1,900,782	B	939,622	D		F		x
Other	243,218	D	312,248	D		F		F		x
Number of workers										
Less than 5	5,795,738	B	5,218,803	B	2,242,656	C	547,007	D		x
5-9	4,607,610	A	5,110,125	B	2,547,570	D	2,640,292	D		x
10-19	5,999,108	A	5,802,189	A	2,622,348	B	2,145,357	C		x
20-49	4,489,474	A	11,451,192	A	6,787,265	C	2,286,057	B		x
50-99	2,855,307	C	10,145,639	B	5,248,113	B	8,013,458	C		x
100-249	2,452,305	B	4,466,070	B	1,899,627	C	6,659,463	C	1,551,243	D
250 and more	6,987,742	C	7,979,229	A	3,802,204	B	39,071,229	B	48,971,648	B



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 This table continues on the next two pages. 

TOTAL ELECTRICITY INTENSITY (GJ/m²)

1		2		3		4-9		10 and more	
0.75	A	0.53	A	0.58	A	0.71	A	0.94	A
0.87	B	1.03	C	0.43	B	0.55	A	x	
0.74	B	0.65	B	1.12	A	0.48	B	x	
0.73	A	0.78	A	0.41	B	0.55	A	x	
0.41	C	0.81	B	0.78	D	0.62	A	x	
0.64	A	0.54	A	0.44	A	0.78	A	0.67	A
0.35	A	0.83	C	x		x		x	
0.64	A	0.67	A	0.67	A	0.88	A	1.09	A
0.35	B	0.57	B	0.63	A	0.78	C	x	
0.68	B	0.55	A	0.59	B	0.56	A	0.79	A
0.33	A	0.57	A	0.47	A	0.49	B	0.62	A
0.76	B	0.88	A	0.87	B	1.21	B	x	
0.59	A	0.74	B	0.69	A	0.81	A	1.09	A
2.16	A	1.81	A	1.42	A	x		x	
0.58	A	0.54	A	0.45	A	0.49	A	x	
1.98	A	1.41	A	0.94	A	0.78	A	x	
0.43	A	0.58	A	0.96	B	0.79	B	0.66	B
0.69	A	0.76	A	0.57	A	0.87	B	x	
0.40	A	0.54	B	0.46	B	x		x	
0.54	B	0.63	A	0.78	A	0.71	A	1.07	A
0.38	A	0.35	A	0.33	A	0.48	A	0.49	A
0.70	B	0.88	B	1.05	A	0.92	A	0.90	A
0.42	B	0.38	A	0.56	C	0.89	A	x	
0.45	B	0.58	A	0.51	A	0.56	B	x	
0.57	A	0.59	A	0.66	B	0.49	B	x	
0.65	A	0.65	A	0.81	A	0.33	B	x	
0.64	A	0.60	A	0.48	A	0.87	B	x	
0.52	A	0.77	A	0.70	A	0.45	B	x	
0.67	B	0.71	A	0.62	A	0.74	A	x	
0.52	A	0.78	A	0.46	B	0.87	A	0.71	B
0.75	B	0.47	A	0.50	A	0.90	A	1.06	A

11.5

TABLE

Total electricity consumption and electricity intensity by building characteristics, occupancy characteristics, energy efficiency features, heating energy sources and equipment, cooling energy sources and equipment, and water-heating energy sources **by number of floors**

TOTAL ELECTRICITY CONSUMPTION (GJ)

Number of floors →	1		2		3		4-9		10 and more	
Weekly hours of operation										
Less than 40	1,057,459	B	2,030,252	B	1,355,280	C		F		x
40-48	4,743,115	A	8,400,234	A	5,570,566	B	7,278,107	B	3,148,819	C
49-60	7,680,372	C	5,477,875	A	3,519,350	B	8,530,657	B	19,111,053	C
61-84	10,187,946	A	14,026,336	A	5,273,441	B	9,388,241	B	21,635,040	D
85-167	6,959,267	A	17,356,223	A	5,725,077	B	14,546,491	B		F
Open continuously	2,559,124	B	2,882,328	C		F		F	4,818,259	B
Building ownership										
Private individual(s)	9,561,617	B	13,792,784	A	5,042,575	B	8,975,584	B		F
Private organization	17,576,299	A	22,000,483	A	7,732,556	A	28,550,985	C	31,047,778	C
Non-profit organization	1,324,423	B	4,299,521	B	4,350,722	C	3,460,388	C		x
Fed.-prov.-munic.-regional government ^c	4,724,944	B	10,080,460	A	8,023,929	B	20,375,906	A	6,553,903	B
Building conservation feature										
Reflective or shading film	7,275,575	C	11,809,107	A	7,942,950	A	38,957,033	B	39,557,539	B
Awnings or blinds	13,617,385	A	25,877,456	A	15,519,830	A	46,943,160	B	46,994,426	A
Lighting conservation feature										
Reflectors	10,273,582	B	19,429,520	A	8,614,902	B	26,788,064	C	28,451,648	C
Energy-efficient ballast	17,303,312	A	30,748,564	A	13,970,446	A	48,986,893	B	45,896,639	B
Daylight controls	5,231,244	A	7,708,640	A	5,374,969	B	11,140,124	B	5,769,865	B
Occupancy sensors	2,343,255	B	5,204,992	C	3,535,464	D	21,707,522	D	13,418,277	C
Time clocks	11,927,776	B	16,434,432	A	9,457,634	B	35,194,615	C	23,665,570	C
Manual dimmer switches	6,153,281	A	13,317,113	A	8,117,053	C	36,947,221	C	36,094,829	C
Energy-efficient lamps	12,197,966	B	23,580,758	A	12,125,236	A	48,881,157	B	46,624,791	B
Other	6,078,311	D	7,395,890	B	3,317,723	C	6,250,147	B		F
Heating/cooling conservation feature										
Variable air-volume system	12,460,716	B	19,829,901	A	11,395,333	B	27,920,003	A	44,933,783	B
Outdoor-air economizer	16,564,876	A	24,555,927	A	16,358,820	A	45,128,536	B	31,992,053	C
Temperature setback	16,769,322	A	22,698,756	A	14,455,675	A	47,591,186	B	26,584,678	B
Equipment reset	13,564,107	A	21,309,292	A	14,100,451	A	31,785,162	A	46,079,119	B
Heat recovery system	4,883,322	B	8,199,414	A	8,687,772	C	24,203,507	D	16,355,006	C
Regular maintenance	27,554,085	A	46,246,186	A	22,993,333	A	59,832,782	A	51,188,361	A

^cIncludes all levels of government (i.e. federal, provincial, municipal and regional).



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Source: Commercial and Institutional Building Energy Use Survey 2000.

This table is a continuation of the previous two pages. 
 This table continues on the next two pages. 

TOTAL ELECTRICITY INTENSITY (GJ/m²)

1		2		3		4-9		10 and more	
0.34	A	0.46	A	0.43	B	0.59	A		x
0.43	A	0.49	A	0.51	A	0.73	A	0.93	B
0.64	A	0.44	A	0.58	A	0.58	A	1.05	A
0.58	A	0.71	A	0.50	A	0.80	A	1.14	A
0.87	A	0.85	A	0.79	A	0.68	A	0.92	A
1.47	A	0.69	A	0.92	A	1.07	B	0.74	A
0.77	A	0.80	A	0.74	A	0.82	B	1.17	A
0.61	A	0.74	A	0.66	A	1.02	B	0.99	A
0.46	A	0.43	A	0.61	A	0.41	B		x
0.49	A	0.48	A	0.50	A	0.66	A	0.95	A
0.64	A	0.58	A	0.68	A	0.90	A	1.09	A
0.57	A	0.60	A	0.60	A	0.89	A	1.05	A
0.58	A	0.73	A	0.56	A	0.95	B	1.02	A
0.63	A	0.65	A	0.59	A	0.81	A	1.04	A
0.51	A	0.58	A	0.64	A	0.81	A	0.76	A
0.60	B	0.68	A	0.72	B	0.97	B	1.06	A
0.70	A	0.67	A	0.59	A	0.92	A	0.87	A
0.73	A	0.83	A	0.76	A	0.94	A	1.05	A
0.64	A	0.68	A	0.55	A	0.83	A	1.02	A
1.01	A	0.82	A	0.47	A	0.77	A	0.81	A
0.77	A	0.70	A	0.59	A	0.75	A	1.04	A
0.68	A	0.65	A	0.65	A	0.78	A	0.95	A
0.68	A	0.62	A	0.60	A	0.84	A	0.94	A
0.65	A	0.64	A	0.60	A	0.74	A	1.07	A
0.80	A	0.63	A	0.61	A	1.07	B	0.88	A
0.64	A	0.66	A	0.60	A	0.79	A	1.03	A

TABLE 11.5

Total electricity consumption and electricity intensity by building characteristics, occupancy characteristics, energy efficiency features, heating energy sources and equipment, cooling energy sources and equipment, and water-heating energy sources **by number of floors**

TOTAL ELECTRICITY CONSUMPTION (GJ)

Number of floors →	1	2	3	4-9	10 and more
Percentage of the floor space heated					
Less than 1	F	x	x	x	x
1-50	F	4,341,231 B	F	F	x
51-99	2,220,600 B	4,938,489 C	F	8,823,463 C	F
100	28,847,502 A	40,892,927 A	22,882,357 A	51,914,445 B	47,596,307 B
Energy source for heating (more than one may apply)					
Electricity	18,445,988 A	27,435,641 A	10,767,532 B	40,488,255 B	17,893,353 D
Natural gas	23,417,823 A	37,365,594 A	19,802,489 A	42,111,992 B	42,315,360 B
Fuel/heating oil	1,197,937 B	2,225,787 A	1,091,285 C	3,950,907 B	832,876 B
Composite ^d	1,447,761 D	1,696,549 C	612,939 C	5,330,500 B	F
Main energy source for heating					
Electricity	11,548,123 B	13,353,360 A	6,880,178 A	27,583,196 C	8,057,893 D
Natural gas	19,481,438 A	34,722,976 A	16,797,241 A	27,049,156 A	40,054,325 B
Fuel/heating oil	803,200 B	1,344,866 B	646,096 B	2,547,973 B	x
Composite ^d	1,182,592 D	751,445 D	826,267 D	4,182,538 C	3,520,458 D
Heating equipment (more than one may apply)					
Furnaces	12,304,978 B	18,558,236 A	6,116,504 B	4,693,826 B	F
Heat pumps	1,586,637 B	4,651,047 B	F	10,067,563 C	F
Individual space heaters	12,717,754 A	23,159,785 A	8,293,567 B	31,032,961 C	9,802,623 C
Boilers	5,757,790 A	11,626,390 A	11,252,572 B	42,377,166 B	39,511,496 B
Packaged heating units	16,733,839 A	19,966,147 A	10,848,877 B	17,590,577 A	6,682,948 D
District steam or hot water or other	2,176,867 C	4,182,371 B	1,421,577 B	F	6,986,882 C
Main heating equipment					
Furnaces	8,020,078 A	15,314,663 A	4,225,092 B	2,863,340 C	x
Heat pumps	961,190 C	2,281,492 B	F	F	F
Individual space heaters	6,436,317 A	5,762,207 A	2,589,049 C	5,016,215 B	F
Boilers	4,786,448 A	9,695,490 A	9,001,179 B	29,251,308 A	37,363,820 B
Packaged heating units	12,032,321 B	15,004,401 B	7,138,359 B	4,027,272 B	F
District steam or hot water or other	778,999 C	2,114,394 B	979,115 C	F	5,015,471 C
Not heated	F	x	x	x	x

^dIncludes the categories of diesel or kerosene; bottled gas, liquid petroleum gas or propane; district steam; district hot water; wood; coal; solar thermal panels; and others.



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This table is a continuation of the previous two pages. 
 This table continues on the next two pages. 

TOTAL ELECTRICITY INTENSITY (GJ/m²)

1		2		3		4-9		10 and more	
0.80	B		x		x		x		x
0.65	A	0.72	A	0.41	B	0.90	A		x
0.78	B	0.79	A	0.81	B	0.97	A	1.13	A
0.61	A	0.62	A	0.59	A	0.76	A	1.02	A
0.72	A	0.67	A	0.66	A	0.81	A	0.95	A
0.58	A	0.63	A	0.60	A	0.79	A	1.03	A
0.40	A	0.36	A	0.39	B	0.59	A	0.59	A
0.80	B	0.96	B	1.07	B	0.92	A	1.18	A
0.85	A	0.73	A	0.70	A	1.05	B	0.90	A
0.53	A	0.63	A	0.57	A	0.63	A	1.06	A
0.46	A	0.32	A	0.32	A	0.59	B		x
0.98	B	0.97	D	1.09	A	0.87	A	1.04	B
0.54	A	0.74	A	0.66	A	0.51	B	0.81	A
0.69	A	0.58	A	0.59	B	0.95	A	1.02	A
0.68	A	0.66	A	0.60	A	0.84	B	1.05	A
0.44	A	0.44	A	0.48	A	0.78	A	1.04	A
0.75	A	0.65	A	0.66	A	0.69	A	0.90	A
0.55	A	0.65	A	0.71	B	1.26	B	0.94	A
0.48	A	0.76	A	0.70	A	0.77	A		x
0.80	A	0.58	A	0.68	B	0.94	B	0.80	A
0.75	A	0.59	A	0.78	A	0.71	A	1.23	A
0.43	A	0.44	A	0.43	A	0.64	A	1.04	A
0.82	A	0.76	A	0.80	A	0.60	B	0.94	A
0.69	B	0.86	B	1.06	A	1.53	B	1.01	A
0.80	B		x		x		x		x

TABLE
11.5

Total electricity consumption and electricity intensity by building characteristics, occupancy characteristics, energy efficiency features, heating energy sources and equipment, cooling energy sources and equipment, and water-heating energy sources **by number of floors**

TOTAL ELECTRICITY CONSUMPTION (GJ)

Number of floors →	1		2		3		4-9		10 and more	
Percentage of the floor space cooled										
Not cooled	5,098,758	A	6,983,867	A	1,940,854	B	3,258,909	D		x
1-50	6,865,853	A	13,634,516	A	6,453,844	B	6,572,165	C	1,123,725	B
51-99	7,005,205	C	11,350,882	B	5,235,999	B	28,629,987	C	13,357,512	C
100	14,217,467	A	18,203,982	A	11,519,084	B	22,901,803	A	37,230,453	B
Space-cooling energy source										
Electricity	24,514,435	A	39,146,677	A	18,441,721	A	54,626,057	B	47,245,905	A
Natural gas	3,488,363	A	5,307,881	B	5,388,663	D	2,466,971	C		F
Fuel/heating oil	x		x		x		x		x	
Composite ^e	F		615,702	C	F		3,886,550	C		F
Cooling equipment (more than one may apply)										
Residential-type air conditioners	2,928,197	A	7,630,147	C	3,860,707	B	2,736,234	C		F
Heat pumps	1,482,751	B	3,464,581	C	759,347	B	8,432,870	D		F
Individual room air conditioners	2,286,381	C	4,940,727	A	4,681,853	B		F	3,973,609	D
District-chilled water from outside source		F	536,333	D		F	3,984,284	C		F
Central chillers	734,442	C	4,616,035	B	3,283,228	B	32,955,401	C	43,136,908	B
Packaged air-conditioning units	23,120,642	A	29,084,092	A	14,141,449	A	29,089,070	C	13,893,067	C
Swamp coolers		F		F		x		F		x
Composite ^f	662,883	B	1,607,346	D	2,757,663	D	5,184,193	C		F
Other	413,923	C	1,446,100	D		F		F		F
Main cooling equipment										
Residential-type air conditioners	2,504,946	A	5,937,389	C	3,313,730	C	1,559,189	D		x
Heat pumps	1,209,597	B	3,137,785	C	502,590	C		F		x
Individual room air conditioners	833,533	B	2,463,652	B	1,660,020	C	2,507,033	B	372,948	D
District-chilled water from outside source		x	298,258	D		F	3,467,934	C		F
Central chillers	512,411	C	3,644,529	B	2,650,470	B	32,249,153	C	32,253,946	B
Packaged air-conditioning units	22,596,622	A	26,528,442	A	12,731,841	A	11,824,612	A	5,066,319	D
Composite ^f	431,417	C	1,477,584	D		F	4,276,208	C		F
Not cooled	5,098,758	A	6,983,867	A	1,940,854	B	3,258,909	D		x

^eIncludes the air-conditioning categories of fuel/heating oil; diesel or kerosene; bottled gas, liquid petroleum gas or propane; district-chilled water; and others.

^fIncludes the categories of district-chilled water from outside source; swamp coolers; and others.



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Source: Commercial and Institutional Building Energy Use Survey 2000.

This table is a continuation of the previous two pages. 
 This table continues on the next two pages. 

TOTAL ELECTRICITY INTENSITY (GJ/m²)

1		2		3		4-9		10 and more	
0.36	A	0.41	A	0.30	A	0.36	B		x
0.49	A	0.59	A	0.68	A	0.49	A	0.53	A
0.90	A	0.78	A	0.50	A	1.03	B	1.00	A
0.80	A	0.78	A	0.75	A	0.82	A	1.07	A
0.70	A	0.73	A	0.65	A	0.86	A	1.03	A
0.69	A	0.59	A	0.73	B	0.48	B	0.89	B
	x		x		x		x		x
1.21	C	0.51	A	0.87	A	0.70	A	0.88	A
0.56	A	0.76	A	0.63	A	0.64	A	0.64	A
0.56	A	0.48	A	0.52	A	1.01	A	0.82	A
0.69	C	0.54	A	0.63	A	0.99	C	0.82	A
0.79	A	0.63	A	0.87	A	0.67	A	0.86	A
0.65	B	0.68	A	0.55	A	0.95	B	1.05	A
0.77	A	0.71	A	0.68	A	0.86	B	0.98	A
0.77	C	0.60	B		x	1.04	A		x
0.58	A	0.91	A	0.99	A	0.79	A	1.08	A
0.51	B	1.00	B	1.03	B	0.79	A	1.27	A
0.53	A	0.71	A	0.62	A	0.64	B		x
0.51	A	0.48	A	0.53	A	1.07	B		x
0.50	A	0.55	B	0.65	A	0.49	A	0.44	B
	x	0.67	A	0.75	A	0.67	A	0.85	A
0.51	A	0.82	A	0.54	B	0.97	B	0.96	A
0.78	A	0.74	A	0.67	A	0.69	A	1.01	A
0.51	B	1.01	A	0.91	B	0.69	A	1.37	A
0.36	A	0.41	A	0.30	A	0.36	B		x

TABLE

11.5

Total electricity consumption and electricity intensity by building characteristics, occupancy characteristics, energy efficiency features, heating energy sources and equipment, cooling energy sources and equipment, and water-heating energy sources **by number of floors**

TOTAL ELECTRICITY CONSUMPTION (GJ)

Number of floors →	1		2		3		4-9		10 and more	
Energy source for water heating										
Electricity	18,743,158	A	24,003,304	A	7,520,298	A	29,623,485	C		F
Natural gas	14,038,549	A	26,752,189	A	17,511,972	A	30,611,041	A	25,303,283	C
Fuel/heating oil	351,621	D	818,601	B	448,773	B	1,731,695	C		x
Composite ^d		F	366,777	C	707,965	C	4,215,819	C		F
Not heated	517,613	C	169,738	D		x		x		x

^dIncludes the categories of diesel or kerosene; bottled gas, liquid petroleum gas or propane; district steam; district hot water; wood; coal; solar thermal panels; and others.

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TOTAL ELECTRICITY INTENSITY (GJ/m²)

1		2		3		4-9		10 and more	
0.63	A	0.68	A	0.58	A	0.95	B	0.99	A
0.60	A	0.62	A	0.61	A	0.68	A	0.98	A
0.52	C	0.43	B	0.40	B	0.54	B	x	
1.16	C	0.66	C	0.90	B	0.82	A	1.18	A
0.59	A	0.46	B	x		x			

TABLE

11.6

Total electricity consumption and electricity intensity by building characteristics, occupancy characteristics, energy efficiency features, heating energy sources and equipment, cooling energy sources and equipment, and water-heating energy sources **by weekly hours of operation**

TOTAL ELECTRICITY CONSUMPTION (GJ)

Weekly hours of operation →	Less than 40	40–48	49–60	61–84	85–167	Open continuously
All buildings						
Canada	5,056,280 A	29,140,841 A	44,319,307 A	60,511,003 B	47,605,965 A	34,975,805 C
Building floor space						
93–464 m ² (1,000–4,999 sq. ft.)	1,262,677 B	2,573,873 A	1,854,716 A	2,325,731 B	3,467,344 A	1,755,356 B
465–929 m ² (5,000–9,999 sq. ft.)	943,502 D	1,448,318 A	2,137,895 A	3,496,282 B	4,335,962 C	1,450,773 D
929–4,645 m ² (10,000–49,999 sq. ft.)	1,215,011 B	8,584,566 A	9,975,359 A	9,732,610 A	12,896,961 A	4,385,393 C
4,645–9,290 m ² (50,000–99,999 sq. ft.)	F	6,373,659 A	6,130,403 A	5,635,119 B	6,358,110 B	F
9,290 m ² and more (100,000 sq. ft. and more)	917,521 D	10,160,424 B	24,220,933 B	39,321,261 C	20,547,588 B	24,302,937 D
Year of construction						
Before 1920	1,203,950 D	1,441,774 C	1,367,146 C	2,811,215 D	F	F
1920–1959	2,083,372 B	7,196,569 C	3,495,298 A	7,104,382 A	9,957,498 B	F
1960–1969	973,474 C	3,174,103 C	4,577,150 B	8,103,263 C	6,042,257 B	3,397,864 C
1970–1979	167,945 B	6,155,517 B	15,328,128 B	21,348,191 D	11,840,532 B	8,629,086 B
1980–1989	218,564 C	5,249,059 B	8,681,778 A	8,354,241 B	8,027,235 A	5,299,399 C
1990–1999	F	5,923,819 C	10,869,806 D	12,789,712 A	7,954,111 B	2,477,224 C
Number of floors						
1	1,057,459 B	4,743,115 A	7,680,372 C	10,187,946 A	6,959,267 A	2,559,124 B
2	2,030,252 B	8,400,234 A	5,477,875 A	14,026,336 A	17,356,223 A	2,882,328 C
3	1,355,280 C	5,570,566 B	3,519,350 B	5,273,441 B	5,725,077 B	F
4–9	F	7,278,107 B	8,530,657 B	9,388,241 B	14,546,491 B	F
10 and more	x	3,148,819 C	19,111,053 C	21,635,040 D	F	4,818,259 B
Predominant type of window						
Single-glazed	2,579,720 B	3,333,811 B	6,434,278 C	8,565,940 C	6,330,000 A	4,291,459 B
Double-glazed ^a	2,426,040 B	25,571,076 A	37,404,918 A	51,568,937 C	39,492,467 A	30,578,252 C
Triple-glazed ^b	F	235,954 D	F	F	F	x

^aIncludes all the different types of windows that are double-glazed (i.e. double-glazed, double-sealed glazed, double-glazed with low-E coating and double-glazed with low-E gas-filled).

^bIncludes all the different types of windows that are triple-glazed (i.e. triple-glazed, triple-glazed with low-E coating and triple-glazed low-E gas-filled).

The letter beside each estimate classifies its quality as follows: A – Excellent, B – Good, C – Acceptable, D – Use with caution,

F – Too unreliable to be published, x – Suppressed to meet the confidentiality requirements of the Statistics Act.

Due to rounding the numbers may not add up and may differ slightly among tables.

NOTE: Estimates relate only to the surveyed areas of populations of 175,000 and greater, and in Atlantic Canada to populations of 50,000 and greater.

Source: Commercial and Institutional Building Energy Use Survey 2000.

This table continues on the next two pages. 

TOTAL ELECTRICITY INTENSITY (GJ/m²)

Less than 40		40–48		49–60		61–84		85–167		Open continuously	
0.43	A	0.56	A	0.70	A	0.77	A	0.79	A	0.97	A
0.98	A	0.76	A	0.52	A	0.98	A	1.53	A	2.54	A
0.54	B	0.42	A	0.45	A	0.72	A	1.16	A	1.12	C
0.32	B	0.50	A	0.52	A	0.50	A	0.89	A	0.73	A
0.31	A	0.59	A	0.63	A	0.68	A	0.66	A	0.69	B
0.36	B	0.57	A	0.93	A	0.90	A	0.68	A	1.03	B
0.55	B	0.37	A	0.47	A	0.61	A	1.32	A	0.57	A
0.44	A	0.61	B	0.44	A	0.62	A	0.93	A	1.52	B
0.35	B	0.46	B	0.67	A	0.61	A	0.67	A	0.88	A
0.26	A	0.58	A	0.89	A	0.96	A	0.62	A	0.66	A
0.52	B	0.62	A	0.60	A	0.67	A	0.91	A	0.97	A
0.46	B	0.55	A	0.78	A	0.89	A	0.81	A	0.95	B
0.34	A	0.43	A	0.64	A	0.58	A	0.87	A	1.47	A
0.46	A	0.49	A	0.44	A	0.71	A	0.85	A	0.69	A
0.43	B	0.51	A	0.58	A	0.50	A	0.79	A	0.92	A
0.59	A	0.73	A	0.58	A	0.80	A	0.68	A	1.07	B
x		0.93	B	1.05	A	1.14	A	0.92	A	0.74	A
0.48	A	0.43	A	0.68	A	0.62	B	0.70	A	0.78	A
0.39	A	0.58	A	0.71	A	0.80	A	0.80	A	1.00	B
0.52	A	0.62	B	0.54	A	0.73	B	0.94	A	x	

TABLE 11.6

Total electricity consumption and electricity intensity by building characteristics, occupancy characteristics, energy efficiency features, heating energy sources and equipment, cooling energy sources and equipment, and water-heating energy sources **by weekly hours of operation**

TOTAL ELECTRICITY CONSUMPTION (GJ)

Weekly hours of operation →	Less than 40	40–48	49–60	61–84	85–167	Open continuously
Predominant exterior wall type						
Curtain walls	x	1,919,514 C	F	7,141,229 C	2,998,476 D	2,178,508 C
Metal stud framing with surface insulation	282,206 D	5,879,087 C	5,330,281 D	F	5,334,252 B	2,537,719 B
Metal stud framing without surface insulation	x	F	212,040 C	260,780 D	434,249 A	x
Wood-frame walls with surface insulation	1,120,880 C	1,713,300 B	2,009,768 B	2,241,839 B	3,374,688 B	1,443,429 C
Wood-frame walls without surface insulation	78,362 C	423,255 D	300,065 C	F	F	F
Concrete block with interior finishing	2,652,337 B	11,846,175 A	14,627,683 A	22,777,323 A	22,851,135 B	23,255,339 D
Concrete block without interior finishing	F	F	4,228,988 B	5,855,651 C	2,980,315 B	F
Precast panels	x	2,239,461 D	7,709,433 D	2,821,555 D	3,724,395 B	2,658,309 C
Unknown	F	2,751,270 C	2,132,660 C	2,841,317 C	5,597,480 D	686,709 C
Predominant roof type						
Attic roof fully insulated	F	1,315,318 B	F	3,468,895 C	3,316,299 C	2,708,410 C
Attic roof partially insulated	F	413,311 D	524,574 C	377,792 C	F	266,659 C
Attic roof not insulated	10,858 D	F	393,967 D	354,631 C	F	x
Insulated wood-truss roof	512,416 C	1,460,959 C	1,836,288 B	2,448,574 B	2,693,091 C	1,261,512 C
Not insulated wood-truss roof	121,658 C	511,177 D	321,658 D	314,315 D	F	F
Insulated metal-truss roof	F	6,038,876 B	4,297,997 A	6,647,595 B	4,488,938 B	1,365,146 C
Not insulated metal-truss roof	F	F	507,461 C	F	413,879 C	F
Insulated deck-type roof	1,409,561 B	13,492,833 A	25,585,968 A	39,497,799 C	25,772,473 A	23,852,012 D
Not insulated deck-type roof	F	1,979,020 D	1,005,931 C	1,673,538 C	626,146 C	F
Unknown	F	2,627,834 B	F	5,303,894 C	5,999,197 D	2,146,146 D
Principal building activity						
Commercial and institutional accommodation	x	x	x	F	F	7,205,767 B
Entertainment and recreation	F	F	F	F	7,092,565 C	206,359 D
Office	320,660 B	6,956,095 B	23,361,588 B	F	3,393,479 C	F
Food retail	x	x	79,229 D	2,901,379 C	4,346,106 C	923,663 D
Non-food retail	F	1,096,816 D	1,904,315 B	4,624,738 B	1,806,059 B	x
Food service	F	F	453,931 D	1,208,720 C	7,347,642 B	994,360 C
Non-food service	122,912 D	2,754,129 C	2,711,457 C	3,384,422 B	882,116 C	F
Shopping malls	x	1,765,681 D	F	11,643,998 A	4,610,420 C	F
Warehouse/wholesale	F	2,530,158 B	1,678,009 B	F	1,220,110 C	F
Administration	F	4,215,246 C	3,547,773 B	F	F	F
Education	1,547,589 C	5,012,024 B	3,768,101 C	2,976,941 B	9,112,605 B	134,900 C
Health care	F	623,591 C	272,395 B	2,115,643 D	x	10,525,052 B
Public assembly	1,463,859 C	F	1,073,621 D	1,028,195 B	F	x
Other	x	393,785 A	95,853 C	F	145,224 D	x

The letter beside each estimate classifies its quality as follows: A – Excellent, B – Good, C – Acceptable, D – Use with caution,

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Due to rounding the numbers may not add up and may differ slightly among tables.

NOTE: Estimates relate only to the surveyed areas of populations of 175,000 and greater, and in Atlantic Canada to populations of 50,000 and greater.

Source: Commercial and Institutional Building Energy Use Survey 2000.

This table is a continuation of the previous two pages.

This table continues on the next two pages.

TOTAL ELECTRICITY INTENSITY (GJ/m²)

Less than 40		40–48		49–60		61–84		85–167		Open continuously	
	x	0.75	A	1.22	A	0.72	A	0.71	A	0.96	A
0.51	C	0.57	B	0.82	A	1.09	A	0.69	A	1.03	A
	x	0.40	B	0.32	A	0.60	A	0.52	A		x
0.60	B	0.42	A	0.45	A	0.56	A	1.24	A	0.84	A
0.31	B	0.51	B	0.31	B	0.33	B		F		F
0.49	A	0.53	A	0.63	A	0.71	A	0.91	A	1.03	B
0.27	A	0.46	B	0.70	A	0.61	B	0.55	A	0.93	A
	x	0.83	B	0.86	A	0.86	A	0.87	A	0.73	A
0.21	A	0.64	B	0.35	A	0.73	A	0.57	A	0.85	C
0.78	C	0.44	A	0.74	B	0.53	A	0.85	A	0.80	A
0.97	B	0.40	B	0.51	B	0.45	A	1.80	C	0.63	B
0.30	A	1.15	A	0.55	A	0.51	C	0.64	A		x
0.53	C	0.58	B	0.48	A	0.57	B	0.94	A	0.72	A
0.24	A	0.51	C	0.41	C	0.55	B	0.92	B	0.75	A
0.49	B	0.47	A	0.55	A	0.72	A	0.72	A	1.28	C
0.49	A	0.28	A	0.44	A	0.44	B	0.41	B	3.68	B
0.36	A	0.64	A	0.77	A	0.89	A	0.84	A	1.05	B
	F	0.60	B	0.55	A	0.43	C	0.76	C	0.44	B
0.30	A	0.47	A	0.77	B	0.69	A	0.58	A	0.71	A
	x		x		x	0.31	A	0.57	B	0.53	A
0.86	B	1.01	A	1.42	B	0.52	A	1.06	A	1.13	A
0.63	A	0.75	A	0.93	A	1.16	A	0.99	A	0.60	A
	x		x	0.43	B	1.52	A	2.39	A	1.75	B
0.31	A	0.49	B	0.46	A	0.56	A	0.55	A		x
1.30	A	1.88	D	0.87	B	1.34	B	1.27	A	2.81	B
0.46	C	0.65	A	0.59	B	0.55	B	0.59	A	0.46	A
	x	0.70	A	0.80	B	0.67	A	0.73	A	1.54	C
0.18	B	0.32	A	0.41	A	0.67	B	0.48	A	2.21	A
0.54	A	0.69	B	0.71	A	0.96	A	1.13	A	0.77	A
0.30	A	0.36	A	0.36	A	0.40	A	0.48	A	0.48	A
0.43	A	0.64	A	0.40	A	1.04	A		x	0.98	A
0.49	B	0.63	C	0.55	A	0.41	A	0.69	A		x
	x	0.82	A	0.58	A	0.52	A	0.53	A		x

TABLE
11.6

Total electricity consumption and electricity intensity by building characteristics, occupancy characteristics, energy efficiency features, heating energy sources and equipment, cooling energy sources and equipment, and water-heating energy sources **by weekly hours of operation**

TOTAL ELECTRICITY CONSUMPTION (GJ)

Weekly hours of operation →	Less than 40	40–48	49–60	61–84	85–167	Open continuously
Number of workers						
Less than 5	1,765,801 B	1,788,648 B	2,946,509 C	2,704,505 C	3,584,547 B	1,064,652 C
5–9	442,208 C	4,971,453 B	1,867,706 A	2,976,687 B	2,924,669 B	1,740,730 C
10–19	368,347 C	2,388,667 A	3,875,662 A	4,592,159 B	3,671,559 A	1,707,311 C
20–49	F	4,082,349 B	3,364,424 C	6,170,259 A	7,070,375 A	F
50–99	F	3,442,947 C	2,670,991 B	5,164,094 C	12,124,057 C	3,510,786 D
100–249	171,595 D	4,615,989 D	3,396,456 B	2,690,393 C	3,440,415 D	2,713,859 B
250 and more	1,342,730 D	7,850,787 B	26,197,558 B	36,212,906 C	14,790,343 B	F
Building ownership						
Private individual(s)	730,831 C	6,194,081 A	8,655,452 B	F	12,458,157 B	2,912,824 C
Private organization	564,378 B	11,622,868 A	27,979,995 B	32,337,482 A	16,561,204 A	F
Non-profit organization	1,738,629 B	1,554,990 C	2,179,678 B	2,583,267 D	3,636,524 C	F
Fed.-prov.-munic.-regional government ^c	2,022,441 C	9,768,902 B	5,504,182 B	5,034,695 A	14,950,080 B	12,478,842 A
Building conservation feature						
Reflective or shading film	907,304 D	8,824,436 A	27,433,967 B	32,339,431 C	16,020,827 B	F
Awnings or blinds	1,493,233 B	19,191,743 A	30,154,511 B	41,242,229 C	28,488,054 A	28,382,487 C
Lighting conservation feature						
Reflectors	838,102 D	9,923,374 B	15,989,554 B	28,850,578 D	20,297,650 A	F
Energy-efficient ballast	1,734,166 B	16,972,822 A	34,636,145 A	43,625,464 B	34,700,344 A	25,236,912 D
Daylight controls	F	5,313,959 B	3,405,259 B	9,307,473 A	8,938,098 B	7,262,219 B
Occupancy sensors	F	4,182,354 D	12,447,763 B	4,484,864 B	11,317,543 B	F
Time clocks	1,226,319 C	10,393,254 B	21,694,570 B	20,343,750 A	19,045,563 A	23,976,572 D
Manual dimmer switches	1,468,077 C	10,161,596 B	15,658,222 B	F	22,114,543 B	25,202,098 D
Energy-efficient lamps	1,932,546 B	16,430,589 A	30,648,124 B	41,098,567 C	28,481,029 A	24,819,053 D
Other	F	4,498,621 C	7,672,825 C	7,405,519 B	6,483,347 B	2,203,504 C
Heating/cooling conservation feature						
Variable air-volume system	643,441 B	12,726,286 A	26,691,366 B	37,510,177 C	24,988,344 A	13,980,121 A
Outdoor-air economizer	1,148,206 C	17,928,711 A	30,408,409 B	31,644,147 A	27,043,460 A	26,427,281 D
Temperature setback	3,152,797 B	17,794,961 A	28,876,113 B	25,948,052 A	27,749,064 A	24,578,630 D
Equipment reset	2,491,510 B	16,258,526 A	28,381,168 B	41,008,605 C	24,188,177 A	14,510,145 A
Heat recovery system	801,221 D	6,274,510 C	11,024,296 B	11,607,086 B	12,102,792 A	F
Regular maintenance	4,142,860 A	26,743,276 A	41,176,366 A	57,559,296 B	44,650,874 A	33,542,076 C

^cIncludes all levels of government (i.e. federal, provincial, municipal and regional).

The letter beside each estimate classifies its quality as follows: A – Excellent, B – Good, C – Acceptable, D – Use with caution,

F – Too unreliable to be published, x – Suppressed to meet the confidentiality requirements of the Statistics Act.

Due to rounding the numbers may not add up and may differ slightly among tables.

NOTE: Estimates relate only to the surveyed areas of populations of 175,000 and greater, and in Atlantic Canada to populations of 50,000 and greater.

Source: Commercial and Institutional Building Energy Use Survey 2000.

This table is a continuation of the previous two pages.

This table continues on the next two pages.

TOTAL ELECTRICITY INTENSITY (GJ/m²)

Less than 40		40–48		49–60		61–84		85–167		Open continuously	
0.54	B	0.40	A	0.63	B	0.46	B	0.89	A	0.83	A
0.37	C	0.63	A	0.41	A	0.74	A	0.70	B	0.41	D
0.35	C	0.43	A	0.52	A	0.64	A	0.85	A	1.14	C
0.58	C	0.56	B	0.38	A	0.56	A	1.06	A	1.04	A
0.31	B	0.50	A	0.49	A	0.72	B	0.93	A	0.62	A
0.41	A	0.75	A	0.77	A	0.59	B	0.66	C	0.72	A
0.38	A	0.55	A	0.93	A	0.93	A	0.65	A	1.28	B
0.52	C	0.71	A	0.62	A	1.06	A	1.01	A	0.79	B
0.65	A	0.58	A	0.82	A	0.75	A	0.92	A	1.33	B
0.44	B	0.34	A	0.46	A	0.44	A	0.83	A	0.36	D
0.37	A	0.52	A	0.53	A	0.48	A	0.58	A	0.89	A
0.62	B	0.54	A	0.86	A	0.97	A	0.66	A	1.29	B
0.36	A	0.52	A	0.76	A	0.92	A	0.78	A	1.02	B
0.51	B	0.50	A	0.79	A	0.86	A	0.77	A	1.26	B
0.37	A	0.55	A	0.77	A	0.83	A	0.75	A	1.03	B
0.83	B	0.59	A	0.50	A	0.62	A	0.68	A	0.88	A
0.47	B	0.73	A	0.84	A	0.66	A	0.76	A	1.58	B
0.59	B	0.62	A	0.87	A	0.66	A	0.69	A	1.18	B
0.77	A	0.79	A	0.93	A	0.93	A	0.80	A	1.16	B
0.41	A	0.57	A	0.83	A	0.85	A	0.75	A	1.06	B
0.45	B	0.56	A	0.84	A	0.77	A	1.08	A	0.62	A
0.40	A	0.60	A	0.87	A	0.85	A	0.79	A	0.88	A
0.43	A	0.59	A	0.80	A	0.71	A	0.71	A	1.02	B
0.44	A	0.60	A	0.81	A	0.70	A	0.74	A	1.08	B
0.45	A	0.57	A	0.85	A	0.85	A	0.80	A	0.81	A
0.59	A	0.59	A	0.84	A	0.77	A	0.68	A	1.25	B
0.40	A	0.57	A	0.73	A	0.80	A	0.78	A	0.98	A

TABLE

11.6

Total electricity consumption and electricity intensity by building characteristics, occupancy characteristics, energy efficiency features, heating energy sources and equipment, cooling energy sources and equipment, and water-heating energy sources **by weekly hours of operation**

TOTAL ELECTRICITY CONSUMPTION (GJ)

Weekly hours of operation →	Less than 40	40–48	49–60	61–84	85–167	Open continuously
Percentage of the floor space heated						
Less than 1	x	x	x	F	x	x
1–50	F	F	993,725 C	F	3,563,829 C	x
51–99	F	F	F	2,642,369 B	8,889,226 D	964,245 C
100	4,378,423 A	24,675,365 A	38,052,749 A	55,938,643 B	35,152,910 A	33,935,447 C
Energy source for heating (more than one may apply)						
Electricity	2,226,289 B	14,063,957 A	24,488,725 B	23,577,237 A	27,835,909 A	22,838,652 D
Natural gas	3,872,384 B	20,448,475 A	35,023,677 A	46,505,944 C	32,370,515 A	26,792,263 C
Fuel/heating oil	393,444 C	1,580,625 C	1,261,876 B	2,473,055 B	883,462 C	2,706,329 A
Composite ^d	F	2,467,367 D	1,503,545 C	F	3,275,768 D	4,830,610 B
Main energy source for heating						
Electricity	920,766 C	9,067,568 A	11,433,589 B	14,465,691 B	15,981,398 A	F
Natural gas	3,808,438 B	17,532,953 A	31,301,648 A	43,082,680 C	28,334,162 A	14,045,255 B
Fuel/heating oil	310,183 D	1,071,867 D	586,393 A	1,707,108 C	817,282 C	952,651 A
Composite ^d	F	F	973,837 D	1,109,087 D	F	4,421,908 C
Heating equipment (more than one may apply)						
Furnaces	1,799,192 B	8,305,512 B	8,552,601 B	8,254,584 A	13,621,263 B	4,731,788 B
Heat pumps	F	3,825,432 C	F	4,257,734 B	8,768,357 C	1,540,904 B
Individual space heaters	798,123 C	12,180,023 A	12,978,422 B	18,662,581 A	22,720,514 A	F
Boilers	2,463,855 B	12,955,737 A	23,382,989 B	30,985,986 D	19,332,501 A	21,404,347 D
Packaged heating units	627,488 D	8,643,632 B	11,390,373 B	22,710,821 A	19,849,709 A	8,600,367 B
District steam or hot water or other	F	2,163,812 D	4,230,600 D	3,516,642 B	5,454,172 B	F
Main heating equipment						
Furnaces	1,758,313 B	6,131,399 B	5,304,923 A	5,590,581 A	9,295,225 B	2,457,950 C
Heat pumps	F	3,072,201 D	1,755,587 D	2,959,230 C	F	661,024 B
Individual space heaters	331,763 D	4,708,755 B	4,565,016 B	7,603,927 C	5,047,430 A	1,268,076 B
Boilers	2,070,044 B	9,756,076 B	21,610,727 B	F	18,050,585 A	9,124,279 B
Packaged heating units	170,510 C	4,243,568 B	9,421,547 C	13,416,446 A	8,525,758 A	5,930,064 C
District steam or hot water or other	89,210 C	F	F	1,307,847 B	3,517,807 C	F
Not heated	x	x	x	F	x	x



^dIncludes the categories of diesel or kerosene; bottled gas, liquid petroleum gas or propane; district steam; district hot water; wood; coal; solar thermal panels; and others.


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NOTE: Estimates relate only to the surveyed areas of populations of 175,000 and greater, and in Atlantic Canada to populations of 50,000 and greater.

Source: Commercial and Institutional Building Energy Use Survey 2000.

This table is a continuation of the previous two pages.  

This table continues on the next two pages. 

TOTAL ELECTRICITY INTENSITY (GJ/m²)

Less than 40		40–48		49–60		61–84		85–167		Open continuously	
	x		x		x	1.05	A		x		x
0.38	A	0.45	C	0.47	A	0.64	A	0.99	A		x
0.72	C	0.77	A	0.96	A	0.67	A	1.08	A	1.00	A
0.42	A	0.54	A	0.68	A	0.78	A	0.73	A	0.97	A
0.44	A	0.60	A	0.73	A	0.67	A	0.79	A	1.19	B
0.44	A	0.53	A	0.72	A	0.76	A	0.75	A	0.99	B
0.24	B	0.29	A	0.44	A	0.61	B	0.41	A	0.66	A
0.38	B	0.86	C	0.66	B	1.29	A	0.82	A	1.12	A
0.51	B	0.73	A	0.78	A	0.70	A	0.96	A	1.43	B
0.44	A	0.50	A	0.69	A	0.79	A	0.74	A	0.71	A
0.28	B	0.28	A	0.31	A	0.71	B	0.41	B	0.84	A
0.49	A	1.43	D	0.67	C	1.34	B	0.71	A	1.06	A
0.53	B	0.55	A	0.60	A	0.54	A	0.93	A	0.60	C
0.60	A	0.67	A	0.90	A	0.71	A	0.97	A	0.76	A
0.36	B	0.59	A	0.64	A	0.73	A	0.74	A	1.25	B
0.35	A	0.49	A	0.78	A	0.81	A	0.62	A	0.98	C
0.39	B	0.48	A	0.70	A	0.71	A	0.74	A	1.07	A
0.51	B	0.54	C	0.73	A	0.66	A	0.72	A	1.63	B
0.53	B	0.61	A	0.50	A	0.55	A	0.94	A	0.84	A
0.68	A	0.75	A	0.73	A	0.72	A	0.93	C	0.94	A
0.61	B	0.65	A	0.61	A	0.83	A	0.97	A	0.60	A
0.33	A	0.46	A	0.77	A	0.84	A	0.62	A	0.60	A
0.47	A	0.51	A	0.77	A	0.73	A	0.98	A	1.02	A
0.42	B		F	0.70	A	0.82	A	0.84	A	1.65	B
	x		x		x	1.05	A		x		x

TABLE 11.6

Total electricity consumption and electricity intensity by building characteristics, occupancy characteristics, energy efficiency features, heating energy sources and equipment, cooling energy sources and equipment, and water-heating energy sources **by weekly hours of operation**

TOTAL ELECTRICITY CONSUMPTION (GJ)

Weekly hours of operation →	Less than 40	40–48	49–60	61–84	85–167	Open continuously
Percentage of the floor space cooled						
Not cooled	2,036,638 B	2,736,045 A	4,240,683 C	2,933,936 B	4,038,977 B	1,320,445 D
1–50	996,561 D	7,415,488 A	4,127,459 A	7,575,266 B	10,396,442 B	4,138,887 B
51–99	871,723 D	9,001,869 B	14,479,036 C	8,224,692 A	17,487,608 B	F
100	1,151,358 B	9,987,438 B	21,472,129 A	41,777,109 C	15,682,939 A	14,001,817 B
Space-cooling energy source						
Electricity	2,687,179 B	22,755,333 A	36,421,244 A	51,615,920 B	41,492,556 A	29,002,562 C
Natural gas	F	4,206,529 C	3,440,564 B	3,484,044 B	3,486,985 C	F
Fuel/heating oil	x	x	x	x	x	x
Composite ^e	F	F	1,724,064 D	F	F	3,312,229 C
Cooling equipment (more than one may apply)						
Residential-type air conditioners	F	2,853,803 B	2,940,406 B	4,265,350 B	5,577,465 C	F
Heat pumps	F	2,644,684 C	3,137,323 C	2,993,731 B	6,060,178 D	946,948 B
Individual room air conditioners	922,094 D	4,847,896 B	3,299,802 C	3,980,283 B	5,974,766 B	F
District-chilled water from outside source	x	F	1,554,886 D	F	F	3,341,198 C
Central chillers	F	7,549,185 B	18,003,093 C	29,978,934 D	8,701,579 C	F
Packaged air-conditioning units	1,197,410 B	15,305,862 A	21,026,535 A	24,387,786 A	26,571,447 A	F
Swamp coolers	x	F	x	x	230,228 D	x
Composite ^f	x	4,203,573 C	2,683,012 C	F	3,119,693 D	3,242,856 C
Other	x	F	F	F	1,343,826 D	842,612 C
Main cooling equipment						
Residential-type air conditioners	F	2,148,259 C	2,256,539 B	2,786,024 C	3,593,422 D	F
Heat pumps	F	2,314,333 D	1,864,159 D	1,436,797 C	F	596,312 D
Individual room air conditioners	F	1,567,817 C	777,405 B	1,091,236 C	1,710,145 C	1,977,693 B
District-chilled water from outside source	x	F	1,464,651 D	x	F	2,714,279 D
Central chillers	F	6,639,844 C	17,349,007 C	19,486,145 B	8,277,683 C	F
Packaged air-conditioning units	986,410 B	12,052,352 A	15,267,348 B	21,727,685 A	21,949,477 A	6,764,563 C
Composite ^f	x	F	2,564,167 C	F	2,807,502 D	3,293,179 C
Not cooled	2,036,638 B	2,736,045 A	4,240,683 C	2,933,936 B	4,038,977 B	1,320,445 D

^eIncludes the air-conditioning categories of fuel/heating oil; diesel or kerosene; bottled gas, liquid petroleum gas or propane; district-chilled water; and others.

^fIncludes the categories of district-chilled water from outside source; swamp coolers; and others.



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Source: Commercial and Institutional Building Energy Use Survey 2000.

This table is a continuation of the previous two pages. 
 This table continues on the next two pages. 

TOTAL ELECTRICITY INTENSITY (GJ/m²)

Less than 40		40–48		49–60		61–84		85–167		Open continuously	
0.34	A	0.32	A	0.42	A	0.28	A	0.58	A	0.28	B
0.51	C	0.45	A	0.42	A	0.66	A	0.63	A	0.67	A
0.60	A	0.61	A	0.89	A	0.71	A	0.90	A	1.45	B
0.49	B	0.79	A	0.79	A	0.92	A	0.89	A	0.96	A
0.50	A	0.64	A	0.78	A	0.84	A	0.82	A	1.07	A
0.71	A	0.46	A	0.54	B	0.78	A	0.79	A	0.99	A
x		x		x		x		x		x	
0.36	A	0.60	A	0.72	B	0.95	A	0.63	A	0.93	A
0.36	B	0.50	A	0.50	A	0.71	A	0.92	A	0.92	A
0.95	D	0.61	B	0.83	A	0.72	A	0.78	B	0.57	A
0.69	B	0.46	A	0.54	B	0.61	A	0.85	A	1.29	C
x		0.58	A	0.77	B	0.88	A	0.63	A	0.90	A
0.47	D	0.82	A	0.92	A	1.04	A	0.60	A	1.23	B
0.43	A	0.59	A	0.74	A	0.70	A	0.84	A	1.29	B
x		0.91	B	x		x		0.87	A	x	
x		0.78	A	0.81	B	1.18	A	0.81	A	0.87	A
x		0.78	A	0.91	C	1.23	A	1.02	A	1.69	B
0.37	B	0.48	A	0.46	A	0.68	A	0.90	A	1.01	A
0.95	D	0.59	B	0.72	A	0.61	A	0.81	B	0.72	B
0.84	B	0.32	A	0.47	A	0.71	A	0.86	A	0.53	A
x		0.45	A	0.80	B	x		0.63	A	0.83	A
0.48	D	0.98	A	0.91	A	0.91	A	0.60	A	1.26	B
0.52	A	0.57	A	0.69	A	0.69	A	0.94	A	1.09	A
x		0.68	B	0.86	B	1.48	A	0.73	A	0.92	A
0.34	A	0.32	A	0.42	A	0.28	A	0.58	A	0.28	B

TABLE

11.6

Total electricity consumption and electricity intensity by building characteristics, occupancy characteristics, energy efficiency features, heating energy sources and equipment, cooling energy sources and equipment, and water-heating energy sources **by weekly hours of operation**

TOTAL ELECTRICITY CONSUMPTION (GJ)

Weekly hours of operation →	Less than 40		40–48		49–60		61–84		85–167		Open continuously	
Energy source for water heating												
Electricity	1,535,450	B	11,510,917	A	18,754,933	B	25,773,253	A	18,321,220	A		F
Natural gas	3,518,213	B	16,741,842	B	28,759,181	B	22,844,445	A	28,840,109	A	13,513,244	B
Fuel/heating oil		F		F	494,381	C	393,031	D	504,273	C	1,268,386	B
Composite ^d		F		F		F		F		F	4,696,007	B
Not heated		F	41,474	D	374,469	D	262,303	D		F		x

^dIncludes the categories of diesel or kerosene; bottled gas, liquid petroleum gas or propane; district steam; district hot water; wood; coal; solar thermal panels; and others.

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Source: Commercial and Institutional Building Energy Use Survey 2000.

This table is a continuation of the previous two pages. 

TOTAL ELECTRICITY INTENSITY (GJ/m²)

Less than 40		40–48		49–60		61–84		85–167		Open continuously	
0.39	A	0.59	A	0.72	A	0.72	A	0.75	A	1.32	B
0.45	A	0.56	A	0.73	A	0.67	A	0.81	A	0.68	A
0.33	B	0.29	A	0.40	B	0.44	C	0.64	B	0.88	A
0.50	A	0.92	C	0.71	D	1.26	A	0.72	A	1.03	A
0.35	B	0.27	C	0.63	A	0.63	B	0.79	C	x	

TABLE

11.7

Total electricity consumption and electricity intensity by building characteristics, occupancy characteristics, energy efficiency features, heating energy sources and equipment, cooling energy sources and equipment, and water-heating energy sources **by type of ownership**

TOTAL ELECTRICITY CONSUMPTION (GJ)

Building ownership	Private individual(s)		Private organization		Non-profit organization		Fed.-prov.-munic.-regional government ^a	
All buildings								
Canada	51,506,905	A	106,908,100	A	13,435,054	A	49,759,142	A
Building floor space								
93–464 m ² (1,000–4,999 sq. ft.)	6,689,555	A	4,882,704	A	992,435	B		F
465–929 m ² (5,000–9,999 sq. ft.)	6,044,874	A	5,646,167	A	1,570,417	B	551,274	A
929–4,645 m ² (10,000–49,999 sq. ft.)	9,865,613	A	22,788,792	A	4,552,878	A	9,582,618	A
4,645–9,290 m ² (50,000–99,999 sq. ft.)	5,286,047	B	11,570,832	A	1,975,366	C	9,463,961	B
9,290 m ² and more (100,000 sq. ft. and more)	23,620,816	D	62,019,606	B	4,343,958	D	29,486,284	A
Year of construction								
Before 1920		F	3,669,643	B	2,473,268	D	2,031,058	C
1920–1959	10,710,322	B		F	2,674,187	B	8,500,163	A
1960–1969		F	8,612,934	A	3,447,887	C	9,113,285	A
1970–1979		F	28,031,466	B	2,801,546	C	13,805,495	B
1980–1989	8,033,161	A	18,022,700	A	1,083,852	D	8,690,563	B
1990–1999	5,369,146	B	26,481,608	B	954,315	D	7,618,578	B
Number of floors								
1	9,561,617	B	17,576,299	A	1,324,423	B	4,724,944	B
2	13,792,784	A	22,000,483	A	4,299,521	B	10,080,460	A
3	5,042,575	B	7,732,556	A	4,350,722	C	8,023,929	B
4–9	8,975,584	B	28,550,985	C	3,460,388	C	20,375,906	A
10 and more		F	31,047,778	C		x	6,553,903	B
Predominant type of window								
Single-glazed	3,836,222	A	15,947,965	B	2,608,638	B	9,142,384	A
Double-glazed ^b	47,289,282	B	90,387,624	A	10,289,620	A	39,075,164	A
Triple-glazed ^c	381,401	B		F		F		F

^aIncludes all levels of government (i.e. federal, provincial, municipal and regional).

^bIncludes all the different types of windows that are double-glazed (i.e. double-glazed, double-sealed glazed, double-glazed with low-E coating and double-glazed with low-E gas-filled).

^cIncludes all the different types of windows that are triple-glazed (i.e. triple-glazed, triple-glazed with low-E coating and triple-glazed low-E gas-filled).

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Source: Commercial and Institutional Building Energy Use Survey 2000.

This table continues on the next two pages. 

TOTAL ELECTRICITY INTENSITY (GJ/m²)

Private individual(s)		Private organization		Non-profit organization		Fed.-prov.-munic.-regional government ^a	
0.87	A	0.82	A	0.47	A	0.59	A
0.88	A	1.19	A	0.76	B	1.18	C
0.79	A	0.70	A	0.55	A	0.42	A
0.61	A	0.66	A	0.40	A	0.53	A
0.77	A	0.68	A	0.48	A	0.55	A
1.12	A	0.94	A	0.49	B	0.62	A
1.01	B	0.62	A	0.42	A	0.66	B
0.87	A	1.05	B	0.50	A	0.49	A
0.63	A	0.72	A	0.57	B	0.55	A
1.08	A	0.81	A	0.37	B	0.59	A
0.67	A	0.70	A	0.72	A	0.79	A
0.85	A	0.87	A	0.46	B	0.56	A
0.77	A	0.61	A	0.46	A	0.49	A
0.80	A	0.74	A	0.43	A	0.48	A
0.74	A	0.66	A	0.61	A	0.50	A
0.82	B	1.02	B	0.41	B	0.66	A
1.17	A	0.99	A	x		0.95	A
0.61	A	0.70	A	0.50	A	0.55	A
0.90	A	0.85	A	0.46	A	0.58	A
0.77	A	0.54	A	0.70	B	0.97	A

TABLE 11.7

Total electricity consumption and electricity intensity by building characteristics, occupancy characteristics, energy efficiency features, heating energy sources and equipment, cooling energy sources and equipment, and water-heating energy sources **by type of ownership**

TOTAL ELECTRICITY CONSUMPTION (GJ)

Building ownership	Private individual(s)		Private organization		Non-profit organization		Fed.-prov.-munic.-regional government ^a	
Predominant exterior wall type								
Curtain walls	1,533,758	D	16,057,245	C	x		4,284,660	B
Metal stud framing with surface insulation		F	6,881,834	A		F	7,548,896	B
Metal stud framing without surface insulation	718,291	D	365,683	C		F	264,270	A
Wood-frame walls with surface insulation	4,132,021	B	4,312,469	A	1,731,998	B	1,727,417	B
Wood-frame walls without surface insulation	682,238	B	581,535	D	136,467	C	64,991	D
Concrete block with interior finishing	16,164,994	B	54,375,773	B	5,765,307	B	21,703,918	A
Concrete block without interior finishing	3,038,176	C	8,432,537	B	2,356,822	D	3,678,831	B
Precast panels		F	11,348,510	B		F	5,191,805	C
Unknown		F	4,552,514	B		F	5,294,354	D
Predominant roof type								
Attic roof fully insulated	3,709,231	B	7,841,592	D		F	2,504,537	B
Attic roof partially insulated		F	957,178	B	547,435	C	1,072,791	D
Attic roof not insulated		F	364,851	B		F		F
Insulated wood-truss roof	3,786,574	A	2,587,818	C	1,415,997	C	2,422,452	B
Not insulated wood-truss roof	734,987	C		F		F	739,325	C
Insulated metal-truss roof	4,971,780	B	11,638,527	A	2,220,484	C	4,516,944	B
Not insulated metal-truss roof		F	1,235,151	D		x	736,304	D
Insulated deck-type roof	29,848,551	C	67,424,477	A	3,961,734	B	28,375,884	A
Not insulated deck-type roof	929,412	B	3,384,451	C		F	604,068	D
Unknown		F	8,666,497	B		F	8,068,684	C
Principal building activity								
Commercial and institutional accommodation		F	5,056,521	C	1,256,759	D		F
Entertainment and recreation		F	1,286,629	C		F	3,606,974	B
Office		F	38,258,644	B		F		x
Food retail	3,293,786	B	4,572,157	B		x		F
Non-food retail	3,467,526	B	5,787,690	A		F		x
Food service	3,957,017	A	5,555,518	B		F		x
Non-food service	4,769,858	B	4,748,425	B		x	962,813	D
Shopping malls	7,182,463	C	15,839,223	A		F		x
Warehouse/wholesale	2,313,180	C		F		x		F
Administration		F		F		F	8,498,034	B
Education		F		F	960,044	C	20,522,565	A
Health care	614,101	C		F		F	10,377,200	A
Public assembly		F		F	3,775,329	B		F
Other		F	611,682	A		F	199,325	D

^aIncludes all levels of government (i.e. federal, provincial, municipal and regional).



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TOTAL ELECTRICITY INTENSITY (GJ/m²)

Private individual(s)	Private organization	Non-profit organization	Fed.-prov.-munic.-regional government ^a
1.21 B	0.96 A	x	0.60 A
1.12 A	0.64 A	0.69 B	0.62 A
0.46 A	0.36 A	0.50 B	0.51 A
0.75 A	0.77 A	0.44 A	0.47 A
0.50 B	0.54 D	0.26 A	0.31 B
0.89 A	0.88 A	0.41 A	0.59 A
0.68 B	0.65 A	0.60 A	0.45 A
0.59 A	0.84 A	0.53 C	1.05 A
0.52 A	0.71 A	0.55 C	0.48 A
0.72 A	0.76 A	0.44 A	0.65 A
1.32 D	0.69 A	0.68 B	0.62 B
0.93 B	0.57 A	0.34 C	0.55 A
0.91 A	0.56 A	0.56 A	0.49 B
0.62 B	0.78 A	0.52 B	0.69 B
0.70 A	0.73 A	0.41 A	0.46 A
F	0.38 A	x	0.83 B
0.93 A	0.95 A	0.43 B	0.65 A
0.46 B	0.52 B	0.56 B	0.52 B
0.87 B	0.70 A	0.57 D	0.49 A
0.63 A	0.67 A	0.26 B	0.46 A
1.22 A	0.83 A	0.75 B	0.89 A
1.09 A	0.93 A	0.56 A	x
1.69 A	2.05 B	x	1.43 A
0.53 A	0.52 A	0.51 A	x
1.54 A	1.42 A	0.77 B	x
0.62 A	0.55 B	x	0.55 A
0.91 A	0.67 A	0.58 C	x
0.53 B	0.85 C	x	0.60 C
1.04 A	0.91 A	0.36 B	0.85 A
0.25 A	1.00 B	0.28 A	0.41 A
0.79 B	0.97 A	0.91 A	0.94 A
0.39 A	F	0.44 A	0.90 A
0.44 B	0.67 A	0.54 A	0.72 B

TABLE

11.7

Total electricity consumption and electricity intensity by building characteristics, occupancy characteristics, energy efficiency features, heating energy sources and equipment, cooling energy sources and equipment, and water-heating energy sources **by type of ownership**

TOTAL ELECTRICITY CONSUMPTION (GJ)

Building ownership	Private individual(s)		Private organization		Non-profit organization		Fed.-prov.-munic.-regional government ^a	
Number of workers								
Less than 5	4,565,090	A	4,963,756	C	2,742,201	B	1,583,616	D
5–9	6,595,478	A	4,936,672	A	2,247,407	C	1,143,896	C
10–19	6,041,736	A	6,391,531	A	2,057,050	C	2,113,388	B
20–49	5,891,989	B	10,712,662	A		F	6,776,380	C
50–99		F	15,122,423	B	2,992,697	D	3,691,872	C
100–249		F	7,336,720	A		F	5,546,686	C
250 and more		F	57,444,336	B		F	28,903,303	A
Weekly hours of operation								
Less than 40	730,831	C	564,378	B	1,738,629	B	2,022,441	C
40–48	6,194,081	A	11,622,868	A	1,554,990	C	9,768,902	B
49–60	8,655,452	B	27,979,995	B	2,179,678	B	5,504,182	B
61–84		F	32,337,482	A	2,583,267	D	5,034,695	A
85–167	12,458,157	B	16,561,204	A	3,636,524	C	14,950,080	B
Open continuously	2,912,824	C		F		F	12,478,842	A
Building conservation feature								
Reflective or shading film	23,297,722	D	58,341,408	B	3,575,418	C	20,327,655	A
Awnings or blinds	33,840,361	B	74,316,976	A	6,898,197	B	33,896,724	A
Lighting conservation feature								
Reflectors	24,066,605	D	43,036,448	B	4,289,055	D	22,165,609	A
Energy-efficient ballast	35,440,060	B	76,790,971	B	6,088,867	B	38,585,957	A
Daylight controls	6,940,972	B	16,750,805	A	2,958,877	D	8,574,189	A
Occupancy sensors	3,566,345	D	26,489,665	D		F	14,044,552	B
Time clocks	13,359,813	B	54,638,405	B	4,736,843	C	23,944,966	A
Manual dimmer switches	25,926,620	C	46,240,579	B	4,146,705	C	24,315,593	A
Energy-efficient lamps	32,050,681	C	69,796,175	B	8,666,135	B	32,896,916	A
Other	6,954,596	D	13,345,314	B		F	6,865,053	C
Heating/cooling conservation feature								
Variable air-volume system	28,187,388	D	57,288,363	A	4,365,880	C	26,698,105	A
Outdoor-air economizer	16,355,632	A	75,025,405	A	7,698,099	B	35,521,076	A
Temperature setback	16,959,382	B	69,397,232	A	7,240,195	B	34,502,809	A
Equipment reset	27,496,086	D	60,184,984	A	7,368,352	B	31,788,709	A
Heat recovery system	7,156,905	B	33,724,048	C		F	18,468,202	A
Regular maintenance	46,705,509	B	100,404,222	A	12,187,575	A	48,517,440	A

^aIncludes all levels of government (i.e. federal, provincial, municipal and regional).



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This table continues on the next two pages. 

TOTAL ELECTRICITY INTENSITY (GJ/m²)

Private individual(s)	Private organization	Non-profit organization	Fed.-prov.-munic.-regional government ^a
0.65 A	0.59 B	0.44 A	0.81 B
0.69 A	0.66 A	0.31 B	0.66 A
0.81 A	0.55 A	0.50 A	0.56 A
0.63 A	0.77 A	0.50 A	0.57 A
0.98 A	0.73 A	0.76 A	0.41 A
0.86 B	0.68 A	0.69 A	0.64 A
1.19 A	1.01 A	0.45 C	0.60 A
0.52 C	0.65 A	0.44 B	0.37 A
0.71 A	0.58 A	0.34 A	0.52 A
0.62 A	0.82 A	0.46 A	0.53 A
1.06 A	0.75 A	0.44 A	0.48 A
1.01 A	0.92 A	0.83 A	0.58 A
0.79 B	1.33 B	0.36 D	0.89 A
1.10 A	0.94 A	0.62 A	0.60 A
1.00 A	0.89 A	0.41 A	0.60 A
1.12 A	0.87 A	0.62 A	0.59 A
1.01 A	0.87 A	0.43 A	0.59 A
0.70 A	0.65 A	0.69 A	0.64 A
0.56 B	1.19 A	0.80 B	0.69 A
0.90 A	0.88 A	0.66 A	0.62 A
1.12 A	1.03 A	0.55 A	0.73 A
1.05 A	0.91 A	0.50 A	0.59 A
1.11 A	0.73 A	0.44 A	0.76 B
0.97 A	0.86 A	0.53 A	0.66 A
0.82 A	0.90 A	0.47 A	0.60 A
0.89 A	0.91 A	0.50 A	0.57 A
1.01 A	0.87 A	0.51 A	0.60 A
0.98 A	0.99 A	0.62 B	0.65 A
0.90 A	0.86 A	0.48 A	0.59 A

TABLE
11.7

Total electricity consumption and electricity intensity by building characteristics, occupancy characteristics, energy efficiency features, heating energy sources and equipment, cooling energy sources and equipment, and water-heating energy sources **by type of ownership**

TOTAL ELECTRICITY CONSUMPTION (GJ)

Building ownership	Private individual(s)	Private organization	Non-profit organization	Fed.-prov.-munic.-regional government ^a
Percentage of the floor space heated				
Less than 1	F	x	x	x
1–50	1,228,829 C	3,488,013 C	1,478,739 D	1,222,427 D
51–99	8,398,851 B	8,177,752 D	F	3,221,186 D
100	41,835,511 B	95,218,495 A	9,868,977 A	45,210,555 A
Energy source for heating (more than one may apply)				
Electricity	22,624,012 A	62,414,446 B	4,992,500 B	24,999,811 A
Natural gas	39,045,499 B	82,658,120 A	10,310,409 B	32,999,230 A
Fuel/heating oil	2,044,232 C	1,881,121 A	1,205,530 C	4,167,908 B
Composite ^d	F	4,725,572 C	F	7,293,634 B
Main energy source for heating				
Electricity	15,637,004 B	38,552,166 B	2,155,384 B	11,078,197 A
Natural gas	33,705,394 C	64,403,476 A	9,792,549 B	30,203,718 A
Fuel/heating oil	1,522,922 D	1,284,609 A	974,855 D	1,663,098 A
Composite ^d	F	2,644,009 D	F	6,709,155 B
Heating equipment (more than one may apply)				
Furnaces	16,033,475 A	18,149,920 A	5,943,943 B	5,137,601 C
Heat pumps	8,487,305 D	9,834,945 C	1,171,394 D	6,587,377 B
Individual space heaters	18,681,244 A	43,810,450 B	4,529,374 B	17,985,622 A
Boilers	F	51,734,524 B	6,709,805 B	32,689,836 A
Packaged heating units	12,925,454 B	38,610,371 A	3,649,068 C	16,637,496 B
District steam or hot water or other	1,603,088 C	F	1,022,998 D	10,851,641 A
Main heating equipment				
Furnaces	11,722,030 A	12,753,237 A	3,710,575 B	2,352,550 B
Heat pumps	F	3,815,009 C	F	2,910,856 B
Individual space heaters	6,615,499 B	14,176,051 B	1,229,513 C	1,503,906 B
Boilers	F	36,809,162 A	6,144,798 B	29,301,114 A
Packaged heating units	9,509,263 B	25,335,160 A	1,388,308 C	5,475,163 C
District steam or hot water or other	471,082 B	F	F	8,110,579 B
Not heated	F	x	x	x

^aIncludes all levels of government (i.e. federal, provincial, municipal and regional).



^dIncludes the categories of diesel or kerosene; bottled gas, liquid petroleum gas or propane; district steam; district hot water; wood; coal; solar thermal panels; and others.

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TOTAL ELECTRICITY INTENSITY (GJ/m²)

Private individual(s)		Private organization		Non-profit organization		Fed.-prov.-munic.-regional government ^a	
0.86	D		x		x		x
0.54	A	0.72	A	0.69	B	0.75	A
1.10	A	0.83	A	0.83	A	0.79	A
0.84	A	0.83	A	0.41	A	0.57	A
0.76	A	0.89	A	0.50	A	0.60	A
0.90	A	0.82	A	0.47	A	0.54	A
0.52	B	0.46	A	0.28	A	0.52	A
1.24	A	0.91	A	0.86	A	0.96	A
0.84	A	0.99	A	0.73	A	0.67	A
0.89	A	0.75	A	0.46	A	0.52	A
0.61	C	0.48	A	0.26	A	0.48	A
0.90	D	1.06	A	0.88	A	0.93	A
0.81	A	0.59	A	0.49	B	0.65	A
1.20	A	0.77	A	0.42	B	0.72	A
0.75	A	0.87	A	0.53	A	0.61	A
0.96	A	0.95	A	0.39	A	0.52	A
0.81	A	0.76	A	0.63	A	0.56	A
0.63	B	1.23	A	0.77	A	0.74	A
0.78	A	0.59	A	0.52	A	0.73	A
1.18	A	0.64	A	0.44	D	0.62	A
0.69	A	0.81	A	0.65	A	0.56	A
0.96	A	0.85	A	0.40	A	0.51	A
0.87	A	0.77	A	0.54	A	0.73	A
0.51	B	1.69	B	0.90	A	0.91	A
0.86	D		x		x		x

TABLE 11.7

Total electricity consumption and electricity intensity by building characteristics, occupancy characteristics, energy efficiency features, heating energy sources and equipment, cooling energy sources and equipment, and water-heating energy sources **by type of ownership**

TOTAL ELECTRICITY CONSUMPTION (GJ)

Building ownership	Private individual(s)	Private organization	Non-profit organization	Fed.-prov.-munic.-regional government ^a
Percentage of the floor space cooled				
Not cooled	3,637,079 A	4,455,397 B	3,322,025 B	5,892,223 B
1–50	6,743,285 B	12,798,581 A	3,748,588 D	11,359,650 B
51–99	15,816,999 B	31,443,332 C	3,102,356 C	15,216,898 B
100	25,309,542 D	58,210,791 A	3,262,085 B	17,290,371 A
Space-cooling energy source				
Electricity	44,139,609 B	93,208,750 A	9,495,309 B	37,131,126 A
Natural gas	3,529,688 C	8,578,144 A		4,312,816 D
Fuel/heating oil	x		x	x
Composite ^e	F	7,126,953 D	x	4,354,562 C
Cooling equipment (more than one may apply)				
Residential-type air conditioners	6,436,003 B	7,026,398 A	2,553,142 D	2,389,626 B
Heat pumps	F	4,162,620 A	F	3,889,208 C
Individual room air conditioners	3,027,418 B		2,968,330 C	8,285,830 A
District-chilled water from outside source	F	7,176,120 D	x	4,342,952 C
Central chillers	F	47,724,194 B	998,766 D	18,961,859 A
Packaged air-conditioning units	17,184,121 A	63,546,719 A	5,378,416 B	23,219,064 A
Swamp coolers	F	F	x	738,688 C
Composite ^f	F	9,620,873 C	F	4,727,864 C
Other	F	3,630,656 C	x	1,568,131 C
Main cooling equipment				
Residential-type air conditioners	5,820,738 B	3,843,009 B	2,466,214 D	1,266,649 C
Heat pumps	F	2,600,420 A	F	2,433,805 D
Individual room air conditioners	1,775,184 A	2,539,241 B	F	2,414,089 B
District-chilled water from outside source	F	2,791,441 C	x	3,546,014 D
Central chillers	F	45,505,884 B	F	17,902,925 A
Packaged air-conditioning units	16,202,806 A	42,819,918 A	4,874,094 B	14,851,017 A
Composite ^f	F	5,144,232 C	x	4,998,434 C
Not cooled	3,637,079 A	4,455,397 B	3,322,025 B	5,892,223 B

^aIncludes all levels of government (i.e. federal, provincial, municipal and regional).

^eIncludes the air-conditioning categories of fuel/heating oil; diesel or kerosene; bottled gas, liquid petroleum gas or propane; district-chilled water; and others.

^fIncludes the categories of district-chilled water from outside source; swamp coolers; and others.



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TOTAL ELECTRICITY INTENSITY (GJ/m²)

Private individual(s)	Private organization	Non-profit organization	Fed.-prov.-munic.-regional government ^a
0.48 A	0.41 A	0.31 A	0.34 A
0.67 A	0.56 A	0.58 A	0.50 A
1.07 A	1.05 A	0.54 A	0.65 A
0.94 A	0.88 A	0.58 A	0.82 A
0.96 A	0.88 A	0.56 A	0.65 A
0.62 A	0.63 A	0.92 A	0.60 B
x	1.04 D	x	x
0.99 B	0.81 A	x	0.76 A
0.77 A	0.68 A	0.55 A	0.56 A
1.12 A	0.61 A	0.64 A	0.52 A
0.44 A	1.13 B	0.46 A	0.67 A
1.23 A	0.79 A	x	0.73 A
1.12 A	1.04 A	0.59 A	0.71 A
0.83 A	0.87 A	0.60 A	0.62 A
1.15 A	0.83 A	x	0.73 B
1.24 A	0.84 A	0.72 A	0.76 A
1.25 A	0.93 A	x	1.12 A
0.77 A	0.56 A	0.55 A	0.56 A
1.07 A	0.58 A	0.35 A	0.47 A
0.58 A	0.59 A	0.42 C	0.52 A
1.25 A	0.77 A	x	0.69 A
0.78 A	1.09 A	0.56 A	0.72 A
0.84 A	0.78 A	0.63 A	0.62 A
1.53 A	0.82 A	x	0.78 A
0.48 A	0.41 A	0.31 A	0.34 A

TABLE

11.7

Total electricity consumption and electricity intensity by building characteristics, occupancy characteristics, energy efficiency features, heating energy sources and equipment, cooling energy sources and equipment, and water-heating energy sources **by type of ownership**

TOTAL ELECTRICITY CONSUMPTION (GJ)

Building ownership	Private individual(s)	Private organization	Non-profit organization	Fed.-prov.-munic.-regional government ^a
Energy source for water heating				
Electricity	20,999,713 A	53,921,151 B	2,744,636 B	15,636,106 A
Natural gas	20,303,438 B	57,503,259 A	9,547,475 B	26,862,861 A
Fuel/heating oil	425,589 B	471,979 C	F	1,814,708 B
Composite ^d	F	F	F	6,350,503 B
Not heated	243,542 D	409,228 D	x	F

^aIncludes all levels of government (i.e. federal, provincial, municipal and regional).

^dIncludes the categories of diesel or kerosene; bottled gas, liquid petroleum gas or propane; district steam; district hot water; wood; coal; solar thermal panels; and others.

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TOTAL ELECTRICITY INTENSITY (GJ/m²)

Private individual(s)		Private organization		Non-profit organization		Fed.-prov.-munic.-regional government ^a	
0.78	A	0.85	A	0.44	A	0.61	A
0.83	A	0.81	A	0.50	A	0.52	A
0.58	A	0.50	B	0.27	A	0.68	A
1.22	A	0.87	A	0.85	A	0.96	A
0.47	B	0.68	A	x		0.93	A

CHAPTER **12**

**Total Natural Gas Consumption
and Natural Gas Intensity**



Total natural gas consumption and natural gas intensity by building characteristics, occupancy characteristics, energy efficiency features, heating energy sources and equipment, cooling energy sources and equipment, and water-heating energy sources

	Total natural gas consumption (GJ)		Total natural gas intensity (GJ/m ²)	
All buildings				
Canada	220,994,032	A	0.94	B
Building floor space				
93–464 m ² (1,000–4,999 sq. ft.)	13,478,884	A	1.48	C
465–929 m ² (5,000–9,999 sq. ft.)	20,574,309	A	1.41	C
929–4,645 m ² (10,000–49,999 sq. ft.)	57,752,809	A	0.90	C
4,645–9,290 m ² (50,000–99,999 sq. ft.)	22,198,619	A		F
9,290 m ² and more (100,000 sq. ft. and more)	106,989,411	C		F
Year of construction				
Before 1920	12,275,823	B		F
1920–1959	44,201,546	A		F
1960–1969	34,662,000	C		F
1970–1979	74,566,928	B		F
1980–1989	27,870,694	A		F
1990–1999	27,417,040	A		F
Number of floors				
1	39,420,858	A	0.95	C
2	54,073,328	A	0.87	D
3	26,217,204	A		F
4–9	46,028,337	A		F
10 and more		F		F
Predominant type of window				
Single-glazed	36,327,674	A	0.99	D
Double-glazed ^a	182,767,434	A	0.93	C
Triple-glazed ^b	1,898,924	C		F

^aIncludes all the different types of windows that are double-glazed (i.e. double-glazed, double-sealed glazed, double-glazed with low-E coating and double-glazed with low-E gas-filled).

^bIncludes all the different types of windows that are triple-glazed (i.e. triple-glazed, triple-glazed with low-E coating and triple-glazed low-E gas-filled).

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This table continues on the next page.



TABLE

12.1

Total natural gas consumption and natural gas intensity by building characteristics, occupancy characteristics, energy efficiency features, heating energy sources and equipment, cooling energy sources and equipment, and water-heating energy sources

	Total natural gas consumption (GJ)		Total natural gas intensity (GJ/m ²)
Predominant exterior wall type			
Curtain walls	12,208,343	B	F
Metal stud framing with surface insulation		F	F
Metal stud framing without surface insulation	1,894,714	C	F
Wood-frame walls with surface insulation	17,192,454	B	1.26 D
Wood-frame walls without surface insulation	2,843,120	D	F
Concrete block with interior finishing	85,169,844	A	0.83 C
Concrete block without interior finishing	19,807,119	A	F
Precast panels	13,157,546	B	F
Unknown	12,765,762	B	F
Predominant roof type			
Attic roof fully insulated	11,622,723	A	F
Attic roof partially insulated	3,569,403	B	F
Attic roof not insulated	3,675,428	D	F
Insulated wood-truss roof	10,000,086	A	F
Not insulated wood-truss roof	9,893,103	D	F
Insulated metal-truss roof	22,900,402	A	F
Not insulated metal-truss roof	3,875,510	C	F
Insulated deck-type roof	123,953,082	B	F
Not insulated deck-type roof	9,622,824	B	F
Unknown	21,881,470	B	F

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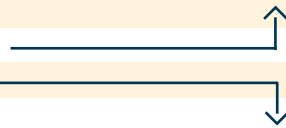
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Total natural gas consumption and natural gas intensity by building characteristics, occupancy characteristics, energy efficiency features, heating energy sources and equipment, cooling energy sources and equipment, and water-heating energy sources

	Total natural gas consumption (GJ)		Total natural gas intensity (GJ/m ²)
Principal building activity			
Commercial and institutional accommodation	19,364,368	C	F
Entertainment and recreation	8,619,909	B	F
Office		F	F
Food retail	4,003,611	B	F
Non-food retail	14,568,592	B	F
Food service	15,530,185	A	2.35 D
Non-food service	13,654,154	B	F
Shopping malls	15,359,245	B	F
Warehouse/wholesale	12,410,997	C	F
Administration	12,227,054	C	F
Education	27,291,437	A	F
Health care	13,206,736	B	F
Public assembly	9,669,950	C	F
Other	1,334,212	C	F
Number of workers			
Less than 5	15,404,320	A	F
5–9	17,147,077	B	F
10–19	23,387,001	A	1.15 C
20–49	26,127,798	A	F
50–99	30,106,526	B	F
100–249	15,381,608	B	F
250 and more	93,439,701	C	F
Weekly hours of operation			
Less than 40	6,727,303	A	F
40–48	29,573,501	A	F
49–60	38,640,742	A	0.79 C
61–84	72,182,125	D	F
85–167	41,858,122	A	F
Open continuously	32,012,239	B	F

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TABLE

12.1

Total natural gas consumption and natural gas intensity by building characteristics, occupancy characteristics, energy efficiency features, heating energy sources and equipment, cooling energy sources and equipment, and water-heating energy sources

	Total natural gas consumption (GJ)		Total natural gas intensity (GJ/m ²)	
Building ownership				
Private individual(s)	66,277,280	D		F
Private organization	83,380,649	A	0.79	D
Non-profit organization	20,182,611	B		F
Fed.-prov.-munic.-regional government ^c	51,153,492	A		F
Building conservation feature				
Reflective or shading film	97,749,396	C		F
Awnings or blinds	146,373,493	B	0.96	C
Lighting conservation feature				
Reflectors	102,039,509	C		F
Energy-efficient ballast	152,813,680	B	0.92	C
Daylight controls	28,116,743	A	0.68	D
Occupancy sensors	32,455,252	A		F
Time clocks	77,849,821	A	0.75	D
Manual dimmer switches	98,757,426	C		F
Energy-efficient lamps	136,256,441	B	0.94	D
Other	23,261,000	B		F
Heating/cooling conservation feature				
Variable air-volume system	116,800,879	B	1.01	D
Outdoor-air economizer	108,311,410	A	0.77	C
Temperature setback	107,669,430	A	0.78	C
Equipment reset	129,751,317	B	0.99	D
Heat recovery system	44,481,752	A		F
Regular maintenance	203,430,826	A	0.93	C

^cIncludes all levels of government (i.e. federal, provincial, municipal and regional).

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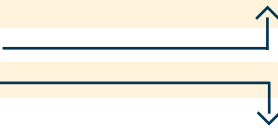
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Source: Commercial and Institutional Building Energy Use Survey 2000.

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Total natural gas consumption and natural gas intensity by building characteristics, occupancy characteristics, energy efficiency features, heating energy sources and equipment, cooling energy sources and equipment, and water-heating energy sources

	Total natural gas consumption (GJ)		Total natural gas intensity (GJ/m ²)	
Percentage of the floor space heated				
Less than 1		x		x
1–50	6,259,628	C		F
51–99	15,850,551	B		F
100	198,883,852	A	0.96	C
Energy source for heating (more than one may apply)				
Electricity	79,210,265	A	0.81	C
Natural gas	211,237,424	A	0.93	C
Fuel/heating oil	4,654,156	B	0.90	D
Composite ^d		F		F
Main energy source for heating				
Electricity	25,528,994	B		F
Natural gas	190,496,574	A	0.94	C
Fuel/heating oil	404,115	C	0.56	D
Composite ^d	4,564,350	C		F
Heating equipment (more than one may apply)				
Furnaces	61,334,079	A	1.03	C
Heat pumps	14,818,454	C		F
Individual space heaters	66,743,586	A	0.83	D
Boilers	128,231,500	B	0.94	D
Packaged heating units	66,547,301	A	0.77	D
District steam or hot water or other	18,338,228	B		F

^dIncludes the categories of diesel or kerosene; bottled gas, liquid petroleum gas or propane; district steam; district hot water; wood; coal; solar thermal panels; and others.

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TABLE

12.1

Total natural gas consumption and natural gas intensity by building characteristics, occupancy characteristics, energy efficiency features, heating energy sources and equipment, cooling energy sources and equipment, and water-heating energy sources

	Total natural gas consumption (GJ)		Total natural gas intensity (GJ/m ²)	
Main heating equipment				
Furnaces	36,299,487	A	0.97	C
Heat pumps	5,936,989	B		F
Individual space heaters	14,876,953	B		F
Boilers	115,973,818	B	0.97	D
Packaged heating units	38,361,752	A	0.84	D
District steam or hot water or other	9,545,033	C		F
Not heated		x		x
Percentage of the floor space cooled				
Not cooled	32,998,948	A		F
1–50	39,150,656	A		F
51–99	47,450,354	A		F
100	101,394,073	C		F
Space-cooling energy source				
Electricity	168,095,251	A	0.97	C
Natural gas	22,733,457	A		F
Fuel/heating oil		x		x
Composite ^e	8,503,932	C		F
Cooling equipment (more than one may apply)				
Residential-type air conditioners	20,582,105	A		F
Heat pumps	10,726,301	B		F
Individual room air conditioners	25,329,485	A		F
District-chilled water from outside source	9,148,916	B		F
Central chillers	83,071,373	D		F
Packaged air-conditioning units	92,581,340	A	0.82	C
Swamp coolers		F		F
Composite ^f		F		F
Other		F		F

^eIncludes the air-conditioning categories of fuel/heating oil; diesel or kerosene; bottled gas, liquid petroleum gas or propane; district-chilled water; and others.

^fIncludes the categories of district-chilled water from outside source; swamp coolers; and others.

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Total natural gas consumption and natural gas intensity by building characteristics, occupancy characteristics, energy efficiency features, heating energy sources and equipment, cooling energy sources and equipment, and water-heating energy sources

	Total natural gas consumption (GJ)		Total natural gas intensity (GJ/m ²)	
Main cooling equipment				
Residential-type air conditioners	16,248,460	B		F
Heat pumps	6,860,568	C		F
Individual room air conditioners	8,063,735	A	0.88	A
District-chilled water from outside source	5,567,836	B		F
Central chillers	58,650,173	B		F
Packaged air-conditioning units	69,294,392	A	0.84	C
Composite ^f		F		F
Not cooled	32,998,948	A		F
Energy source for water heating				
Electricity	54,204,677	A	0.81	D
Natural gas	137,868,175	A	0.83	C
Fuel/heating oil		F	1.34	D
Composite ^d		F		F
Not heated	592,646	D		F

^dIncludes the categories of diesel or kerosene; bottled gas, liquid petroleum gas or propane; district steam; district hot water; wood; coal; solar thermal panels; and others.

^fIncludes the categories of district-chilled water from outside source; swamp coolers; and others.

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TABLE

12.2

Total natural gas consumption and natural gas intensity by building characteristics, occupancy characteristics, energy efficiency features, heating energy sources and equipment, cooling energy sources and equipment, and water-heating energy sources **by region**

TOTAL NATURAL GAS CONSUMPTION (GJ)

Region →	Atlantic	Quebec	Ontario	Prairies	British Columbia					
All buildings										
Canada	x	38,913,707	A	97,937,389	C	60,995,098	A	23,147,838	B	
Building floor space										
93–464 m ² (1,000–4,999 sq. ft.)	x	1,699,693	B	5,149,562	A	4,581,367	A	2,048,262	C	
465–929 m ² (5,000–9,999 sq. ft.)	x	2,150,336	A	7,537,688	A	3,256,778	A	7,629,507	D	
929–4,645 m ² (10,000–49,999 sq. ft.)	x	8,625,742	A	26,655,308	A	15,641,301	B	6,830,458	B	
4,645–9,290 m ² (50,000–99,999 sq. ft.)	x	4,769,443	D	7,103,536	A	8,225,242	C	2,100,398	C	
9,290 m ² and more (100,000 sq. ft. and more)	x	21,668,493	B		F	29,290,411	B	4,539,212	D	
Year of construction										
Before 1920	x	1,061,548	C	4,792,854	C	2,457,820	D		F	
1920–1959	x	12,135,801	C	13,725,581	A	8,908,045	B	9,432,119	B	
1960–1969	x	4,282,492	B		F	7,796,746	B	1,984,186	D	
1970–1979	x	9,894,087	C		F	24,307,863	B	3,584,033	C	
1980–1989	x	4,682,873	D	12,255,562	B	8,805,440	A	2,126,820	C	
1990–1999	x	6,856,908	D	9,783,870	B	8,719,184	C	2,057,078	D	
Number of floors										
1	x	7,030,257	D	13,683,397	A	12,832,190	A	5,875,014	D	
2	x	11,018,157	B	18,349,524	A	16,100,956	B	8,604,691	B	
3	x	6,740,691	C	11,672,241	A	3,996,851	B	3,807,421	D	
4–9	x	11,947,857	C	14,313,455	C	15,315,488	B	4,451,538	C	
10 and more	x	2,176,745	C		F	12,749,614	C	409,174	C	
Predominant type of window										
Single-glazed	x	3,152,663	C	15,779,882	A	5,968,666	B	11,426,462	C	
Double-glazed ^a	0	A	35,219,156	A	81,734,113	C	54,093,447	A	11,720,719	B
Triple-glazed ^b	0	A		F		F	932,985	D	F	

^aIncludes all the different types of windows that are double-glazed (i.e. double-glazed, double-sealed glazed, double-glazed with low-E coating and double-glazed with low-E gas-filled).

^bIncludes all the different types of windows that are triple-glazed (i.e. triple-glazed, triple-glazed with low-E coating and triple-glazed low-E gas-filled).

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TABLE 12.2

Total natural gas consumption and natural gas intensity by building characteristics, occupancy characteristics, energy efficiency features, heating energy sources and equipment, cooling energy sources and equipment, and water-heating energy sources **by region**

TOTAL NATURAL GAS CONSUMPTION (GJ)

Region →	Atlantic	Quebec	Ontario	Prairies	British Columbia
Predominant exterior wall type					
Curtain walls	x	2,335,423 D	4,847,502 D	F	F
Metal stud framing with surface insulation	x	11,722,446 C	F	5,863,831 C	1,961,117 C
Metal stud framing without surface insulation	x	324,501 C	F	491,614 D	F
Wood-frame walls with surface insulation	x	1,897,671 B	3,522,471 B	6,063,127 B	F
Wood-frame walls without surface insulation	x	F	F	298,313 D	F
Concrete block with interior finishing	x	14,720,714 B	34,128,185 A	25,685,904 A	10,635,041 B
Concrete block without interior finishing	x	2,305,858 D	9,923,579 B	7,111,867 C	F
Precast panels	x	3,704,701 C	3,434,604 D	5,805,201 D	213,039 D
Unknown	x	1,676,408 B	3,908,590 D	5,845,446 C	F
Predominant roof type					
Attic roof fully insulated	x	3,002,238 C	4,461,310 C	2,611,052 C	F
Attic roof partially insulated	x	396,785 D	1,420,655 C	769,907 C	982,056 D
Attic roof not insulated	x	547,674 D	F	F	F
Insulated wood-truss roof	x	967,956 D	5,149,165 B	2,739,340 C	1,143,625 B
Not insulated wood-truss roof	x	322,847 C	F	F	F
Insulated metal-truss roof	x	6,582,223 C	7,704,814 A	6,510,446 C	2,102,919 C
Not insulated metal-truss roof	x	F	2,704,505 D	F	105,110 D
Insulated deck-type roof	x	19,768,759 B	F	35,639,863 A	10,879,771 C
Not insulated deck-type roof	x	1,462,742 D	4,899,380 D	936,111 C	F
Unknown	x	F	5,545,963 C	9,408,593 B	F
Principal building activity					
Commercial and institutional accommodation	x	1,630,840 D	F	8,001,160 D	F
Entertainment and recreation	x	1,027,082 C	3,962,220 D	2,039,504 D	F
Office	x	1,397,278 C	F	9,916,034 A	F
Food retail	x	929,187 A	1,523,075 C	1,102,181 C	F
Non-food retail	x	2,365,394 D	2,712,425 B	4,002,255 B	F
Food service	x	3,037,838 C	5,743,703 B	2,238,691 B	4,509,953 D
Non-food service	x	2,616,457 C	5,634,265 C	4,518,267 D	F
Shopping malls	x	F	5,410,878 A	3,965,664 B	1,520,662 D
Warehouse/wholesale	x	F	2,975,485 D	2,951,377 C	F
Administration	x	1,559,231 C	F	F	1,849,994 D
Education	x	5,511,222 C	12,585,215 B	8,250,781 B	944,218 D
Health care	x	4,467,675 D	1,746,341 B	6,212,028 D	780,692 A
Public assembly	x	F	1,893,372 B	3,451,418 C	746,399 C
Other	x	F	F	261,029 B	F

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12.2

Total natural gas consumption and natural gas intensity by building characteristics, occupancy characteristics, energy efficiency features, heating energy sources and equipment, cooling energy sources and equipment, and water-heating energy sources **by region**

TOTAL NATURAL GAS CONSUMPTION (GJ)

Region →	Atlantic	Quebec	Ontario	Prairies	British Columbia
Number of workers					
Less than 5	x	1,636,944 B	6,459,988 C	4,210,412 B	F
5–9	x	1,237,053 B	7,039,452 B	6,776,968 D	2,093,604 D
10–19	x	4,392,500 C	6,956,738 A	5,130,562 B	6,907,201 D
20–49	x	6,454,697 C	8,767,307 B	8,193,591 A	2,712,203 B
50–99	x	5,132,068 B	11,136,305 D	8,152,242 C	5,685,912 D
100–249	x	F	5,107,157 C	4,253,753 C	744,675 C
250 and more	x	14,784,421 C	F	24,277,570 B	1,907,267 B
Weekly hours of operation					
Less than 40	x	726,551 C	3,925,238 B	1,453,252 B	622,262 D
40–48	x	7,516,595 D	10,902,412 A	8,996,604 B	2,157,890 C
49–60	x	9,172,243 C	14,595,683 A	11,452,991 A	3,419,826 D
61–84	x	5,503,228 B	F	11,203,012 B	6,622,667 D
85–167	x	7,302,210 B	11,522,632 B	15,138,292 A	7,894,988 C
Open continuously	x	8,692,881 C	F	12,750,947 C	2,430,205 C
Building ownership					
Private individual(s)	x	7,679,431 D	F	8,011,484 B	4,581,052 D
Private organization	x	13,258,186 C	31,260,050 A	25,333,678 A	13,528,735 C
Non-profit organization	x	2,765,287 D	4,523,407 B	10,098,279 C	2,795,639 D
Fed.-prov.-munic.-regional government ^c	x	15,210,803 B	16,148,621 A	17,551,657 B	2,242,411 B
Building conservation feature					
Reflective or shading film	x	13,660,723 C	F	19,438,719 B	6,767,282 B
Awnings or blinds	x	13,685,556 C	73,987,314 D	47,113,277 A	11,587,345 B
Lighting conservation feature					
Reflectors	x	18,024,511 C	F	24,368,364 B	6,690,426 B
Energy-efficient ballast	x	25,597,393 B	76,049,443 C	39,416,451 A	11,750,394 B
Daylight controls	x	5,233,536 B	10,091,762 A	8,795,613 A	3,995,832 C
Occupancy sensors	x	9,501,582 D	8,476,260 A	10,429,793 C	4,047,617 D
Time clocks	x	21,255,818 B	28,546,407 A	20,027,471 B	8,020,126 B
Manual dimmer switches	x	13,581,350 B	F	24,046,023 B	6,793,987 C
Energy-efficient lamps	x	20,953,570 B	65,448,750 D	38,124,112 A	11,730,010 B
Other	x	7,925,094 D	6,832,331 B	7,602,859 D	900,717 C

^cIncludes all levels of government (i.e. federal, provincial, municipal and regional).

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Total natural gas consumption and natural gas intensity by building characteristics, occupancy characteristics, energy efficiency features, heating energy sources and equipment, cooling energy sources and equipment, and water-heating energy sources **by region**

TOTAL NATURAL GAS CONSUMPTION (GJ)

Region →	Atlantic	Quebec	Ontario	Prairies	British Columbia
Heating/cooling conservation feature					
Variable air-volume system	x	21,859,537 B	F	28,668,650 A	9,922,532 B
Outdoor-air economizer	x	27,347,411 B	31,603,669 A	41,338,294 A	8,022,035 B
Temperature setback	x	23,387,291 B	35,484,104 A	36,417,884 A	12,380,151 B
Equipment reset	x	21,084,354 B	62,608,182 D	36,239,260 A	9,819,522 B
Heat recovery system	x	13,067,254 C	13,930,924 B	14,446,235 B	3,037,339 D
Regular maintenance	x	36,245,827 A	91,933,581 C	57,419,945 A	17,831,473 A
Percentage of the floor space heated					
Less than 1	x	x	x	x	x
1–50	x	676,375 D	1,313,873 D	1,736,721 D	F
51–99	x	F	5,194,566 D	2,114,377 B	4,902,483 C
100	x	34,598,207 A	91,428,950 C	57,144,000 A	15,712,696 B
Energy source for heating (more than one may apply)					
Electricity	x	25,522,519 A	24,316,069 A	15,249,688 B	14,121,989 B
Natural gas	x	37,000,407 A	94,214,452 C	60,678,172 A	19,344,393 A
Fuel/heating oil	x	3,271,402 B	1,029,829 D	x	343,132 B
Composite ^d	x	268,956 C	F	F	479,375 B
Main energy source for heating					
Electricity	x	12,434,581 C	5,054,191 B	1,046,500 C	6,993,722 D
Natural gas	x	25,989,165 A	90,887,289 C	57,910,873 A	15,709,247 A
Fuel/heating oil	x	x	315,283 D	x	x
Composite ^d	x	416,220 D	F	F	431,359 B
Heating equipment (more than one may apply)					
Furnaces	x	9,403,177 C	17,974,202 A	22,709,503 B	11,247,198 C
Heat pumps	x	2,199,138 C	5,701,424 D	F	2,240,759 C
Individual space heaters	x	18,332,532 B	21,274,387 B	17,419,557 B	9,717,110 C
Boilers	x	18,036,102 B	64,583,641 D	36,995,145 B	8,616,612 B
Packaged heating units	x	17,835,239 B	21,727,421 A	20,351,058 B	6,633,582 B
District steam or hot water or other	x	F	5,038,840 C	6,065,043 C	1,224,207 C

^dIncludes the categories of diesel or kerosene; bottled gas, liquid petroleum gas or propane; district steam; district hot water; wood; coal; solar thermal panels; and others.

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This table is a continuation of the previous two pages.
 This table continues on the next two pages.

TOTAL NATURAL GAS INTENSITY (GJ/m²)

	Atlantic	Quebec	Ontario	Prairies	British Columbia
	x	F	F	F	F
	x	F	F	F	F
	x	F	F	F	F
	x	F	F	F	F
	x	F	F	F	F
	x	F	0.97 D	F	F
	x	x	x	x	x
	x	F	F	F	F
	x	F	F	F	F
	x	F	F	F	F
	x	F	F	F	F
	x	F	0.97 D	F	F
	x	1.07 D	0.70 A	x	0.57 D
	x	0.85 C	F	F	1.37 B
	x	F	F	F	F
	x	F	F	F	F
	x	x	0.56 D	x	x
	x	0.70 D	F	F	1.63 C
	x	F	F	F	F
	x	F	F	F	F
	x	F	F	F	F
	x	F	F	F	F
	x	F	F	F	F
	x	F	F	F	F

TABLE
12.2

Total natural gas consumption and natural gas intensity by building characteristics, occupancy characteristics, energy efficiency features, heating energy sources and equipment, cooling energy sources and equipment, and water-heating energy sources **by region**

TOTAL NATURAL GAS CONSUMPTION (GJ)

Region →	Atlantic	Quebec	Ontario	Prairies	British Columbia
Main heating equipment					
Furnaces	x	3,325,139 C	14,568,972 B	11,781,961 B	6,623,415 C
Heat pumps	x	964,073 C	2,998,072 D		F
Individual space heaters	x	4,579,249 C	4,653,190 C		F
Boilers	x	14,554,174 B		34,291,859 B	7,301,661 B
Packaged heating units	x	12,281,988 C	13,687,012 A	8,512,813 C	3,879,939 C
District steam or hot water or other	x		2,204,020 D	3,616,934 D	514,994 B
Not heated	x	x	x	x	x
Percentage of the floor space cooled					
Not cooled	x	4,817,068 D	7,108,302 B	9,675,428 C	11,398,149 C
1–50	x	10,802,626 B	12,354,332 A	13,228,209 B	2,765,489 C
51–99	x	13,161,691 C	15,654,438 B	13,806,065 B	4,828,160 D
100	x	10,132,323 B		24,285,395 A	4,156,040 C
Space-cooling energy source					
Electricity	x	28,540,459 A	83,635,921 C	46,885,169 A	9,033,702 B
Natural gas	x	6,788,071 D	6,482,580 C	5,745,998 B	3,716,807 C
Fuel/heating oil	x	x	x	x	x
Composite ^e	x	F	F	F	F
Cooling equipment (more than one may apply)					
Residential-type air conditioners	x	2,292,353 B	8,318,910 A	7,415,475 C	F
Heat pumps	x	3,313,604 C	2,339,703 D		1,741,703 C
Individual room air conditioners	x	7,892,061 C	11,417,244 B	4,975,489 C	1,044,691 C
District-chilled water from outside source	x	2,256,013 C			x
Central chillers	x	12,656,146 C		22,816,307 B	646,975 B
Packaged air-conditioning units	x	23,699,900 B	35,295,716 A	26,499,552 A	7,086,172 B
Swamp coolers	x	x	F	F	x
Composite ^f	x	2,141,898 D	F	3,672,563 D	F
Other	x	F	F	1,069,406 D	F

^eIncludes the air-conditioning categories of fuel/heating oil; diesel or kerosene; bottled gas, liquid petroleum gas or propane; district-chilled water; and others.

^fIncludes the categories of district-chilled water from outside source; swamp coolers; and others.

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Source: Commercial and Institutional Building Energy Use Survey 2000.

This table is a continuation of the previous two pages.
 This table continues on the next two pages.

TABLE

12.2

TOTAL NATURAL GAS INTENSITY (GJ/m²)

Atlantic	Quebec	Ontario	Prairies	British Columbia
x	0.88 A	F	F	F
x	F	F	F	F
x	1.37 D	F	F	F
x	F	F	F	F
x	F	F	F	F
x	F	F	F	F
x	x	x	x	x
x	F	F	F	F
x	F	F	F	F
x	F	F	F	F
x	F	F	F	F
x	F	1.06 D	F	F
x	F	F	F	F
x	x	x	x	x
x	F	F	F	F
x	0.75 C	F	F	F
x	F	F	F	F
x	F	F	F	F
x	F	F	F	x
x	F	F	F	F
x	F	0.72 D	F	F
x	x	F	F	x
x	F	F	F	F
x	0.42 D	F	F	F

TABLE

12.2

Total natural gas consumption and natural gas intensity by building characteristics, occupancy characteristics, energy efficiency features, heating energy sources and equipment, cooling energy sources and equipment, and water-heating energy sources **by region**

TOTAL NATURAL GAS CONSUMPTION (GJ)

Region →	Atlantic	Quebec	Ontario	Prairies	British Columbia
Main cooling equipment					
Residential-type air conditioners	x	1,738,939 B	5,597,614 A	6,713,411 D	F
Heat pumps	x	1,295,189 C	F	F	872,014 D
Individual room air conditioners	x	1,820,969 B	4,087,627 B	1,176,719 C	978,421 C
District-chilled water from outside source	x	F	1,953,838 D	2,195,997 D	x
Central chillers	x	9,483,419 C	26,707,967 D	21,870,103 B	588,684 B
Packaged air-conditioning units	x	18,185,539 B	28,841,306 A	16,246,649 A	6,020,898 C
Composite ^f	x	F	F	2,648,192 C	F
Not cooled	x	4,817,068 D	7,108,302 B	9,675,428 C	11,398,149 C
Energy source for water heating					
Electricity	x	16,444,109 B	23,108,803 B	5,502,995 B	9,148,770 C
Natural gas	x	20,947,198 B	48,188,459 A	54,064,998 A	14,667,522 B
Fuel/heating oil	x	F	x	x	x
Composite ^d	x	F	F	F	436,791 B
Not heated	x	x	F	F	x

^dIncludes the categories of diesel or kerosene; bottled gas, liquid petroleum gas or propane; district steam; district hot water; wood; coal; solar thermal panels; and others.

^fIncludes the categories of district-chilled water from outside source; swamp coolers; and others.

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Source: Commercial and Institutional Building Energy Use Survey 2000.

This table is a continuation of the previous two pages. 

TOTAL NATURAL GAS INTENSITY (GJ/m²)

	Atlantic	Quebec	Ontario	Prairies	British Columbia
	x	0.82 A	F	F	F
	x	F	F	F	F
	x	0.80 D	F	F	F
	x	F	F	F	x
	x	F	F	F	F
	x	F	0.73 D	F	F
	x	F	F	F	F
	x	F	F	F	F
	x	F	F	F	F
	x	F	F	F	F
	x	F	0.70 D	F	F
	x	2.68 D	x	x	x
	x	1.12 C	F	F	1.58 C
	x	x	F	F	x

TABLE
12.3

Total natural gas consumption and natural gas intensity by building characteristics, occupancy characteristics, energy efficiency features, heating energy sources and equipment, cooling energy sources and equipment, and water-heating energy sources **by building floor space**

TOTAL NATURAL GAS CONSUMPTION (GJ)

Building floor space →	93–464 m ² (1,000–4,999 sq. ft.)	465–929 m ² (5,000–9,999 sq. ft.)	929–4,645 m ² (10,000–49,999 sq. ft.)	4,645–9,290 m ² (50,000–99,999 sq. ft.)	9,290 m ² and more (100,000 sq. ft. and more)
All buildings					
Canada	13,478,884 A	20,574,309 A	57,752,809 A	22,198,619 A	106,989,411 C
Year of construction					
Before 1920	1,091,016 B	F	3,148,171 B	1,707,198 D	F
1920–1959	5,234,171 A	6,593,027 B	15,087,901 B	3,026,457 C	14,259,990 C
1960–1969	1,226,365 B	1,665,195 B	6,389,956 A	2,384,147 B	F
1970–1979	2,908,551 B	2,833,264 B	14,842,923 C	4,700,871 C	49,281,319 D
1980–1989	1,311,218 B	2,983,190 C	12,942,160 B	4,777,596 D	5,856,530 B
1990–1999	1,707,563 B	2,424,554 C	5,341,698 B	5,602,350 C	12,340,876 B
Number of floors					
1	6,896,389 A	7,756,376 C	14,639,932 A	2,708,973 B	7,419,188 D
2	4,221,156 A	6,922,933 A	21,981,265 A	7,799,029 C	13,148,945 B
3	2,045,359 A	4,799,752 C	9,100,208 B	5,271,073 D	5,000,812 B
4–9	312,238 C	1,088,897 C	11,806,076 C	4,938,696 B	27,882,429 B
10 and more	x	x	F	1,480,849 C	F
Predominant type of window					
Single-glazed	3,871,446 A	8,607,057 C	13,930,412 B	3,343,796 B	6,574,963 B
Double-glazed ^a	9,430,500 A	11,801,542 A	43,205,790 A	18,851,591 A	99,478,011 C
Triple-glazed ^b	F	165,711 D	616,607 C	F	F
Predominant exterior wall type					
Curtain walls	F	F	1,518,933 D	841,238 C	9,185,636 C
Metal stud framing with surface insulation	1,309,183 C	1,589,044 D	4,058,745 B	4,414,156 D	F
Metal stud framing without surface insulation	F	145,154 D	1,073,007 C	x	x
Wood-frame walls with surface insulation	3,141,962 B	6,306,272 D	6,138,292 B	F	x
Wood-frame walls without surface insulation	459,843 C	F	230,781 D	x	x
Concrete block with interior finishing	5,191,370 A	7,947,833 A	29,689,313 A	10,135,122 B	32,206,206 A
Concrete block without interior finishing	899,336 B	1,250,557 B	9,321,498 B	2,465,238 C	5,870,490 C
Precast panels	106,562 D	F	F	1,889,122 C	9,102,977 C
Unknown	1,637,882 C	720,185 C	3,791,429 D	1,728,081 D	4,888,186 D

^aIncludes all the different types of windows that are double-glazed (i.e. double-glazed, double-sealed glazed, double-glazed with low-E coating and double-glazed with low-E gas-filled).

^bIncludes all the different types of windows that are triple-glazed (i.e. triple-glazed, triple-glazed with low-E coating and triple-glazed low-E gas-filled). The letter beside each estimate classifies its quality as follows: A – Excellent, B – Good, C – Acceptable, D – Use with caution, F – Too unreliable to be published, x – Suppressed to meet the confidentiality requirements of the Statistics Act.

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Source: Commercial and Institutional Building Energy Use Survey 2000.

This table continues on the next two pages. 

TOTAL NATURAL GAS INTENSITY (GJ/m²)

93–464 m ² (1,000–4,999 sq. ft.)		465–929 m ² (5,000–9,999 sq. ft.)		929–4,645 m ² (10,000–49,999 sq. ft.)		4,645–9,290 m ² (50,000–99,999 sq. ft.)		9,290 m ² and more (100,000 sq. ft. and more)	
1.48	C	1.41	C	0.90	C		F		F
	F		F		F		F		F
	F		F		F		F		F
1.63	D		F		F		F		F
	F		F		F		F		F
	F		F		F		F		F
	F		F		F		F		F
1.82	C		F		F		F		F
	F	1.32	D	0.91	D		F		F
	F		F		F		F		F
	F		F		F		F		F
	x		x		F		F		F
1.43	C		F		F		F		F
1.53	C	1.26	C	0.90	C		F		F
	F		F		F		F		F
	F		F		F		F		F
	F		F		F		F		F
	F		F		F		x		x
	F		F		F		F		x
	F		F		F		x		x
1.59	C	1.40	D	0.92	D		F		F
	F		F		F		F		F
	F		F		F		F		F
	F		F		F		F		F

TABLE
12.3

Total natural gas consumption and natural gas intensity by building characteristics, occupancy characteristics, energy efficiency features, heating energy sources and equipment, cooling energy sources and equipment, and water-heating energy sources by **building floor space**

TOTAL NATURAL GAS CONSUMPTION (GJ)

Building floor space →	93–464 m ² (1,000–4,999 sq. ft.)	465–929 m ² (5,000–9,999 sq. ft.)	929–4,645 m ² (10,000–49,999 sq. ft.)	4,645–9,290 m ² (50,000–99,999 sq. ft.)	9,290 m ² and more (100,000 sq. ft. and more)
Predominant roof type					
Attic roof fully insulated	2,289,961 B	1,737,056 D	2,951,684 B	F	3,983,525 D
Attic roof partially insulated	714,334 B	1,353,054 D	836,845 C	F	x
Attic roof not insulated	224,856 C	257,221 D	F	x	x
Insulated wood-truss roof	1,556,807 B	3,032,543 A	3,251,914 B	F	F
Not insulated wood-truss roof	F	523,551 C	F	F	x
Insulated metal-truss roof	1,150,604 B	1,121,096 B	8,099,230 A	2,922,570 B	9,606,903 C
Not insulated metal-truss roof	F	651,464 C	F	F	374,081 D
Insulated deck-type roof	4,394,195 A	8,651,546 C	22,169,467 A	10,731,583 B	78,006,290 D
Not insulated deck-type roof	575,430 B	F	4,869,114 D	F	x
Unknown	1,809,356 C	719,480 C	4,364,932 B	2,949,990 C	12,037,713 C
Principal building activity					
Commercial and institutional accommodation	F	900,978 C	F	F	7,774,054 D
Entertainment and recreation	151,288 C	480,270 C	4,317,790 C	1,976,383 D	F
Office	706,605 B	1,090,942 A	3,808,112 B	3,949,107 C	F
Food retail	1,396,326 C	F	1,951,491 C	19,404 A	x
Non-food retail	1,236,727 B	F	3,846,533 B	1,307,333 C	F
Food service	4,660,508 A	6,369,154 B	F	x	x
Non-food service	1,473,860 A	1,684,575 B	7,472,363 C	663,158 D	F
Shopping malls	440,039 D	1,878,272 D	4,113,174 B	1,008,141 C	7,919,619 C
Warehouse/wholesale	279,077 B	479,278 B	3,754,133 C	1,268,904 C	F
Administration	142,543 C	420,926 B	2,437,883 C	1,982,379 D	7,243,322 D
Education	F	F	10,157,931 B	4,403,830 C	11,137,530 B
Health care	365,268 B	F	321,828 C	F	10,272,918 B
Public assembly	1,353,654 C	1,146,844 B	3,048,858 B	F	F
Other	x	218,765 D	F	F	x
Number of workers					
Less than 5	4,298,272 A	2,783,315 A	7,297,155 C	F	x
5–9	3,871,001 A	3,288,620 A	6,468,653 C	824,319 D	x
10–19	2,508,730 A	8,858,544 C	8,862,579 A	F	F
20–49	2,140,947 B	3,387,901 B	13,384,257 A	5,710,853 C	F
50–99	F	F	15,188,234 C	4,719,483 D	9,037,510 C
100–249	F	F	2,329,518 B	2,704,953 B	9,098,281 C
250 and more	x	x	4,222,413 C	5,841,975 B	82,869,605 C



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TOTAL NATURAL GAS INTENSITY (GJ/m²)

93–464 m ² (1,000–4,999 sq. ft.)		465–929 m ² (5,000–9,999 sq. ft.)		929–4,645 m ² (10,000–49,999 sq. ft.)		4,645–9,290 m ² (50,000–99,999 sq. ft.)		9,290 m ² and more (100,000 sq. ft. and more)	
	F		F		F		F		F
	F		F		F		F		x
	F		F		F		x		x
	F		F		F		F		F
	F		F		F		F		x
	F		F		F		F		F
	F	2.21	D		F		F		F
	F		F		F		F		F
	F		F		F		F		x
	F		F		F		F		F
	F		F		F		F		F
	F		F		F		F		F
	F		F		F		F		x
	F		F		F		F		F
	F		F		F		F		F
	F		F		F		F		F
	F		F		F		F		F
	F		F		F		F		F
	F		F		F		F		F
	F		F		F		F	1.49	D
	F		F		F		F		F
	x		F		F		F		x
	F		F		F		F		x
1.53	D	0.99	D		F		F		x
1.81	D		F		F		F		F
	F		F		F		F		F
	F		F		F		F		F
	F		F		F		F		F
	F		F		F		F		F
	x		x		F		F		F

TABLE
12.3

Total natural gas consumption and natural gas intensity by building characteristics, occupancy characteristics, energy efficiency features, heating energy sources and equipment, cooling energy sources and equipment, and water-heating energy sources **by building floor space**

TOTAL NATURAL GAS CONSUMPTION (GJ)

Building floor space →	93–464 m ² (1,000–4,999 sq. ft.)		465–929 m ² (5,000–9,999 sq. ft.)		929–4,645 m ² (10,000–49,999 sq. ft.)		4,645–9,290 m ² (50,000–99,999 sq. ft.)		9,290 m ² and more (100,000 sq. ft. and more)	
Weekly hours of operation										
Less than 40	1,050,422	B	1,282,086	B	2,024,600	B		F		F
40–48	2,544,197	B	1,902,951	A	9,803,527	A	4,403,523	C	10,919,303	C
49–60	2,845,333	A	3,864,826	C	13,472,590	A	4,342,895	A	14,115,098	C
61–84	2,606,238	B		F	13,671,151	A	2,842,819	B		F
85–167	3,276,317	A	6,043,872	C	12,478,188	B	6,061,832	C	13,997,913	B
Open continuously	1,156,376	C	1,634,297	D		F		F	19,611,444	B
Building ownership										
Private individual(s)	5,806,057	A	6,415,666	A	10,863,689	A	2,287,373	C		F
Private organization	5,133,335	A	11,216,932	C	25,569,788	B	8,087,114	A	33,373,479	B
Non-profit organization	1,549,434	B	2,207,891	B	8,251,047	B	2,226,952	D		F
Fed.-prov.-munic.-regional government ^c		F	733,821	B	13,068,285	A	9,597,180	C	26,764,149	A
Building conservation feature										
Reflective or shading film	1,555,813	B	5,110,192	B	14,542,781	B	8,465,137	B	68,075,472	D
Awnings or blinds	6,724,313	A	11,313,855	A	32,652,111	A	15,960,325	B	79,722,888	D
Lighting conservation feature										
Reflectors	2,810,948	B	4,126,287	A	14,598,255	A	8,791,311	B	71,712,707	D
Energy-efficient ballast	5,373,877	A	4,872,380	B	34,870,287	A	14,705,121	A	92,992,015	C
Daylight controls	2,004,506	B	2,101,198	C	6,704,042	A	3,038,974	C	14,268,023	A
Occupancy sensors		F	322,225	D	6,063,359	C	1,658,723	B	23,300,579	B
Time clocks	1,850,500	B	5,674,376	A	18,008,290	B	7,166,363	B	45,150,293	A
Manual dimmer switches	2,903,036	A	5,804,561	B	15,597,419	C	7,992,813	C	66,459,597	D
Energy-efficient lamps	3,414,876	B	4,695,563	A	21,536,359	A	11,323,845	A	95,285,799	C
Other	495,187	B	1,609,475	C	5,235,949	B	2,874,043	C	13,046,346	D
Heating/cooling conservation feature										
Variable air-volume system	3,752,605	A	4,540,952	B	19,721,047	A	10,966,175	B	77,820,099	D
Outdoor-air economizer	3,939,116	A	5,019,537	B	25,358,271	A	14,610,864	B	59,383,622	A
Temperature setback	5,048,305	A	5,576,381	B	26,098,494	A	11,317,840	A	59,628,410	A
Equipment reset	4,383,215	A	4,419,480	B	22,960,558	A	11,709,851	B	86,278,213	C
Heat recovery system	1,833,960	A	1,137,640	B	8,742,342	B	6,861,264	C	25,906,545	B
Regular maintenance	10,482,935	A	14,211,664	A	50,673,267	A	21,835,037	A	106,227,923	C

^cIncludes all levels of government (i.e. federal, provincial, municipal and regional).

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TABLE

12.3

TOTAL NATURAL GAS INTENSITY (GJ/m²)

93–464 m ² (1,000–4,999 sq. ft.)		465–929 m ² (5,000–9,999 sq. ft.)		929–4,645 m ² (10,000–49,999 sq. ft.)		4,645–9,290 m ² (50,000–99,999 sq. ft.)		9,290 m ² and more (100,000 sq. ft. and more)	
	F		F		F		F		F
	F	0.90	D		F		F		F
1.20	D		F		F		F		F
	F		F		F		F		F
	F		F		F		F		F
	F		F		F		F		F
	F		F		F		F		F
	F		F		F		F		F
	F	1.16	D		F		F		F
1.92	C		F		F		F		F
	F		F		F		F		F
	F		F		F		F		F
	F		F		F		F		F
1.27	D		F		F		F		F
1.63	C	1.36	C	0.94	D		F		F
	F		F		F		F		F
1.82	C		F	0.94	C		F		F
	F		F		F		F		F
	F		F		F		F		F
	F		F		F		F		F
1.88	C		F		F		F		F
1.68	D	1.30	D	0.90	D		F		F
	F		F		F		F		F
	F		F		F		F		F
1.87	D		F		F		F		F
1.72	C		F	0.94	D		F		F
1.61	D		F	0.88	D		F		F
	F		F		F		F		F
	F		F		F		F		F
1.45	C	1.27	C	0.93	C		F		F

TABLE
12.3

Total natural gas consumption and natural gas intensity by building characteristics, occupancy characteristics, energy efficiency features, heating energy sources and equipment, cooling energy sources and equipment, and water-heating energy sources by **building floor space**

TOTAL NATURAL GAS CONSUMPTION (GJ)

Building floor space	93–464 m ² (1,000–4,999 sq. ft.)	465–929 m ² (5,000–9,999 sq. ft.)	929–4,645 m ² (10,000–49,999 sq. ft.)	4,645–9,290 m ² (50,000–99,999 sq. ft.)	9,290 m ² and more (100,000 sq. ft. and more)
Percentage of the floor space heated					
Less than 1	x	x	x	x	x
1–50	F	222,453 C	F	2,303,731 D	F
51–99	853,732 B	2,143,611 C	2,563,368 B	1,078,565 C	9,211,276 C
100	12,434,307 A	18,208,245 A	52,246,162 A	18,816,323 A	97,178,815 C
Energy source for heating (more than one may apply)					
Electricity	4,075,288 A	10,792,454 C	24,652,265 B	8,718,615 B	30,971,643 A
Natural gas	12,930,786 A	17,124,263 A	54,389,468 A	21,633,886 A	105,159,020 C
Fuel/heating oil	F	F	1,488,350 D	x	2,851,597 B
Composite ^d	F	x	F	x	F
Main energy source for heating					
Electricity	1,395,547 B	F	6,554,170 B	2,501,367 C	10,126,931 C
Natural gas	11,971,060 A	15,565,848 A	50,814,021 A	19,584,610 A	92,561,035 C
Fuel/heating oil	x	x	309,012 D	x	x
Composite ^d	x	x	x	x	4,301,445 C
Heating equipment (more than one may apply)					
Furnaces	8,024,832 A	9,075,272 C	21,658,865 A	3,642,745 C	18,932,366 C
Heat pumps	197,627 C	290,045 C	2,162,730 B	2,840,006 D	9,328,046 D
Individual space heaters	1,949,629 A	8,312,241 C	23,442,353 B	7,152,348 C	25,887,015 B
Boilers	1,849,963 B	5,321,529 B	23,952,780 B	12,924,065 B	84,183,163 C
Packaged heating units	3,831,729 B	7,277,574 A	18,632,805 A	8,967,813 B	27,837,380 B
District steam or hot water or other	955,743 C	1,190,979 D	4,457,821 C	642,608 C	11,091,077 D
Main heating equipment					
Furnaces	7,099,020 A	5,812,713 A	14,125,241 B	2,399,714 C	6,862,799 C
Heat pumps	139,194 D	188,819 D	1,171,346 D	F	2,449,506 C
Individual space heaters	795,408 B	F	8,688,950 B	996,008 C	804,874 D
Boilers	1,428,410 B	4,655,779 C	21,459,255 B	10,922,928 B	77,507,445 D
Packaged heating units	3,215,428 B	6,213,231 B	10,958,001 A	5,721,873 C	12,253,219 C
District steam or hot water or other	801,423 D	F	1,350,016 D	F	7,111,567 D
Not heated	x	x	x	x	x



^dIncludes the categories of diesel or kerosene; bottled gas, liquid petroleum gas or propane; district steam; district hot water; wood; coal; solar thermal panels; and others.

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Source: Commercial and Institutional Building Energy Use Survey 2000.

This table is a continuation of the previous two pages. 
 This table continues on the next two pages. 

TOTAL NATURAL GAS INTENSITY (GJ/m²)

93–464 m ² (1,000–4,999 sq. ft.)		465–929 m ² (5,000–9,999 sq. ft.)		929–4,645 m ² (10,000–49,999 sq. ft.)		4,645–9,290 m ² (50,000–99,999 sq. ft.)		9,290 m ² and more (100,000 sq. ft. and more)	
	x		x		x		x		x
	F		F		F		F		F
	F		F		F		F		F
	1.51 C		1.44 C		0.91 C		F		F
	1.45 C		F		F		F		F
	1.47 C		1.27 C		0.91 C		F		F
	1.12 D		0.73 D		1.23 D		x		0.82 D
	F		x		F		x		F
	F		F		F		F		F
	1.45 C		1.23 C		0.91 C		F		F
	x		x		0.52 D		x		x
	x		x		x		x		F
	1.33 D		F		F		F		F
	F		F		F		F		F
	1.32 D		F		F		F		F
	F		F		F		F		F
	2.21 D		1.77 D		F		F		F
	F		F		F		F		F
	1.31 C		0.93 D		F		F		F
	F		F		F		F		F
	F		F		F		0.65 D		F
	F		F		F		F		F
	F		1.81 D		F		F		F
	F		F		F		F		F
	x		x		x		x		x

TABLE
12.3

Total natural gas consumption and natural gas intensity by building characteristics, occupancy characteristics, energy efficiency features, heating energy sources and equipment, cooling energy sources and equipment, and water-heating energy sources **by building floor space**

TOTAL NATURAL GAS CONSUMPTION (GJ)

Building floor space	93–464 m ² (1,000–4,999 sq. ft.)	465–929 m ² (5,000–9,999 sq. ft.)	929–4,645 m ² (10,000–49,999 sq. ft.)	4,645–9,290 m ² (50,000–99,999 sq. ft.)	9,290 m ² and more (100,000 sq. ft. and more)
Percentage of the floor space cooled					
Not cooled	2,988,580 A	7,450,192 D	13,965,241 B	4,350,492 C	F
1–50	3,020,793 B	3,768,620 B	13,960,106 A	3,310,089 B	15,091,049 B
51–99	1,379,419 A	4,153,853 B	7,810,047 B	6,253,678 C	27,853,357 B
100	6,090,091 A	5,201,644 A	22,017,415 B	8,284,360 B	F
Space-cooling energy source					
Electricity	9,409,068 A	10,258,571 A	38,606,541 A	13,776,910 A	96,044,161 C
Natural gas	1,323,730 B	3,474,329 C	6,303,892 B	4,353,837 D	7,277,668 C
Fuel/heating oil	x	x	x	x	x
Composite ^e	x	x	300,954 D	F	7,772,310 C
Cooling equipment (more than one may apply)					
Residential-type air conditioners	2,459,949 A	2,900,590 B	6,852,091 A	532,899 C	7,836,576 C
Heat pumps	267,507 C	338,798 C	2,831,310 D	F	3,507,247 B
Individual room air conditioners	1,205,586 B	1,651,539 C	7,303,793 B	2,175,890 C	12,992,678 B
District-chilled water from outside source	x	x	F	F	8,464,789 C
Central chillers	F	254,063 D	F	3,094,075 A	72,471,763 D
Packaged air-conditioning units	6,652,906 A	9,012,865 A	30,741,334 A	11,290,583 B	34,883,653 B
Swamp coolers	x	x	x	F	F
Composite ^f	353,726 D	F	1,904,521 C	2,109,861 D	F
Other	F	F	1,504,915 D	F	F
Main cooling equipment					
Residential-type air conditioners	2,305,253 A	2,343,937 B	5,501,174 B	174,912 D	5,923,184 D
Heat pumps	252,827 C	297,478 C	842,313 C	F	1,877,901 D
Individual room air conditioners	927,799 C	1,160,420 D	2,871,628 B	806,260 D	2,297,629 D
District-chilled water from outside source	x	x	x	x	5,079,490 C
Central chillers	F	248,342 D	F	3,089,222 A	48,589,783 B
Packaged air-conditioning units	6,221,878 A	8,833,070 A	27,245,548 A	8,539,835 B	18,454,062 B
Composite ^f	F	F	F	1,647,849 D	F
Not cooled	2,988,580 A	7,450,192 D	13,965,241 B	4,350,492 C	F

^eIncludes the air-conditioning categories of fuel/heating oil; diesel or kerosene; bottled gas, liquid petroleum gas or propane; district-chilled water; and others.

^fIncludes the categories of district-chilled water from outside source; swamp coolers; and others.


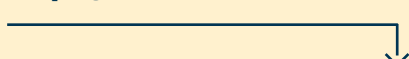
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TOTAL NATURAL GAS INTENSITY (GJ/m²)

93–464 m ² (1,000–4,999 sq. ft.)		465–929 m ² (5,000–9,999 sq. ft.)		929–4,645 m ² (10,000–49,999 sq. ft.)		4,645–9,290 m ² (50,000–99,999 sq. ft.)		9,290 m ² and more (100,000 sq. ft. and more)	
1.30	D		F		F		F		F
	F		F		F		F		F
1.49	D		F		F		F		F
1.60	D	1.15	D		F		F		F
1.52	D	1.17	D	0.96	C		F		F
	F		F		F		F		F
	x		x		x		x		x
	x		x		F		F		F
	F		F		F		F		F
	F		F		F		F		F
	F		F		F		F		F
	x		x		F		F		F
	F		F		F		F		F
1.97	C	1.37	C	0.92	C		F		F
	x		x		x		F		F
	F		F		F		F		F
	F		F		F		F		F
	F		F		F		F		F
	F		F		F		F		F
	F		F		F		F	0.84	D
	x		x		x		x		F
	F		F		F		F		F
1.92	D	1.40	C	0.88	C		F		F
	F		F		F		F		F
1.30	D		F		F		F		F

TABLE

12.3

Total natural gas consumption and natural gas intensity by building characteristics, occupancy characteristics, energy efficiency features, heating energy sources and equipment, cooling energy sources and equipment, and water-heating energy sources by **building floor space**

TOTAL NATURAL GAS CONSUMPTION (GJ)

Building floor space	93–464 m ² (1,000–4,999 sq. ft.)	465–929 m ² (5,000–9,999 sq. ft.)	929–4,645 m ² (10,000–49,999 sq. ft.)	4,645–9,290 m ² (50,000–99,999 sq. ft.)	9,290 m ² and more (100,000 sq. ft. and more)
Energy source for water heating					
Electricity	3,409,534 A	9,122,116 C	21,130,220 B	4,133,507 B	16,409,299 B
Natural gas	10,488,923 A	11,944,700 A	40,626,727 A	18,763,214 A	56,044,610 A
Fuel/heating oil	x	x	F	x	x
Composite ^d	x	x	F	x	F
Not heated	122,687 D	F	F	x	x

^dIncludes the categories of diesel or kerosene; bottled gas, liquid petroleum gas or propane; district steam; district hot water; wood; coal; solar thermal panels; and others.

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TOTAL NATURAL GAS INTENSITY (GJ/m²)

93–464 m ² (1,000–4,999 sq. ft.)		465–929 m ² (5,000–9,999 sq. ft.)		929–4,645 m ² (10,000–49,999 sq. ft.)		4,645–9,290 m ² (50,000–99,999 sq. ft.)		9,290 m ² and more (100,000 sq. ft. and more)	
1.22	C		F		F		F		F
1.67	C	1.37	C	0.95	C		F		F
x		x		1.54	D		x		x
x		x			F		x		F
F		F			F		x		x

TABLE 12.4

Total natural gas consumption and natural gas intensity by building characteristics, occupancy characteristics, energy efficiency features, heating energy sources and equipment, cooling energy sources and equipment, and water-heating energy sources **by year of construction**

TOTAL NATURAL GAS CONSUMPTION (GJ)

Year of construction	Before 1920	1920– 1959	1960– 1969	1970– 1979	1980– 1989	1990– 1999
All buildings						
Canada	12,275,823 B	44,201,546 A	34,662,000 C	74,566,928 B	27,870,694 A	27,417,040 A
Building floor space						
93–464 m ² (1,000–4,999 sq. ft.)	1,091,016 B	5,234,171 A	1,226,365 B	2,908,551 B	1,311,218 B	1,707,563 B
465–929 m ² (5,000–9,999 sq. ft.)	F	6,593,027 B	1,665,195 B	2,833,264 B	2,983,190 C	2,424,554 C
929–4,645 m ² (10,000–49,999 sq. ft.)	3,148,171 B	15,087,901 B	6,389,956 A	14,842,923 C	12,942,160 B	5,341,698 B
4,645–9,290 m ² (50,000–99,999 sq. ft.)	1,707,198 D	3,026,457 C	2,384,147 B	4,700,871 C	4,777,596 D	5,602,350 C
9,290 m ² and more (100,000 sq. ft. and more)	F	14,259,990 C	F	49,281,319 D	5,856,530 B	12,340,876 B
Number of floors						
1	F	6,718,855 B	3,610,781 A	12,543,409 B	7,505,367 B	5,441,707 B
2	1,592,520 B	15,118,130 B	6,702,649 B	12,431,949 B	8,715,000 A	9,513,080 B
3	2,904,203 C	8,581,768 B	4,630,446 B	4,362,709 B	F	1,676,294 D
4–9	4,136,670 C	12,561,943 B	4,782,733 C	12,889,549 D	5,292,904 C	6,364,538 D
10 and more	x	1,220,850 C	F	F	2,295,640 C	F
Predominant type of window						
Single-glazed	F	13,204,399 A	6,133,084 B	6,487,048 B	F	530,239 C
Double-glazed ^a	6,147,363 B	30,798,208 A	28,466,699 D	67,782,511 C	23,338,226 A	26,234,426 A
Triple-glazed ^b	F	F	F	F	F	F
Predominant exterior wall type						
Curtain walls	x	1,498,583 C	F	F	2,292,499 D	F
Metal stud framing with surface insulation	F	F	F	F	4,001,518 B	7,933,582 D
Metal stud framing without surface insulation	x	F	F	F	F	222,407 D
Wood-frame walls with surface insulation	F	3,836,539 B	630,562 B	3,077,782 D	1,755,549 C	2,448,471 D
Wood-frame walls without surface insulation	410,693 D	F	F	x	F	F
Concrete block with interior finishing	4,441,255 B	27,375,201 A	12,998,781 A	22,866,647 B	10,542,973 B	6,944,988 A
Concrete block without interior finishing	F	2,475,666 C	2,766,280 B	6,549,149 C	4,735,757 D	1,530,561 C
Precast panels	x	F	656,971 C	8,362,774 C	786,816 D	F
Unknown	x	2,014,809 C	F	F	F	3,225,693 C

^aIncludes all the different types of windows that are double-glazed (i.e. double-glazed, double-sealed glazed, double-glazed with low-E coating and double-glazed with low-E gas-filled).

^bIncludes all the different types of windows that are triple-glazed (i.e. triple-glazed, triple-glazed with low-E coating and triple-glazed low-E gas-filled).

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TOTAL NATURAL GAS INTENSITY (GJ/m²)

Before 1920	1920–1959	1960–1969	1970–1979	1980–1989	1990–1999
F	F	F	F	F	F
F	F	1.63 D	F	F	F
F	F	F	F	F	F
F	F	F	F	F	F
F	F	F	F	F	F
F	F	F	F	F	F
F	F	0.65 C	F	F	F
F	F	F	F	F	F
F	F	F	F	F	F
x	0.95 B	F	F	F	F
F	1.15 D	F	F	F	F
F	F	F	F	F	F
0.98 D	F	F	F	F	F
x	F	F	F	F	F
F	F	F	F	F	F
x	F	F	F	F	F
F	F	F	F	F	F
F	F	0.95 D	x	F	0.95 D
F	F	F	F	F	F
F	F	F	F	F	F
x	F	F	F	F	F
x	F	F	F	F	F

TABLE
12.4

Total natural gas consumption and natural gas intensity by building characteristics, occupancy characteristics, energy efficiency features, heating energy sources and equipment, cooling energy sources and equipment, and water-heating energy sources **by year of construction**

TOTAL NATURAL GAS CONSUMPTION (GJ)

Year of construction →	Before 1920	1920– 1959	1960– 1969	1970– 1979	1980– 1989	1990– 1999
Predominant roof type						
Attic roof fully insulated	2,048,074 C	1,569,004 B	1,445,510 B	2,008,693 C	1,613,415 D	F
Attic roof partially insulated	1,058,942 C	1,616,051 C	F	337,409 D	F	F
Attic roof not insulated	F	F	F	F	F	x
Insulated wood-truss roof	1,869,723 D	3,453,633 A	1,481,346 C	489,617 C	898,291 D	1,807,477 D
Not insulated wood-truss roof	496,639 C	3,808,633 D	246,674 D	F	26,326 D	F
Insulated metal-truss roof	x	5,623,347 D	2,556,923 C	5,009,025 B	3,868,375 B	5,790,525 B
Not insulated metal-truss roof	x	F	F	1,233,666 D	F	F
Insulated deck-type roof	F	18,875,600 A	F	48,757,397 D	13,658,181 B	11,652,412 C
Not insulated deck-type roof	F	3,551,155 D	769,891 D	1,629,956 D	F	135,077 C
Unknown	F	3,751,002 C	F	8,747,718 D	2,449,474 B	4,563,778 C
Principal building activity						
Commercial and institutional accommodation	F	F	1,334,217 C	10,628,433 D	F	F
Entertainment and recreation	F	F	F	2,188,910 D	856,589 D	1,196,038 C
Office	F	2,739,306 B	F	F	3,233,359 C	6,902,108 B
Food retail	x	1,652,554 C	157,759 D	F	F	F
Non-food retail	F	3,922,833 D	859,448 C	1,512,637 C	2,332,993 C	2,464,081 D
Food service	685,014 C	7,689,361 B	924,998 C	1,926,420 C	1,609,557 C	2,694,836 C
Non-food service	F	912,386 B	2,417,483 D	4,651,238 D	F	1,799,446 C
Shopping malls	x	1,300,787 C	1,624,548 B	7,097,972 D	3,982,388 B	1,352,778 C
Warehouse/wholesale	x	F	1,050,752 C	2,857,592 C	F	1,451,383 B
Administration	658,956 D	1,208,973 C	350,520 C	8,151,753 D	1,216,875 D	639,977 D
Education	F	7,235,670 B	6,267,927 B	7,737,816 C	F	2,185,247 D
Health care	172,268 C	5,273,439 C	F	917,101 C	F	64,812 D
Public assembly	1,641,747 C	1,600,050 B	824,973 B	F	747,061 D	F
Other	x	210,434 D	x	x	264,527 B	129,378 D
Number of workers						
Less than 5	1,409,605 B	5,744,157 C	1,762,906 C	1,677,776 B	F	1,673,891 C
5–9	840,472 B	5,122,615 C	1,133,919 B	5,920,383 D	2,915,340 D	1,214,348 A
10–19	F	6,949,438 B	2,214,665 B	4,184,167 B	3,266,933 B	F
20–49	1,289,626 C	2,874,083 B	4,277,379 B	5,100,588 B	8,223,961 C	4,362,160 B
50–99	2,302,133 D	6,154,737 C	2,383,659 D	10,632,305 D	2,973,253 C	5,660,439 C
100–249	F	F	1,502,565 C	5,227,587 C	1,470,285 B	F
250 and more	F	15,222,979 C	F	F	5,884,938 B	7,751,948 B

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TABLE
12.4

Total natural gas consumption and natural gas intensity by building characteristics, occupancy characteristics, energy efficiency features, heating energy sources and equipment, cooling energy sources and equipment, and water-heating energy sources **by year of construction**

TOTAL NATURAL GAS CONSUMPTION (GJ)

Year of construction →	Before 1920	1920– 1959	1960– 1969	1970– 1979	1980– 1989	1990– 1999
Weekly hours of operation						
Less than 40	1,884,448 D	2,121,725 B	1,694,606 D	324,824 B	425,632 D	F
40–48	902,313 B	8,404,102 B	3,641,159 B	7,410,995 B	3,470,306 B	5,744,624 D
49–60	1,584,114 D	7,379,484 B	4,288,153 B	11,756,302 C	6,220,071 C	7,412,619 C
61–84	F	9,586,143 B	F	F	6,489,943 C	5,496,248 B
85–167	2,184,195 C	10,646,072 B	4,755,762 C	11,917,357 B	5,783,823 A	6,570,912 C
Open continuously	F	6,064,019 D	3,868,650 D	13,147,400 D	5,480,918 C	1,916,570 D
Building ownership						
Private individual(s)	1,600,960 B	9,861,246 B	F	F	6,511,632 B	4,346,051 C
Private organization	6,776,110 D	18,403,604 B	7,257,118 B	23,717,588 B	13,010,496 B	14,215,732 A
Non-profit organization	2,111,551 B	4,296,280 C	4,968,785 C	6,698,316 D	884,397 C	F
Fed.-prov.-munic.-regional government ^c	1,787,201 D	11,640,416 A	8,032,367 A	14,597,363 B	7,464,169 B	7,631,975 D
Building conservation feature						
Reflective or shading film	983,745 B	13,764,455 C	F	F	9,440,932 A	13,610,204 B
Awnings or blinds	4,571,691 B	25,087,959 B	F	57,226,584 C	18,339,228 A	17,962,489 B
Lighting conservation feature						
Reflectors	1,235,735 C	12,931,500 C	F	44,770,219 D	9,688,350 B	14,285,541 B
Energy-efficient ballast	3,572,910 B	25,553,342 B	F	61,823,653 C	16,040,747 A	20,763,516 B
Daylight controls	F	5,185,912 A	3,790,460 B	11,224,660 A	3,002,137 B	3,169,132 B
Occupancy sensors	926,121 D	6,700,695 D	3,675,581 C	10,631,121 B	4,320,732 C	6,201,002 D
Time clocks	3,281,858 C	15,839,818 B	8,546,300 B	24,995,950 B	10,594,169 B	14,591,726 B
Manual dimmer switches	4,788,438 C	12,606,716 B	F	F	7,980,839 B	13,071,329 B
Energy-efficient lamps	5,369,160 C	23,177,825 B	F	54,693,388 C	11,413,162 A	17,119,310 B
Other	1,230,912 C	2,853,984 C	1,806,312 D	8,821,995 D	2,263,802 B	6,283,995 B
Heating/cooling conservation feature						
Variable air-volume system	2,588,802 B	15,905,337 B	F	47,121,902 D	14,745,540 A	15,874,565 B
Outdoor-air economizer	3,806,838 C	21,285,990 B	11,204,994 A	36,155,984 A	15,133,930 A	20,723,674 B
Temperature setback	5,882,949 B	25,636,373 B	13,352,170 B	31,585,271 A	12,713,048 A	18,499,619 A
Equipment reset	4,769,810 C	19,102,530 A	F	50,820,930 D	13,371,294 A	17,574,398 B
Heat recovery system	1,345,008 C	8,900,889 C	5,821,135 B	8,459,246 C	8,169,506 B	11,785,967 C
Regular maintenance	8,567,202 B	40,603,985 A	31,818,305 D	72,804,923 C	23,242,559 A	26,393,851 A

^cIncludes all levels of government (i.e. federal, provincial, municipal and regional).

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Source: Commercial and Institutional Building Energy Use Survey 2000.

TABLE
12.4

Total natural gas consumption and natural gas intensity by building characteristics, occupancy characteristics, energy efficiency features, heating energy sources and equipment, cooling energy sources and equipment, and water-heating energy sources by year of construction

TOTAL NATURAL GAS CONSUMPTION (GJ)

Year of construction →	Before 1920	1920– 1959	1960– 1969	1970– 1979	1980– 1989	1990– 1999
Percentage of the floor space heated						
Less than 1	x	x	x	x	x	x
1–50	x	F	F	F	F	693,955 C
51–99	1,404,061 C	F	2,819,014 C	1,362,195 B	2,147,229 C	F
100	10,841,974 C	38,359,211 A	30,803,833 D	71,783,689 C	25,201,776 A	21,893,369 A
Energy source for heating (more than one may apply)						
Electricity	6,412,083 D	19,718,882 A	9,348,558 B	23,141,155 B	10,111,788 B	10,477,799 B
Natural gas	9,018,650 B	43,209,701 A	33,974,743 C	72,974,607 C	26,275,370 A	25,784,352 A
Fuel/heating oil	295,835 C	2,853,058 B	820,282 C	F	x	x
Composite ^d	35,641 D	829,363 B	F	F	F	F
Main energy source for heating						
Electricity	F	6,225,836 D	1,353,305 B	7,016,114 D	3,597,235 B	3,680,942 C
Natural gas	8,505,981 B	37,184,152 A	31,615,057 D	66,058,172 C	23,664,122 A	23,469,089 A
Fuel/heating oil	F	180,858 D	x	x	x	x
Composite ^d	x	610,700 B	x	F	F	x
Heating equipment (more than one may apply)						
Furnaces	F	13,935,258 B	7,290,416 B	18,575,622 B	9,236,159 B	6,331,391 B
Heat pumps	F	2,303,268 B	1,607,386 D	F	2,237,799 C	3,637,359 D
Individual space heaters	F	14,394,963 B	7,589,746 B	21,724,950 B	9,912,988 B	7,491,185 B
Boilers	5,559,497 B	24,017,144 A	F	52,350,883 D	7,460,858 A	13,523,680 B
Packaged heating units	2,438,256 D	9,172,836 B	7,699,991 B	23,466,449 B	13,105,904 B	10,663,864 A
District steam or hot water or other	F	F	2,758,921 C	3,225,574 B	2,525,541 C	2,339,896 D
Main heating equipment						
Furnaces	2,729,093 C	11,168,265 B	4,671,301 C	6,906,351 A	6,205,374 C	4,619,103 C
Heat pumps	F	1,867,493 C	x	F	720,664 D	1,824,830 D
Individual space heaters	F	3,365,987 D	1,232,147 C	2,891,242 D	3,199,028 D	1,196,038 D
Boilers	5,404,308 B	19,625,006 A	F	49,281,092 D	6,545,700 B	12,160,709 C
Packaged heating units	F	4,929,221 D	3,324,810 B	12,263,203 B	9,992,796 C	7,094,778 B
District steam or hot water or other	x	F	2,329,076 D	2,222,036 C	1,207,132 C	521,581 D
Not heated	x	x	x	x	x	x

^dIncludes the categories of diesel or kerosene; bottled gas, liquid petroleum gas or propane; district steam; district hot water; wood; coal; solar thermal panels; and others.

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This table is a continuation of the previous two pages.
 This table continues on the next two pages.

TABLE

12.4

TOTAL NATURAL GAS INTENSITY (GJ/m²)

Before 1920	1920–1959	1960–1969	1970–1979	1980–1989	1990–1999
x	x	x	x	x	x
x	F	F	F	F	F
F	F	F	F	F	F
F	F	F	F	F	F
F	F	F	F	F	F
F	F	F	F	F	F
F	F	F	F	F	F
F	F	F	F	F	F
0.53 D	1.24 D	0.64 D	0.52 D	x	x
F	F	F	F	F	F
F	F	0.45 D	F	F	F
F	1.02 C	F	F	F	F
0.41 D	0.75 D	x	x	x	x
x	F	x	F	F	x
F	F	F	F	F	F
F	F	F	F	F	F
1.39 D	F	F	F	F	F
F	F	F	F	F	F
F	F	F	F	F	F
F	F	F	F	F	F
F	F	F	F	F	F
F	F	F	F	F	F
x	F	F	F	F	F
x	x	x	x	x	x
F	F	F	F	F	F
F	F	x	F	F	F
F	F	F	F	F	F
F	0.95 D	F	F	F	F
F	F	F	F	F	F
x	F	F	F	F	F
x	x	x	x	x	x

TABLE

12.4

Total natural gas consumption and natural gas intensity by building characteristics, occupancy characteristics, energy efficiency features, heating energy sources and equipment, cooling energy sources and equipment, and water-heating energy sources **by year of construction**

TOTAL NATURAL GAS CONSUMPTION (GJ)

Year of construction	Before 1920	1920– 1959	1960– 1969	1970– 1979	1980– 1989	1990– 1999
Percentage of the floor space cooled						
Not cooled	F	13,242,080 B	2,322,104 B	6,908,200 D	F	1,667,348 D
1–50	1,969,807 C	8,010,009 B	7,489,102 B	11,582,430 B	5,524,872 B	4,574,437 B
51–99	2,784,885 C	10,745,279 C	4,184,792 B	13,777,255 B	4,496,875 B	11,461,267 C
100	2,256,956 C	12,204,178 B	F	F	14,253,907 B	9,713,988 A
Space-cooling energy source						
Electricity	6,824,806 B	27,411,981 A	29,013,328 D	63,506,205 C	18,153,394 A	23,185,538 B
Natural gas	F	4,410,772 D	4,694,623 C	2,756,746 B	6,769,154 C	3,312,862 B
Fuel/heating oil	x	x	x	x	x	x
Composite ^e	x	972,168 D	2,285,906 D	F	452,162 D	F
Cooling equipment (more than one may apply)						
Residential-type air conditioners	1,286,450 B	5,616,097 C	3,569,239 D	5,355,526 D	2,099,247 B	2,655,546 C
Heat pumps	725,766 D	F	931,161 B	1,868,661 C	864,106 C	F
Individual room air conditioners	2,105,266 D	7,943,715 C	4,649,266 B	4,420,466 B	5,646,933 C	F
District-chilled water from outside source	x	938,237 D	2,580,883 D	F	701,209 D	F
Central chillers	920,612 D	10,669,041 D	F	F	5,164,051 B	8,475,059 C
Packaged air-conditioning units	4,120,282 C	18,225,435 B	12,691,742 A	27,360,152 A	16,420,141 B	13,763,587 A
Swamp coolers	x	F	x	x	x	F
Composite ^f	F	1,420,266 C	F	F	1,529,716 C	1,287,831 D
Other	x	F	F	F	1,143,450 D	F
Main cooling equipment						
Residential-type air conditioners	908,451 C	4,724,972 C	F	F	1,333,090 B	2,410,349 C
Heat pumps	F	F	201,660 D	1,300,110 D	772,306 D	F
Individual room air conditioners	F	2,305,273 B	1,219,032 C	814,131 D	1,697,995 D	F
District-chilled water from outside source	x	587,760 D	F	2,320,755 D	x	F
Central chillers	F	8,306,503 D	F	20,350,801 B	5,158,330 B	8,259,020 C
Packaged air-conditioning units	2,978,334 C	14,035,784 B	9,378,075 A	17,983,731 B	14,459,817 B	10,458,651 A
Composite ^f	x	813,733 C	2,730,370 D	F	854,117 D	F
Not cooled	F	13,242,080 B	2,322,104 B	6,908,200 D	F	1,667,348 D

^eIncludes the air-conditioning categories of fuel/heating oil; diesel or kerosene; bottled gas, liquid petroleum gas or propane; district-chilled water; and others.

^fIncludes the categories of district-chilled water from outside source; swamp coolers; and others.

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This table is a continuation of the previous two pages.
 This table continues on the next two pages.

TABLE

12.4

TOTAL NATURAL GAS INTENSITY (GJ/m²)

Before 1920	1920–1959	1960–1969	1970–1979	1980–1989	1990–1999
F	F	F	F	F	F
F	F	F	F	F	F
F	F	F	F	F	F
F	F	F	F	F	F
F	F	F	F	0.81 D	F
F	F	F	F	F	F
x	x	x	x	x	x
x	0.83 D	F	F	F	F
F	F	F	F	F	F
F	F	0.67 A	F	F	F
F	F	F	F	F	F
x	0.81 D	F	F	F	F
F	F	F	F	F	F
F	F	F	F	F	F
x	F	x	x	x	F
F	F	F	F	F	F
x	F	F	F	F	F
F	F	F	F	F	F
F	F	F	F	F	F
1.18 D	F	F	F	F	F
x	0.76 D	F	F	F	F
F	F	F	F	F	F
F	F	F	F	F	F
x	F	F	F	F	F
F	F	F	F	F	F

TABLE

12.4

Total natural gas consumption and natural gas intensity by building characteristics, occupancy characteristics, energy efficiency features, heating energy sources and equipment, cooling energy sources and equipment, and water-heating energy sources **by year of construction**

TOTAL NATURAL GAS CONSUMPTION (GJ)

Year of construction →	Before 1920	1920–1959	1960–1969	1970–1979	1980–1989	1990–1999
Energy source for water heating						
Electricity	F	12,635,810 B	4,384,123 B	15,625,452 C	9,020,811 B	7,637,756 C
Natural gas	7,435,041 B	30,880,956 A	17,034,091 A	42,873,807 A	18,783,807 A	20,860,474 B
Fuel/heating oil	x	x	x	x	x	x
Composite ^d	x	953,058 C	F	F	x	x
Not heated	x	F	x	x	F	F

^dIncludes the categories of diesel or kerosene; bottled gas, liquid petroleum gas or propane; district steam; district hot water; wood; coal; solar thermal panels; and others.

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TOTAL NATURAL GAS INTENSITY (GJ/m²)

Before 1920	1920–1959	1960–1969	1970–1979	1980–1989	1990–1999
F	F	0.65 B	F	F	F
F	0.95 D	F	F	F	F
x	x	x	x	x	x
x	F	F	F	x	x
x	F	x	x	F	F

TABLE
12.5

Total natural gas consumption and natural gas intensity by building characteristics, occupancy characteristics, energy efficiency features, heating energy sources and equipment, cooling energy sources and equipment, and water-heating energy sources **by number of floors**

TOTAL NATURAL GAS CONSUMPTION (GJ)

Number of floors →	1		2		3		4–9		10 and more	
All buildings										
Canada	39,420,858	A	54,073,328	A	26,217,204	A	46,028,337	A		F
Building floor space										
93–464 m ² (1,000–4,999 sq. ft.)	6,896,389	A	4,221,156	A	2,045,359	A	312,238	C		x
465–929 m ² (5,000–9,999 sq. ft.)	7,756,376	C	6,922,933	A	4,799,752	C	1,088,897	C		x
929–4,645 m ² (10,000–49,999 sq. ft.)	14,639,932	A	21,981,265	A	9,100,208	B	11,806,076	C		F
4,645–9,290 m ² (50,000–99,999 sq. ft.)	2,708,973	B	7,799,029	C	5,271,073	D	4,938,696	B	1,480,849	C
9,290 m ² and more (100,000 sq. ft. and more)	7,419,188	D	13,148,945	B	5,000,812	B	27,882,429	B		F
Year of construction										
Before 1920		F	1,592,520	B	2,904,203	C	4,136,670	C		x
1920–1959	6,718,855	B	15,118,130	B	8,581,768	B	12,561,943	B	1,220,850	C
1960–1969	3,610,781	A	6,702,649	B	4,630,446	B	4,782,733	C		F
1970–1979	12,543,409	B	12,431,949	B	4,362,709	B	12,889,549	D		F
1980–1989	7,505,367	B	8,715,000	A		F	5,292,904	C	2,295,640	C
1990–1999	5,441,707	B	9,513,080	B	1,676,294	D	6,364,538	D		F
Predominant type of window										
Single-glazed	11,198,333	C	12,890,992	A	4,965,111	C	4,998,764	B		F
Double-glazed ^a	27,756,602	A	40,847,384	A	21,112,778	A	40,431,811	A		F
Triple-glazed ^b	465,923	C		F		F		F		F
Predominant exterior wall type										
Curtain walls		F		F	988,075	D	3,405,968	B		F
Metal stud framing with surface insulation	7,674,892	D	9,674,420	C	1,222,975	C		F		F
Metal stud framing without surface insulation	390,700	C	722,539	C		x		x		x
Wood-frame walls with surface insulation	7,143,377	D	6,152,928	B	2,073,925	B	1,822,224	D		x
Wood-frame walls without surface insulation	534,196	C		F		F		F		x
Concrete block with interior finishing	14,481,506	A	23,311,904	A	13,594,545	B	26,950,271	B	6,831,617	A
Concrete block without interior finishing	6,665,673	C	6,413,289	C	4,009,773	C	2,568,765	B		x
Precast panels	436,654	C	1,186,278	D	820,249	C		F	8,295,636	D
Unknown	1,927,601	C	3,824,685	B		F	4,713,897	D		x

^aIncludes all the different types of windows that are double-glazed (i.e. double-glazed, double-sealed glazed, double-glazed with low-E coating and double-glazed with low-E gas-filled).

^bIncludes all the different types of windows that are triple-glazed (i.e. triple-glazed, triple-glazed with low-E coating and triple-glazed low-E gas-filled).

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This table continues on the next two pages. 

TOTAL NATURAL GAS INTENSITY (GJ/m²)

1		2		3		4-9		10 and more	
0.95	C	0.87	D						
				F		F		F	
1.82	C		F	F		F		x	
	F	1.32	D	F		F		x	
	F	0.91	D	F		F		F	
	F		F	F		F		F	
	F		F	F		F		F	
	F		F	F		F		F	
	F		F	F		F		x	
	F		F	F		F		0.95	B
0.65	C		F	F		F		F	
	F		F	F		F		F	
	F		F	F		F		F	
	F		F	F		F		F	
	F		F	F		F		F	
	F		F	F		F		F	
	F		F	F		F		F	
	F		F	F		F		F	
	F		F	F		F		F	
	F		F	x		x		x	
	F		F	F		F		x	
	F		F	F		F		x	
0.76	D	0.85	D	F		F		F	
	F		F	F		F		x	
	F		F	F		F		F	
	F		F	F		F		x	

TABLE
12.5

Total natural gas consumption and natural gas intensity by building characteristics, occupancy characteristics, energy efficiency features, heating energy sources and equipment, cooling energy sources and equipment, and water-heating energy sources **by number of floors**

TOTAL NATURAL GAS CONSUMPTION (GJ)

Number of floors →	1		2		3		4-9		10 and more	
Predominant roof type										
Attic roof fully insulated	2,692,652	C	2,872,991	B	1,816,391	C	1,941,848	C		F
Attic roof partially insulated	572,676	D	1,562,947	C	656,667	C		F		x
Attic roof not insulated	381,746	D		F		F		F		x
Insulated wood-truss roof	2,693,319	B	4,126,906	B	1,458,667	D		F		x
Not insulated wood-truss roof	978,070	C	3,777,119	D	352,474	C		F		x
Insulated metal-truss roof	5,923,149	B	9,160,594	B	1,841,095	C	5,290,172	D		F
Not insulated metal-truss roof	1,299,560	D		F		x		x		x
Insulated deck-type roof	14,233,810	B	22,213,968	A	12,995,432	B	25,936,080	B		F
Not insulated deck-type roof		F	2,986,817	C		F		F		x
Unknown	7,332,590	D	4,163,341	B	3,095,018	C	4,774,434	D		F
Principal building activity										
Commercial and institutional accommodation		F		F		F		F		F
Entertainment and recreation	927,011	C	3,917,975	B		F		F		x
Office	805,796	C	1,630,485	B	1,552,745	B	6,176,024	A		F
Food retail	1,735,215	C	1,569,604	D		F		x		x
Non-food retail	6,360,075	D	2,505,994	B	3,557,832	D		F		x
Food service	3,278,990	B	7,626,003	B	2,568,426	C		F		x
Non-food service	5,157,100	C	6,820,245	C		F		F		F
Shopping malls	8,221,192	C	5,284,407	B	865,189	B	949,113	C		x
Warehouse/wholesale	3,168,019	B	6,513,404	C		F		x		x
Administration	708,241	C	1,116,622	C	1,834,211	D	2,846,654	C		F
Education	5,724,528	C	8,838,941	B	5,292,402	B	6,592,115	C		x
Health care	177,642	D	348,487	C		F	7,681,963	C	2,069,378	B
Public assembly	1,810,274	C	2,911,002	B	1,176,480	B		F		x
Other		F	167,075	C		F		x		x
Number of workers										
Less than 5	6,654,261	B	6,018,726	C	2,273,642	B	450,963	C		x
5-9	4,428,003	A	5,881,514	B	2,835,863	D		F		x
10-19	9,996,981	C	7,865,413	B	4,387,839	C	1,007,522	D		x
20-49	6,478,669	B	10,444,279	A	5,930,089	C		F		x
50-99	2,014,470	B	11,707,912	B	5,099,839	C	10,078,131	D		x
100-249	2,762,058	D	2,803,394	C	2,189,855	D	5,696,899	D		F
250 and more	7,086,416	D	9,352,090	B	3,500,077	B	21,677,879	B		F



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 This table continues on the next two pages. 

TOTAL NATURAL GAS INTENSITY (GJ/m²)

1		2		3		4-9		10 and more	
	F		F		F		F		F
	F		F		F		F		x
	F		F		F		F		x
	F		F		F		F		x
	F		F		F		F		x
	F		F		F	0.97	D		F
	F		F		x		x		x
0.86	C		F		F		F		F
	F	1.44	D		F		F		x
	F		F		F		F		F
	F		F		F		F		F
	F		F		F		F		x
	F		F		F		F		F
	F		F		F		F		x
	F		F		F		F		x
	F		F		F	0.56	D		F
	F		F		F		F		x
	F		F		F		F	1.12	C
	F		F		F		F		x
	F		F		F		x		x
	F		F		F		F		x
0.88	C	1.10	C		F		F		x
	F		F		F		F		x
	F		F		F		F		x
	F		F		F		F		x
	F		F		F		F		F
	F		F		F		F		F

TABLE

12.5

Total natural gas consumption and natural gas intensity by building characteristics, occupancy characteristics, energy efficiency features, heating energy sources and equipment, cooling energy sources and equipment, and water-heating energy sources **by number of floors**

TOTAL NATURAL GAS CONSUMPTION (GJ)

Number of floors →	1		2		3		4-9		10 and more	
Weekly hours of operation										
Less than 40	1,965,211	B	2,661,583	C	1,867,057	D		F		x
40-48	7,551,045	B	9,580,037	B	5,257,660	B		F	1,972,657	D
49-60	9,817,167	C	8,707,567	A	4,936,587	C	6,922,890	B	8,256,531	C
61-84	12,200,919	C	12,423,254	A	4,112,686	A	7,972,288	C		F
85-167	5,488,653	A	17,102,280	B	6,415,764	B	8,635,872	B		F
Open continuously	2,397,862	C		F		F	17,055,475	C	5,332,844	C
Building ownership										
Private individual(s)	10,964,074	C	11,263,793	B	5,571,093	C	4,313,301	A		F
Private organization	17,860,403	B	21,226,701	A	7,801,281	B	20,697,042	B	15,795,222	B
Non-profit organization	3,123,013	C	6,492,532	B	4,131,172	B		F		x
Fed.-prov.-munic.-regional government ^c	7,473,368	B	15,090,301	B	8,713,659	B	14,582,100	B	5,294,063	D
Building conservation feature										
Reflective or shading film	8,211,561	C	14,154,122	B	8,029,003	B	23,184,683	B		F
Awnings or blinds	17,935,921	A	32,149,737	A	15,857,802	A	29,777,193	B		F
Lighting conservation feature										
Reflectors	14,057,598	B	18,750,157	A	7,262,406	B	16,336,746	B		F
Energy-efficient ballast	20,107,198	B	31,093,893	A	14,310,688	A	34,865,480	A		F
Daylight controls	4,705,291	A	7,690,628	A	5,141,424	B	5,052,242	B	5,527,157	C
Occupancy sensors	2,793,255	D	4,800,097	C	3,575,744	C	12,163,537	C	9,122,619	C
Time clocks	12,516,960	B	15,990,826	A	8,825,321	B	25,214,330	B	15,302,384	B
Manual dimmer switches	5,264,779	A	12,236,397	B	8,883,884	B	23,112,486	B		F
Energy-efficient lamps	14,177,929	B	24,615,415	A	11,198,755	A	32,791,119	A		F
Other	6,529,237	D	5,420,745	B	2,704,107	C	3,797,456	B		F
Heating/cooling conservation feature										
Variable air-volume system	12,082,886	B	21,755,401	A	11,426,728	B	19,025,546	A		F
Outdoor-air economizer	17,476,337	B	24,170,449	A	15,178,027	A	31,723,397	A	19,763,200	B
Temperature setback	17,738,307	B	24,306,568	A	14,766,923	A	33,031,013	A	17,826,618	B
Equipment reset	15,945,920	B	22,370,382	A	14,002,162	A	25,921,470	A		F
Heat recovery system	4,423,682	B	8,628,312	B	8,705,897	C	12,237,514	C	10,486,347	C
Regular maintenance	29,102,596	A	49,417,429	A	24,449,841	A	45,274,900	A		F

^cIncludes all levels of government (i.e. federal, provincial, municipal and regional).



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This table is a continuation of the previous two pages. 
 This table continues on the next two pages. 

TOTAL NATURAL GAS INTENSITY (GJ/m²)

1		2		3		4-9		10 and more	
0.90	C		F		F		F		x
	F		F		F		F		F
	F		F		F		F		F
	F		F		F		F		F
	F		F		F		F		F
	F		F		F		F		F
	F		F		F		F		F
	F		F		F		F		F
	F		F		F		F		x
	F		F		F		F		F
	F		F		F		F		F
	F		F		F		F		F
	F		F		F		F		F
	F		F		F		F		F
	F		F		F		F		F
0.57	D		F		F		F		F
	F		F		F		F		F
	F		F		F		F		F
	F		F		F		F		F
	F	0.89	D		F		F		F
	F		F		F		F		F
	F		F		F		F		F
	F		F		F		F		F
0.88	D	0.80	D		F		F		F
	F	0.83	D		F		F		F
	F		F		F		F		F
0.89	C	0.87	D		F		F		F

TABLE

12.5

Total natural gas consumption and natural gas intensity by building characteristics, occupancy characteristics, energy efficiency features, heating energy sources and equipment, cooling energy sources and equipment, and water-heating energy sources **by number of floors**

TOTAL NATURAL GAS CONSUMPTION (GJ)

Number of floors →	1		2		3		4-9		10 and more	
Percentage of the floor space heated										
Less than 1		x		x		x		x		x
1-50	762,178	C	5,001,312	C		F		x		x
51-99	2,147,633	B	4,567,923	C	1,953,171	D		F		F
100	36,511,046	A	44,504,092	A	24,047,542	A	40,639,207	A		F
Energy source for heating (more than one may apply)										
Electricity	14,510,898	B	24,107,838	A	8,957,193	B	24,628,729	B	7,005,607	C
Natural gas	36,329,485	A	51,516,868	A	24,823,347	A	44,165,843	A		F
Fuel/heating oil		F		F		F	1,922,941	B		x
Composite ^d		F	162,814	C	325,011	D	1,886,829	C		F
Main energy source for heating										
Electricity		F	6,566,885	B	2,766,174	B	7,260,369	C	1,600,598	D
Natural gas	31,955,749	A	47,338,952	A	22,755,492	A	37,052,993	A		F
Fuel/heating oil		x		F		F		x		x
Composite ^d		x		x	487,987	D	1,643,371	C		F
Heating equipment (more than one may apply)										
Furnaces	19,035,322	B	21,649,728	A	7,153,812	B	9,058,754	C		F
Heat pumps	761,058	C	2,930,264	C	1,439,582	D	3,789,249	B		F
Individual space heaters	12,266,437	C	22,468,903	A	7,251,480	B	19,262,061	B	5,494,704	D
Boilers	10,910,277	A	16,984,439	A	13,623,874	A	35,289,846	B		F
Packaged heating units	15,767,012	B	20,883,667	B	11,430,277	B	13,315,730	B		F
District steam or hot water or other	3,014,503	C	5,208,451	C	1,076,078	B	5,502,265	D	3,536,932	D
Main heating equipment										
Furnaces	11,264,725	B	16,594,401	A	4,793,093	C		F		x
Heat pumps		F	1,680,840	D		F	2,090,024	D	1,041,304	C
Individual space heaters		F	6,331,489	B	1,023,318	D		F		x
Boilers	9,569,881	B	13,766,863	A	11,792,255	A	31,292,071	B		F
Packaged heating units	11,653,470	B	14,534,808	B	7,222,041	C	3,055,968	D		F
District steam or hot water or other	1,077,169	C		F	608,362	D		F	2,471,575	D
Not heated		x		x		x		x		x



^dIncludes the categories of diesel or kerosene; bottled gas, liquid petroleum gas or propane; district steam; district hot water; wood; coal; solar thermal panels; and others.

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This table is a continuation of the previous two pages. 
 This table continues on the next two pages. 

TOTAL NATURAL GAS INTENSITY (GJ/m²)

1		2		3		4-9		10 and more	
	x		x		x		x		x
	F		F		F		x		x
	F		F		F		F		F
	0.97 C		0.86 D		F		F		F
	F		F		F		F		F
	0.90 C		0.87 D		F		F		F
	0.50 D		1.57 D		0.51 D		0.94 D		x
	F		0.71 D		1.89 D		F		F
	F		F		F		F		F
	0.87 D		0.86 D		F		F		F
	x		0.61 D		0.51 D		x		x
	x		x		F		F		F
	F		1.01 D		F		F		F
	F		F		F		F		F
	F		F		F		F		F
	F		F		F		F		F
	0.86 D		F		F		F		F
	F		F		F		F		F
	F		F		F		F		x
	F		F		F		F		F
	F		F		F		F		x
	F		F		F		F		F
	F		F		F		F		F
	F		F		F		F		F
	x		x		x		x		x

TABLE
12.5

Total natural gas consumption and natural gas intensity by building characteristics, occupancy characteristics, energy efficiency features, heating energy sources and equipment, cooling energy sources and equipment, and water-heating energy sources **by number of floors**

TOTAL NATURAL GAS CONSUMPTION (GJ)

Number of floors →	1		2		3		4-9		10 and more	
Percentage of the floor space cooled										
Not cooled	11,569,663	C	10,990,251	B	4,660,864	C		F		x
1-50	9,386,712	A	17,625,876	B	5,391,178	B	5,622,310	C	1,124,581	C
51-99	7,780,171	D	10,602,775	C	5,036,628	B	14,454,458	B	9,576,322	C
100	10,684,312	A	14,854,425	A	11,128,535	B	20,177,142	B		F
Space-cooling energy source										
Electricity	24,351,481	A	37,246,613	A	16,970,386	A	36,896,610	A		F
Natural gas	3,955,664	B	7,792,208	B	5,498,311	D	4,150,087	D		F
Fuel/heating oil		x		x		x		x		x
Composite ^e		x		F	741,341	C	1,960,669	B	5,243,329	D
Cooling equipment (more than one may apply)										
Residential-type air conditioners	3,167,442	A	8,823,029	C	3,767,238	A	3,742,424	D		F
Heat pumps	779,405	B	4,161,828	D	612,080	B	4,177,142	C	995,846	C
Individual room air conditioners	2,046,487	A	6,967,932	B	2,689,014	B	9,698,480	C		F
District-chilled water from outside source		x		F	707,410	C	2,491,625	B	5,391,784	D
Central chillers		F	4,860,682	D	2,774,547	C	23,311,086	B		F
Packaged air-conditioning units	22,512,585	A	28,042,518	A	14,592,032	A	18,843,952	B	8,590,252	D
Swamp coolers		F		F		x		F		x
Composite ^f	572,191	B	1,665,297	C	1,706,624	D	2,139,086	B		F
Other	283,181	C	1,500,707	D		F		F		F
Main cooling equipment										
Residential-type air conditioners	2,858,441	A	7,508,204	C	3,138,017	B		F		x
Heat pumps	738,804	C		F	325,173	C	1,537,231	D		x
Individual room air conditioners	1,185,184	B	3,515,126	B	767,739	B	2,047,712	D		x
District-chilled water from outside source		x		x	509,376	D	1,876,041	B	3,044,070	D
Central chillers		F	3,004,057	C	2,343,542	C	22,360,618	B	29,398,055	C
Packaged air-conditioning units	21,131,874	A	24,254,797	A	13,096,744	B	9,531,992	B		F
Composite ^f	392,991	C	1,021,642	D	1,885,126	D	2,164,766	B		F
Not cooled	11,569,663	C	10,990,251	B	4,660,864	C		F		x

^eIncludes the air-conditioning categories of fuel/heating oil; diesel or kerosene; bottled gas, liquid petroleum gas or propane; district-chilled water; and others.

^fIncludes the categories of district-chilled water from outside source; swamp coolers; and others.

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 This table continues on the next two pages.

TABLE

12.5

TOTAL NATURAL GAS INTENSITY (GJ/m²)

1		2		3		4-9		10 and more	
	F	0.94	D		F		F		x
	F		F		F		F		F
	F		F		F		F		F
0.85	C		F		F		F		F
0.91	C	0.86	D		F		F		F
	F		F		F		F		F
	x		x		x		x		x
	x	0.58	A	1.29	D		F		F
0.76	C		F		F		F		F
	F		F		F		F		F
	F		F		F		F		F
	x	0.58	A	1.25	D	0.77	D		F
	F		F		F		F		F
0.92	D		F		F		F		F
	F		F		x		F		x
	F		F		F		F		F
	F		F		F		F		F
0.76	B		F		F		F		x
	F		F		F		F		x
	F		F		F	0.99	D		x
	x		x	1.04	D		F		F
	F		F		F		F		F
0.91	D		F		F		F		F
	F		F		F		F		F
	F	0.94	D		F		F		x

TABLE

12.5

Total natural gas consumption and natural gas intensity by building characteristics, occupancy characteristics, energy efficiency features, heating energy sources and equipment, cooling energy sources and equipment, and water-heating energy sources **by number of floors**

TOTAL NATURAL GAS CONSUMPTION (GJ)

Number of floors →	1		2		3		4-9		10 and more	
Energy source for water heating										
Electricity	17,872,897	B	16,611,812	A	5,520,024	A	10,555,677	D	3,644,267	D
Natural gas	21,751,854	A	37,897,276	A	21,371,443	A	38,867,629	A	17,979,973	B
Fuel/heating oil	x		x		x		x		x	
Composite ^d	x		x		x		2,034,676	C		F
Not heated		F		F		x		x		x

^dIncludes the categories of diesel or kerosene; bottled gas, liquid petroleum gas or propane; district steam; district hot water; wood; coal; solar thermal panels; and others.

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TOTAL NATURAL GAS INTENSITY (GJ/m²)

1		2		3		4-9		10 and more	
	F	0.82	D	0.81	C		F		F
0.92	D		F		F		F		F
	X		X		X		X		X
	X		X		X		F		F
	F		F		X		X		X

TABLE

12.6

Total natural gas consumption and natural gas intensity by building characteristics, occupancy characteristics, energy efficiency features, heating energy sources and equipment, cooling energy sources and equipment, and water-heating energy sources **by weekly hours of operation**

TOTAL NATURAL GAS CONSUMPTION (GJ)

Weekly hours of operation →	Less than 40	40–48	49–60	61–84	85–167	Open continuously
All buildings						
Canada	6,727,303 A	29,573,501 A	38,640,742 A	72,182,125 D	41,858,122 A	32,012,239 B
Building floor space						
93–464 m ² (1,000–4,999 sq. ft.)	1,050,422 B	2,544,197 B	2,845,333 A	2,606,238 B	3,276,317 A	1,156,376 C
465–929 m ² (5,000–9,999 sq. ft.)	1,282,086 B	1,902,951 A	3,864,826 C	F	6,043,872 C	1,634,297 D
929–4,645 m ² (10,000–49,999 sq. ft.)	2,024,600 B	9,803,527 A	13,472,590 A	13,671,151 A	12,478,188 B	F
4,645–9,290 m ² (50,000–99,999 sq. ft.)	F	4,403,523 C	4,342,895 A	2,842,819 B	6,061,832 C	F
9,290 m ² and more (100,000 sq. ft. and more)	F	10,919,303 C	14,115,098 C	F	13,997,913 B	19,611,444 B
Year of construction						
Before 1920	1,884,448 D	902,313 B	1,584,114 D	F	2,184,195 C	F
1920–1959	2,121,725 B	8,404,102 B	7,379,484 B	9,586,143 B	10,646,072 B	6,064,019 D
1960–1969	1,694,606 D	3,641,159 B	4,288,153 B	F	4,755,762 C	3,868,650 D
1970–1979	324,824 B	7,410,995 B	11,756,302 C	F	11,917,357 B	13,147,400 D
1980–1989	425,632 D	3,470,306 B	6,220,071 C	6,489,943 C	5,783,823 A	5,480,918 C
1990–1999	F	5,744,624 D	7,412,619 C	5,496,248 B	6,570,912 C	1,916,570 D
Number of floors						
1	1,965,211 B	7,551,045 B	9,817,167 C	12,200,919 C	5,488,653 A	2,397,862 C
2	2,661,583 C	9,580,037 B	8,707,567 A	12,423,254 A	17,102,280 B	F
3	1,867,057 D	5,257,660 B	4,936,587 C	4,112,686 A	6,415,764 B	F
4–9	F	F	6,922,890 B	7,972,288 C	8,635,872 B	17,055,475 C
10 and more	x	1,972,657 D	8,256,531 C	F	F	5,332,844 C
Predominant type of window						
Single-glazed	3,260,528 B	4,110,544 B	7,153,152 B	11,318,775 C	8,024,461 B	2,460,213 C
Double-glazed ^a	3,435,362 B	25,329,460 A	30,919,170 A	F	33,213,383 A	29,448,730 B
Triple-glazed ^b	F	133,497 D	F	F	F	F

^aIncludes all the different types of windows that are double-glazed (i.e. double-glazed, double-sealed glazed, double-glazed with low-E coating and double-glazed with low-E gas-filled).

^bIncludes all the different types of windows that are triple-glazed (i.e. triple-glazed, triple-glazed with low-E coating and triple-glazed low-E gas-filled).

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This table continues on the next two pages. 

TOTAL NATURAL GAS INTENSITY (GJ/m²)

Less than 40		40-48		49-60		61-84		85-167		Open continuously	
	F		F	0.79	C		F		F		F
	F		F	1.20	D		F		F		F
	F	0.90	D		F		F		F		F
	F		F		F		F		F		F
	F		F		F		F		F		F
	F		F		F		F		F		F
	F	0.61	D		F		F		F		F
	F		F	1.19	D		F		F		F
	F		F		F		F		F		F
	F		F		F		F		F		F
	F		F		F		F		F		F
	F		F		F		F		F		F
	F		F		F		F		F		F
0.90	C		F		F		F		F		F
	F		F		F		F		F		F
	F		F		F		F		F		F
	F		F		F		F		F		F
	x		F		F		F		F		F
	F		F		F		F		F		F
	F		F	0.75	D		F		F		F
	F		F		F		F		F	4.48	D

TABLE
12.6

Total natural gas consumption and natural gas intensity by building characteristics, occupancy characteristics, energy efficiency features, heating energy sources and equipment, cooling energy sources and equipment, and water-heating energy sources **by weekly hours of operation**

TOTAL NATURAL GAS CONSUMPTION (GJ)

Weekly hours of operation →	Less than 40	40–48	49–60	61–84	85–167	Open continuously
Predominant exterior wall type						
Curtain walls	x	F	F	4,408,813 C	2,077,939 D	1,707,008 D
Metal stud framing with surface insulation	291,656 D	7,593,308 D	F	F	5,186,658 D	2,082,020 D
Metal stud framing without surface insulation	x	F	302,704 D	F	272,260 C	x
Wood-frame walls with surface insulation	1,294,099 C	2,036,391 D	2,641,826 B	F	3,924,388 B	F
Wood-frame walls without surface insulation	F	F	F	F	F	x
Concrete block with interior finishing	2,899,541 B	11,593,894 A	14,800,032 A	17,075,492 B	18,338,044 A	20,462,842 B
Concrete block without interior finishing	F	2,041,462 B	4,814,057 B	5,871,343 C	2,958,945 C	F
Precast panels	x	1,274,392 C	3,083,076 D	1,667,314 C	F	2,773,008 D
Unknown	462,668 D	2,314,980 C	3,495,006 D	1,799,374 C	4,294,775 D	398,960 C
Predominant roof type						
Attic roof fully insulated	676,723 D	893,797 B	F	3,043,161 C	1,834,951 C	2,754,887 D
Attic roof partially insulated	F	480,950 D	F	438,375 C	1,172,106 D	F
Attic roof not insulated	15,049 D	F	F	451,090 D	F	x
Insulated wood-truss roof	661,919 C	895,082 B	1,929,224 D	2,774,954 C	2,540,006 D	F
Not insulated wood-truss roof	294,319 D	583,615 B	341,180 C	487,094 D	F	F
Insulated metal-truss roof	288,406 C	6,551,805 C	5,284,239 B	7,204,828 C	2,701,947 B	869,177 C
Not insulated metal-truss roof	F	F	F	F	763,741 C	151,138 D
Insulated deck-type roof	2,311,113 C	12,832,147 B	16,795,126 A	F	22,617,875 A	18,533,807 B
Not insulated deck-type roof	F	1,806,769 D	3,252,316 D	F	1,179,692 D	F
Unknown	F	3,886,463 C	F	4,005,808 C	4,534,820 D	F
Principal building activity						
Commercial and institutional accommodation	x	x	x	F	F	13,114,284 C
Entertainment and recreation	655,166 D	F	112,619 C	1,428,341 D	4,555,548 C	F
Office	233,957 C	4,034,341 B	11,572,956 B	F	1,978,795 B	x
Food retail	x	x	F	2,144,410 C	1,165,174 C	F
Non-food retail	F	1,100,474 D	4,078,816 D	7,493,933 D	F	x
Food service	x	509,324 D	828,474 D	2,174,220 C	10,960,749 B	914,521 D
Non-food service	289,324 D	2,033,501 C	2,222,287 B	5,159,302 C	1,892,669 D	F
Shopping malls	x	972,233 C	F	5,817,192 A	3,048,846 B	F
Warehouse/wholesale	x	3,939,358 D	2,704,301 D	F	808,827 D	F
Administration	F	3,218,606 C	2,795,009 C	F	F	F
Education	2,929,305 C	7,875,404 B	6,992,766 C	2,797,663 D	6,666,743 B	x
Health care	x	609,158 D	288,485 C	F	x	9,616,254 B
Public assembly	2,144,566 B	F	1,996,922 D	1,501,402 B	278,388 D	x
Other	x	306,569 C	130,427 C	F	F	x

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Source: Commercial and Institutional Building Energy Use Survey 2000.

This table is a continuation of the previous two pages.
 This table continues on the next two pages.

TABLE

12.6

TOTAL NATURAL GAS INTENSITY (GJ/m²)

Less than 40		40-48	49-60	61-84	85-167	Open continuously
	x	F	F	F	F	F
	F	F	F	F	F	F
	x	F	F	F	F	x
	F	F	F	F	F	F
	F	F	F	F	F	x
	F	0.67 D	F	F	F	F
	F	F	F	F	F	F
	x	F	F	F	F	F
1.23	D	F	F	F	F	F
	F	F	F	F	F	F
	F	F	F	F	F	1.01 C
	F	F	F	F	F	x
	F	0.77 D	F	F	F	F
	F	F	F	F	F	F
	F	F	F	F	F	F
	F	F	F	F	F	F
	F	F	F	F	F	F
0.54	D	F	F	F	F	F
	F	F	F	F	F	F
	x	x	x	F	F	F
	F	F	F	F	F	F
	F	F	F	F	F	x
	x	x	F	F	F	F
	F	F	F	F	F	x
	x	F	F	F	F	F
	F	F	F	F	F	F
	x	F	F	0.42 C	F	F
	x	F	F	F	0.59 D	F
	F	0.95 D	F	F	F	F
	F	F	F	F	F	x
	x	F	F	F	x	F
	F	F	F	F	F	x
	x	F	F	F	F	x

TABLE
12.6

Total natural gas consumption and natural gas intensity by building characteristics, occupancy characteristics, energy efficiency features, heating energy sources and equipment, cooling energy sources and equipment, and water-heating energy sources **by weekly hours of operation**

TOTAL NATURAL GAS CONSUMPTION (GJ)

Weekly hours of operation →	Less than 40	40–48	49–60	61–84	85–167	Open continuously
Number of workers						
Less than 5	2,368,172 A	2,118,489 B	2,514,454 C	F	3,935,796 D	787,400 C
5–9	487,234 C	3,457,442 C	3,578,978 C	3,385,105 B	3,017,965 C	F
10–19	261,961 C	2,589,783 A	7,488,951 B	6,737,651 D	4,263,772 B	2,044,882 D
20–49	551,291 D	4,700,811 B	5,714,414 C	5,991,059 B	5,930,859 A	F
50–99	F	3,080,833 C	3,306,177 B	4,065,733 B	10,948,677 C	F
100–249	F	F	1,906,457 B	F	2,899,241 D	3,514,661 D
250 and more	1,976,902 D	8,493,973 B	14,131,312 B	F	10,861,811 B	11,259,720 B
Building ownership						
Private individual(s)	501,987 C	4,021,906 C	10,085,659 C	F	9,123,460 B	3,560,622 D
Private organization	494,010 C	11,117,162 B	18,723,271 A	24,213,979 B	15,847,268 A	12,984,959 C
Non-profit organization	2,610,719 A	1,897,393 B	3,569,847 C	2,846,468 C	4,509,244 C	F
Fed.-prov.-munic.-regional government ^c	3,120,587 C	12,537,040 B	6,261,965 C	6,138,032 B	12,378,150 B	10,717,717 B
Building conservation feature						
Reflective or shading film	950,429 C	8,583,057 B	17,271,382 B	F	12,445,866 B	14,116,780 C
Awnings or blinds	2,408,247 B	19,692,979 A	20,857,416 A	F	26,038,788 A	24,287,407 B
Lighting conservation feature						
Reflectors	1,283,522 C	13,347,164 B	12,402,592 B	F	18,327,648 B	10,229,695 C
Energy-efficient ballast	2,724,886 C	19,677,268 B	25,577,135 A	F	28,549,287 A	20,183,371 B
Daylight controls	548,548 D	4,517,726 B	3,075,556 B	6,021,941 A	7,492,664 B	6,460,307 B
Occupancy sensors	F	F	8,072,500 A	4,050,162 B	8,965,659 D	6,170,353 D
Time clocks	1,274,767 C	9,894,261 B	14,567,276 B	17,072,314 B	16,259,701 B	18,781,502 C
Manual dimmer switches	1,189,163 C	9,173,815 C	8,766,592 B	F	19,115,699 B	19,288,644 B
Energy-efficient lamps	2,653,570 C	17,491,184 B	22,486,948 B	F	24,141,839 A	18,595,013 B
Other	603,273 C	4,238,732 B	6,717,759 D	4,114,863 B	5,141,397 D	2,444,977 D
Heating/cooling conservation feature						
Variable air-volume system	1,089,865 C	13,902,238 B	16,297,144 B	F	24,858,853 A	13,080,272 B
Outdoor-air economizer	1,283,189 C	17,634,050 B	20,901,759 B	24,946,831 A	25,181,324 A	18,364,256 B
Temperature setback	4,054,292 B	18,815,939 B	23,330,444 B	18,893,537 A	24,625,180 A	17,950,038 B
Equipment reset	2,590,159 C	18,932,454 B	19,861,696 B	F	21,029,639 A	14,350,569 B
Heat recovery system	625,177 C	7,273,760 D	6,004,120 B	9,002,591 B	11,608,080 B	9,968,024 C
Regular maintenance	5,866,526 B	27,530,750 A	35,302,226 A	F	39,102,958 A	30,103,339 B

^cIncludes all levels of government (i.e. federal, provincial, municipal and regional).

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TABLE
12.6

Total natural gas consumption and natural gas intensity by building characteristics, occupancy characteristics, energy efficiency features, heating energy sources and equipment, cooling energy sources and equipment, and water-heating energy sources **by weekly hours of operation**

TOTAL NATURAL GAS CONSUMPTION (GJ)

Weekly hours of operation →	Less than 40	40–48	49–60	61–84	85–167	Open continuously
Percentage of the floor space heated						
Less than 1	x	x	x	x	x	x
1–50	F	F	452,951 C	721,825 C	3,914,125 D	x
51–99	F	F	3,272,587 D	2,131,429 B	5,792,046 C	637,883 C
100	5,765,636 B	25,568,593 A	34,915,204 A	F	32,151,951 A	31,153,597 B
Energy source for heating (more than one may apply)						
Electricity	2,191,547 C	8,277,313 A	16,348,165 B	18,296,358 B	16,892,230 A	17,204,653 C
Natural gas	6,627,853 A	28,302,370 A	38,172,119 A	F	39,852,072 A	30,828,737 B
Fuel/heating oil	x	F	F	679,280 C	F	2,214,881 B
Composite ^d	x	x	F	F	F	1,481,490 B
Main energy source for heating						
Electricity	F	2,722,300 C	F	8,231,000 C	5,143,623 C	F
Natural gas	6,448,382 A	26,577,865 A	33,783,818 A	F	34,597,622 A	25,588,454 B
Fuel/heating oil	x	x	F	x	x	x
Composite ^d	x	x	F	x	F	1,235,695 B
Heating equipment (more than one may apply)						
Furnaces	1,935,342 B	8,654,409 A	12,951,914 B	13,308,790 B	15,842,506 B	8,641,119 C
Heat pumps	F	2,626,326 D	F	2,578,739 C	F	1,618,410 B
Individual space heaters	F	6,434,239 B	14,588,182 B	12,629,966 B	19,873,454 A	11,994,834 D
Boilers	4,342,188 B	17,004,324 B	18,667,280 A	F	18,753,577 B	19,325,403 C
Packaged heating units	F	10,328,415 B	10,970,457 C	14,806,401 A	19,976,937 A	9,539,976 C
District steam or hot water or other	F	F	2,990,079 C	3,659,145 C	4,184,513 C	F
Main heating equipment						
Furnaces	1,804,400 B	5,386,314 B	7,501,658 A	7,510,904 B	9,727,485 B	4,368,725 D
Heat pumps	F	1,943,301 D	F	1,659,893 D	F	760,288 C
Individual space heaters	F	1,680,845 D	3,668,581 C	F	3,467,094 C	F
Boilers	4,015,944 B	14,519,940 B	17,122,549 B	F	17,111,624 B	14,853,968 C
Packaged heating units	278,749 C	5,497,752 C	8,862,182 D	8,479,235 B	8,416,511 B	6,827,323 D
District steam or hot water or other	F	F	F	1,251,274 D	F	F
Not heated	x	x	x	x	x	x

^dIncludes the categories of diesel or kerosene; bottled gas, liquid petroleum gas or propane; district steam; district hot water; wood; coal; solar thermal panels; and others.



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This table is a continuation of the previous two pages.  

This table continues on the next two pages.

TOTAL NATURAL GAS INTENSITY (GJ/m²)

Less than 40	40-48	49-60	61-84	85-167	Open continuously
x	x	x	x	x	x
F	F	F	F	F	x
F	F	F	F	F	F
F	F	0.82 C	F	F	F
F	F	F	F	F	F
F	F	0.79 D	F	F	F
x	0.53 D	1.75 D	0.61 D	0.40 D	0.88 D
x	x	F	F	F	1.02 C
1.35 D	F	F	F	F	F
F	F	0.74 D	F	F	F
x	x	0.87 D	x	x	x
x	x	F	x	F	0.95 D
0.79 C	F	F	F	F	F
F	F	F	F	F	1.21 D
F	F	F	F	F	F
F	F	F	F	F	F
F	F	F	F	F	F
F	F	F	F	F	F
0.75 C	F	F	F	F	F
F	F	F	F	F	1.46 C
F	F	F	F	F	1.13 D
F	F	F	F	F	F
F	F	F	F	F	F
F	F	F	F	F	F
x	x	x	x	x	x

TABLE
12.6

Total natural gas consumption and natural gas intensity by building characteristics, occupancy characteristics, energy efficiency features, heating energy sources and equipment, cooling energy sources and equipment, and water-heating energy sources **by weekly hours of operation**

TOTAL NATURAL GAS CONSUMPTION (GJ)

Weekly hours of operation →	Less than 40	40–48	49–60	61–84	85–167	Open continuously
Percentage of the floor space cooled						
Not cooled	3,811,833 B	4,325,953 B	7,387,779 C	8,424,496 D	5,509,316 C	F
1–50	1,102,089 C	9,544,738 B	7,315,040 B	6,185,622 A	9,757,195 B	5,245,972 C
51–99	366,401 D	7,840,429 C	11,938,017 C	6,402,180 B	13,792,999 B	7,110,328 D
100	1,446,979 D	7,862,380 B	11,999,906 A	F	12,798,613 A	16,116,369 C
Space-cooling energy source						
Electricity	2,562,207 C	20,543,897 A	27,540,612 A	F	33,389,054 A	24,627,177 B
Natural gas	535,194 C	6,015,516 C	3,769,994 D	3,633,161 C	5,008,641 C	F
Fuel/heating oil	x	x	x	x	x	x
Composite ^e	x	F	1,205,169 D	F	F	2,066,820 C
Cooling equipment (more than one may apply)						
Residential-type air conditioners	520,831 C	2,856,722 A	4,064,124 B	3,142,992 B	5,422,555 C	4,574,882 D
Heat pumps	x	1,759,538 D	973,629 C	1,956,056 C	4,690,576 D	1,285,553 B
Individual room air conditioners	F	3,679,713 B	5,027,443 C	2,535,453 B	4,683,975 B	8,622,747 C
District-chilled water from outside source	x	F	1,150,423 D	F	F	2,315,867 C
Central chillers	F	7,644,248 D	9,538,065 B	F	7,377,365 D	13,805,576 C
Packaged air-conditioning units	1,828,588 D	15,688,001 A	20,065,211 A	18,619,680 A	23,419,222 A	12,960,638 B
Swamp coolers	x	F	x	x	F	x
Composite ^f	x	2,570,882 D	1,923,520 C	F	2,998,336 D	2,244,494 C
Other	x	F	F	F	F	433,563 D
Main cooling equipment						
Residential-type air conditioners	514,778 C	2,268,392 A	3,396,450 B	2,390,089 B	3,801,673 D	F
Heat pumps	x	F	F	F	F	409,040 D
Individual room air conditioners	F	1,336,577 C	1,063,057 B	940,871 C	1,461,869 C	2,956,007 C
District-chilled water from outside source	x	x	1,038,808 D	x	F	1,786,472 D
Central chillers	F	F	8,770,867 B	F	7,175,165 D	13,021,580 C
Packaged air-conditioning units	1,203,296 C	12,941,796 B	15,773,780 B	15,052,735 A	18,157,541 A	6,165,244 C
Composite ^f	x	F	1,758,147 C	F	2,562,761 D	2,043,721 C
Not cooled	3,811,833 B	4,325,953 B	7,387,779 C	8,424,496 D	5,509,316 C	F

^eIncludes the air-conditioning categories of fuel/heating oil; diesel or kerosene; bottled gas, liquid petroleum gas or propane; district-chilled water; and others.

^fIncludes the categories of district-chilled water from outside source; swamp coolers; and others.

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 This table continues on the next two pages.

TABLE

12.6

TOTAL NATURAL GAS INTENSITY (GJ/m²)

	Less than 40	40-48	49-60	61-84	85-167	Open continuously	
	F	F	F	F	F	F	F
0.95	D	F	F	F	F	F	F
	F	F	F	F	F	F	F
	F	F	F	F	1.00	D	F
	F	F	F	F	F	F	F
	F	F	F	F	F	F	F
	x	x	x	x	x	x	x
	x	F	F	F	F	F	F
0.50	A	F	F	F	F	F	F
	x	F	F	F	F	1.12	D
	F	F	F	F	F	F	F
	x	F	F	F	F	F	F
	F	F	F	F	F	F	F
	F	F	0.87	C	0.67	D	F
	x	F	x	x	x	F	x
	x	F	F	F	F	F	F
	x	F	F	F	F	F	F
0.50	A	F	F	F	F	F	F
	x	F	F	F	F	1.26	D
	F	0.61	D	F	F	F	F
	x	x	F	x	x	F	F
	F	F	F	F	F	F	F
	F	F	F	F	F	1.11	D
	x	F	F	F	F	F	F
	F	F	F	F	F	F	F

TABLE

12.6

Total natural gas consumption and natural gas intensity by building characteristics, occupancy characteristics, energy efficiency features, heating energy sources and equipment, cooling energy sources and equipment, and water-heating energy sources **by weekly hours of operation**

TOTAL NATURAL GAS CONSUMPTION (GJ)

Weekly hours of operation —————>	Less than 40		40–48		49–60		61–84		85–167		Open continuously	
Energy source for water heating												
Electricity	967,775	B	6,163,888	A	11,727,536	C	15,415,477	B	10,357,449	B		F
Natural gas	5,938,028	B	23,177,085	A	27,581,597	A	25,234,946	A	30,857,471	A	25,079,048	B
Fuel/heating oil	x		x		x		x		x		x	
Composite ^d	x		x		x		F		F		1,523,123	B
Not heated	x		F		F		x		x		x	

^dIncludes the categories of diesel or kerosene; bottled gas, liquid petroleum gas or propane; district steam; district hot water; wood; coal; solar thermal panels; and others.

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TOTAL NATURAL GAS INTENSITY (GJ/m²)

Less than 40		40-48	49-60	61-84	85-167	Open continuously
0.67	D	F	F	F	F	F
	F	F	0.70	D	F	F
	x	x	x	x	x	x
	x	x	x	F	F	1.14
	x	F	F	x	x	x

TABLE

12.7

Total natural gas consumption and natural gas intensity by building characteristics, occupancy characteristics, energy efficiency features, heating energy sources and equipment, cooling energy sources and equipment, and water-heating energy sources **by type of ownership**

TOTAL NATURAL GAS CONSUMPTION (GJ)

Building ownership	Private individual(s)		Private organization		Non-profit organization		Fed.-prov.-munic.-regional government ^a	
All buildings								
Canada	66,277,280	D	83,380,649	A	20,182,611	B	51,153,492	A
Building floor space								
93–464 m ² (1,000–4,999 sq. ft.)	5,806,057	A	5,133,335	A	1,549,434	B		F
465–929 m ² (5,000–9,999 sq. ft.)	6,415,666	A	11,216,932	C	2,207,891	B	733,821	B
929–4,645 m ² (10,000–49,999 sq. ft.)	10,863,689	A	25,569,788	B	8,251,047	B	13,068,285	A
4,645–9,290 m ² (50,000–99,999 sq. ft.)	2,287,373	C	8,087,114	A	2,226,952	D	9,597,180	C
9,290 m ² and more (100,000 sq. ft. and more)		F	33,373,479	B		F	26,764,149	A
Year of construction								
Before 1920	1,600,960	B	6,776,110	D	2,111,551	B	1,787,201	D
1920–1959	9,861,246	B	18,403,604	B	4,296,280	C	11,640,416	A
1960–1969		F	7,257,118	B	4,968,785	C	8,032,367	A
1970–1979		F	23,717,588	B	6,698,316	D	14,597,363	B
1980–1989	6,511,632	B	13,010,496	B	884,397	C	7,464,169	B
1990–1999	4,346,051	C	14,215,732	A		F	7,631,975	D
Number of floors								
1	10,964,074	C	17,860,403	B	3,123,013	C	7,473,368	B
2	11,263,793	B	21,226,701	A	6,492,532	B	15,090,301	B
3	5,571,093	C	7,801,281	B	4,131,172	B	8,713,659	B
4–9	4,313,301	A	20,697,042	B		F	14,582,100	B
10 and more		F	15,795,222	B		x	5,294,063	D
Predominant type of window								
Single-glazed	4,167,062	A	18,845,316	B	3,327,049	B	9,988,246	A
Double-glazed ^b		F	63,880,758	A	16,828,729	B	40,439,006	A
Triple-glazed ^c	491,276	C		F		F		F

^aIncludes all levels of government (i.e. federal, provincial, municipal and regional).

^bIncludes all the different types of windows that are double-glazed (i.e. double-glazed, double-sealed glazed, double-glazed with low-E coating and double-glazed with low-E gas-filled).

^cIncludes all the different types of windows that are triple-glazed (i.e. triple-glazed, triple-glazed with low-E coating and triple-glazed low-E gas-filled).

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Source: Commercial and Institutional Building Energy Use Survey 2000.

This table continues on the next two pages.

TOTAL NATURAL GAS INTENSITY (GJ/m²)

Private individual(s)	Private organization	Non-profit organization	Fed.-prov.-munic.-regional government ^a
F	0.79 D	F	F
F	1.92 C	F	F
1.16 D	F	F	F
F	F	F	F
F	F	F	F
F	F	F	F
F	F	F	F
F	F	F	F
F	F	F	F
F	F	F	F
F	F	F	F
F	F	F	F
F	F	F	F
F	F	x	F
F	F	F	F
F	F	F	F
F	F	0.20 D	F

TABLE
12.7

Total natural gas consumption and natural gas intensity by building characteristics, occupancy characteristics, energy efficiency features, heating energy sources and equipment, cooling energy sources and equipment, and water-heating energy sources **by type of ownership**

TOTAL NATURAL GAS CONSUMPTION (GJ)

Building ownership	Private individual(s)		Private organization		Non-profit organization		Fed.-prov.-munic.-regional government ^a	
Predominant exterior wall type								
Curtain walls	1,036,720	C	8,429,614	C	x		2,564,625	C
Metal stud framing with surface insulation		F	6,614,570	C		F	8,297,411	D
Metal stud framing without surface insulation		F	436,708	C		x	281,225	C
Wood-frame walls with surface insulation	3,712,137	A	7,648,451	C	3,144,353	C	2,687,513	C
Wood-frame walls without surface insulation	416,319	C		F	471,830	D		x
Concrete block with interior finishing	13,664,504	B	39,605,352	A	9,934,615	C	21,965,374	A
Concrete block without interior finishing	2,914,551	B	9,780,147	B	996,210	C	6,116,212	C
Precast panels		F	6,381,172	B		F		F
Unknown		F	2,571,066	C	2,323,610	D	5,776,556	C
Predominant roof type								
Attic roof fully insulated	2,801,469	B	6,123,200	C	1,712,328	B	985,726	C
Attic roof partially insulated	891,265	D	1,353,574	C	480,322	D	844,242	D
Attic roof not insulated		F	356,403	D	159,230	D		x
Insulated wood-truss roof	2,822,642	A	3,369,403	C	1,627,661	C	2,180,379	C
Not insulated wood-truss roof	596,161	C		F		F	1,065,483	B
Insulated metal-truss roof	4,770,502	C	11,613,349	B	1,870,476	D	4,646,076	B
Not insulated metal-truss roof	525,145	D	2,881,702	D		x	458,307	D
Insulated deck-type roof		F	39,451,485	A	10,090,371	C	29,578,459	A
Not insulated deck-type roof	1,395,545	D	6,246,899	C	522,044	D		F
Unknown		F	5,384,413	C	2,078,587	D	9,064,208	B
Principal building activity								
Commercial and institutional accommodation		F	8,991,229	D		F		x
Entertainment and recreation		F	850,859	B	2,630,436	D	2,695,857	C
Office		F	18,210,900	A		F		x
Food retail	1,924,515	C	1,741,111	B		x		x
Non-food retail	4,218,089	C	10,262,845	C		x		x
Food service	5,022,440	A	8,225,256	B		F		x
Non-food service	3,574,681	B	7,225,769	C		x		F
Shopping malls		F	9,085,234	A		x		x
Warehouse/wholesale	1,492,148	B	10,785,759	D		x		x
Administration		F		F		F	6,307,028	C
Education		F		F	1,981,105	C	23,391,071	A
Health care	310,976	C		F		F	8,636,632	B
Public assembly		x		F	5,753,261	A		F
Other		F		F		F	210,059	B

^aIncludes all levels of government (i.e. federal, provincial, municipal and regional).

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Source: Commercial and Institutional Building Energy Use Survey 2000.

TABLE
12.7

Total natural gas consumption and natural gas intensity by building characteristics, occupancy characteristics, energy efficiency features, heating energy sources and equipment, cooling energy sources and equipment, and water-heating energy sources **by type of ownership**

TOTAL NATURAL GAS CONSUMPTION (GJ)

Building ownership	Private individual(s)		Private organization		Non-profit organization		Fed.-prov.-munic.-regional government ^a		
Number of workers									
Less than 5	4,167,964	A	6,150,363	D	4,165,954	B	920,040	C	
5–9	5,159,556	B	6,313,004	B		F	975,093	C	
10–19	6,950,768	B	10,790,224	C	2,751,998	C	2,894,010	B	
20–49	5,206,872	B	10,071,037	A	2,281,395	D	8,568,494	B	
50–99	4,814,163	D	15,945,590	B	3,305,505	D	6,041,268	D	
100–249		F	5,435,160	B		F	6,634,549	D	
250 and more		F	28,675,270	B		F	25,120,038	A	
Weekly hours of operation									
Less than 40	501,987	C	494,010	C	2,610,719	A	3,120,587	C	
40–48	4,021,906	C	11,117,162	B	1,897,393	B	12,537,040	B	
49–60	10,085,659	C	18,723,271	A	3,569,847	C	6,261,965	C	
61–84		F	24,213,979	B	2,846,468	C	6,138,032	B	
85–167	9,123,460	B	15,847,268	A	4,509,244	C	12,378,150	B	
Open continuously	3,560,622	D	12,984,959	C		F	10,717,717	B	
Building conservation feature									
Reflective or shading film		F	35,551,380	B	3,744,227	C	17,499,683	A	
Awnings or blinds		F	52,268,916	A	12,770,523	B	33,034,240	A	
Lighting conservation feature									
Reflectors		F	29,676,827	B	5,083,452	C	23,736,228	B	
Energy-efficient ballast		F	53,574,248	A	10,596,200	C	38,002,865	A	
Daylight controls	4,641,068	C	13,420,130	A	2,614,889	C	7,440,656	B	
Occupancy sensors		F	11,858,592	B		F	13,796,390	B	
Time clocks	11,599,022	C	37,854,268	A	6,548,594	C	21,847,937	A	
Manual dimmer switches		F	32,299,859	B	5,002,719	C	19,497,901	B	
Energy-efficient lamps		F	43,557,824	A	12,917,050	B	32,479,074	A	
Other	6,921,232	D	9,600,861	A	1,220,173	C	5,518,734	D	
Heating/cooling conservation feature									
Variable air-volume system		F	38,643,117	A	5,596,838	B	24,621,720	A	
Outdoor-air economizer	14,241,675	B	47,865,434	A	11,117,473	C	35,086,828	A	
Temperature setback	14,367,848	B	45,365,644	A	12,632,954	B	35,302,983	A	
Equipment reset		F	41,364,743	A	11,707,515	B	31,869,357	A	
Heat recovery system	5,624,098	B	19,118,864	B	2,272,122	D	17,466,669	B	
Regular maintenance		F	73,610,506	A	18,759,064	B	49,527,440	A	

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TABLE

12.7

Total natural gas consumption and natural gas intensity by building characteristics, occupancy characteristics, energy efficiency features, heating energy sources and equipment, cooling energy sources and equipment, and water-heating energy sources **by type of ownership**

TOTAL NATURAL GAS CONSUMPTION (GJ)

Building ownership	Private individual(s)	Private organization	Non-profit organization	Fed.-prov.-munic.-regional government ^a
Percentage of the floor space heated				
Less than 1	x	x	x	x
1–50	609,538 C	F	F	1,316,661 D
51–99	4,090,130 D	5,709,064 C	F	F
100	F	74,974,984 A	16,753,139 B	45,578,118 A
Energy source for heating (more than one may apply)				
Electricity	15,667,267 B	37,880,406 A	6,979,688 C	18,682,904 A
Natural gas	F	77,950,476 A	19,463,898 B	49,963,586 A
Fuel/heating oil	140,446 D	337,460 D	F	3,916,423 B
Composite ^d	F	F	x	2,606,746 B
Main energy source for heating				
Electricity	7,325,881 D	14,258,360 B	F	2,070,005 C
Natural gas	F	67,620,101 A	18,049,988 B	45,984,095 A
Fuel/heating oil	F	x	F	x
Composite ^d	x	F	x	3,061,297 D
Heating equipment (more than one may apply)				
Furnaces	16,285,242 B	25,993,667 A	12,238,360 C	6,816,811 C
Heat pumps	F	5,914,193 C	706,307 C	6,473,743 C
Individual space heaters	15,558,293 B	29,832,282 B	5,083,712 C	16,269,298 B
Boilers	F	39,796,435 A	10,505,010 C	38,921,528 A
Packaged heating units	13,464,937 B	28,692,715 A	6,085,355 C	18,304,293 B
District steam or hot water or other	1,671,437 B	9,469,860 D	743,524 D	6,453,407 B
Main heating equipment				
Furnaces	11,837,027 B	15,790,248 A	7,027,925 B	1,644,287 B
Heat pumps	F	2,451,759 C	F	2,141,623 C
Individual space heaters	3,860,911 C	8,200,610 C	F	F
Boilers	F	32,656,199 B	9,835,056 C	35,801,008 A
Packaged heating units	11,301,691 C	19,468,061 A	1,437,459 C	6,154,541 D
District steam or hot water or other	399,538 C	F	F	3,950,019 C
Not heated	x	x	x	x

^aIncludes all levels of government (i.e. federal, provincial, municipal and regional).



^dIncludes the categories of diesel or kerosene; bottled gas, liquid petroleum gas or propane; district steam; district hot water; wood; coal; solar thermal panels; and others.

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This table is a continuation of the previous two pages. 
 This table continues on the next two pages. 

TOTAL NATURAL GAS INTENSITY (GJ/m²)

Private individual(s)	Private organization	Non-profit organization	Fed.-prov.-munic.-regional government ^a
x	x	x	x
F	F	F	F
F	F	F	F
F	0.80 D	F	F
F	F	1.14 A	F
F	0.77 D	F	F
1.05 D	0.62 D	0.53 D	0.99 D
F	F	x	F
F	F	F	F
F	0.79 D	F	F
0.69 D	x	0.52 D	x
x	F	x	F
F	F	F	F
F	F	F	F
F	F	0.97 A	F
F	F	F	F
F	0.66 D	F	F
F	F	F	F
F	F	F	F
F	F	F	F
F	F	F	F
F	F	F	F
x	x	x	x
F	F	F	F
F	F	F	F
F	F	F	2.09 D
F	F	F	F
F	F	F	F
F	F	F	F
x	x	x	x

TABLE
12.7

Total natural gas consumption and natural gas intensity by building characteristics, occupancy characteristics, energy efficiency features, heating energy sources and equipment, cooling energy sources and equipment, and water-heating energy sources **by type of ownership**

TOTAL NATURAL GAS CONSUMPTION (GJ)

Building ownership	Private individual(s)	Private organization	Non-profit organization	Fed.-prov.-munic.-regional government ^a				
Percentage of the floor space cooled								
Not cooled	3,201,383	A	11,659,142	C	7,944,312	C	10,194,111	B
1–50	7,710,944	B	15,389,955	B	3,416,372	C	12,633,386	B
51–99	10,506,949	C	18,685,604	B	3,620,467	C	14,637,333	B
100		F	37,645,947	A	5,201,461	C	13,688,662	A
Space-cooling energy source								
Electricity		F	63,019,721	A	11,450,851	B	35,225,079	A
Natural gas	4,849,771	D	11,073,366	B		F	5,136,125	D
Fuel/heating oil		x		x		x		x
Composite ^e		F	4,853,249	D		x	3,435,901	C
Cooling equipment (more than one may apply)								
Residential-type air conditioners	6,813,673	B	6,698,139	A	3,490,367	D	3,579,926	D
Heat pumps		F	2,708,441	B		F	4,940,661	D
Individual room air conditioners	4,140,523	D	13,082,347	B	1,524,513	C	6,582,102	A
District-chilled water from outside source		x	5,055,459	D		x	3,912,606	B
Central chillers		F	30,936,639	B		F	16,003,654	B
Packaged air-conditioning units	18,764,290	A	42,579,512	A	8,142,318	B	23,095,219	A
Swamp coolers		x		F		x	682,191	D
Composite ^f		F	7,085,635	C		x	3,587,994	C
Other		F	2,401,490	C		x	952,701	C
Main cooling equipment								
Residential-type air conditioners	6,060,739	C	4,269,012	B	3,346,506	D		F
Heat pumps		F	1,304,615	C		F		F
Individual room air conditioners	2,153,154	C	3,356,267	C	598,295	C	1,956,019	B
District-chilled water from outside source		x	2,411,289	D		x	2,983,704	C
Central chillers		F	27,616,631	B		F	15,020,043	B
Packaged air-conditioning units	17,717,034	B	31,191,327	A	6,636,486	B	13,749,545	B
Composite ^f		F	3,983,654	C		x	3,923,089	B
Not cooled	3,201,383	A	11,659,142	C	7,944,312	C	10,194,111	B

^aIncludes all levels of government (i.e. federal, provincial, municipal and regional).

^eIncludes the air-conditioning categories of fuel/heating oil; diesel or kerosene; bottled gas, liquid petroleum gas or propane; district-chilled water; and others.



^fIncludes the categories of district-chilled water from outside source; swamp coolers; and others.

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TOTAL NATURAL GAS INTENSITY (GJ/m²)

Private individual(s)	Private organization	Non-profit organization	Fed.-prov.-munic.-regional government ^a
0.78 B	F	F	F
F	F	F	F
F	F	1.04 D	F
F	F	F	F
F	0.75 D	F	F
F	F	F	F
x	x	x	x
F	F	x	0.97 D
F	F	F	F
F	F	F	F
F	F	F	F
x	F	x	1.05 C
F	F	F	F
1.08 D	F	F	F
x	F	x	F
F	F	x	F
F	F	x	F
F	F	F	F
F	F	0.60 D	F
F	F	0.86 D	F
x	F	x	1.02 D
F	F	F	F
F	0.72 D	F	F
F	F	x	F
0.78 B	F	F	F

TABLE

12.7

Total natural gas consumption and natural gas intensity by building characteristics, occupancy characteristics, energy efficiency features, heating energy sources and equipment, cooling energy sources and equipment, and water-heating energy sources **by type of ownership**

TOTAL NATURAL GAS CONSUMPTION (GJ)

Building ownership	Private individual(s)		Private organization		Non-profit organization		Fed.-prov.-munic.-regional government ^a	
Energy source for water heating								
Electricity	13,603,111	B	32,267,618	B	2,542,556	B	5,791,392	B
Natural gas	21,819,521	A	56,770,369	A	17,671,630	B	41,606,655	A
Fuel/heating oil		x		x		x		F
Composite ^d		F		F		x	3,216,497	D
Not heated		F		F		x		x

^aIncludes all levels of government (i.e. federal, provincial, municipal and regional).

^dIncludes the categories of diesel or kerosene; bottled gas, liquid petroleum gas or propane; district steam; district hot water; wood; coal; solar thermal panels; and others.

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TOTAL NATURAL GAS INTENSITY (GJ/m²)

Private individual(s)		Private organization		Non-profit organization		Fed.-prov.-munic.-regional government ^a	
	F		F		F		F
0.89	D	0.80	D		F		F
	x		x		x	1.59	D
	F		F		x		F
	F		F		x		x

CHAPTER **13**

**Total Oil Consumption
and Oil Intensity**



Total oil consumption and oil intensity by building characteristics, occupancy characteristics, energy efficiency features, heating energy sources and equipment, cooling energy sources and equipment, and water-heating energy sources

	Total oil consumption (GJ)		Total oil intensity (GJ/m ²)	
All buildings				
Canada	14,603,003	A	0.61	D
Building floor space				
93–464 m ² (1,000–4,999 sq. ft.)	1,155,531	B	0.84	D
465–929 m ² (5,000–9,999 sq. ft.)	821,599	A	0.46	D
929–4,645 m ² (10,000–49,999 sq. ft.)	2,605,794	A	0.49	D
4,645–9,290 m ² (50,000–99,999 sq. ft.)	2,086,769	D	0.86	D
9,290 m ² and more (100,000 sq. ft. and more)	7,933,309	B	0.61	D
Year of construction				
Before 1920	1,704,289	D	0.50	D
1920–1959	2,774,318	B	0.51	D
1960–1969	4,325,967	B	0.97	D
1970–1979	3,855,191	B	0.77	D
1980–1989	558,190	B	0.32	D
1990–1999		F	0.34	D
Number of floors				
1	3,044,265	C	0.90	D
2	3,392,641	B	0.51	D
3	1,659,357	B	0.59	D
4–9	5,095,847	C	0.75	D
10 and more	1,410,893	A	0.32	D
Predominant type of window				
Single-glazed	3,010,542	B	0.59	D
Double-glazed ^a	11,319,254	A	0.60	D
Triple-glazed ^b		F	1.40	D

^aIncludes all the different types of windows that are double-glazed (i.e. double-glazed, double-sealed glazed, double-glazed with low-E coating and double-glazed with low-E gas-filled).

^bIncludes all the different types of windows that are triple-glazed (i.e. triple-glazed, triple-glazed with low-E coating and triple-glazed low-E gas-filled).

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This table continues on the next page.



TABLE

13.1

Total oil consumption and oil intensity by building characteristics, occupancy characteristics, energy efficiency features, heating energy sources and equipment, cooling energy sources and equipment, and water-heating energy sources

	Total oil consumption (GJ)		Total oil intensity (GJ/m ²)	
Predominant exterior wall type				
Curtain walls	2,184,963	D	0.50	D
Metal stud framing with surface insulation	838,830	B	0.34	D
Metal stud framing without surface insulation		F	0.16	D
Wood-frame walls with surface insulation	1,372,982	B	0.71	D
Wood-frame walls without surface insulation	361,912	C	0.75	D
Concrete block with interior finishing	7,590,592	B	0.77	D
Concrete block without interior finishing	1,146,742	D	0.57	D
Precast panels		F	0.33	D
Unknown	691,067	C	0.46	D
Predominant roof type				
Attic roof fully insulated	649,179	B	0.15	D
Attic roof partially insulated	1,405,975	D	1.21	D
Attic roof not insulated	256,635	D	0.59	D
Insulated wood-truss roof	1,403,686	D	0.98	D
Not insulated wood-truss roof	316,965	D	0.57	D
Insulated metal-truss roof		F	0.37	D
Not insulated metal-truss roof	124,532	C	0.26	D
Insulated deck-type roof	7,372,761	A	0.86	D
Not insulated deck-type roof	1,005,527	C	0.48	D
Unknown	771,794	C	0.50	D

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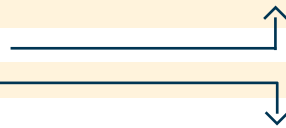
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This table continues on the next page.



Total oil consumption and oil intensity by building characteristics, occupancy characteristics, energy efficiency features, heating energy sources and equipment, cooling energy sources and equipment, and water-heating energy sources

	Total oil consumption (GJ)		Total oil intensity (GJ/m ²)	
Principal building activity				
Commercial and institutional accommodation		F	1.20	D
Entertainment and recreation		F	0.60	D
Office	290,356	B	0.09	D
Food retail		F	0.81	D
Non-food retail	574,178	B	0.44	D
Food service	138,745	D	0.55	D
Non-food service	599,990	B	0.54	D
Shopping malls	3,858,639	C	2.04	D
Warehouse/wholesale		F	0.31	D
Administration		F	0.51	D
Education	1,887,711	B	0.51	D
Health care	2,289,384	A	0.66	D
Public assembly	573,098	B	0.50	D
Other		F	1.01	D
Number of workers				
Less than 5	922,354	A	0.51	D
5–9	1,364,485	B	0.29	D
10–19	1,709,670	C	0.56	D
20–49	954,789	B	0.42	D
50–99		F	0.85	D
100–249		F	1.06	D
250 and more	6,875,550	B	0.74	D
Weekly hours of operation				
Less than 40	925,651	D	0.56	D
40–48	2,274,051	B	0.41	D
49–60	1,304,404	A	0.22	D
61–84	5,776,460	B	1.31	D
85–167	949,320	C	0.42	D
Open continuously	3,373,118	B	0.78	D

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Source: Commercial and Institutional Building Energy Use Survey 2000.

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TABLE

13.1

Total oil consumption and oil intensity by building characteristics, occupancy characteristics, energy efficiency features, heating energy sources and equipment, cooling energy sources and equipment, and water-heating energy sources

	Total oil consumption (GJ)		Total oil intensity (GJ/m ²)	
Building ownership				
Private individual(s)	2,890,363	C	0.69	D
Private organization	4,058,395	B	0.55	D
Non-profit organization	2,186,989	C	0.51	D
Fed.-prov.-munic.-regional government ^c	5,467,255	B	0.67	D
Building conservation feature				
Reflective or shading film	3,188,713	C	0.43	D
Awnings or blinds	9,427,633	A	0.68	D
Lighting conservation feature				
Reflectors	2,790,462	A	0.35	D
Energy-efficient ballast	8,932,483	A	0.60	D
Daylight controls	3,435,951	C	1.09	D
Occupancy sensors	1,117,903	B	0.19	D
Time clocks	4,592,295	B	0.44	D
Manual dimmer switches	3,396,045	A	0.78	D
Energy-efficient lamps	7,625,157	A	0.53	D
Other		F	1.48	D
Heating/cooling conservation feature				
Variable air-volume system	6,526,882	B	0.60	D
Outdoor-air economizer	8,948,721	A	0.59	D
Temperature setback	6,863,253	A	0.54	D
Equipment reset	7,822,598	A	0.62	D
Heat recovery system	3,663,052	B	0.88	D
Regular maintenance	12,144,318	A	0.56	D

^cIncludes all levels of government (i.e. federal, provincial, municipal and regional).

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Total oil consumption and oil intensity by building characteristics, occupancy characteristics, energy efficiency features, heating energy sources and equipment, cooling energy sources and equipment, and water-heating energy sources

	Total oil consumption (GJ)		Total oil intensity (GJ/m ²)	
Percentage of the floor space heated				
Less than 1		x		x
1–50	576,142	C	0.53	D
51–99	299,236	B	0.08	D
100	13,727,625	A	0.72	D
Energy source for heating (more than one may apply)				
Electricity	8,046,859	B	0.55	D
Natural gas	3,816,607	C	0.49	D
Fuel/heating oil	13,682,175	A		F
Composite ^d	2,023,762	D	1.57	D
Main energy source for heating				
Electricity	2,679,668	D	0.67	D
Natural gas	3,630,638	C	0.54	D
Fuel/heating oil	7,359,350	A		F
Composite ^d		F	0.95	D
Heating equipment (more than one may apply)				
Furnaces	4,235,749	C	0.68	D
Heat pumps		F	0.43	D
Individual space heaters	6,860,703	B	0.70	D
Boilers	9,291,713	A	0.57	D
Packaged heating units	3,710,862	C	1.29	D
District steam or hot water or other	680,784	B	0.57	D

^dIncludes the categories of diesel or kerosene; bottled gas, liquid petroleum gas or propane; district steam; district hot water; wood; coal; solar thermal panels; and others.

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TABLE

13.1

Total oil consumption and oil intensity by building characteristics, occupancy characteristics, energy efficiency features, heating energy sources and equipment, cooling energy sources and equipment, and water-heating energy sources

	Total oil consumption (GJ)		Total oil intensity (GJ/m ²)	
Main heating equipment				
Furnaces	3,282,364	C	0.63	D
Heat pumps	82,993	C	0.41	D
Individual space heaters	2,017,710	D	0.74	D
Boilers	8,222,730	A	0.57	D
Packaged heating units		F	1.02	D
District steam or hot water or other		F	0.22	D
Not heated		x		x
Percentage of the floor space cooled				
Not cooled	3,565,231	A	0.54	D
1–50	3,944,095	B	0.61	D
51–99	2,747,219	D	0.40	D
100	4,346,459	C	1.06	D
Space-cooling energy source				
Electricity	9,640,444	A	0.59	D
Natural gas		x		x
Fuel/heating oil		F		F
Composite ^e		F	1.35	D
Cooling equipment (more than one may apply)				
Residential-type air conditioners	1,680,502	D	0.90	D
Heat pumps	4,176,712	C	1.61	D
Individual room air conditioners	4,251,319	B	0.65	D
District-chilled water from outside source		F	1.12	D
Central chillers	3,308,240	C	0.48	D
Packaged air-conditioning units	6,425,895	B	0.63	D
Swamp coolers		x		x
Composite ^f		F	0.84	D
Other		x		x

^eIncludes the air-conditioning categories of fuel/heating oil; diesel or kerosene; bottled gas, liquid petroleum gas or propane; district-chilled water; and others.

^fIncludes the categories of district-chilled water from outside source; swamp coolers; and others.

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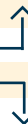
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Total oil consumption and oil intensity by building characteristics, occupancy characteristics, energy efficiency features, heating energy sources and equipment, cooling energy sources and equipment, and water-heating energy sources

	Total oil consumption (GJ)		Total oil intensity (GJ/m ²)	
Main cooling equipment				
Residential-type air conditioners		F	0.48	D
Heat pumps		F	0.90	D
Individual room air conditioners	2,242,453	A	0.60	A
District-chilled water from outside source		F	1.38	D
Central chillers	2,944,591	D	0.52	D
Packaged air-conditioning units	2,788,735	C	0.64	D
Composite ^f		F	1.16	D
Not cooled	3,565,231	A	0.54	D
Energy source for water heating				
Electricity	9,974,497	B	0.68	D
Natural gas	1,449,330	A	0.28	D
Fuel/heating oil	3,363,049	A		F
Composite ^d		F	0.14	D
Not heated		F	0.58	D

^dIncludes the categories of diesel or kerosene; bottled gas, liquid petroleum gas or propane; district steam; district hot water; wood; coal; solar thermal panels; and others.

^fIncludes the categories of district-chilled water from outside source; swamp coolers; and others.

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TABLE

13.2

Total oil consumption and oil intensity by building characteristics, occupancy characteristics, energy efficiency features, heating energy sources and equipment, cooling energy sources and equipment, and water-heating energy sources **by region**

TOTAL OIL CONSUMPTION (GJ)

Region →	Atlantic		Quebec		Ontario		Prairies	British Columbia		
All buildings										
Canada	6,947,289	A	5,268,334	C	737,073	B	F	1,547,770	A	
Building floor space										
93–464 m ² (1,000–4,999 sq. ft.)	372,326	B	488,076	C	202,333	C	x		F	
465–929 m ² (5,000–9,999 sq. ft.)	361,859	B	291,899	C	110,664	D	x	20,188	A	
929–4,645 m ² (10,000–49,999 sq. ft.)	1,196,149	B	911,869	C	160,923	D	x		F	
4,645–9,290 m ² (50,000–99,999 sq. ft.)	849,326	C		x		x	x		x	
9,290 m ² and more (100,000 sq. ft. and more)	4,167,629	B		F	263,153	D	x	1,136,553	A	
Year of construction										
Before 1920	473,610	D		F	86,070	D	x	60,701	B	
1920–1959	1,070,876	B	1,187,885	D	418,429	B	x		F	
1960–1969	2,260,247	D		F	202,885	D	x	1,209,385	A	
1970–1979	1,567,663	B		F		F	x		x	
1980–1989	376,002	B		F		x	F		x	
1990–1999		F		F		x	x		x	
Number of floors										
1	2,083,618	D		F	140,462	D	F		F	
2	1,390,035	B	1,746,857	C	151,567	D	x		F	
3	629,996	C	846,558	D	158,613	D	x	22,900	D	
4–9	2,687,796	D		F	286,108	C	x		F	
10 and more		x		x		x	x		x	
Predominant type of window										
Single-glazed	1,352,149	B		F	221,610	C	F		F	
Double-glazed ^a	5,321,933	B	4,279,295	C	515,463	B	32,340	A	1,170,223	A
Triple-glazed ^b		F	0	A	0	A	0	A	0	A

^aIncludes all the different types of windows that are double-glazed (i.e. double-glazed, double-sealed glazed, double-glazed with low-E coating and double-glazed with low-E gas-filled).

^bIncludes all the different types of windows that are triple-glazed (i.e. triple-glazed, triple-glazed with low-E coating and triple-glazed low-E gas-filled).

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This table continues on the next two pages. 

TOTAL OIL INTENSITY (GJ/m²)

Atlantic		Quebec		Ontario		Prairies		British Columbia	
	F	0.55	D	0.15	D	0.75	D	1.22	D
	F	0.92	D	0.60	D	x		0.99	D
	F	0.40	D	0.38	D	x		0.27	D
	F	0.48	D	0.20	D	x		0.66	D
	F	x		x		x		x	
	F	0.44	D	0.08	D	x		1.85	D
	F	F		0.31	D	x		0.34	D
	F	0.42	D	0.74	D	x		0.42	D
	F	0.43	D	0.33	D	x		2.08	D
	F	1.03	D	0.48	D	x		x	
	F	0.27	D	x		0.52	D	x	
	F	0.74	D	x		x		x	
	F	0.45	D	0.36	D	0.59	D	0.78	D
	F	0.64	D	0.34	D	x		0.46	D
	F	0.69	D	0.31	D	x		0.30	D
	F	0.56	D	0.50	D	x		0.10	D
	x	x		x		x		x	
	F	0.72	D	0.26	D	0.63	D	0.67	D
	F	0.52	D	0.13	D	1.22	D	1.66	D
	F	0.00	A	0.00	A	0.00	A	0.00	A

TABLE
13.2

Total oil consumption and oil intensity by building characteristics, occupancy characteristics, energy efficiency features, heating energy sources and equipment, cooling energy sources and equipment, and water-heating energy sources **by region**

TOTAL OIL CONSUMPTION (GJ)

Region →	Atlantic	Quebec	Ontario	Prairies	British Columbia
Predominant exterior wall type					
Curtain walls	2,147,676 D	x	F	x	x
Metal stud framing with surface insulation	381,165 C	340,559 D	x	F	x
Metal stud framing without surface insulation	F	x	x	x	x
Wood-frame walls with surface insulation	562,947 C	607,388 D	124,038 D	x	x
Wood-frame walls without surface insulation	172,638 D	F	x	x	x
Concrete block with interior finishing	2,320,188 C	3,522,116 D	428,423 C	x	1,319,558 A
Concrete block without interior finishing	443,174 D	F	136,674 D	x	F
Precast panels	F	x	x	x	x
Unknown	630,917 C	F	x	x	x
Predominant roof type					
Attic roof fully insulated	371,796 C	F	F	x	x
Attic roof partially insulated	217,656 D	F	F	x	x
Attic roof not insulated	F	x	F	x	x
Insulated wood-truss roof	208,023 C	F	x	x	x
Not insulated wood-truss roof	F	F	x	x	x
Insulated metal-truss roof	F	114,102 C	x	x	x
Not insulated metal-truss roof	90,017 D	F	x	x	x
Insulated deck-type roof	3,800,404 B	1,833,807 D	351,148 C	x	1,357,225 A
Not insulated deck-type roof	F	F	137,496 D	x	36,014 A
Unknown	701,450 C	70,037 D	x	x	x
Principal building activity					
Commercial and institutional accommodation	F	F	x	x	x
Entertainment and recreation	51,287 D	x	x	x	x
Office	188,634 C	F	F	x	x
Food retail	38,132 D	x	x	x	x
Non-food retail	313,030 C	164,652 D	x	x	x
Food service	x	x	x	x	x
Non-food service	140,791 C	361,685 D	62,006 C	x	x
Shopping malls	2,872,446 C	x	x	x	x
Warehouse/wholesale	383,755 D	F	x	x	x
Administration	F	F	x	x	x
Education	1,280,983 C	F	F	x	x
Health care	636,206 A	F	320,415 C	x	1,137,048 A
Public assembly	344,742 B	x	128,934 D	x	x
Other	F	x	x	x	x



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TOTAL OIL INTENSITY (GJ/m²)

	Atlantic	Quebec	Ontario	Prairies	British Columbia
	F	x	0.01 D	x	x
	F	0.79 D	x	0.75 D	x
	F	x	x	x	x
	F	0.76 D	0.42 D	x	x
	F	0.43 D	x	x	x
	F	0.63 D	0.58 D	x	1.77 D
	F	0.50 D	0.37 D	x	0.36 D
	F	x	x	x	x
	F	0.12 D	x	x	x
	F	0.41 D	0.00 D	x	x
	F	F	0.32 D	x	x
	F	x	0.38 D	x	x
	F	1.15 D	x	x	x
	F	0.39 D	x	x	x
	F	0.05 D	x	x	x
	F	0.16 D	x	x	x
	F	0.62 D	0.40 D	x	1.67 D
	F	F	0.42 D	x	0.28 D
	F	0.12 D	x	x	x
	F	1.24 D	x	x	x
	F	x	x	x	x
	F	0.92 D	0.01 D	x	x
	F	x	x	x	x
	F	0.23 D	x	x	x
	x	x	x	x	x
	F	0.65 D	0.27 D	x	x
	F	x	x	x	x
	F	0.53 D	x	x	x
	F	F	x	x	x
	F	0.34 D	0.18 D	x	x
0.87	D	0.13 D	0.60 D	x	1.84 D
	F	x	0.27 D	x	x
	F	x	x	x	x

TABLE

13.2

Total oil consumption and oil intensity by building characteristics, occupancy characteristics, energy efficiency features, heating energy sources and equipment, cooling energy sources and equipment, and water-heating energy sources **by region**

TOTAL OIL CONSUMPTION (GJ)

Region →	Atlantic		Quebec		Ontario		Prairies	British Columbia	
Number of workers									
Less than 5	485,663	B	201,346	B	227,509	C	x		x
5–9	402,969	B	783,782	D		F	x		F
10–19		F	691,366	D	52,387	D	x		F
20–49	543,864	C		F		F	x		F
50–99	419,185	B		F		x	x		x
100–249		F		x		x	x		x
250 and more	3,239,099	C		F		x	x		x
Weekly hours of operation									
Less than 40		F		F		x	x		x
40–48	841,661	B	1,154,030	D	98,026	D	F		F
49–60	661,608	A	486,780	C	136,258	C	x		F
61–84	3,549,877	C	2,074,059	D		F	x		F
85–167	627,290	D	119,562	D		F	x		x
Open continuously	862,823	B		F	282,356	C	x	1,145,663	A
Building ownership									
Private individual(s)		F	920,101	D		F	31,571	A	F
Private organization	2,558,564	C	1,360,730	D	113,613	C	x	24,197	D
Non-profit organization	653,200	D		F	136,032	D	x		x
Fed.-prov.-munic.-regional government ^c	1,946,018	B		F	368,222	C	x	1,477,955	A
Building conservation feature									
Reflective or shading film	2,389,843	D		F	414,833	C	x		F
Awnings or blinds	5,593,176	B		F	250,465	C	F	1,492,037	A
Lighting conservation feature									
Reflectors	1,719,208	B	529,807	D	373,289	C	x		F
Energy-efficient ballast	4,503,839	B	2,639,957	D	423,630	C	F	1,355,474	A
Daylight controls		F		F	335,519	C	x	1,221,819	A
Occupancy sensors	519,256	C		F	302,574	C	x		x
Time clocks	2,090,740	C	2,140,989	D	317,458	C	x	42,799	B
Manual dimmer switches	1,197,991	B		F	383,787	C	x	1,287,524	A
Energy-efficient lamps	4,127,900	B	1,833,816	D	450,547	C	x	1,188,537	A
Other		F		F		x	x		x

^cIncludes all levels of government (i.e. federal, provincial, municipal and regional).



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TOTAL OIL INTENSITY (GJ/m²)

	Atlantic	Quebec	Ontario	Prairies	British Columbia
	F	0.37 D	0.50 D	x	x
	F	F	0.22 D	x	0.83 D
	F	0.54 D	0.21 D	x	0.84 D
	F	0.32 D	0.33 D	x	0.44 D
	F	1.01 D	x	x	x
	F	x	x	x	x
	F	0.71 D	x	x	x
	F	F	x	x	x
	F	0.34 D	0.27 D	0.79 D	0.70 D
	F	0.41 D	0.04 D	x	0.28 D
	F	1.13 D	0.35 D	x	0.23 D
	F	0.47 D	0.40 D	x	x
	F	0.47 D	0.52 D	x	2.04 D
	F	0.55 D	0.59 D	1.46 D	0.28 D
	F	1.00 D	0.03 D	x	0.26 D
	F	F	0.26 D	x	x
	F	0.46 D	0.46 D	x	1.44 D
	F	0.21 D	0.11 D	x	0.47 D
	F	0.58 D	0.06 D	0.76 D	1.34 D
	F	0.32 D	0.11 D	x	0.44 D
	F	0.60 D	0.11 D	0.45 D	1.41 D
	F	0.17 D	0.84 D	x	2.75 D
	F	0.18 D	F	x	x
	F	0.51 D	0.09 D	x	0.13 D
	F	0.24 D	0.96 D	x	2.05 D
	F	0.38 D	0.11 D	x	1.52 D
	F	1.74 D	x	x	x

TABLE
13.2

Total oil consumption and oil intensity by building characteristics, occupancy characteristics, energy efficiency features, heating energy sources and equipment, cooling energy sources and equipment, and water-heating energy sources **by region**

TOTAL OIL CONSUMPTION (GJ)

Region →	Atlantic		Quebec		Ontario		Prairies	British Columbia	
Heating/cooling conservation feature									
Variable air-volume system	2,883,700	C	2,103,194	D	397,552	C	x	1,139,300	A
Outdoor-air economizer	4,563,789	B	2,816,051	C	317,141	C	F	1,181,758	A
Temperature setback	4,731,433	B	515,483	C	270,948	C	x	1,275,714	A
Equipment reset	4,449,393	B	1,640,578	D	334,744	C	x	1,394,747	A
Heat recovery system	2,163,354	D		F	306,203	C	x		x
Regular maintenance	5,903,509	A	3,945,545	C	662,887	B	F	1,529,842	A
Percentage of the floor space heated									
Less than 1		x		x		x			x
1–50	244,493	A		F		x			F
51–99	84,662	C		F		x			F
100	6,618,134	B	4,989,374	C	623,391	B	F	1,419,323	A
Energy source for heating (more than one may apply)									
Electricity	3,157,152	C	4,338,442	C	217,720	D			F
Natural gas		x		F	380,627	C		1,146,971	A
Fuel/heating oil	6,180,913	B	5,161,436	C	731,724	B		1,529,615	A
Composite ^d	1,900,136	D		F		x			x
Main energy source for heating									
Electricity		F		F		x			F
Natural gas		x		F	349,091	C		1,125,736	A
Fuel/heating oil	5,165,900	B	1,436,441	B	387,717	B			F
Composite ^d		F		x		x			x
Heating equipment (more than one may apply)									
Furnaces	2,831,761	D		F	313,469	C			F
Heat pumps		F		F		x			x
Individual space heaters	2,848,132	D	3,705,296	D	55,447	D			F
Boilers	3,395,387	B	3,992,840	C	443,133	C		1,433,169	A
Packaged heating units	2,409,823	C		F		x			x
District steam or hot water or other		F		F	299,586	C			x



^dIncludes the categories of diesel or kerosene; bottled gas, liquid petroleum gas or propane; district steam; district hot water; wood; coal; solar thermal panels; and others.

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This table is a continuation of the previous two pages. 
 This table continues on the next two pages. 

TABLE

13.2

TOTAL OIL INTENSITY (GJ/m²)

Atlantic		Quebec		Ontario		Prairies		British Columbia	
	F	0.59	D	0.11	D		x	1.91	D
	F	0.44	D	0.09	D	0.60	D	1.56	D
	F	0.19	D	0.07	D		x	1.35	D
	F	0.50	D	0.10	D		x	1.40	D
	F	0.03	D	0.44	D		x		x
	F	0.47	D	0.15	D	0.75	D	1.25	D
	x		x		x		x		x
	F	0.51	D		x		x	0.58	D
	F	0.16	D		x		x	0.84	D
	F	0.56	D	0.37	D	0.60	D	1.30	D
	F	0.59	D	0.06	D	0.62	D	0.73	D
	x	0.72	D	0.09	D		x	1.67	D
	F		F	0.39	A		F		F
	F	0.14	D		x		x		x
	F	0.56	D		x		x	0.32	D
	x	0.95	D	0.09	D		x	1.93	D
	F		F		F		x		F
	F		x		x		x		x
	F	0.45	D	0.44	D	0.60	D	0.67	D
	F	1.27	D		x		x		x
	F	0.64	D	0.18	D		x	0.60	D
	F	0.61	D	0.11	D		x	1.38	D
	F	0.79	D		x		x		x
0.66	A	0.22	D	1.62	D		x		x

TABLE
13.2

Total oil consumption and oil intensity by building characteristics, occupancy characteristics, energy efficiency features, heating energy sources and equipment, cooling energy sources and equipment, and water-heating energy sources **by region**

TOTAL OIL CONSUMPTION (GJ)

Region →	Atlantic	Quebec	Ontario	Prairies	British Columbia
Main heating equipment					
Furnaces	F	F	283,269 C	F	F
Heat pumps	39,187 D	x	x	x	x
Individual space heaters	F	F	x	x	x
Boilers	3,210,035 B	3,145,946 D	413,651 C	x	1,429,049 A
Packaged heating units	F	F	x	x	x
District steam or hot water or other	28,357 D	x	x	x	x
Not heated	x	x	x	x	x
Percentage of the floor space cooled					
Not cooled	2,137,545 B	914,653 B	167,716 D	x	F
1–50	940,838 B	1,574,807 D	246,100 C	x	1,156,244 A
51–99	F	413,200 D	53,833 D	x	F
100	1,638,269 D	F	269,423 D	F	x
Space-cooling energy source					
Electricity	4,670,269 B	3,102,784 C	568,915 B	F	1,205,215 A
Natural gas	x	x	x	x	x
Fuel/heating oil	F	x	x	x	x
Composite ^e	F	F	x	x	x
Cooling equipment (more than one may apply)					
Residential-type air conditioners	139,420 A	F	84,911 C	x	F
Heat pumps	F	F	x	x	1,137,063 A
Individual room air conditioners	836,849 C	2,070,849 D	168,735 C	x	1,174,579 A
District-chilled water from outside source	x	F	x	x	x
Central chillers	F	F	269,422 D	x	F
Packaged air-conditioning units	2,994,429 C	2,120,468 D	F	x	1,179,656 A
Swamp coolers	x	x	x	x	x
Composite ^f	x	F	x	x	x
Other	x	x	x	x	x

^eIncludes the air-conditioning categories of fuel/heating oil; diesel or kerosene; bottled gas, liquid petroleum gas or propane; district-chilled water; and others.

^fIncludes the categories of district-chilled water from outside source; swamp coolers; and others.


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This table continues on the next two pages. 

TOTAL OIL INTENSITY (GJ/m²)

Atlantic		Quebec		Ontario		Prairies		British Columbia	
	F	0.54	D	0.42	D	0.60	D	0.76	D
	F		x		x		x		x
	F	0.55	D		x		x		x
	F	0.62	D	0.10	D		x	1.39	D
	F	0.13	D		x		x		x
0.27	D		x		x		x		x
	x		x		x		x		x
	F	0.50	D	0.56	D		x	0.75	D
	F	0.44	D	0.28	D		x	2.19	D
	F	0.18	D	0.02	D		x	0.19	D
	F	1.25	D	0.53	D	0.60	D		x
1.15	D	0.45	D	0.13	D	0.79	D	1.52	D
	x		x		x		x		x
	F		x		x		x		x
	F	1.38	D		x		x		x
	F	1.18	D	0.27	D		x	0.43	D
	F	1.52	D		x		x	2.05	D
	F	0.47	D	0.28	D		x	2.32	D
	x	1.06	D		x		x		x
	F	0.71	D	0.08	D		x	0.13	D
	F	0.58	D	0.03	D		x	1.86	D
	x		x		x		x		x
	x	0.92	D		x		x		x
	x		x		x		x		x

TABLE

13.2

Total oil consumption and oil intensity by building characteristics, occupancy characteristics, energy efficiency features, heating energy sources and equipment, cooling energy sources and equipment, and water-heating energy sources **by region**

TOTAL OIL CONSUMPTION (GJ)

Region →	Atlantic		Quebec		Ontario		Prairies		British Columbia	
Main cooling equipment										
Residential-type air conditioners	48,593	B		F	74,048	C		x		x
Heat pumps		F		F		x		x	11,794	B
Individual room air conditioners	627,386	C		F	124,112	D		x		x
District-chilled water from outside source		x		F		x		x		x
Central chillers		F		F	269,422	D		x		x
Packaged air-conditioning units	2,320,693	D	332,258	C		F		x		x
Composite ^f		x		F		x		x		x
Not cooled	2,137,545	B	914,653	B	167,716	D		x		F
Energy source for water heating										
Electricity	4,962,912	B	4,381,748	C	328,423	B		F		F
Natural gas		x		F	287,843	C		x	1,129,188	A
Fuel/heating oil	2,152,294	A	903,153	C		F		x		F
Composite ^d		F		x		x		x		x
Not heated		x		x		x		x		x

^dIncludes the categories of diesel or kerosene; bottled gas, liquid petroleum gas or propane; district steam; district hot water; wood; coal; solar thermal panels; and others.

^fIncludes the categories of district-chilled water from outside source; swamp coolers; and others.

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TOTAL OIL INTENSITY (GJ/m²)

Atlantic		Quebec		Ontario		Prairies		British Columbia	
	F	0.49	B	0.31	D		x		x
	F	1.37	D		x		x	0.26	D
	F		F	0.30	D		x		x
	x	1.39	D		x		x		x
	F	1.23	D	0.08	D		x		x
	F	0.16	D	0.23	D		x		x
	x	1.17	D		x		x		x
	F	0.50	D	0.56	D		x	0.75	D
	F	0.84	D	0.09	D	0.59	D	0.58	D
	x	0.01	D	0.08	D		x	1.89	D
	F		F	0.14	A		x		F
	F		x		x		x		x
	x		x		x		x		x

TABLE
13.3

Total oil consumption and oil intensity by building characteristics, occupancy characteristics, energy efficiency features, heating energy sources and equipment, cooling energy sources and equipment, and water-heating energy sources **by building floor space**

TOTAL OIL CONSUMPTION (GJ)

Building floor space	93–464 m ² (1,000–4,999 sq. ft.)	465–929 m ² (5,000–9,999 sq. ft.)	929–4,645 m ² (10,000–49,999 sq. ft.)	4,645–9,290 m ² (50,000–99,999 sq. ft.)	9,290 m ² and more (100,000 sq. ft. and more)
All buildings					
Canada	1,155,531 B	821,599 A	2,605,794 A	2,086,769 D	7,933,309 B
Year of construction					
Before 1920	184,281 C	245,562 D	631,130 D	x	x
1920–1959	536,593 C	158,868 B	467,707 B	F	785,049 B
1960–1969	243,447 D	178,248 C	545,064 C	x	3,313,384 C
1970–1979	70,595 C	125,692 C	630,223 D	F	1,973,921 C
1980–1989	81,645 C	79,542 D	158,710 C	x	x
1990–1999	38,969 C	F	F	x	F
Number of floors					
1	192,922 B	310,947 B	500,603 D	x	F
2	465,337 B	272,575 C	967,938 B	461,365 D	F
3	447,338 D	176,536 C	444,819 C	x	x
4–9	49,934 D	F	658,106 C	F	3,111,161 D
10 and more	x	x	x	x	1,376,566 A
Predominant type of window					
Single-glazed	400,577 C	201,366 C	921,241 B	x	418,731 C
Double-glazed ^a	754,954 B	619,164 A	1,480,058 B	1,018,142 D	7,446,936 B
Triple-glazed ^b	0 A	F	F	0 A	67,643 A
Predominant exterior wall type					
Curtain walls	x	x	x	x	2,111,152 D
Metal stud framing with surface insulation	50,481 C	184,672 C	268,614 D	x	F
Metal stud framing without surface insulation	x	x	F	x	x
Wood-frame walls with surface insulation	384,880 D	198,141 C	789,961 C	x	x
Wood-frame walls without surface insulation	241,604 D	x	F	x	x
Concrete block with interior finishing	198,398 D	243,597 C	1,196,234 B	F	4,283,059 B
Concrete block without interior finishing	168,482 C	75,979 D	60,327 D	x	F
Precast panels	x	x	x	x	F
Unknown	63,698 D	94,898 C	F	x	221,979 D

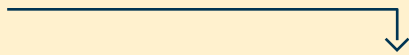
^aIncludes all the different types of windows that are double-glazed (i.e. double-glazed, double-sealed glazed, double-glazed with low-E coating and double-glazed with low-E gas-filled).

^bIncludes all the different types of windows that are triple-glazed (i.e. triple-glazed, triple-glazed with low-E coating and triple-glazed low-E gas-filled). The letter beside each estimate classifies its quality as follows: A – Excellent, B – Good, C – Acceptable, D – Use with caution, F – Too unreliable to be published, x – Suppressed to meet the confidentiality requirements of the Statistics Act.

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TOTAL OIL INTENSITY (GJ/m²)

93–464 m ² (1,000–4,999 sq. ft.)		465–929 m ² (5,000–9,999 sq. ft.)		929–4,645 m ² (10,000–49,999 sq. ft.)		4,645–9,290 m ² (50,000–99,999 sq. ft.)		9,290 m ² and more (100,000 sq. ft. and more)	
0.84	D	0.46	D	0.49	D	0.86	D	0.61	D
0.73	D	0.57	D	0.75	D	x		x	
1.06	D	0.34	D	0.32	D	0.94	D	0.37	D
0.96	D	0.72	D	0.42	D	x		1.30	D
0.71	D	0.33	D	0.56	D	1.25	D	0.77	D
0.53	D	0.53	D	0.49	D	x		x	
0.34	D	0.34	D	0.61	D	x		0.32	D
0.58	D	0.46	D	0.44	D	x		1.67	D
0.77	D	0.46	D	0.39	D	0.41	D	0.66	D
1.29	D	0.47	D	0.47	D	x		x	
0.53	D	0.49	D	0.93	D	1.68	D	0.60	D
x		x		x		x		0.32	D
0.83	D	0.37	D	0.43	D	x		0.51	D
0.84	D	0.51	D	0.48	D	0.75	D	0.61	D
0.00	A	0.37	D	1.73	D	0.00	A	0.92	D
x		x		x		x		0.51	D
0.47	D	0.46	D	0.57	D	x		0.20	D
x		x		0.71	D	x		x	
0.93	D	0.84	D	0.61	D	x		x	
1.19	D	x		0.52	D	x		x	
0.80	D	0.50	D	0.42	D	0.99	D	0.93	D
0.73	D	0.23	D	0.25	D	x		0.72	D
x		x		x		x		0.27	D
0.81	D	0.49	D	0.39	D	x		0.34	D

TABLE
13.3

Total oil consumption and oil intensity by building characteristics, occupancy characteristics, energy efficiency features, heating energy sources and equipment, cooling energy sources and equipment, and water-heating energy sources **by building floor space**

TOTAL OIL CONSUMPTION (GJ)

Building floor space →	93–464 m ² (1,000–4,999 sq. ft.)	465–929 m ² (5,000–9,999 sq. ft.)	929–4,645 m ² (10,000–49,999 sq. ft.)	4,645–9,290 m ² (50,000–99,999 sq. ft.)	9,290 m ² and more (100,000 sq. ft. and more)
Predominant roof type					
Attic roof fully insulated	158,353 C	77,772 C	204,599 D	x	F
Attic roof partially insulated	F	x	F	x	x
Attic roof not insulated	F	x	x	x	x
Insulated wood-truss roof	144,826 D	F	F	x	x
Not insulated wood-truss roof	F	x	x	x	x
Insulated metal-truss roof	48,689 C	174,410 C	274,469 C	x	F
Not insulated metal-truss roof	F	F	F	x	x
Insulated deck-type roof	F	111,575 C	1,087,580 C	F	4,585,853 B
Not insulated deck-type roof	F	105,491 D	F	x	x
Unknown	61,761 D	83,774 D	76,178 D	x	311,470 D
Principal building activity					
Commercial and institutional accommodation	x	F	573,446 D	x	x
Entertainment and recreation	x	F	F	x	x
Office	116,600 C	42,470 D	130,963 D	x	x
Food retail	F	x	x	x	x
Non-food retail	184,266 C	F	185,836 C	x	x
Food service	F	x	x	x	x
Non-food service	368,328 D	161,469 C	F	x	x
Shopping malls	x	x	F	x	3,644,580 C
Warehouse/wholesale	F	F	121,419 D	x	F
Administration	F	F	F	x	F
Education	19,550 D	x	639,968 C	715,743 D	x
Health care	41,683 D	x	x	x	2,082,548 A
Public assembly	F	94,339 D	427,548 B	x	x
Other	F	x	x	x	x
Number of workers					
Less than 5	460,340 B	160,173 B	297,049 C	x	x
5–9	363,303 C	317,639 C	355,994 C	x	x
10–19	F	134,575 C	834,988 C	x	x
20–49	F	131,825 D	590,338 C	x	x
50–99	x	x	F	F	x
100–249	x	x	91,707 B	246,084 D	F
250 and more	x	x	x	x	6,194,593 B


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TOTAL OIL INTENSITY (GJ/m²)

93–464 m ² (1,000–4,999 sq. ft.)		465–929 m ² (5,000–9,999 sq. ft.)		929–4,645 m ² (10,000–49,999 sq. ft.)		4,645–9,290 m ² (50,000–99,999 sq. ft.)		9,290 m ² and more (100,000 sq. ft. and more)	
0.70	D	0.41	D	0.46	D	x		0.04	D
1.72	D	x		0.30	D	x		x	
0.92	D	x		x		x		x	
0.65	D	0.73	D	0.62	D	x		x	
1.14	D	x		x		x		x	
0.53	D	0.57	D	0.40	D	x		0.33	D
0.39	D	F		0.32	D	x		x	
0.75	D	0.37	D	0.53	D	1.19	D	0.96	D
0.59	D	0.37	D	0.45	D	x		x	
0.85	D	0.47	D	0.39	D	x		0.46	D
x		0.44	D	1.07	D	x		x	
x		0.65	D	0.65	D	x		x	
0.85	D	0.59	D	0.45	D	x		x	
1.79	D	x		x		x		x	
0.78	D	0.40	D	0.36	D	x		x	
1.35	D	x		x		x		x	
0.84	D	0.29	D	0.37	D	x		x	
x		x		0.42	D	x		2.20	D
0.19	D	0.38	D	0.28	D	x		0.32	D
0.99	D	0.45	D	0.46	D	x		0.37	D
0.26	D	x		0.42	D	0.45	D	x	
0.56	D	x		x		x		0.67	D
0.81	D	0.73	D	0.45	D	x		x	
F		x		x		x		x	
0.85	D	0.30	D	0.45	D	x		x	
0.77	D	0.60	D	0.41	D	x		x	
1.04	D	0.34	D	0.57	D	x		x	
0.36	D	0.66	D	0.46	D	x		x	
x		x		0.47	D	1.46	D	x	
x		x		0.54	D	0.61	D	1.48	D
x		x		x		x		0.74	D

TABLE
13.3

Total oil consumption and oil intensity by building characteristics, occupancy characteristics, energy efficiency features, heating energy sources and equipment, cooling energy sources and equipment, and water-heating energy sources **by building floor space**

TOTAL OIL CONSUMPTION (GJ)

Building floor space	93–464 m ² (1,000–4,999 sq. ft.)	465–929 m ² (5,000–9,999 sq. ft.)	929–4,645 m ² (10,000–49,999 sq. ft.)	4,645–9,290 m ² (50,000–99,999 sq. ft.)	9,290 m ² and more (100,000 sq. ft. and more)
Weekly hours of operation					
Less than 40	F	F	274,394 D	x	x
40–48	199,774 C	190,476 B	786,952 C	F	F
49–60	258,135 B	243,613 C	286,690 C	x	377,525 B
61–84	531,604 C	123,069 C	439,283 B	x	4,410,273 C
85–167	F	107,655 D	F	x	F
Open continuously	F	F	528,088 D	x	1,997,293 A
Building ownership					
Private individual(s)	699,976 B	279,625 C	265,366 B	x	F
Private organization	289,051 B	224,768 C	485,011 B	x	2,921,804 C
Non-profit organization	69,331 D	183,820 C	1,221,715 B	x	x
Fed.-prov.-munic.-regional government ^c	F	133,387 D	633,702 C	1,142,293 D	3,460,699 B
Building conservation feature					
Reflective or shading film	F	64,878 D	390,098 C	429,879 C	2,157,345 D
Awnings or blinds	435,987 B	401,612 B	1,630,776 B	1,080,069 D	5,879,189 B
Lighting conservation feature					
Reflectors	F	72,020 C	666,668 C	380,994 D	1,406,254 B
Energy-efficient ballast	504,758 C	259,023 B	978,582 B	684,227 C	6,505,894 B
Daylight controls	F	59,012 D	549,101 D	x	2,618,322 C
Occupancy sensors	x	F	x	x	850,863 C
Time clocks	F	107,651 C	648,045 B	F	3,041,585 C
Manual dimmer switches	235,495 D	256,483 C	679,513 C	266,468 C	1,958,085 A
Energy-efficient lamps	167,180 D	203,192 C	1,108,067 B	1,182,165 D	4,964,554 B
Other	55,787 C	F	85,178 D	x	F
Heating/cooling conservation feature					
Variable air-volume system	88,782 C	312,805 B	540,087 B	F	4,845,439 B
Outdoor-air economizer	138,087 B	209,515 C	796,220 C	F	6,524,010 A
Temperature setback	153,980 C	297,342 B	1,118,110 A	778,674 C	4,515,147 B
Equipment reset	104,864 C	158,908 C	1,084,000 B	775,797 C	5,699,028 B
Heat recovery system	x	54,185 C	169,929 D	x	3,299,225 C
Regular maintenance	677,485 B	605,759 A	2,186,676 A	1,384,915 C	7,289,483 B

^cIncludes all levels of government (i.e. federal, provincial, municipal and regional).



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 This table continues on the next two pages. 

TOTAL OIL INTENSITY (GJ/m²)

93–464 m ² (1,000–4,999 sq. ft.)		465–929 m ² (5,000–9,999 sq. ft.)		929–4,645 m ² (10,000–49,999 sq. ft.)		4,645–9,290 m ² (50,000–99,999 sq. ft.)		9,290 m ² and more (100,000 sq. ft. and more)	
0.63	D	0.76	D	0.53	D	x		x	
0.63	D	0.41	D	0.44	D	0.80	D	0.22	D
0.58	D	0.40	D	0.34	D	x		0.10	D
1.43	D	0.52	D	0.39	D	x		1.85	D
0.56	D	0.51	D	0.56	D	x		0.33	D
1.00	D	0.49	D	1.00	D	x		0.64	D
0.94	D	0.45	D	0.40	D	x		0.80	D
0.66	D	0.38	D	0.36	D	x		0.60	D
0.68	D	0.56	D	0.64	D	x		x	
1.11	D	0.57	D	0.44	D	0.67	D	0.74	D
0.93	D	0.45	D	0.44	D	0.68	D	0.39	D
0.78	D	0.47	D	0.56	D	0.70	D	0.74	D
1.70	D	0.35	D	0.53	D	0.70	D	0.24	D
1.01	D	0.45	D	0.43	D	0.50	D	0.65	D
0.84	D	0.38	D	0.67	D	x		1.41	D
x		0.48	D	x		x		0.16	D
1.07	D	0.29	D	0.47	D	0.74	D	0.40	D
0.94	D	0.50	D	0.75	D	1.14	D	0.80	D
0.93	D	0.42	D	0.46	D	0.73	D	0.52	D
0.48	D	0.29	D	0.24	D	x		2.25	D
0.60	D	0.74	D	0.52	D	0.73	D	0.59	D
0.56	D	0.46	D	0.58	D	0.74	D	0.58	D
0.61	D	0.63	D	0.44	D	0.47	D	0.59	D
0.66	D	0.50	D	0.53	D	0.47	D	0.67	D
x		0.45	D	0.38	D	x		0.97	D
0.71	D	0.46	D	0.51	D	0.68	D	0.57	D

TABLE
13.3

Total oil consumption and oil intensity by building characteristics, occupancy characteristics, energy efficiency features, heating energy sources and equipment, cooling energy sources and equipment, and water-heating energy sources **by building floor space**

TOTAL OIL CONSUMPTION (GJ)

Building floor space	93–464 m ² (1,000–4,999 sq. ft.)	465–929 m ² (5,000–9,999 sq. ft.)	929–4,645 m ² (10,000–49,999 sq. ft.)	4,645–9,290 m ² (50,000–99,999 sq. ft.)	9,290 m ² and more (100,000 sq. ft. and more)
Percentage of the floor space heated					
Less than 1	x	x	x	x	x
1–50	143,488 D	F	F	x	x
51–99	F	F	130,469 C	x	x
100	931,427 B	716,288 A	2,334,279 A	2,062,721 D	7,682,910 B
Energy source for heating (more than one may apply)					
Electricity	660,594 B	447,970 B	1,045,931 B	F	4,463,181 C
Natural gas	F	56,374 D	175,568 D	x	3,151,373 C
Fuel/heating oil	1,103,436 B	761,536 A	2,556,728 A	2,036,707 D	7,223,769 B
Composite ^d	F	100,921 D	F	x	1,846,700 D
Main energy source for heating					
Electricity	202,704 D	116,226 D	213,537 C	F	F
Natural gas	F	F	157,727 D	x	3,016,863 C
Fuel/heating oil	934,202 B	624,989 A	2,189,400 B	794,528 C	2,816,232 C
Composite ^d	x	F	x	x	F
Heating equipment (more than one may apply)					
Furnaces	579,645 B	390,021 B	719,112 B	x	F
Heat pumps	55,761 D	F	F	x	F
Individual space heaters	509,878 C	281,764 B	777,537 B	F	4,024,700 D
Boilers	541,269 C	368,386 B	1,771,190 B	1,936,071 D	4,674,796 B
Packaged heating units	F	x	F	x	3,304,419 C
District steam or hot water or other	87,844 D	32,620 D	F	x	521,238 C
Main heating equipment					
Furnaces	508,138 B	331,658 B	623,987 B	x	F
Heat pumps	55,761 D	x	x	x	x
Individual space heaters	45,353 D	107,184 D	267,127 C	x	x
Boilers	515,621 C	299,774 C	1,671,266 B	1,137,934 D	4,598,135 B
Packaged heating units	x	x	x	x	F
District steam or hot water or other	x	x	x	x	F
Not heated	x	x	x	x	x


^dIncludes the categories of diesel or kerosene; bottled gas, liquid petroleum gas or propane; district steam; district hot water; wood; coal; solar thermal panels; and others.


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TOTAL OIL INTENSITY (GJ/m²)

93–464 m ² (1,000–4,999 sq. ft.)		465–929 m ² (5,000–9,999 sq. ft.)		929–4,645 m ² (10,000–49,999 sq. ft.)		4,645–9,290 m ² (50,000–99,999 sq. ft.)		9,290 m ² and more (100,000 sq. ft. and more)	
	x		x		x		x		x
0.77	D	0.30	D	0.55	D		x		x
1.15	D	0.79	D	0.30	D		x		x
0.83	D	0.46	D	0.50	D	0.85	D	0.83	D
0.94	D	0.46	D	0.45	D	0.96	D	0.49	D
0.26	D	0.22	D	0.22	D		x	0.48	D
	F		F		F		F		F
0.49	D		F	0.46	D		x	1.86	D
0.79	D	0.48	D	0.37	D	0.81	D	0.69	D
0.23	D	0.22	D	0.23	D		x	0.53	D
	F		F		F		F		F
	x		F		x		x	1.02	D
0.72	D	0.50	D	0.39	D		x	0.90	D
0.57	D	0.49	D	0.20	D		x	0.31	D
1.00	D	0.34	D	0.47	D	1.09	D	0.71	D
1.15	D	0.48	D	0.58	D	0.84	D	0.47	D
1.36	D		x	0.53	D		x	1.68	D
0.54	D	0.38	D	0.51	D		x	0.60	D
0.71	D	0.51	D	0.39	D		x	0.77	D
0.57	D		x		x		x		x
0.36	D	0.31	D	0.34	D		x		x
1.26	D	0.50	D	0.59	D	0.80	D	0.51	D
	x		x		x		x	1.18	D
	x		x		x		x	0.21	D
	x		x		x		x		x

TABLE
13.3

Total oil consumption and oil intensity by building characteristics, occupancy characteristics, energy efficiency features, heating energy sources and equipment, cooling energy sources and equipment, and water-heating energy sources **by building floor space**

TOTAL OIL CONSUMPTION (GJ)

Building floor space	93–464 m ² (1,000–4,999 sq. ft.)		465–929 m ² (5,000–9,999 sq. ft.)		929–4,645 m ² (10,000–49,999 sq. ft.)		4,645–9,290 m ² (50,000–99,999 sq. ft.)		9,290 m ² and more (100,000 sq. ft. and more)	
Percentage of the floor space cooled										
Not cooled	604,432	B	329,888	B	1,377,918	B	636,343	D		F
1–50	368,114	D	192,346	C	745,371	C		F	1,784,928	A
51–99	86,830	C	197,028	D	181,111	C		x		F
100	96,155	C	102,338	C	301,394	D		x	3,289,895	C
Space-cooling energy source										
Electricity	546,821	C	470,289	B	1,199,220	B		F	6,464,927	B
Natural gas		x		x		x		x		x
Fuel/heating oil		x		x		x		x		x
Composite ^e		F		x		F		x		x
Cooling equipment (more than one may apply)										
Residential-type air conditioners	128,986	B	100,602	C	206,003	C		x		F
Heat pumps	61,390	D	39,466	D		F		x	3,349,823	C
Individual room air conditioners		F	174,100	D	625,149	C		x	2,351,833	B
District-chilled water from outside source		x		x		x		x		x
Central chillers		x		x	203,227	D		x	3,025,851	D
Packaged air-conditioning units	98,037	C	200,170	C	722,337	C		F	4,344,169	B
Swamp coolers		x		x		x		x		x
Composite ^f		x		x		F		x		F
Other		x		x		x		x		x
Main cooling equipment										
Residential-type air conditioners	128,986	B	89,741	C	131,306	D		x		x
Heat pumps	55,448	D	39,466	D		F		x		x
Individual room air conditioners		F		F	536,464	D		x	1,279,452	A
District-chilled water from outside source		x		x		x		x		x
Central chillers		x		x		x		x	2,902,616	D
Packaged air-conditioning units	94,268	C	200,170	C	434,351	B	359,328	D		F
Composite ^f		x		x		x		x		x
Not cooled	604,432	B	329,888	B	1,377,918	B	636,343	D		F

^eIncludes the air-conditioning categories of fuel/heating oil; diesel or kerosene; bottled gas, liquid petroleum gas or propane; district-chilled water; and others.

^fIncludes the categories of district-chilled water from outside source; swamp coolers; and others.



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TOTAL OIL INTENSITY (GJ/m²)

93–464 m ² (1,000–4,999 sq. ft.)		465–929 m ² (5,000–9,999 sq. ft.)		929–4,645 m ² (10,000–49,999 sq. ft.)		4,645–9,290 m ² (50,000–99,999 sq. ft.)		9,290 m ² and more (100,000 sq. ft. and more)	
0.85	D	0.41	D	0.51	D	0.54	D	0.50	D
1.15	D	0.40	D	0.52	D	0.88	D	0.54	D
0.50	D	0.67	D	0.39	D	x		0.39	D
0.55	D	0.52	D	0.43	D	x		1.18	D
0.84	D	0.52	D	0.47	D	0.85	D	0.58	D
x		x		x		x		x	
x		x		x		x		x	
F		x		0.58	D	x		x	
0.50	D	0.44	D	0.46	D	x		1.32	D
0.41	D	0.43	D	0.26	D	x		1.80	D
1.34	D	0.55	D	0.57	D	x		0.58	D
x		x		x		x		x	
x		x		0.55	D	x		0.47	D
0.69	D	0.47	D	0.51	D	0.92	D	0.62	D
x		x		x		x		x	
x		x		0.59	D	x		0.69	D
x		x		x		x		x	
0.50	D	0.51	D	0.44	D	x		x	
0.41	D	0.43	D	0.26	D	x		x	
1.98	D	0.61	D	0.61	D	x		F	
x		x		x		x		x	
x		x		x		x		0.52	D
0.75	D	0.47	D	0.38	D	0.48	D	0.89	D
x		x		x		x		x	
0.85	D	0.41	D	0.51	D	0.54	D	0.50	D

TABLE

13.3

Total oil consumption and oil intensity by building characteristics, occupancy characteristics, energy efficiency features, heating energy sources and equipment, cooling energy sources and equipment, and water-heating energy sources **by building floor space**

TOTAL OIL CONSUMPTION (GJ)

Building floor space →	93–464 m ² (1,000–4,999 sq. ft.)	465–929 m ² (5,000–9,999 sq. ft.)	929–4,645 m ² (10,000–49,999 sq. ft.)	4,645–9,290 m ² (50,000–99,999 sq. ft.)	9,290 m ² and more (100,000 sq. ft. and more)
Energy source for water heating					
Electricity	630,228 A	543,238 B	1,286,433 B	1,849,229 D	5,665,370 B
Natural gas	F	x	F	x	1,388,108 A
Fuel/heating oil	525,412 C	258,507 C	1,373,160 B	400,666 D	805,304 A
Composite ^d	x	x	x	x	F
Not heated	F	x	x	x	x

^dIncludes the categories of diesel or kerosene; bottled gas, liquid petroleum gas or propane; district steam; district hot water; wood; coal; solar thermal panels; and others.

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93–464 m ² (1,000–4,999 sq. ft.)		465–929 m ² (5,000–9,999 sq. ft.)		929–4,645 m ² (10,000–49,999 sq. ft.)		4,645–9,290 m ² (50,000–99,999 sq. ft.)		9,290 m ² and more (100,000 sq. ft. and more)	
0.66	D	0.44	D	0.44	D	0.95	D	0.74	D
0.09	D	x		0.13	D	x		0.28	D
	F	F		F		F		F	
x		x		x		x		0.10	D
0.84	D	x		x		x		x	

TABLE
13.4

Total oil consumption and oil intensity by building characteristics, occupancy characteristics, energy efficiency features, heating energy sources and equipment, cooling energy sources and equipment, and water-heating energy sources **by year of construction**

TOTAL OIL CONSUMPTION (GJ)

Year of construction	Before 1920	1920– 1959	1960– 1969	1970– 1979	1980– 1989	1990– 1999
All buildings						
Canada	1,704,289 D	2,774,318 B	4,325,967 B	3,855,191 B	558,190 B	F
Building floor space						
93–464 m ² (1,000–4,999 sq. ft.)	184,281 C	536,593 C	243,447 D	70,595 C	81,645 C	38,969 C
465–929 m ² (5,000–9,999 sq. ft.)	245,562 D	158,868 B	178,248 C	125,692 C	79,542 D	F
929–4,645 m ² (10,000–49,999 sq. ft.)	631,130 D	467,707 B	545,064 C	630,223 D	158,710 C	F
4,645–9,290 m ² (50,000–99,999 sq. ft.)	x	F	x	F	x	x
9,290 m ² and more (100,000 sq. ft. and more)	x	785,049 B	3,313,384 C	1,973,921 C	x	F
Number of floors						
1	F	F	F	771,383 C	158,516 C	63,876 D
2	331,727 C	561,921 B	469,923 C	1,640,585 D	296,699 D	F
3	281,702 C	754,883 D	F	x	x	x
4–9	F	1,224,472 C	385,290 D	F	x	x
10 and more	x	x	x	x	x	x
Predominant type of window						
Single-glazed	285,616 C	1,009,349 B	680,859 B	F	26,641 D	x
Double-glazed ^a	F	1,764,969 C	3,645,108 B	2,847,330 B	463,906 C	F
Triple-glazed ^b	F	0 A	0 A	0 A	67,643 A	F
Predominant exterior wall type						
Curtain walls	x	x	x	x	x	x
Metal stud framing with surface insulation	x	F	127,624 D	245,983 D	121,691 C	F
Metal stud framing without surface insulation	x	x	x	x	x	x
Wood-frame walls with surface insulation	611,260 D	407,305 D	217,935 D	50,963 C	F	18,523 D
Wood-frame walls without surface insulation	F	F	F	x	x	x
Concrete block with interior finishing	F	1,418,192 C	2,299,179 B	2,873,986 C	F	F
Concrete block without interior finishing	x	272,133 C	F	48,604 D	F	x
Precast panels	x	x	x	F	x	x
Unknown	x	F	F	F	182,693 C	x

^aIncludes all the different types of windows that are double-glazed (i.e. double-glazed, double-sealed glazed, double-glazed with low-E coating and double-glazed with low-E gas-filled).

^bIncludes all the different types of windows that are triple-glazed (i.e. triple-glazed, triple-glazed with low-E coating and triple-glazed low-E gas-filled).

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TOTAL OIL INTENSITY (GJ/m²)

Before 1920	1920– 1959	1960– 1969	1970– 1979	1980– 1989	1990– 1999
0.50 D	0.51 D	0.97 D	0.77 D	0.32 D	0.34 D
0.73 D	1.06 D	0.96 D	0.71 D	0.53 D	0.34 D
0.57 D	0.34 D	0.72 D	0.33 D	0.53 D	0.34 D
0.75 D	0.32 D	0.42 D	0.56 D	0.49 D	0.61 D
x	0.94 D	x	1.25 D	x	x
x	0.37 D	1.30 D	0.77 D	x	0.32 D
0.73 D	0.43 D	1.28 D	0.77 D	0.46 D	0.29 D
0.62 D	0.37 D	0.53 D	0.65 D	0.33 D	0.36 D
0.51 D	0.73 D	0.46 D	x	x	x
0.48 D	0.73 D	0.42 D	1.28 D	x	x
x	x	x	x	x	x
0.50 D	0.43 D	0.71 D	0.91 D	0.36 D	x
0.45 D	0.57 D	1.04 D	0.73 D	0.29 D	0.34 D
F	0.00 A	0.00 A	0.00 A	0.92 D	0.37 D
x	x	x	x	x	x
x	0.61 D	0.41 D	0.25 D	0.18 D	0.83 D
x	x	x	x	x	x
0.82 D	0.65 D	0.80 D	0.53 D	0.59 D	0.24 D
0.87 D	0.32 D	F	x	x	x
0.37 D	0.56 D	1.24 D	1.17 D	0.22 D	0.13 D
x	0.59 D	0.64 D	0.25 D	0.42 D	x
x	x	x	0.41 D	x	x
x	0.50 D	0.42 D	0.08 D	0.83 D	x

TABLE
13.4

Total oil consumption and oil intensity by building characteristics, occupancy characteristics, energy efficiency features, heating energy sources and equipment, cooling energy sources and equipment, and water-heating energy sources **by year of construction**

TOTAL OIL CONSUMPTION (GJ)

Year of construction →	Before 1920	1920– 1959	1960– 1969	1970– 1979	1980– 1989	1990– 1999
Predominant roof type						
Attic roof fully insulated	F	73,741 C	F	306,894 D	F	F
Attic roof partially insulated	120,039 D	F	x	F	x	x
Attic roof not insulated	F	F	x	x	x	x
Insulated wood-truss roof	F	81,547 D	F	x	x	F
Not insulated wood-truss roof	x	F	x	x	x	x
Insulated metal-truss roof	x	66,297 C	F	F	116,629 C	F
Not insulated metal-truss roof	x	x	F	x	x	x
Insulated deck-type roof	F	1,531,493 C	2,517,754 B	1,735,055 D	F	F
Not insulated deck-type roof	34,561 A	294,263 D	F	x	x	x
Unknown	x	F	x	F	187,308 C	x
Principal building activity						
Commercial and institutional accommodation	F	x	x	x	x	x
Entertainment and recreation	x	x	x	x	x	x
Office	76,663 C	F	x	F	x	x
Food retail	x	F	x	x	x	x
Non-food retail	F	87,006 C	F	F	90,144 D	F
Food service	x	F	x	x	x	x
Non-food service	F	F	88,281 D	101,916 B	85,818 C	F
Shopping malls	x	x	F	F	x	x
Warehouse/wholesale	x	40,583 A	F	F	F	F
Administration	F	F	x	F	x	x
Education	15,832 D	752,440 C	317,522 D	643,146 D	x	x
Health care	F	588,795 C	1,355,378 A	249,304 D	x	x
Public assembly	F	127,355 C	247,155 D	x	x	x
Other	x	x	x	x	x	x
Number of workers						
Less than 5	238,013 D	292,927 B	279,730 C	43,318 D	32,477 D	F
5–9	209,586 D	F	F	176,141 C	129,732 D	F
10–19	F	664,141 D	F	F	67,545 C	17,969 D
20–49	F	204,483 D	308,828 D	F	F	F
50–99	x	x	x	F	x	x
100–249	x	F	x	347,129 D	x	x
250 and more	x	1,136,008 D	2,156,999 C	1,669,957 D	x	x



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NOTE: Estimates relate only to the surveyed areas of populations of 175,000 and greater, and in Atlantic Canada to populations of 50,000 and greater.

Source: Commercial and Institutional Building Energy Use Survey 2000.

This table is a continuation of the previous two pages. 
 This table continues on the next two pages. 

TOTAL OIL INTENSITY (GJ/m²)

Before 1920	1920– 1959	1960– 1969	1970– 1979	1980– 1989	1990– 1999
0.49 D	0.39 D	0.63 D	0.62 D	0.13 D	0.01 D
0.49 D	0.72 D	x	F	x	x
0.87 D	0.44 D	x	x	x	x
2.00 D	0.37 D	0.66 D	x	x	0.66 D
x	0.18 D	x	x	x	x
x	0.30 D	0.99 D	0.46 D	0.43 D	0.27 D
x	x	F	x	x	x
0.84 D	0.65 D	1.28 D	0.77 D	0.17 D	1.68 D
0.33 D	0.38 D	0.61 D	x	x	x
x	0.41 D	x	0.50 D	0.80 D	x
0.87 D	x	x	x	x	x
x	x	x	x	x	x
0.55 D	0.64 D	x	0.57 D	x	x
x	1.38 D	x	x	x	x
0.74 D	0.27 D	0.76 D	0.35 D	0.59 D	0.57 D
x	0.43 D	x	x	x	x
0.36 D	0.84 D	0.60 D	0.33 D	0.51 D	0.31 D
x	x	1.77 D	2.55 D	x	x
x	0.30 D	F	0.12 D	0.36 D	0.17 D
F	1.16 D	x	0.40 D	x	x
0.38 D	0.48 D	0.60 D	0.69 D	x	x
0.18 D	0.34 D	1.81 D	0.64 D	x	x
0.42 D	0.39 D	0.54 D	x	x	x
x	x	x	x	x	x
0.50 D	0.54 D	0.69 D	0.24 D	0.26 D	0.49 D
F	0.61 D	F	0.17 D	0.52 D	0.75 D
0.86 D	0.46 D	0.59 D	0.75 D	0.36 D	0.24 D
0.71 D	0.41 D	0.43 D	0.24 D	0.68 D	0.35 D
x	x	x	0.99 D	x	x
x	0.81 D	x	0.56 D	x	x
x	0.52 D	1.53 D	1.56 D	x	x

TABLE

13.4

Total oil consumption and oil intensity by building characteristics, occupancy characteristics, energy efficiency features, heating energy sources and equipment, cooling energy sources and equipment, and water-heating energy sources **by year of construction**

TOTAL OIL CONSUMPTION (GJ)

Year of construction →	Before 1920	1920– 1959	1960– 1969	1970– 1979	1980– 1989	1990– 1999
Weekly hours of operation						
Less than 40	98,898 D	F	x	x	x	x
40–48	83,532 C	F	655,885 C	573,182 D	F	F
49–60	193,133 D	393,073 C	291,272 B	F	173,454 C	40,229 D
61–84	F	619,429 C	F	1,454,253 D	171,881 D	F
85–167	F	160,880 C	F	446,677 D	x	F
Open continuously	F	443,338 C	1,255,302 A	F	F	x
Building ownership						
Private individual(s)	233,941 C	505,313 C	F	267,662 D	192,932 C	F
Private organization	204,098 D	199,950 B	F	1,663,563 D	F	F
Non-profit organization	608,614 D	145,601 C	271,334 C	F	x	x
Fed.-prov.-munic.-regional government ^c	F	1,923,454 C	1,742,930 A	934,341 C	F	x
Building conservation feature						
Reflective or shading film	F	770,786 B	290,429 D	795,206 C	x	F
Awnings or blinds	F	1,434,168 C	3,291,813 B	1,862,899 B	434,127 C	F
Lighting conservation feature						
Reflectors	58,395 C	809,716 C	998,615 B	738,919 C	171,880 D	x
Energy-efficient ballast	F	1,380,204 B	2,847,658 B	2,235,763 C	436,961 C	F
Daylight controls	F	318,480 C	1,381,005 A	F	185,139 C	F
Occupancy sensors	x	395,751 C	F	x	x	x
Time clocks	281,179 D	1,156,142 D	F	1,484,050 D	268,900 D	F
Manual dimmer switches	530,148 D	566,058 C	1,254,388 A	811,916 C	218,661 D	14,873 D
Energy-efficient lamps	453,986 D	1,841,325 B	1,931,954 A	2,041,040 C	232,251 D	F
Other	F	108,845 C	x	x	x	F
Heating/cooling conservation feature						
Variable air-volume system	176,481 D	1,163,448 C	1,998,875 A	1,788,851 C	269,404 D	F
Outdoor-air economizer	F	1,202,261 B	2,909,773 B	3,007,435 C	343,830 C	F
Temperature setback	278,507 C	1,286,626 B	2,636,134 B	1,185,145 B	348,509 C	F
Equipment reset	146,122 D	1,508,804 B	2,720,099 B	1,994,270 C	351,135 C	F
Heat recovery system	x	315,494 C	1,499,159 A	583,875 C	173,335 C	F
Regular maintenance	1,501,414 D	2,430,844 B	3,530,868 B	2,815,075 B	502,575 B	F

^cIncludes all levels of government (i.e. federal, provincial, municipal and regional).

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This table is a continuation of the previous two pages. 

This table continues on the next two pages. 

TOTAL OIL INTENSITY (GJ/m²)

Before 1920	1920– 1959	1960– 1969	1970– 1979	1980– 1989	1990– 1999
0.41 D	0.57 D	x	x	x	x
F	0.91 D	0.52 D	0.61 D	0.25 D	0.38 D
0.55 D	0.36 D	0.53 D	0.40 D	0.57 D	0.01 D
2.15 D	0.71 D	1.25 D	1.45 D	0.54 D	1.98 D
0.49 D	0.42 D	1.20 D	0.32 D	x	0.41 D
0.88 D	0.29 D	2.08 D	1.00 D	0.08 D	x
0.66 D	0.81 D	0.56 D	0.20 D	0.48 D	2.31 D
0.71 D	0.29 D	1.35 D	1.20 D	0.39 D	0.02 D
0.25 D	0.45 D	0.54 D	1.06 D	x	x
2.21 D	0.51 D	1.03 D	0.70 D	0.18 D	x
0.25 D	0.71 D	0.33 D	0.76 D	x	0.32 D
1.22 D	0.57 D	1.25 D	0.73 D	0.31 D	0.32 D
0.24 D	0.67 D	0.47 D	0.63 D	0.78 D	x
1.36 D	0.43 D	1.10 D	0.68 D	0.32 D	0.32 D
1.10 D	0.32 D	1.39 D	0.25 D	0.80 D	3.17 D
x	0.30 D	0.28 D	x	x	x
0.64 D	0.50 D	0.71 D	1.21 D	0.24 D	0.01 D
0.74 D	0.39 D	2.18 D	0.64 D	0.86 D	0.14 D
0.22 D	0.57 D	0.81 D	0.87 D	0.23 D	0.35 D
3.00 D	0.27 D	x	x	x	2.00 D
0.65 D	0.65 D	0.95 D	0.88 D	0.25 D	0.32 D
0.15 D	0.46 D	1.02 D	1.03 D	0.29 D	0.33 D
0.45 D	0.39 D	1.19 D	0.67 D	0.29 D	0.32 D
0.52 D	0.49 D	1.05 D	0.80 D	0.44 D	0.32 D
x	0.29 D	1.21 D	0.66 D	0.30 D	3.80 D
0.48 D	0.49 D	0.92 D	0.70 D	0.33 D	0.34 D

TABLE

13.4

Total oil consumption and oil intensity by building characteristics, occupancy characteristics, energy efficiency features, heating energy sources and equipment, cooling energy sources and equipment, and water-heating energy sources **by year of construction**

TOTAL OIL CONSUMPTION (GJ)

Year of construction	Before 1920	1920– 1959	1960– 1969	1970– 1979	1980– 1989	1990– 1999
Percentage of the floor space heated						
Less than 1	x	x	x	x	x	x
1–50	x	x	F	x	F	x
51–99	132,488 D	F	F	38,601 B	x	x
100	1,568,027 D	2,721,952 B	3,858,124 B	3,783,025 B	426,295 B	F
Energy source for heating (more than one may apply)						
Electricity	F	1,335,128 D	2,363,768 D	2,776,778 C	382,893 C	F
Natural gas	F	F	1,174,314 A	F	x	x
Fuel/heating oil	1,649,993 D	2,732,790 B	3,600,678 B	3,784,809 B	540,797 B	F
Composite ^d	x	F	F	F	x	x
Main energy source for heating						
Electricity	F	F	F	F	F	F
Natural gas	x	F	1,174,281 A	F	x	x
Fuel/heating oil	991,694 C	1,725,008 B	1,228,622 A	1,732,648 B	413,210 B	F
Composite ^d	x	x	x	F	x	x
Heating equipment (more than one may apply)						
Furnaces	182,689 C	351,391 B	1,771,851 D	507,906 C	174,117 C	F
Heat pumps	x	x	F	F	180,054 C	F
Individual space heaters	F	1,120,617 D	F	2,385,689 D	252,011 D	F
Boilers	1,495,599 D	2,335,922 B	1,841,546 A	3,130,044 C	357,163 C	F
Packaged heating units	x	x	F	F	F	x
District steam or hot water or other	F	282,368 C	x	F	x	x
Main heating equipment						
Furnaces	166,836 C	292,086 B	1,059,601 D	371,926 C	158,817 C	F
Heat pumps	x	x	x	x	F	x
Individual space heaters	F	145,295 D	F	F	F	F
Boilers	F	2,288,437 B	1,803,157 A	2,324,582 C	241,606 C	F
Packaged heating units	x	x	F	x	x	x
District steam or hot water or other	x	16,669 B	x	F	x	x
Not heated	x	x	x	x	x	x


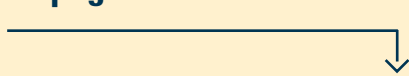
^dIncludes the categories of diesel or kerosene; bottled gas, liquid petroleum gas or propane; district steam; district hot water; wood; coal; solar thermal panels; and others.

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This table is a continuation of the previous two pages. 
 This table continues on the next two pages. 

TOTAL OIL INTENSITY (GJ/m²)

Before 1920	1920– 1959	1960– 1969	1970– 1979	1980– 1989	1990– 1999
x	x	x	x	x	x
x	x	0.61 D	x	0.47 D	x
0.49 D	0.05 D	0.47 D	0.18 D	x	x
0.51 D	0.54 D	1.06 D	0.81 D	0.29 D	1.24 D
0.39 D	0.53 D	0.92 D	1.01 D	0.36 D	0.07 D
1.76 D	0.40 D	1.09 D	1.35 D	x	x
F	F	F	F	F	F
x	0.11 D	2.26 D	0.31 D	x	x
0.51 D	0.64 D	0.76 D	0.86 D	0.24 D	0.42 D
x	0.47 D	1.49 D	2.10 D	x	x
F	F	F	F	F	F
x	x	x	0.41 D	x	x
0.37 D	0.38 D	0.75 D	0.34 D	0.42 D	2.43 D
x	x	0.23 D	1.43 D	0.26 D	0.34 D
F	0.56 D	1.06 D	0.73 D	0.33 D	2.25 D
0.52 D	0.56 D	0.87 D	1.22 D	0.28 D	0.04 D
x	x	0.77 D	2.76 D	0.31 D	x
0.50 D	0.70 D	x	0.47 D	x	x
0.39 D	0.34 D	0.60 D	0.28 D	0.45 D	2.57 D
x	x	x	x	0.66 D	x
0.55 D	0.29 D	2.30 D	0.80 D	0.21 D	0.40 D
0.52 D	0.62 D	1.05 D	1.22 D	0.32 D	0.04 D
x	x	1.26 D	x	x	x
x	0.05 D	x	0.33 D	x	x
x	x	x	x	x	x

TABLE
13.4

Total oil consumption and oil intensity by building characteristics, occupancy characteristics, energy efficiency features, heating energy sources and equipment, cooling energy sources and equipment, and water-heating energy sources **by year of construction**

TOTAL OIL CONSUMPTION (GJ)

Year of construction	Before 1920	1920– 1959	1960– 1969	1970– 1979	1980– 1989	1990– 1999
Percentage of the floor space cooled						
Not cooled	380,244 C	1,068,636 B	717,205 B	1,059,808 C	F	F
1–50	F	405,824 D	1,816,972 A	F	281,783 D	F
51–99	210,740 D	459,553 C	F	F	100,614 B	F
100	F	840,305 D	F	1,801,465 C	F	22,936 D
Space-cooling energy source						
Electricity	688,242 C	1,204,601 B	3,607,844 B	2,566,237 C	413,602 C	F
Natural gas	x	x	x	x	x	x
Fuel/heating oil	x	x	x	x	F	x
Composite ^e	x	x	x	x	F	x
Cooling equipment (more than one may apply)						
Residential-type air conditioners	89,027 B	98,364 C	F	F	123,250 C	x
Heat pumps	x	F	1,215,428 A	x	186,110 C	F
Individual room air conditioners	535,331 D	447,102 C	1,336,808 A	F	F	F
District-chilled water from outside source	x	x	x	x	x	x
Central chillers	x	487,963 C	298,720 C	F	x	F
Packaged air-conditioning units	F	387,794 C	3,027,714 C	2,336,584 D	283,287 C	F
Swamp coolers	x	x	x	x	x	x
Composite ^f	x	F	F	x	x	x
Other	x	x	x	x	x	x
Main cooling equipment						
Residential-type air conditioners	71,842 C	87,500 C	F	F	x	x
Heat pumps	x	x	F	x	F	x
Individual room air conditioners	500,950 D	F	1,243,496 A	F	x	F
District-chilled water from outside source	x	x	x	x	x	x
Central chillers	x	449,620 C	180,257 B	x	x	x
Packaged air-conditioning units	F	294,050 C	F	590,296 C	215,336 D	F
Composite ^f	x	x	x	x	x	x
Not cooled	380,244 C	1,068,636 B	717,205 B	1,059,808 C	F	F

^eIncludes the air-conditioning categories of fuel/heating oil; diesel or kerosene; bottled gas, liquid petroleum gas or propane; district-chilled water; and others.

^fIncludes the categories of district-chilled water from outside source; swamp coolers; and others.

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This table is a continuation of the previous two pages.
 This table continues on the next two pages.

TABLE

13.4

TOTAL OIL INTENSITY (GJ/m²)

Before 1920	1920–1959	1960–1969	1970–1979	1980–1989	1990–1999
0.49 D	0.51 D	0.79 D	0.47 D	0.54 D	0.59 D
0.87 D	0.23 D	0.89 D	0.83 D	0.32 D	0.14 D
0.12 D	0.52 D	1.65 D	0.15 D	0.83 D	0.35 D
2.73 D	1.35 D	0.96 D	1.28 D	0.11 D	0.07 D
0.29 D	0.41 D	1.02 D	1.06 D	0.28 D	0.32 D
x	x	x	x	x	x
x	x	x	x	F	x
x	x	x	x	0.52 D	x
0.30 D	0.36 D	0.55 D	2.14 D	0.68 D	x
x	0.10 D	1.55 D	x	0.54 D	3.58 D
0.25 D	0.23 D	1.60 D	1.91 D	0.29 D	0.39 D
x	x	x	x	x	x
x	0.51 D	0.30 D	1.30 D	x	0.32 D
1.13 D	0.21 D	1.38 D	1.19 D	0.37 D	0.02 D
x	x	x	x	x	x
x	0.69 D	0.48 D	x	x	x
x	x	x	x	x	x
0.30 D	0.44 D	0.55 D	0.55 D	x	x
x	x	F	x	0.45 D	x
F	0.43 D	2.01 D	0.73 D	x	0.39 D
x	x	x	x	x	x
x	0.62 D	0.32 D	x	x	x
0.79 D	0.27 D	1.33 D	0.51 D	0.32 D	0.26 D
x	x	x	x	x	x
0.49 D	0.51 D	0.79 D	0.47 D	0.54 D	0.59 D

TABLE

13.4

Total oil consumption and oil intensity by building characteristics, occupancy characteristics, energy efficiency features, heating energy sources and equipment, cooling energy sources and equipment, and water-heating energy sources **by year of construction**

TOTAL OIL CONSUMPTION (GJ)

Year of construction →	Before 1920	1920– 1959	1960– 1969	1970– 1979	1980– 1989	1990– 1999
Energy source for water heating						
Electricity	F	1,698,847 C	2,665,725 C	3,151,457 C	279,314 C	F
Natural gas	F	285,139 C	x	x	x	x
Fuel/heating oil	708,609 C	953,327 B	535,114 B	714,121 C	249,080 C	F
Composite ^d	x	14,211 B	x	x	x	x
Not heated	x	x	x	x	x	x

^dIncludes the categories of diesel or kerosene; bottled gas, liquid petroleum gas or propane; district steam; district hot water; wood; coal; solar thermal panels; and others.

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TOTAL OIL INTENSITY (GJ/m²)

Before 1920		1920– 1959		1960– 1969		1970– 1979		1980– 1989		1990– 1999	
1.25	D	0.59	D	1.08	D	0.80	D	0.28	D	0.32	D
0.09	D	0.30	D	x		x		x		x	
	F		F	F		F		0.35	A	F	
x		0.02	D	x		x		x		x	
x		x		x		x		x		x	

TABLE
13.5

Total oil consumption and oil intensity by building characteristics, occupancy characteristics, energy efficiency features, heating energy sources and equipment, cooling energy sources and equipment, and water-heating energy sources **by number of floors**

TOTAL OIL CONSUMPTION (GJ)

Number of floors →	1		2		3		4–9		10 and more	
All buildings										
Canada	3,044,265	C	3,392,641	B	1,659,357	B	5,095,847	C	1,410,893	A
Building floor space										
93–464 m ² (1,000–4,999 sq. ft.)	192,922	B	465,337	B	447,338	D	49,934	D		x
465–929 m ² (5,000–9,999 sq. ft.)	310,947	B	272,575	C	176,536	C		F		x
929–4,645 m ² (10,000–49,999 sq. ft.)	500,603	D	967,938	B	444,819	C	658,106	C		x
4,645–9,290 m ² (50,000–99,999 sq. ft.)		x	461,365	D		x		F		x
9,290 m ² and more (100,000 sq. ft. and more)		F		F		x	3,111,161	D	1,376,566	A
Year of construction										
Before 1920		F	331,727	C	281,702	C		F		x
1920–1959		F	561,921	B	754,883	D	1,224,472	C		x
1960–1969		F	469,923	C		F	385,290	D		x
1970–1979	771,383	C	1,640,585	D		x		F		x
1980–1989	158,516	C	296,699	D		x		x		x
1990–1999	63,876	D		F		x		x		x
Predominant type of window										
Single-glazed	484,116	D	729,358	C		F		F		x
Double-glazed ^a	2,560,148	C	2,660,388	B	1,198,634	C	3,600,501	D	1,299,582	A
Triple-glazed ^b	0	A		F	0	A		F	0	A
Predominant exterior wall type										
Curtain walls		x		x		x		F		x
Metal stud framing with surface insulation	212,121	C	343,852	C		x		F		x
Metal stud framing without surface insulation		x		x		x		x		x
Wood-frame walls with surface insulation	234,121	D	303,859	B		F		F		x
Wood-frame walls without surface insulation		F	209,559	D		F		x		x
Concrete block with interior finishing	1,442,871	D	2,093,948	C	402,728	C		F	1,376,214	A
Concrete block without interior finishing		F	221,326	C		F		x		x
Precast panels		x		x		x		F		x
Unknown		F	174,818	D		F		x		x

^aIncludes all the different types of windows that are double-glazed (i.e. double-glazed, double-sealed glazed, double-glazed with low-E coating and double-glazed with low-E gas-filled).

^bIncludes all the different types of windows that are triple-glazed (i.e. triple-glazed, triple-glazed with low-E coating and triple-glazed low-E gas-filled). The letter beside each estimate classifies its quality as follows: A – Excellent, B – Good, C – Acceptable, D – Use with caution, F – Too unreliable to be published, x – Suppressed to meet the confidentiality requirements of the Statistics Act.

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TOTAL OIL INTENSITY (GJ/m²)

1		2		3		4-9		10 and more	
0.90	D	0.51	D	0.59	D	0.75	D	0.32	D
0.58	D	0.77	D	1.29	D	0.53	D		x
0.46	D	0.46	D	0.47	D	0.49	D		x
0.44	D	0.39	D	0.47	D	0.93	D		x
	x	0.41	D		x	1.68	D		x
1.67	D	0.66	D		x	0.60	D	0.32	D
0.73	D	0.62	D	0.51	D	0.48	D		x
0.43	D	0.37	D	0.73	D	0.73	D		x
1.28	D	0.53	D	0.46	D	0.42	D		x
0.77	D	0.65	D		x	1.28	D		x
0.46	D	0.33	D		x		x		x
0.29	D	0.36	D		x		x		x
0.46	D	0.48	D	0.42	D	0.97	D		x
1.10	D	0.52	D	0.70	D	0.67	D	0.31	D
0.00	A	0.38	D	0.00	A	1.44	D	0.00	A
	x		x		x	1.24	D		x
0.51	D	0.26	D		x	0.24	D		x
	x		x		x		x		x
0.66	D	0.40	D	0.88	D	1.12	D		x
0.71	D	0.96	D	0.54	D		x		x
1.17	D	0.63	D	0.51	D	0.68	D	1.19	D
0.45	D	0.49	D	0.47	D		x		x
	x		x		x	0.37	D		x
0.22	D	0.34	D	0.60	D		x		x

TABLE
13.5

Total oil consumption and oil intensity by building characteristics, occupancy characteristics, energy efficiency features, heating energy sources and equipment, cooling energy sources and equipment, and water-heating energy sources **by number of floors**

TOTAL OIL CONSUMPTION (GJ)

Number of floors →	1	2	3	4-9	10 and more
Predominant roof type					
Attic roof fully insulated	F	178,779	B	F	x
Attic roof partially insulated	F	F	F	x	x
Attic roof not insulated	x	F	51,120	D	x
Insulated wood-truss roof	109,910	D	191,616	F	x
Not insulated wood-truss roof	x	F	x	x	x
Insulated metal-truss roof	F	F	x	F	x
Not insulated metal-truss roof	52,169	D	F	x	x
Insulated deck-type roof	F	718,771	B	422,164	C
Not insulated deck-type roof	F	F	F	F	x
Unknown	F	180,609	D	F	x
Principal building activity					
Commercial and institutional accommodation	x	x	F	F	x
Entertainment and recreation	F	x	x	x	x
Office	37,931	D	122,995	C	76,996
Food retail	F	x	x	x	x
Non-food retail	57,199	D	328,520	C	113,566
Food service	x	F	x	x	x
Non-food service	206,288	B	200,182	B	F
Shopping malls	F	F	x	F	x
Warehouse/wholesale	F	281,285	D	x	x
Administration	x	57,505	D	F	F
Education	F	873,145	C	F	F
Health care	x	46,376	D	F	932,763
Public assembly	F	220,542	C	151,956	D
Other	x	x	x	x	x
Number of workers					
Less than 5	152,903	B	404,320	B	216,928
5-9	F	F	390,435	B	370,894
10-19	F	F	401,962	B	F
20-49	F	F	461,720	C	148,811
50-99	F	F	473,350	D	x
100-249	F	F	F	x	535,175
250 and more	x	x	x	x	3,179,253



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This table is a continuation of the previous two pages.  

This table continues on the next two pages.  

TOTAL OIL INTENSITY (GJ/m²)

1		2		3		4-9		10 and more	
0.54	D	0.32	D	0.63	D	0.85	D		x
0.36	D	1.67	D	2.25	D		x		x
	x	1.36	D	0.52	D		x		x
0.53	D	0.60	D	0.73	D	2.32	D		x
	x	1.28	D		x		x		x
1.24	D	0.52	D		x		F		x
0.19	D	0.31	D		x		x		x
1.47	D	0.28	D	0.48	D	1.08	D		x
0.52	D	0.43	D	0.40	D	0.66	D		x
0.26	D	0.32	D	0.57	D		x		x
	x		x	0.81	D	1.44	D		x
0.72	D		x		x		x		x
0.62	D	0.62	D	0.46	D	0.66	D		x
0.41	D		x		x		x		x
0.48	D	0.41	D	0.55	D	0.42	D		x
	x	0.40	D		x		x		x
0.37	D	0.49	D	1.45	D		x		x
3.59	D	2.00	D		x	1.30	D		x
0.37	D	0.20	D		x		x		x
	x	0.47	D	0.46	D		F		x
0.41	D	0.41	D	0.49	D	1.08	D		x
	x	0.23	D	0.41	D	0.45	D	1.18	D
0.88	D	0.49	D	0.35	D		x		x
	x		x		x		x		x
0.38	D	0.50	D	0.65	D	0.61	D		x
0.51	D	0.30	D	0.63	D	0.03	D		x
0.54	D	0.41	D	0.62	D	0.91	D		x
0.32	D	0.39	D	0.48	D	0.78	D		x
0.97	D	0.47	D		x		x		x
2.76	D	0.39	D		x	0.81	D		x
	x		x		x	0.97	D	0.32	D

TABLE
13.5

Total oil consumption and oil intensity by building characteristics, occupancy characteristics, energy efficiency features, heating energy sources and equipment, cooling energy sources and equipment, and water-heating energy sources **by number of floors**

TOTAL OIL CONSUMPTION (GJ)

Number of floors →	1	2	3	4-9	10 and more
Weekly hours of operation					
Less than 40	F	186,864 C	F	x	x
40-48	282,312 C	913,684 C	F	F	x
49-60	213,713 C	569,386 B	203,208 D	F	x
61-84	F	1,491,904 D	390,226 D	F	x
85-167	F	186,864 C	118,458 D	F	x
Open continuously	F	F	F	1,726,522 D	1,236,627 A
Building ownership					
Private individual(s)	F	641,154 B	522,472 C	F	x
Private organization	1,978,142 D	1,511,910 D	F	F	x
Non-profit organization	117,380 D	571,654 D	333,234 D	F	x
Fed.-prov.-munic.-regional government ^c	F	667,924 C	F	2,530,429 D	1,366,036 A
Building conservation feature					
Reflective or shading film	281,559 D	544,473 C	69,457 D	2,248,368 D	x
Awnings or blinds	2,287,400 D	1,398,436 B	1,045,052 C	3,397,230 D	1,299,515 A
Lighting conservation feature					
Reflectors	451,556 D	688,767 C	F	1,073,476 B	x
Energy-efficient ballast	F	2,183,477 C	807,642 C	3,245,065 C	1,410,893 A
Daylight controls	185,757 C	245,573 C	F	F	x
Occupancy sensors	F	F	x	571,686 C	F
Time clocks	F	1,588,378 D	489,999 D	1,343,379 C	F
Manual dimmer switches	374,668 D	494,611 B	482,257 C	824,151 C	x
Energy-efficient lamps	603,505 C	1,923,789 C	540,332 D	3,320,609 C	x
Other	29,155 D	96,611 D	16,162 D	F	x
Heating/cooling conservation feature					
Variable air-volume system	220,059 C	1,447,941 D	522,828 D	3,054,570 C	1,281,484 A
Outdoor-air economizer	1,523,414 D	1,864,644 C	F	3,724,670 C	1,410,893 A
Temperature setback	F	1,112,376 B	542,350 D	2,566,572 D	1,315,811 A
Equipment reset	1,640,165 D	1,920,420 C	F	2,537,947 D	1,281,477 A
Heat recovery system	F	248,933 D	F	F	1,236,627 A
Regular maintenance	2,190,899 C	2,838,003 B	1,329,813 B	4,374,709 C	1,410,893 A

^cIncludes all levels of government (i.e. federal, provincial, municipal and regional).



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 This table continues on the next two pages. 

TOTAL OIL INTENSITY (GJ/m²)

1		2		3		4-9		10 and more	
0.57	D	0.50	D	0.58	D		x		x
0.33	D	0.47	D	0.53	D	0.35	D		x
0.46	D	0.40	D	0.55	D	0.53	D		x
2.52	D	0.88	D	0.74	D	1.39	D		x
0.39	D	0.17	D	0.56	D	0.94	D		x
0.44	D	0.41	D	0.54	D	0.70	D	1.18	D
0.45	D	0.33	D	1.04	D	2.64	D		x
1.50	D	0.82	D	0.47	D	0.40	D		x
0.58	D	0.52	D	0.55	D	0.48	D		x
0.61	D	0.39	D	0.47	D	0.76	D	1.01	D
0.63	D	0.50	D	0.41	D	0.84	D		x
1.45	D	0.46	D	0.50	D	0.98	D	0.36	D
0.47	D	0.50	D	0.70	D	0.62	D		x
0.85	D	0.56	D	0.56	D	0.92	D	0.32	D
0.29	D	0.57	D	0.64	D	2.02	D		x
0.64	D	0.57	D		x	0.45	D	0.03	D
2.16	D	0.68	D	0.42	D	0.52	D	0.03	D
0.97	D	0.50	D	0.58	D	0.62	D		x
0.80	D	0.51	D	0.47	D	0.67	D		x
0.23	D	0.22	D	0.42	D	2.11	D		x
0.39	D	0.79	D	0.49	D	0.93	D	0.32	D
1.15	D	0.63	D	0.44	D	0.67	D	0.32	D
1.49	D	0.36	D	0.48	D	0.77	D	0.32	D
1.08	D	0.54	D	0.53	D	0.90	D	0.32	D
0.74	D	0.39	D	0.23	D	1.00	D	1.18	D
0.83	D	0.50	D	0.53	D	0.69	D	0.32	D

TABLE

13.5

Total oil consumption and oil intensity by building characteristics, occupancy characteristics, energy efficiency features, heating energy sources and equipment, cooling energy sources and equipment, and water-heating energy sources **by number of floors**

TOTAL OIL CONSUMPTION (GJ)

Number of floors →	1		2		3		4-9		10 and more	
Percentage of the floor space heated										
Less than 1		x		x		x		x		x
1-50	144,957	C	184,739	D		x		x		x
51-99		F	242,219	C		F		x		x
100	2,877,239	C	2,965,684	B	1,451,918	B	5,022,242	C	1,410,541	A
Energy source for heating (more than one may apply)										
Electricity	2,513,977	C	2,178,613	C	900,541	C		F		F
Natural gas		F		F		F		F	1,220,721	A
Fuel/heating oil	2,304,837	C	3,235,432	B	1,656,030	B	5,075,313	C	1,410,563	A
Composite ^d		F		F		x		F		x
Main energy source for heating										
Electricity		F	500,402	C		F		F		x
Natural gas		F		F		x		F		x
Fuel/heating oil	1,193,627	B	1,806,546	B	1,212,657	C	3,035,209	C		x
Composite ^d		F		F		x		x		x
Heating equipment (more than one may apply)										
Furnaces	1,527,669	D	922,021	B	586,054	C		F		x
Heat pumps	47,767	D		F		x		F		x
Individual space heaters		F	1,880,243	C	508,057	D		F	285,281	C
Boilers	748,469	C	2,292,680	C	950,494	C	3,889,177	C	1,410,893	A
Packaged heating units		F		F		x		F		x
District steam or hot water or other		F	60,739	D		F	402,949	C		x
Main heating equipment										
Furnaces	822,387	D	739,716	B	522,298	D		F		x
Heat pumps		F	44,238	D		x		x		x
Individual space heaters		F	452,791	C		F		x		x
Boilers	715,057	D	2,066,407	C	950,494	C	3,124,441	C	1,366,331	A
Packaged heating units		F		F		x		x		x
District steam or hot water or other		x	21,097	D		x		x		x
Not heated		x		x		x		x		x

^dIncludes the categories of diesel or kerosene; bottled gas, liquid petroleum gas or propane; district steam; district hot water; wood; coal; solar thermal panels; and others.



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 This table continues on the next two pages. 

TOTAL OIL INTENSITY (GJ/m²)

1		2		3		4-9		10 and more	
	x		x		x		x		x
0.37	D	0.60	D		x		x		x
0.10	D	0.52	D	0.55	D		x		x
1.04	D	0.51	D	0.59	D	0.75	D	1.15	D
1.00	D	0.63	D	0.69	D	0.58	D	0.05	D
0.18	D	1.18	D	0.32	D	0.63	D	0.30	D
	F		F		F		F	1.00	C
2.62	D		F		x	3.38	D		x
0.97	D	0.34	D	0.70	D	0.91	D		x
0.18	D	1.22	D		x	0.78	D		x
	F		F		F		F		x
2.70	D	0.28	D		x		x		x
0.79	D	0.35	D	0.66	D	1.58	D		x
0.54	D	0.36	D		x	1.47	D		x
0.83	D	0.53	D	0.69	D	0.90	D	0.36	D
0.81	D	0.71	D	0.60	D	0.61	D	0.32	D
2.13	D	1.11	D		x	1.44	D		x
0.50	D	0.35	D	0.41	D	1.55	D		x
0.51	D	0.32	D	0.64	D	2.63	D		x
0.69	D	0.31	D		x		x		x
1.35	D	0.30	D	0.49	D		x		x
0.89	D	0.85	D	0.60	D	0.57	D	0.34	D
2.08	D	0.87	D		x		x		x
	x	0.18	D		x		x		x
	x		x		x		x		x

TABLE 13.5

Total oil consumption and oil intensity by building characteristics, occupancy characteristics, energy efficiency features, heating energy sources and equipment, cooling energy sources and equipment, and water-heating energy sources **by number of floors**

TOTAL OIL CONSUMPTION (GJ)

Number of floors →	1		2		3		4-9		10 and more	
Percentage of the floor space cooled										
Not cooled	617,068	C	1,485,097	B	766,438	C		F		x
1-50		F	610,182	B	404,510	D		F		x
51-99		F	181,390	C	144,064	D		F		x
100		F		F		F		F		x
Space-cooling energy source										
Electricity	2,307,495	D	1,887,210	C	752,989	C	3,376,940	C	1,315,811	A
Natural gas		x		x		x		x		x
Fuel/heating oil		x		x		x		x		x
Composite ^e		F		F		x		x		x
Cooling equipment (more than one may apply)										
Residential-type air conditioners		F		F	95,867	C	127,024	B		x
Heat pumps	32,962	D		F		x		F		x
Individual room air conditioners	128,439	D		F	378,825	D		F	1,159,643	A
District-chilled water from outside source		x		x		x		x		x
Central chillers		x		x		x		F	146,029	B
Packaged air-conditioning units		F	1,443,261	D		F		F	1,315,811	A
Swamp coolers		x		x		x		x		x
Composite ^f		x		x		x		F		x
Other		x		x		x		x		x
Main cooling equipment										
Residential-type air conditioners		F	94,745	D	82,816	C	57,256	D		x
Heat pumps	32,962	D	209,427	D		x		x		x
Individual room air conditioners		F	176,651	D		F		F		x
District-chilled water from outside source		x		x		x		x		x
Central chillers		x		x		x		F		x
Packaged air-conditioning units		F	472,218	B	172,565	D		F		x
Composite ^f		x		x		x		x		x
Not cooled	617,068	C	1,485,097	B	766,438	C		F		x

^eIncludes the air-conditioning categories of fuel/heating oil; diesel or kerosene; bottled gas, liquid petroleum gas or propane; district-chilled water; and others.

^fIncludes the categories of district-chilled water from outside source; swamp coolers; and others.



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TOTAL OIL INTENSITY (GJ/m²)

1		2		3		4-9		10 and more	
0.55	D	0.41	D	0.65	D	0.93	D		x
0.36	D	0.36	D	0.61	D	0.72	D		x
3.23	D	0.38	D	0.60	D	0.59	D		x
2.05	D	1.25	D	0.46	D	0.92	D		x
1.08	D	0.63	D	0.58	D	0.58	D	0.32	D
	x		x		x		x		x
	x		x		x		x		x
1.63	D	0.61	D		x		x		x
0.54	D	2.11	D	0.40	D	0.37	D		x
0.36	D	1.27	D		x	1.57	D		x
0.31	D	0.94	D	0.85	D	0.39	D	1.16	D
	x		x		x		x		x
	x		x		x	0.86	D	0.04	D
1.78	D	0.67	D	0.47	D	0.70	D	0.32	D
	x		x		x		x		x
	x		x		x	2.69	D		x
	x		x		x		x		x
0.54	D	0.51	D	0.49	D	0.24	D		x
0.36	D	0.38	D		x		x		x
0.31	D	0.68	D	0.97	D		F		x
	x		x		x		x		x
	x		x		x	1.00	D		x
1.78	D	0.28	D	0.40	D	0.25	D		x
	x		x		x		x		x
0.55	D	0.41	D	0.65	D	0.93	D		x

TABLE

13.5

Total oil consumption and oil intensity by building characteristics, occupancy characteristics, energy efficiency features, heating energy sources and equipment, cooling energy sources and equipment, and water-heating energy sources **by number of floors**

TOTAL OIL CONSUMPTION (GJ)

Number of floors →	1		2		3		4-9		10 and more	
Energy source for water heating										
Electricity	2,667,220	C	2,563,485	B	901,445	C	3,668,080	D		x
Natural gas	x		38,159	B		x	264,499	D		x
Fuel/heating oil	366,419	D	956,201	B	786,372	C	1,142,746	B		x
Composite ^d	x		x		x		x			x
Not heated		F		x		x		x		x

^dIncludes the categories of diesel or kerosene; bottled gas, liquid petroleum gas or propane; district steam; district hot water; wood; coal; solar thermal panels; and others.

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TOTAL OIL INTENSITY (GJ/m²)

1		2		3		4-9		10 and more	
0.99	D	0.53	D	0.53	D	1.63	D		x
	x	0.23	D		x	0.19	D		x
	F		F		F		F		x
	x		x		x		x		x
0.84	D		x		x		x		x

TABLE

13.6

Total oil consumption and oil intensity by building characteristics, occupancy characteristics, energy efficiency features, heating energy sources and equipment, cooling energy sources and equipment, and water-heating energy sources **by weekly hours of operation**

TOTAL OIL CONSUMPTION (GJ)

Weekly hours of operation →	Less than 40	40–48	49–60	61–84	85–167	Open continuously
All buildings						
Canada	925,651 D	2,274,051 B	1,304,404 A	5,776,460 B	949,320 C	3,373,118 B
Building floor space						
93–464 m ² (1,000–4,999 sq. ft.)	F	199,774 C	258,135 B	531,604 C	F	F
465–929 m ² (5,000–9,999 sq. ft.)	F	190,476 B	243,613 C	123,069 C	107,655 D	F
929–4,645 m ² (10,000–49,999 sq. ft.)	274,394 D	786,952 C	286,690 C	439,283 B	F	528,088 D
4,645–9,290 m ² (50,000–99,999 sq. ft.)	x	F	x	x	x	x
9,290 m ² and more (100,000 sq. ft. and more)	x	F	377,525 B	4,410,273 C	F	1,997,293 A
Year of construction						
Before 1920	98,898 D	83,532 C	193,133 D	F	F	F
1920–1959	F	F	393,073 C	619,429 C	160,880 C	443,338 C
1960–1969	x	655,885 C	291,272 B	F	F	1,255,302 A
1970–1979	x	573,182 D	F	1,454,253 D	446,677 D	F
1980–1989	x	F	173,454 C	171,881 D	x	F
1990–1999	x	F	40,229 D	F	F	x
Number of floors						
1	F	282,312 C	213,713 C	F	F	F
2	186,864 C	913,684 C	569,386 B	1,491,904 D	186,864 C	F
3	F	F	203,208 D	390,226 D	118,458 D	F
4–9	x	F	F	F	F	1,726,522 D
10 and more	x	x	x	x	x	1,236,627 A
Predominant type of window						
Single-glazed	F	440,518 C	266,638 B	396,729 C	399,755 D	F
Double-glazed ^a	F	1,833,533 C	969,054 A	5,379,731 B	547,740 B	2,161,227 A
Triple-glazed ^b	0 A	0 A	68,712 A	0 A	F	F

^aIncludes all the different types of windows that are double-glazed (i.e. double-glazed, double-sealed glazed, double-glazed with low-E coating and double-glazed with low-E gas-filled).

^bIncludes all the different types of windows that are triple-glazed (i.e. triple-glazed, triple-glazed with low-E coating and triple-glazed low-E gas-filled).

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NOTE: Estimates relate only to the surveyed areas of populations of 175,000 and greater, and in Atlantic Canada to populations of 50,000 and greater.

Source: Commercial and Institutional Building Energy Use Survey 2000.

This table continues on the next two pages. 

TOTAL OIL INTENSITY (GJ/m²)

Less than 40		40–48		49–60		61–84		85–167		Open continuously	
0.56	D	0.41	D	0.22	D	1.31	D	0.42	D	0.78	D
0.63	D	0.63	D	0.58	D	1.43	D	0.56	D	1.00	D
0.76	D	0.41	D	0.40	D	0.52	D	0.51	D	0.49	D
0.53	D	0.44	D	0.34	D	0.39	D	0.56	D	1.00	D
x		0.80	D	x		x		x		x	
x		0.22	D	0.10	D	1.85	D	0.33	D	0.64	D
0.41	D	F		0.55	D	2.15	D	0.49	D	0.88	D
0.57	D	0.91	D	0.36	D	0.71	D	0.42	D	0.29	D
x		0.52	D	0.53	D	1.25	D	1.20	D	2.08	D
x		0.61	D	0.40	D	1.45	D	0.32	D	1.00	D
x		0.25	D	0.57	D	0.54	D	x		0.08	D
x		0.38	D	0.01	D	1.98	D	0.41	D	x	
0.57	D	0.33	D	0.46	D	2.52	D	0.39	D	0.44	D
0.50	D	0.47	D	0.40	D	0.88	D	0.17	D	0.41	D
0.58	D	0.53	D	0.55	D	0.74	D	0.56	D	0.54	D
x		0.35	D	0.53	D	1.39	D	0.94	D	0.70	D
x		x		x		x		x		1.18	D
0.54	D	0.55	D	0.32	D	0.49	D	0.73	D	0.89	D
0.59	D	0.39	D	0.20	D	1.50	D	0.32	D	0.71	D
0.00	A	0.00	A	0.90	D	0.00	A	0.38	D	F	

TABLE 13.6

Total oil consumption and oil intensity by building characteristics, occupancy characteristics, energy efficiency features, heating energy sources and equipment, cooling energy sources and equipment, and water-heating energy sources **by weekly hours of operation**

TOTAL OIL CONSUMPTION (GJ)

Weekly hours of operation →	Less than 40	40–48	49–60	61–84	85–167	Open continuously
Predominant exterior wall type						
Curtain walls	x	x	x	x	x	x
Metal stud framing with surface insulation	x	454,639 C	103,890 D	79,892 D	x	F
Metal stud framing without surface insulation	x	x	x	x	x	x
Wood-frame walls with surface insulation	F	209,307 C	268,381 C	345,178 D	F	F
Wood-frame walls without surface insulation	x	F	F	F	x	x
Concrete block with interior finishing	195,595 D	1,126,566 D	525,722 C	3,020,599 C	340,502 D	2,381,610 C
Concrete block without interior finishing	x	F	92,491 C	238,513 D	F	x
Precast panels	x	x	x	x	x	x
Unknown	x	F	153,974 D	60,368 D	F	x
Predominant roof type						
Attic roof fully insulated	F	142,359 D	F	111,645 D	42,718 D	F
Attic roof partially insulated	x	x	F	F	x	x
Attic roof not insulated	x	x	F	F	x	x
Insulated wood-truss roof	x	F	F	F	x	F
Not insulated wood-truss roof	x	x	x	x	x	x
Insulated metal-truss roof	F	F	116,388 D	F	x	x
Not insulated metal-truss roof	x	F	x	x	x	x
Insulated deck-type roof	x	1,008,098 D	234,428 B	2,608,701 C	509,633 C	2,856,039 B
Not insulated deck-type roof	x	F	199,965 C	x	F	x
Unknown	F	F	170,509 C	F	F	x
Principal building activity						
Commercial and institutional accommodation	x	x	x	x	F	F
Entertainment and recreation	x	x	x	x	F	x
Office	x	173,306 C	74,072 C	x	x	x
Food retail	x	x	x	F	x	x
Non-food retail	x	F	99,260 D	284,965 C	x	x
Food service	x	x	x	F	x	x
Non-food service	x	142,999 B	165,264 B	F	F	x
Shopping malls	x	x	x	3,782,740 C	x	x
Warehouse/wholesale	x	F	F	x	x	x
Administration	x	F	F	x	x	x
Education	x	598,733 D	F	x	F	x
Health care	x	x	166,863 C	x	x	1,892,731 A
Public assembly	238,973 C	x	x	140,207 D	x	x
Other	x	x	x	F	x	x


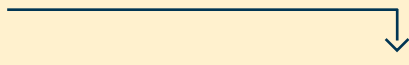
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Source: Commercial and Institutional Building Energy Use Survey 2000.

This table is a continuation of the previous two pages. 
 This table continues on the next two pages. 

TOTAL OIL INTENSITY (GJ/m²)

Less than 40		40–48		49–60		61–84		85–167		Open continuously	
	x		x		x		x		x		x
	x	0.67	D	0.45	D	0.42	D		x	0.20	D
	x		x		x		x		x		x
0.43	D	0.52	D	0.62	D	0.79	D	0.86	D	1.28	D
	x	0.75	D	0.78	D	0.88	D		x		x
0.70	D	0.32	D	0.37	D	1.49	D	0.53	D	1.25	D
	x	0.47	D	0.25	D	1.07	D	0.78	D		x
	x		x		x		x		x		x
	x	0.57	D	0.76	D	0.19	D	0.27	D		x
0.39	D	0.50	D	0.05	D	0.33	D	0.49	D	0.64	D
	x		x	0.58	D	3.20	D		x		x
	x		x	0.42	D	1.53	D		x		x
	x		F	0.65	D	1.91	D		x	0.89	D
	x		x		x		x		x		x
0.82	D	0.16	D	0.39	D	0.89	D		x		x
	x	0.26	D		x		x		x		x
	x	0.63	D	0.36	D	1.60	D	0.36	D	0.94	D
	x	0.49	D	0.34	D		x	0.48	D		x
0.58	D	0.47	D	0.63	D	0.18	D	1.09	D		x
	x		x		x		x	0.47	D	1.37	D
	x		x		x		x	0.63	D		x
	x	0.47	D	0.02	D		x		x		x
	x		x		x	1.51	D		x		x
	x	0.84	D	0.49	D	0.34	D		x		x
	x		x		x	0.28	D		x		x
	x	0.47	D	0.35	D	1.05	D	0.24	D		x
	x		x		x	2.18	D		x		x
	x	0.41	D	0.39	D		x		x		x
	x		F	0.44	D		x		x		x
	x	0.38	D	0.37	D		x	0.94	D		x
	x		x	0.66	D		x		x	0.67	D
0.55	D		x		x	0.37	D		x		x
	x		x		x	1.26	D		x		x

TABLE
13.6

Total oil consumption and oil intensity by building characteristics, occupancy characteristics, energy efficiency features, heating energy sources and equipment, cooling energy sources and equipment, and water-heating energy sources **by weekly hours of operation**

TOTAL OIL CONSUMPTION (GJ)

Weekly hours of operation →	Less than 40	40–48	49–60	61–84	85–167	Open continuously
Number of workers						
Less than 5	150,624 C	237,999 C	182,082 B	256,754 C	76,949 D	F
5–9	F	251,497 C	150,278 C	286,528 C	101,371 D	F
10–19	F	F	304,658 C	F	F	F
20–49	x	313,522 D	181,045 D	F	F	F
50–99	x	F	F	x	x	x
100–249	x	F	F	F	x	x
250 and more	x	x	258,580 D	3,913,642 C	x	1,842,285 A
Building ownership						
Private individual(s)	F	325,200 C	286,768 B	F	176,882 D	F
Private organization	x	501,387 D	374,465 C	2,962,049 C	140,304 C	F
Non-profit organization	252,921 C	F	F	186,470 C	80,046 D	F
Fed.-prov.-munic.-regional government ^c	x	1,056,818 D	518,019 C	F	F	2,033,804 A
Building conservation feature						
Reflective or shading film	F	403,076 C	366,785 C	F	F	400,751 C
Awnings or blinds	F	1,701,312 C	858,784 B	3,940,517 C	535,520 C	1,984,875 A
Lighting conservation feature						
Reflectors	x	588,869 C	433,369 B	686,743 C	F	641,785 B
Energy-efficient ballast	F	1,072,427 B	654,527 B	4,403,115 B	722,327 D	2,030,689 A
Daylight controls	x	241,435 C	169,018 C	F	F	1,765,764 A
Occupancy sensors	x	F	277,697 D	x	x	385,674 D
Time clocks	x	1,046,459 D	403,157 C	2,225,350 D	240,100 D	663,510 C
Manual dimmer switches	x	344,532 C	413,663 C	466,948 C	F	1,970,390 A
Energy-efficient lamps	F	1,164,918 C	506,763 B	2,914,604 D	519,456 D	2,181,921 A
Other	x	F	65,571 D	F	x	x
Heating/cooling conservation feature						
Variable air-volume system	80,712 D	1,145,385 D	328,027 C	F	F	2,079,385 A
Outdoor-air economizer	F	848,916 C	605,307 B	3,575,482 C	555,129 D	2,959,331 B
Temperature setback	F	843,399 B	588,237 B	2,762,774 C	F	1,662,674 A
Equipment reset	F	742,830 B	489,682 C	3,495,489 C	360,938 D	1,989,373 A
Heat recovery system	x	99,293 D	F	F	F	1,743,408 A
Regular maintenance	845,460 D	1,873,690 B	1,133,545 A	4,793,667 B	868,326 C	2,629,630 A

^cIncludes all levels of government (i.e. federal, provincial, municipal and regional).



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Source: Commercial and Institutional Building Energy Use Survey 2000.

This table is a continuation of the previous two pages. 
 This table continues on the next two pages. 

TOTAL OIL INTENSITY (GJ/m²)

Less than 40		40–48		49–60		61–84		85–167		Open continuously	
0.45	D	0.44	D	0.42	D	0.87	D	0.55	D	0.29	D
	F		F	0.63	D	0.48	D	0.12	D	0.68	D
	F	0.51	D	0.36	D	0.62	D	0.52	D	1.55	D
	x	0.51	D	0.40	D	0.26	D	0.23	D	0.85	D
	x	0.50	D	0.50	D		x		x		x
	x	0.82	D	0.53	D	2.34	D		x		x
	x		x	0.07	D	1.86	D		x	0.64	D
	F	0.58	D	0.49	D	1.42	D	0.17	D	0.51	D
	x	0.42	D	0.10	D	1.66	D	0.31	D	0.77	D
0.54	D		F	0.39	D	0.44	D	0.39	D	1.61	D
	x	0.66	D	0.48	D	0.94	D	0.97	D	0.62	D
0.48	D	0.75	D	0.10	D	1.10	D	0.69	D	0.39	D
0.55	D	0.61	D	0.18	D	1.74	D	0.62	D	0.81	D
	x	0.51	D	0.11	D	0.62	D	0.59	D	0.58	D
0.54	D	0.46	D	0.16	D	1.42	D	0.40	D	0.63	D
	x	0.43	D	0.72	D	2.01	D	0.11	D	1.16	D
	x	0.31	D		F		x		x	0.22	D
	x	0.65	D	0.11	D	1.01	D	0.74	D	0.28	D
	x	0.74	D	0.50	D	0.65	D	0.70	D	0.96	D
0.59	D	0.34	D	0.12	D	1.23	D	0.41	D	0.84	D
	x	0.19	D	0.33	D	1.99	D		x		x
0.70	D	0.71	D	0.09	D	1.12	D	0.69	D	0.75	D
0.60	D	0.26	D	0.14	D	1.25	D	0.73	D	0.88	D
0.53	D	0.48	D	0.14	D	0.99	D	0.96	D	0.69	D
0.57	D	0.46	D	0.12	D	1.42	D	0.26	D	0.99	D
	x	0.86	D	0.65	D	1.06	D	0.89	D	0.83	D
0.54	D	0.41	D	0.20	D	1.24	D	0.42	D	0.69	D

TABLE
13.6

Total oil consumption and oil intensity by building characteristics, occupancy characteristics, energy efficiency features, heating energy sources and equipment, cooling energy sources and equipment, and water-heating energy sources **by weekly hours of operation**

TOTAL OIL CONSUMPTION (GJ)

Weekly hours of operation →	Less than 40	40–48	49–60	61–84	85–167	Open continuously
Percentage of the floor space heated						
Less than 1	x	x	x	x	x	x
1–50	x	F	F	221,775 D	x	x
51–99	F	121,688 D	F	F	x	x
100	856,164 D	1,906,612 B	1,139,453 A	5,549,111 B	905,317 C	3,370,967 B
Energy source for heating (more than one may apply)						
Electricity	F	1,383,010 C	714,410 B	3,953,709 C	F	F
Natural gas	x	F	234,800 D	F	F	1,534,267 A
Fuel/heating oil	908,384 D	2,219,376 B	1,256,400 A	5,045,024 C	921,129 C	3,331,862 B
Composite ^d	x	F	F	F	x	26,942 C
Main energy source for heating						
Electricity	x	510,075 D	140,404 D	F	F	F
Natural gas	x	F	F	F	x	1,394,789 A
Fuel/heating oil	613,886 D	1,224,907 B	943,396 A	2,658,468 D	860,435 C	1,058,257 B
Composite ^d	x	x	x	F	x	F
Heating equipment (more than one may apply)						
Furnaces	F	865,621 C	416,061 B	F	124,754 D	F
Heat pumps	x	F	240,199 B	F	x	F
Individual space heaters	79,018 D	1,032,038 D	658,554 B	3,744,645 D	F	F
Boilers	F	1,353,308 C	741,939 B	2,842,287 C	820,226 C	3,052,569 B
Packaged heating units	x	F	F	3,153,716 C	x	F
District steam or hot water or other	x	F	23,514 D	F	x	519,771 C
Main heating equipment						
Furnaces	F	721,303 C	371,395 B	F	F	F
Heat pumps	x	x	F	x	x	x
Individual space heaters	x	F	250,840 C	F	41,456 D	F
Boilers	F	1,254,718 C	643,777 C	2,730,829 C	819,651 C	2,300,662 A
Packaged heating units	x	x	x	F	x	x
District steam or hot water or other	x	x	x	22,353 D	x	x
Not heated	x	x	x	x	x	x



^dIncludes the categories of diesel or kerosene; bottled gas, liquid petroleum gas or propane; district steam; district hot water; wood; coal; solar thermal panels; and others.

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TOTAL OIL INTENSITY (GJ/m²)

Less than 40		40–48		49–60		61–84		85–167		Open continuously		
	x		x		x		x		x		x	
	x	0.45	D	0.54	D	0.79	D		x		x	
	0.39	D	0.60	D	0.03	D	0.10	D		x	x	
	0.58	D	0.40	D	0.42	D	1.36	D	0.46	D	0.83	D
	0.56	D	0.35	D	0.16	D	1.44	D	0.40	D	0.64	D
	x		1.16	D	0.06	D	1.65	D	0.19	D	0.57	D
	F		F		0.44	D	1.24	D	F		0.81	D
	x		0.55	D	0.35	D	3.66	D		x	0.07	D
	x		0.41	D	0.40	D	0.77	D	0.35	D	1.54	D
	x		1.21	D	0.06	D	2.37	D		x	0.68	D
	F		F		F		F		F		F	
	x		x		x		3.00	D		x	0.24	D
	0.50	D	0.52	D	0.43	D	1.55	D	0.12	D	0.96	D
	x		0.55	D	0.07	D	1.74	D		x	F	
	0.64	D	0.34	D	0.37	D	1.94	D	0.23	D	0.64	D
	0.61	D	0.36	D	0.17	D	1.05	D	0.74	D	0.82	D
	x		0.35	D	0.49	D	2.25	D		x	0.28	D
	x		0.38	D	0.38	D	0.46	D		x	0.64	D
	0.50	D	0.49	D	0.43	D	1.73	D	0.09	D	0.93	D
	x		x		0.27	D		x		x	x	
	x		0.35	D	0.31	D	1.21	D	0.26	D	F	
	0.61	D	0.39	D	0.16	D	1.30	D	0.75	D	0.76	D
	x		x		x		1.20	D		x	x	
	x		x		x		0.21	D		x	x	
	x		x		x		x		x		x	

TABLE 13.6

Total oil consumption and oil intensity by building characteristics, occupancy characteristics, energy efficiency features, heating energy sources and equipment, cooling energy sources and equipment, and water-heating energy sources **by weekly hours of operation**

TOTAL OIL CONSUMPTION (GJ)

Weekly hours of operation →	Less than 40	40–48	49–60	61–84	85–167	Open continuously
Percentage of the floor space cooled						
Not cooled	F	802,130 C	558,891 B	784,364 B	719,948 D	F
1–50	F	472,735 B	267,761 D	396,343 D	F	2,372,766 C
51–99	x	F	389,597 C	F	F	222,685 C
100	F	F	F	2,807,181 D	F	599,137 C
Space-cooling energy source						
Electricity	F	1,064,964 B	629,728 A	4,257,064 C	222,264 C	3,070,434 B
Natural gas	x	x	x	x	x	x
Fuel/heating oil	x	x	x	x	x	x
Composite ^e	x	F	F	x	x	x
Cooling equipment (more than one may apply)						
Residential-type air conditioners	x	179,250 C	136,450 A	F	45,264 D	F
Heat pumps	x	59,047 D	253,711 B	F	x	1,827,142 C
Individual room air conditioners	x	360,292 C	265,178 B	F	F	2,386,944 C
District-chilled water from outside source	x	x	x	x	x	x
Central chillers	x	F	x	F	x	777,496 B
Packaged air-conditioning units	F	538,731 D	323,356 B	2,950,365 C	163,518 C	2,415,956 C
Swamp coolers	x	x	x	x	x	x
Composite ^f	x	x	x	x	x	x
Other	x	x	x	x	x	x
Main cooling equipment						
Residential-type air conditioners	x	142,732 D	57,947 C	F	F	x
Heat pumps	x	F	F	F	x	x
Individual room air conditioners	x	208,350 C	124,199 D	F	F	1,637,759 A
District-chilled water from outside source	x	x	x	x	x	x
Central chillers	x	x	x	F	x	654,293 B
Packaged air-conditioning units	F	322,083 C	197,416 C	2,050,166 D	146,878 C	F
Composite ^f	x	x	x	x	x	x
Not cooled	F	802,130 C	558,891 B	784,364 B	719,948 D	F

^eIncludes the air-conditioning categories of fuel/heating oil; diesel or kerosene; bottled gas, liquid petroleum gas or propane; district-chilled water; and others.

^fIncludes the categories of district-chilled water from outside source; swamp coolers; and others.

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Source: Commercial and Institutional Building Energy Use Survey 2000.

This table is a continuation of the previous two pages.
 This table continues on the next two pages.

TABLE

13.6

TOTAL OIL INTENSITY (GJ/m²)

Less than 40		40–48		49–60		61–84		85–167		Open continuously	
0.53	D	0.56	D	0.42	D	0.82	D	0.44	D	0.66	D
	F	0.34	D	0.45	D	0.38	D	0.23	D	0.92	D
	x	0.12	D	0.11	D	3.02	D	0.61	D	0.57	D
0.57	D	0.95	D	0.40	D	1.55	D	0.37	D	0.57	D
0.60	D	0.27	D	0.15	D	1.31	D	0.37	D	0.83	D
	x		x		x		x		x		x
	x		x		x		x		x		x
	x	2.69	D	0.40	D		x		x		x
	x	0.50	D	0.49	D	2.38	D	0.48	D	0.20	D
	x	0.46	D	0.49	D	2.42	D		x		F
	x	0.13	D	0.47	D	2.42	D	0.48	D	0.91	D
	x		x		x		x		x		x
	x	0.74	D		x	1.63	D		x	0.39	D
0.64	D	0.40	D		F	1.36	D	0.34	D	0.96	D
	x		x		x		x		x		x
	x		x		x		x		x		x
	x		x		x		x		x		x
	x	0.53	D	0.38	D	0.46	D	0.48	D		x
	x	0.48	D	0.43	D	0.16	D		x		x
	x		F	0.50	D	1.60	D	0.70	D	1.45	D
	x		x		x		x		x		x
	x		x		x	2.18	D		x	0.46	D
0.64	D	0.34	D	0.47	D	1.08	D	0.32	D	0.07	D
	x		x		x		x		x		x
0.53	D	0.56	D	0.42	D	0.82	D	0.44	D	0.66	D

TABLE

13.6

Total oil consumption and oil intensity by building characteristics, occupancy characteristics, energy efficiency features, heating energy sources and equipment, cooling energy sources and equipment, and water-heating energy sources **by weekly hours of operation**

TOTAL OIL CONSUMPTION (GJ)

Weekly hours of operation →	Less than 40		40–48		49–60		61–84		85–167		Open continuously	
Energy source for water heating												
Electricity	843,652	D	1,849,192	B	604,320	B	5,227,080	B	567,628	D		F
Natural gas	x		x			F		F	x		1,387,741	A
Fuel/heating oil		F	523,012	C	624,290	B	641,203	C	392,310	D	1,088,582	B
Composite ^d	x		x		x		x		x		14,211	B
Not heated	x		x		x		x		x			x

^dIncludes the categories of diesel or kerosene; bottled gas, liquid petroleum gas or propane; district steam; district hot water; wood; coal; solar thermal panels; and others.

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TOTAL OIL INTENSITY (GJ/m²)

Less than 40	40-48		49-60		61-84		85-167		Open continuously	
F	0.59	D	0.14	D	1.58	D	0.38	D	0.95	D
x	x		0.01	D	0.02	D	x		0.80	D
F	F		F		F		F		F	
x	x		x		x		x		0.02	D
x	x		x		x		x		x	

TABLE

13.7

Total oil consumption and oil intensity by building characteristics, occupancy characteristics, energy efficiency features, heating energy sources and equipment, cooling energy sources and equipment, and water-heating energy sources **by type of ownership**

TOTAL OIL CONSUMPTION (GJ)

Building ownership	Private individual(s)	Private organization	Non-profit organization	Fed.-prov.-munic.-regional government ^a
All buildings				
Canada	2,890,363 C	4,058,395 B	2,186,989 C	5,467,255 B
Building floor space				
93–464 m ² (1,000–4,999 sq. ft.)	699,976 B	289,051 B	69,331 D	F
465–929 m ² (5,000–9,999 sq. ft.)	279,625 C	224,768 C	183,820 C	133,387 D
929–4,645 m ² (10,000–49,999 sq. ft.)	265,366 B	485,011 B	1,221,715 B	633,702 C
4,645–9,290 m ² (50,000–99,999 sq. ft.)	x	x	x	1,142,293 D
9,290 m ² and more (100,000 sq. ft. and more)	F	2,921,804 C	x	3,460,699 B
Year of construction				
Before 1920	233,941 C	204,098 D	608,614 D	F
1920–1959	505,313 C	199,950 B	145,601 C	1,923,454 C
1960–1969	F	F	271,334 C	1,742,930 A
1970–1979	267,662 D	1,663,563 D	F	934,341 C
1980–1989	192,932 C	F	x	F
1990–1999	F	F	x	x
Number of floors				
1	F	1,978,142 D	117,380 D	F
2	641,154 B	1,511,910 D	571,654 D	667,924 C
3	522,472 C	F	333,234 D	F
4–9	F	F	F	2,530,429 D
10 and more	x	x	x	1,366,036 A
Predominant type of window				
Single-glazed	215,257 B	379,265 B	F	1,385,378 C
Double-glazed ^b	2,672,212 D	3,679,130 C	953,678 C	4,014,234 C
Triple-glazed ^c	F	0 A	F	67,643 A

^aIncludes all levels of government (i.e. federal, provincial, municipal and regional).

^bIncludes all the different types of windows that are double-glazed (i.e. double-glazed, double-sealed glazed, double-glazed with low-E coating and double-glazed with low-E gas-filled).

^cIncludes all the different types of windows that are triple-glazed (i.e. triple-glazed, triple-glazed with low-E coating and triple-glazed low-E gas-filled).

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This table continues on the next two pages. 

TOTAL OIL INTENSITY (GJ/m²)

Private individual(s)		Private organization		Non-profit organization		Fed.-prov.-munic.-regional government ^a	
0.69	D	0.55	D	0.51	D	0.67	D
0.94	D	0.66	D	0.68	D	1.11	D
0.45	D	0.38	D	0.56	D	0.57	D
0.40	D	0.36	D	0.64	D	0.44	D
x		x		x		0.67	D
0.80	D	0.60	D	x		0.74	D
0.66	D	0.71	D	0.25	D	2.21	D
0.81	D	0.29	D	0.45	D	0.51	D
0.56	D	1.35	D	0.54	D	1.03	D
0.20	D	1.20	D	1.06	D	0.70	D
0.48	D	0.39	D	x		0.18	D
2.31	D	0.02	D	x		x	
0.45	D	1.50	D	0.58	D	0.61	D
0.33	D	0.82	D	0.52	D	0.39	D
1.04	D	0.47	D	0.55	D	0.47	D
2.64	D	0.40	D	0.48	D	0.76	D
x		x		x		1.01	D
0.48	D	0.35	D	0.89	D	0.58	D
0.72	D	0.58	D	0.31	D	0.70	D
0.38	D	0.00	A	F		0.92	D

TABLE
13.7

Total oil consumption and oil intensity by building characteristics, occupancy characteristics, energy efficiency features, heating energy sources and equipment, cooling energy sources and equipment, and water-heating energy sources **by type of ownership**

TOTAL OIL CONSUMPTION (GJ)

Building ownership	Private individual(s)	Private organization	Non-profit organization	Fed.-prov.-munic.-regional government ^a
Predominant exterior wall type				
Curtain walls	x	F	x	343,806 D
Metal stud framing with surface insulation	303,716 D	156,376 C	F	F
Metal stud framing without surface insulation	x	x	x	x
Wood-frame walls with surface insulation	409,282 D	142,870 C	657,618 D	F
Wood-frame walls without surface insulation	136,249 D	x	F	F
Concrete block with interior finishing	428,049 C	2,336,112 D	F	3,540,276 C
Concrete block without interior finishing	F	F	x	F
Precast panels	x	F	x	x
Unknown	59,579 D	164,743 C	x	F
Predominant roof type				
Attic roof fully insulated	135,613 C	106,352 D	F	264,599 D
Attic roof partially insulated	F	F	F	x
Attic roof not insulated	F	F	x	x
Insulated wood-truss roof	228,389 D	F	F	F
Not insulated wood-truss roof	79,230 D	x	x	x
Insulated metal-truss roof	F	F	280,169 C	x
Not insulated metal-truss roof	x	79,859 D	x	x
Insulated deck-type roof	F	1,428,113 D	F	3,314,262 A
Not insulated deck-type roof	F	F	x	F
Unknown	F	157,972 C	x	549,701 D
Principal building activity				
Commercial and institutional accommodation	F	x	F	x
Entertainment and recreation	20,967 D	x	F	x
Office	82,572 C	202,978 C	x	x
Food retail	F	x	x	x
Non-food retail	422,580 C	149,210 C	x	x
Food service	F	x	x	x
Non-food service	352,430 D	221,191 C	x	x
Shopping malls	F	2,683,158 D	x	x
Warehouse/wholesale	F	489,977 D	x	x
Administration	x	x	F	F
Education	F	x	F	1,553,638 C
Health care	37,688 D	x	x	2,155,377 A
Public assembly	x	x	524,007 B	x
Other	x	F	x	x



^aIncludes all levels of government (i.e. federal, provincial, municipal and regional).


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This table continues on the next two pages. 

TOTAL OIL INTENSITY (GJ/m²)

Private individual(s)		Private organization		Non-profit organization		Fed.-prov.-munic.-regional government ^a	
	x	0.24	D		x	0.39	D
0.27	D	0.37	D	0.96	D	0.30	D
	x		x		x		x
0.98	D	0.37	D	0.82	D	0.49	D
0.53	D		x	0.66	D		F
0.49	D	1.37	D	0.40	D	0.88	D
0.53	D	0.41	D		x	1.04	D
	x	0.19	D		x		x
0.17	D	0.60	D		x	0.54	D
0.41	D	0.03	D	0.56	D	0.64	D
1.94	D	2.66	D	0.28	D		x
0.89	D	0.90	D		x		x
0.69	D	0.48	D	1.04	D	1.78	D
0.69	D		x		x		x
0.60	D	1.30	D		F		x
	x	0.21	D		x		x
0.87	D	0.95	D	1.41	D	0.73	D
	F	0.41	D		x	0.48	D
0.16	D	0.61	D		x	0.58	D
0.55	D		x	1.37	D		x
0.29	D		x	0.38	D		x
0.72	D	0.06	D		x		x
0.77	D		x		x		x
0.53	D	0.29	D		x		x
0.98	D		x		x		x
0.73	D	0.36	D		x		x
2.68	D	2.31	D		x		x
	F	0.37	D		x		x
	x		x		F	1.18	D
0.42	D		x	0.54	D	0.51	D
0.63	D		x		x	0.67	D
	x		x	0.51	D		x
	x	1.81	D		x		x

TABLE
13.7

Total oil consumption and oil intensity by building characteristics, occupancy characteristics, energy efficiency features, heating energy sources and equipment, cooling energy sources and equipment, and water-heating energy sources **by type of ownership**

TOTAL OIL CONSUMPTION (GJ)

Building ownership	Private individual(s)	Private organization	Non-profit organization	Fed.-prov.-munic.-regional government ^a
Number of workers				
Less than 5	330,604 B	207,470 C	359,464 B	x
5–9	756,735 D	174,520 C	331,913 D	F
10–19	342,755 D	471,151 D	F	F
20–49	279,154 D	175,800 D	F	327,311 C
50–99	x	344,143 B	x	171,324 D
100–249	x	F	x	523,776 C
250 and more	x	1,920,318 D	x	3,790,292 C
Weekly hours of operation				
Less than 40	F	x	252,921 C	x
40–48	325,200 C	501,387 D	F	1,056,818 D
49–60	286,768 B	374,465 C	F	518,019 C
61–84	F	2,962,049 C	186,470 C	F
85–167	176,882 D	140,304 C	80,046 D	F
Open continuously	F	F	F	2,033,804 A
Building conservation feature				
Reflective or shading film	F	472,140 C	126,074 D	1,276,231 B
Awnings or blinds	F	2,642,950 C	867,886 C	4,133,686 C
Lighting conservation feature				
Reflectors	F	682,054 C	223,712 D	1,581,040 B
Energy-efficient ballast	F	2,429,502 C	346,800 C	4,248,539 B
Daylight controls	F	265,591 A	F	1,595,731 A
Occupancy sensors	x	F	x	846,408 C
Time clocks	151,774 C	2,342,114 D	348,266 D	1,750,141 C
Manual dimmer switches	369,000 C	428,710 B	460,787 D	2,137,546 A
Energy-efficient lamps	F	1,746,171 C	599,063 C	3,947,338 A
Other	F	87,578 C	x	x
Heating/cooling conservation feature				
Variable air-volume system	F	1,512,723 D	317,924 C	3,340,633 B
Outdoor-air economizer	F	2,755,352 C	F	3,477,953 A
Temperature setback	F	1,522,469 D	458,646 B	3,554,656 A
Equipment reset	F	2,287,024 D	361,268 C	3,565,153 A
Heat recovery system	F	F	F	2,288,342 A
Regular maintenance	2,390,091 D	3,178,829 C	1,166,889 B	5,408,508 B

^aIncludes all levels of government (i.e. federal, provincial, municipal and regional).



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TOTAL OIL INTENSITY (GJ/m²)

Private individual(s)	Private organization	Non-profit organization	Fed.-prov.-munic.-regional government ^a
0.59 D	0.39 D	0.53 D	x
0.37 D	0.55 D	0.16 D	0.49 D
0.84 D	0.41 D	0.78 D	F
0.43 D	0.26 D	0.83 D	0.43 D
x	0.74 D	x	0.46 D
x	1.82 D	x	0.72 D
x	0.51 D	x	0.75 D
F	x	0.54 D	x
0.58 D	0.42 D	F	0.66 D
0.49 D	0.10 D	0.39 D	0.48 D
1.42 D	1.66 D	0.44 D	0.94 D
0.17 D	0.31 D	0.39 D	0.97 D
0.51 D	0.77 D	1.61 D	0.62 D
1.77 D	0.12 D	0.40 D	0.55 D
1.20 D	0.46 D	0.64 D	0.78 D
0.84 D	0.16 D	0.76 D	0.55 D
0.80 D	0.45 D	0.47 D	0.68 D
2.22 D	0.34 D	1.52 D	1.00 D
x	0.06 D	x	0.33 D
0.25 D	0.51 D	0.56 D	0.39 D
0.55 D	0.64 D	0.80 D	0.87 D
0.81 D	0.40 D	0.24 D	0.67 D
3.05 D	0.13 D	x	x
1.32 D	0.33 D	0.52 D	0.73 D
0.93 D	0.51 D	0.46 D	0.63 D
1.37 D	0.33 D	0.53 D	0.58 D
0.76 D	0.52 D	0.67 D	0.63 D
2.00 D	0.60 D	0.34 D	0.75 D
0.67 D	0.48 D	0.35 D	0.68 D

TABLE
13.7

Total oil consumption and oil intensity by building characteristics, occupancy characteristics, energy efficiency features, heating energy sources and equipment, cooling energy sources and equipment, and water-heating energy sources **by type of ownership**

TOTAL OIL CONSUMPTION (GJ)

Building ownership	Private individual(s)	Private organization	Non-profit organization	Fed.-prov.-munic.-regional government ^a
Percentage of the floor space heated				
Less than 1	x	x	x	x
1–50	144,235 D	F	x	x
51–99	108,600 D	75,043 D	F	x
100	2,637,529 D	3,634,828 C	2,070,863 C	5,384,405 B
Energy source for heating (more than one may apply)				
Electricity	1,251,222 C	3,361,289 C	F	F
Natural gas	44,521 B	F	x	2,767,617 D
Fuel/heating oil	2,758,292 C	3,299,101 C	2,169,039 C	5,455,743 B
Composite ^d	F	F	x	F
Main energy source for heating				
Electricity	787,640 D	F	F	x
Natural gas	28,751 A	F	x	2,633,107 D
Fuel/heating oil	F	1,379,900 B	1,425,522 B	2,492,049 B
Composite ^d	x	F	x	F
Heating equipment (more than one may apply)				
Furnaces	F	1,461,028 D	447,232 C	271,326 D
Heat pumps	F	F	F	x
Individual space heaters	F	2,111,869 D	F	F
Boilers	752,671 B	1,801,097 C	1,766,146 D	4,971,799 B
Packaged heating units	F	2,319,801 D	x	F
District steam or hot water or other	23,776 D	84,040 C	x	549,783 C
Main heating equipment				
Furnaces	F	755,714 C	431,939 C	271,294 D
Heat pumps	x	72,012 C	x	x
Individual space heaters	300,712 D	F	F	F
Boilers	688,233 B	1,681,237 D	987,713 C	4,865,546 B
Packaged heating units	F	F	x	x
District steam or hot water or other	x	21,194 D	x	F
Not heated	x	x	x	x

^aIncludes all levels of government (i.e. federal, provincial, municipal and regional).



^dIncludes the categories of diesel or kerosene; bottled gas, liquid petroleum gas or propane; district steam; district hot water; wood; coal; solar thermal panels; and others.

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TOTAL OIL INTENSITY (GJ/m²)

Private individual(s)		Private organization		Non-profit organization		Fed.-prov.-munic.-regional government ^a	
	x		x		x		x
0.56	D	0.52	D		x		x
1.00	D	0.02	D	0.33	D		x
0.69	D	1.08	D	0.52	D	0.69	D
0.54	D	0.57	D		F	0.59	D
0.36	D	0.28	D		x	0.69	D
	F		F		F		F
2.98	D	1.90	D		x	0.19	D
0.50	D	0.98	D	1.32	D		x
0.65	D	0.28	D		x	0.83	D
	F		F		F		F
	x	3.65	D		x	0.30	D
0.76	D	0.71	D	0.61	D	0.39	D
2.56	D	0.06	D	1.19	D		x
0.81	D	0.98	D		F	0.66	D
0.76	D	0.38	D	0.49	D	0.70	D
2.57	D	1.76	D		x	0.19	D
0.25	D	0.37	D		x	0.65	D
0.76	D	0.44	D	0.63	D	0.66	D
	x	0.41	D		x		x
0.41	D	1.15	D	1.47	D		F
0.86	D	0.39	D	0.32	D	0.80	D
0.46	D	2.03	D		x		x
	x	0.27	D		x	0.22	D
	x		x		x		x

TABLE
13.7

Total oil consumption and oil intensity by building characteristics, occupancy characteristics, energy efficiency features, heating energy sources and equipment, cooling energy sources and equipment, and water-heating energy sources **by type of ownership**

TOTAL OIL CONSUMPTION (GJ)

Building ownership	Private individual(s)	Private organization	Non-profit organization	Fed.-prov.-munic.-regional government ^a
Percentage of the floor space cooled				
Not cooled	681,542 B	305,920 B	928,234 C	1,649,535 C
1–50	763,435 D	452,013 B	F	1,562,094 A
51–99	F	F	75,286 D	595,016 C
100	206,994 D	2,461,939 C	x	F
Space-cooling energy source				
Electricity	2,190,388 D	3,625,175 C	F	2,577,185 A
Natural gas	x	x	x	x
Fuel/heating oil	x	F	x	x
Composite ^e	x	F	x	F
Cooling equipment (more than one may apply)				
Residential-type air conditioners	F	F	67,609 D	178,739 C
Heat pumps	F	F	x	1,192,943 A
Individual room air conditioners	359,361 D	F	F	1,561,859 A
District-chilled water from outside source	x	x	x	F
Central chillers	x	F	x	1,100,956 B
Packaged air-conditioning units	391,475 B	3,247,458 C	F	1,769,275 A
Swamp coolers	x	x	x	x
Composite ^f	x	x	x	F
Other	x	x	x	x
Main cooling equipment				
Residential-type air conditioners	F	118,484 C	F	F
Heat pumps	59,702 D	F	x	x
Individual room air conditioners	F	239,490 D	F	1,351,365 A
District-chilled water from outside source	x	x	x	F
Central chillers	x	F	x	913,721 B
Packaged air-conditioning units	385,275 B	2,070,955 D	F	F
Composite ^f	x	x	x	F
Not cooled	681,542 B	305,920 B	928,234 C	1,649,535 C

^aIncludes all levels of government (i.e. federal, provincial, municipal and regional).

^eIncludes the air-conditioning categories of fuel/heating oil; diesel or kerosene; bottled gas, liquid petroleum gas or propane; district-chilled water; and others.



^fIncludes the categories of district-chilled water from outside source; swamp coolers; and others.

The letter beside each estimate classifies its quality as follows: A – Excellent, B – Good, C – Acceptable, D – Use with caution, F – Too unreliable to be published, x – Suppressed to meet the confidentiality requirements of the Statistics Act.

Due to rounding the numbers may not add up and may differ slightly among tables.

NOTE: Estimates relate only to the surveyed areas of populations of 175,000 and greater, and in Atlantic Canada to populations of 50,000 and greater.

Source: Commercial and Institutional Building Energy Use Survey 2000.

This table is a continuation of the previous two pages. 
 This table continues on the next two pages. 

TOTAL OIL INTENSITY (GJ/m²)

Private individual(s)		Private organization		Non-profit organization		Fed.-prov.-munic.-regional government ^a	
0.40	D	0.37	D	0.63	D	0.63	D
0.53	D	0.38	D	1.10	D	0.56	D
2.43	D	0.24	D		F	0.56	D
0.40	D	1.32	D		x	0.98	D
0.91	D	0.56	D	0.44	D	0.55	D
	x		x		x		x
	x		F		x		x
	x	1.44	D		x	1.46	D
0.51	D	1.82	D	0.46	D	0.49	D
2.20	D	1.39	D		x	1.39	D
0.84	D	1.26	D	0.46	D	0.57	D
	x		x		x	1.09	D
	x	0.29	D		x	0.39	D
0.38	D	0.62	D	1.14	D	0.59	D
	x		x		x		x
	x		x		x	0.94	D
	x		x		x		x
0.51	D	0.50	D	0.31	D	0.38	D
0.35	D	0.39	D		x		x
1.07	D	0.54	D		F	1.21	D
	x		x		x	1.46	D
	x	0.27	D		x	0.48	D
0.39	D	1.34	D	0.28	D	0.16	D
	x		x		x	1.46	D
0.40	D	0.37	D	0.63	D	0.63	D

TABLE

13.7

Total oil consumption and oil intensity by building characteristics, occupancy characteristics, energy efficiency features, heating energy sources and equipment, cooling energy sources and equipment, and water-heating energy sources **by type of ownership**

TOTAL OIL CONSUMPTION (GJ)

Building ownership	Private individual(s)	Private organization	Non-profit organization	Fed.-prov.-munic.-regional government ^a
Energy source for water heating				
Electricity	2,190,422 D	3,559,314 C	F	2,872,987 D
Natural gas	30,507 A	F	x	1,387,784 A
Fuel/heating oil	653,851 C	441,275 B	803,816 C	1,464,107 B
Composite ^d	x	x	x	11,416 A
Not heated	F	x	x	x

^aIncludes all levels of government (i.e. federal, provincial, municipal and regional).

^dIncludes the categories of diesel or kerosene; bottled gas, liquid petroleum gas or propane; district steam; district hot water; wood; coal; solar thermal panels; and others.

The letter beside each estimate classifies its quality as follows: A – Excellent, B – Good, C – Acceptable, D – Use with caution,

F – Too unreliable to be published, x – Suppressed to meet the confidentiality requirements of the Statistics Act.

Due to rounding the numbers may not add up and may differ slightly among tables.

NOTE: Estimates relate only to the surveyed areas of populations of 175,000 and greater, and in Atlantic Canada to populations of 50,000 and greater.

Source: Commercial and Institutional Building Energy Use Survey 2000.

This table is a continuation of the previous two pages. 

TOTAL OIL INTENSITY (GJ/m²)

Private individual(s)		Private organization		Non-profit organization		Fed.-prov.-munic.-regional government ^a	
0.66	D	0.57	D	0.86	D	0.79	D
0.56	D	0.01	D	x		0.66	D
	F		F		F		F
	x		x		x	0.02	D
0.53	D		x		x		x

APPENDICES

A-F





Appendix A. Methodology

Statistics Canada is the source of information for this section on methodology. For more information about the methodology, please contact

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A1. Introduction

This two-stage survey used a multiple frame approach, combining up-to-date lists of commercial buildings with an area frame. CIBEUS data were gathered through personal interviews with building managers and owners in the spring of 2001 for the reference year 2000. The objective of this section is to provide a detailed description of the survey methodology regarding the sampling plan, collection and processing of data, and production of estimates.

A2. Target Population

The CIBEUS target population includes all buildings with an area of at least 93 square metres (1,000 square feet), of which 50 percent or more is devoted to commercial or institutional activities, located in Census Metropolitan Areas (CMAs) or Census Agglomerations (CAs) with populations of 175,000 or greater (populations of 50,000 or greater in the Atlantic provinces). Appendix B provides a list of CMAs and CAs covered by the survey.

A3. Sampling Plan

Given the absence of a complete list of buildings that made up the CIBEUS target population, a two-stage approach was favoured. The first stage was an area sample, in other words, a sample of the regions; in this case, regions corresponded to Enumeration Areas (EAs). A list of all buildings in selected EAs was then created to enable the selection of a sample of buildings, which made up the second stage of sampling. Details of the first and second stages of the sample selection are given in section A3.1.

With this approach, uncommon buildings have little chance of being included in the sample. For that reason, hospitals, colleges, enclosed shopping centres and university buildings were sampled from existing lists. Section A3.2 provides more detail on the lists used, stratification and the sample of uncommon buildings.

A3.1. AREA FRAME

The area frame is a list of all EAs located in the targeted CMAs and CAs and contains the total number of buildings and the number of buildings constructed between 1995 and 1999 in each one. Section A3.1.1 explains how the frame was constructed and gives details on the stratification of the area frame and the size, breakdown and selection of the first-stage sample. Section A3.1.2. provides details for the second-stage sample.

A3.1.1. First-Stage Sample

Construction of the Area Frame

The December 1999 version of Statistics Canada's *Business Register* (BR) (more specifically, the location file) was the main source used to build the first-stage sampling frame.

Excluded from the BR were all locations where the main activity was agriculture, forestry, fishing and hunting (NAICS^a 11), mining and oil and gas extraction (NAICS 21), utilities (NAICS 22), manufacturing (NAICS 31-32-33), mobile food services (NAICS 72233), private households (NAICS 814), and international and other extraterritorial public administration (NAICS 91911). Locations with no employees, those outside the targeted CMAs and CAs or those where the postal code corresponded with a post office box were also excluded.

The addresses of all commercial and institutional buildings constructed between 1995 and 1999 were linked to the remaining locations. This information was obtained from the building permits survey, which collects exhaustive information on new buildings from Canadian municipalities.

The addresses of primary and secondary schools were also linked to the addresses of BR locations.

The street number was extracted from the address for each location by using PCODE software available on the Statistics Canada mainframe. The address can be entered into the program in any format. The readout returns a new variable that contains only the street number. A unique address list was created by keeping only one observation per postal code / street number combination.

The resulting unique address files were matched with the Postal Code Conversion File (PCCF) to link a unique EA to each address. About 85 percent of the addresses could be linked to a unique EA. The remaining addresses were linked with certainty to the correct EA using the block-face data file (5 percent of addresses) or were randomly linked to an EA from the EAs associated with their postal codes (10 percent of addresses).

The number of addresses per EA was found, and after field tests, all addresses with five employees or fewer were excluded. This decision was based on the hypothesis that addresses with fewer than five employees are associated with mainly residential buildings or with buildings with fewer than 93 square metres (1,000 square feet).

The final sample frame had 20,332 EAs.

Stratification of the Area Frame

Each CMA or CA examined by the survey was divided into three groups to prevent only large EAs from being chosen and to permit confident sampling of EAs with more than five buildings constructed between 1995 and 1999. (Ottawa and Gatineau are considered distinct CMAs, whereas Moncton,

^a North American Industry Classification System

Saint John and Fredericton are considered one CMA.) These three groups are EAs with between 1 and 30 buildings and fewer than 5 new buildings (group 1), EAs with between 30 and 50 buildings and fewer than 5 new buildings or more than 50 buildings (group 2), and EAs with fewer than 50 buildings and more than 5 new buildings (group 3).

Each group formed a stratum; thus, there were 62 strata. Appendix C lists the first-stage strata.

First-Stage Sample Size

After examining a similar survey conducted in the United States and a pilot study carried out, it was determined that a sample of 5,000 buildings would be sufficient to produce reliable estimates. Because 20 was estimated to be the average number of buildings per EA, a first-stage sample of 370 EAs would have permitted Statistics Canada to list enough buildings to subsequently select 5,000. The anticipated sample size was reduced to about 4,750, with the remaining units sampled from the lists of uncommon buildings (see section A3.2).

First-Stage Sample Allocation

Allocation of the first-stage sample in the strata was first done in proportion to the number of EAs in each stratum, with the selection of at least two EAs per strata as a constraint. The number of EAs allocated in the group 3 strata was then increased so that these strata became “take-all” units. The EAs added in the group 3 strata were removed from the group 1 strata of the corresponding CMA or CA.

First-Stage Sample Selection

The sampling of EAs was done in proportion to their size and without replacement.

In the 370 EAs sampled, a total of 8,850 buildings were listed. This number had been estimated at 8,858.

A3.1.2. Second-Stage Sample

Second-Stage Sample Allocation

The allocation of the 4,750 buildings for second-stage sampling was done by region (Atlantic, Quebec, Ontario, Prairies, British Columbia) in proportion to the square root of the population of the targeted CMAs and CAs. A few adjustments were made to provide a sample that was representative of all building types (see “Stratification and Sampling in Each EA”). Table A1 gives the anticipated and final second-stage sample sizes by region.

TABLE A1. SECOND-STAGE SAMPLE SIZE BY REGION

	Population of targeted CMAs and CAs	Square root of population	Anticipated sample size	Final sample size
Region				
Atlantic	1,000,000	1,000	534	547
Quebec	4,246,000	2,061	1,100	1,083
Ontario	7,353,000	2,712	1,448	1,452
Prairies	2,765,000	1,663	888	1,160
British Columbia	2,136,000	1,462	780	519
Total	17,500,000	8,898	4,750	4,761

Allocation was done using population data because they were the only information available for the five regions when sampling began. Ideally, the listing results should have been used, but they were not all known at the time of allocation. In addition, allocation done in proportion to the predicted number of unique addresses seemed too imprecise.

Stratification and Sampling in Each EA

To produce reliable estimates by building size, type and age, stratification must take these three variables into consideration. To do so, a random sample of buildings, stratified based on these three variables, was taken in each of the EAs chosen in the first stage (see Tables A2 through A4).

TABLE A2. LIST OF BUILDING SIZES

Description	
Size	
1	93 to 464 square meters (1,000 to 4,999 square feet)
2	465 to 929 square meters (5,000 to 9,999 square feet)
3	929 to 4,645 square meters (10,000 to 49,999 square feet)
4	4,645 to 9,290 square meters (50,000 to 99,999 square feet)
5	9,290 to 46,451 square meters (100,000 to 499,999 square feet)
6	46,451 square meters or larger (500,000 square feet or larger)

TABLE A3. LIST OF BUILDING TYPES

Description	
Code	
100	Commercial accommodation
110	Entertainment, leisure and recreation
120	Building with private, financial or professional offices
131	Food retail business
132–139	Non-food retail business
141	Food services
142–149	Non-food services
151	Enclosed shopping centre
152–159	Strip mall and other shopping centre
160	Transportation and maintenance facility
170	Wholesale trade and warehouse
200	Institutional accommodation
210	Administration
221–226, 229	Education (except colleges and universities)
227–228	Colleges and universities
230	Hospitals and resident patient care
240	Walk-in clinic
250	Public meeting
999	No classification

TABLE A4. LIST OF CONSTRUCTION PERIODS

Description	
Period	
1	1994 and later
2	1993 and earlier

Depending on the region, certain groupings (by size or type of building) may have been grouped together to limit the number of strata.

Strata containing one, two or three buildings were considered “take-all” units. In the other strata, the sample was divided in proportion to the strata’s size, with a minimum of three units per stratum as a constraint.

Atlantic

A final sample of 547 buildings was taken in the Atlantic region using the Generalized Sampling System (GSAM). The following groupings were used to limit the number of strata:

- Types 100 and 200 (type = 300)
- Types 120 and 210 (type = 301)
- Types 110 and 250 (type = 302)
- Types 160 and 170 (type = 303)
- Types 131 and 132–139 (type = 304)
- Types 141, 142–149 and 240 (type = 305)
- Sizes 1 and 2 (size = 1)

The following strata were merged to offset the already known non-response:

- 1100301830231 and 1100301830531 to form 1100301830531

Strata with one, two or three units were considered “take-all” units (three units were taken in all other strata).

Note: The stratum number appears in the form *ssssssttag*, where

- *sssssss* designates the EA
- *ttt* designates the type
- *a* designates the age
- *g* designates the size

Quebec

A sample of 1,083 units was taken in Quebec. The following groupings were used:

- Types 100 and 200 (type = 300)
- Types 120 and 210 (type = 301)
- Types 110 and 250 (type = 302)
- Types 160 and 170 (type = 303)
- Types 131 and 132–139 (type = 304)
- Types 141, 142–149 and 240 (type = 305)
- Sizes 1 and 2 (size = 1)

The following strata were merged to offset the already known non-response:

- 2401330630031 and 2401330630531 to form 2401330630531
- 2403516130233 and 2403516130533 to form 2403516130533
- 2405406430231 and 2405406430531 to form 2405406430531

Strata with one, two or three units were considered “take-all” units (three units were taken in all other strata).

Ontario

The final second-stage sample in Ontario included 1,452 units. The following sizes and types were grouped:

- Types 100 and 200 (type = 300)
- Types 120 and 210 (type = 301)
- Types 110 and 250 (type = 302)
- Types 160 and 170 (type = 303)
- Types 131 and 132–139 (type = 304)
- Types 141, 142–149 and 240 (type = 305)
- Sizes 1, 2 and 3 (size = 1)

The following strata were merged to offset the already known non-response:

- 3507101830431 and 3507101830531 to form 3507101830531

Strata with one, two or three units were considered “take-all” units. In the remaining strata, the sample was divided in proportion to the stratum’s size, with a minimum of three units as a constraint.

The following EAs were listed partially (in a partial listing, the size, age and area of the building may not have been recorded): 35021202, 35044710, 35049015, 35063065 and 35087120. In these EAs, if the building type was missing, it was coded 888; similarly, if the age or area was missing, it was coded 8. New strata created were treated like the others for the sample.

Prairies

The initial allocation anticipated 888 units for the Prairies. This number was insufficient, given the constraint of a minimum of three units in each stratum. In addition, the initial allocation anticipated 780 units in British Columbia, which was more than enough. Allocation of the total number of 1,668 units in the Prairies and British Columbia was therefore done jointly for the two regions, so that strata with one, two or three units were considered “take-all” units and the rest of the sample was divided among the remaining strata in proportion to the size of the stratum (with a minimum of three units per stratum as a constraint). The final sample resulted in 1,160 units in the Prairies and 519 units in British Columbia.

The following types were grouped:

- Types 100 and 200 (type = 300)
- Types 120 and 210 (type = 301)
- Types 110 and 250 (type = 302)
- Types 160 and 170 (type = 303)
- Types 131 and 132–139 (type = 304)
- Types 141, 142–149 and 240 (type = 305)
- Sizes 1 and 2 (size = 1)

The following EAs were partially listed: 46014018, 46014058, 48006255, 48006259 and 48026071.

Stratum 4801215799933 (four units) was a “take-all” unit.

British Columbia

A sample of 519 buildings was selected. The following groupings were used:

- Types 100 and 200 (type = 300)
- Types 120 and 210 (type = 301)
- Types 110 and 250 (type = 302)
- Types 160 and 170 (type = 303)
- Types 131 and 132–139 (type = 304)
- Types 141, 142–149 and 240 (type = 305)
- Sizes 1 and 2 (size = 1)

EA 59028804 was partially listed.

Strata 5903230899931 (6 units) and 5902906199931 (10 units) were “take-all” units.

A3.2. LISTS OF UNCOMMON BUILDINGS

Hospitals, colleges, enclosed shopping centres and university buildings were sampled using lists to ensure good representation of these buildings in the sample.

Hospitals

A list of 227 hospitals was obtained from Statistics Canada’s Health Division. The “minimize the total cost” function of the GSAM was used to find the optimum strata giving a minimum sample size for a given coefficient of variation. In this survey, the number of beds in each hospital was used as a target variable. A coefficient of variation of 3 percent was required for estimates covering the entire target population. A constraint of sampling five units per stratum was imposed.

The allocation involved institutions, but not buildings as such. During the collection of CIBEUS data for institutions, information was gathered only for the main building of the complex. The allocation results are provided in Table A5.

TABLE A5. ALLOCATION OF HOSPITALS BY STRATUM AND SAMPLING RATIO

	Stratum	Sampling ratio
Region		
Atlantic	0 to 400 beds	5/14
	400 beds or more	5/5
Quebec	0 to 420 beds	9/33
	420 to 990 beds	7/19
	990 beds or more	4/4
Ontario	0 to 170 beds	5/33
	170 to 377 beds	5/36
	377 to 630 beds	5/15
	630 beds or more	5/6
Prairies	0 to 370 beds	6/24
	370 to 730 beds	5/5
	730 beds or more	5/6
British Columbia	0 to 730 beds	10/22
	730 beds or more	5/5

Thus, 81 hospitals on the list were sampled. In addition, eight hospitals were sampled from the area base; of those, four had also been sampled on the list. The other four did not appear on the list (one of them was a secondary building). Therefore, there were 85 hospitals in the sample.

Colleges

A list of 96 colleges was obtained from Statistics Canada's Education Division. The GSAM was used to find the optimum strata under the constraints of a coefficient of variation of 5 percent overall and a minimum of three units to be sampled per stratum. In this survey, the number of students was the target variable used.

As with hospitals, allocation involved institutions and not buildings as such; during the collection of CIBEUS data, information was gathered only for the main building of the institution. The allocation results are provided in Table A6.

TABLE A6. ALLOCATION OF COLLEGES BY STRATUM AND SAMPLING RATIO

	Stratum	Sampling ratio
Region and type of college		
Atlantic	all	4/15
Quebec (Cégeps)	0 to 4,300 students	4/12
	4,300 students or more	4/13
Quebec (private colleges)	0 to 1,200 students	4/16
	1,200 students or more	3/3
Ontario (Colleges of Applied Arts and Technology [CAAT])	0 to 7,000 students	3/6
	7,000 students or more	3/8
Ontario (other colleges)	all	3/3
Prairies (type 1)	all	3/8
Prairies (type 2)	all	3/3
British Columbia	0 to 6,100 students	3/5
	6,100 students or more	3/4

Thus, 40 colleges on the list were sampled. In addition, 15 colleges were sampled from the area base; among those, one was on the list but had not been sampled; four were on the list and had been sampled; three were not on the list; and the other seven were secondary buildings. Therefore, there were 51 colleges in the sample.

Enclosed Shopping Centres

A list of enclosed shopping centres, comprising 522 units, was obtained from a private firm. GSAM software was used to establish the strata and number of units to be sampled within each unit, given a coefficient of variation of 2.7 percent nationally for the area variable, with a minimum of five units to be sampled in each stratum. The allocation results are provided in Table A7.

TABLE A7. ALLOCATION OF ENCLOSED SHOPPING CENTRES BY STRATUM AND SAMPLING RATIO

Region	Stratum (in thousands)	Sampling ratio
Atlantic	0 to 160 square feet	5/15
	160 to 350 square feet	5/21
	350 to 550 square feet	5/8
	500 square feet or larger	4/4
Quebec	0 to 193 square feet	5/67
	193 to 450 square feet	5/45
	450 to 880 square feet	5/15
	880 square feet or larger	5/8
Ontario	0 to 289 square feet	12/111
	289 to 650 square feet	7/40
	650 to 1,200 square feet	5/23
	1,200 square feet or larger	4/4
Prairies	0 to 293 square feet	8/67
	293 to 660 square feet	5/25
	660 to 2,000 square feet	5/10
	2,000 square feet or larger	1/1
British Columbia	0 to 290 square feet	5/35
	290 to 690 square feet	5/16
	690 square feet or larger	5/6
	Area missing	1/1

Thus, 102 shopping centres on the list were sampled. In addition, 18 shopping centres were sampled from the area base; of those, 6 did not appear on the list; 10 were on the list but had not been sampled (one of them, 18251, was off-target and was erased); and 2 were on the list and were sampled. Therefore, there were 117 shopping centres in the sample.

University Buildings

A different approach was used for university buildings than for hospitals, colleges and shopping centres. A two-stage sample was the chosen method. The universities were first chosen with a selection probability in proportion to the number of buildings on their respective campuses. For each university chosen in the first stage, five buildings were then drawn randomly. A limit of five buildings per campus was established to limit the response burden. For campuses chosen at the first stage that had five buildings or fewer, all buildings were selected at the second stage.

Allocation of the first-stage sample was by province as shown in Table A8.

TABLE A8. ALLOCATION OF FIRST-STAGE SAMPLE OF UNIVERSITY BUILDINGS

Province	Total number of universities	Number of universities in sample
Newfoundland and Labrador	1	1
Prince Edward Island	1	1
Nova Scotia	6	3
New Brunswick	4	2
Quebec	12	6
Ontario	22	10
Manitoba	2	2
Saskatchewan	5	3
Alberta	6	3
British Columbia	6	3

At the second stage, a single building was sampled for four universities; five buildings were sampled for 29 universities; and seven buildings were sampled for one university.

Thus, 156 university buildings were sampled. In addition, 15 university buildings were sampled from the area frame; of those, 11 appeared on the list but had not been sampled (one was erased, 10896, because it caused a problem for estimation; it is the only university building sampled on the area frame in which the university was not sampled on the list); and the other four appeared on the list and had been sampled. Therefore, there were 166 university buildings in the sample.

A3.3. COMMON UNITS BETWEEN AREA FRAME AND LISTS

Some units may have been sampled from the area frame and from lists at the same time. In these cases, it was considered that the unit was sampled only from the list. Uncommon buildings may also have been sampled from the area frame but were not on the lists. In these cases, if the unit was actually on the list, it was considered that the unit was only sampled from the list. If it was not on the list, it was given a weight of one (the hypothesis is that the lists were complete and that buildings on the area frame and not on the list were exceptions).

In short, there were 4,761 units from the area frame (of which two were removed, one being an off-target shopping centre and the other an unsampled university building) and 379 units from the lists (81 hospitals, 40 colleges, 102 shopping centres and 156 university buildings) for a total of 5,138. Because 14 units appeared on the area frame and on the lists at the same time, the total was 5,124 units.

A4. Data Collection and Response Rates

This section addresses data collection and response rates.

A4.1. DATA COLLECTION

The area frame was created in the fall of 2000. Interviewers made a list of all the buildings in the EAs sampled. For each building listed, interviewers were to give the main activity of the building, the year of construction and its area. Interviewers were also to try to obtain the name and telephone number of the person most capable of answering the survey questions.

When a building was selected for the sample, telephone contact was established with the respondent to determine the best time to carry out the interview.

Interviews were held in person in the spring of 2001.

During the interview, in addition to the main questionnaire, respondents were asked to provide their energy consumption in two of three ways suggested. The first consisted of signing a form authorizing Statistics Canada to gather information directly from the energy provider; the second asked respondents to provide the information requested in a table; the third allowed respondents to provide a photocopy of their energy consumption bill.

The energy providers of the respondents who signed the authorization form were contacted. Most of them were cooperative and provided an electronic copy of the requested energy consumption.

A4.2. RESPONSE RATE

Of the 5,124 buildings sampled, there were 4,101 respondents (of which 196 were mass imputed; see section A5.2), 560 non-respondents and 463 units outside the survey coverage.

A5. Data Verification and Imputation

To verify the survey data, about 100 edit rules were created and programmed in SAS. These rules ensure that all the variables have valid responses and are complete and coherent.

A5.1. PARTIAL NON-RESPONSE

The situation in which a respondent fails to answer certain questions is called partial non-response and, in such cases, the missing data is imputed. The data imputation approach differs based on whether the data is categorical (variables of the main questionnaire) or continuous (energy consumption). Categorical data take only specific values, whereas continuous data may take any numeric value.

Categorical data was imputed using a “hot deck” technique in which a donor building is chosen randomly from a group of respondent buildings that have similar characteristics. Generally, these characteristics are the type, age and size of the building.

Data on energy consumption was gathered for five different sources: electricity, natural gas, oil, steam and hot water. From this data provided by the respondent (photocopies of bills) or the energy provider, two variables were created for each source: winter consumption (October to April) and summer consumption (May to September). Energy consumption was adjusted in proportion to the number of days in each season (213 days for winter and 153 days for summer). For buildings where the energy consumption was unavailable, or where the energy intensity (defined as consumption in gigajoules divided by the area in square feet) for a particular source was less than 0.01 or more than 0.8, a donor building with similar characteristics was found, and the building's energy intensity was imputed from that of the donor building.

A5.2. TOTAL NON-RESPONSE

Total non-response means that a respondent refused to participate in the survey or that questions deemed essential were left unanswered. For this survey, the essential questions are year of construction (B1), area (B2 or C1_1B to C1_15B or C1_1C to C1_15C) and activity code (C1_1 to C1_15 or C1_1A to C1_15A). If any of these three pieces of information was missing, the building was considered non-respondent.

It should be noted that 196 non-respondent recordings were mass imputed. In other words, all data from these units were imputed. This technique was used for units in second-stage strata containing only non-respondents for which there were no similar strata in the same EA.

Six imputation levels were required to find a donor for these 196 recordings, as shown in Table A9. If a donor was not found at the first level, one was sought at the next level and so on.

TABLE A9. LEVELS OF MASS IMPUTATION

Level	Characteristics of donor
1	Same CMA, same type of building, same size group, same age group
2	Same province, same type of building, same size group, same age group
3	Same CMA, same type of building, same size group
4	Same province, same type of building, same size group
5	Same type of building, same size group, same age group
6	Same type of building, same age group

A6. Weighting

Estimates were based on the principle that each sample building represents a certain number of buildings in the target population as defined in section A2. Therefore, each respondent building was given a survey weight that indicates how many buildings of the population are represented by this building. For buildings sampled from the area frame, this survey weight is the product of three factors: the first-stage sampling weight, the second-stage sampling weight and an adjustment factor for non-response. For the sampled buildings from the lists, this survey weight is the product of the sampling weight and adjustment factor only.

A6.1. SAMPLING WEIGHT

A6.1.1. Buildings From Area Frame

For buildings sampled from the area frame, the sampling weight is the product of the first-stage sampling weight and the second-stage sampling weight. The first-stage sampling weight (for a building in stratum i and EA j) is

$$w1_{ij} = \frac{\text{total number of buildings in stratum } i}{\text{total number of buildings in EA } j \times \text{number of EAs sampled in stratum } i}$$

And the second-stage weight (for a stratum k of EA j of stratum i) is given as follows

$$w2_{ijk} = \frac{\text{total number of buildings in stratum } k \text{ of EA } j \text{ of stratum } i}{\text{total number of buildings sampled in stratum } k \text{ of EA } j \text{ of stratum } i}$$

The sampling weight is ultimately

$$w_{ijk} = w1_{ij} \times w2_{ijk}$$

There was an EA census for certain second-stage strata. For buildings in these strata, the sampling plan therefore became a simple stratified sampling plan. Details are provided in section A6.1.2

A6.1.2. Buildings From Lists

For buildings taken from lists and for buildings from the area frame for which the first-stage strata were “take-all” units, the sampling weight was given as follows:

$$w_k = \frac{\text{total number of buildings in stratum } k}{\text{total number of buildings sampled in stratum } k}$$

A6.2. ADJUSTMENT FOR NON-RESPONSE

When the respondent failed to answer certain questions only, the missing data were imputed in accordance with the methods described in section A5.1. In other words, the weight was adjusted to offset total non-response when contact was impossible, when a respondent refused to answer or when the data provided could not be used (see section A5.2 for exceptions).

Weight adjustment for non-response is based on the principle that respondent buildings can be used to represent all buildings: respondents and non-respondents. The sample is first subdivided into distinct non-response classes to increase the chances that respondents and non-respondents have similar characteristics. In this survey, non-response classes correspond with second-stage strata for buildings from the area frame and with first-stage strata for buildings from lists.

Before making the weight adjustment for non-response, all strata in which there were no respondents, or at least one non-respondent, were identified and paired with strata having at least one respondent. Five trials were held to find one stratum similar to the problem strata, as shown in Table A10.

TABLE A10. TRIALS AND STRATA CHARACTERISTICS

Strata characteristics

Trial	
1	Same EA, same type of building, same size group
2	Same EA, same type of building, same age group, next larger size group
3	Same EA, same type of building, same age group, next smaller size group
4	Same EA, same type of building, next larger size group
5	Same EA, same type of building, next smaller size group

If, after these trials, certain problem strata were still not paired, all non-respondents from these strata were mass imputed (see section A5.2 for details).

A7. Estimation

A7.1. CALCULATION OF A TOTAL AND VARIANCE OF A TOTAL

A7.1.1. Area Frame

Notation

Number of first-stage strata: L

Number of second-stage strata in a primary sampling unit (PSU) i : P_i

Number of units in stratum h of the first stage: N_h

Number of units sampled in stratum h of the first stage: n_h

Probability of selection of a first-stage unit: π_{hi}

Number of second-stage units in stratum j of PSU i : M_{hij}

Number of units sampled in stratum j of PSU i : m_{hij}

Interest variable: y_{hijk}

Total number of units in the population: Z

Formulae

1. Total of stratum h calculated from PSU i

$$y_{hi}^* = \frac{1}{\pi_{hi}} \sum_{j=1}^{P_i} \sum_{k=1}^{m_{hij}} \frac{M_{hij}}{m_{hij}} y_{hijk}$$

2. An estimate of y_h is given by

$$y_{h0}^* = \frac{1}{n_h} \sum_{i=1}^{n_h} y_{hi}^*$$

$$\text{and } s_{y_{h0}^*}^2 = \sum_{i=1}^{n_h} \frac{(y_{hi}^* - y_{h0}^*)^2}{n_h (n_h - 1)}$$

3. An estimate of y is given by

$$y = \sum_{h=1}^L y_{h0}^*$$

$$\text{and } s_y^2 = \sum_{h=1}^L s_{y_{h0}^*}^2$$

A7.1.2. Lists

Notation

Number of strata: L

Number of units in stratum h : N_h

Number of units sampled in stratum h : n_h

Interest variable: y_{hi}

Formulae

An estimate of y is given by

$$y = \sum_{h=1}^L \frac{N_h}{n_h} \sum_{i=1}^{n_h} y_{hi}$$

$$\text{and } s_y^2 = \sum_{h=1}^L \left(1 - \frac{n_h}{N_h}\right) N_h^2 \frac{s_h^2}{n_h} \quad \text{where } s_h^2 = \sum_{i=1}^{n_h} \frac{(y_{hi} - \bar{y}_h)^2}{n_h - 1}$$

A7.1.3. Combination of Estimates

The final estimate for a total is simply the sum of the total of the area frame and of the total of the lists.

Similarly, the final variance estimate of a total is simply the sum of the variance of the area frame and the variance of the lists.

A7.2. CALCULATION OF AN AVERAGE AND VARIANCE OF AN AVERAGE

The average (for a given domain) for units in both the area frame and the lists is the total of the variable of interest over the estimated number of units in the domain.

The variance of an average (for a given domain) is the total variance of the variable of interest over the square of the estimated number of units in the domain.

The final estimate (area frame and list) for an average is simply the sum of the variable of interest totals over the sum of the estimated number of units in the domain.

The final estimate of the variance of an average is the sum of the variances of the variable of interest totals over the sum of the estimated number of units in the domain.

A8. Suppression of Data and Confidentiality

Certain measures are taken to ensure that the estimates produced from CIBEUS are sufficiently reliable to be published and that the anonymity of respondents is respected.

A8.1. SUPPRESSION OF DATA

Because the coefficient of variation is an indicator of the data's reliability, it is used to determine whether the estimates can or cannot be published. Estimates with a coefficient of variation above 50 percent are not sufficiently reliable to be published. It is important to note that estimates of standard error or coefficient of variation do not take into account the fact that some data were imputed. Consequently, calculated coefficients of variation may be lower than the true values. Imputation was minimal for most variables in this survey. Table A11 provides indicators for the coefficients of variation obtained in this survey.

TABLE A11. INDICATORS FOR COEFFICIENTS OF VARIATION

	Associated indicator	Quality of estimation
Coefficient of variation		
<20 percent	A	Excellent
20–29 percent	B	Good
30–39 percent	C	Acceptable
40–49 percent	D	To be used with caution
>50 percent	F	Too unreliable to be published

A8.2. CONFIDENTIALITY

An estimate calculated from five respondents or fewer is not published. Note that these data were included in estimates of aggregated components.

Appendix B. List of Census Metropolitan Areas (CMAs) and Census Agglomerations (CAs) Covered by the Survey

CMA/CA	Name	Province	Population (in thousands)
001	St. John's	NL	174
105	Charlottetown	PE	57
205	Halifax	NS	333
225	Cape Breton	NS	118
305	Moncton	NB	113
310	Saint John	NB	126
320	Fredericton	NB	79
421	Québec	QC	672
462	Montréal	QC	3,327
505	Ottawa–Gatineau	ON/QC	1,010
532	Oshawa	ON	269
535	Toronto	ON	4,264
537	Hamilton	ON	624
539	St. Catharines–Niagara	ON	372
541	Kitchener	ON	383
555	London	ON	399
559	Windsor	ON	279
602	Winnipeg	MB	667
705	Regina	SK	194
725	Saskatoon	SK	219
825	Calgary	AB	822
835	Edmonton	AB	863
933	Vancouver	BC	1,832
935	Victoria	BC	304

Appendix C. List of First-Stage Strata

Strata	CMA/CA	Group	Total number of Enumeration Areas (EAs)	Number of EAs in sample	Total number of buildings in strata (Business Register)
0011	St. John's	1	212	3	1,104
0012	St. John's	2	6	2	359
1051	Charlottetown	1	75	2	509
1052	Charlottetown	2	4	2	179
2051	Halifax	1	385	6	1,874
2052	Halifax	2	12	2	897
2251	Cape Breton	1	141	2	675
2252	Cape Breton	2	2	2	117
3001	Moncton, Fredericton, Saint John	1	393	6	2,203
3002	Moncton, Fredericton, Saint John	2	17	2	896
3003	Moncton, Fredericton, Saint John	3	1	1	11
4211	Québec	1	842	12	4,245
4212	Québec	2	16	2	856
4213	Québec	3	2	2	77
4621	Montréal	1	3,904	57	19,876
4622	Montréal	2	79	2	6,441
4623	Montréal	3	4	4	97
4991	Gatineau	1	272	4	1,307
4992	Gatineau	2	2	2	105
4993	Gatineau	3	1	1	22
5051	Ottawa	1	855	11	4,523
5052	Ottawa	2	19	2	1,436
5053	Ottawa	3	5	5	76
5321	Oshawa	1	265	4	1,349
5322	Oshawa	2	4	2	260
5351	Toronto	1	4,276	53	22,365
5352	Toronto	2	136	2	11,642
5353	Toronto	3	13	13	206

Strata	CMA/CA	Group	Total number of Enumeration Areas (EAs)	Number of EAs in sample	Total number of buildings in strata (Business Register)
5371	Hamilton	1	658	10	3,819
5372	Hamilton	2	15	2	933
5373	Hamilton	3	1	1	17
5391	St. Catharines	1	431	6	2,668
5392	St. Catharines	2	9	2	402
5393	St. Catharines	3	1	1	36
5411	Kitchener	1	411	6	2,317
5412	Kitchener	2	16	2	894
5413	Kitchener	3	1	1	32
5551	London	1	460	7	2,517
5552	London	2	14	2	859
5591	Windsor	1	320	5	2,090
5592	Windsor	2	8	2	493
5593	Windsor	3	1	1	27
6021	Winnipeg	1	785	12	4,481
6022	Winnipeg	2	20	2	1,499
6023	Winnipeg	3	1	1	42
7051	Regina	1	222	3	1,293
7052	Regina	2	9	2	928
7053	Regina	3	3	3	63
7251	Saskatoon	1	268	4	1,423
7252	Saskatoon	2	8	2	959
8251	Calgary	1	898	11	5,791
8252	Calgary	2	36	2	3,418
8253	Calgary	3	5	5	162
8351	Edmonton	1	1,032	13	6,199
8352	Edmonton	2	52	2	4,595
8353	Edmonton	3	5	5	119
9331	Vancouver	1	2,153	24	12,541
9332	Vancouver	2	100	2	6,893
9333	Vancouver	3	11	11	287
9351	Victoria	1	419	6	2,101
9352	Victoria	2	14	2	975
9353	Victoria	3	2	2	23
TOTAL			20,332	370	154,603

Appendix D. Glossary

Average window-to-wall ratio: The amount of window area that exists in relation to the total vertical exterior surface area, entered as a percentage.

Boiler: A type of space-heating equipment consisting of a vessel or tank where heat produced from the combustion of such fuels as natural gas, oil or coal is used to generate hot water or steam. Many buildings have their own boilers, whereas other buildings have steam or hot water piped in from a central plant. For this survey, only boilers inside the building (or serving only that particular building) are counted as part of the building's heating system. Steam or hot water piped into a building from a central plant is considered district heat (see District heat).

Building: A structure totally enclosed by walls extending from the foundation to the roof. Only buildings containing over 93 square metres (1,000 square feet) of floor space and intended for human occupancy are considered. Structures included in the survey as a specific exception are those that are erected on pillars to elevate the first fully enclosed level but leave the sides at ground level open. The following structures are excluded from the survey as non-buildings: structures that are not totally enclosed by walls and a roof (such as oil refineries, steel mills and water towers); street lights, pumps, billboards, bridges, swimming pools, oil storage tanks and construction sites; and mobile homes and trailers not attached to permanent foundations, even if they house commercial activity. Military bases and embassies are also excluded.

Building activity: Activity(ies) or function(s) occupying the majority of the floor space of a building. The categories are designed to group buildings that have similar patterns of energy consumption (see Appendix E for details).

Building characteristics: Information that covers building floor space, year of construction, number of floors and types of windows, exterior walls and roofs.

Building conservation features: Features designed to reduce energy loss or gain through the shell or envelope of a building.

Building service company (BSCO): A company that provides comprehensive mechanical, electrical and lighting services to building owners.

Calendar year: A period of 12 months starting in January and ending in December of one specific year.

Census Agglomeration (CA): As defined by Statistics Canada, a Census Agglomeration (CA) is an area consisting of one or more adjacent municipalities situated around a major urban core that has a population of at least 10,000.

Census Metropolitan Area (CMA): As defined by Statistics Canada, a Census Metropolitan Area (CMA) is a very large urban area (known as the urban core) together with adjacent urban and rural areas (known as urban and rural fringes) that have a high degree of social and economic integration with the urban core. A CMA has an urban core population of at least 100,000, based on the previous census. After an area becomes a CMA, it is retained as a CMA even if the population of its urban core declines below 100,000. This survey is based on CMAs or Census Agglomerations (CAs) with populations of 175,000 or greater (populations of 50,000 or greater in the Atlantic provinces) (see also Census Agglomeration).

Central chiller: A type of cooling equipment that is centrally located and that produces chilled water or cool air. The chilled water or cold air is then distributed throughout the building by pipes, air ducts or both. These systems are also commonly known as chillers, centrifugal chillers, reciprocating chillers or absorption chillers.

Coal: A combustible mineral substance (carbonized vegetable matter).

Commercial building: A structure that is used, in all or in part, for activities focusing on the exchange of goods and/or services for a profit. Examples of commercial buildings are stores, office buildings, restaurants, hotels, stadiums and warehouses. Buildings in which 50 percent or more of floor space is devoted to commercial activities are considered commercial buildings for the purposes of this study.

Daylight control: Daylight controls detect natural light and turn off lighting when natural light is sufficient.

Diesel: A liquid petroleum product that is less volatile than gasoline and that is burned for space- or water-heating purposes.

District heat: Steam or hot water produced in a central plant outside of the building and piped into the building as an energy source for space heating or another end use. District heat may be purchased from a utility or provided by a central physical plant in a separate building that is part of the same multi-building facility (for example, a hospital complex or university). District heat includes district steam and/or district hot water (see also Energy source).

Electricity: Electric energy supplied to a building by a central utility via power lines or from a central physical plant in a separate building that is part of the same multi-building facility. Electric power generated within a building for exclusive use in that building is specifically excluded from the definition of electricity as an energy source in this survey (see Energy source).

Electricity gross intensity: Total consumption of electricity by a group of buildings, divided by the total floor space of those buildings that use electricity.

Energy source: A type of energy or fuel consumed in a building. In this survey, information about the use of electricity, natural gas, oil, district steam heating and district hot water in commercial buildings is obtained from the building respondent and/or the utility selling the energy source to the building respondent. Electric power generated within a building for exclusive use in that building is specifically excluded from the definition of electricity as an energy source in this survey (see Electricity).

Energy-efficient ballast: A lighting conservation feature that consists of an energy-efficient version of a conventional electromagnetic ballast. The ballast is the transformer for fluorescent and high-intensity discharge (HID) lamps and provides the necessary current, voltage and waveform conditions to operate the lamp. An energy-efficient ballast requires lower power input than a conventional ballast to operate fluorescent and HID lamps.

Enumeration Area (EA): As defined by Statistics Canada, an Enumeration Area (EA) is a geographic area canvassed by a census representative. It is the smallest standard geographic area for which census data are reported. All of Canada is covered by EAs. In some instances, EAs are physically very small, made up of large apartment buildings, large townhouse communities or other large collective dwellings.

Equipment reset: A heating, ventilating and air-conditioning (HVAC) conservation feature that adjusts the temperature of supply air or water according to the building's actual heating or cooling needs. For example, in boiler systems, outdoor reset controls that have a warm-weather shut-down function will prevent overheating of a building in spring and fall by automatically shutting down the boiler and system pump whenever heat is not needed (see also HVAC conservation feature).

Evaporative cooler: A type of cooling equipment that turns air into moist, cool air by saturating it with water vapour. It does not cool air by use of a refrigeration unit. This type of equipment is commonly used in warm, dry climates.

Floor space: All the area enclosed above or below ground by the exterior walls of a building, including hallways, lobbies, stairways, penthouses and elevator shafts, but excluding indoor parking and mechanical areas.

Furnace: A type of space-heating equipment with an enclosed chamber where fuel is burned or electrical resistance is used to heat air directly without steam or hot water. The heated air is then distributed throughout a building, typically by air ducts.

Heat pumps (other than packaged units): Devices that heat the interior of a building by absorbing heat from the outside air, including ground- or water-source heat pumps. They may be stand-alone or be combined with another type of equipment. In warmer weather, they can also be used to cool a building.

Heat recovery system: A heating, ventilating and air-conditioning (HVAC) conservation feature that recuperates heat from exhaust air (see also HVAC conservation feature).

Hours of operation: The time when the building is open for normal operation, not including the time when only maintenance, housekeeping or security staff may be in the building.

HVAC: Heating, ventilating and air conditioning.

HVAC conservation feature: A building feature designed to reduce the amount of energy consumed by the heating, ventilating and air-conditioning equipment.

Imputation: Statistical method used to allocate a value to a missing value from data obtained to minimize distortion in the estimation.

Individual room air conditioner: A type of cooling equipment installed in either walls or windows (with heat-radiating condensers exposed to the outdoor air). These self-contained units are characterized by a lack of pipes or ductwork for distributing the cool air; they cool only the air in the room or area where they are located.

Individual space heater: A type of space-heating equipment that is a free-standing or a self-contained unit and that generates and delivers heat to a local zone within the building. The heater may be permanently mounted in a wall or floor or may be portable. Examples of individual space heaters include electric baseboards, electric radiant or quartz heaters, heating panels, gas- or kerosene-fired unit heaters, wood stoves and infrared radiant heaters. These heaters are characterized by a lack of pipes or ductwork for distributing hot water, steam or warm air through a building.

Institutional building: A structure that is used, in all or in part, for activities focusing on not-for-profit services in the public's interest. Examples of institutional buildings are schools, hospitals, group foster homes, buildings used for religious worship and courthouses. Buildings in which 50 percent or more of floor space is devoted to institutional activities are considered institutional buildings for the purposes of this survey.

Lighting conservation feature: A building feature or practice designed to reduce the amount of energy consumed by the lighting system.

Liquefied Petroleum Gas (LPG): Any fuel gas supplied to a building in liquid form. Propane is the most usual form, but butane, propylene, butylene and ethane are also used (see also Energy source, Natural gas and Propane).

Low-E coating: Low-E coating is a thin, invisible metallic layer, only several atoms in thickness, applied directly to glazing surfaces of windows. In a typical double-pane window, it is normally applied to the exterior face of the interior glazing. Low-E coating allows most of the sun's solar spectrum (including visible light) to pass through the window to the interior, but reflects most heat energy (from room temperature objects) back to its source. Low-E coating is a benefit in the winter because it keeps heat in, and in the summer because it keeps out heat radiated from warm objects outside.

Manual dimmer switches: A lighting conservation feature that changes the level of light in a building.

Natural gas: Hydrocarbon gas (mostly methane) supplied as an energy source to individual buildings by pipelines from a central utility company. Natural gas does not refer to liquefied petroleum gas (LPG) or to privately owned gas wells operated by a building owner (see also Energy source, Liquefied Petroleum Gas and Propane).

Occupancy characteristics: Information that refers to building use, the number of people working in the building, hours of operation and building ownership.

Occupancy sensors: Devices that shut off lights when rooms are not occupied.

Outdoor-air economizer: An HVAC conservation feature that uses outside air for air conditioning (see HVAC conservation feature).

Packaged air-conditioning units: Also known as self-contained or Direct Expansion (DX) units, these units contain air-conditioning equipment, as well as fans, and may or may not include heating equipment.

Packaged heating units: Also known as self-contained units, these units contain heating equipment, as well as fans, and may or may not include air-conditioning equipment.

Primary Sampling Unit (PSU): A sampling unit selected at the first stage in a multi-stage area probability sample. In the CIBEUS, a PSU typically consists of a Census Metropolitan Area (CMA).

Propane: A gaseous petroleum product that liquefies under pressure; propane is the major component of liquefied petroleum gas (see Liquefied Petroleum Gas).

Reflective shading: This is normally glass on the exterior of a building that has had a special metallic film applied to it to block and reduce harmful aspects from the sun.

Residential-type central air conditioner: A type of cooling equipment in which there are four basic parts: (1) a condensing unit, (2) a cooling coil, (3) ductwork and (4) a control mechanism, such as a thermostat. There are two basic configurations of residential central systems: (1) a "split system," in which the condensing unit is located outside and the other components are inside and (2) a packaged-terminal air-conditioning (PTAC) unit that both heats and cools, or only cools. This system contains all four components encased in one unit and is usually found in a "utility closet." PTACs are considered packaged air-conditioning units (see Packaged air-conditioning units).

R-value: This value represents the thermal resistance of an insulator. It is an indicator of how much insulating capacity there is in preventing heat flow between the exterior and interior of the building. The overall R-value accounts for all exposed wall construction, including framing effects and air layers.

Sealed glazing: A special seal that is applied to the perimeter of a window to improve energy efficiency.

Shading film: A special layer of plastic film that helps to reduce the amount of sunlight in a building.

Space cooling: As an energy end-use, the conditioning of air in a room for human comfort by a refrigeration unit (such as an air conditioner or heat pump) or by a central cooling or district cooling system that circulates chilled water. Excluded is the use of fans or blowers by themselves, without chilled air or water.

Space heating: As an energy end-use, the use of mechanical equipment (including wood stoves and active solar-heating devices) to heat all, or part, of a building to at least 10°C.

Specular reflectors: A lighting conservation feature that is the mirror-like backing of a fluorescent lighting fixture designed specifically to reflect light into a room. The materials and shape of the reflector are designed to reduce absorption of the light within the fixture, while delivering light in a desired angular pattern. The most common materials used are silver (highest reflectivity) and aluminum (lowest cost).

Structure: A structure must pass questions A2 (a to f) (see Appendix F) to be considered in the scope of this survey. The structure may or may not be a building as the survey defines it (see Building).

Swamp cooler: (see Evaporative cooler).

Temperature setback: A heating, ventilating and air-conditioning (HVAC) conservation feature that has automatic controls that turn heating up and down at predetermined times (see HVAC conservation feature).

Time clocks: A lighting conservation feature that has automatic controls that turn lights off and on at predetermined times.

Urban area: As defined by the census, an urban area is one that has a minimum population of 1,000 people and a population density of at least 400 people per square kilometre. Any area that does not meet this requirement is deemed to be a rural area.

Variable Air-Volume (VAV) system: A heating, ventilating and air-conditioning (HVAC) conservation feature that supplies varying quantities of conditioned (heated or cooled) air to different parts of a building according to the heating and cooling needs of those specific areas (see HVAC conservation feature).

Water heating: As energy end-use, the use of energy to heat water for purposes other than space heating.

Year of construction: The year in which the major part or the largest portion of a building was constructed.

Appendix E. Description of the Building Activity Codes

For this survey, buildings were categorized by the main activity(ies) or function(s) occupying the majority of the floor space of a building in 2000. This section provides details on what activities are included in each category.

Commercial and institutional accommodation

COMMERCIAL BUILDING TYPES

This category includes buildings for which the main activity is a commercial activity, such as

- Boarding house
- Casino hotel
- Extended-stay hotel
- Hotel
- Inn
- Motel, motor hotel
- Tourist home
- Other unclassified commercial accommodation
- Other unclassified long-term residence (commercial)
- Other unclassified short-term residence (commercial)

INSTITUTIONAL BUILDING TYPES

This category includes buildings for which the main activity is an institutional activity, such as

- Elder care facility (limited medical facilities)
- Emergency shelter
- Group foster home
- Half-way house
- Home for people with physical disabilities
- Home for the aged
- Hospital or group home for people with developmental disabilities
- Monastery/convent
- Nursing home
- Orphanage
- Presbytery
- Other unclassified assisted-living facility
- Other unclassified institutional accommodation
- Other unclassified long-term residence (institutional)
- Other unclassified short-term residence (institutional)

Entertainment and recreation

This category includes buildings for which the main activity is an entertainment and recreation activity, such as

- Casino
- Flea market building
- Horse race track
- Indoor pool
- Movie theatre
- Night club
- Permanent building on a camp, campground or RV park
- Radio/television station or studio
- Resort
- Skating rink
- Sporting arena (fully enclosed)
- Stadium
- Theatre
- Other unclassified enclosed buildings located on outdoor activity sites
- Other unclassified entertainment and recreational buildings
- Other unclassified entertainment building (arcade, bingo hall, dance hall, pool hall)
- Other unclassified recreational building (bowling alley, gymnasium, fitness centre)

Office

This category includes buildings for which the main activity is an office activity, such as

- Accounting, bookkeeping or tax preparation
- Architecture, engineering, legal or other professions (except medical)
- Communications, marketing, advertising or public relations agencies
- Financial office (bank, brokerage firm, insurance, securities)
- Human resources, management or information systems consulting
- Private office (corporate head or branch office)
- Real estate management office
- Real estate sales office
- Other unclassified private, financial or professional office
- Other unclassified professional or consulting office
- Other unclassified real estate office

Food retail

This category includes buildings for which the main activity is a food retail activity, such as

- Beer or liquor store
- Convenience store in a gasoline station
- Convenience store or market
- Farmer's market, fruit/vegetable market
- Grocery store, supermarket or superstore
- Meat/seafood store
- Retail bakery
- Specialty food store
- Other food retail

Non-food retail

This category includes buildings for which the main activity is a non-food retail activity, such as

- Art dealer
- Clothing store
- Department store
- Drugstore/pharmacy
- Electronics and appliances (including computers, software, stereos/televisions)
- Furniture and home furnishings (including building materials, hardware)
- Motor vehicle parts and sales (including trucks, motorcycles, boats)
- Optical equipment (opticians) and camera equipment sales
- Other non-food retail

Food services

This category includes buildings for which the main activity is a food services activity, such as

- Carry-out service (fast-food restaurant, pizza parlour, sandwich shop)
- Caterer
- Coffee shop, doughnut or bagel shop
- Drinking establishment – alcoholic beverages (bar, lounge, night club)
- Full-menu-service restaurant (diner, family restaurant, fine dining)
- Prepared-meal service (cafeteria)
- Other food services

Non-food service

This category includes buildings for which the main activity is a non-food service activity, such as

- Agricultural/biological laboratory
- Aircraft hangar
- Bus maintenance facility
- Crematorium
- Dry cleaner/laundry (including linen and uniform supply)
- Food-testing laboratory
- Funeral home
- Gasoline station
- Maintenance facility for road and construction equipment
- Mechanical/electrical laboratory
- Medical/dental laboratory
- Motor vehicle repair/service/maintenance (including car wash)
- Multi-service establishment
- Personal service (hair salon, esthetic service, tattoo parlour)
- Photofinishing (excluding camera equipment sales; see Non-food retail)
- Photographer (excluding camera equipment sales; see Non-food retail)
- Rail maintenance facility
- Repair and maintenance services (appliance repair)
- Veterinary laboratory
- Other non-food services
- Other unclassified funeral service
- Other unclassified laboratories

- Other unclassified non-food services
- Other unclassified transportation or maintenance facility
- Other unclassified vehicle maintenance facility

Shopping centres

This categories includes the following types of buildings:

- Enclosed shopping mall (group of enclosed retail outlets sharing common indoor areas)
- Strip mall (a group of retail outlets without common indoor areas)
- Other unclassified shopping centres

Warehouse/wholesale

This category includes buildings for which the main activity is a warehouse/wholesale activity, such as

- Cold storage (food)
- Cold storage (mixed)
- Cold storage (non-food)
- Freezer storage (food)
- Freezer storage (mixed)
- Freezer storage (non-food)
- Non-refrigerated self storage
- Non-refrigerated storage (food)
- Non-refrigerated storage (mixed)
- Non-refrigerated storage (non-food)
- Other refrigerated warehousing (food and non-food)
- Other unclassified refrigerated storage (food)
- Other unclassified refrigerated storage (non-food)
- Other unclassified warehouse/wholesale facilities

Administration

This category includes buildings for which the main activity is an administration activity, such as

- Aboriginal band or tribal corporation
- Aboriginal or band council
- Crown corporations – federal
- Crown corporations – provincial (provincial utilities)
- Fire station
- Federal courthouse
- Federal police (RCMP)
- Federal prison/penitentiary
- Municipal corporations (municipal utilities)
- Municipal police
- National defence (excluding military bases and secure facilities)
- Office of a religious organization
- Office of a trade union or labour union
- Office of native peoples or First Nations (excluding band councils / other governmental organizations)

- Provincial courthouse
- Provincial jail / correctional facility
- Provincial police
- Town hall
- Other public administration – federal
- Other public administration – municipal
- Other public administration – provincial
- Other unclassified administration
- Other unclassified administration of a non-profit organization
- Other unclassified government corporations
- Other unclassified public administration – First Nations

Education

This category includes buildings for which the main activity is an education activity, such as

- Business school (including career development training)
- CÉGEP (in Quebec)
- Community college
- Continuing or adult education
- Degree-granting university or college
- Driving school with classrooms
- High school / collegiate / polyvalent school
- Language training
- Middle school (junior high / senior public)
- Pre-school / day-care / “crèche”
- Regular elementary school
- School of art, dance, drama or music
- School of information technology (including computer/software training)
- Specialized elementary school
- Specialized secondary school
- Trade school (skilled manual trades)
- University academic building (classroom, laboratory or office)
- University administration
- University auditorium / concert hall
- University dormitory
- University gymnasium / athletic facility
- University library/archive/gallery/museum
- University stadium
- University student union or centre
- Other unclassified educational building
- Other unclassified vocational school

Health care

This category includes buildings for which the main activity is a health care activity, such as

- Abortion / birth control
- Alcoholism, drug addiction, narcotics/substance abuse
- Ambulance dispatch centre
- Chiropractic clinic or office
- CLSC (in Quebec), Community Health Centre

- Dental clinic or office
- Emergency walk-in, after-hours clinic
- Medical hospital
- Medical or veterinarian clinic/office
- Mental facility (psychiatric hospital)
- Optometrist or ophthalmologist (excludes optical equipment / opticians; see Non-food retail)
- Physical, occupational or speech therapist
- Physical therapy
- Psychiatrist (with MD)
- Psychologist, psychotherapist, social worker
- Specialized clinic (orthopaedic, osteopath, ear, nose and throat)
- Veterinary clinic or office
- Other unclassified health care – in-patient care
- Other unclassified health care – out-patient clinic or office
- Other unclassified mental health clinic or office
- Other unclassified rehabilitation facility

Public assembly

This category includes buildings for which the main activity is a public assembly activity, such as

- Airline terminal
- Archive
- Art gallery (excludes art dealers; see Non-food retail)
- Assembly hall or lodge (of non-profit organization)
- Auditorium / lecture hall
- Bus station or terminal
- Centre for performing arts
- Community centre
- Concert hall
- Convention centre
- Historic and heritage sites (historical fort, heritage village)
- Library
- Marine terminal (ferry)
- Museum / exhibit hall
- Public worship buildings (chapel, church, mosque, synagogue, temple)
- Train station
- Other unclassified cultural centres
- Other unclassified passenger terminals
- Other unclassified public assembly facilities
- Other unclassified public halls

Small Business and Special Surveys Division

Appendix F. Commercial and Institutional Building Energy Use Survey

CONFIDENTIAL when completed.

Collected under authority of the *Statistics Act*,
Revised Statutes of Canada, 1985, Chapter S19.
Aussi disponible en français.

Please fill in the following information

Name of contact person:

Title of contact person:

Telephone number:

-- ext.:

Fax number:

--

Civic number: Street:

Suite:

City:

Province:

Postal code:

-**The purpose of the survey**

Statistics Canada is conducting this survey on behalf of the Office of Energy Efficiency of Natural Resources Canada. The objective of the survey is to produce new statistical information on the energy use of commercial and institutional buildings in Canada. Survey results will provide specialists with information on energy consumption and energy efficiency characteristics for these types of buildings across Canada. Results can also be used by the public to identify ways of reducing energy consumption and energy costs in these buildings. Lastly, it will be useful to assess how well Canada is fulfilling its commitment to reducing greenhouse gas emissions.

Your participation is important

Participation in this survey is voluntary. However, your co-operation is essential to ensure the accuracy of the information collected because your building represents hundreds of other buildings similar to yours.

The data you report are confidential

Statistics Canada is prohibited by law from publishing or releasing statistics that could reveal information obtained from this survey relating to an identifiable individual person, business or organization without your consent. Please also be assured that no information will be released that would identify any buildings included in this survey. The data reported on the questionnaire will be treated in strict confidence, used for statistical purposes and released in aggregated form only.

Data-sharing agreement

Thank you for taking the time to participate in our survey. Statistics Canada has entered into an agreement under section 12 of the *Statistics Act* with Natural Resources Canada for the sharing of information from this survey. The department will not be given your name, address or other identifying numbers except the first three characters of your postal code in order to add temperature information for your area from a file obtained from Environment Canada. They have undertaken to keep the information confidential and to use it only for statistical purposes. Under section 12 of the *Statistics Act*, you may refuse to share your information with Natural Resources Canada by writing to the Chief Statistician and returning your letter of objection along with the completed questionnaire in the enclosed return envelope.

SECTION A: BUILDING IDENTIFICATION
A1: This questionnaire refers to the following building:

[Label with address]

If the address is incorrect, please fill in appropriate lines:

Name of the building:

Civic number: Street:

Suite:

City:

Province:

Postal code:

A2: Consider the building described on the label above; does this building have the following characteristics:

A2a: A structure totally enclosed by walls extending from the foundation to the roof?

- 1 – Yes —→ Go to question A2c
 2 – No

A2b: A structure enclosed by walls and a roof that is erected on pillars to elevate the first fully enclosed level but leave the sides at ground level open?

- 1 – Yes
 2 – No —→ Please return the uncompleted questionnaire

A2c: A structure in which the major part was built before 2000?

- 1 – Yes
 2 – No —→ Please return the uncompleted questionnaire

A2d: A structure that contained over 1,000 square feet (93 m²) of floor space in January 2000?

- 1 – Yes
 2 – No —→ Please return the uncompleted questionnaire

A2e: A structure in which more than half (50 percent) of its floor space was used for commercial or institutional activities in 2000?

- 1 – Yes
 2 – No ———> Please return the uncompleted questionnaire

DEFINITION:

By **commercial building**, we mean a structure that is used, in all or in part, for commercial activities focusing on the exchange of goods and/or services for a profit. Examples of commercial buildings are stores, office buildings, restaurants, hotels, stadiums, warehouses, etc.

By **institutional building**, we mean a structure that is used, in all or in part, for institutional activities focusing on not-for-profit services of public interest. Examples of institutional buildings are schools, hospitals, group foster homes, religious worship buildings, courthouses, etc.

A2f: A structure that is a military base or an embassy or that is a portable structure, such as a mobile home or trailer not attached to a permanent foundation, even if it houses commercial activities?

- 1 – Yes ———> Please return the uncompleted questionnaire
 2 – No

A3: What type of organization owns this building?

(Mark all that apply)

- 1 – Private individual(s)
 2 – Private organization (for profit)
 3 – Non-profit organization
 4 – Federal government agency
 5 – Provincial government agency
 6 – Municipal government agency
 7 – Regional government agency
 8 – Other – Please specify: _____

A4: Have you or your organization owned or managed this building since December 1999?

- 1 – Yes
 2 – No ———> Please return the uncompleted questionnaire

A5: Did a building service company service this building in 2000?

(By a building service company, we mean a company that provides comprehensive mechanical, electrical and lighting services to building owners.)

- 1 – Yes
 2 – No ———> Go to Section B

A6: If questions contained in this survey can only be answered by the building service company, would you be prepared to grant permission to your building service company to provide Statistics Canada with this information?

- 1 – Yes
 2 – No

SECTION B: BUILDING SIZE AND PHYSICAL CHARACTERISTICS

This section refers to building size and physical characteristics. It covers information on year of construction, total gross area, and number of floor levels and parking areas.

B1: When was the construction of the major or largest portion of this building completed?

(If you do not know the exact year, please give the best estimate.)

(Indicate the year)

Please specify: B1v: Type Real value
 Estimation

**B2: In December 2000, what was the total gross area of all the space above and below ground enclosed within the walls of this building?
 "Area" includes hallways, lobbies, stairways, penthouse and elevator shafts, but excludes indoor parking and mechanical areas.**

(If you do not know the exact building area, please give the best estimate.)

Total building area:

Please specify: B2u: Measurement unit Square feet
 Square metres

B2v: Type Exact area
 Estimated area

B2a: Did the total gross area of the building change in the year 2000?

(e.g. following construction or demolition work)

- 1 – Yes
 2 – No → Go to question B3

B2b: In what month was the construction or demolition work completed?

(Record month)

B2c: Did the total gross area of the building increase or decrease?

- 1 – Increase
 2 – Decrease

B2d: What was the building total gross area in January 2000?

(Include all space below and above ground excluding parking and mechanical areas.)

Total added or removed area:

Please specify: B2du: Measurement unit Square feet
 Square metres

B2dv: Type Exact area
 Estimated area

**B3: How many floors are there in this building?
 Include floors below ground and penthouse;
 exclude floors used as indoor parking and mechanical areas.**

(Record number of floors)

B4: How many floors are below ground excluding floors that may be used as indoor parking or mechanical areas?

(Record number of floors)

B5: Is there indoor parking in this building?

- 1 – Yes
 2 – No → Go to question B6

B5a: How many levels of indoor parking are there in this building?

(Record number of levels)

B5b: Were the indoor parking levels heated in 2000?

- 1 – Yes
 2 – Partially – Specify percentage of indoor parking space heated %
 3 – No → Go to question B6

B5c: How many levels of heated indoor parking were there in this building in 2000?

(Record number of levels)

B5d: What was the total area of heated indoor parking in this building in 2000?

Indoor parking area:

Please specify: B5du: Measurement unit Square feet
 Square metres

B5dv: Type Exact area
 Estimated area

B5e: How many cars could be accommodated in the heated indoor parking in this building in 2000?

(Record number of cars)

B6: How many walls of this building at the ground level or higher are shared with another building?

- 1 – None, building is freestanding
 2 – One
 3 – Two
 4 – Three
 5 – Four, the building is completely enclosed
 6 – Four, but the building is not enclosed (complicated floorplan)
 7 – More than four, the building is enclosed (complicated floorplan)
 8 – More than four, the building is not enclosed (complicated floorplan)

B7: If you do not know the answer to any question in this section (building size and physical characteristics), would you know who could provide the information?

- 1 – Another contact
Specify name: _____
 2 – Building service company
Specify name: _____
 3 – Don't know

SECTION C: OCCUPANCY CHARACTERISTICS

This section refers to the building's occupancy characteristics. It refers to information on building use, the number of people working in the building and the hours of operation.

- C1: From a list of building types/activities, please indicate all categories of uses of the total area of the building in 2000. For each type/activity, give total area in square feet, square metres or as a percentage of the building total area.**

Building type/use category code	Description of building type/use category	Area		Percentage of total area (ignore less than 5%)
		Square feet	Square metres	
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				

Total

100%

- C1a:** If you have difficulty assigning the building to the above categories, please describe below the activity that the building accommodates.

- C2: How many people worked in the building during its main shift in 2000? By main shift, we mean the shift when most people are in the building. (If you do not know the exact number, please give the best estimate.)**

(Record number of people)

C3: The following question refers to the hours of operation for this building, that is, when the building is open for normal operation, and NOT the time when only maintenance, house-keeping or security staff may be in the building.
 On the chart below, please indicate the typical hours of operation (working hours) for this building in 2000.

	Example	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
12 a.m.								
1 a.m.								
2 a.m.								
3 a.m.								
4 a.m.								
5 a.m.								
6 a.m.								
7 a.m.								
8 a.m.								
9 a.m.								
10 a.m.								
11 a.m.								
12 p.m.								
1 p.m.								
2 p.m.								
3 p.m.								
4 p.m.								
5 p.m.								
6 p.m.								
7 p.m.								
8 p.m.								
9 p.m.								
10 p.m.								
11 p.m.								
Total hrs.	12							

C4: Was this building subject to seasonal activity in 2000?

- 1 – Yes
- 2 – No

DEFINITION:

By **seasonal activity**, we refer to any fluctuation (above or below normal level) in activity occurring within the building due, for example, to the seasonal nature of work, a temporary closure, a lock-out, a strike, etc.

C5: If you do not know the answer to any question in this section (building's occupancy characteristics), would you know who could provide the information?

- 1 – Another contact
Please specify: _____
- 2 – Building service company
Please specify: _____
- 3 – Don't know

SECTION D: ENERGY EFFICIENCY

This section refers to energy efficiency measures taken to improve energy consumption in this building, such as retrofits or renovations and lighting or heating conservation measures.

D1: In 2000, have there been retrofits or renovations that could have significantly affected the energy consumption of this building?

(This EXCLUDES work that resulted in an increase or reduction of building total floor space, as this aspect was covered in question B2.)

- 1 – Yes
- 2 – No —————> Go to question D2

D1a: If the following retrofits or renovations were executed in 2000, please indicate the month in which they were completed:

	Month in 2000 (mm)	Not applicable
a) Lighting system?	<input type="checkbox"/> <input type="checkbox"/>	1 – <input type="radio"/>
b) Heating equipment?	<input type="checkbox"/> <input type="checkbox"/>	1 – <input type="radio"/>
c) Ventilation or air-conditioning equipment?	<input type="checkbox"/> <input type="checkbox"/>	1 – <input type="radio"/>
d) Basement or foundation?	<input type="checkbox"/> <input type="checkbox"/>	1 – <input type="radio"/>
e) Roof – structure or surface?	<input type="checkbox"/> <input type="checkbox"/>	1 – <input type="radio"/>
f) Roof – insulation?	<input type="checkbox"/> <input type="checkbox"/>	1 – <input type="radio"/>
g) Walls – siding?	<input type="checkbox"/> <input type="checkbox"/>	1 – <input type="radio"/>
h) Walls – insulation?	<input type="checkbox"/> <input type="checkbox"/>	1 – <input type="radio"/>
i) Other?	<input type="checkbox"/> <input type="checkbox"/>	1 – <input type="radio"/>
Please specify _____		

D2: Prior to 2000, have there been retrofits or renovations that could have significantly affected the energy consumption of this building?

- 1 – Yes
- 2 – No —————> Go to question D3

D2a: If the following retrofits or renovations were executed, please indicate in what year they were completed:
(Please record up to a maximum of two years under each type)

	Year (yy)	Year (yy)	Not applicable
a) Lighting system?	19□□	19□□	1 – ○
b) Heating equipment?	19□□	19□□	1 – ○
c) Ventilation or air conditioning?	19□□	19□□	1 – ○
d) Basement or foundation?	19□□	19□□	1 – ○
e) Roof – structure or surface?	19□□	19□□	1 – ○
f) Roof – insulation?	19□□	19□□	1 – ○
g) Walls – siding?	19□□	19□□	1 – ○
h) Walls – insulation?	19□□	19□□	1 – ○
i) Other?	19□□	19□□	1 – ○

Please specify: _____

D3: What factor(s) was or would be the most important for your organization to undertake energy efficiency retrofits in your buildings?

- 1 – Economic competitiveness
- 2 – Concern for the environment
- 3 – Access to special funding/program (grant, interest-free loan, etc.)
- 4 – Other(s) – Please specify: _____

D4: What length of payback is your organization considering to undertake a particular energy efficiency retrofit measure?

□□□ (Record number of years)

D5: Here is a list identifying different types of windows.

Which best describes the most common type of windows present in this building in 2000?

- 1 – Single-glazed
- 2 – Double-glazed
- 3 – Triple-glazed
- 4 – Double-glazed – sealed glazing
- 5 – Double-glazed with low-E coating
- 6 – Triple-glazed with low-E coating
- 7 – Double-glazed low-E gas-filled
- 8 – Triple-glazed low-E gas-filled

D5a: Did the building's windows have tinted or reflective glass or shading films in 2000?

- 1 – Yes
- 2 – No

D5b: Did the building's windows have exterior awnings or interior horizontal or vertical shades or mini-blinds?

- 1 – Yes
- 2 – No

D6: Here is a list of some lighting conservation features. For each, indicate the percentage of the building lighting system that possessed these features in 2000:

	0% (None)	1 to 10%	11 to 25%	26 to 50%	51 to 75%	76 to 90%	Over 90%
a) Reflectors specifically designed to increase the amount of light from the fixture? (i.e. specular reflectors)	1 – <input type="radio"/>	2 – <input type="radio"/>	3 – <input type="radio"/>	4 – <input type="radio"/>	5 – <input type="radio"/>	6 – <input type="radio"/>	7 – <input type="radio"/>
b) Energy-efficient ballast?	1 – <input type="radio"/>	2 – <input type="radio"/>	3 – <input type="radio"/>	4 – <input type="radio"/>	5 – <input type="radio"/>	6 – <input type="radio"/>	7 – <input type="radio"/>
c) Daylight controls that detect natural light and turn off lighting when natural light is sufficient?	1 – <input type="radio"/>	2 – <input type="radio"/>	3 – <input type="radio"/>	4 – <input type="radio"/>	5 – <input type="radio"/>	6 – <input type="radio"/>	7 – <input type="radio"/>
d) Occupancy sensors that shut off lights when rooms are not occupied?	1 – <input type="radio"/>	2 – <input type="radio"/>	3 – <input type="radio"/>	4 – <input type="radio"/>	5 – <input type="radio"/>	6 – <input type="radio"/>	7 – <input type="radio"/>
e) Time clocks or time switches that turn interior lights on or off according to a predetermined schedule?	1 – <input type="radio"/>	2 – <input type="radio"/>	3 – <input type="radio"/>	4 – <input type="radio"/>	5 – <input type="radio"/>	6 – <input type="radio"/>	7 – <input type="radio"/>
f) Manual dimmer switches?	1 – <input type="radio"/>	2 – <input type="radio"/>	3 – <input type="radio"/>	4 – <input type="radio"/>	5 – <input type="radio"/>	6 – <input type="radio"/>	7 – <input type="radio"/>
g) Energy-efficient lamps?	1 – <input type="radio"/>	2 – <input type="radio"/>	3 – <input type="radio"/>	4 – <input type="radio"/>	5 – <input type="radio"/>	6 – <input type="radio"/>	7 – <input type="radio"/>
h) Other lighting feature? Please specify: _____	1 – <input type="radio"/>	2 – <input type="radio"/>	3 – <input type="radio"/>	4 – <input type="radio"/>	5 – <input type="radio"/>	6 – <input type="radio"/>	7 – <input type="radio"/>

DEFINITION:

Lighting conservation features: A building feature or practice designed to reduce the amount of energy consumed by the lighting system.

D7: Here is a list of heating, ventilating and air-conditioning (HVAC) conservation features. For each, indicate if it was present in this building in 2000.

	Yes	No
a) A variable air-volume (VAV) system on the heating or cooling system?	1 – <input type="radio"/>	2 – <input type="radio"/>
b) Equipment that uses outside air for cooling (outdoor-air economizer)?	1 – <input type="radio"/>	2 – <input type="radio"/>
c) A temperature setback?	1 – <input type="radio"/>	2 – <input type="radio"/>
d) An equipment reset?	1 – <input type="radio"/>	2 – <input type="radio"/>
e) Heat recovery system on the exhaust air?	1 – <input type="radio"/>	2 – <input type="radio"/>
f) Regularly scheduled maintenance and repair?	1 – <input type="radio"/>	2 – <input type="radio"/>

DEFINITION:

Heating/Ventilation/Air-Conditioning (HVAC) Conservation Features: A building feature designed to reduce the amount of energy consumed by the heating, cooling and ventilation equipment.

D8: What was the average window-to-wall ratio of this building in 2000?

% (Record window-to-wall ratio in percent)

D9: What was the overall R-value of the walls of this building in 2000?

(Record R-value) (If you do not know, please complete question D9a.)

DEFINITION:

Overall wall R-value: Represents the walls' thermal resistance, which indicates how well the walls resist heat from flowing between the outdoors and indoors. The overall R-value accounts for all exposed wall construction, including framing effects and air layers.

D9a: Which of the following best describes the exterior wall type of this building?

- 1 – Curtain walls?
- 2 – Metal stud framing **with** surface insulation?
- 3 – Metal stud framing **without** surface insulation?
- 4 – Wood-frame walls **with** surface insulation?
- 5 – Wood-frame walls **without** surface insulation?
- 6 – Concrete block **with** interior finishing?
- 7 – Concrete block **without** interior finishing?
- 8 – Precast panel?

D10: What was the overall R-value of the roof of this building in 2000?

(Record R-value) (If you do not know, please complete question D10a.)

DEFINITION:

Overall roof R-value: Represents the roof's thermal resistance, which indicates how well the roof resists heat from flowing between the outdoors and indoors.

D10a: Which of the following best describes the roof type of this building?

- 1 – Attic roof **fully** insulated?
- 2 – Attic roof **partially** insulated?
- 3 – Attic roof **not** insulated?
- 4 – Insulated wood-truss roof?
- 5 – **Not** insulated wood-truss roof?
- 6 – Insulated metal-truss roof?
- 7 – **Not** insulated metal-truss roof?
- 8 – Insulated deck-type roof?
- 9 – **Not** insulated deck-type roof?

D11: If you do not know the answer to any question in this section (building's energy efficiency), would you know who could provide the information?

- 1 – Another contact
Please specify: _____
- 2 – Building service company
Please specify: _____
- 3 – Don't know

SECTION E: ENERGY CONSUMPTION

The following questions refer to the energy end-uses in this building. Questions consider different energy sources and equipment, and their use in heating and cooling systems.

E1: Here is a list of various fuels or energy sources. During the 2000 calendar year, which of these fuels or energy sources were used to supply energy to this building?

(Mark all that apply)

- 01 – Electricity
- 02 – Natural gas
- 03 – Fuel/heating oil
- 04 – Diesel or kerosene
- 05 – Bottled gas, liquid petroleum gas or propane
- 06 – District steam piped into the building from a central plant or utility
- 07 – District hot water piped into the building from a central plant or utility
- 08 – District-chilled water piped into the building from a central plant or utility
- 09 – Wood
- 10 – Coal
- 11 – Solar thermal panels that use sunlight to heat fluids
- 12 – Others – Please specify: _____

E1a: In 2000, was there any direct generation of electricity at this site (e.g. solar panels, wind or diesel generators) or electricity generated as a by-product of another process (e.g. co-generation, steam plants)?

This does not include the emergency generator.

- 1 – Yes
- 2 – No —————> Go to question E2

E1b: What percentage of the electricity used in this building was generated on-site in 2000?
 % (Record percentage of electricity generated on-site)

E1c: In 2000, which of the following was the MAIN energy source used to generate electricity for this building?

- 1 – Natural gas
- 2 – Fuel/heating oil
- 3 – Diesel or kerosene
- 4 – Bottled gas, liquid petroleum gas or propane
- 5 – District steam piped into the building from a central plant or utility
- 6 – Coal
- 7 – Wind
- 8 – Solar panels
- 9 – Others – Please specify: _____

E1d: In 2000, approximately what percentage of the energy from this source was used in on-site generation of electricity?
 % (Record percentage of energy source used to generate electricity)

E2: In 2000, which of the following energy sources were used for heating?

(Mark all that apply)

- 01 – Electricity
- 02 – Natural gas
- 03 – Fuel/heating oil
- 04 – Diesel or kerosene
- 05 – Bottled gas, liquid petroleum gas or propane
- 06 – District steam piped into the building from a central plant or utility
- 07 – District hot water piped into the building from a central plant or utility
- 08 – Wood
- 09 – Coal
- 10 – Solar thermal panels that use sunlight to heat fluids
- 11 – Others – Please specify: _____
- 12 – None, the building was not heated in 2000 —————> Go to question E3

E2a: In 2000, of the energy sources you mentioned in question E2, which was used as the MAIN energy source for heating, that is the energy source used to heat most of the square footage in this building, most of the time?

- 01 – Electricity
- 02 – Natural gas
- 03 – Fuel/heating oil
- 04 – Diesel or kerosene
- 05 – Bottled gas, liquid petroleum gas or propane
- 06 – District steam piped into the building from a central plant or utility
- 07 – District hot water piped into the building from a central plant or utility
- 08 – Wood
- 09 – Coal
- 10 – Solar thermal panels that use sunlight to heat fluids
- 11 – Others

E2b: In 2000, what percentage of the gross area of this building was heated to at least 10°C (50°F)?
(If you do not know the exact value, please indicate the best estimate.)

% (Record percentage of area)

E2c: Here is a list of different types of equipment that may be part of a building's heating system. Please indicate the equipment that was used for heating in this building in 2000.

(Mark all that apply)

- 1 – Furnaces that heat air directly, without using steam or hot water?
(similar to a residential furnace)
- 2 – Heat pumps (other than packaged units)? *(These are devices that heat the interior of a building by absorbing heat from the outside air. Include ground- or water-source heat pumps. They may stand alone or be combined with another type of equipment. In warmer weather, they can also be used to cool a building.)*
- 3 – Individual space heaters, free-standing or mounted in walls, ceiling or windows? *(This includes portable heaters, hanging unit heaters, heating panels, electric baseboards, perimeter heaters that contain heating elements, wood stoves and fireplaces.)*
- 4 – District steam or hot water piped in from outside the building?
- 5 – Boilers inside the building that produce steam or hot water? *(Also include boilers just outside the building that are primarily associated with it.)*
- 6 – Packaged heating units, often mounted on the roof or on a slab beside the building? *(These are also known as self-contained units. They contain heating equipment as well as fans, and may or may not include air-conditioning equipment.)*
- 7 – Other heating equipment?
Please specify : _____

E2d: Of the equipment you mentioned (in question E2c), which was the MAIN heating equipment for heating the most floor space in 2000?

- 1 – Furnaces that heat air directly, without using steam or hot water?
- 2 – Heat pumps?
- 3 – Individual space heaters?
- 4 – District steam or hot water piped in from outside the building?
- 5 – Boilers inside the building that produce steam or hot water?
- 6 – Packaged heating units?
- 7 – Other heating equipment?

E3: Which, if any, of the following energy sources was used in 2000 for domestic hot water heating?

- 01 – Electricity
- 02 – Natural gas
- 03 – Fuel/heating oil
- 04 – Diesel or kerosene
- 05 – Bottled gas, liquid petroleum gas or propane
- 06 – District steam piped into the building from a central plant or utility
- 07 – District hot water piped into the building from a central plant or utility
- 08 – Wood
- 09 – Coal
- 10 – Solar thermal panels that use sunlight to heat fluids
- 11 – Other – Please specify: _____
- 12 – Not applicable (No domestic hot water in this building)

E4: In 2000, what percentage of the building gross area was cooled by a cooling system (e.g. air-conditioned)?

% (Record percentage of area)

- 1 – 0% – The building did not have air conditioning. —————> Go to question E5

E4a: Which of the following energy sources was used in 2000 for air conditioning?

(Mark all that apply)

- 1 – Electricity
 2 – Natural gas
 3 – Fuel/heating oil
 4 – Diesel or kerosene
 5 – Bottled gas, liquid petroleum gas or propane
 6 – District-chilled water piped in the building from a central plant or utility
 7 – Others – Please specify: _____

E4b: Here is a list of different types of equipment that may be part of the building's cooling system. Please indicate the equipment that was used for cooling in this building in 2000.

(Mark all that apply)

- 1 – Residential-type central air conditioners, other than heat pumps, that cool air directly and circulate it without using chilled water? *(These may be found either alone or in combination with a boiler or furnace.)*
 2 – Heat pumps used for cooling? *(These are devices that can also be used for heating in cooler weather by absorbing heat from the outside air. They may stand alone or be combined with another type of equipment.)*
 3 – Individual room air conditioners, mounted in a window or wall?
 4 – District-chilled water piped in from outside of the building?
 5 – Central chillers inside the building that chill water for air conditioning? *(Also include chillers just outside the building that are primarily associated with it.)*
 6 – Packaged air-conditioning units, often mounted on the roof or on a slab beside the building? *(These are known as self-contained units, or Direct Expansion (DX). They contain air-conditioning equipment as well as fans, and may or may not include heating equipment.)*
 7 – "Swamp" coolers or evaporative coolers?
 8 – Other cooling equipment – Please specify: _____

E4c: Of the equipment that you mentioned (in question E4b), which was the MAIN cooling equipment, that is, the one cooling the most floor space in 2000?

- 1 – Residential-type central air conditioners, other than heat pumps, that cool air directly and circulate it without using chilled water?
 2 – Heat pumps for cooling?
 3 – Individual room air conditioners?
 4 – District-chilled water piped in from outside of the building?
 5 – Central chillers inside the building that chill water for air conditioning?
 6 – Packaged air-conditioning units?
 7 – "Swamp" coolers or evaporative coolers?
 8 – Other cooling equipment?

E5: In 2000, were any energy consuming services provided from this building to other buildings? (For example, shared laundry, heating, cooling, etc.)

- 1 – Yes
- 2 – No —————> Go to question E6

E5a: Which of following services were provided from this building to other buildings?

- 1 – Shared laundry
- 2 – Kitchen services
- 3 – Heating
- 4 – Cooling
- 5 – Other – Please specify: _____

E5b: Approximately what percentage of the energy supplied to this building was devoted to services provided to other buildings?

% (Record percentage)

E5c: How many other buildings were supplied energy from this building?

(Record number of buildings)

E5d: Is this energy consumption taken into account in your energy bills?

- 1 – Yes
- 2 – No

E6: In 2000, were any energy-consuming services provided to this building by other buildings? (For example, shared laundry, heating, cooling, etc.)

- 1 – Yes
- 2 – No —————> Go to question E7

E6a: Which of following services was provided to this building by other buildings?

- 1 – Shared laundry
 - 2 – Kitchen services
 - 3 – Heating
 - 4 – Cooling
 - 5 – Other
- Please specify: _____

E7: If you do not know the answer to any question in this section (building's energy consumption), would you know who could provide the information?

- 1 – Another contact
Please specify: _____
- 2 – Building service company
Please specify: _____
- 3 – Don't know

SECTION F: ENERGY QUANTITIES AND COSTS

The following series of questions refer to the quantity and cost of energy consumed in this building in 2000.

In order to gather information on energy consumption in this building, we require access to the information on your energy bills. The information will be used only for the purpose of this survey and will not be released in any way that identifies your individual information.

There are three ways of collecting data on your energy consumption:

1. You can sign an authorization form that will enable Statistics Canada to gather the information directly from your energy supplier.
2. You can give Statistics Canada photocopies of your energy bills.
3. You can fill in a predefined table on your energy consumption.

Among these three methods, we request you to use two of them: (i) method #1; AND (ii) either method #2 OR method #3, depending on your choice.

The reasons we ask you to use two methods are the following:

- (a) Your energy supplier may refuse to provide us your energy consumption.
- (b) The information your energy supplier provides may be incomplete and/or impossible to process.

F1: In 2000, for each of the following energy sources, was the total energy consumption of the building included under a single invoice (account) or was it divided among multiple invoices?

	Single	Multiple	Not applicable
a) Electricity?	1 – <input type="radio"/>	2 – <input type="radio"/>	3 – <input type="radio"/>
b) Natural gas?	1 – <input type="radio"/>	2 – <input type="radio"/>	3 – <input type="radio"/>
c) Fuel/heating oil?	1 – <input type="radio"/>	2 – <input type="radio"/>	3 – <input type="radio"/>
d) District steam?	1 – <input type="radio"/>	2 – <input type="radio"/>	3 – <input type="radio"/>
e) District hot water?	1 – <input type="radio"/>	2 – <input type="radio"/>	3 – <input type="radio"/>

F1a: In 2000, were you, your organization or your building service company responsible in whole or in part of the energy bills for the following energy sources, or were the invoices entirely being taken care of by building tenants?

(For this question, a "tenant" includes any company or organization paying energy bills for a portion of the building, which may include an owner of part of the building, a company managing part of the building or other arrangements.)

	Invoices to you, your organization, or your building service company				All invoices to tenant(s)	Not applicable
	All	In Part – Please indicate:		Main use of area (See question C1)		
		Share of total building area included in your billing				
a) Electricity?	1 – <input type="radio"/>	<input type="text"/> %	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	2 – <input type="radio"/>	3 – <input type="radio"/>	
b) Natural gas?	1 – <input type="radio"/>	<input type="text"/> %	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	2 – <input type="radio"/>	3 – <input type="radio"/>	
c) Fuel/heating oil?	1 – <input type="radio"/>	<input type="text"/> %	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	2 – <input type="radio"/>	3 – <input type="radio"/>	
d) District steam?	1 – <input type="radio"/>	<input type="text"/> %	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	2 – <input type="radio"/>	3 – <input type="radio"/>	
e) District hot water?	1 – <input type="radio"/>	<input type="text"/> %	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	2 – <input type="radio"/>	3 – <input type="radio"/>	

NOTE: For those energy sources you indicated "In Part" or "All invoices to tenants," please fill in the **Tenant information form**.

F2: For those energy sources you answered "All" or "In Part" in question F1a, please indicate the name of your energy supplier and your account number:

	Company name of energy supplier	Account number	Not applicable
a) Electricity?			1 – <input type="radio"/>
b) Natural gas?			1 – <input type="radio"/>
c) Fuel/heating oil?			1 – <input type="radio"/>
d) District steam?			1 – <input type="radio"/>
e) District hot water?			1 – <input type="radio"/>

F2a: Who should sign an authorization form to enable Statistics Canada to gather the year 2000 information directly from your energy supplier?

	You, your organization	Building service company	Tenants	Not applicable
a) Electricity?	1 – <input type="radio"/>	2 – <input type="radio"/>	3 – <input type="radio"/>	4 – <input type="radio"/>
b) Natural gas?	1 – <input type="radio"/>	2 – <input type="radio"/>	3 – <input type="radio"/>	4 – <input type="radio"/>
c) Fuel/heating oil?	1 – <input type="radio"/>	2 – <input type="radio"/>	3 – <input type="radio"/>	4 – <input type="radio"/>
d) District steam?	1 – <input type="radio"/>	2 – <input type="radio"/>	3 – <input type="radio"/>	4 – <input type="radio"/>
e) District hot water?	1 – <input type="radio"/>	2 – <input type="radio"/>	3 – <input type="radio"/>	4 – <input type="radio"/>

NOTE: For those energy sources you indicated as "You," please complete the **Authorization form**.

F3: Who should provide information on the quantity and cost of energy consumed in this building in 2000?

	You, your organization	Building service company	Tenants	Not applicable
a) Electricity?	1 – <input type="radio"/>	2 – <input type="radio"/>	3 – <input type="radio"/>	4 – <input type="radio"/>
b) Natural gas?	1 – <input type="radio"/>	2 – <input type="radio"/>	3 – <input type="radio"/>	4 – <input type="radio"/>
c) Fuel/heating oil?	1 – <input type="radio"/>	2 – <input type="radio"/>	3 – <input type="radio"/>	4 – <input type="radio"/>
d) District steam?	1 – <input type="radio"/>	2 – <input type="radio"/>	3 – <input type="radio"/>	4 – <input type="radio"/>
e) District hot water?	1 – <input type="radio"/>	2 – <input type="radio"/>	3 – <input type="radio"/>	4 – <input type="radio"/>

F3a: For those energy sources you indicated “You” in question F3, how would you prefer providing your 2000 energy consumption data to Statistics Canada?

	Copies of energy bills	Fill pre-defined tables	Not applicable
a) Electricity?	1 – <input type="radio"/>	2 – <input type="radio"/>	3 – <input type="radio"/>
b) Natural gas?	1 – <input type="radio"/>	2 – <input type="radio"/>	3 – <input type="radio"/>
c) Fuel/heating oil?	1 – <input type="radio"/>	2 – <input type="radio"/>	3 – <input type="radio"/>
d) District steam?	1 – <input type="radio"/>	2 – <input type="radio"/>	3 – <input type="radio"/>
e) District hot water?	1 – <input type="radio"/>	2 – <input type="radio"/>	3 – <input type="radio"/>

Important:

Please provide billing information covering 14 months back from your latest bill.

If you don't have billing information for the last months of the year 2000, please replace the missing month(s) with the same months of the year 1999.

For those energy sources you indicated “Copies of energy bills,” please provide photocopies of the energy bills covering a period of 14 months starting from your latest energy bill. If the information does not include the last months of the year 2000, please replace the missing months with the same months of the year 1999.

For those energy sources you indicated “Fill predefined table,” please fill the appropriate tables for a period of 14 months starting from your latest energy bill. If the information does not include the last months of the year 2000, please replace the missing months with the same months of the year 1999.

SECTION G: BUILDING SERVICE COMPANY CONTACT INFORMATION

G1: If you responded "Building service company" to questions B7, C5, D11, E7, F2a OR F3, please fill in the following information for the building service company.

Name of contact person: Title of contact person:

Name of building service company:

Telephone number: -- ext.: Fax number: --

Name of building (if applicable):

Civic number: Street:

Suite: City: Province: Postal code: -

G2: If you responded "Another contact" to questions B7, C5, D11 OR E7, please fill in the following information for the other contact person.

Name of contact person: Title of contact person:

Telephone number: -- ext.: Fax number: --

Name of building (if applicable):

Civic number: Street:

Suite: City: Province: Postal code: -

SECTION H: END OF SURVEY AND COMMENTS

**You have now completed the questionnaire.
Please make sure you have, if applicable:**

- ✓ completed the form listing tenants in charge of their own energy bills;
- ✓ completed all release and authorization forms indicated in section F;
- ✓ completed all energy consumption tables indicated in section F;
- ✓ provided all copies of energy bills;
- ✓ attached all the above documents to the questionnaire.

Do you have any comments on the survey?

Thank you for your participation.

Leading Canadians to Energy Efficiency at Home, at Work and on the Road

The Office of Energy Efficiency of Natural Resources Canada strengthens and expands Canada's commitment to energy efficiency in order to help address the challenges of climate change.

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