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ENERGY CONSUMPTION of Major Household Appliances Shipped in Canada

Summary Report

Trends for 1990–2011





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Natural Resources Canada's Office of Energy Efficiency
Leading Canadians to Energy Efficiency at Home, at Work and on the Road

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Foreword

Since 1996, as part of the National Energy Use Database initiative, the Canadian Appliance Manufacturers Association (CAMA) has provided the Office of Energy Efficiency (OEE) of Natural Resources Canada (NRCan) with annual appliance shipment data for the six major household appliance¹ categories: refrigerators, freezers, dishwashers, electric ranges, clothes washers and electric clothes dryers.

Through CAMA's considerable efforts, analysis for the past three years includes additional freezer and compact refrigerator data received from its members. These data reflect changes in the freezer marketplace and include more comprehensive information on compact refrigerators.² The OEE thanks the participating manufacturers and CAMA for their co-operation in this project.

To keep the data confidential, appliance manufacturers suggested that a third party receive and prepare the database in a format in which no one (other than the third party) could determine the shipment data for an individual model or manufacturer. NRCan retained the services of Electro-Federation Canada (EFC), chosen by CAMA, as the third party.

Each model's shipments were matched to their associated unit energy consumption (UEC) ratings found in the NRCan searchable product model listings.³ The average annual shipment-weighted UEC was then calculated for each appliance category. This summary report analyzes these data for the six major household appliance categories

shipped in Canada between 1990 and 2011.⁴ For a description of the database preparation process conducted by EFC and the methodology used in this summary report, refer to Appendix A in the previous comprehensive report at oeenrcan.gc.ca/publications/statistics/cama12/cama12.pdf.

The data gathered through this analysis provide important information on various aspects of energy consumption related to new appliances in Canada. The data also enable NRCan to improve its programs, which are designed to provide support to Canadians as they seek to achieve greater energy efficiency and further reduce greenhouse gas (GHG) emissions.

CAMA closes

On May 11, 2012, EFC announced that the CAMA council would close as of June 30, 2012. To continue to provide and/or enhance the quality and representation of the energy efficiency data on new appliances shipped in Canada, the OEE has recently entered into an agreement for annual data collection with the Association of Home Appliance Manufacturers Canada (AHAM Canada). Under this agreement, Canadian appliance manufacturers will continue to provide their annual shipment data for the six major household appliances to NRCan, through the confidential AHAM Business Data Program, which adheres to strict non-disclosure rules including the aggregation and de-identification of confidential business information provided by AHAM member companies.

¹ Throughout this summary report, the term "appliance" should be interpreted as "major household appliance."

² Further discussion of the effects of this extra compact refrigerator and freezer data is provided in Chapters 2 and 3 of this summary report.

³ Available online at <http://oeenrcan.gc.ca/sites/oeenrcan.gc.ca/files/files/equipment/EnerGuideappliances.pdf>.

⁴ The analysis for freezers and electric clothes dryers is shown from 1991 and 1992, respectively, because data for previous years are based on a small number of shipments and may be unrepresentative of the actual market.

This summary report was prepared by Diane Friendly of the Demand Policy and Analysis Division of the OEE, while overall direction was provided by Andrew Kormylo.

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Highlights

The *Energy Consumption of Major Household Appliances Shipped in Canada* contains an analysis of the shipment data for major household appliances (refrigerators, freezers, dishwashers, electric ranges, clothes washers and electric clothes dryers) between 1990 and 2011. These data were collected through the co-operation of the Canadian Appliance Manufacturers Association (CAMA) and represent approximately 90 percent of shipments to Canadian retailers and builders during this period.

Highlights of this abridged⁵ summary report include

- The reduction in average annual unit energy consumption (UEC) ranged from 5 percent (electric clothes dryers) to 82 percent (clothes washers) from 1992⁶ to 2011. These energy efficiency improvements can be attributed to a variety of factors, including
 - the research and development carried out by manufacturers⁷
 - consumer demand for more energy-efficient products
 - standards that limit the amount of energy each appliance may consume, such as the minimum energy performance standards (MEPS)⁸
 - continual strengthening of ENERGY STAR[®] technical specifications
 - information initiatives such as the EnerGuide for Equipment program and the ENERGY STAR

Initiative in Canada,⁹ which help consumers identify the most energy-efficient products on the market

- various incentives and rebates offered by provincial/territorial and municipal governments and utilities
- To illustrate the significance of energy efficiency improvements on overall energy consumption, this summary report quantified energy savings from all shipped appliances in Canada between 1992¹⁰ and 2011. In 2011, the estimated energy savings exceeded 66 PJ¹¹ (or 18.4 billion kilowatt hours [kWh]) – the equivalent of one year’s energy for approximately 650 000 households.
- In 2011, 67 percent of all refrigerators, 79 percent of all dishwashers and 75 percent of all clothes washers were ENERGY STAR qualified.
- In 2011, the majority of appliances in Canada (between 84 and 97 percent) were shipped to retailers. British Columbia had a larger share of appliances shipped to builders than did the rest of the jurisdictions.
- A household operating an average set of major household appliances purchased in 2011 might expect them to consume fewer than 2800 kWh/yr of electricity – approximately half as much as a set purchased in 1992.

Table 1 summarizes the average annual UEC of the six major household appliances, including the breakdown of ENERGY STAR qualified and non-ENERGY STAR qualified appliances, from 1990 to 2011.

⁵ Every two years, NRCAN provides a shortened analysis of the findings of the appliance shipment data. For a more comprehensive analysis, see the previous report at oee.nrcan.gc.ca/publications/statistics/cama12/cama12.pdf.

⁶ The reduction in average annual UEC is calculated as of 1992 because the data for 1990 and 1991 for some appliances are based on a small number of shipments and may be unrepresentative of the actual market.

⁷ For more information on the role of the members of CAMA, refer to Chapter 1 of the previous report at oee.nrcan.gc.ca/publications/statistics/cama12/cama12.pdf.

⁸ For more information on the MEPS and the *Energy Efficiency Regulations*, refer to Chapter 1 of the previous report at oee.nrcan.gc.ca/publications/statistics/cama12/cama12.pdf.

⁹ For more information on the ENERGY STAR Initiative in Canada, including qualifying criteria for major household appliances, visit oee.nrcan.gc.ca/energystar/index.html.

¹⁰ Note that even though the MEPS did not come into effect until 1995, the baseline year used for all estimates of energy savings was 1992. This is because energy efficiency began to improve almost immediately after the *Energy Efficiency Act* came into force in 1992.

¹¹ One petajoule (PJ) equals 277. 8 million kWh.

Table 1 – Average annual UEC of major household appliances, 1990–2011

Appliance	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
Refrigerators											
Total refrigerators	956	931	902	720	650	642	640	657	654	646	640
Non-ENERGY STAR qualified refrigerators	..	..	..	..	..	..	..	..	..	..	..
ENERGY STAR qualified refrigerators	..	..	..	..	..	..	..	..	..	..	..
Type 3 refrigerators (top-mounted freezer)	947	923	874	702	641	631	621	635	641	636	629
Type 5 refrigerators (bottom-mounted freezer)	1128	1140	1160	783	742	753	777	631	673	665	661
Type 11 refrigerators (compact)	337	337	337	337	329	331	318	317	321	322	323
Freezers											
Total freezers	..	445	449	402	389	382	377	377	382	383	391
Dishwashers*											
Total dishwashers	1026	959	908	914	777	671	668	649	647	640	637
Non-ENERGY STAR qualified dishwashers	..	..	..	..	..	..	..	..	..	..	639
ENERGY STAR qualified dishwashers	..	..	..	..	..	..	..	..	..	..	553
Electric ranges*											
Total electric ranges	773	778	779	782	774	771	774	772	771	759	760
Non-self-cleaning electric ranges	786	787	788	795	785	778	780	780	779	770	771
Self-cleaning electric ranges	727	755	754	752	747	756	763	759	760	742	746
Clothes washers											
Total clothes washers	1218	1197	1176	1094	989	966	949	930	903	860	838
Non-ENERGY STAR qualified clothes washers	..	..	..	..	..	..	..	..	..	..	..
ENERGY STAR qualified clothes washers	..	..	..	..	..	..	..	..	..	..	..
Non-ENERGY STAR qualified front-loading clothes washers	..	..	..	..	..	..	..	..	..	..	..
ENERGY STAR qualified front-loading clothes washers	..	..	..	..	..	..	..	..	..	..	..
Non-ENERGY STAR qualified top-loading clothes washers	..	..	..	..	..	..	..	..	..	..	..
ENERGY STAR qualified top-loading clothes washers	..	..	..	..	..	..	..	..	..	..	..
Clothes dryers											
Total clothes dryers	..	..	983	929	910	909	887	887	900	908	910

* Note: Part of the improvement in average annual UEC for dishwashers and electric ranges over the period is due to a change in how UEC is measured (the assumption about frequency of use was revised downward to more accurately reflect household usage patterns) and does not represent an actual improvement in energy efficiency. Further discussion of this assumption is provided in Chapters 3, 4 and 7.

** Non-ENERGY STAR qualified units accounted for less than 1 percent of shipments of front-loading washers in 2008 and 2009. Therefore, the average annual UEC is based on a very small number of shipments.

Table 1 – Average annual UEC of major household appliances, 1990–2011 (Cont'd)

Appliance	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Refrigerators											
Total refrigerators	559	506	487	478	469	481	483	467	430	425	421
Non-ENERGY STAR qualified refrigerators	567	505	491	482	469	485	486	479	442	432	443
ENERGY STAR qualified refrigerators	495	509	481	469	470	475	480	457	420	420	411
Type 3 refrigerators (top-mounted freezer)	544	486	461	458	454	455	454	438	424	417	417
Type 5 refrigerators (bottom-mounted freezer)	610	547	522	496	493	498	491	483	463	456	455
Type 11 refrigerators (compact)	331	331	323	321	328	329	328	338	318	322	298
Freezers											
Total freezers	384	368	369	373	386	380	384	375	356	366	390
Dishwashers*											
Total dishwashers	634	592	524	457	396	373	354	343	325	310	298
Non-ENERGY STAR qualified dishwashers	644	635	617	606	568	402	377	374	350	313	306
ENERGY STAR qualified dishwashers	534	492	452	422	378	365	347	339	322	309	296
Electric ranges*											
Total electric ranges	763	756	709	653	573	537	524	522	518	522	526
Non-self-cleaning electric ranges	786	784	732	694	593	559	522	516	503	499	497
Self-cleaning electric ranges	741	735	691	622	558	523	525	524	524	530	534
Clothes washers											
Total clothes washers	810	779	708	573	444	390	287	261	234	217	208
Non-ENERGY STAR qualified clothes washers	861	915	891	746	627	575	422	399	353	338	391
ENERGY STAR qualified clothes washers	308	299	294	267	228	211	191	185	181	155	146
Non-ENERGY STAR qualified front-loading clothes washers	273	316	362	321	276	282	241	382**	379**	192	193
ENERGY STAR qualified front-loading clothes washers	302	300	274	258	217	201	183	178	172	145	136
Non-ENERGY STAR qualified top-loading clothes washers	918	916	892	746	636	581	425	399	353	357	406
ENERGY STAR qualified top-loading clothes washers	304	287	337	302	317	301	311	290	251	205	173
Clothes dryers											
Total clothes dryers	916	916	914	912	904	905	912	916	921	928	933

* Note: Part of the improvement in average annual UEC for dishwashers and electric ranges over the period is due to a change in how UEC is measured (the assumption about frequency of use was revised downward to more accurately reflect household usage patterns) and does not represent an actual improvement in energy efficiency. Further discussion of this assumption is provided in Chapters 3, 4 and 7.

** Non-ENERGY STAR qualified units accounted for less than 1 percent of shipments of front-loading washers in 2008 and 2009. Therefore, the average annual UEC is based on a very small number of shipments.

Refrigerators

1

In 2011, 67 percent of refrigerators shipped in Canada were ENERGY STAR® qualified, exceeding Canada's minimum regulated standards by 20 percent or more.

Refrigerators with bottom-mounted freezers are becoming increasingly popular. In fact, in 2011, these refrigerators accounted for 34 percent of total shipments of all refrigerators, up from less than 1 percent in 1990.

1.1 Average annual unit energy consumption by model year

The refrigerator is the single biggest power consumer in most households. Refrigerators with fewer accessories are usually more efficient. In particular, icemakers and water dispensers use excessive energy, automatic defrost causes lower overall efficiency because heat is used to speed defrosting, and the most efficient refrigerators are in the 16.5–18.4 cubic foot (cu. ft.) category, with the freezer on the bottom or top rather than the side.

A refrigerator shipped in 2011 consumed significantly less energy on average than one shipped in 1990; the average annual unit energy consumption (UEC) decreased by over half during this period, from 956 to 421 kilowatt hours per year (kWh/yr). The largest decrease occurred in the 16.5–18.4 and 18.5–20.4 cu. ft. categories, which saw a 60 percent decrease in energy consumption from 1990 to 2011.

1.2 Distribution of shipments by type

Refrigerators are manufactured in a range of sizes and with a variety of features, all of which affect energy consumption. Consequently, EnerGuide groups refrigerators according to both type and size, enabling the comparison of energy consumption among similar models.

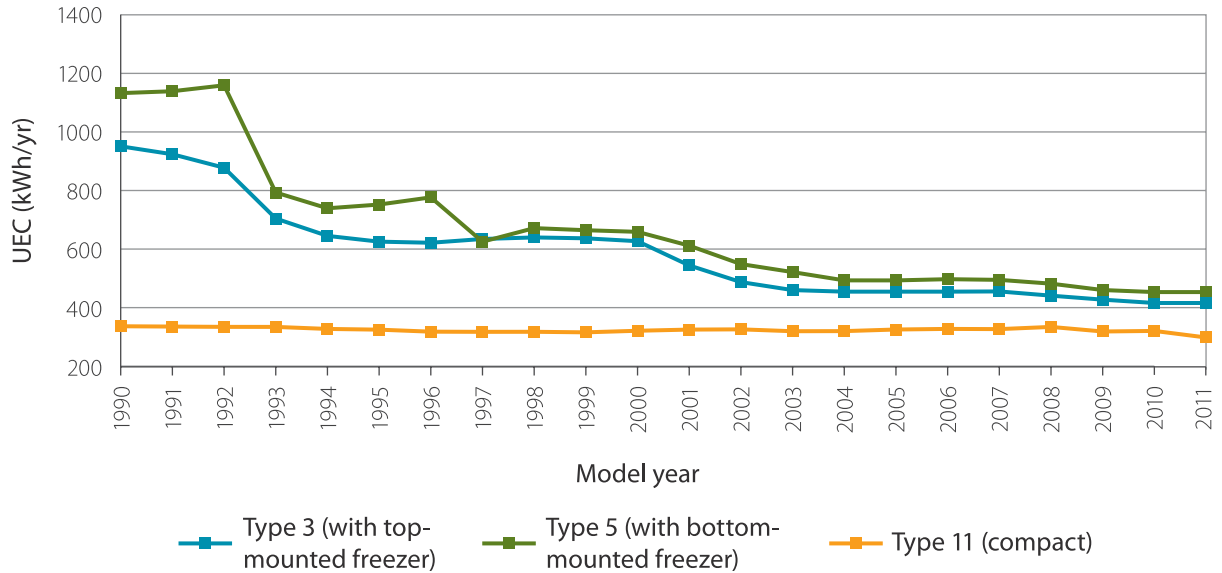
Refrigerators are categorized as standard (full-size) with and without automatic defrost (with and without through-the-door ice service) and compact models.¹² The standard-size refrigerator types with the greatest market share in 2011 were Type 3¹³ (44 percent) and Type 5¹⁴ (27 percent). Substantial supplementary data received from compact refrigerator manufacturers in 2011 show an 18 percent market share for compact models in that year (see Table A.3 in Appendix A). Table A.7 summarizes regional shipment data by type.

The popularity of different refrigerator types has implications for energy consumption. Figure 1 shows the average annual UEC for the three most popular types of refrigerator in 2011. The energy consumption of Type 3 and Type 5 refrigerators has decreased substantially since 1990; in 2011, they consumed (on average) 417 and 455 kWh/yr, a 56 percent and 60 percent decrease, respectively. The average annual UEC of Type 11 (compact) refrigerators remained relatively stable during the period, with a slight decrease in 2011 (7 percent).

¹² Compact refrigerators have a volume of less than 219.5 litres (7.75 cu. ft.) and a height of less than 91.4 centimetres (36 inches).

¹³ Refrigerator-freezers with automatic defrost, with top-mounted freezer, without through-the-door ice service and all-refrigerators (with no freezer) with automatic defrost.

¹⁴ Refrigerator-freezers with automatic defrost, with bottom-mounted freezer, without through-the-door ice service. A complete list of the definitions of the various types of refrigerators can be found in Appendix B.

Figure 1 – Average annual UEC of standard-size refrigerators by type, 1990–2011

1.3 Distribution of shipments by unit energy consumption per volume

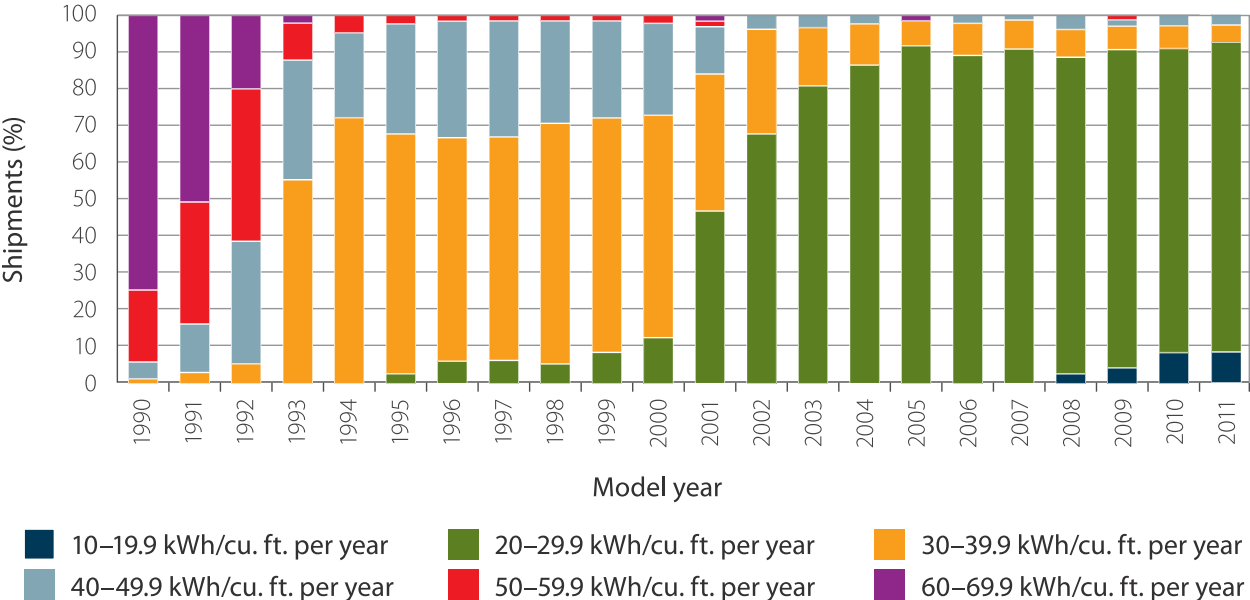
While the average annual UEC of refrigerators shipped between 1990 and 2011 decreased, the energy consumption per unit volume decreased even more because of the higher efficiency gains of larger refrigerators.

Figure 2 shows the distribution of standard-size¹⁵ refrigerators by their average annual UEC per cubic foot from 1990 to 2011. Two decades ago, 93 percent of shipped standard-size refrigerators consumed more than 50 kWh/cu. ft. per year, whereas in 2011, 94 percent of them consumed less than 30 kWh/cu. ft. per year. Also, in 2011, standard-size refrigerators of the lowest energy range (less than 20 kWh/cu. ft. per year), achieved a market penetration of 5 percent.

Figure 2 also demonstrates that significant improvements in energy efficiency were evidenced in 2001. That is when the market penetration of standard-size refrigerators consuming less than 30 kWh/cu. ft. per year increased by 35 percentage points over the previous year, and continued to improve in subsequent years. This change corresponds directly to the amendment to the minimum energy performance standards in July, 2001.

¹⁵ Compact refrigerators were not included in this analysis because of the supplementary compact refrigerator data received for 2009, 2010 and 2011 and their impact on data for previous years. Although compact refrigerators consume considerably more energy per unit of volume, overall they consume the smallest amount of energy of all refrigerators.

Figure 2 – Distribution of standard-size refrigerators by average annual UEC per cubic foot, 1990–2011



Note:

Compact refrigerators were not included in this analysis because of the supplementary compact refrigerator data received for 2009, 2010 and 2011 and their impact on data for previous years.

A series of tables in Appendix A outlines regional refrigerator shipment data by type, average annual UEC, distribution channel (builder vs. retail) and volume.

Freezers

2

The popularity of full-size chest freezers (Type 10) declined substantially from 1991 to 2011, while that of other types increased. Upright freezers, which consume the greatest amount of energy, increased from 12 percent of shipments in 1991 to 45 percent in 2011.

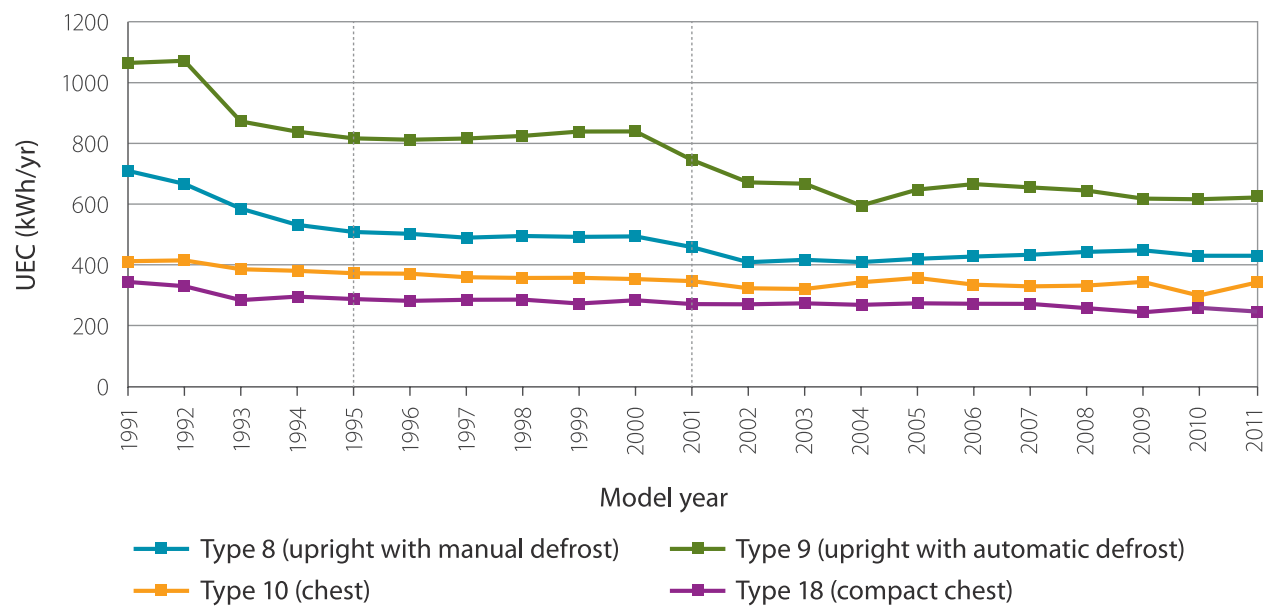
Shipments of compact freezers (dominated by Type 18) fluctuated over the period, but generally accounted for an increasingly large share of total shipments. Supplementary freezer data received from freezer manufacturers in 2009, 2010 and 2011 help provide a more accurate picture of the current freezer market.

2.1 Average annual unit energy consumption by model year

The freezer data presented here should be treated with caution because they may be less representative of the Canadian market than the data for other appliances. Note that freezer data for 1990 are not provided because they are based on a particularly small number of shipments.

A freezer shipped in 2011 consumed (on average) 390 kilowatt hours per year (kWh/yr), whereas one shipped in 1991 consumed 445 kWh/yr, representing a 12 percent improvement in average annual unit energy consumption (UEC) during that period.

Figure 3 – Average annual UEC of freezers by type, 1991–2011



Notes:

The vertical line shown in 1995 and 2001 refers to the introduction of the MEPS and its amendment for freezers.

The average annual UEC is not shown for 1990 because the data for this year are based on a small number of shipments and may be unrepresentative of the actual market.

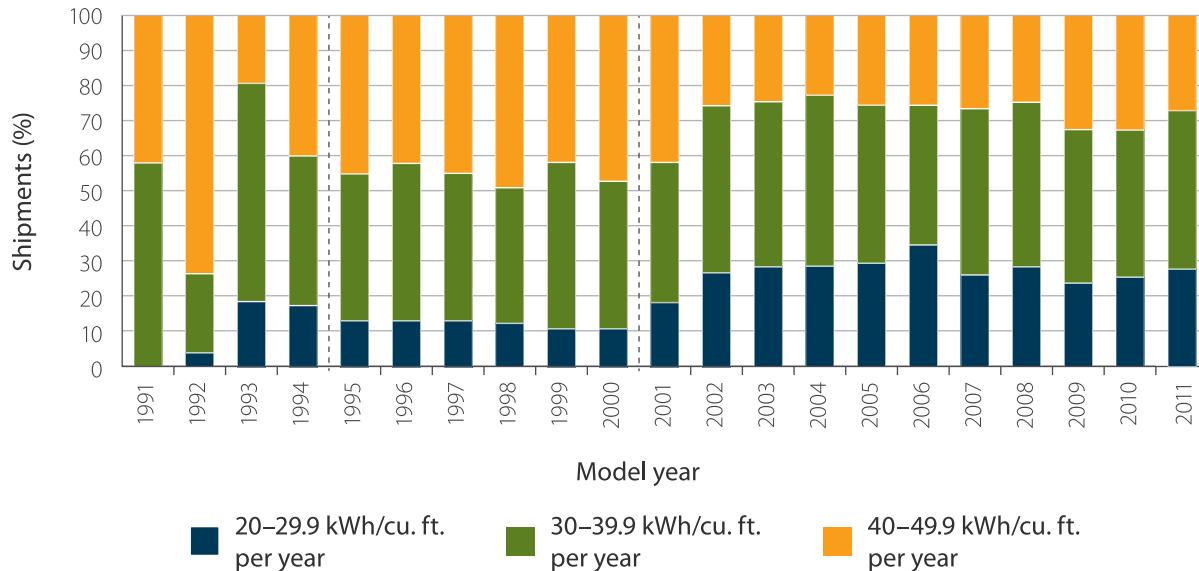
2.2 Distribution of shipments by type

The type of freezer has implications for energy consumption. Figure 3 shows how the average annual UEC of each type of freezer changed from 1991 to 2011. Upright freezers with automatic defrost (Type 9) and upright freezers with manual defrost (Type 8) consumed the greatest amount of energy and accounted for a growing segment of the freezer market. However, the average annual UEC of Type 9 and Type 8 freezers improved the most during this period, especially following the introduction of the minimum energy performance standards (MEPS) in 1992 and its amendment in 2001. The MEPS had the largest impact on upright freezers. Meanwhile, compact chest freezers (Type 18) consumed the smallest amount of energy. Table A.16 in Appendix A summarizes the type data by region/province.

2.3 Distribution of shipments by unit energy consumption per volume

Figure 4 shows the distribution of standard-size freezers by average annual UEC per cubic foot from 1991 to 2011. The data show that, beginning in 2002, standard-size freezers relied on a smaller amount of energy per volume for their cooling purposes. This improvement coincides with the 2001 amendment to the MEPS. However, the increased popularity of the more energy-consuming upright models caused a slight increase in the market penetration in 2009, 2010 and 2011 of those in the higher energy consumption category. Table A.17 in Appendix A disaggregates these data by region/province.

Figure 4 – Distribution of standard-size freezers by average annual UEC per cubic foot, 1991–2011



Notes:

The vertical lines shown in 1995 and 2001 refer to the introduction of the MEPS and its amendment for freezers.

The average annual UEC is not shown for 1990 because the data for this year are based on a small number of shipments and may be unrepresentative of the actual market.

Compact freezers (those with a volume of less than 7.75 cu. ft.) data are not included in this analysis due to the supplementary compact freezer data received for 2009, 2010 and 2011 and their impact on data for previous years.

Dishwashers

3

In 2011, 79 percent of dishwashers shipped in Canada were ENERGY STAR® qualified products, exceeding Canada's minimum regulated standards by 17 percent or more.

In 1990, all dishwashers shipped in Canada consumed 700 kilowatt hours per year (kWh/yr) or more. By 2011, none consumed more than 350 kWh/yr.

3.1 Average annual unit energy consumption by model year

The energy consumption of shipped dishwashers improved dramatically between 1990 and 2011. Figure 5 shows that during this period, the average annual unit energy consumption (UEC) of shipped dishwashers decreased by 71 percent, from 1026 to 298 kWh/yr.¹⁶ The most significant improvements in energy consumption occurred before the introduction of the minimum energy performance standards (MEPS) in 1995 and between 2001 and 2005, a period coinciding with the 2004 amendment to the MEPS.

However, the more recent improvement in energy consumption does not entirely reflect an actual improvement in energy efficiency. In the 2004 amendment to the MEPS, the number of loads used to calculate average energy consumption was reduced from 264 to 215 per year. Therefore, the energy rating of any dishwasher would be lower according to the new standard, and data before and after 2004 are not directly comparable.¹⁷

Using current assumptions about frequency of use would reduce the average annual UEC of dishwashers to 836 kWh/yr in 1990, resulting in a change of 64 percent over the period.

The new energy rating for dishwashers also takes into account standby power consumption (the energy used while the appliance is idle) and continues to include the energy required to heat water. Soil-sensing dishwashers are also subject to a new test procedure that reflects the average energy used when they are tested under light, medium and heavy soil loads.

A substantial portion of the energy used by a dishwasher goes toward heating the water, so models that use less water also use less energy. Thanks to the MEPS, new models use a fraction of the water and energy of older models. Even as dishwashers have become more miserly in their water use, they have made great strides in cleaning performance.

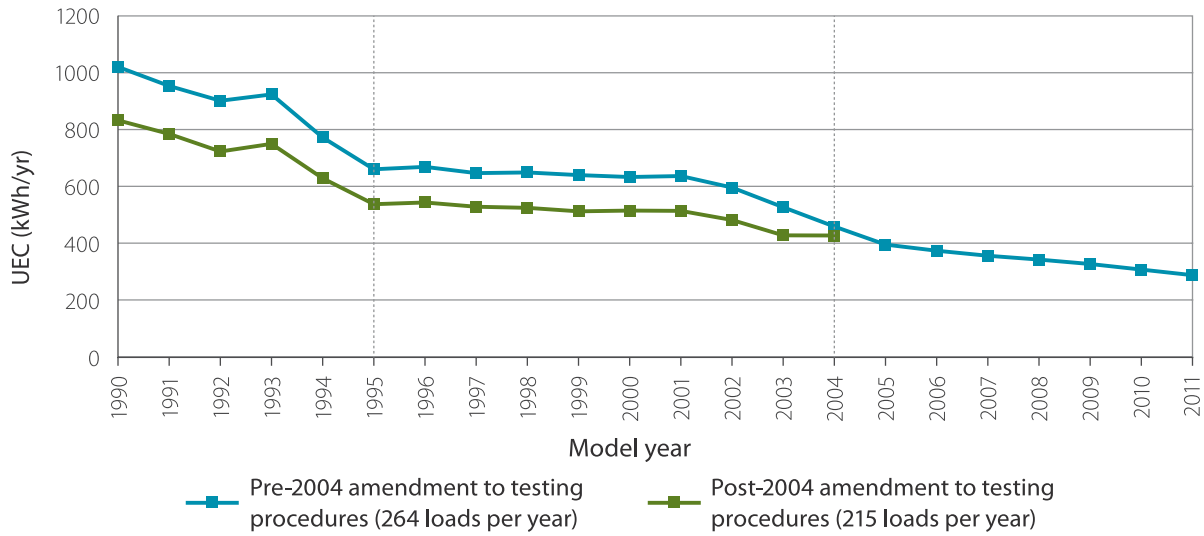
3.2 Distribution of shipments by unit energy consumption

Figure 6 shows the distribution of shipped dishwashers by average annual UEC between 1990 and 2011. In 1990, all shipped dishwashers consumed 700 kWh/yr or more. By 2011, all of them consumed fewer than 350 kWh/yr, and 45 percent of them consumed less than 300 kWh/yr. Dishwashers consuming less than 250 kWh/yr also appeared in shipments for the first time in 2011 (1.5 percent).

¹⁶ Includes hot water requirements.

¹⁷ Source: Natural Resources Canada, *2011 EnerGuide Appliance Directory*, p. 220.

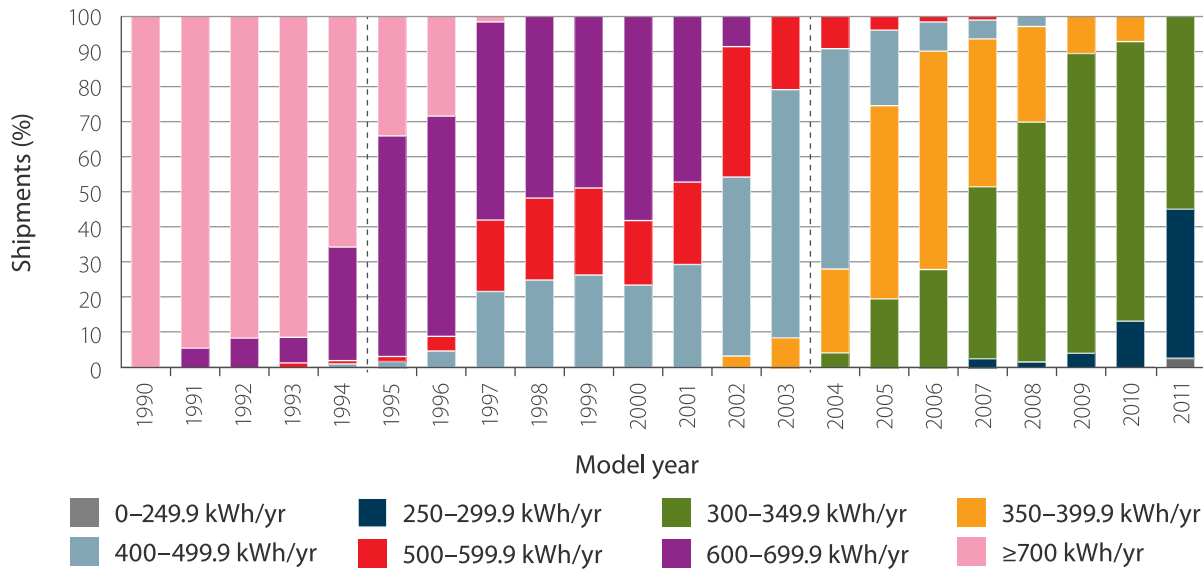
Figure 5 – Average annual UEC of dishwashers, 1990–2011



Note:

The vertical lines shown in 1995 and 2004 refer to the introduction of and subsequent amendment to the MEPS for dishwashers. Due to changes in the methodology for estimating average annual UEC, the data prior to 2004 are not directly comparable with those from 2004 to 2011.

Figure 6 – Distribution of dishwashers by average annual UEC, 1990–2011



Note:

The vertical lines shown in 1995 and 2004 refer to the introduction of and subsequent amendment to the MEPS for dishwashers. Due to changes in the methodology for estimating average annual UEC, the data prior to 2004 are not directly comparable with those from 2004 to 2011.

Tables A.21 and A.22 in Appendix A present regionally disaggregated data on the distribution of shipments of dishwashers by average annual UEC and distribution by channel.

Electric ranges

4

In 2011, 65 percent of electric ranges consumed less than 550 kilowatt hours per year (kWh/yr), whereas in 1990, those that dominated the market consumed between 800 and 850 kWh/yr (42 percent).

The popularity of self-cleaning electric ranges grew from 23 percent in 1990 to 77 percent in 2011.

4.1 Average annual unit energy consumption by model year

From 1990 and 2011, the average annual unit energy consumption (UEC) of shipped electric ranges decreased by 32 percent from 772 kWh/yr to 526 kWh/yr. Until 2002, little change in energy consumption occurred (see Table A.30 in Appendix A). However, between 2002 and 2006, average annual UEC decreased from 756 to 537 kWh/yr, a drop of 29 percent. It decreased more modestly between 2006 and 2009, increasing slightly in 2010 and 2011.

However, the improvement in energy consumption after 2002 does not entirely reflect an actual improvement in energy efficiency. In the 2003 amendment to the minimum energy performance standards (MEPS), several important changes were made to the calculation used for energy ratings. These changes included a reduction in the frequency of use of the self-cleaning cycle, from 11 to 4 times per year. These changes had the effect of reducing the overall average annual UEC of self-cleaning ranges by about 35 to 50 kWh/yr, meaning that data prior to 2003 are not directly comparable with data after 2003.¹⁸

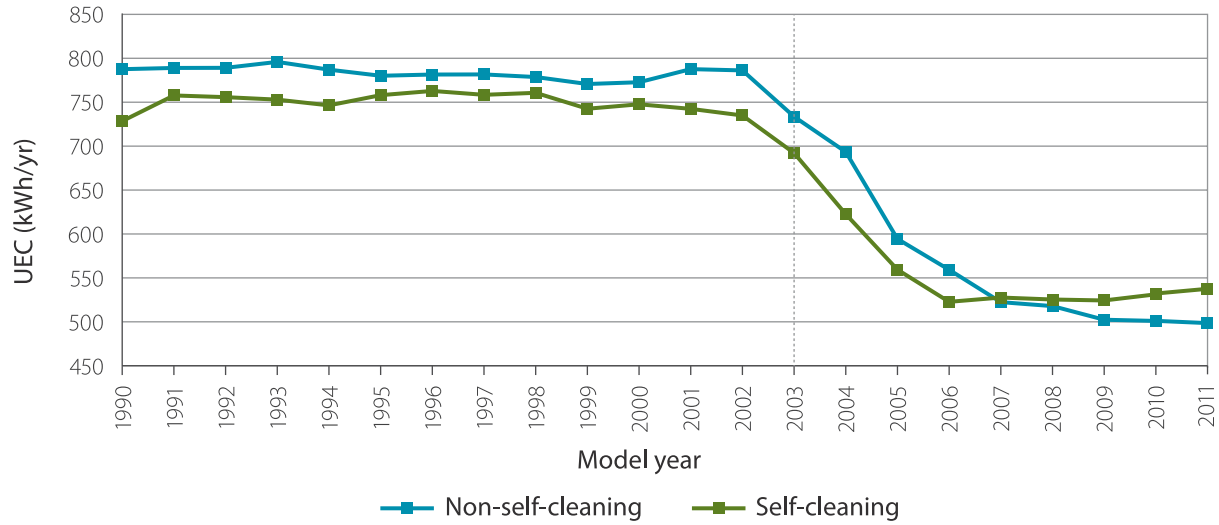
4.2 Distribution of shipments by type

Electric ranges are divided into two types: self-cleaning or non-self-cleaning. In 1990, self-cleaning ranges accounted for less than 23 percent of electric range shipments. However, by 2011, 77 percent of electric ranges shipped were self-cleaning.

Self-cleaning ranges have typically been more energy-efficient than non-self-cleaning ranges because they tended to be better insulated. However, over time, non-self-cleaning ranges have become increasingly more efficient, such that since 2007, they actually consumed less energy on average than self-cleaning ranges (see Figure 7). One of the reasons for the improved efficiency of non-self-cleaning ranges compared to self-cleaning ranges is most likely that the latter now tend to have more energy-consuming options, such as baking drawers, true temperature systems that manage temperature, larger heating elements, bridge elements and warming zones.

¹⁸ Natural Resources Canada, *EnerGuide Appliance Directory 2007*, p. 155.

Figure 7 – Average annual UEC of electric ranges by type, 1990–2011



Note:

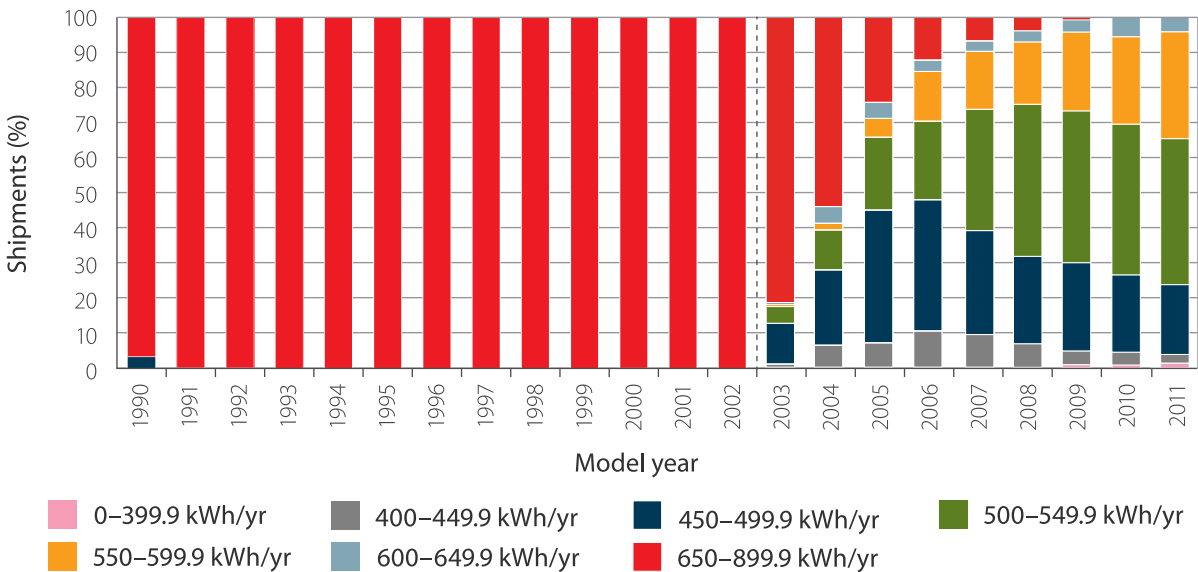
The vertical line shown in 2003 refers to the amendment to the MEPS for electric ranges. Due to changes in the methodology for estimating average annual UEC, the data prior to 2003 are not directly comparable with those from 2003 to 2011.

4.3 Distribution of shipments by unit energy consumption

In 1990, 82 percent of electric ranges consumed 750 kWh/yr or more. By 2011, 65 percent of shipped electric ranges consumed fewer than 550 kWh/yr. Some of this decrease, however, is due to changes in how UEC ratings are now calculated for electric ranges.

Figure 8 shows the distribution of electric ranges by average annual UEC between 1990 and 2011.

Figure 8 – Distribution of electric ranges by average annual UEC, 1990–2011



Note:

The vertical line shown in 2003 refers to the amendment to the MEPS for electric ranges. Due to changes in the methodology for estimating average annual UEC, the data prior to 2003 are not directly comparable with those from 2003 to 2011.

For a regional breakdown of electric range shipments by type, average annual UEC per cubic foot and distribution channel, refer to Tables A.27, A.28 and A.29 in Appendix A.

Clothes washers

5

In 2011, 75 percent of clothes washers shipped in Canada were ENERGY STAR® qualified, exceeding Canada's minimum regulated standards by 59 percent or more.

In 2011, the average annual unit energy consumption (UEC) of clothes washers was 208 kilowatt hours per year (kWh/yr), compared with 1218 kWh/yr in 1990. Fifty-seven percent of all clothes washers shipped in 2011 were front-loading models.

5.1 Average annual unit energy consumption by model year

The UEC of clothes washers decreased dramatically between 1990 and 2011. During this period, the average annual UEC fell by 83 percent, from 1218 to 208 kWh/yr. This decrease is due to both energy efficiency improvements across all types of clothes washers, coinciding with the various amendments to the minimum energy performance standards (MEPS), and the increasing popularity of front-loading units, which are more energy-efficient than top-loading units.

As is the case for dishwashers, manufacturers have improved the overall water consumption of clothes washers over the years, which has had an impact on energy use and has led to energy savings.

5.2 Distribution of shipments by type

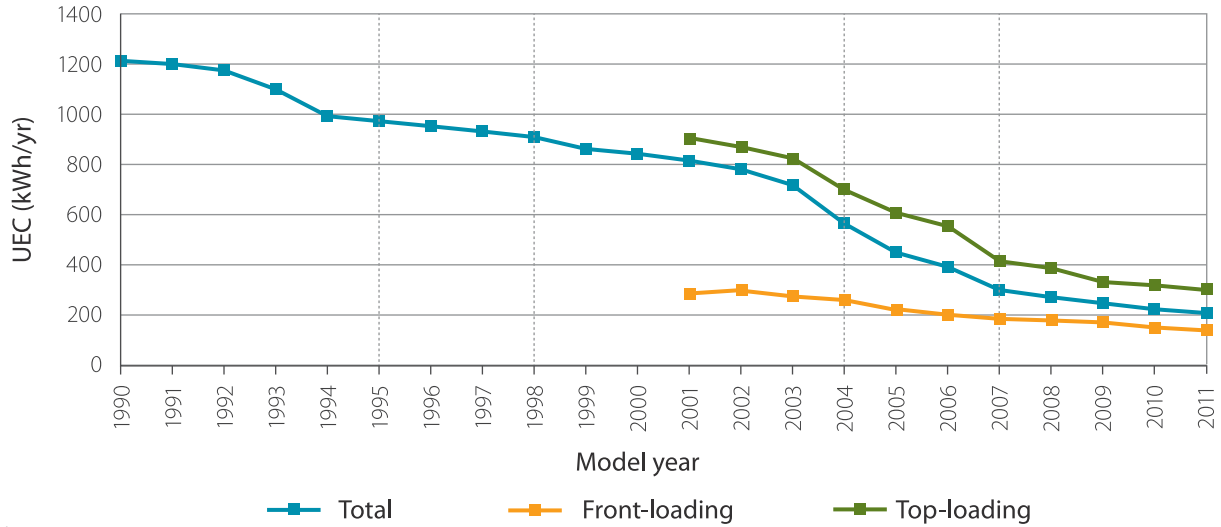
Front-loading clothes washers became increasingly popular between 2001¹⁹ and 2011. In 2001, these clothes washers accounted for only 16 percent of shipments in Canada. However, by 2011, they accounted for 57 percent of shipments.

The trend towards front-loading clothes washers has implications for energy consumption because these washers tend to consume significantly less energy and water than do top-loading washers.²⁰ Although the energy efficiency of top-loading clothes washers has improved substantially, they still consumed more than twice as much energy (on average) as front-loading washers in 2011 (see Figure 9).

¹⁹ 2001 is the first year for which there are comprehensive data on distribution by clothes washer type.

²⁰ In general, front-loading clothes washers are much more efficient than conventional top-loading models with agitators. This is because front-loading washers don't have to fill the tub completely with water. New top-loading designs that use sprayers to wet the clothes from above can also achieve substantial energy and water savings compared to conventional top-loaders. An increasing number of top-loading washers qualify for ENERGY STAR, but high-efficiency front-loaders continue to outperform even the best top-loaders.

Figure 9 – Average annual UEC of clothes washers by type, 1990–2011



Note:

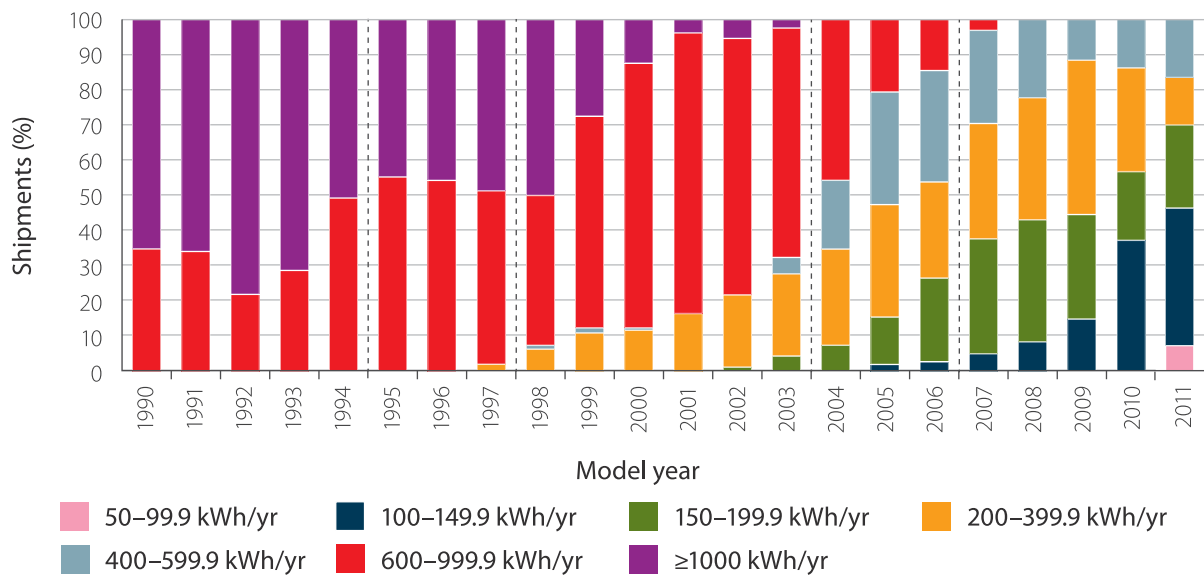
The vertical lines shown in 1995, 1998, 2004 and 2007 refer to the various amendments to the MEPS for clothes washers. 2001 is the first year for which there are comprehensive data on distribution by clothes washer type.

5.3 Distribution of shipments by unit energy consumption

Figure 10 shows how the average annual UEC of shipped clothes washers changed between 1990 and 2011. In 1990, all clothes washers consumed at least 600 kWh/yr, and 64 percent consumed

1000 kWh/yr or more. By 2011, all shipped clothes washers consumed fewer than 600 kWh/yr, and 70 percent consumed fewer than 200 kWh/yr.

Figure 10 – Distribution of clothes washers by average annual UEC, 1990–2011



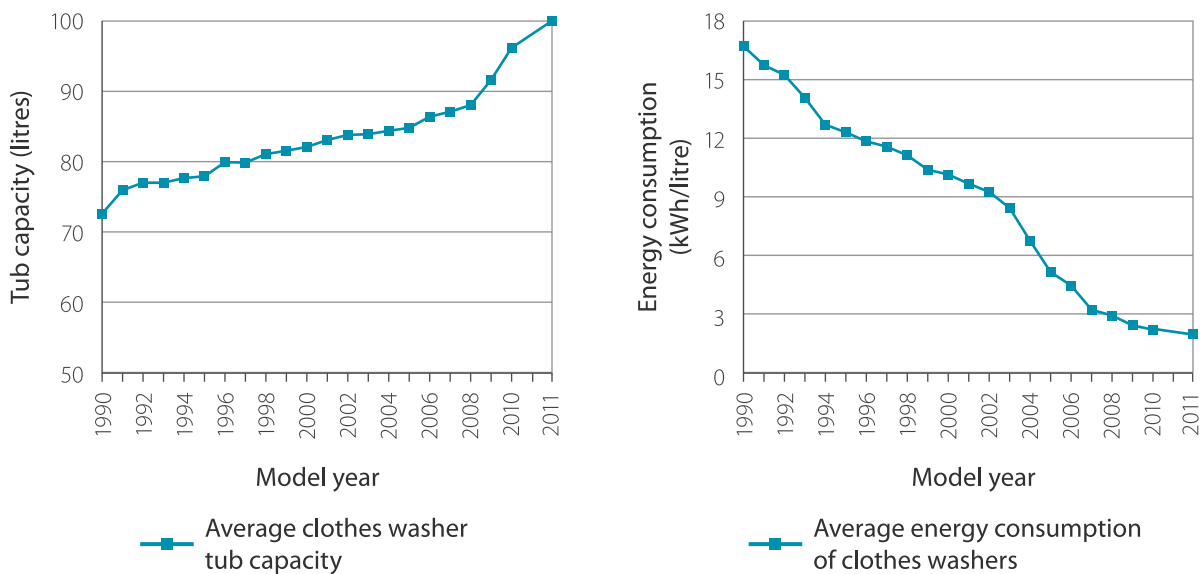
Note:

The vertical lines shown in 1995, 1998, 2004 and 2007 refer to the various amendments to the MEPS for clothes washers.

As shown in Figure 11, the average tub capacity of clothes washers has increased substantially from 1990 to 2011, from 73 litres (L) to 100 L, or 37 percent. Conversely, the average energy consumption per tub litre decreased at a much faster rate during the same period (88 percent).

It appears that consumers are washing substantially more clothes per load and using significantly less energy in doing so. The breakdown of tub capacity and average energy consumption of clothes washers by type is provided in Table A.39 in Appendix A.

Figure 11 – Tub capacity and average energy consumption of clothes washers, 1990–2011



For regional shipment data by clothes washer type, volume and distribution by channel, refer to Tables A.34, A.35, A.36 and A.38 in Appendix A.

Electric clothes dryers

6

Since the mid-1990s, the share of electric clothes dryers in the higher energy consumption categories has increased mostly because of the use of larger capacity units. Few opportunities exist to improve the energy efficiency of electric clothes dryers with current technology because of the nature of the appliance.

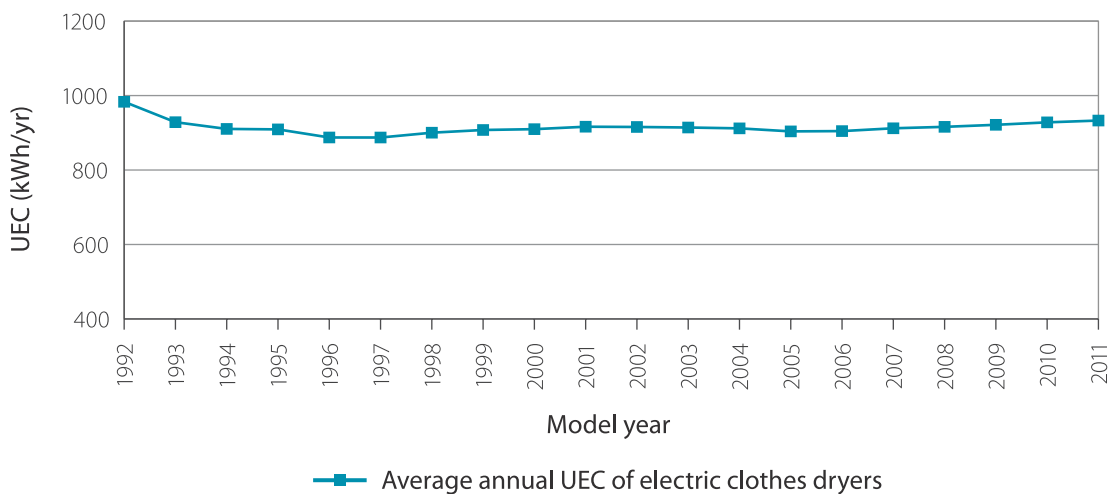
6.1 Average annual unit energy consumption by model year

Figure 12 shows how the energy efficiency of electric clothes dryers changed from 1992 to 2011. Average annual unit energy consumption (UEC) decreased by 10 percent between 1992 and 1996 and has remained relatively stable since. However, the average annual UEC

increased slightly in each year since 2005, reaching 933 kilowatt hours per year (kWh/yr) in 2011, mostly due to the use of larger capacity units (see Section 6.2). Overall, the average annual UEC was 5 percent lower in 2011 than in 1992.

The increasing share of front-loading clothes washers (as described in Chapter 5) has helped reduce the energy consumption of electric clothes dryers because more moisture is removed before clothes even reach the dryer (although this is not reflected in the UEC data). In addition, moisture detectors in electric clothes dryers automatically shut off the unit when a load is sufficiently dry.

Figure 12 – Average annual UEC of electric clothes dryers, 1992–2011



Note:

The data are not shown for 1990 and 1991 because they are based on a small number of shipments and may be unrepresentative of the actual market.

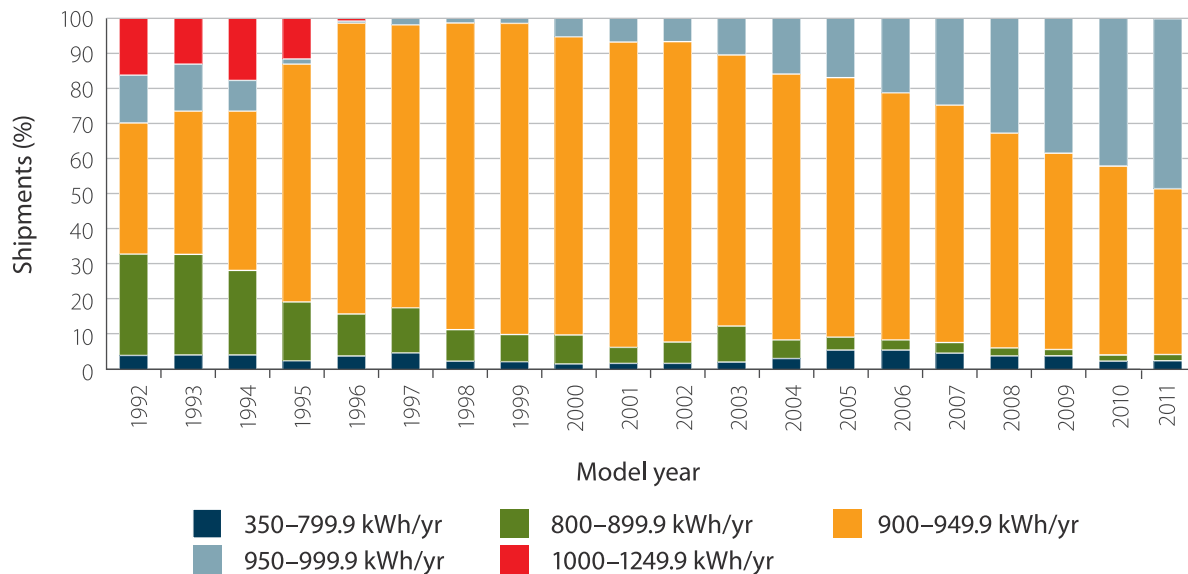
6.2 Distribution of shipments by unit energy consumption

Figure 13 shows the distribution of electric clothes dryers shipped between 1992 and 2011 by average annual UEC. From 1992 to 2011, the share of electric clothes dryers consuming less than 900 kWh/yr decreased while the share of those consuming over 950 kWh/yr increased.

The increase in shipments of more energy-consuming electric clothes dryers is mainly

attributable to the popularity of larger-capacity units over the period. As shown in Figure 14, the average drum capacity of electric clothes dryers increased substantially from 1992 to 2011, from 162 litres (L) to 195 L, or 21 percent. Conversely, the average energy consumption per drum litre has decreased at an equal rate during the same period. As was the case for clothes washers, it seems that consumers are now drying considerably more clothes per load and that each load is consuming less energy. The breakdown of drum capacity and average energy consumption of electric clothes dryers is provided in Table A.45 in Appendix A.

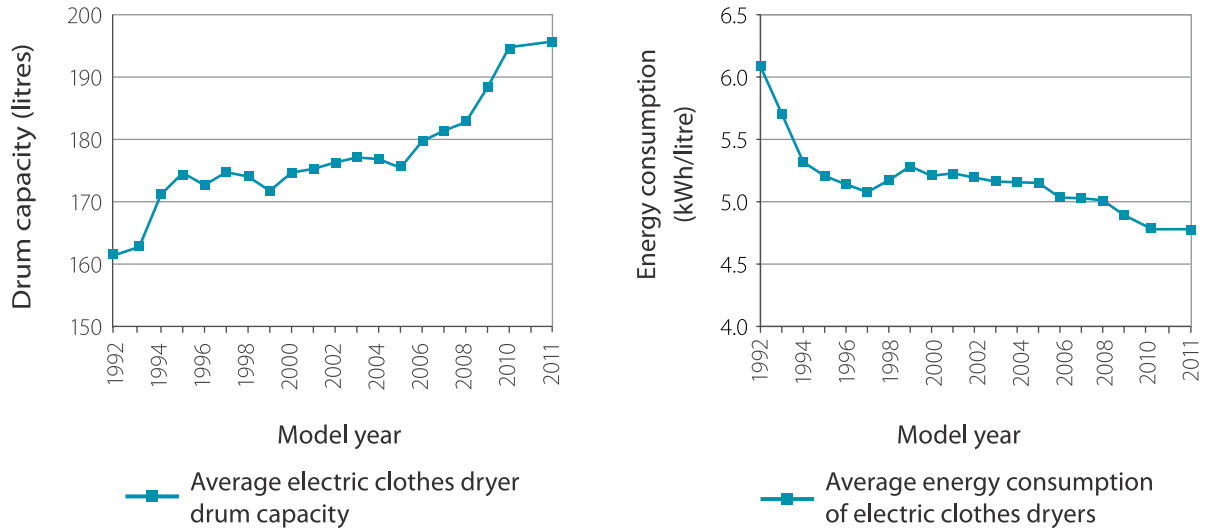
Figure 13 – Distribution of electric clothes dryers by average annual UEC, 1992–2011



Note:

The data are not shown for 1990 and 1991 because they are based on a small number of shipments and may be unrepresentative of the actual market.

Figure 14 – Drum capacity and average energy consumption of electric clothes dryers, 1992–2011



For a regional breakdown of electric clothes dryer data by UEC and distribution by channel, see Tables A.41, A.42 and A.44 in Appendix A.

Energy consumption and savings for all major household appliances

7

The significant reduction in unit energy consumption (UEC) of many major household appliances has meant that less energy has been consumed by these appliances than if energy efficiency had not improved. In this chapter, energy consumption and savings are quantified to illustrate the significance of energy efficiency improvements over the past two decades, on both a household and national scale.

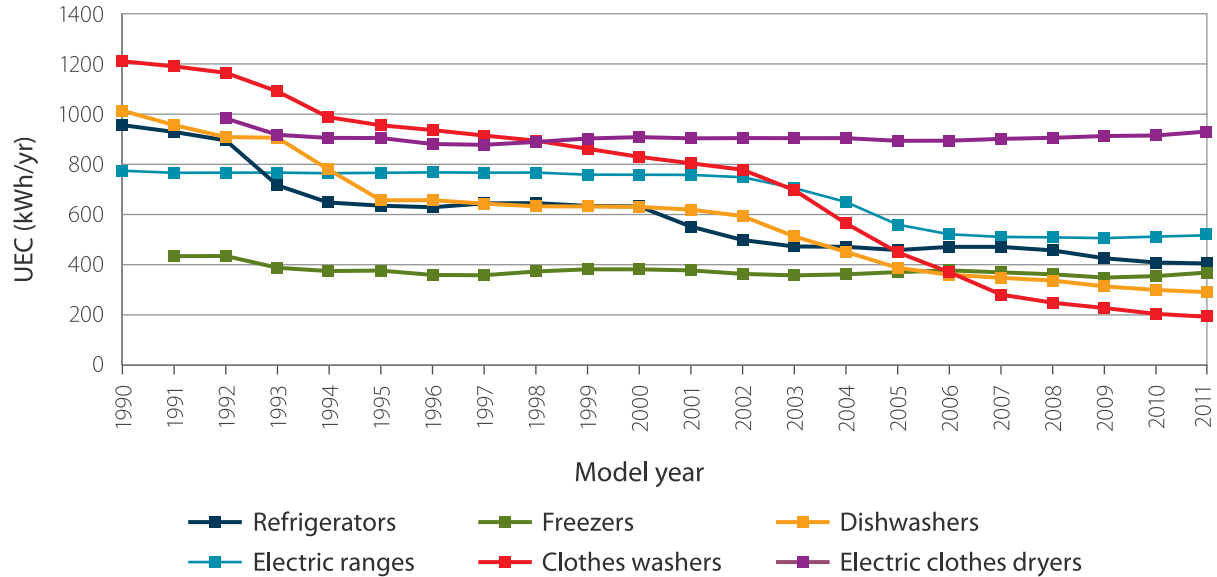
The chapter is divided into three sections:

- The improvement in UEC is compared across all appliances (Section 7.1).
- The energy cost savings are calculated for a household operating appliances purchased in 2011 relative to those purchased in 1990 (Section 7.2).
- The total energy consumption and savings are quantified for all appliances shipped in Canada between 1990 and 2011 (Section 7.3).²¹

7.1 Energy consumption of all appliances

The average annual UEC of new shipped appliances decreased significantly between 1990 and 2011, as shown in Figure 15. Between 1990 and 2011, the decrease in average annual UEC was most significant for clothes washers (1010 kilowatt hours per year [kWh/yr] or 83 percent). This decrease is due both to energy efficiency improvements across all types of clothes washers and the increasing popularity of front-loading units (which are more energy-efficient than top-loading units).

²¹ Even though this report deals with the trends in energy consumption and distribution of appliances from 1990 to 2011, energy savings are calculated as of 1992, with the implementation of the *Energy Efficiency Regulations* authorized under the 1992 *Energy Efficiency Act*.

Figure 15 – Average annual UEC of appliances, 1990–2011**Notes:**

The average annual UEC for freezers is shown for 1991 and onward because data for 1990 are based on a small number of shipments and may be unrepresentative of the actual market.

The average annual UEC for electric clothes dryers is shown for 1992 and onward because data for 1990 and 1991 are based on a small number of shipments and may be unrepresentative of the actual market.

There were also significant improvements in average annual UEC for dishwashers during this same period (728 kWh/yr or 71 percent). However, part of this improvement is due to a change in how UEC is measured (the assumption about frequency of use was revised downward to more accurately reflect household usage patterns) and does not represent an actual improvement in energy efficiency. Using similar assumptions about frequency of use would reduce the average annual UEC of dishwashers to 836 kWh/yr in 1990, resulting in an energy efficiency improvement of 64 percent over the period (as opposed to 71 percent).

Meanwhile, the average annual UEC of refrigerators decreased by 535 kWh/yr (56 percent) between 1990 and 2011, partly because of more efficient compressors and better insulation. This reduction occurred despite an increase in the shipments' share of larger refrigerators during this period, because greater efficiency gains occurred for larger units over the period. Consequently, even though the share of larger refrigerators increased, the

average annual UEC of all refrigerators decreased. However, supplementary data received from refrigerator manufacturers since 2009 show an increase in their share of shipments of compact refrigerators (those with a volume of less than 10.4 cubic feet). The breakdown of refrigerators by volume is outlined in Table A.4 in Appendix A.

Electric ranges saw a reduction in average annual UEC of 247 kWh/yr (32 percent), but owing to the nature of this appliance, there is little potential to further reduce energy consumption with current technology. In addition, a portion of the observed reduction in UEC was due to a change in how it is measured and does not represent an actual improvement in energy efficiency. (The assumption about frequency of use of the self-cleaning cycle was revised downward to more accurately reflect household usage patterns). The change reduced the average annual UEC of self-cleaning ranges by about 35 to 50 kWh/yr (or 5 to 10 percent).

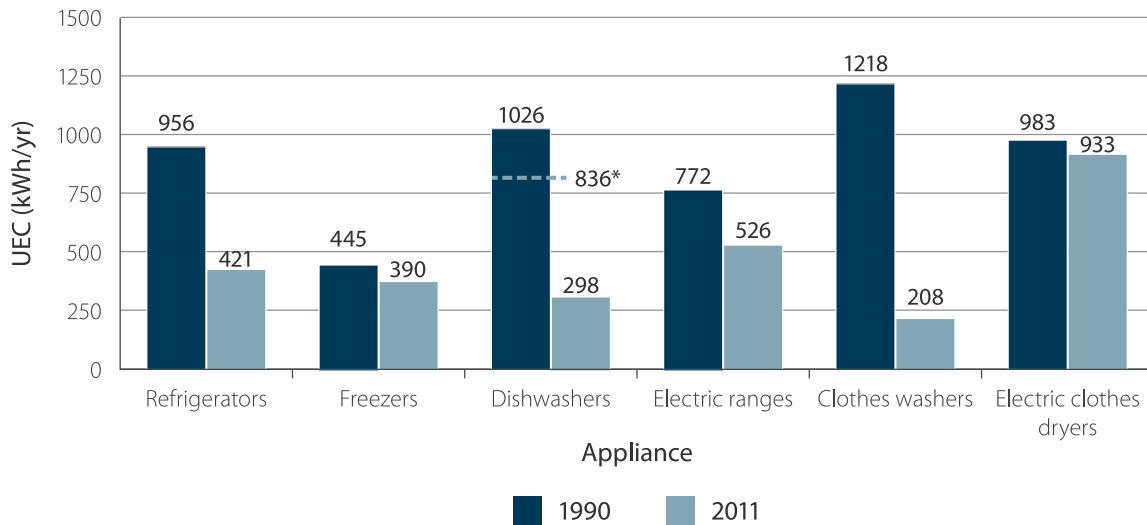
The reduction in UEC for freezers was smaller than for other appliances (54 kWh/yr or 12 percent), partly because of a switch away from chest freezers (Type 10) to less efficient upright units (Type 8 and Type 9). However, supplementary data received since 2009 from freezer manufacturers also show a considerable market share for compact chest freezers in those years. As previously noted, the data for freezers are less comprehensive than the data for other appliances and may not be fully representative of the trends in the Canadian market. Because of the greater effort invested by the appliance manufacturers, this recent supplementary shipment data will help create a truer picture of the freezer market in the years ahead.

As with electric ranges, there is little potential to improve the energy efficiency of electric clothes dryers because of the nature of the appliance, although there has been a trend toward dryers with larger capacities. Between 1992 and 2011, the average annual UEC of electric clothes dryers

decreased by 50 kWh/yr (5 percent). The increasing share of front-loading clothes washers helped reduce the energy consumption of clothes dryers because more moisture is removed before clothes reach the dryer (although this change is not incorporated into the data). In addition, moisture detectors in electric clothes dryers automatically shut off the unit when a load is sufficiently dry.

A household operating a full set of appliances purchased in 2011 might expect them to consume a little less than 2800 kWh/yr of electricity on average, roughly half as much as a set of appliances purchased in 1990 (assuming similar operating patterns).²² This comparison of energy consumption for all appliances for 1990 and 2011 is outlined in Figure 16.

Figure 16 – Average annual UEC of appliances, 1990 and 2011



* This figure represents the average annual UEC of dishwashers in 1990 if the frequency of use is assumed to be the same as in 2011.

Notes:

The average annual UEC for freezers is shown for 1991 because data for 1990 are based on a small number of shipments and may be unrepresentative of the actual market.

The average annual UEC for electric clothes dryers is shown for 1992 because data for 1990 and 1991 are based on a small number of shipments and may be unrepresentative of the actual market.

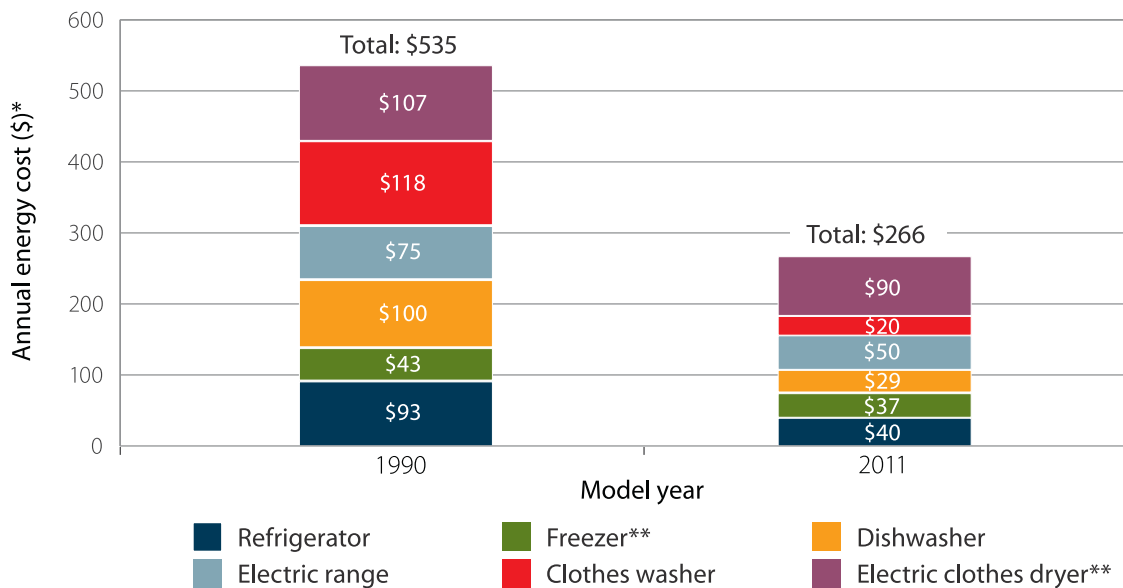
²² Except for dishwashers (whose rating is based on less frequent use after 2003) and self-cleaning electric ranges (whose rating is based on a lower number of cleaning cycles after 2002).

7.2 Electricity cost savings per household

The increased energy efficiency of major appliances should reduce energy costs for households, assuming usage patterns remain constant. Figure 17 shows the annual energy costs for an average set of appliances purchased in both 1990 and 2011. Assuming an electricity price of 9.6 cents/kWh,²³ annual electricity costs for a set of appliances purchased in 1990 would be approximately \$535, while costs for a set of appliances purchased in 2011 would be reduced by half, to about \$266.

The magnitude of the cost savings is directly proportional to the reduction in average UEC of each appliance. Annual energy costs decreased the most for clothes washers and dishwashers. Energy costs decreased the least for electric clothes dryers and freezers. Note that part of the reduction in energy costs for dishwashers and electric ranges is due to changes in usage patterns and methodology and not energy efficiency.

Figure 17 – Average annual unit electricity cost for appliances purchased in 1990 and 2011



* Assuming a constant electricity price of 9.6¢/kWh, which was the average Canadian residential price in 2010.

** The energy costs for freezers and electric clothes dryers are based on the average annual UEC in 1991 and 1992, respectively.

²³ This was the average Canadian residential price in 2010 (Natural Resources Canada, 2013, *Energy Use Data Handbook, 1990 to 2010*, Table 18, Residential Sector) oee.nrcan.gc.ca/corporate/statistics/neud/dpa/tableshandbook2/res_00_18_e_6.cfm.

7.3 Energy consumption and energy savings for all shipped appliances

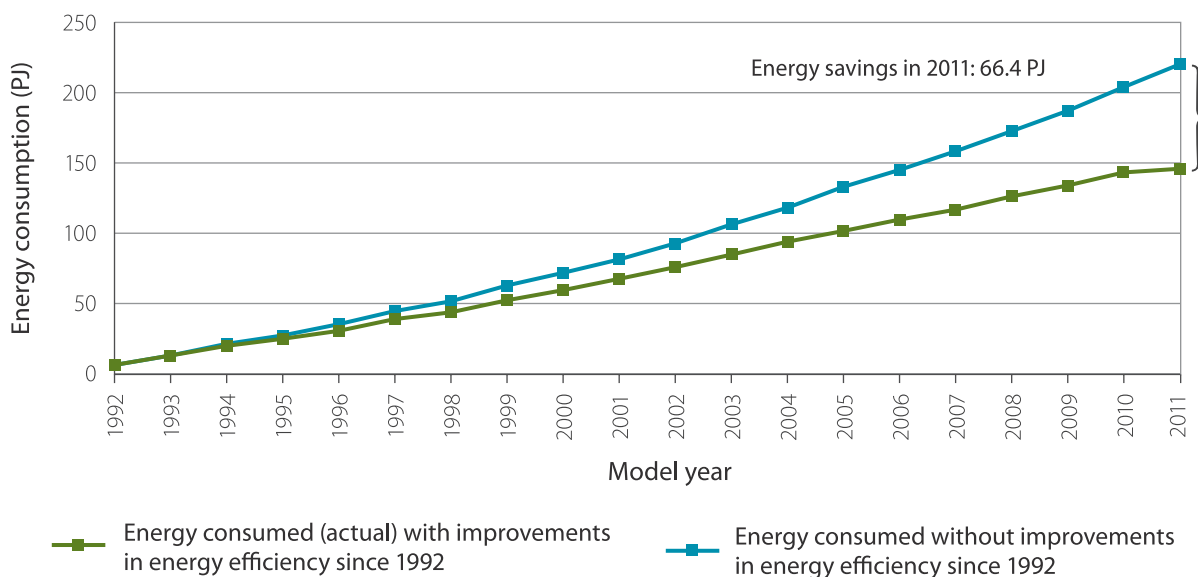
In this section, total energy consumption and savings are quantified for all major household appliances shipped between 1990 and 2011. This analysis is not intended to be a comprehensive national assessment of energy use by all major household appliances. Rather, it conveys a sense of the magnitude and relative importance of energy savings obtained across the country from different appliances.

Figure 18 quantifies the energy savings that resulted from improvements in energy efficiency between 1992 and 2011, using the shipment data collected by Natural Resources Canada from the Canadian appliance manufacturers. The bottom line represents the total energy consumption of major household appliances shipped in Canada from 1992 to 2011, while the top line represents the total energy that would have been consumed if energy efficiency had not improved since 1992. The area between the two lines is therefore an estimate of the energy savings resulting from the increased energy efficiency of appliances shipped during this period.

For example, the energy consumption of shipped appliances in 2011 is estimated to be 146.9 petajoules (PJ) (or 40.8 billion kWh), representing the energy consumed in that year by all appliances shipped between 1992 and 2011, except for those that have reached the end of their service life. However, if energy efficiency had not improved since 1992, these appliances would have consumed more than 219.0 PJ. The difference (66.4 PJ or the equivalent of one year's energy for more than 650 000 households) represents the energy savings resulting from the improvement in energy efficiency of major household appliances in 2011.²⁴

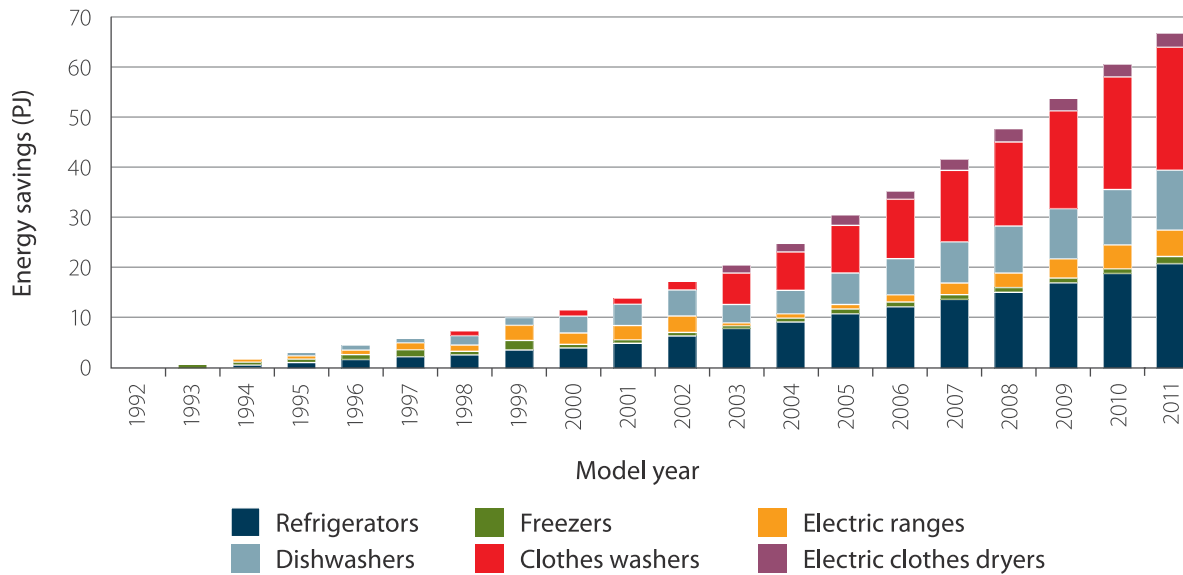
Figure 19 attributes the energy savings identified in the previous paragraph (i.e. the area between the two lines in Figure 18) to each appliance. Clothes washers, refrigerators and dishwashers accounted for much of the energy savings because of significant improvements in the energy efficiency of these appliances. Electric clothes dryers and electric ranges accounted for a much lower energy saving because of smaller energy efficiency improvements. However, freezers accounted for the lowest energy saving because of their low penetration rate and the fact that the available shipment data account for a smaller portion of the market than they do for other appliances.

Figure 18 – Energy consumption of all shipped appliances, with and without improvements in energy efficiency, 1992–2011



²⁴ For details of the assumptions used in these calculations, see Appendix C of the previous report at oee.nrcan.gc.ca/publications/statistics/cama12/cama12.pdf.

Figure 19 – Energy savings by shipped appliance, 1992–2011



Limitations of the energy consumption and savings analysis

As noted above, this analysis conveys a sense of the magnitude and relative importance of energy savings obtained across the country from different appliances. However, it is not a comprehensive national assessment of energy use by all major appliances, for at least two reasons. First, the shipment data do not reflect the entire Canadian market. According to Canadian appliance manufacturers, the shipment data collected represent about 90 percent of the Canadian market for all appliances except freezers, for which the market share is unknown. Second, we do not attempt to estimate the total Canadian stock for each appliance (although we do estimate stock directly associated with the shipment data from 1990 onward).

In addition, with respect to energy savings, several factors could affect the magnitude of the estimates presented here, including

- *appliance service life*. Continued use of appliances for longer than their assumed average service life would contribute to ongoing energy savings from that appliance. However, if that appliance were replaced by a newer and more energy-efficient model, an earlier replacement would contribute to greater energy savings.
- *secondary appliances*. If new appliances are purchased to complement rather than replace existing appliances, no actual energy savings would result from their purchase (unless a secondary appliance is being replaced).

Conclusion

8

This summary report analyses shipment data for major household appliances (refrigerators, freezers, dishwashers, electric ranges, clothes washers and electric clothes dryers) between 1990 and 2011. These data represent the majority of shipments to Canadian retailers and builders during this period and were collected through the co-operation of the Canadian Appliance Manufacturers Association.

Between 1990 and 2011, the average annual unit energy consumption (UEC) of most appliances decreased significantly. In fact, a household operating an average set of major appliances purchased in 2011 might expect them to consume roughly half as much energy as a set purchased in 1990. In addition to reducing energy demand and the associated impacts of electricity generation (such as greenhouse gas emissions), this decrease in energy consumption reduces household expenditures on electricity.

The reduction in average annual UEC ranged from 5 percent (electric clothes dryers) to 82 percent (clothes washers) during the study period. These energy efficiency improvements can be attributed to a variety of factors, including the following:

- the research and development carried out by manufacturers
- consumer demand for more energy-efficient products
- standards that limit the amount of energy that each appliance may consume (minimum energy performance standards)
- continual strengthening of ENERGY STAR® technical specifications
- information initiatives such as the EnerGuide for Equipment program and the ENERGY STAR Initiative in Canada, which help consumers identify the most energy-efficient products on the market

- various incentives and rebates offered by the provincial/territorial and municipal governments and utilities.

To illustrate the significance of energy efficiency improvements during this period, this summary report includes quantifications of the energy savings obtained from all shipped appliances in Canada between 1992 and 2011, as follows:

- Clothes washers, refrigerators and dishwashers accounted for the majority of energy savings because of significant improvements in the energy efficiency of these appliances.
- Freezers accounted for the lowest energy savings because of their low penetration rate and because the available shipment data account for a smaller portion of the market than they do for other appliances – although this changed considerably in 2009, 2010 and 2011 when supplementary data were obtained.
- Electric clothes dryers and electric ranges also accounted for lower energy savings because of more modest energy efficiency improvements.

Despite tough economic times during this period, Canadian consumers continued to value the environment in their appliance purchase decisions. Innovation combined with energy efficiency were drivers as the appliance sector continued to bring to market new design options that were easier to use, more capable than ever before, and served to reduce average household energy consumption. The rise of new display technologies and communication-enabled appliances promises exceptional convenience and functionality, as they integrate themselves into the lives of Canadians.

Appendix A

Detailed tables

A

Table A.1 – ENERGY STAR® qualified appliances as a percentage of total shipments in Canada, 2000–2011 (%)

Appliance	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Refrigerators	..	11.4	22.3	40.7	34.2	37.6	37.3	44.3	53.4	53.4	59.3	66.8
Dishwashers	1.6	9.7	29.8	56.5	80.9	90.8	79.7	76.2	89.3	89.5	78.7	79.2
Clothes washers	2.2	9.2	22.1	30.6	36.2	45.9	50.8	58.4	64.4	69.4	65.9	74.7

.. stands for not applicable

Table A.2 – ENERGY STAR qualified appliances as a percentage of total shipments by region/ province, 2004–2011 (%)

Appliance	2004	2005	2006	2007	2008	2009	2010	2011
Refrigerators								
Canada	32.4	37.6	37.3	44.3	53.4	53.4	59.3	66.8
Atlantic	23.3	21.3	20.6	22.8	27.3	33.5	42.2	58.3
Quebec	36.9	37.2	38.6	43.1	55.0	54.1	61.3	67.9
Ontario	38.6	39.9	38.5	47.4	56.2	56.3	60.4	67.6
Prairies	33.0	40.6	39.8	48.8	55.0	53.4	61.6	68.1
British Columbia and Territories	29.3	30.4	31.3	34.5	47.1	52.0	53.6	62.6
Dishwashers								
Canada	81.0	90.8	79.7	76.2	89.3	89.5	78.7	79.2
Atlantic	75.4	88.4	79.6	66.4	82.4	91.5	61.7	69.0
Quebec	81.3	92.9	82.1	74.1	88.4	91.3	79.3	75.2
Ontario	83.3	90.8	80.4	77.9	90.7	89.3	79.6	81.9
Prairies	78.4	90.3	75.3	77.9	89.3	88.9	82.6	83.6
British Columbia and Territories	79.5	87.9	82.8	73.9	88.9	86.4	69.5	72.7
Clothes washers								
Canada	36.2	45.9	50.8	58.4	64.4	69.4	65.9	74.7
Atlantic and Quebec*	29.9	41.7	43.3	51.6	56.6	60.5	57.8	68.5
Ontario	37.6	50.1	54.6	60.7	67.6	72.9	69.7	78.0
Prairies	36.2	48.2	53.1	61.4	67.2	72.2	69.6	77.2
British Columbia and Territories	36.4	50.3	60.3	66.7	74.2	80.3	71.8	77.2

* For confidentiality reasons, the Atlantic provinces and Quebec have been grouped for this analysis.

Due to rounding, the numbers may not add up to 100.

Table A.3 – Distribution of total refrigerators by type, 1990–2011 (%)

Model year	Type 1	Type 2	Type 3	Type 4	Type 5	Type 5A	Type 6	Type 7
Standard size								
1990	3.5	2.0	84.9	7.6	0.6	0.0	0.0	0.0
1991	3.1	0.3	84.3	9.0	0.8	0.0	0.0	0.3
1992	2.1	0.4	85.4	7.5	0.3	0.0	0.0	3.5
1993	1.1	0.6	85.5	6.8	0.7	0.0	0.0	4.2
1994	0.6	0.7	85.1	4.9	2.0	0.0	0.1	4.3
1995	0.2	0.6	84.8	4.6	1.6	0.0	0.1	5.2
1996	0.2	0.5	84.8	4.4	2.2	0.0	0.1	6.6
1997	0.4	0.1	83.8	3.8	3.2	0.0	0.0	8.3
1998	0.4	0.0	76.5	3.3	8.5	0.0	0.3	7.3
1999	0.1	0.0	76.6	2.4	8.4	0.0	0.4	7.5
2000	0.0	0.0	72.9	2.2	11.1	0.0	0.5	7.9
2001	0.0	0.0	71.1	2.1	11.1	0.0	0.4	9.1
2002	0.0	0.0	70.2	2.2	10.6	0.0	0.2	11.0
2003	0.0	0.0	68.2	2.4	13.9	0.0	0.1	11.2
2004	0.0	0.0	66.4	1.9	15.5	0.0	0.1	11.0
2005	0.0	0.0	64.8	1.1	17.9	0.0	0.0	9.6
2006	0.1	0.0	64.5	1.9	21.2	0.6	0.0	10.1
2007	0.1	0.0	61.0	1.6	22.3	1.2	0.0	13.5
2008	0.4	0.0	59.4	1.2	26.5	2.4	0.0	10.0
2009	0.1	0.0	48.9	0.8	23.8	2.5	0.0	7.1
2010	0.0	0.0	44.5	0.6	27.1	4.1	0.0	5.4
2011	0.0	0.0	44.2	0.5	27.2	6.4	0.0	3.8

Continued

Table A.3 – Distribution of total refrigerators by type, 1990–2011 (%) (continued)

Model year	Type 11	Type 12	Type 13	Type 14	Type 15
Compact					
1990	0.1	0.0	1.2	0.0	0.0
1991	0.3	0.0	2.0	0.0	0.0
1992	0.1	0.0	0.6	0.0	0.0
1993	0.1	0.0	0.9	0.0	0.0
1994	1.3	0.0	1.0	0.0	0.0
1995	1.9	0.0	1.0	0.0	0.0
1996	0.8	0.0	0.4	0.0	0.0
1997	0.4	0.0	0.0	0.0	0.0
1998	3.6	0.0	0.0	0.0	0.0
1999	4.6	0.0	0.0	0.0	0.0
2000	5.3	0.0	0.0	0.0	0.0
2001	6.1	0.0	0.1	0.0	0.0
2002	5.8	0.0	0.1	0.0	0.0
2003	2.0	0.0	2.2	0.0	0.0
2004	4.5	0.0	0.5	0.0	0.0
2005	6.3	0.0	0.1	0.0	0.0
2006	1.5	0.0	0.0	0.0	0.0
2007	0.3	0.0	0.0	0.0	0.0
2008	0.1	0.0	0.0	0.0	0.0
2009	13.6*	0.0	3.2	0.0	0.0
2010	12.9*	0.6	4.7	0.0	0.0
2011	13.2*	0.7	4.0	0.0	0.0

* This significant increase in 2009 and 2010 and 2011 shipments in this category is attributable to the supplementary compact refrigerator data provided by refrigerator manufacturers.

Due to rounding, the numbers may not add up to 100.

The definitions of the various types of refrigerators can be found in Appendix B.

Table A.4 – Distribution of total refrigerators by volume, 1990–2011 (%)

Model year	Volume (cu. ft.)						
	0–10.4	10.5–12.4	12.5–14.4	14.5–16.4	16.5–18.4	18.5–20.4	20.5–32.4
1990	3.8	13.2	17.8	14.1	43.3	2.6	5.1
1991	2.6	14.2	11.0	14.2	47.9	5.4	4.7
1992	1.6	10.9	10.0	19.6	42.0	8.3	7.6
1993	2.2	8.0	7.1	16.6	45.3	12.2	8.7
1994	3.4	9.5	6.9	16.5	45.8	8.7	9.3
1995	3.7	14.1	6.7	15.0	39.5	10.8	10.2
1996	1.9	13.5	6.7	13.4	38.6	12.5	13.4
1997	0.9	11.1	6.9	12.2	39.2	12.7	16.9
1998	4.0	9.3	7.0	10.6	42.7	11.1	15.2
1999	5.3	7.6	6.9	9.9	43.5	10.0	16.8
2000	6.5	6.6	7.7	9.0	41.2	9.3	19.7
2001	8.1	5.6	6.7	8.7	36.4	11.4	23.2
2002	6.3	5.5	7.4	6.8	34.6	15.3	24.2
2003	4.9	3.9	6.1	8.6	37.0	15.7	23.9
2004	5.6	3.0	3.3	11.0	39.2	14.3	23.5
2005	7.0	2.5	2.3	9.7	41.6	15.2	21.7
2006	2.9	3.6	2.5	9.7	40.1	17.3	23.9
2007	1.6	3.3	2.2	8.7	39.9	17.3	27.0
2008	3.2	3.9	2.2	6.3	38.8	21.7	23.8
2009	19.1*	4.4	1.3	5.8	33.0	18.3	18.2
2010	20.1*	4.2	1.2	5.0	31.7	18.3	19.4
2011	19.1*	3.1	0.8	4.4	34.4	17.0	21.3

* This significant increase in 2009, and 2010 and 2011 shipments in this category is attributable to the supplementary compact refrigerator data provided by refrigerator manufacturers.

Due to rounding, the numbers may not add up to 100.

Table A.5 – Distribution of standard-size refrigerators by average annual UEC per cubic foot, 1990–2011 (%)

Model year	kWh/cu. ft. per year					
	10–19.9	20–29.9	30–39.9	40–49.9	50–59.9	60–69.9
1990	0.0	0.0	1.8	4.8	18.9	74.4
1991	0.0	0.0	3.5	13.1	32.9	50.5
1992	0.0	0.0	5.9	33.2	41.0	19.8
1993	0.0	0.1	55.8	32.5	10.0	1.6
1994	0.0	0.4	72.6	22.9	4.1	0.0
1995	0.0	2.8	65.3	30.2	1.6	0.0
1996	0.0	6.7	60.7	31.6	0.9	0.1
1997	0.0	7.0	60.6	31.5	0.9	0.1
1998	0.0	6.2	64.8	28.2	0.8	0.0
1999	0.0	8.8	64.2	26.2	0.6	0.2
2000	0.0	12.9	60.6	24.9	1.0	0.5
2001	0.0	47.5	36.8	13.5	1.4	0.9
2002	0.0	68.2	28.2	3.3	0.2	0.0
2003	0.1	81.6	16.2	1.7	0.2	0.2
2004	0.4	86.3	11.5	1.3	0.2	0.2
2005	0.6	91.5	6.9	0.2	0.2	0.6
2006	0.4	89.6	8.7	0.9	0.3	0.2
2007	0.4	90.7	7.9	0.6	0.4	0.1
2008	3.1	85.7	8.2	2.6	0.3	0.1
2009	4.2	86.8	6.2	2.2	0.5	0.1
2010	4.9	86.1	8.4	0.6	0.0	0.0
2011	4.9	88.3	6.2	0.6	0.0	0.0

Due to rounding, the numbers may not add up to 100.

Table A.6 – Average annual UEC of total refrigerators by type, 1990–2011 (kWh/yr)

Model year	Standard size							
	Type 1	Type 2	Type 3	Type 4	Type 5	Type 5A	Type 6	Type 7
1990	706.2	720.0	947.4	1321.4	1128.4	..	..	..
1991	685.0	636.0	923.2	1218.8	1140.0	..	..	1162.9
1992	696.5	464.8	873.5	1215.1	1160.4	..	..	1175.5
1993	512.4	477.4	702.4	889.3	782.5	..	772.2	953.2
1994	461.8	465.0	640.5	764.0	741.8	..	763.4	891.5
1995	382.7	465.0	630.8	768.6	752.6	..	743.4	865.6
1996	378.4	465.0	620.8	767.7	776.9	..	781.2	833.7
1997	397.2	465.0	635.0	773.7	631.1	..	818.9	860.6
1998	422.3	478.2	640.9	792.3	673.2	..	839.9	870.0
1999	403.7	..	635.9	798.7	665.1	..	771.6	870.9
2000	413.2	..	629.3	781.1	660.9	..	742.9	862.8
2001	403.0	..	544.1	701.2	610.2	..	707.2	725.9
2002	323.5	..	485.6	646.9	547.0	..	604.1	659.2
2003	321.0	..	460.8	625.2	522.4	..	553.5	636.7
2004	..	..	458.4	582.6	496.0	..	554.0	619.8
2005	321.0	..	453.8	566.0	493.2	..	550.8	611.2
2006	319.1	..	455.4	548.4	497.9	580.1	..	613.1
2007	318.9	..	453.5	543.8	490.8	572.7	555.0	595.1
2008	334.4	..	437.7	520.6	482.6	545.4	..	583.5
2009	320.2	..	424.4	539.2	463.4	560.0	680.0	562.7
2010	306.0	..	417.0	560.3	456.3	564.3	555.0	557.4
2011	..	..	417.1	540.0	454.6	542.0	..	547.9

Continued

Table A.6 – Average annual UEC of total refrigerators by type, 1990–2011 (kWh/yr) (continued)

Model year	Compact					Total
	Type 11	Type 12	Type 13	Type 14	Type 15	
1990	337.0	..	370.0	..	..	956.2
1991	337.0	..	370.0	..	..	931.2
1992	337.0	..	370.0	507.0	..	901.7
1993	337.0	..	370.0	..	..	719.6
1994	328.7	..	370.0	..	..	650.4
1995	330.6	..	370.0	..	..	641.6
1996	318.1	..	370.0	..	..	640.4
1997	317.0	..	370.0	..	..	656.5
1998	320.8	419.0	432.1	..	..	653.5
1999	322.4	419.0	430.0	..	..	645.5
2000	323.4	419.0	430.0	..	..	639.5
2001	330.6	419.0	430.0	..	..	559.4
2002	331.1	419.0	405.0	..	..	506.3
2003	323.1	419.0	326.7	..	463.0	487.1
2004	321.3	419.0	356.7	..	..	477.7
2005	327.8	419.0	406.6	..	..	469.2
2006	328.6	..	339.1	..	..	481.0
2007	328.3	..	334.3	..	..	483.1
2008	338.1	..	332.2	..	..	467.3
2009	318.1	337.0	327.6	..	446.0	430.1
2010	322.2	337.0	323.4	..	446.0	424.9
2011	297.5	337.0	336.6	530.0	446.0	421.4

Note: Numbers are not additive.

.. stands for not applicable

The definitions of the various types of refrigerators can be found in Appendix B.

Table A.7 – Distribution of total refrigerators by type and region/province, 2004–2011 (%)

Refrigerator type	2004	2005	2006	2007	2008	2009	2010	2011
Types 1, 2, 4, 6								
Canada	2.3	1.3	2.0	1.7	1.6	0.9	0.7	0.5
Atlantic	1.5	0.4	2.1	3.1	2.3	0.4	0.2	0.0
Quebec	1.7	1.1	1.6	0.9	1.0	0.7	0.6	0.4
Ontario	3.1	1.5	2.3	1.9	2.0	1.1	0.7	0.5
Prairies	2.3	1.4	2.4	2.0	1.8	1.1	0.9	0.7
British Columbia and Territories	1.5	0.6	1.1	1.4	1.2	0.6	0.2	0.2
Type 3								
Canada	66.4	64.9	64.2	60.8	59.3	48.9	44.5	44.2
Atlantic	83.2	81.3	80.9	78.0	77.2	49.8	48.8	46.5
Quebec	69.5	68.9	65.8	63.9	61.4	53.2	44.8	48.0
Ontario	64.5	62.6	64.2	60.9	58.4	48.0	45.1	43.9
Prairies	69.2	65.5	59.5	54.4	55.9	47.1	43.6	41.5
British Columbia and Territories	59.6	56.5	63.4	60.1	56.6	45.1	41.2	40.2
Type 5								
Canada	15.5	17.9	21.2	22.3	26.5	23.6	27.1	27.2
Atlantic	6.4	8.0	8.2	9.2	10.2	8.7	10.5	11.5
Quebec	18.8	20.9	25.3	25.9	31.2	29.3	34.8	31.3
Ontario	14.6	17.7	19.9	21.6	25.2	22.6	25.3	26.6
Prairies	13.6	17.6	22.5	22.2	26.0	21.2	26.1	27.3
British Columbia and Territories	13.6	15.6	19.0	22.3	26.4	27.3	25.6	27.4
Type 5A								
Canada	..	..	0.6	1.2	2.4	2.7	4.1	6.4
Atlantic	..	..	0.1	0.2	0.7	0.7	1.0	1.9
Quebec	..	..	0.3	0.6	1.4	1.6	2.5	3.8
Ontario	..	..	0.7	1.3	2.6	3.0	4.5	7.2
Prairies	..	..	1.0	1.8	3.4	3.4	5.6	8.7
British Columbia and Territories	..	..	0.6	1.3	3.1	3.6	5.1	7.4
Type 7								
Canada	11.0	9.6	10.1	13.5	10.0	7.1	5.4	3.8
Atlantic	8.0	7.6	7.4	8.7	9.3	5.3	4.2	4.1
Quebec	6.1	4.9	4.7	8.0	4.9	3.6	2.8	1.8
Ontario	13.8	11.2	10.9	13.9	11.6	8.3	6.2	4.4
Prairies	14.4	12.3	13.9	19.5	12.8	8.3	6.9	4.7
British Columbia and Territories	13.2	11.3	13.5	14.5	12.3	10.0	6.8	5.4
Types 11, 12, 13, 15 (compact)*								
Canada	4.6	6.3	1.5	0.3	0.1	16.8	18.2	17.9
Atlantic	0.9	2.8	1.2	0.7	0.2	35.1	35.3	36.0
Quebec	3.7	4.3	1.4	0.4	0.1	11.6	14.5	14.7
Ontario	4.0	7.0	1.8	0.3	0.1	17.1	18.3	17.4
Prairies	0.5	3.1	0.7	0.2	0.1	18.9	16.9	17.2
British Columbia and Territories	12.1	16.1	2.4	0.3	0.2	13.5	21.2	19.3

* This significant increase in 2009, 2010 and 2011 shipments in this category is attributable to the supplementary compact refrigerator data provided by refrigerator manufacturers.

.. stands for not applicable

Due to rounding, the numbers may not add up to 100.

The definitions of the various types of refrigerators can be found in Appendix B.

Table A.8 – Distribution of total refrigerators by channel and region/province, 2004–2011 (%)

Channel	2004	2005	2006	2007	2008	2009	2010	2011
Builder								
Canada	18.6	17.0	20.4	18.5	17.7	12.8	10.2	10.5
Atlantic	19.1	15.8	14.6	11.3	11.6	8.4	5.4	6.4
Quebec	6.3	5.6	6.7	5.2	6.8	4.5	4.0	3.5
Ontario	22.5	19.9	23.8	22.2	18.1	14.4	14.2	13.5
Prairies	20.8	19.1	23.4	19.1	21.2	13.6	9.3	11.1
British Columbia and Territories	36.1	32.3	37.1	38.0	41.0	29.8	17.3	19.8
Retail								
Canada	81.4	83.0	79.6	81.5	82.3	87.2	89.8	89.5
Atlantic	80.9	84.2	85.4	88.7	88.4	91.6	94.6	93.6
Quebec	93.7	94.4	93.3	94.8	93.2	95.5	96.0	96.5
Ontario	77.5	80.1	76.2	77.8	81.9	85.6	85.8	86.5
Prairies	79.2	80.9	76.6	80.9	78.8	86.4	90.7	88.9
British Columbia and Territories	63.9	67.7	62.9	62.0	59.0	70.2	82.7	80.2

Due to rounding, the numbers may not add up to 100.

Table A.9 – Distribution of total refrigerators by volume and region/province, 2004–2011 (%)

Volume (cu. ft.)	2004	2005	2006	2007	2008	2009	2010	2011
0–10.4*								
Canada	4.3	6.9	3.1	1.7	3.2	19.1	20.1	19.1
Atlantic	1.9	3.8	5.2	3.9	7.8	39.0	38.9	38.2
Quebec	4.3	4.8	3.3	1.9	2.7	13.6	16.1	15.9
Ontario	4.4	7.5	3.4	1.5	3.0	19.1	20.0	18.6
Prairies	0.6	3.7	1.4	1.1	2.9	20.8	18.9	18.3
British Columbia and Territories	12.7	17.3	4.0	2.5	3.6	17.3	23.6	20.2
10.5–12.4								
Canada	2.6	2.5	3.6	3.3	3.9	4.4	4.2	3.1
Atlantic	6.4	7.4	5.7	4.9	6.5	7.4	7.8	5.5
Quebec	2.0	1.8	2.1	1.8	2.7	2.7	3.0	2.1
Ontario	1.3	1.6	3.7	3.7	3.6	4.1	3.9	2.7
Prairies	2.8	2.4	3.1	2.3	3.7	4.5	4.1	3.3
British Columbia and Territories	7.6	6.2	7.1	6.9	7.5	7.7	6.5	5.9
12.5–14.4								
Canada	3.6	2.3	2.5	2.2	2.2	1.3	1.2	0.8
Atlantic	7.8	7.9	8.1	8.4	7.4	4.2	3.6	2.6
Quebec	2.8	2.1	2.0	1.9	1.9	1.2	1.0	0.9
Ontario	4.7	2.7	2.8	2.2	2.2	1.1	1.1	0.5
Prairies	3.0	1.6	1.6	1.8	1.9	1.1	1.2	0.8
British Columbia and Territories	0.8	0.6	2.1	1.6	1.6	1.1	0.8	0.4
14.5–16.4								
Canada	11.7	9.7	9.7	8.7	6.3	5.8	5.0	4.4
Atlantic	21.4	13.9	12.2	10.2	7.8	4.7	4.4	3.9
Quebec	8.0	6.6	6.6	6.0	4.0	4.3	3.2	2.8
Ontario	14.8	12.8	13.2	12.0	9.1	8.0	7.1	6.1
Prairies	10.5	8.7	8.4	7.2	5.2	5.1	4.4	4.0
British Columbia and Territories	9.3	6.3	5.9	5.7	3.9	3.3	3.3	3.2

Continued

Table A.9 – Distribution of total refrigerators by volume and region/province, 2004–2011 (%) (continued)

Volume (cu. ft.)	2004	2005	2006	2007	2008	2009	2010	2011
16.5–18.4								
Canada	39.5	41.7	39.9	39.8	38.8	33.0	31.7	34.4
Atlantic	40.3	47.1	47.9	50.0	46.6	28.7	29.5	30.6
Quebec	48.9	49.6	45.8	45.6	43.5	38.7	34.3	40.5
Ontario	34.6	37.9	37.3	37.7	37.3	31.6	31.6	33.4
Prairies	40.8	42.1	36.6	35.6	36.0	31.4	30.5	30.9
British Columbia and Territories	29.1	32.4	38.6	38.1	34.8	29.4	29.1	31.6
18.5–20.4								
Canada	14.0	15.2	17.3	17.3	21.7	18.3	18.3	17.0
Atlantic	9.4	8.3	9.2	9.6	10.7	7.6	7.5	9.0
Quebec	17.3	19.3	22.6	23.3	29.3	26.1	28.2	22.4
Ontario	12.9	14.1	15.5	15.4	19.0	16.0	15.1	15.3
Prairies	12.7	13.9	16.6	15.4	19.3	15.1	15.9	15.8
British Columbia and Territories	13.8	13.7	15.9	17.4	21.3	20.5	16.1	16.3
20.5–32.4								
Canada	24.2	21.7	23.9	27.0	23.8	18.2	19.4	21.3
Atlantic	12.9	11.5	11.7	13.0	13.2	8.5	8.3	10.1
Quebec	16.7	15.7	17.7	19.5	15.9	13.3	14.2	15.4
Ontario	27.3	23.3	24.1	27.5	25.8	20.0	21.2	23.4
Prairies	29.6	27.7	32.3	36.6	31.0	21.9	25.0	26.9
British Columbia and Territories	26.7	23.5	26.4	27.8	27.3	20.7	20.5	22.4

* The significant increase in 2009, 2010 and 2011 shipments in this category is attributable to the supplementary compact refrigerator data provided by refrigerator manufacturers.

Due to rounding, the numbers may not add up to 100.

Table A.10 – Distribution of total refrigerators by average annual UEC per cubic foot and region/province, 2004–2011 (%)

Energy range (kWh/cu. ft. per year)	2004	2005	2006	2007	2008	2009	2010	2011
10–19.9								
Canada	0.4	0.5	0.4	0.4	3.1	3.5	7.5	9.0
Atlantic	0.0	0.1	0.1	0.2	0.8	0.9	6.6	9.6
Quebec	0.3	0.4	0.3	0.2	2.1	2.8	4.4	5.5
Ontario	0.3	0.6	0.4	0.4	3.4	3.7	8.5	9.8
Prairies	0.4	0.7	0.5	0.5	4.4	4.7	9.3	11.3
British Columbia and Territories	0.0	0.4	0.3	0.5	3.0	3.6	8.7	9.7
20–29.9								
Canada	82.1	86.2	88.2	90.2	85.6	72.3	67.2	68.0
Atlantic	83.3	80.3	79.3	80.1	73.8	49.3	44.1	44.8
Quebec	85.8	88.9	91.1	92.7	89.5	80.5	75.6	75.5
Ontario	83.8	86.5	87.4	90.1	85.8	72.5	66.7	68.3
Prairies	85.2	89.3	90.0	91.2	85.1	69.0	66.6	66.2
British Columbia and Territories	72.6	74.0	84.2	86.3	80.8	71.4	60.8	64.2
30–39.9								
Canada	11.0	6.5	8.5	7.9	8.2	5.2	5.3	4.5
Atlantic	11.9	16.1	17.6	17.7	17.8	10.7	11.1	8.8
Quebec	9.2	6.1	6.1	5.6	6.0	3.6	3.9	3.7
Ontario	10.7	5.4	8.6	8.1	7.7	4.6	5.0	3.8
Prairies	13.0	6.5	8.1	7.2	7.6	5.4	5.5	4.9
British Columbia and Territories	13.5	7.8	11.0	10.3	12.3	7.8	6.6	5.7
40–49.9								
Canada	1.3	0.2	0.9	0.6	2.6	1.8	1.4	0.8
Atlantic	3.7	0.3	1.6	1.0	7.2	3.8	2.8	1.7
Quebec	0.9	0.1	0.7	0.6	2.2	1.2	1.2	0.7
Ontario	0.8	0.1	1.1	0.4	2.4	1.7	1.2	0.8
Prairies	1.0	0.1	0.4	0.4	2.6	1.8	1.5	0.9
British Columbia and Territories	1.6	0.6	1.3	1.6	2.7	2.4	2.0	1.1

Continued

Table A.10 – Distribution of total refrigerators by average annual UEC per cubic foot and region/province, 2004–2011 (%) (continued)

Energy range (kWh/cu. ft. per year)	2004	2005	2006	2007	2008	2009	2010	2011
50–59.9								
Canada	0.2	0.2	0.3	0.4	0.3	0.5	0.3	0.3
Atlantic	0.0	0.3	0.2	0.3	0.2	0.2	0.1	0.2
Quebec	0.0	0.1	0.2	0.3	0.1	0.4	0.3	0.2
Ontario	0.0	0.2	0.4	0.4	0.4	0.5	0.4	0.4
Prairies	0.0	0.1	0.2	0.2	0.1	0.2	0.2	0.2
British Columbia and Territories	0.0	0.8	0.8	0.8	0.9	1.4	0.7	1.1
60–69.9*								
Canada	0.2	0.6	0.2	0.1	0.1	0.0	0.1	1.8
Atlantic	0.9	0.8	0.1	0.0	0.0	0.0	0.0	3.8
Quebec	0.1	0.4	0.1	0.0	0.0	0.0	0.1	1.5
Ontario	0.2	0.6	0.3	0.2	0.2	0.1	0.1	1.8
Prairies	0.2	0.6	0.0	0.0	0.0	0.0	0.1	1.8
British Columbia and Territories	0.3	0.6	0.1	0.1	0.1	0.1	0.1	1.6
≥70*								
Canada	4.8	5.9	1.5	0.5	0.1	16.7	18.1	15.5
Atlantic	0.2	2.1	1.2	0.8	0.2	35.0	35.2	31.1
Quebec	3.7	3.9	1.4	0.5	0.1	11.6	14.5	12.9
Ontario	4.2	6.6	1.8	0.4	0.0	16.9	18.2	15.2
Prairies	0.3	2.7	0.8	0.5	0.1	18.9	16.8	14.9
British Columbia and Territories	12.0	15.8	2.4	0.4	0.2	13.3	21.0	16.6

* The significant increase in 2009, 2010 and 2011 shipments in these categories is attributable to the supplementary compact refrigerator data provided by refrigerator manufacturers.

Due to rounding, the numbers may not add up to 100.

Table A.11 – Average annual UEC of standard-size refrigerators by volume, 1990–2011 (kWh/yr)

Model year	Volume (cu. ft.)					
	10.5–12.4	12.5–14.4	14.5–16.4	16.5–18.4	18.5–20.4	20.5–32.4
1990	740	850	955	1067	1133	1138
1991	727	877	915	1018	978	1080
1992	697	750	924	940	998	1124
1993	593	600	700	731	799	875
1994	563	547	627	665	720	817
1995	554	540	626	662	715	794
1996	547	570	631	646	680	762
1997	548	567	632	664	695	750
1998	564	562	629	675	703	755
1999	552	575	629	666	667	756
2000	550	583	625	667	637	730
2001	502	493	562	582	534	630
2002	433	428	480	521	489	586
2003	429	424	449	475	496	570
2004	432	420	455	465	487	551
2005	412	425	415	468	477	544
2006	417	434	423	467	489	551
2007	419	438	428	462	486	548
2008	405	438	399	454	470	530
2009	396	438	383	440	456	520
2010	394	438	381	428	452	512
2011	402	438	389	427	448	500

Table A.12 – Average annual UEC per cubic foot of standard-size refrigerators by volume, 1990–2011 (kWh/cu. ft. per year)

Model year	Volume (cu. ft.)					
	10.5–12.4	12.5–14.4	14.5–16.4	16.5–18.4	18.5–20.4	20.5–32.4
1990	65	63	62	61	58	51
1991	64	65	59	58	50	48
1992	61	56	60	54	51	50
1993	52	45	45	42	41	40
1994	49	41	41	38	37	38
1995	48	40	41	38	37	36
1996	48	42	41	37	35	35
1997	48	42	41	38	36	34
1998	49	42	41	39	36	34
1999	48	43	41	38	34	34
2000	48	43	40	38	33	33
2001	44	37	36	33	27	28
2002	38	32	31	30	25	26
2003	38	32	29	27	26	25
2004	38	31	29	27	25	24
2005	36	32	27	27	25	24
2006	36	32	27	27	25	24
2007	37	33	28	26	25	24
2008	35	33	26	26	24	23
2009	35	33	25	25	23	22
2010	34	33	25	25	23	22
2011	35	33	25	24	23	21

Table A.13 – Average annual UEC of total refrigerators by channel and region/province, 2004–2011 (kWh/yr)

Channel	2004	2005	2006	2007	2008	2009	2010	2011
Builder								
Canada	464.3	457.2	458.2	459.2	447.2	430.8	414.8	412.6
Atlantic	463.8	436.8	437.6	439.2	428.5	433.3	409.9	405.9
Quebec	455.6	437.5	445.7	444.6	438.9	424.5	417.2	403.3
Ontario	451.9	444.1	442.0	443.0	426.9	408.6	400.4	401.2
Prairies	477.8	475.1	477.8	477.9	460.3	449.4	433.8	423.8
British Columbia and Territories	483.3	479.0	480.5	480.9	471.1	454.3	441.1	436.4
Retail								
Canada	480.7	471.7	486.9	488.6	471.6	430.1	426.1	422.4
Atlantic	477.8	468.4	471.9	475.2	470.5	404.0	395.1	384.3
Quebec	471.7	468.0	475.6	478.1	460.5	432.7	428.1	421.4
Ontario	489.0	475.0	490.6	490.9	475.1	432.5	428.1	425.9
Prairies	497.1	480.8	498.9	499.3	477.3	427.9	429.6	426.9
British Columbia and Territories	469.2	450.8	489.0	493.8	485.1	435.6	424.0	425.6

Table A.14 – Distribution of freezers by type, 1991–2011 (%)

Model year	Type 8	Type 9	Type 10	Type 16	Type 18
1991	11.8	0.4	81.2	0.0	6.7
1992	12.9	0.3	79.2	0.0	7.6
1993	14.4	0.6	70.3	0.0	14.8
1994	12.9	0.6	71.3	0.0	15.1
1995	16.0	0.7	66.5	0.0	16.7
1996	17.1	1.1	64.0	0.1	17.7
1997	19.1	1.0	60.2	0.3	19.4
1998	21.2	1.8	57.5	0.0	19.5
1999	21.6	2.5	60.3	0.1	15.5
2000	23.9	3.1	56.2	1.2	15.5
2001	19.5	6.7	58.3	1.8	13.8
2002	24.9	9.8	48.9	0.0	16.4
2003	27.8	9.2	47.4	0.0	15.6
2004	29.4	8.3	45.5	0.0	16.8
2005	30.4	10.7	35.7	0.0	23.2
2006	28.5	8.7	45.6	0.0	17.2
2007	26.4	11.8	39.4	0.0	22.4
2008	20.1	11.4	42.9	0.5	25.1
2009	19.5	14.0	34.5	1.7	30.3*
2010	22.9	15.4	19.4	1.0	41.3*
2011	25.6	19.8	20.8	0.9	32.9*

* This significant increase in 2009, 2010 and 2011 shipments in this category is attributable to the supplementary compact freezer data provided by freezer manufacturers.

Due to rounding, the numbers may not add up to 100.

The definitions of the various types of freezers can be found in Appendix B.

Table A.15 – Distribution of freezers by average annual UEC per cubic foot, 1991–2011 (%)

Model year	kWh/cu.ft. per year				
	20–29.9	30–39.9	40–49.9	50–59.9	≥60
1991	0.0	28.3	20.3	31.2	20.3
1992	3.1	18.9	58.3	15.0	4.7
1993	16.5	57.0	16.5	8.4	1.5
1994	15.4	39.0	34.9	9.0	1.8
1995	12.7	39.6	41.2	5.4	1.1
1996	12.4	40.4	37.0	10.3	0.0
1997	11.7	36.7	39.0	12.0	0.6
1998	11.0	34.6	43.1	11.3	0.0
1999	10.8	42.3	37.0	9.6	0.3
2000	10.0	37.6	41.3	8.8	2.3
2001	17.5	36.3	38.2	3.9	4.0
2002	26.7	47.5	24.9	0.8	0.0
2003	28.6	47.4	23.2	0.8	0.0
2004	28.9	48.8	22.3	0.1	0.0
2005	29.5	45.2	25.3	0.0	0.0
2006	34.8	40.4	24.7	0.0	0.0
2007	26.7	47.5	25.9	0.0	0.0
2008	28.8	47.2	23.4	0.0	0.6
2009	18.6	37.7	26.4	15.5*	1.7*
2010	21.6	36.0	27.1	14.4*	1.0*
2011	26.0	42.1	26.0	4.7	1.2*

* This significant increase in 2009, 2010 and 2011 shipments in this category is attributable to the supplementary compact freezer data provided by freezer manufacturers.

Due to rounding, the numbers may not add up to 100.

Table A.16 – Distribution of freezers by type* and region/province, 2004–2011 (%)

Freezer type	2004	2005	2006	2007	2008	2009	2010	2011
Type 8								
Canada	29.4	30.4	28.5	26.4	20.1	19.5	22.9	25.6
Atlantic	19.8	20.8	25.7	29.1	24.3	19.2	22.7	27.1
Quebec	41.3	41.1	44.9	39.9	31.9	28.5	30.4	32.8
Ontario	28.2	26.7	31.6	28.8	22.2	17.2	20.0	23.0
Prairies	31.7	27.9	31.9	26.8	17.8	14.6	18.4	21.4
British Columbia and Territories	30.0	28.8	30.0	31.6	22.0	18.1	24.3	26.9
Type 9								
Canada	8.3	10.7	8.7	11.8	11.4	14.0	15.4	19.8
Atlantic	10.2	8.2	6.9	11.2	10.4	4.9	7.1	9.5
Quebec	5.6	6.0	3.5	8.2	8.6	11.5	12.5	16.0
Ontario	17.8	13.4	10.1	17.1	17.6	16.0	18.1	23.6
Prairies	12.6	12.1	9.6	16.0	16.4	17.4	18.6	22.5
British Columbia and Territories	15.0	14.6	14.3	16.6	16.3	9.6	11.8	15.8
Type 10								
Canada	45.5	35.7	45.6	39.4	42.9	34.5	32.4	24.9
Atlantic	38.0	37.0	29.0	27.3	28.2	38.0	35.0	22.8
Quebec	22.7	21.9	25.0	21.5	23.4	30.4	30.1	23.0
Ontario	18.9	19.9	22.6	21.6	23.3	34.3	31.4	23.9
Prairies	25.9	23.3	27.5	25.9	29.2	36.3	34.2	27.4
British Columbia and Territories	30.8	28.5	26.8	26.9	29.7	39.7	37.0	30.7
Type 18								
Canada	16.8	23.2	17.2	22.4	25.1	30.3	28.3	28.8
Atlantic	32.0	34.1	38.4	32.4	37.1	35.2	33.7	39.3
Quebec	30.4	31.0	26.6	30.4	34.9	28.4	26.1	27.4
Ontario	35.1	39.8	35.7	32.4	36.4	30.6	29.4	28.6
Prairies	29.8	36.7	30.9	31.3	36.6	30.2	28.0	28.0
British Columbia and Territories	24.1	28.1	28.9	24.9	30.1	30.6	25.6	25.6

* The breakdown does not include the slight market share for Type 16 freezers now evident in supplementary freezer data for 2009, 2010 and 2011.

The definitions of the various types of freezers can be found in Appendix B.

Table A.17 – Distribution of freezers by average annual UEC per cubic foot and region/ province, 2004–2011 (%)

Energy range (kWh/cu. ft. per year)	2004	2005	2006	2007	2008	2009	2010	2011
20–29.9								
Canada	28.9	29.5	34.8	26.7	28.8	18.6	21.6	26.0
Atlantic	34.3	36.4	31.2	30.0	29.7	14.8	17.7	21.8
Quebec	27.9	29.9	36.6	26.8	31.0	22.2	23.8	26.4
Ontario	22.2	24.5	30.4	24.0	24.2	15.4	17.5	23.8
Prairies	33.2	31.9	40.2	26.6	29.4	19.0	24.3	28.4
British Columbia and Territories	36.7	37.5	38.0	37.7	37.5	25.0	27.1	31.8
30–39.9								
Canada	48.8	45.2	40.4	47.5	47.2	37.7	36.0	42.1
Atlantic	46.0	47.6	46.5	48.4	46.1	27.8	32.1	41.6
Quebec	51.3	48.7	45.7	50.3	48.6	44.4	39.0	44.3
Ontario	51.1	44.3	41.1	46.4	48.9	36.2	35.5	42.0
Prairies	47.3	45.6	36.1	49.9	46.6	38.2	35.8	40.8
British Columbia and Territories	40.6	35.4	32.6	32.6	36.4	28.4	31.2	40.5
40–49.9								
Canada	22.3	25.3	24.7	25.9	23.4	26.4	27.1	26.0
Atlantic	19.3	16.0	22.3	21.6	24.1	29.5	28.2	27.4
Quebec	20.7	21.4	17.6	23.0	19.1	21.3	24.1	24.0
Ontario	26.6	31.1	28.5	29.6	26.4	29.6	30.1	28.1
Prairies	19.5	22.5	23.8	23.5	24.0	26.6	27.0	25.9
British Columbia and Territories	22.6	27.0	29.4	29.7	24.3	25.3	22.7	20.3
50–59.9*								
Canada	0.1	0.0	0.0	0.0	0.0	15.5	14.4	4.7
Atlantic	0.3	0.0	0.0	0.0	0.0	25.2	20.5	7.2
Quebec	0.1	0.0	0.0	0.0	0.0	10.9	12.2	4.2
Ontario	0.1	0.0	0.0	0.0	0.0	16.9	15.7	4.7
Prairies	0.0	0.0	0.0	0.0	0.0	14.6	12.0	4.0
British Columbia and Territories	0.1	0.0	0.0	0.0	0.0	19.3	17.8	5.9
≥60*								
Canada	0.0	0.0	0.0	0.0	0.6	1.7	1.0	1.2
Atlantic	0.0	0.0	0.0	0.0	0.0	2.7	1.4	1.9
Quebec	0.0	0.0	0.0	0.0	1.2	1.2	0.9	1.1
Ontario	0.0	0.0	0.0	0.0	0.5	1.9	1.1	1.3
Prairies	0.0	0.0	0.0	0.0	0.0	1.6	0.8	1.1
British Columbia and Territories	0.0	0.0	0.0	0.0	1.9	2.1	1.2	1.5

*The significant increases in 2009, 2010 and 2011 shipments in the categories over 50 kWh/cu. ft. per year are attributable to the supplementary compact freezer data provided by freezer manufacturers.

Due to rounding, the numbers may not add up to 100.

Table A.18 – Distribution of freezers by channel and region/province, 2004–2011 (%)

Channel	2004	2005	2006	2007	2008	2009	2010	2011
Builder								
Canada	1.8	2.1	2.0	2.6	9.3	4.4	3.7	3.0
Atlantic	0.9	1.6	0.5	0.4	0.6	0.1	0.1	0.1
Quebec	0.9	0.7	0.4	0.2	4.2	2.5	2.8	2.3
Ontario	0.5	0.4	0.3	0.9	8.1	3.2	4.2	3.1
Prairies	5.0	4.4	7.2	4.1	13.2	5.8	4.3	4.0
British Columbia and Territories	15.5	18.6	16.0	13.2	27.3	17.8	6.8	4.6
Retail								
Canada	98.2	97.9	98.0	97.4	90.7	95.6	96.3	97.0
Atlantic	99.1	98.4	99.5	99.6	99.4	99.9	99.9	99.9
Quebec	99.1	99.3	99.6	99.8	95.8	97.5	97.2	97.7
Ontario	99.5	99.6	99.7	99.1	91.9	96.8	95.8	96.9
Prairies	95.0	95.6	92.8	95.9	86.8	94.2	95.7	96.0
British Columbia and Territories	84.5	81.4	84.0	86.8	72.7	82.2	93.2	95.4

Due to rounding, the numbers may not add up to 100.

Table A.19 – Average annual UEC of freezers by type, 1991–2011 (kWh/yr)

Model year	Type 8	Type 9	Type 10	Type 18	Total
1991	706.4	1068.0	412.4	339.8	444.7
1992	670.4	1078.0	421.1	337.8	449.3
1993	581.3	863.3	385.1	287.8	401.7
1994	535.9	846.1	379.1	292.4	389.2
1995	508.9	817.1	371.1	282.0	381.6
1996	502.9	820.7	368.1	279.4	376.7
1997	494.8	823.7	362.4	278.7	376.5
1998	496.0	829.6	360.2	278.2	381.5
1999	493.1	838.6	353.2	276.3	383.4
2000	494.8	839.4	354.0	277.1	390.9
2001	456.9	740.5	345.1	275.7	383.9
2002	412.7	674.2	316.7	267.7	367.7
2003	414.8	665.4	317.8	268.3	369.1
2004	412.0	595.9	344.1	271.1	372.7
2005	420.8	650.1	351.8	269.1	385.6
2006	431.8	664.2	335.8	265.0	379.6
2007	432.9	654.1	337.6	265.7	384.0
2008	449.8	644.5	334.1	263.3	374.8
2009	438.9	622.7	348.4	243.7	356.3
2010	432.8	621.7	294.6	256.6	365.5
2011	431.2	629.5	331.6	244.1	390.3

Note: Numbers are not additive.

The definitions of the various types of freezers can be found in Appendix B

Table A.20 – Distribution of dishwashers by average annual UEC, 1990–2011 (%)

Model year	kWh/yr							≥700
	0–249.9	250–299.9	300–349.9	350–399.9	400–499.9	500–599.9	600–699.9	
1990	0.0	0.0	0.0	0.0	0.0	0.0	0.2	99.8
1991	0.0	0.0	0.0	0.0	0.0	0.0	5.8	94.2
1992	0.0	0.0	0.0	0.0	0.0	0.0	8.5	91.5
1993	0.0	0.0	0.0	0.0	0.0	0.4	7.7	91.9
1994	0.0	0.0	0.0	0.0	0.5	0.5	32.9	66.1
1995	0.0	0.0	0.0	0.2	0.9	0.9	63.7	34.2
1996	0.0	0.0	0.0	0.2	0.9	3.9	63.0	32.0
1997	0.0	0.0	0.0	0.4	1.1	20.5	56.9	21.2
1998	0.0	0.0	0.0	0.2	1.2	23.4	71.6	3.7
1999	0.0	0.0	0.0	0.2	1.4	24.9	73.6	0.0
2000	0.0	0.0	0.0	0.1	3.9	19.3	76.7	0.0
2001	0.0	0.0	0.0	0.0	5.5	23.9	70.6	0.0
2002	0.0	0.0	0.0	3.2	13.6	37.8	45.5	0.0
2003	0.0	0.0	0.0	9.1	33.6	36.5	20.7	0.0
2004	0.0	0.0	4.0	24.3	46.4	16.5	8.8	0.0
2005	0.0	0.0	19.6	55.5	15.5	6.4	3.0	0.0
2006	0.0	0.3	28.2	61.8	5.7	2.7	1.3	0.0
2007	0.0	2.6	48.9	42.7	5.0	0.6	0.3	0.0
2008	0.0	0.6	69.7	26.9	2.7	0.0	0.0	0.0
2009	0.0	4.2	85.3	10.1	0.4	0.0	0.0	0.0
2010	0.0	13.6	79.6	6.6	0.1	0.0	0.0	0.0
2011	1.5	43.1	55.4	0.0	0.0	0.0	0.0	0.0

Due to rounding, the numbers may not add up to 100.

Table A.21 – Distribution of dishwashers by average annual UEC and region/province, 2004–2011 (%)

Energy range (kWh/yr)	2004	2005	2006	2007	2008	2009	2010	2011
0–249.9								
Canada	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.5
Atlantic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0
Quebec	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.1
Ontario	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.6
Prairies	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.8
British Columbia and Territories	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0
250–299.9								
Canada	0.0	0.0	0.3	2.6	0.7	4.2	13.6	43.1
Atlantic	0.0	0.0	1.0	7.1	0.8	2.6	7.6	23.4
Quebec	0.0	0.0	1.1	4.9	0.7	3.2	12.7	49.0
Ontario	0.0	0.0	0.1	1.6	0.7	5.2	15.2	43.6
Prairies	0.0	0.0	0.0	1.3	0.6	3.4	12.6	41.3
British Columbia and Territories	0.0	0.0	0.1	2.3	0.7	5.7	15.3	40.4
300–349.9								
Canada	4.0	19.6	28.2	48.9	69.7	85.3	79.6	55.4
Atlantic	9.0	25.5	33.1	45.3	59.9	89.0	89.7	75.6
Quebec	4.0	21.9	26.3	46.9	70.3	85.6	77.9	49.8
Ontario	4.6	20.5	28.5	50.5	70.1	85.0	78.5	54.7
Prairies	2.7	15.2	25.8	47.6	70.5	85.3	82.3	56.9
British Columbia and Territories	3.4	20.0	35.5	51.8	68.6	84.5	77.2	58.4
350–399.9								
Canada	24.3	55.5	61.8	42.7	26.9	10.1	6.6	0.0
Atlantic	21.3	48.0	49.7	38.6	35.2	8.3	2.7	0.0
Quebec	28.0	59.7	66.8	43.8	26.9	10.9	9.2	0.0
Ontario	22.7	54.0	61.7	42.2	26.2	9.2	6.1	0.0
Prairies	23.5	59.2	64.2	45.5	26.6	10.9	5.0	0.0
British Columbia and Territories	24.1	44.7	50.0	36.8	27.3	9.7	7.4	0.0
400–699.9								
Canada	71.7	24.9	9.7	5.9	2.7	0.4	0.1	0.0
Atlantic	69.7	26.5	16.3	8.9	4.1	0.1	0.0	0.0
Quebec	68.1	18.4	5.9	4.3	2.1	0.3	0.2	0.0
Ontario	72.7	25.4	9.7	5.7	3.0	0.5	0.1	0.0
Prairies	73.8	25.7	10.0	5.6	2.4	0.4	0.2	0.0
British Columbia and Territories	72.6	35.3	14.4	9.2	3.4	0.1	0.0	0.0

Due to rounding, the numbers may not add up to 100.

Table A.22 – Distribution of dishwashers by channel and region/province, 2004–2011 (%)

Channel	2004	2005	2006	2007	2008	2009	2010	2011
Builder								
Canada	14.3	14.7	15.5	15.5	15.5	15.2	11.9	13.0
Atlantic	15.3	11.6	11.8	9.1	10.9	10.9	9.1	9.4
Quebec	3.0	2.9	3.3	3.2	3.0	3.1	3.3	2.9
Ontario	15.1	15.1	15.5	15.0	12.3	13.4	13.9	13.3
Prairies	16.7	16.8	18.8	18.5	20.3	18.1	13.5	16.4
British Columbia and Territories	32.3	35.9	33.9	36.3	41.8	42.2	23.7	28.8
Retail								
Canada	85.7	85.3	84.5	84.5	84.5	84.8	88.1	87.0
Atlantic	84.7	88.4	88.2	90.9	89.1	89.1	90.9	90.6
Quebec	97.0	97.1	96.7	96.8	97.0	96.9	96.7	97.1
Ontario	84.9	84.9	84.5	85.0	87.7	86.6	86.1	86.7
Prairies	83.3	83.2	81.2	81.5	79.7	81.9	86.5	83.6
British Columbia and Territories	67.7	64.1	66.1	63.7	58.2	57.8	76.3	71.2

Due to rounding, the numbers may not add up to 100.

Table A.23 – Average annual UEC of dishwashers, 1990–2011

Model year	kWh/yr
1990	1025.7
1991	959.0
1992	908.0
1993	913.5
1994	776.7
1995	670.9
1996	668.2
1997	649.2
1998	646.7
1999	640.1
2000	637.4
2001	633.7
2002	592.0
2003	523.9
2004	456.8
2005	395.7
2006	372.6
2007	353.8
2008	342.9
2009	324.7
2010	309.6
2011	298.0

Table A.24 – Average annual UEC of dishwashers by channel and region/province, 2004–2011 (kWh/yr)

Channel	2004	2005	2006	2007	2008	2009	2010	2011
Builder								
Canada	443.0	404.0	382.8	361.1	348.4	323.9	308.4	305.1
Atlantic	454.4	391.2	385.9	353.3	342.8	329.5	306.7	304.0
Quebec	449.2	417.0	386.8	363.7	342.2	328.0	305.7	301.6
Ontario	447.0	408.9	388.4	366.5	354.0	322.9	307.9	303.7
Prairies	442.1	396.4	381.2	359.4	347.0	325.0	309.6	307.3
British Columbia and Territories	434.6	404.2	376.3	356.3	345.6	322.8	309.3	305.4
Retail								
Canada	459.1	394.2	370.7	352.5	341.9	324.9	309.8	297.0
Atlantic	469.4	402.9	382.2	357.7	349.5	326.0	310.1	304.0
Quebec	454.3	386.5	367.3	350.0	342.9	325.6	310.0	297.1
Ontario	454.7	392.6	371.0	352.1	341.3	323.8	308.9	296.6
Prairies	465.2	399.3	371.8	354.6	341.1	325.8	311.6	295.7
British Columbia and Territories	472.6	408.4	372.6	352.7	340.4	323.2	306.8	298.2

Table A.25 – Distribution of electric ranges by type, 1990–2011 (%)

Model year	Non-self-cleaning	Self-cleaning
1990	77.1	22.9
1991	71.3	28.7
1992	71.6	28.4
1993	70.1	29.9
1994	69.4	30.6
1995	68.3	31.7
1996	66.6	33.4
1997	64.1	35.9
1998	59.2	40.8
1999	59.4	40.6
2000	55.6	44.4
2001	47.8	52.2
2002	42.7	57.3
2003	44.9	55.1
2004	42.3	57.7
2005	41.2	58.8
2006	40.1	59.9
2007	34.2	65.8
2008	30.4	69.6
2009	31.8	68.2
2010	26.3	73.7
2011	22.8	77.2

Due to rounding, the numbers may not add up to 100.

Table A.26 – Distribution of electric ranges by average annual UEC, 1990–2011 (%)

Model year	kWh/yr						
	0–399.9	400–449.9	450–499.9	500–549.9	550–599.9	600–649.9	650–899.9
1990	3.8	0.0	0.0	0.0	0.0	0.0	96.2
1991	0.0	0.0	0.0	0.0	0.0	0.0	100.0
1992	0.0	0.0	0.0	0.0	0.0	0.0	100.0
1993	0.0	0.0	0.0	0.0	0.0	0.0	100.0
1994	0.0	0.0	0.0	0.0	0.0	0.1	99.9
1995	0.0	0.0	0.0	0.0	0.0	0.1	99.9
1996	0.0	0.0	0.0	0.0	0.0	0.0	100.0
1997	0.0	0.0	0.0	0.0	0.0	0.0	100.0
1998	0.0	0.0	0.0	0.0	0.0	0.0	100.0
1999	0.0	0.0	0.0	0.0	0.0	0.0	100.0
2000	0.0	0.0	0.0	0.0	0.0	0.0	100.0
2001	0.0	0.0	0.0	0.0	0.0	0.0	100.0
2002	0.0	0.0	0.0	0.0	0.0	0.0	100.0
2003	0.0	0.9	11.6	4.9	0.5	0.4	81.8
2004	0.0	6.3	21.5	11.4	1.9	4.8	54.1
2005	0.0	7.0	37.9	20.8	5.4	4.6	24.4
2006	0.0	10.4	37.5	22.4	14.2	3.3	12.3
2007	0.0	9.3	29.7	34.6	16.6	3.0	6.8
2008	0.0	6.7	25.0	43.4	17.8	3.2	3.9
2009	0.1	4.5	25.2	43.4	22.5	4.2	0.1
2010	0.6	3.7	22.1	43.0	25.0	5.6	0.0
2011	0.8	2.8	19.9	41.7	30.5	4.2	0.0

Due to rounding, the numbers may not add up to 100.

Table A.27 – Distribution of electric ranges by type and region/province, 2004–2011 (%)

Electric range type	2004	2005	2006	2007	2008	2009	2010	2011
Non-self-cleaning								
Canada	42.3	41.2	40.1	34.2	30.4	27.8	26.3	22.8
Atlantic	53.7	51.7	51.6	48.4	44.3	43.8	36.9	36.1
Quebec	40.4	37.6	31.8	28.0	23.7	19.0	16.9	14.2
Ontario	44.3	46.1	49.0	39.2	34.8	32.2	31.4	26.5
Prairies	39.7	36.5	32.7	31.1	29.3	27.5	25.6	22.2
British Columbia and Territories	40.7	38.6	35.5	33.8	31.7	30.9	32.4	30.2
Self-cleaning								
Canada	57.7	58.8	59.9	65.8	69.6	72.2	73.7	77.2
Atlantic	46.3	48.3	48.4	51.6	55.7	56.2	63.1	63.9
Quebec	59.6	62.4	68.2	72.0	76.3	81.0	83.1	85.8
Ontario	55.7	53.9	51.0	60.8	65.2	67.8	68.6	73.5
Prairies	60.3	63.5	67.3	68.9	70.7	72.5	74.4	77.8
British Columbia and Territories	59.3	61.4	64.5	66.2	68.3	69.1	67.6	69.8

Due to rounding, the numbers may not add up to 100.

Table A.28 – Distribution of electric ranges by average annual UEC and region/province, 2004–2011 (%)

Energy range (kWh/yr)	2004	2005	2006	2007	2008	2009	2010`	2011
0–399.9								
Canada	0.0	0.0	0.0	0.0	0.0	0.1	0.6	0.8
Atlantic	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.3
Quebec	0.0	0.0	0.0	0.0	0.0	0.1	0.5	0.9
Ontario	0.0	0.0	0.0	0.0	0.0	0.1	0.7	0.7
Prairies	0.0	0.0	0.0	0.0	0.0	0.2	0.6	1.0
British Columbia and Territories	0.0	0.0	0.0	0.0	0.0	0.2	0.7	1.0
400–449.9								
Canada	6.3	7.0	10.4	9.3	6.7	4.5	3.7	2.8
Atlantic	1.5	4.3	9.3	11.8	8.4	4.7	4.2	4.2
Quebec	9.5	9.0	12.3	10.5	7.5	4.6	3.1	2.2
Ontario	5.0	6.2	9.6	8.8	6.7	5.4	4.7	3.3
Prairies	7.1	7.5	10.7	8.6	5.9	3.3	2.9	2.0
British Columbia and Territories	1.5	4.0	8.6	8.4	5.5	4.2	3.7	4.2
450–499.9								
Canada	21.5	37.9	37.5	29.7	25.0	25.2	22.1	19.9
Atlantic	16.8	32.5	35.3	28.1	28.7	28.9	26.7	22.7
Quebec	21.4	34.7	35.2	30.4	26.2	26.9	22.0	18.1
Ontario	20.8	39.4	38.5	29.6	23.9	23.8	21.2	19.9
Prairies	25.2	40.8	35.0	28.1	22.6	23.0	21.2	20.8
British Columbia and Territories	17.8	38.6	45.0	32.8	29.2	29.1	25.9	22.7
500–549.9								
Canada	11.4	20.8	22.4	34.6	43.4	43.4	43.0	41.7
Atlantic	13.3	20.6	24.7	31.0	36.8	38.2	39.8	46.6
Quebec	13.0	21.3	19.9	30.8	41.3	41.0	43.4	40.0
Ontario	10.3	20.4	22.5	36.3	44.5	44.8	42.2	41.9
Prairies	12.9	21.9	25.9	38.1	48.7	48.6	46.4	43.7
British Columbia and Territories	5.8	17.9	20.2	32.0	36.0	34.2	38.5	38.8
550–599.9								
Canada	1.9	5.4	14.2	16.6	17.8	22.5	25.0	30.5
Atlantic	1.3	9.2	19.5	22.6	22.0	26.7	24.2	23.0
Quebec	2.0	4.8	15.0	15.0	16.9	23.3	24.6	32.3
Ontario	2.0	5.7	13.2	16.2	17.5	22.2	26.3	30.8
Prairies	1.8	5.1	14.9	16.4	17.1	18.8	22.1	29.5
British Columbia and Territories	1.4	4.6	12.2	19.3	21.4	28.6	28.5	30.2

Table A.28 – Distribution of electric ranges by average annual UEC and region province, 2004–2011 (%) (continued)

Energy range (kWh/yr)	2004	2005	2006	2007	2008	2009	2010`	2011
600–649.9								
Canada	4.8	4.6	3.3	3.0	3.2	4.2	5.6	4.2
Atlantic	2.3	2.8	1.0	1.9	2.0	1.3	4.9	3.2
Quebec	4.1	6.1	5.3	4.2	3.4	4.0	6.4	6.5
Ontario	5.0	3.9	2.4	2.4	2.8	3.6	5.0	3.4
Prairies	5.0	3.7	3.0	2.5	3.0	6.1	6.8	3.0
British Columbia and Territories	6.8	5.4	3.3	3.5	4.6	3.7	2.7	3.1
650–899.9								
Canada	54.1	24.4	12.3	6.8	3.9	0.1	0.0	0.0
Atlantic	64.8	30.6	10.2	4.5	2.1	0.1	0.0	0.0
Quebec	50.0	24.1	12.3	9.0	4.7	0.2	0.0	0.0
Ontario	56.8	24.5	13.8	6.6	4.5	0.0	0.0	0.0
Prairies	48.0	20.9	10.6	6.2	2.7	0.0	0.0	0.0
British Columbia and Territories	66.8	29.5	10.7	4.0	3.2	0.0	0.0	0.0

Due to rounding, the numbers may not add up to 100.

Table A.29 – Distribution of electric ranges by channel and region/province, 2004–2011 (%)

Channel	2004	2005	2006	2007	2008	2009	2010	2011
Builder								
Canada	21.5	22.1	26.9	21.1	19.0	18.7	17.0	16.5
Atlantic	19.5	17.3	17.4	12.8	11.3	14.7	10.5	11.5
Quebec	6.6	6.5	8.7	6.0	6.6	6.1	6.4	4.8
Ontario	28.2	29.1	33.2	26.9	21.4	23.0	24.8	21.8
Prairies	22.6	23.6	31.0	22.9	23.2	19.9	15.1	18.0
British Columbia and Territories	42.8	43.5	43.9	41.7	43.1	41.4	29.0	32.4
Retail								
Canada	78.5	77.9	73.1	78.9	81.0	81.3	83.0	83.5
Atlantic	80.5	82.7	82.6	87.2	88.7	85.3	89.5	88.5
Quebec	93.4	93.5	91.3	94.0	93.4	93.9	93.6	95.2
Ontario	71.8	70.9	66.8	73.1	78.6	77.0	75.2	78.2
Prairies	77.4	76.4	69.0	77.1	76.8	80.1	84.9	82.0
British Columbia and Territories	57.2	56.5	56.1	58.3	56.9	58.6	71.0	67.6

Due to rounding, the numbers may not add up to 100.

Table A.30 – Average annual UEC of electric ranges by type, 1990–2011 (kWh/yr)

Model year	Non-self-cleaning	Self-cleaning	Total
1990	785.7	726.8	772.2
1991	787.4	755.1	778.1
1992	788.3	754.1	778.6
1993	795.2	751.5	782.1
1994	785.4	746.6	773.6
1995	778.3	756.4	771.3
1996	780.3	762.5	774.4
1997	780.2	758.5	772.4
1998	778.5	759.6	770.8
1999	770.3	741.8	758.7
2000	770.7	746.3	759.9
2001	785.7	741.2	762.5
2002	783.9	735.2	756.0
2003	732.1	691.0	709.4
2004	694.1	622.4	652.7
2005	593.2	558.0	572.5
2006	558.9	522.7	537.2
2007	522.4	525.2	524.3
2008	516.3	524.1	521.7
2009	502.6	523.5	517.7
2010	499.3	529.7	521.7
2011	496.6	534.4	525.7

Note: Numbers are not additive.

Table A.31 – Average annual UEC of electric ranges by channel and region/province, 2004–2011 (kWh/yr)

Channel	2004	2005	2006	2007	2008	2009	2010	2011
Builder								
Canada	730.9	604.5	541.3	508.9	515.1	501.0	501.5	502.6
Atlantic	709.5	595.3	524.5	511.4	503.2	499.8	492.5	497.6
Quebec	714.3	620.3	562.1	534.1	545.2	478.6	487.7	485.2
Ontario	739.5	612.4	551.4	508.5	514.5	497.9	501.5	504.0
Prairies	724.1	586.1	532.7	503.6	508.4	509.7	508.5	508.2
British Columbia and Territories	728.7	600.3	518.2	501.3	512.1	507.0	504.5	499.9
Retail								
Canada	631.3	563.5	535.7	528.4	523.3	521.5	525.8	530.3
Atlantic	677.8	590.0	535.1	521.3	516.0	515.6	520.0	519.9
Quebec	625.9	563.8	537.4	529.2	521.6	521.9	526.6	533.2
Ontario	634.6	560.5	532.2	527.9	524.9	521.9	527.5	530.9
Prairies	610.2	553.3	538.2	528.6	523.9	520.9	524.0	528.1
British Columbia and Territories	684.2	587.8	538.7	531.2	527.4	524.0	524.3	528.9

Table A.32 – Distribution of clothes washers by type, 2001–2011 (%)

Model year	Front-loading	Top-loading
2001	15.7	84.3
2002	16.8	83.2
2003	21.5	78.5
2004	29.2	70.8
2005	42.3	57.7
2006	46.9	53.1
2007	55.3	44.7
2008	60.5	39.5
2009	61.4	38.6
2010	59.8	40.2
2011	57.0	43.0

Due to rounding, the numbers may not add up to 100.

Table A.33 – Distribution of clothes washers by average annual UEC, 1990–2011 (%)

Model year	kWh/yr						
	50–99.9	100–149.9	150–199.9	200–399.9	400–599.9	600–999.9	≥1000
1990	0.0	0.0	0.0	0.0	0.0	35.7	64.3
1991	0.0	0.0	0.0	0.0	0.0	34.3	65.7
1992	0.0	0.0	0.0	0.0	0.0	22.7	77.3
1993	0.0	0.0	0.0	0.0	0.0	29.4	70.6
1994	0.0	0.0	0.0	0.0	0.0	49.7	50.3
1995	0.0	0.0	0.0	0.0	0.0	55.6	44.4
1996	0.0	0.0	0.0	0.2	0.0	54.9	44.9
1997	0.0	0.0	0.0	2.7	0.0	49.4	47.9
1998	0.0	0.0	0.0	7.7	0.1	42.6	49.6
1999	0.0	0.0	0.0	10.6	1.3	61.7	26.4
2000	0.0	0.0	0.0	13.0	0.3	75.3	11.4
2001	0.0	0.0	0.0	17.0	0.1	79.9	3.0
2002	0.0	0.1	1.2	21.0	0.0	72.7	5.0
2003	0.0	0.3	4.7	23.5	4.3	65.6	1.6
2004	0.0	0.2	8.1	27.4	19.1	45.2	0.0
2005	0.0	2.8	14.0	31.4	31.7	20.1	0.0
2006	0.0	3.3	23.5	27.8	31.2	14.2	0.0
2007	0.0	5.9	32.6	32.4	26.6	2.5	0.0
2008	0.0	8.7	35.3	34.4	21.5	0.0	0.0
2009	0.0	15.9	29.1	44.3	10.5	0.2	0.0
2010	0.6	36.9	20.0	29.8	12.6	0.2	0.0
2011	7.0	39.8	23.2	13.0	16.9	0.2	0.0

Due to rounding, the numbers may not add up to 100.

Table A.34 – Distribution of clothes washers by type and region/province, 2004–2011 (%)

Clothes washer type	2004	2005	2006	2007	2008	2009	2010	2011
Front-loading								
Canada	29.2	42.3	46.9	55.3	60.5	61.4	59.8	57.0
Atlantic and Quebec	22.8	36.2	39.0	46.9	51.6	49.3	46.0	44.4
Ontario	27.7	45.4	50.5	58.3	64.0	65.3	65.8	61.2
Prairies	28.9	44.9	49.2	58.7	63.7	66.0	65.4	62.0
British Columbia and Territories	30.2	48.6	59.1	66.2	72.6	76.7	73.5	71.7
Top-loading								
Canada	70.8	57.7	53.1	44.7	39.5	38.6	40.2	43.0
Atlantic and Quebec	77.2	63.8	61.0	53.1	48.4	50.7	54.0	55.6
Ontario	72.3	54.6	49.5	41.7	36.0	34.7	34.2	38.8
Prairies	71.1	55.1	50.8	41.3	36.3	34.0	34.6	38.0
British Columbia and Territories	69.8	51.4	40.9	33.8	27.4	23.3	26.5	28.3

Due to rounding, the numbers may not add up to 100.

Table A.35 – Distribution of clothes washers by average annual UEC and region/province, 2004–2011 (%)

Energy range (kWh/yr)	2004	2005	2006	2007	2008	2009	2010	2011
50–99.9								
Canada	0.0	0.0	0.0	0.0	0.0	0.0	0.6	7.0
Atlantic and Quebec	0.0	0.0	0.0	0.0	0.0	0.0	0.5	5.0
Ontario	0.0	0.0	0.0	0.0	0.0	0.0	0.8	8.6
Prairies	0.0	0.0	0.0	0.0	0.0	0.0	0.3	6.3
British Columbia and Territories	0.0	0.0	0.0	0.0	0.0	0.0	0.6	9.0
100–149.9								
Canada	0.2	2.8	3.3	5.9	8.7	15.9	36.9	39.8
Atlantic and Quebec	0.0	2.4	3.0	5.3	7.6	12.9	29.2	34.7
Ontario	0.0	3.2	3.5	6.5	9.5	17.0	39.6	41.7
Prairies	0.0	2.0	2.3	4.1	7.9	16.7	42.3	42.7
British Columbia and Territories	0.0	5.9	6.7	7.2	12.5	20.5	40.4	42.7
150–199.9								
Canada	8.1	14.0	23.5	32.6	35.3	29.1	20.0	23.2
Atlantic and Quebec	5.8	10.3	16.6	27.1	29.7	22.4	16.3	21.4
Ontario	7.9	16.1	25.8	33.3	37.0	31.7	22.1	23.7
Prairies	10.0	15.7	29.5	39.0	40.6	32.9	19.6	24.1
British Columbia and Territories	3.8	16.8	25.4	37.0	35.7	32.9	26.6	24.9

Table A.35 – Distribution of clothes washers by average annual UEC and region/province, 2004–2011 (%) (continued)

Energy range (kWh/yr)	2004	2005	2006	2007	2008	2009	2010	2011
200–399.9								
Canada	27.4	31.4	27.8	32.4	34.4	44.3	29.8	13.0
Atlantic and Quebec	21.9	29.1	27.7	34.0	36.1	50.9	35.3	16.2
Ontario	29.0	33.2	28.8	31.9	33.3	41.6	27.9	11.3
Prairies	25.9	32.4	25.4	31.3	33.1	41.5	26.9	11.7
British Columbia and Territories	31.8	30.3	30.8	31.4	35.7	39.1	23.8	11.7
400–599.9								
Canada	19.1	31.7	31.2	26.6	21.5	10.5	12.6	16.9
Atlantic and Quebec	21.3	38.3	37.3	31.9	26.6	13.5	18.4	22.3
Ontario	20.4	27.8	28.5	25.2	20.2	9.5	9.5	14.6
Prairies	18.7	31.0	30.8	23.7	18.4	8.9	10.8	15.1
British Columbia and Territories	14.2	20.7	18.1	21.8	16.2	7.5	8.6	11.6
600–999.9								
Canada	45.2	20.1	14.2	2.5	0.0	0.2	0.2	0.2
Atlantic and Quebec	50.9	19.9	15.5	1.8	0.0	0.3	0.3	0.3
Ontario	42.8	19.7	13.3	3.2	0.1	0.2	0.2	0.1
Prairies	45.4	18.9	12.0	1.9	0.0	0.1	0.1	0.0
British Columbia and Territories	50.2	26.4	19.0	2.6	0.0	0.0	0.1	0.1

Due to rounding, the numbers may not add up to 100.

Table A.36 – Distribution of clothes washers by channel and region/province, 2004–2011 (%)

Channel	2004	2005	2006	2007	2008	2009	2010	2011
Builder								
Canada	5.8	5.7	5.7	5.8	5.9	5.5	4.2	4.3
Atlantic and Quebec	2.0	1.9	1.6	1.6	1.6	1.8	1.5	1.2
Ontario	6.4	5.6	6.0	5.9	4.9	5.0	5.5	4.6
Prairies	8.5	8.1	7.9	7.8	8.4	7.6	4.5	5.2
British Columbia and Territories	18.5	16.7	15.6	15.4	18.9	14.0	8.1	11.2
Retail								
Canada	94.2	94.3	94.3	94.2	94.1	94.5	95.8	95.7
Atlantic and Quebec	98.0	98.1	98.4	98.4	98.4	98.2	98.5	98.8
Ontario	93.6	94.4	94.0	94.1	95.1	95.0	94.5	95.4
Prairies	91.5	91.9	92.1	92.2	91.6	92.4	95.5	94.8
British Columbia and Territories	81.5	83.3	84.4	84.6	81.1	86.0	91.9	88.8

Due to rounding, the numbers may not add up to 100.

Table A.37 – Average annual UEC of clothes washers by type, 1990–2011 (kWh/yr)

Model year	Front-loading	Top-loading	Total
1990	n/a	n/a	1218.0
1991	n/a	n/a	1197.4
1992	n/a	n/a	1175.5
1993	n/a	n/a	1094.1
1994	n/a	n/a	989.1
1995	n/a	n/a	965.9
1996	n/a	n/a	948.7
1997	n/a	n/a	930.1
1998	n/a	n/a	903.3
1999	n/a	n/a	859.9
2000	n/a	n/a	838.3
2001	287.0	904.7	810.1
2002	300.6	871.1	779.2
2003	274.8	826.9	708.4
2004	258.4	702.3	572.9
2005	218.8	608.8	443.6
2006	202.7	555.0	389.6
2007	183.9	415.1	287.2
2008	179.4	387.2	261.5
2009	172.0	331.9	233.8
2010	148.3	318.7	216.8
2011	138.1	299.9	207.7

Note: Numbers are not additive.

n/a stands for not available

Table A.38 – Average annual UEC of clothes washers by channel and region/province, 2004–2011 (kWh/yr)

Channel	2004	2005	2006	2007	2008	2009	2010	2011
Builder								
Canada	653.0	529.9	499.9	319.5	297.1	270.5	244.2	241.1
Atlantic and Quebec	651.1	513.7	526.0	368.5	312.9	303.0	273.4	278.7
Ontario	641.0	510.4	475.6	321.6	306.7	272.1	229.1	233.0
Prairies	706.3	588.9	550.5	340.6	317.3	287.4	278.5	279.3
British Columbia and Territories	590.7	475.6	449.8	261.7	256.5	230.8	215.3	198.6
Retail								
Canada	568.0	438.4	382.9	285.2	259.2	231.6	215.6	206.2
Atlantic and Quebec	629.0	469.8	415.7	302.0	279.9	254.2	244.6	230.3
Ontario	550.7	420.7	369.1	281.3	251.3	223.5	201.2	195.6
Prairies	556.0	419.1	362.3	272.6	248.1	219.7	202.3	195.3
British Columbia and Territories	585.3	428.3	352.4	268.7	233.5	208.2	194.1	186.2

Table A.39 – Tub capacity and average energy consumption of clothes washers by type, 1990–2011

Model year	Front-loading	Top-loading	Total	Model year	Front-loading	Top-loading	Total
Average tub capacity (litres)				Average energy consumption (kWh/litre)			
1990	n/a	n/a	72.72	1990	n/a	n/a	16.75
1991	n/a	n/a	76.08	1991	n/a	n/a	15.74
1992	n/a	n/a	77.03	1992	n/a	n/a	15.26
1993	n/a	n/a	77.13	1993	n/a	n/a	14.18
1994	n/a	n/a	77.75	1994	n/a	n/a	12.72
1995	n/a	n/a	78.02	1995	n/a	n/a	12.38
1996	n/a	n/a	80.17	1996	n/a	n/a	11.83
1997	n/a	n/a	79.63	1997	n/a	n/a	11.68
1998	n/a	n/a	81.16	1998	n/a	n/a	11.13
1999	80.07	81.90	81.68	1999	3.60	11.15	10.53
2000	76.60	83.26	82.23	2000	3.58	11.08	10.19
2001	76.01	84.49	83.13	2001	3.78	10.71	9.75
2002	75.78	85.50	83.85	2002	3.97	10.19	9.29
2003	77.46	85.94	84.07	2003	3.55	9.62	8.43
2004	79.42	86.50	84.42	2004	3.25	8.12	6.79
2005	82.00	87.18	84.98	2005	2.67	6.98	5.22
2006	84.21	88.54	86.51	2006	2.41	6.27	4.50
2007	85.07	89.65	87.12	2007	2.16	4.63	3.30
2008	86.79	90.26	88.16	2008	2.07	4.29	2.97
2009	89.31	95.45	91.68	2009	1.93	3.48	2.55
2010	94.83	98.40	96.27	2010	1.56	3.24	2.25
2011	99.49	101.76	100.47	2011	1.39	2.95	2.07

Note: Numbers are not additive.

n/a stands for not available

Table A.40 – Distribution of electric clothes dryers by average annual UEC, 1992–2011 (%)

Model year	kWh/yr				
	350–799.9	800–899.9	900–949.9	950–999.9	1000–1249.9
1992	4.4	28.9	37.5	13.6	15.6
1993	4.1	28.9	53.6	0.1	13.2
1994	4.3	24.0	54.6	0.0	17.1
1995	3.2	16.2	68.5	0.8	11.3
1996	4.2	11.8	82.8	1.1	0.2
1997	4.9	12.9	80.7	1.4	0.0
1998	3.2	8.8	87.0	1.0	0.0
1999	2.7	7.2	88.3	1.8	0.0
2000	2.7	7.7	84.6	5.0	0.0
2001	2.3	4.3	87.1	6.3	0.0
2002	2.5	5.2	85.5	6.7	0.0
2003	2.7	10.0	77.0	10.3	0.0
2004	4.0	4.4	75.3	16.3	0.0
2005	6.1	3.2	74.1	16.6	0.0
2006	6.1	2.8	69.8	21.2	0.0
2007	4.9	2.9	67.8	24.4	0.0
2008	4.6	2.2	60.7	32.5	0.0
2009	4.2	1.7	56.1	38.1	0.0
2010	3.0	1.7	53.4	41.9	0.0
2011	2.1	3.3	45.5	49.1	0.0

Due to rounding, the numbers may not add up to 100.

Table A.41 – Distribution of electric clothes dryers by average annual UEC and region/province, 2004–2011 (%)

Energy range (kWh/yr)	2004	2005	2006	2007	2008	2009	2010	2011
350–799.9								
Canada	4.0	6.1	6.1	4.9	4.6	4.2	3.0	2.1
Atlantic and Quebec	1.8	3.7	3.9	3.0	3.4	2.4	1.7	1.3
Ontario	5.9	7.9	7.2	5.7	5.4	4.6	3.9	2.2
Prairies	2.8	4.6	4.9	3.8	3.8	3.5	2.0	1.4
British Columbia and Territories	9.4	14.8	14.7	12.0	11.0	9.0	7.3	5.8
800–899.9								
Canada	4.4	3.2	2.8	2.9	2.2	1.7	1.7	3.3
Atlantic and Quebec	3.6	2.6	2.0	2.1	3.2	2.5	1.9	4.7
Ontario	6.3	4.7	4.2	4.3	2.9	1.7	2.0	2.8
Prairies	3.4	2.1	1.9	1.9	1.3	1.0	1.1	2.2
British Columbia and Territories	5.5	3.3	3.0	3.4	2.2	1.5	1.9	2.6

Table A.41 – Distribution of electric clothes dryers by average annual UEC and region/ province, 2004–2011 (%) (continued)

Energy range (kWh/yr)	2004	2005	2006	2007	2008	2009	2010	2011
900–949.9								
Canada	75.3	74.1	69.8	67.8	60.7	56.1	53.4	45.5
Atlantic and Quebec	82.1	81.0	79.4	76.3	77.4	73.7	58.8	50.6
Ontario	69.7	69.9	66.4	64.4	57.2	54.0	48.9	43.4
Prairies	74.8	72.9	63.2	63.0	57.6	54.0	53.3	45.1
British Columbia and Territories	65.1	64.6	62.9	63.1	55.3	48.6	50.8	37.1
950–999.9								
Canada	16.3	16.6	21.2	24.4	32.5	38.1	41.9	49.1
Atlantic	12.4	12.7	14.7	18.6	16.0	21.4	37.6	43.3
Ontario	18.1	17.5	22.1	25.6	34.5	39.7	45.3	51.5
Prairies	19.0	20.4	29.9	31.3	37.2	41.6	43.6	51.3
British Columbia and Territories	19.9	17.4	19.5	21.6	31.4	40.9	40.1	54.6

Due to rounding, the numbers may not add up to 100.

Table A.42 – Distribution of electric clothes dryers by channel and region/province, 2004–2011 (%)

Channel	2004	2005	2006	2007	2008	2009	2010	2011
Builder								
Canada	6.3	6.1	5.9	6.3	6.1	5.3	4.3	4.4
Atlantic and Quebec	2.0	1.9	1.5	1.6	1.6	1.8	1.5	1.2
Ontario	7.2	6.4	6.4	6.9	5.4	5.0	6.1	5.0
Prairies	8.9	8.5	8.1	8.2	8.9	7.2	4.5	5.4
British Columbia and Territories	18.9	17.3	15.4	15.7	18.6	13.8	8.1	10.5
Retail								
Canada	93.7	93.9	94.1	93.7	93.9	94.7	95.7	95.6
Atlantic and Quebec	98.0	98.1	98.5	98.4	98.4	98.2	98.5	98.8
Ontario	92.8	93.6	93.6	93.1	94.6	95.0	93.9	95.0
Prairies	91.1	91.5	91.9	91.8	91.1	92.8	95.5	94.6
British Columbia and Territories	81.1	82.7	84.6	84.3	81.4	86.2	91.9	89.5

Due to rounding, the numbers may not add up to 100.

Table A.43 – Average annual UEC of electric clothes dryers, 1992–2011

Model year	kWh/yr
1992	983.3
1993	928.5
1994	910.4
1995	909.1
1996	887.4
1997	887.3
1998	900.2
1999	907.5
2000	909.8
2001	916.3
2002	915.6
2003	914.2
2004	911.9
2005	903.8
2006	904.6
2007	912.1
2008	916.0
2009	921.4
2010	928.0
2011	932.9

Table A.44 – Average annual UEC of electric clothes dryers by channel and region/province, 2004–2011 (kWh/yr)

Channel	2004	2005	2006	2007	2008	2009	2010	2011
Builder								
Canada	843.1	832.2	821.4	838.2	842.5	876.7	886.1	898.9
Atlantic and Quebec	836.2	827.3	868.6	883.9	851.4	906.8	888.2	895.4
Ontario	817.1	796.4	803.1	829.2	842.7	893.4	872.5	877.5
Prairies	870.1	865.3	853.7	876.1	866.2	905.7	916.3	920.8
British Columbia and Territories	851.3	838.9	783.7	776.3	807.3	807.3	879.2	907.4
Retail								
Canada	916.5	908.5	909.7	917.0	920.8	876.7	929.9	934.4
Atlantic and Quebec	924.1	917.0	915.6	920.3	924.7	926.9	933.6	934.7
Ontario	907.7	900.5	904.9	913.2	916.0	921.0	927.8	935.7
Prairies	923.6	918.0	918.7	924.0	927.0	927.7	935.8	939.2
British Columbia and Territories	892.1	865.2	877.2	896.4	902.4	914.1	908.6	916.7

Table A.45 – Drum capacity and average energy consumption of electric clothes dryers, 1992–2011

Model year	Average electric clothes dryer drum capacity (litres)	Average energy consumption (kWh/litre)
1992	161.6	6.08
1993	162.8	5.70
1994	171.2	5.32
1995	174.6	5.21
1996	172.7	5.14
1997	174.7	5.08
1998	174.0	5.17
1999	171.8	5.28
2000	174.7	5.21
2001	175.3	5.23
2002	176.3	5.19
2003	177.1	5.16
2004	176.8	5.16
2005	175.4	5.15
2006	179.7	5.03
2007	181.4	5.03
2008	182.8	5.01
2009	188.3	4.89
2010	194.8	4.78
2011	195.3	4.78

Table A.46 – Energy consumption of all shipped appliances, with and without improvements in energy efficiency, 1992–2011 (PJ)

Model year	Energy consumed (actual) with improvements in energy efficiency since 1992	Energy consumed without improvements in energy efficiency since 1992
1992	6.3	6.3
1993	12.8	13.4
1994	19.3	20.9
1995	25.1	28.0
1996	31.3	35.6
1997	38.0	43.8
1998	45.1	52.6
1999	52.9	62.4
2000	60.7	72.2
2001	68.4	82.4
2002	76.8	93.9
2003	85.1	105.8
2004	93.4	118.7
2005	101.4	132.1
2006	108.9	145.0
2007	117.1	159.4
2008	126.1	173.8
2009	134.5	188.4
2010	143.7	204.3
2011	146.9	219.0

Table A.47 – Energy savings by shipped appliance, 1992–2011 (PJ)

Model year	Refrigerators	Freezers	Dishwashers	Electric ranges	Clothes washers	Electric clothes dryers	Total with retirement factor*
1992	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1993	0.3	0.0	0.0	0.0	0.1	0.1	0.5
1994	0.8	0.1	0.1	0.0	0.4	0.2	1.7
1995	1.3	0.1	0.4	0.0	0.8	0.3	2.9
1996	1.9	0.2	0.7	0.0	1.1	0.4	4.3
1997	2.4	0.2	1.1	0.0	1.6	0.5	5.8
1998	3.0	0.3	1.4	0.0	2.1	0.6	7.5
1999	3.7	0.3	1.8	0.1	2.7	0.8	9.5
2000	4.5	0.4	2.3	0.1	3.4	0.9	11.6
2001	5.5	0.5	2.7	0.1	4.3	1.0	14.0
2002	6.7	0.5	3.3	0.2	5.2	1.1	17.1
2003	8.1	0.6	4.0	0.3	6.3	1.3	20.7
2004	9.6	0.7	5.0	0.7	7.8	1.4	25.2
2005	11.1	0.7	6.0	1.2	9.8	1.6	30.5
2006	12.5	0.8	7.1	1.7	11.8	1.8	35.7
2007	13.9	0.9	8.2	2.4	14.3	2.0	41.7
2008	15.3	0.9	9.3	3.1	16.9	2.1	47.7
2009	17.1	1.0	10.3	3.8	19.5	2.2	54.0
2010	19.2	1.1	11.3	4.5	22.2	2.3	60.6
2011	20.9	1.2	12.2	5.2	24.5	2.4	66.4

* Because 1992 was the baseline year used in the calculations, a retirement function was included to take into account the aging of appliances, based on the life expectancies set out in the *EnerGuide Appliance Directory 2011*. This retirement function is explained further in Appendix C of the previous report. (oee.nrcan.gc.ca/publications/statistics/cama12/cama12.pdf).

Appendix B

Definitions of refrigerator and freezer types

B

Refrigerator

In 2011, refrigerators were grouped under the following main categories.²⁵

Refrigerators without automatic defrost

- Type 1 – Refrigerators and refrigerator-freezers with semi-automatic or manual defrost
- Type 2 – Refrigerator-freezers with partial automatic defrost. (Partial automatic defrost is a system in which only the refrigerator portion of the appliance defrosts automatically. The freezer compartment must be defrosted manually.)

Refrigerators with automatic defrost

- Type 3 – Refrigerator-freezers with automatic defrost, with top-mounted freezer, without through-the-door ice service and all-refrigerators (with no freezer) with automatic defrost
- Type 4 – Refrigerator-freezers with automatic defrost, with side-mounted freezer, without through-the-door ice service
- Type 5 – Refrigerator-freezers with automatic defrost, with bottom-mounted freezer, without through-the-door ice service
- Type 5A – Refrigerator-freezers with automatic defrost, with bottom-mounted freezer, with through-the-door ice service
- Type 6 – Refrigerator-freezers with automatic defrost, with top-mounted freezer and through-the-door ice service
- Type 7 – Refrigerator-freezers with automatic defrost, with side-mounted freezer and through-the-door ice service

Refrigerators – compact

(those with compartment volumes of less than 219.5 litres [7.75 cubic feet] and overall heights of less than 91.4 centimetres [36 inches])

- Type 11 – Compact refrigerators and refrigerator-freezers with semi-automatic or manual defrost
- Type 12 – Compact refrigerators and refrigerator-freezers with partial automatic defrost
- Type 13 – Compact refrigerator-freezers with automatic defrost and top-mounted freezer as well as compact all-refrigerators (with no freezer) with automatic defrost
- Type 14 – Compact refrigerator-freezers with automatic defrost and side-mounted freezer
- Type 15 – Compact refrigerator-freezers with automatic defrost and bottom-mounted freezer

Freezer

In 2011, freezers were typically built as either upright models or chest models and grouped into the following types.²⁶

Freezers - upright

- Type 8 – Upright with manual defrost
- Type 9 – Upright with automatic defrost

²⁵ Natural Resources Canada, *2011 EnerGuide Appliance Directory*, p.36.

²⁶ Natural Resources Canada, *2011 EnerGuide Appliance Directory*, p.157.

Freezers – chest

- Type 10 – All chest freezers and all other freezers (not defined as Type 8, Type 9)

Freezers – compact

(those with compartment volumes of less than 219.5 litres [7.75 cu. ft.] and overall heights of less than 91.4 centimetres [36 inches])

- Type 16 – Compact upright with manual defrost
- Type 17 – Compact upright with automatic defrost
- Type 18 – Compact chest and all other compact freezers (not defined as Type 16 or Type 17)