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Energy Consumption of

Major Household Appliances

Shipped in Canada, Summary Report

Trends for 1990–2007

December 2009

Canada

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Leading Canadians to Energy Efficiency at Home, at Work and on the Road

Energy Consumption of Major Household Appliances Shipped in Canada

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Foreword

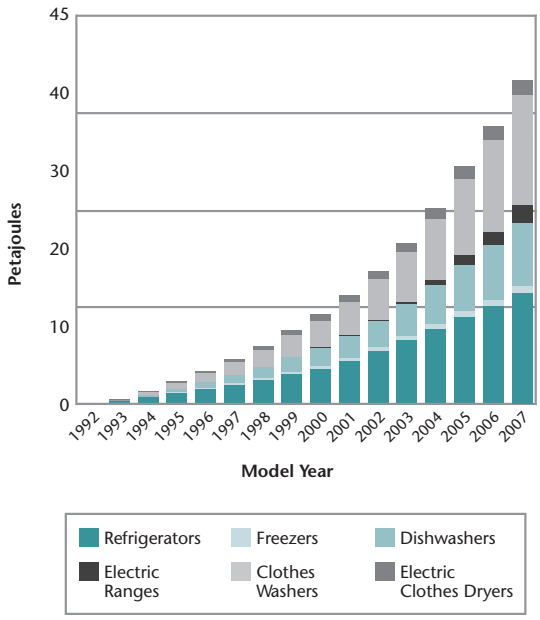
The *Energy Consumption of Major Household Appliances Shipped in Canada, Summary Report, Trends for 1990–2007* outlines changes in the energy use and distribution of the six major household appliances – refrigerators, freezers, dishwashers, electric ranges, clothes washers and electric clothes dryers – from 1990 to 2007. Data are collected by Electro-Federation Canada through the co-operation of the Canadian Appliance Manufacturers Association.

The energy efficiency of major household appliances on the market improved significantly between 1990 and 2007. Largely responsible for the improvement were

- the significant research and development activities carried out by appliance manufacturers[1]
- three initiatives authorized under Canada's 1992 *Energy Efficiency Act*:
  - the minimum energy performance (MEPS) standards contained in Canada's *Energy Efficiency Regulations*[2]
  - the EnerGuide for Equipment program
  - the ENERGY STAR® Initiative in Canada[3]
- an increase in consumer awareness
- various incentives and rebates offered by the federal, provincial, territorial and municipal governments and utilities

Figure 1 depicts the cumulative energy savings due to the above factors, measured in petajoules, of the six major household appliances from 1992 to 2007.

Figure 1 Cumulative Energy Savings for All Major Household Appliances, 1992–2007



[1]For more information on the role of the members of the Canadian Appliance Manufacturers Association, refer to *Energy Consumption of Major Household Appliances Shipped in Canada, Trends for 1990–2006* (Ottawa: 2009), p. 10. Available at oee.nrcan.gc.ca/publications/statistics/cama08/role.cfm.

[2]For more information on the MEPS and the *Energy Efficiency Regulations*, refer to *Energy Consumption of Major Household Appliances Shipped in Canada, Trends for 1990–2006* (Ottawa: 2009), p. 6. Available at oee.nrcan.gc.ca/publications/statistics/cama08/introduction.cfm.

[3]For more information on the ENERGY STAR initiative, including qualifying criteria for major household appliances, visit energystar.gc.ca.

Highlights

Figure 2 illustrates the significant increase in the penetration rate of ENERGY STAR® qualified appliances since they began appearing on the market in early 1999. By 2007, 76.2 percent of all dishwashers, 58.4 percent of all clothes washers and 44.3 percent of all refrigerators shipped in Canada were ENERGY STAR qualified products. Shipments of ENERGY STAR dishwashers decreased slightly once again in 2007, due to the increase in the stringency of the ENERGY STAR specification of dishwashers, which came into effect in January 2007.

Figure 2 ENERGY STAR Qualified Appliances as a Percentage of Total Shipments in Canada, 1999–2007

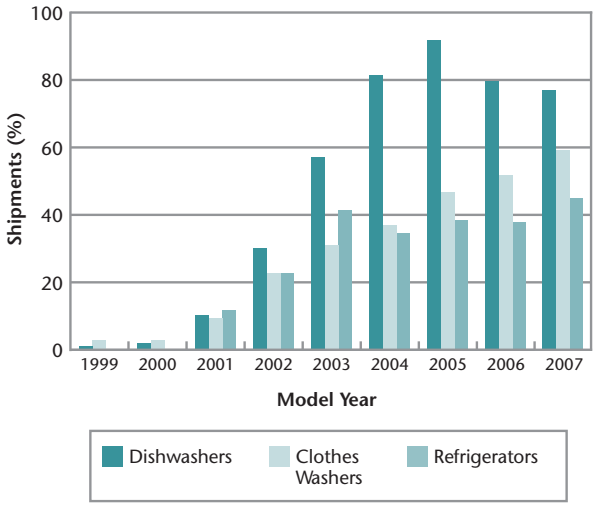
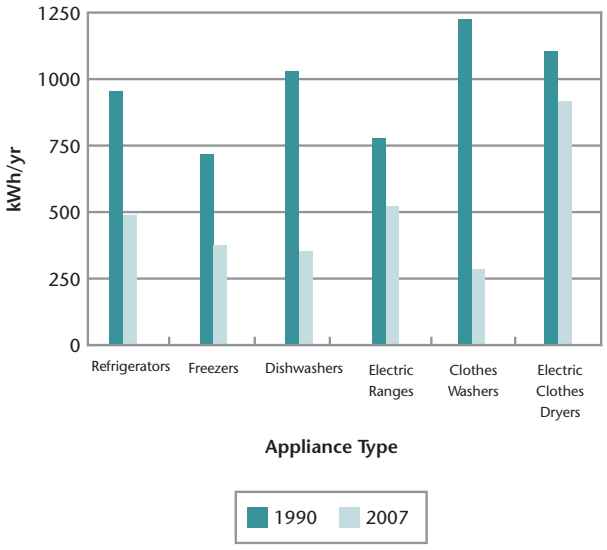


Figure 3 compares the average annual unit energy consumption (UEC) of the six major household appliances in 1990 and 2007. The largest decrease in average annual UEC was in clothes washers, which experienced a 76 percent reduction, followed by dishwashers at 65 percent.

Figure 3 Average Annual Unit Energy Consumption of Major Household Appliances, 1990 and 2007



Other notable findings include the following:

- In 1990, a new set of the six major appliances for the home used an average of 5789 kilowatt hours (kWh) of energy. In 2007, that number dropped to an average of 2944 kWh – almost half the 1990 consumption level.

- Total energy savings for the six major appliances shipped in 2007 were calculated at 6.56 petajoules (PJ) (or 1.82 billion kWh). Consumers saved an estimated $173 million in energy costs in 2007, based on an approximate national average of 9.5 cents/kWh.[4]

- The cumulative energy savings for all major household appliances between 1992 and 2007 were 41.69 PJ (or 11.56 billion kWh) – the equivalent of one year's energy for approximately 374 100 households.

- Among major appliances, clothes washers produced the largest cumulative energy savings, 14.32 PJ (or 3.98 billion kWh), from 1992 to 2007.

For a description of the database preparation process conducted by Electro-Federation Canada and the methodology used by the analysts to summarize the data, refer to the Office of Energy Efficiency Web site: oee.nrcan.gc.ca/publications/statistics/cama08/appendixa.cfm.

The definitions of the various types of appliances can be found at oee.nrcan.gc.ca/publications/statistics/cama08/appendixb.cfm.

See Appendix A in this summary report for detailed tables for the study period.

[4]Source: *Energy Use Data Handbook* table that can be found on the OEE Web site at oee.nrcan.gc.ca/corporate/statistics/neud/dpa/tableshandbook2/res_00_18_e_4.cfm.

Chapter 1 / **Refrigerators**

More than 44 percent of refrigerators shipped in Canada in 2007 qualified as ENERGY STAR® products, exceeding the minimum energy performance standards (MEPS) by at least 15 percent. Also in 2007, as in all years studied since 1990, Type 3 refrigerators[5] (those with a top-mounted freezer and automatic defrost) were the most popular type in Canada. They accounted for 61.0 percent of refrigerators shipped in Canada. However, their market share declined from 84.9 percent in 1990, once again in favour of Types 5 and 5A (those with a bottom-mounted freezer) and 7 (those with a side-mounted freezer), as outlined in Table 1.

Table 1 Distribution of Refrigerators by Type

Model Year	Standard-Size								Compact	
	Type 1 (%)	Type 2 (%)	Type 3 (%)	Type 4 (%)	Type 5 (%)	Type 5A (%)	Type 6 (%)	Type 7 (%)	Type 11 (%)	Type 13 (%)
1990	3.5	2.0	**84.9**	7.6	0.6	0.0	0.0	0.0	0.1	1.2
1991	3.1	0.3	84.3	9.0	0.8	0.0	0.0	0.3	0.3	2.0
1992	2.1	0.4	85.4	7.5	0.3	0.0	0.0	3.5	0.1	0.6
1993	1.1	0.6	85.5	6.8	0.7	0.0	0.0	4.2	0.1	0.9
1994	0.6	0.7	85.1	4.9	2.0	0.0	0.1	4.3	1.3	1.0
1995	0.2	0.6	84.8	4.6	1.6	0.0	0.1	5.2	1.9	1.0
1996	0.2	0.5	84.8	4.4	2.2	0.0	0.1	6.6	0.8	0.4
1997	0.4	0.1	83.8	3.8	3.2	0.0	0.0	8.3	0.4	0.0
1998	0.4	0.0	76.5	3.3	8.5	0.0	0.3	7.3	3.6	0.0
1999	0.1	0.0	76.6	2.4	8.4	0.0	0.4	7.5	4.6	0.0
2000	0.0	0.0	72.9	2.2	11.1	0.0	0.5	7.9	5.3	0.0
2001	0.0	0.0	71.1	2.1	11.1	0.0	0.4	9.1	6.1	0.1
2002	0.0	0.0	70.2	2.2	10.6	0.0	0.2	11.0	5.8	0.1
2003	0.0	0.0	68.2	2.4	13.9	0.0	0.1	11.2	2.0	2.2
2004	0.0	0.0	66.4	1.9	15.5	0.0	0.1	11.0	4.5	0.5
2005	0.0	0.0	64.8	1.1	17.9	0.0	0.0	9.6	6.3	0.1
2006	0.1	0.0	64.5	1.9	21.2	0.6	0.0	10.1	1.5	0.0
2007	0.1	0.0	**61.0**	1.6	**22.3**	1.2	0.0	**13.5**	0.3	0.0
Total Change	**3.4**	**2.0**	**23.9**	**6.0**	**21.7**	**1.2**	**0.0**	**13.5**	**0.2**	**1.2**

Refrigerators with a volume between 16.5 and 18.4 cubic feet (cu. ft.) remained the most popular, accounting on average for 39.9 percent of the market in 2007. However, the market share of refrigerators with a capacity greater than 18.5 cu. ft. increased steadily from 1990 to 2007 – rising from 7.7 percent to 44.3 percent, as outlined in Table 2.

[5]The definitions of the various types of refrigerators can be found at oee.nrcan.gc.ca/publications/statistics/cama08/appendixb.cfm.

Table 2 Distribution of Refrigerators by Volume

Model Year	Volume (cu. ft.)						
	<10.5	10.5–12.4	12.5–14.4	14.5–16.4	16.5–18.4	18.5–20.4	≥20.5
	(%)	(%)	(%)	(%)	(%)	(%)	(%)
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**
Total Change	**2.2**	**9.9**	**15.6**	**5.4**	**3.4**	**14.7**	**21.9**

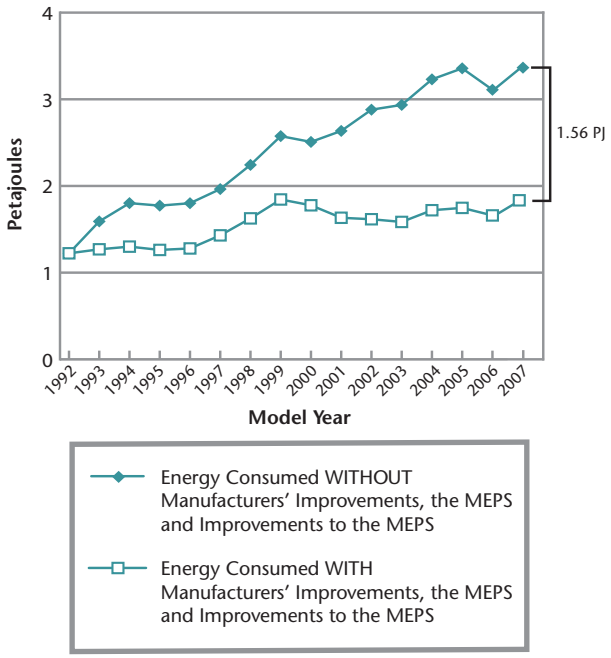
1.1 Energy Savings

Figure 4 shows how much energy refrigerators might have consumed annually between 1992 and 2007 without the decrease in average annual unit energy consumption (top line) and how much energy refrigerators actually consumed during those years (bottom line). The divergence of the two lines represents incremental annual energy savings.

On average, refrigerators consumed 0.9 petajoules (PJ) less per year than they would have without the contributing factors described in the Foreword. In 2007, refrigerators consumed approximately 1.56 PJ less than they would have without these factors. That amount is the equivalent of one year's energy for approximately 14 000 households.

In 2007, cumulative energy savings for refrigerators reached 13.90 PJ (3.86 billion kilowatt hours [kWh]). Dollar savings for refrigerators for the study period were estimated to be $367 million (calculated at 9.5 cents/kWh).

Figure 4 Annual Energy Savings for Refrigerators, 1992–2007



Chapter 2 / **Freezers**

Full-sized chest freezers (Type 10)[6] were again the most popular type in 2007, accounting for 39.4 percent of all freezers shipped in Canada. However, their market share declined from 64.9 percent in 1990, in favour of the other types, as shown in Table 3.[7]

In 1990, almost all freezers required more than 50 kilowatt hours (kWh) per year to freeze each cubic foot (cu.ft) of space. As shown in Table 4, by 2007, all freezers required less than 50 kWh per year to freeze each cubic foot of space, and 74.2 percent of them consumed less than 40 kWh per cu.ft per year.

Table 3 Distribution of Freezers by Type

Model Year	Freezer Type				
	Type 8 (%)	Type 9 (%)	Type 10 (%)	Type 16 (%)	Type 18 (%)
1990	**16.8**	0.0	**64.9**	0.0	**18.3**
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**
Total Change	**9.6** ↑	**11.8** ↑	**25.5** ↓	**0.0**	**4.0** ↑

[6]The definitions of the various types of freezers can be found at oee.nrcan.gc.ca/publications/statistics/cama08/appendixb.cfm.

[7]Because of restrictions in the market information available, the freezer shipment data are not as comprehensive as those for the other appliances and should be used with caution.

Table 4 Distribution of Freezers by Average Annual Unit Energy Consumption per Cubic Foot

Model Year	kWh/cu. ft. per year						
	20–29.9 (%)	30–39.9 (%)	40–49.9 (%)	50–59.9 (%)	60–69.9 (%)	70–79.9 (%)	≥80 (%)
1990	0.0	0.0	0.9	**32.1**	**19.3**	**38.3**	**9.4**
1991	0.0	28.3	20.3	31.2	4.1	15.9	0.3
1992	3.1	18.9	58.3	15.0	4.5	0.3	0.0
1993	16.5	57.0	16.5	8.4	1.6	0.0	0.0
1994	15.4	39.0	34.9	9.0	1.9	0.0	0.0
1995	12.7	39.6	41.2	5.4	1.2	0.0	0.0
1996	12.4	40.4	37.0	10.3	0.0	0.0	0.0
1997	11.7	36.7	39.0	12.0	0.0	0.6	0.0
1998	11.0	34.6	43.1	11.3	0.0	0.0	0.0
1999	10.8	42.3	37.0	9.6	0.0	0.3	0.0
2000	10.0	37.6	41.3	8.8	0.0	2.3	0.0
2001	17.5	36.3	38.2	3.9	0.0	4.0	0.0
2002	26.7	47.5	24.9	0.8	0.0	0.0	0.0
2003	28.6	47.4	23.2	0.8	0.0	0.0	0.0
2004	28.9	48.8	22.3	0.1	0.0	0.0	0.0
2005	29.5	45.2	25.3	0.0	0.0	0.0	0.0
2006	34.8	40.4	24.7	0.0	0.0	0.0	0.0
2007	**26.7**	**47.5**	25.9	0.0	0.0	0.0	0.0
Total Change	**26.7**	**47.5**	**25.0**	**32.1**	**19.3**	**38.3**	**9.4**

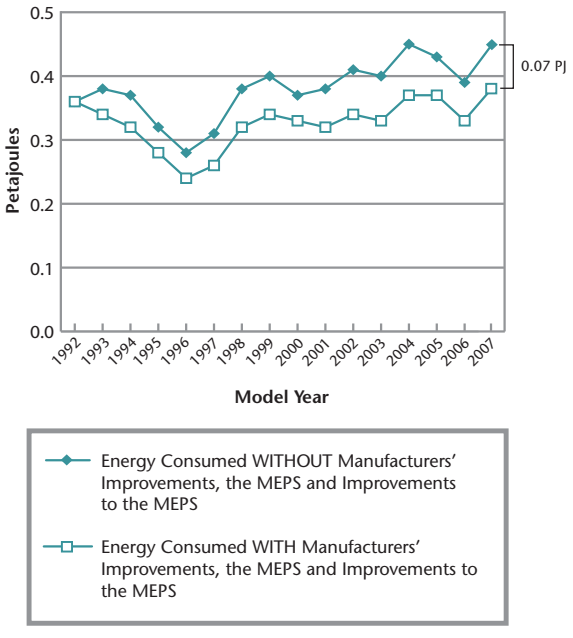
2.1 Energy Savings

Figure 5 shows how much energy freezers might have consumed annually between 1992 and 2007 without the decrease in average annual unit energy consumption (top line) and how much energy freezers actually consumed during those years (bottom line). The divergence of the two lines represents incremental annual energy savings.

On average, freezers consumed 0.06 petajoules (PJ) less per year than they would have without the contributing factors described in the Foreword. In 2007, freezers consumed approximately 0.07 PJ less than they would have without these factors. That amount is the equivalent of one year's energy for approximately 600 households.

In 2007, cumulative energy savings for freezers reached 0.86 PJ (238.88 million kWh). Dollar savings for the study period were estimated to be $23 million (calculated at 9.5 cents/kWh).

Figure 5 Annual Energy Savings for Freezers, 1992–2007



MEPS = minimum energy performance standards

Chapter 3 / **Dishwashers**

The shipment-weighted average annual unit energy consumption (UEC) of dishwashers in 2007 was 354 kilowatt hours (kWh), compared with 1026 kWh in 1990. Over 76 percent of the standard models on the market in 2007 – that is, those with an exterior width of more than 56 centimetres – qualified as ENERGY STAR® products, exceeding the minimum energy performance standards (MEPS) by at least 25 percent.

Table 5 illustrates that in 1990, dishwashers consuming more than 700 kWh annually represented 99.8 percent of the market. By 1999, these inefficient models were no longer produced, and by 2007, 94.2 percent of all dishwashers consumed less than 400 kWh.[8]

Table 5 Distribution of Dishwashers by Average Annual Unit Energy Consumption

Model Year	kWh/yr						
	<300	300–349.9	350–399.9	400–499.9	500–599.9	600–699.9	≥700
	(%)	(%)	(%)	(%)	(%)	(%)	(%)
1990	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	5.8	94.2
1992	0.0	0.0	0.0	0.0	0.0	8.5	91.5
1993	0.0	0.0	0.0	0.0	0.4	7.7	91.9
1994	0.0	0.0	0.0	0.5	0.5	32.9	66.1
1995	0.0	0.0	0.2	0.9	0.9	63.7	34.2
1996	0.0	0.0	0.2	0.9	3.9	63.0	32.0
1997	0.0	0.0	0.4	1.1	20.5	56.9	21.2
1998	0.0	0.0	0.2	1.2	23.4	71.6	3.7
1999	0.0	0.0	0.2	1.4	24.9	73.6	0.0
2000	0.0	0.0	0.1	3.9	19.3	76.7	0.0
2001	0.0	0.0	0.0	5.5	23.9	70.6	0.0
2002	0.0	0.0	3.2	13.6	37.8	45.5	0.0
2003	0.0	0.0	9.1	33.6	36.5	20.7	0.0
2004	0.0	4.0	24.3	46.4	16.5	8.8	0.0
2005	0.0	19.6	55.5	15.5	6.4	3.0	0.0
2006	0.3	28.2	61.8	5.7	2.7	1.3	0.0
2007	**2.6**	**48.9**	**42.7**	5.0	0.6	0.3	0.0
Total Change	↑ **2.6**	↑ **48.9**	↑ **42.7**	↑ **5.0**	↑ **0.6**	↑ **0.1**	↓ **99.8**

[8]Since 2004, dishwashers have been rated to a new energy-consumption standard, reducing the annual energy consumption for all models. This standard reduced the amount of energy these appliances might consume each year. Previously, dishwashers were rated according to an average of 264 loads per year. However, new data indicate that Canadians have reduced dishwasher use, so the test average is now 215 loads per year. The new ratings take into account standby power consumption and continue to include the energy required to heat the water.

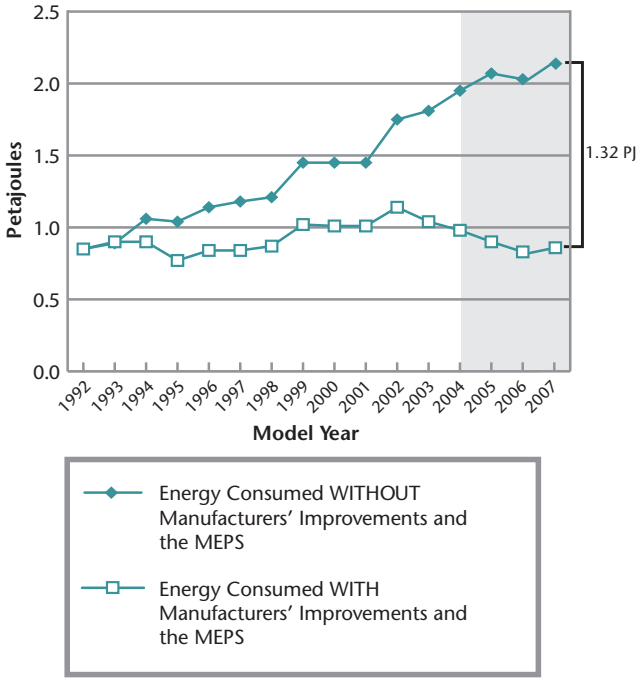
3.1 Energy Savings

Figure 6 shows how much energy dishwashers might have consumed annually between 1992 and 2007 without the decrease in average annual UEC (top line) and how much energy refrigerators actually consumed during those years (bottom line).

On average, dishwashers consumed 0.6 petajoules (PJ) less per year than they would have without the contributing factors described in the Foreword. In 2007, dishwashers consumed approximately 1.32 PJ less than they would have without these factors. That amount is the equivalent of one year's energy for approximately 11 800 households.

In 2007, cumulative energy savings for dishwashers reached 8.23 PJ (2.28 billion kWh). Dollar savings for dishwashers for the study period were estimated to be $217 million (calculated at 9.5 cents/kWh).

Figure 6 Annual Energy Savings for Dishwashers, 1992–2007



Chapter 4 / **Electric Ranges**

Table 6 illustrates that in 1990, the electric ranges that dominated the market (81.9 percent) consumed more than 750 kilowatt hours (kWh) per year. In 2003, there was a considerable increase in the market share of electric ranges that consumed less than 600 kWh, reaching 90.2 percent in 2007. This change is due to a new energy-consumption standard introduced in October 2003.[9]

Table 6 Distribution of Electric Ranges by Average Annual Unit Energy Consumption

Model Year	kWh/yr							
	<500	500–599.9	600–649.9	650–699.9	700–749.9	750–799.9	800–849.9	≥850
	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
1990	3.8	0.0	0.0	0.5	13.8	**30.8**	**42.4**	**8.7**
1991	0.0	0.0	0.0	0.8	15.9	27.6	54.0	1.8
1992	0.0	0.0	0.0	0.0	15.0	58.1	26.5	0.3
1993	0.0	0.0	0.0	0.1	18.4	42.8	38.5	0.2
1994	0.0	0.0	0.1	1.7	32.2	28.5	37.4	0.1
1995	0.0	0.0	0.1	3.3	35.0	22.5	39.2	0.0
1996	0.0	0.0	0.0	3.2	27.6	26.4	42.8	0.0
1997	0.0	0.0	0.0	3.6	27.6	29.0	39.8	0.0
1998	0.0	0.0	0.0	8.6	23.3	30.6	37.4	0.0
1999	0.0	0.0	0.0	15.3	28.2	31.6	24.9	0.0
2000	0.0	0.0	0.0	14.3	30.9	29.5	25.3	0.0
2001	0.0	0.0	0.0	15.0	27.3	29.2	28.5	0.0
2002	0.0	0.0	0.0	15.9	30.4	33.5	20.2	0.0
2003	12.5	5.4	0.4	7.9	30.0	27.3	16.5	0.0
2004	27.8	13.3	4.8	3.8	18.8	19.5	12.0	0.0
2005	44.9	26.2	4.6	2.6	8.1	7.8	5.9	0.0
2006	47.9	36.6	3.3	2.2	1.9	6.9	1.2	0.0
2007	**39.0**	**51.2**	3.0	2.2	3.2	0.7	0.6	0.0
Total Change	▲ **35.2**	▲ **51.2**	▲ **3.0**	▲ **1.7**	▼ **10.6**	▼ **30.1**	▼ **41.8**	▼ **8.7**

[9]Testing to the new standard resulted in a lower EnerGuide rating in kWh per year compared with previous years. Several important changes were made to the calculation of the rating. The changes include a reduction in the number of times the self-cleaning is used – from 11 times per year to 4 – and usage factors that include a decrease in the use of these appliances. Note that this decrease in the EnerGuide rating is not an indication of a better-performing cooking appliance. (Source: Natural Resources Canada, *EnerGuide Appliance Directory, 2007* (Ottawa: March 2007), p. 139.)

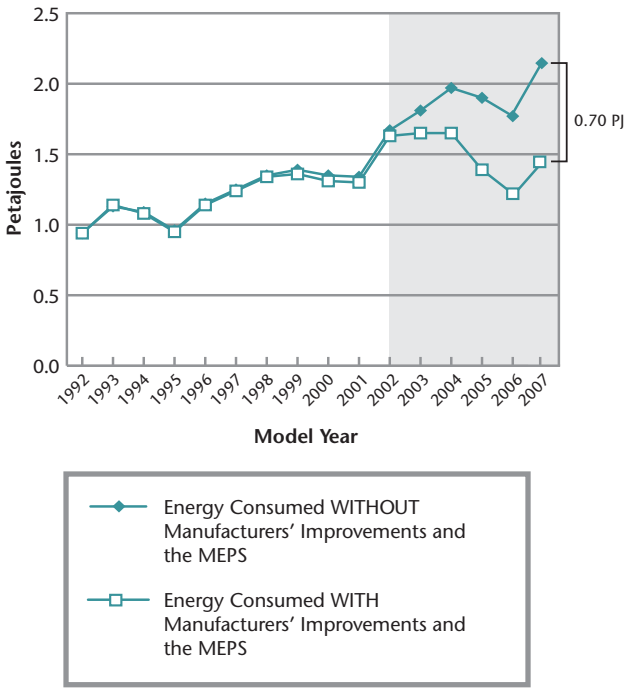
4.1 Energy Savings

Figure 7 shows how much energy might have been consumed by electric ranges without the minimum energy performance standards (MEPS) or the new energy-consumption standard (top line) and how much energy they actually consumed (bottom line).

The gap between the two lines represents incremental annual energy savings – on average, 0.02 petajoules (PJ) less per year from 1992 to 2002 and 0.45 PJ per year from 2003 to 2007. The total savings for electric ranges for 2007 (0.70 PJ) is the equivalent of one year's energy for approximately 6300 households.

In 2007, cumulative energy savings for electric ranges reached 2.41 PJ (669 million kWh). Dollar savings for electric ranges for the study period were estimated to be $64 million (calculated at 9.5 cents/kWh).

Figure 7 Annual Energy Savings for Electric Ranges, 1992–2007



Chapter 5 / **Clothes Washers**

In 2007, 55.3 percent of the clothes washers shipped in Canada were front-loading units, compared with 46.9 percent in 2006. The shipment-weighted average annual unit energy consumption (UEC) of front-loading clothes washers was 184 kilowatt hours (kWh) compared with 415 kWh for top-loading ones.

The ENERGY STAR® qualifying level for clothes washers increased again in January 2007. In that year, 58.4 percent of clothes washers on the market (98.8 percent of front-loading models and 8.4 percent of top-loading models) qualified for the ENERGY STAR specification.

As shown in Table 7, the average annual UEC of clothes washers decreased significantly during the study period. In 1990, 98.2 percent of those shipped consumed 800 kWh or more per year. By 2007, 71.0 percent of them consumed less than 400 kWh per year. This change is due, in large part, to the increased popularity of ENERGY STAR qualified clothes washers and front-loading models.

Table 7 Distribution of Clothes Washers by Average Annual Unit Energy Consumption

Model Year	kWh/yr							
	<400	400–499.9	500–599.9	600–699.9	700–799.9	800–899.9	900–999.9	≥1000
	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
1990	0.0	0.0	0.0	1.8	0.0	**10.9**	**23.0**	**64.3**
1991	0.0	0.0	0.0	0.4	0.0	21.8	12.2	65.7
1992	0.0	0.0	0.0	0.1	0.0	10.4	12.2	77.3
1993	0.0	0.0	0.0	0.1	0.3	15.6	13.4	70.6
1994	0.0	0.0	0.0	0.2	0.5	23.5	25.5	50.3
1995	0.0	0.0	0.0	0.4	0.5	26.7	28.0	44.4
1996	0.2	0.0	0.0	1.5	0.6	34.9	17.9	44.9
1997	2.7	0.0	0.0	1.6	0.3	37.1	10.4	47.9
1998	7.7	0.1	0.0	1.1	1.8	28.5	11.1	49.6
1999	10.6	1.3	0.0	1.6	10.3	18.4	31.3	26.4
2000	13.0	0.3	0.0	0.8	12.9	15.7	45.9	11.4
2001	17.0	0.1	0.0	0.3	13.1	14.9	51.6	3.0
2002	22.3	0.0	0.0	0.1	12.5	14.5	45.5	5.0
2003	28.5	0.1	4.2	0.2	10.3	18.2	36.9	1.6
2004	35.7	2.5	16.6	10.0	8.3	10.2	16.7	0.0
2005	48.3	3.4	28.3	7.8	4.4	2.4	5.5	0.0
2006	54.6	11.5	19.8	7.3	3.4	0.8	2.7	0.0
2007	**71.0**	26.3	0.3	1.8	0.5	0.0	0.2	0.0
Total Change	**71.0** ↑	**26.3** ↑	**0.3** ↑	**0.0**	**0.5** ↑	**10.9** ↓	**22.8** ↓	**64.3** ↓

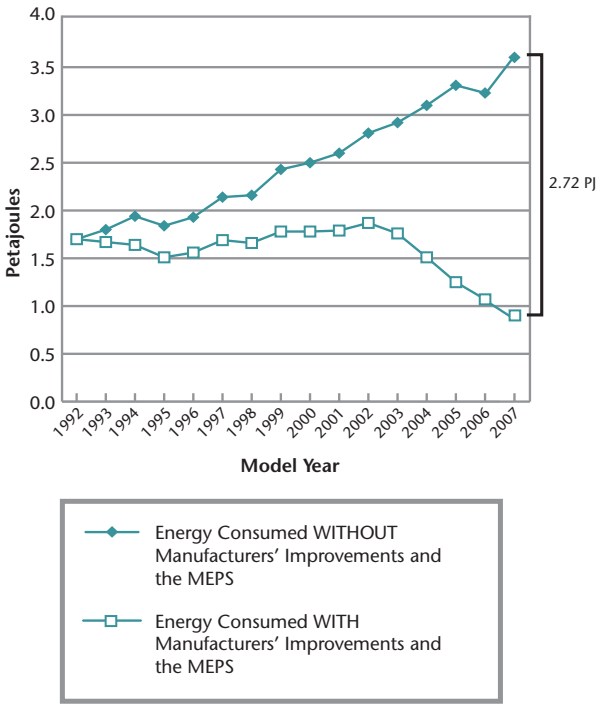
5.1 Energy Savings

Figure 8 illustrates the expected annual energy consumption for clothes washers if manufacturers had not met the minimum energy performance standards (MEPS) and general improvements in energy efficiency (top line) and shows how much energy actually was consumed (bottom line). The gap between the two lines represents incremental annual energy savings.

On average, clothes washers would have consumed 0.99 petajoules (PJ) more per year without the contributing factors. The largest annual savings occurred in 2007, when clothes washers consumed approximately 2.72 PJ less than they might have otherwise. That amount is the equivalent of one year's energy for approximately 24 400 households.

In 2007, cumulative energy savings for clothes washers reached 14.32 PJ (3.98 billion kWh). Dollar savings for clothes washers for the study period were estimated to be $378 million (calculated at 9.5 cents/kWh).

Figure 8 Annual Energy Savings for Clothes Washers, 1992–2007



Chapter 6 /
Electric Clothes Dryers

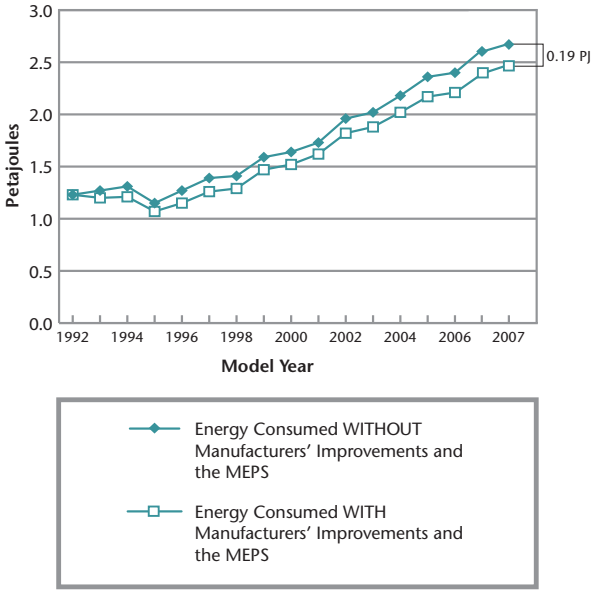
As shown in Table 8, electric clothes dryers exhibited relatively minor improvements in energy efficiency between 1990 and 2007.[10] A consumption level of more than 1050 kilowatt hours (kWh) per year had dominated the market (66.5 percent) in 1990. That consumption level had disappeared by 1996. In 2007, 67.8 percent of electric clothes dryers consumed between 900 and 949 kWh per year.

Table 8 Distribution of Electric Clothes Dryers by Average Annual Unit Energy Consumption

Model Year	kWh/yr					
	<800	800–899.9	900–949.9	950–999.9	1000–1049.9	≥1050
	(%)	(%)	(%)	(%)	(%)	(%)
1990	4.7	7.8	14.4	0.0	6.6	**66.5**
1991	5.3	0.2	30.0	22.6	15.4	26.5
1992	4.4	28.9	37.5	13.6	4.6	11.0
1993	4.1	28.9	53.6	0.1	7.1	6.1
1994	4.3	24.0	54.6	0.0	14.9	2.2
1995	3.2	16.2	68.5	0.8	10.0	1.3
1996	4.2	11.8	82.8	1.1	0.2	0.0
1997	4.9	12.9	80.7	1.4	0.0	0.0
1998	3.2	8.8	87.0	1.0	0.0	0.0
1999	2.7	7.2	88.3	1.8	0.0	0.0
2000	2.7	7.7	84.6	5.0	0.0	0.0
2001	2.3	4.3	87.1	6.3	0.0	0.0
2002	2.5	5.2	85.5	6.7	0.0	0.0
2003	2.7	10.0	77.0	10.3	0.0	0.0
2004	4.0	4.4	75.3	16.3	0.0	0.0
2005	6.1	3.2	74.1	16.6	0.0	0.0
2006	6.1	2.8	69.8	21.2	0.0	0.0
2007	4.9	2.9	**67.8**	24.4	0.0	0.0
Total Change	▲ **0.2**	▼ **4.9**	▲ **53.4**	▲ **24.4**	▼ **6.6**	▼ **66.5**

[10]Analysis of the electric clothes dryer data revealed that although the size of clothes dryers increased slightly from 2006 to 2007, the average energy consumption per litre of capacity decreased.

Figure 9 Annual Energy Savings for Electric Clothes Dryers, 1992–2007



6.1 Energy Savings

It is estimated that from 1993 to 2007, the annual energy consumption of electric clothes dryers was lower than it would have been had manufacturers not met the minimum energy performance standards (MEPS) or improved energy efficiency. Figure 9 illustrates how much energy might have been consumed annually by electric clothes dryers without the contributing factors described in the Foreword (top line) and how much energy they actually consumed (bottom line).

On average, electric clothes dryers would have consumed 0.13 petajoules (PJ) more per year. The largest annual savings occurred in the last three years, when electric clothes dryers consumed approximately 0.19 PJ less than they might have otherwise. That amount is the equivalent of one year's energy for approximately 1700 households.

In 2007, cumulative energy savings for electric clothes dryers reached 1.97 PJ (547 million kWh). Dollar savings for electric clothes dryers for the study period were estimated to be $52 million (calculated at 9.5 cents/kWh).

Chapter 7 / **Summary of Major Household Appliances**

7.1 Energy Savings

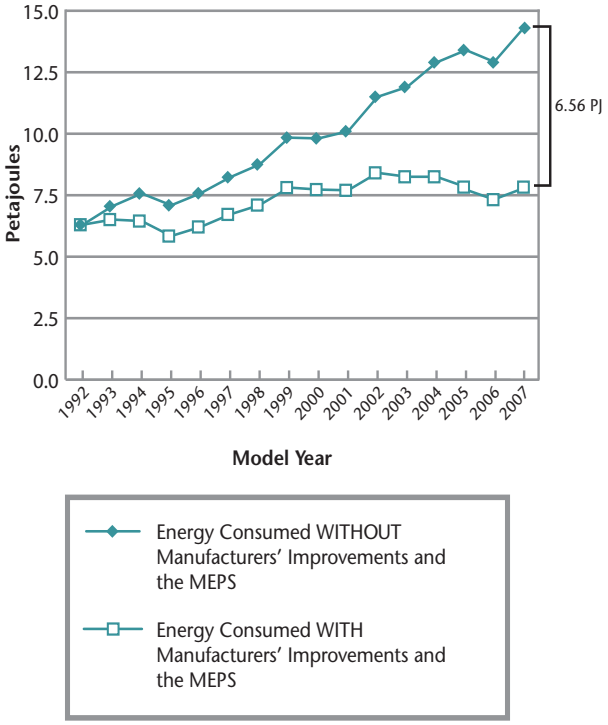
Figure 10 shows the estimated annual energy consumption of all major household appliances shipped between 1992 and 2007 without the contributing factors described in the Foreword as well as how much energy was actually consumed by the appliances during this period. The gap between the two lines represents incremental annual energy savings.

Energy efficiency began to improve almost immediately after Canada's *Energy Efficiency Act* came into force in 1992.

The average annual energy savings for major appliances were estimated to be 2.88 petajoules (PJ) between 1993 and 2007. (No energy savings had been expected in 1992.) This number indicates that, on average, major appliances consumed approximately 2.88 PJ less per year than they would have without the contributing factors.

The largest annual savings occurred in 2007, when major appliances consumed approximately 6.56 PJ less than they would have otherwise. That amount is the equivalent of one year's energy for approximately 58 900 households. Cumulative energy savings for all major household appliances reached 41.69 PJ (11.56 billion kilowatt hours).

Figure 10 Annual Energy Savings for All Major Household Appliances, 1992–2007



MEPS = minimum energy performance standards

For detailed data concerning the six major household appliances for the study period 1990 to 2007, refer to Appendix A in this report.

For more information about this summary report, contact

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Appendix A / **Detailed Tables**

Table D.A.1 ENERGY STAR® Qualified Appliances as a Percentage of Total Shipments in Canada, 1999–2007

Appliance	1999	2000	2001	2002	2003	2004	2005	2006	2007
	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
Dishwashers	0.6	1.6	9.7	29.8	56.5	81.0	90.8	79.7	76.2
Clothes Washers	1.9	2.2	9.2	22.1	30.6	36.2	45.9	50.8	58.4
Refrigerators	–	–	11.4	22.3	40.7	34.2	37.6	37.3	44.3

Table D.A.2 ENERGY STAR Qualified Appliances as a Percentage of Total Shipments, by Region/Province, 2004–2007

Region/Province	Dishwashers				Clothes Washers*				Refrigerators			
	2004	2005	2006	2007	2004	2005	2006	2007	2004	2005	2006	2007
	(%)				(%)				(%)			
Canada	81.0	90.8	79.7	76.2	36.2	45.9	50.8	58.4	34.2	37.6	37.3	44.3
Atlantic	75.4	88.4	79.6	66.4	–	–	–	–	23.3	21.3	20.6	22.8
Quebec	81.3	92.9	82.1	74.1	29.9	41.7	43.3	51.6	36.9	37.2	38.6	43.1
Ontario	83.3	90.8	80.4	77.9	37.6	50.1	54.6	60.7	38.6	39.9	38.5	47.4
Prairies	78.4	90.3	75.3	77.9	36.2	48.2	53.1	61.4	33.0	40.6	39.8	48.8
British Columbia and Territories	79.5	87.9	82.8	73.9	36.4	50.3	60.3	66.7	29.3	30.4	31.3	34.5

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

Table 1.1 Refrigerator Market, 2007

Type of Refrigerator	Market Share
	(%)
1	0.1
2	0.0
3	61.0
4	1.6
5	22.3
5A	1.2
6	0.0
7	13.5
11	0.3
12	0.0
13	0.0
14	0.0
15	0.0
	100.0
Through-the-Door Ice Service	14.7
Type of Freezer*	
Top-mounted	61.0
Side-mounted	15.1
Bottom-mounted	23.5
Without freezer	0.4

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

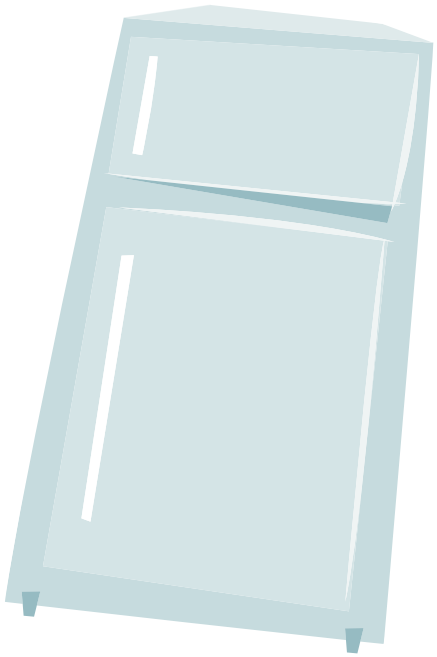

Table 1.2 Distribution of Refrigerators by Type

Model Year	Standard-Size								Compact	
	Type 1	Type 2	Type 3	Type 4	Type 5	Type 5A	Type 6	Type 7	Type 11	Type 13
	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
1990	3.5	2.0	84.9	7.6	0.6	0.0	0.0	0.0	0.1	1.2
1991	3.1	0.3	84.3	9.0	0.8	0.0	0.0	0.3	0.3	2.0
1992	2.1	0.4	85.4	7.5	0.3	0.0	0.0	3.5	0.1	0.6
1993	1.1	0.6	85.5	6.8	0.7	0.0	0.0	4.2	0.1	0.9
1994	0.6	0.7	85.1	4.9	2.0	0.0	0.1	4.3	1.3	1.0
1995	0.2	0.6	84.8	4.6	1.6	0.0	0.1	5.2	1.9	1.0
1996	0.2	0.5	84.8	4.4	2.2	0.0	0.1	6.6	0.8	0.4
1997	0.4	0.1	83.8	3.8	3.2	0.0	0.0	8.3	0.4	0.0
1998	0.4	0.0	76.5	3.3	8.5	0.0	0.3	7.3	3.6	0.0
1999	0.1	0.0	76.6	2.4	8.4	0.0	0.4	7.5	4.6	0.0
2000	0.0	0.0	72.9	2.2	11.1	0.0	0.5	7.9	5.3	0.0
2001	0.0	0.0	71.1	2.1	11.1	0.0	0.4	9.1	6.1	0.1
2002	0.0	0.0	70.2	2.2	10.6	0.0	0.2	11.0	5.8	0.1
2003	0.0	0.0	68.2	2.4	13.9	0.0	0.1	11.2	2.0	2.2
2004	0.0	0.0	66.4	1.9	15.5	0.0	0.1	11.0	4.5	0.5
2005	0.0	0.0	64.8	1.1	17.9	0.0	0.0	9.6	6.3	0.1
2006	0.1	0.0	64.5	1.9	21.2	0.6	0.0	10.1	1.5	0.0
2007	0.1	0.0	61.0	1.6	22.3	1.2	0.0	13.5	0.3	0.0
Total Change	**3.4** ↓	**2.0** ↓	**23.9** ↓	**6.0** ↓	**21.7** ↑	**1.2** ↑	**0.0**	**13.5** ↑	**0.2** ↑	**1.2** ↓

Table 1.3 Distribution of Refrigerators by Volume

Model Year	Volume (cu. ft.)						
	<10.5 (%)	10.5–12.4 (%)	12.5–14.4 (%)	14.5–16.4 (%)	16.5–18.4 (%)	18.5–20.4 (%)	≥20.5 (%)
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
Total Change	▼ 2.2	▼ 9.9	▼ 15.6	▼ 5.4	▼ 3.4	▲ 14.7	▲ 21.9

Table 1.4 Distribution of Refrigerators by Average Annual Unit Energy Consumption per Cubic Foot

Model Year	kWh/yr							
	<30	30–39.9	40–49.9	50–59.9	60–69.9	70–79.9	80–89.9	≥90
	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
1990	0.0	1.5	3.9	15.3	60.2	15.4	3.0	0.7
1991	0.0	2.9	10.7	26.9	41.3	12.2	3.6	2.4
1992	0.0	4.8	26.9	33.2	16.0	10.4	4.0	4.8
1993	0.1	51.0	29.7	9.1	1.4	4.2	1.9	2.6
1994	0.4	70.9	22.4	4.0	0.0	0.0	1.7	0.6
1995	2.8	63.3	29.3	1.6	0.0	0.1	2.5	0.5
1996	6.6	60.0	31.2	0.9	0.1	0.0	0.7	0.4
1997	6.9	60.4	31.4	0.9	0.1	0.0	0.2	0.1
1998	5.9	62.4	27.1	0.8	0.0	0.6	2.9	0.2
1999	8.4	61.2	25.0	0.6	0.2	0.7	3.4	0.6
2000	12.2	57.4	23.6	0.9	0.4	0.7	3.6	1.2
2001	44.5	34.5	12.7	1.3	0.8	4.0	0.7	1.5
2002	64.3	26.6	3.1	0.2	0.0	3.9	0.2	1.7
2003	78.4	15.5	1.6	0.2	0.2	2.8	0.2	1.0
2004	82.6	11.0	1.3	0.2	0.2	1.2	3.0	0.7
2005	86.7	6.5	0.2	0.2	0.6	3.3	1.8	0.7
2006	88.6	8.5	0.9	0.3	0.2	0.9	0.1	0.5
2007	90.6	7.9	0.6	0.4	0.1	0.2	0.2	0.1
Total Change	**90.6**	**6.4**	**3.3**	**14.9**	**60.1**	**15.2**	**2.8**	**0.6**

Table 1.5 Average Annual Unit Energy Consumption of Refrigerators by Type

	Standard-size								Compact					
Model Year	Type 1	Type 2	Type 3	Type 4 (kWh/yr)	Type 5	Type 5A	Type 6	Type 7	Type 11	Type 12	Type 13 (kWh/yr)	Type 14	Type 15	Total (kWh/yr)
1990	706.2	720.0	947.4	1321.4	1128.4	–	–	–	337.0	–	370.0	–	–	956.2
1991	685.0	636.0	923.2	1218.8	1140.0	–	–	1162.9	337.0	–	370.0	–	–	931.2
1992	696.5	464.8	873.5	1215.1	1160.4	–	–	1175.5	337.0	–	370.0	507.0	–	901.7
1993	512.4	477.4	702.4	889.3	782.5	–	772.2	953.2	337.0	–	370.0	–	–	719.6
1994	461.8	465.0	640.5	764.0	741.8	–	763.4	891.5	328.7	–	370.0	–	–	650.4
1995	382.7	465.0	630.8	768.6	752.6	–	743.4	865.6	330.6	–	370.0	–	–	641.6
1996	378.4	465.0	620.8	767.7	776.9	–	781.2	833.7	318.1	–	370.0	–	–	640.4
1997	397.2	465.0	635.0	773.7	631.1	–	818.9	860.6	317.0	–	370.0	–	–	656.5
1998	422.3	478.2	640.9	792.3	673.2	–	839.9	870.0	320.8	419.0	432.1	–	–	653.5
1999	403.7	–	635.9	798.7	665.1	–	771.6	870.9	322.4	419.0	430.0	–	–	645.5
2000	413.2	–	629.3	781.1	660.9	–	742.9	862.8	323.4	419.0	430.0	–	–	639.5
2001	403.0	–	544.1	701.2	610.2	–	707.2	725.9	330.6	419.0	430.0	–	–	559.4
2002	323.5	–	485.6	646.9	547.0	–	604.1	659.2	331.1	419.0	405.0	–	–	506.3
2003	321.0	–	460.8	625.2	522.0	–	553.5	636.7	323.1	419.0	326.7	–	463.0	487.1
2004	–	–	458.4	582.6	496.0	–	554.0	619.8	321.3	419.0	356.7	–	–	477.7
2005	321.0	–	453.8	566.0	493.2	–	550.8	611.2	327.8	419.0	406.6	–	–	469.2
2006	319.1	–	455.4	548.4	497.9	580.1	–	613.1	328.6	–	339.1	–	–	481.0
2007	318.9	–	453.5	543.8	490.8	572.7	555.0	595.1	328.3	–	334.3	–	–	483.1

Table 1.6 Distribution of Refrigerators by Type, by Region/Province, 2004–2007

Region/Province	Type 3				Type 5				Type 5A				Type 7				Types 1, 2, 4, 6, 11, 12, 13			
	2004	2005	2006	2007	2004	2005	2006	2007	2004	2005	2006	2007	2004	2005	2006	2007	2004	2005	2006	2007
	(%)				(%)				(%)				(%)				(%)			
Canada	66.4	64.9	64.2	60.8	15.5	17.9	21.2	22.3	–	–	0.6	1.2	11.0	9.6	10.1	13.5	7.0	7.6	3.8	2.2
Atlantic	83.2	81.3	80.9	78.0	6.4	8.0	8.2	9.2	–	–	0.1	0.2	8.0	7.6	7.4	8.7	2.4	3.1	3.3	3.8
Quebec	69.5	68.9	65.8	63.9	18.8	20.9	25.3	25.9	–	–	0.3	0.6	6.1	4.9	4.7	8.0	5.7	5.4	3.9	1.7
Ontario	64.5	62.6	64.2	60.9	14.6	17.7	19.9	21.6	–	–	0.7	1.3	13.8	11.2	10.9	13.9	7.2	8.5	4.3	2.4
Prairies	69.2	65.5	59.5	54.4	13.6	17.6	22.5	22.2	–	–	1.0	1.8	14.4	12.3	13.9	19.5	2.8	4.5	3.1	2.1
British Columbia and Territories	59.6	56.5	63.4	60.1	13.6	15.6	19.0	22.3	–	–	0.6	1.3	13.2	11.3	13.5	14.5	13.7	16.6	3.5	1.8

Table 1.7 Distribution of Refrigerators by Channel, by Region/Province, 2004–2007

Region/Province	Builder				Retail			
	2004	2005	2006	2007	2004	2005	2006	2007
	(%)				(%)			
Canada	18.6	17.0	20.4	18.5	81.4	83.0	79.6	81.5
Atlantic	19.1	15.8	14.6	11.3	80.9	84.2	85.4	88.7
Quebec	6.3	5.6	6.7	5.2	93.7	94.4	93.3	94.8
Ontario	22.5	19.9	23.8	22.2	77.5	80.1	76.2	77.8
Prairies	20.8	19.1	23.4	19.1	79.2	80.9	76.6	80.9
British Columbia and Territories	36.1	32.3	37.1	38.0	63.9	67.7	62.9	62.0

Table 1.8 Distribution of Refrigerators by Volume, by Region/Province, 2004–2007

Region/Province	Volume (cu. ft.)															
	10.5				10.5–12.4				12.5–14.4				14.5–16.4			
	2004	2005	2006	2007	2004	2005	2006	2007	2004	2005	2006	2007	2004	2005	2006	2007
	(%)				(%)				(%)				(%)			
Canada	4.3	6.9	3.1	1.7	2.6	2.5	3.6	3.3	3.6	2.3	2.5	2.2	11.7	9.7	9.7	8.7
Atlantic	1.9	3.8	5.2	3.9	6.4	7.4	5.7	4.9	7.8	7.9	8.1	8.4	21.4	13.9	12.2	10.2
Quebec	4.3	4.8	3.3	1.9	2.0	1.8	2.1	1.8	2.8	2.1	2.0	1.9	8.0	6.6	6.6	6.0
Ontario	4.4	7.5	3.4	1.5	1.3	1.6	3.7	3.7	4.7	2.7	2.8	2.2	14.8	12.8	13.2	12.0
Prairies	0.6	3.7	1.4	1.1	2.8	2.4	3.1	2.3	3.0	1.6	1.6	1.8	10.5	8.7	8.4	7.2
British Columbia and Territories	12.7	17.3	4.0	2.5	7.6	6.2	7.1	6.9	0.8	0.6	2.1	1.6	9.3	6.3	5.9	5.7

Region/Province	Volume (cu. ft.)											
	16.5–18.4				18.5–20.4				≥20.5			
	2004	2005	2006	2007	2004	2005	2006	2007	2004	2005	2006	2007
	(%)				(%)				(%)			
Canada	39.5	41.7	39.9	39.8	14.0	15.2	17.3	17.3	24.2	21.7	23.9	27.0
Atlantic	40.3	47.1	47.9	50.0	9.4	8.3	9.2	9.6	12.9	11.5	11.7	13.0
Quebec	48.9	49.6	45.8	45.6	17.3	19.3	22.6	23.3	16.7	15.7	17.7	19.5
Ontario	34.6	37.9	37.3	37.7	12.9	14.1	15.5	15.4	27.3	23.3	24.1	27.5
Prairies	40.8	42.1	36.6	35.6	12.7	13.9	16.6	15.4	29.6	27.7	32.3	36.6
British Columbia and Territories	29.1	32.4	38.6	38.1	13.8	13.7	15.9	17.4	26.7	23.5	26.4	27.8

Table 1.9 Distribution of Refrigerators for Retail Shipments by Volume, by Region/Province, 2004–2007

Region/Province	Volume (cu. ft.)															
	<10.5				10.5–12.4				12.5–14.4				14.5–16.4			
	2004	2005	2006	2007	2004	2005	2006	2007	2004	2005	2006	2007	2004	2005	2006	2007
	(%)				(%)				(%)				(%)			
Canada	6.7	7.9	3.3	1.7	1.5	1.1	1.2	1.0	2.2	1.4	2.2	2.3	8.2	6.6	6.4	5.7
Atlantic	1.2	4.3	4.7	3.7	3.1	3.9	3.4	2.8	6.5	5.4	6.9	8.3	22.0	14.3	11.2	8.9
Quebec	4.5	4.7	3.2	1.8	0.6	0.7	0.6	0.7	2.5	1.9	1.7	1.6	7.0	5.7	5.5	5.0
Ontario	5.7	9.1	3.6	1.8	0.4	1.1	0.9	0.9	1.8	0.9	2.0	2.4	9.1	6.7	6.5	5.8
Prairies	0.7	4.1	1.7	1.1	0.9	0.7	1.1	0.7	3.1	1.4	1.6	1.8	8.9	6.8	6.7	5.8
British Columbia and Territories	19.4	24.7	5.2	1.8	2.8	3.0	3.1	2.4	0.7	0.9	2.9	2.4	10.3	5.9	5.5	5.9

Region/Province	Volume (cu. ft.)											
	16.5–18.4				18.5–20.4				≥20.5			
	2004	2005	2006	2007	2004	2005	2006	2007	2004	2005	2006	2007
	(%)				(%)				(%)			
Canada	39.9	42.3	40.2	40.2	16.5	17.5	20.5	20.1	25.0	23.0	26.2	29.0
Atlantic	41.7	50.4	50.7	52.2	10.9	9.2	10.2	10.1	14.7	12.5	13.0	13.9
Quebec	49.5	50.4	46.2	46.2	18.4	20.4	24.1	24.5	17.5	16.4	18.6	20.3
Ontario	35.7	38.7	39.0	38.9	15.3	17.0	18.9	18.6	32.0	26.7	29.0	31.8
Prairies	39.7	41.4	32.7	33.4	15.4	16.6	21.0	18.2	31.2	29.0	35.2	39.0
British Columbia and Territories	24.2	28.2	37.1	37.0	17.2	15.6	19.6	22.2	25.4	21.7	26.5	28.2

Table 1.10 Distribution of Refrigerators for Builder Shipments by Volume, by Region/ Province, 2004–2007

Region/Province	Volume (cu. ft.)															
	<10.5				10.5–12.4				12.5–14.4				14.5–16.4			
	2004	2005	2006	2007	2004	2005	2006	2007	2004	2005	2006	2007	2004	2005	2006	2007
	(%)				(%)				(%)				(%)			
Canada	0.5	2.0	2.3	1.6	10.2	9.2	13.1	13.5	8.7	6.5	3.9	1.9	23.8	24.4	22.6	22.2
Atlantic	4.9	2.6	8.6	5.6	20.2	26.1	19.7	21.1	13.2	21.1	15.2	8.7	18.9	11.8	17.7	20.4
Quebec	0.3	7.2	4.1	3.3	23.4	21.1	21.8	22.7	7.6	7.0	6.7	6.9	22.2	22.0	21.1	25.1
Ontario	0.1	1.3	2.7	0.4	4.5	3.7	12.5	13.6	14.7	10.1	5.2	1.5	34.5	37.5	34.6	34.0
Prairies	0.3	1.8	0.4	1.3	9.9	9.7	9.8	9.3	2.7	2.4	1.6	1.8	17.0	16.4	14.1	12.9
British Columbia and Territories	0.8	1.7	2.0	3.6	16.2	12.9	13.9	14.1	0.9	0.4	0.6	0.2	7.6	7.1	6.5	5.4

Region/Province	Volume (cu. ft.)											
	16.5–18.4				18.5–20.4				≥20.5			
	2004	2005	2006	2007	2004	2005	2006	2007	2004	2005	2006	2007
	(%)				(%)				(%)			
Canada	36.3	38.5	38.6	37.7	4.1	4.0	4.6	5.1	16.4	15.4	14.9	18.0
Atlantic	34.6	28.9	31.4	32.6	3.2	3.3	3.2	5.2	5.1	6.3	4.2	6.2
Quebec	40.2	37.1	40.0	35.3	0.7	1.1	1.1	1.5	5.5	4.7	5.3	5.1
Ontario	30.8	35.0	32.0	33.8	4.6	2.8	4.6	4.4	10.9	9.7	8.5	12.3
Prairies	44.8	45.1	49.5	44.7	1.9	2.6	2.1	3.8	23.4	21.9	22.6	26.2
British Columbia and Territories	37.9	41.2	41.2	39.9	7.6	9.7	9.6	9.6	29.0	27.1	26.3	27.2

Table 1.11 Distribution of Refrigerators by Average Annual Unit Energy Consumption per Cubic Foot, by Region/Province, 2004–2007

Region/Province	kWh/cu. ft. per year											
	<30				30–39.9				40–49.9			
	2004	2005	2006	2007	2004	2005	2006	2007	2004	2005	2006	2007
	(%)				(%)				(%)			
Canada	82.6	86.7	88.6	90.7	11.0	6.5	8.5	7.9	1.3	0.2	0.9	0.6
Atlantic	83.3	80.5	79.4	80.4	11.9	16.1	17.6	17.7	3.7	0.3	1.6	1.0
Quebec	86.1	89.3	91.4	93.1	9.2	6.1	6.1	5.6	0.9	0.1	0.7	0.6
Ontario	84.1	87.1	87.9	90.7	10.7	5.4	8.6	8.1	0.8	0.1	1.1	0.4
Prairies	82.5	90.0	90.5	91.7	14.9	6.5	8.1	7.2	1.6	0.1	0.4	0.4
British Columbia and Territories	72.6	74.4	84.5	86.9	13.5	7.8	11.0	10.3	1.6	0.6	1.3	1.6

Region/Province	kWh/cu. ft. per year							
	50–59.9				≥60			
	2004	2005	2006	2007	2004	2005	2006	2007
	(%)				(%)			
Canada	0.2	0.2	0.3	0.4	5.0	6.4	1.7	0.5
Atlantic	0.0	0.3	0.2	0.3	1.1	2.9	1.3	0.6
Quebec	0.0	0.1	0.2	0.3	3.7	4.3	1.5	0.4
Ontario	0.0	0.2	0.4	0.4	4.4	7.2	2.1	0.5
Prairies	0.0	0.1	0.2	0.2	1.1	3.3	0.8	0.4
British Columbia and Territories	0.0	0.8	0.8	0.8	12.3	16.4	2.4	0.4

Table 1.12 Average Annual Unit Energy Consumption of Refrigerators by Volume

Model Year	Volume (cu. ft.)						
	<10.5	10.5–12.4	12.5–14.4	14.5–16.4	16.5–18.4	18.5–20.4	≥20.5
				(kWh/yr)			
1990	593	740	850	955	1067	1133	1138
1991	401	727	877	915	1018	978	1080
1992	427	697	750	924	940	998	1124
1993	414	593	600	700	731	799	875
1994	378	563	547	627	665	720	817
1995	366	554	540	626	662	715	794
1996	375	547	570	631	646	680	762
1997	367	548	567	632	664	695	750
1998	329	564	562	629	675	703	755
1999	346	552	575	629	666	667	756
2000	359	550	583	625	667	637	730
2001	376	502	493	562	582	534	630
2002	339	433	428	480	521	489	586
2003	337	429	424	449	475	496	570
2004	335	432	420	455	465	487	551
2005	335	412	425	415	468	477	544
2006	357	417	434	423	467	489	551
2007	377	419	438	428	462	486	548

Table 1.13 Average Annual Unit Energy Consumption per Cubic Foot of Refrigerators by Volume

Model Year	Volume (cu. ft.)						
	<10.5	10.5–12.4	12.5–14.4	14.5–16.4	16.5–18.4	18.5–20.4	≥20.5
				(kWh/cu. ft. per year)			
1990	113	65	63	62	61	58	43
1991	76	64	65	59	58	50	41
1992	81	61	56	60	54	51	49
1993	79	52	45	45	42	41	40
1994	72	49	41	41	38	37	38
1995	70	48	40	41	38	37	36
1996	71	48	42	41	37	35	34
1997	70	48	42	41	38	36	33
1998	63	49	42	41	39	36	34
1999	66	48	43	41	38	34	34
2000	68	48	43	40	38	33	32
2001	72	44	37	36	33	27	28
2002	65	38	32	31	30	25	25
2003	64	38	32	29	27	26	25
2004	64	38	31	29	27	25	24
2005	64	36	32	27	27	25	24
2006	68	36	32	27	27	25	21
2007	72	37	33	28	26	25	21

Table 1.14 Average Annual Unit Energy Consumption of Refrigerators by Channel, by Region/Province, 2004–2007

Region/Province	Builder				Retail			
	2004	2005	2006	2007	2004	2005	2006	2007
	(kWh/yr)				(kWh/yr)			
Canada	464.3	457.2	458.2	459.2	480.7	471.7	486.9	488.6
Atlantic	463.8	436.8	437.6	439.2	477.8	468.4	471.9	475.2
Quebec	455.6	437.5	445.7	444.6	471.7	468.0	475.6	478.1
Ontario	451.9	444.1	442.0	443.0	489.0	475.0	490.6	490.9
Prairies	477.8	475.1	477.8	477.9	497.1	480.8	498.9	499.3
British Columbia and Territories	483.3	479.0	480.5	480.9	469.2	450.8	489.0	493.8

Table 1.15 Distribution of Refrigerators Consuming Less Than 30 kWh/cu. ft. per Year, by Channel, by Region/Province, 2004–2007

Region/Province	Builder				Retail			
	2004	2005	2006	2007	2004	2005	2006	2007
	(%)				(%)			
Canada	81.4	83.8	79.9	81.1	82.8	87.3	90.8	92.8
Atlantic	71.9	61.3	60.5	64.0	86.0	84.2	82.6	82.3
Quebec	69.3	63.4	66.0	65.6	87.2	90.8	93.2	94.5
Ontario	84.0	88.9	79.9	83.3	84.2	86.6	90.3	92.6
Prairies	84.8	85.4	86.9	85.1	85.7	91.1	91.6	93.2
British Columbia and Territories	78.8	83.7	80.5	78.6	69.1	70.0	86.8	91.8

Table 1.16 Annual Energy Savings for Refrigerators, 1992–2007

Model Year	Energy Consumed WITHOUT Manufacturers' Improvements, the MEPS and Improvements to the MEPS (PJ)	Energy Consumed WITH Manufacturers' Improvements, the MEPS and Improvements to the MEPS (PJ)	Annual Energy Savings (PJ)	Cumulative Energy Savings (with retirement factor) (PJ)
1992	1.59	1.27	0.32	0.32
1993	1.80	1.30	0.50	0.82
1994	1.77	1.26	0.51	1.33
1995	1.80	1.28	0.52	1.86
1996	1.96	1.43	0.53	2.39
1997	2.24	1.63	0.62	3.01
1998	2.58	1.84	0.73	3.74
1999	2.51	1.78	0.73	4.47
2000	2.63	1.63	1.00	5.47
2001	2.88	1.62	1.26	5.47
2002	2.93	1.59	1.35	6.74
2003	3.22	1.71	1.51	8.09
2004	3.23	1.72	1.51	9.58
2005	3.36	1.75	1.61	11.13
2006	3.11	1.66	1.45	12.48
2007	3.37	1.81	1.56	13.90

Table 2.1 Distribution of Freezers by Type

Model Year	Type 8 (%)	Type 9 (%)	Type 10 (%)	Type 16 (%)	Type 18 (%)
1990	16.8	0.0	64.9	0.0	18.3
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
Total Change	**9.6**	**11.8**	**25.5**	**0.0**	**4.0**

Table 2.2 Distribution of Freezers by Average Annual Unit Energy Consumption per Cubic Foot

Model Year	kWh/cu. ft. per year						
	20–29.9	30–39.9	40–49.9	50–59.9	60–69.9	70–79.9	≥80
	(%)	(%)	(%)	(%)	(%)	(%)	(%)
1990	0.0	0.0	0.9	32.1	19.3	38.3	9.4
1991	0.0	28.3	20.3	31.2	4.1	15.9	0.3
1992	3.1	18.9	58.3	15.0	4.5	0.3	0.0
1993	16.5	57.0	16.5	8.4	1.6	0.0	0.0
1994	15.4	39.0	34.9	9.0	1.9	0.0	0.0
1995	12.7	39.6	41.2	5.4	1.2	0.0	0.0
1996	12.4	40.4	37.0	10.3	0.0	0.0	0.0
1997	11.7	36.7	39.0	12.0	0.0	0.6	0.0
1998	11.0	34.6	43.1	11.3	0.0	0.0	0.0
1999	10.8	42.3	37.0	9.6	0.0	0.3	0.0
2000	10.0	37.6	41.3	8.8	0.0	2.3	0.0
2001	17.5	36.3	38.2	3.9	0.0	4.0	0.0
2002	26.7	47.5	24.9	0.8	0.0	0.0	0.0
2003	28.6	47.4	23.2	0.8	0.0	0.0	0.0
2004	28.9	48.8	22.3	0.1	0.0	0.0	0.0
2005	29.5	45.2	25.3	0.0	0.0	0.0	0.0
2006	34.8	40.4	24.7	0.0	0.0	0.0	0.0
2007	26.7	47.5	25.9	0.0	0.0	0.0	0.0
Total Change	**26.7**	**47.5**	**25.0**	**32.1**	**19.3**	**38.3**	**9.4**

Table 2.3 Distribution of Freezers by Type, by Region/Province, 2004–2007

Region/Province	Type 8				Type 9				Type 10				Type 18			
	2004	2005	2006	2007	2004	2005	2006	2007	2004	2005	2006	2007	2004	2005	2006	2007
	(%)				(%)				(%)				(%)			
Canada	29.4	30.4	28.5	26.4	8.3	10.7	8.7	11.8	45.5	35.7	45.6	39.4	16.8	23.2	17.2	22.4
Atlantic	19.8	20.8	25.7	29.1	10.2	8.2	6.9	11.2	38.0	37.0	29.0	27.3	32.0	34.1	38.4	32.4
Quebec	41.3	41.1	44.9	39.9	5.6	6.0	3.5	8.2	22.7	21.9	25.0	21.5	30.4	31.0	26.6	30.4
Ontario	28.2	26.7	31.6	28.8	17.8	13.4	10.1	17.1	18.9	19.9	22.6	21.6	35.1	39.8	35.7	32.4
Prairies	31.7	27.9	31.9	26.8	12.6	12.1	9.6	16.0	25.9	23.3	27.5	25.9	29.8	36.7	30.9	31.3
British Columbia and Territories	30.0	28.8	30.0	31.6	15.0	14.6	14.3	16.6	30.8	28.5	26.8	26.9	24.1	28.1	28.9	24.9

Table 2.4 Distribution of Freezers by Average Annual Unit Energy Consumption per Cubic Foot, by Region/Province, 2004–2007

Region/Province	kWh/cu. ft. per year															
	20–29.9				30–39.9				40–49.9				50–59.9			
	2004	2005	2006	2007	2004	2005	2006	2007	2004	2005	2006	2007	2004	2005	2006	2007
	(%)				(%)				(%)				(%)			
Canada	28.9	29.5	34.8	26.7	48.8	45.2	40.4	47.5	22.3	25.3	24.7	25.9	0.1	0.0	0.0	0.0
Atlantic	34.3	36.4	31.2	30.0	46.0	47.6	46.5	48.4	19.3	16.0	22.3	21.6	0.3	0.0	0.0	0.0
Quebec	27.9	29.9	36.6	26.8	51.3	48.7	45.7	50.3	20.7	21.4	17.6	23.0	0.1	0.0	0.0	0.0
Ontario	22.2	24.5	30.4	24.0	51.1	44.3	41.1	46.4	26.6	31.1	28.5	29.6	0.1	0.0	0.0	0.0
Prairies	33.2	31.9	40.2	26.6	47.3	45.6	36.1	49.9	19.5	22.5	23.8	23.5	0.0	0.0	0.0	0.0
British Columbia and Territories	36.7	37.5	38.0	37.7	40.6	35.4	32.6	32.6	22.6	27.0	29.4	29.7	0.1	0.0	0.0	0.0

Table 2.5 Distribution of Freezers by Channel, by Region/Province, 2004–2007

Region/Province	Builder				Retail			
	2004	2005	2006	2007	2004	2005	2006	2007
	(%)				(%)			
Canada	1.8	2.1	2.0	2.6	98.2	97.9	98.0	97.4
Atlantic	0.9	1.6	0.5	0.4	99.1	98.4	99.5	99.6
Quebec	0.9	0.7	0.4	0.2	99.1	99.3	99.6	99.8
Ontario	0.5	0.4	0.3	0.9	99.5	99.6	99.7	99.1
Prairies	5.0	4.4	7.2	4.1	95.0	95.6	92.8	95.9
British Columbia and Territories	15.5	18.6	16.0	13.2	84.5	81.4	84.0	86.8

Table 2.6 Average Annual Unit Energy Consumption of Freezers by Type

Model Year	Type 8	Type 9	Type 10	Type 18	Total
		(kWh/yr)			(kWh/yr)
1990	992.1	–	657.7	519.9	713.8
1991	706.4	1068.0	406.8	339.8	444.7
1992	670.4	1078.0	413.8	337.8	449.3
1993	581.3	863.3	368.2	287.8	401.7
1994	535.9	846.1	363.9	292.4	389.2
1995	508.9	817.1	353.2	282.0	381.6
1996	502.9	820.7	344.0	279.4	376.7
1997	494.8	823.7	341.9	278.7	376.5
1998	496.0	829.6	339.5	278.2	381.5
1999	492.1	838.6	337.5	276.3	383.4
2000	487.8	839.4	337.4	277.1	390.9
2001	447.6	740.5	336.7	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

Table 2.7 Annual Energy Savings for Freezers, 1992–2007

Model Year	Energy Consumed WITHOUT Manufacturers' Improvements, the MEPS and Improvements to the MEPS	Energy Consumed WITH Manufacturers' Improvements, the MEPS and Improvements to the MEPS	Annual Energy Savings	Cumulative Energy Savings (with retirement factor)
	(PJ)	(PJ)	(PJ)	(PJ)
1992	0.36	0.36	0.00	0.00
1993	0.38	0.34	0.04	0.04
1994	0.37	0.32	0.05	0.09
1995	0.32	0.28	0.05	0.14
1996	0.28	0.24	0.05	0.18
1997	0.31	0.26	0.05	0.23
1998	0.38	0.32	0.06	0.29
1999	0.40	0.34	0.06	0.35
2000	0.37	0.33	0.05	0.40
2001	0.38	0.32	0.06	0.45
2002	0.41	0.34	0.07	0.53
2003	0.40	0.33	0.07	0.60
2004	0.45	0.37	0.08	0.68
2005	0.43	0.37	0.06	0.74
2006	0.39	0.33	0.06	0.80
2007	0.45	0.38	0.07	0.86

Table 3.1 Distribution of Dishwashers by Average Annual Unit Energy Consumption

Model Year	kWh/yr						
	<300	300–349.9	350–399.9	400–499.9	500–599.9	600–699.9	≥700
	(%)	(%)	(%)	(%)	(%)	(%)	(%)
1990	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	5.8	94.2
1992	0.0	0.0	0.0	0.0	0.0	8.5	91.5
1993	0.0	0.0	0.0	0.0	0.4	7.7	91.9
1994	0.0	0.0	0.0	0.5	0.5	32.9	66.1
1995	0.0	0.0	0.2	0.9	0.9	63.7	34.2
1996	0.0	0.0	0.2	0.9	3.9	63.0	32.0
1997	0.0	0.0	0.4	1.1	20.5	56.9	21.2
1998	0.0	0.0	0.2	1.2	23.4	71.6	3.7
1999	0.0	0.0	0.2	1.4	24.9	73.6	0.0
2000	0.0	0.0	0.1	3.9	19.3	76.7	0.0
2001	0.0	0.0	0.0	5.5	23.9	70.6	0.0
2002	0.0	0.0	3.2	13.6	37.8	45.5	0.0
2003	0.0	0.0	9.1	33.6	36.5	20.7	0.0
2004	0.0	4.0	24.3	46.4	16.5	8.8	0.0
2005	0.0	19.6	55.5	15.5	6.4	3.0	0.0
2006	0.3	28.2	61.8	5.7	2.7	1.3	0.0
2007	2.6	48.9	42.7	5.0	0.6	0.3	0.0
Total Change	▲ 2.6	▲ 48.9	▲ 42.7	▲ 5.0	▲ 0.6	▲ 0.1	▼ 99.8

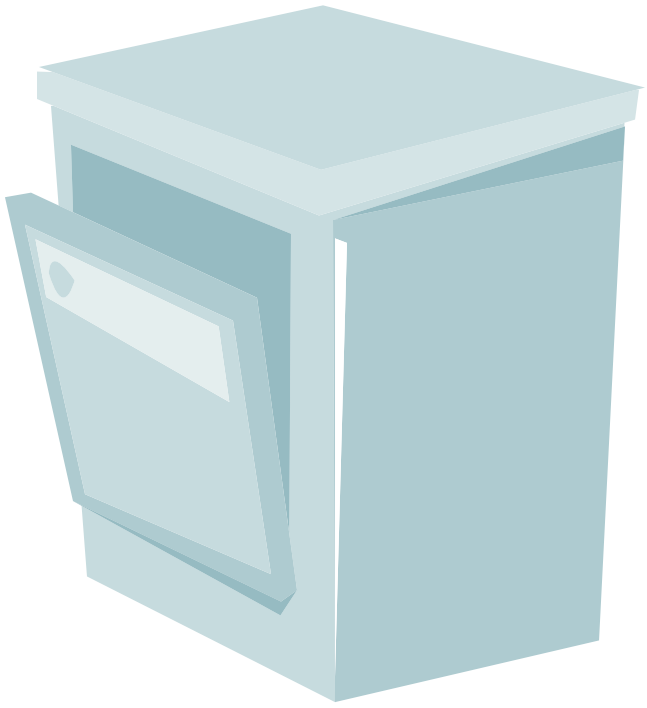

Table 3.2 Distribution of Dishwashers by Average Annual Unit Energy Consumption, by Region/Province, 2004–2007

Region/Province	kWh/yr											
	<300				300–349.9				350–399.9			
	2004	2005	2006	2007	2004	2005	2006	2007	2004	2005	2006	2007
	(%)				(%)				(%)			
Canada	0.0	0.0	0.3	2.6	4.0	19.6	28.2	48.9	24.3	55.5	61.8	42.7
Atlantic	0.0	0.0	1.0	7.1	9.0	25.5	33.1	45.3	21.3	48.0	49.7	38.6
Quebec	0.0	0.0	1.1	4.9	4.0	21.9	26.3	46.9	28.0	59.7	66.8	43.8
Ontario	0.0	0.0	0.1	1.6	4.6	20.5	28.5	50.5	22.7	54.0	61.7	42.2
Prairies	0.0	0.0	0.0	1.3	2.7	15.2	25.8	47.6	23.5	59.2	64.2	45.5
British Columbia and Territories	0.0	0.0	0.1	2.3	3.4	20.0	35.5	51.8	24.1	44.7	50.0	36.8

Region/Province	kWh/yr											
	<400–499.9				500–599.9				600–699.9			
	2004	2005	2006	2007	2004	2005	2006	2007	2004	2005	2006	2007
	(%)				(%)				(%)			
Canada	46.4	15.5	5.7	5.0	16.5	6.4	2.7	0.6	8.8	3.0	1.3	0.3
Atlantic	37.6	15.3	9.2	6.7	17.6	3.6	2.4	0.5	14.5	7.5	4.7	1.8
Quebec	43.0	11.9	3.5	3.8	17.7	4.7	2.0	0.5	7.5	1.8	0.4	0.0
Ontario	48.5	15.2	5.1	4.8	16.4	8.0	3.1	0.5	7.8	2.2	1.4	0.4
Prairies	48.5	16.9	6.3	4.6	15.5	5.0	2.6	0.8	9.8	3.8	1.1	0.2
British Columbia and Territories	45.6	21.6	9.2	8.0	16.1	8.7	3.4	1.0	10.9	4.9	1.9	0.3

Table 3.3 Distribution of Dishwashers by Channel, by Region/Province, 2004–2007

Region/Province	Builder				Retail			
	2004	2005	2006	2007	2004	2005	2006	2007
	(%)				(%)			
Canada	14.3	14.7	15.5	15.5	85.7	85.3	84.5	84.5
Atlantic	15.3	11.6	11.8	9.1	84.7	88.4	88.2	90.9
Quebec	3.0	2.9	3.3	3.2	97.0	97.1	96.7	96.8
Ontario	15.1	15.1	15.5	15.0	84.9	84.9	84.5	85.0
Prairies	16.7	16.8	18.8	18.5	83.3	83.2	81.2	81.5
British Columbia and Territories	32.3	35.9	33.9	36.3	67.7	64.1	66.1	63.7

Table 3.4 Average Annual Unit Energy Consumption of Dishwashers by Model Year

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

Table 3.5 Average Annual Unit Energy Consumption of Dishwashers by Channel, by Region/Province, 2004–2007

Region/Province	Builder				Retail			
	2004	2005	2006	2007	2004	2005	2006	2007
	(kWh/yr)				(kWh/yr)			
Canada	443.0	404.0	382.8	361.1	459.1	394.2	370.7	352.5
Atlantic	454.4	391.2	385.9	353.3	469.4	402.9	382.2	357.7
Quebec	449.2	417.0	386.8	363.7	454.3	386.5	367.3	350.0
Ontario	447.0	408.9	388.4	366.5	454.7	392.6	371.0	352.1
Prairies	442.1	396.4	381.2	359.4	465.2	399.3	371.8	354.6
British Columbia and Territories	434.6	404.2	376.3	356.3	472.6	408.4	372.6	352.7

Table 3.6 Annual Energy Savings for Dishwashers, 1992–2007

Model Year	Energy Consumed WITHOUT Manufacturers' Improvements and the MEPS (PJ)	Energy Consumed WITH Manufacturers' Improvements and the MEPS (PJ)	Annual Energy Savings (PJ)	Cumulative Energy Savings (with retirement factor) (PJ)
1992	0.85	0.85	0.00	0.00
1993	0.89	0.90	-0.01	-0.01
1994	1.06	0.90	0.15	0.15
1995	1.04	0.77	0.27	0.42
1996	1.14	0.84	0.30	0.72
1997	1.18	0.84	0.34	1.06
1998	1.21	0.87	0.35	1.41
1999	1.45	1.02	0.43	1.84
2000	1.45	1.01	0.43	2.27
2001	1.45	1.01	0.44	2.71
2002	1.75	1.14	0.61	3.31
2003	1.81	1.04	0.77	4.05
2004	1.95	0.98	0.97	4.96
2005	2.07	0.90	1.17	6.03
2006	2.03	0.83	1.20	7.09
2007	2.17	0.85	1.32	8.23

Table 4.1 Distribution of Electric Ranges by Type

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
Total Change	**42.9** ↓	**42.9** ↑

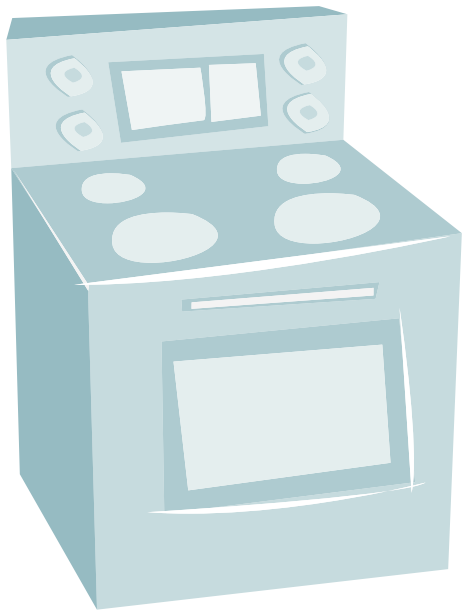

Table 4.2 Distribution of Electric Ranges by Average Annual Unit Energy Consumption

Model Year	kWh/yr							
	<500	500–599.9	600–649.9	650–699.9	700–749.9	750–799.9	800–899	≥850
	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
1990	3.8	0.0	0.0	0.5	13.8	30.8	42.4	8.7
1991	0.0	0.0	0.0	0.8	15.9	27.6	54.0	1.8
1992	0.0	0.0	0.0	0.0	15.0	58.1	26.5	0.3
1993	0.0	0.0	0.0	0.1	18.4	42.8	38.5	0.2
1994	0.0	0.0	0.1	1.7	32.2	28.5	37.4	0.1
1995	0.0	0.0	0.1	3.3	35.0	22.5	39.2	0.0
1996	0.0	0.0	0.0	3.2	27.6	26.4	42.8	0.0
1997	0.0	0.0	0.0	3.6	27.6	29.0	39.8	0.0
1998	0.0	0.0	0.0	8.6	23.3	30.6	37.4	0.0
1999	0.0	0.0	0.0	15.3	28.2	31.6	24.9	0.0
2000	0.0	0.0	0.0	14.3	30.9	29.5	25.3	0.0
2001	0.0	0.0	0.0	15.0	27.3	29.2	28.5	0.0
2002	0.0	0.0	0.0	15.9	30.4	33.5	20.2	0.0
2003	12.5	5.4	0.4	7.9	30.0	27.3	16.5	0.0
2004	27.8	13.3	4.8	3.8	18.8	19.5	12.0	0.0
2005	44.9	26.2	4.6	2.6	8.1	7.8	5.9	0.0
2006	47.9	36.6	3.3	2.2	1.9	6.9	1.2	0.0
2007	39.0	51.2	3.0	2.2	3.2	0.7	0.6	0.0
Total Change	**35.2**	**51.2**	**3.0**	**1.7**	**10.6**	**30.1**	**41.8**	**8.7**

Table 4.3 Distribution of Electric Ranges by Type, by Region/Province, 2004–2007

Region/Province	Non-Self-Cleaning				Self-Cleaning			
	2004	2005	2006	2007	2004	2005	2006	2007
	(%)				(%)			
Canada	42.3	41.2	40.1	34.2	57.7	58.8	59.9	65.8
Atlantic	53.7	51.7	51.6	48.4	46.3	48.3	48.4	51.6
Quebec	40.4	37.6	31.8	28.0	59.6	62.4	68.2	72.0
Ontario	44.3	46.1	49.0	39.2	55.7	53.9	51.0	60.8
Prairies	39.7	36.5	32.7	31.1	60.3	63.5	67.3	68.9
British Columbia and Territories	40.7	38.6	35.5	33.8	59.3	61.4	64.5	66.2

Table 4.4 Distribution of Electric Ranges by Average Annual Unit Energy Consumption, by Region/Province, 2004–2007

Region/Province	kWh/yr															
	<500				500–549.9				550–599.9				600–649.9			
	2004	2005	2006	2007	2004	2005	2006	2007	2004	2005	2006	2007	2004	2005	2006	2007
	(%)				(%)				(%)				(%)			
Canada	27.8	44.9	47.9	39.0	11.4	20.8	22.4	34.6	1.9	5.4	14.2	16.6	4.8	4.6	3.3	3.0
Atlantic	18.4	36.8	44.6	39.9	13.3	20.6	24.7	31.0	1.3	9.2	19.5	22.6	2.3	2.8	1.0	1.9
Quebec	30.9	43.7	47.5	41.0	13.0	21.3	19.9	30.8	2.0	4.8	15.0	15.0	4.1	6.1	5.3	4.2
Ontario	25.9	45.6	48.1	38.5	10.3	20.4	22.5	36.3	2.0	5.7	13.2	16.2	5.0	3.9	2.4	2.4
Prairies	32.3	48.4	45.7	36.8	12.9	21.9	25.9	38.1	1.8	5.1	14.9	16.4	5.0	3.7	3.0	2.5
British Columbia and Territories	19.3	42.6	53.6	41.2	5.8	17.9	20.2	32.0	1.4	4.6	12.2	19.3	6.8	5.4	3.3	3.5

Region/Province	kWh/yr															
	650–699.9				700–749.9				750–799.9				800–849.9			
	2004	2005	2006	2007	2004	2005	2006	2007	2004	2005	2006	2007	2004	2005	2006	2007
	(%)				(%)				(%)				(%)			
Canada	3.8	2.6	2.2	2.2	18.8	8.1	1.9	3.2	19.5	7.8	6.9	0.7	12.0	5.9	1.2	0.6
Atlantic	3.3	2.5	1.9	1.5	14.9	7.2	2.6	2.8	24.6	10.8	4.8	0.1	22.0	10.1	1.0	0.1
Quebec	4.1	3.0	2.6	2.9	18.1	8.5	1.6	3.6	16.0	4.5	6.8	1.8	11.8	8.0	1.3	0.8
Ontario	4.6	3.0	2.7	2.8	17.8	7.1	1.6	2.8	21.7	9.8	8.5	0.4	12.7	4.6	1.0	0.5
Prairies	2.3	1.4	1.1	1.1	18.8	7.3	2.5	4.2	17.8	7.6	5.7	0.4	9.1	4.6	1.3	0.4
British Columbia and Territories	3.0	2.2	1.9	1.7	28.6	13.3	2.6	1.4	23.6	9.0	5.2	0.3	11.6	5.0	1.1	0.6

Table 4.5 Distribution of Electric Ranges by Channel, by Region/Province, 2004–2007

Region/Province	Builder				Retail			
	2004	2005	2006	2007	2004	2005	2006	2007
	(%)				(%)			
Canada	21.5	22.1	26.9	21.1	78.5	77.9	73.1	78.9
Atlantic	19.5	17.3	17.4	12.8	80.5	82.7	82.6	87.2
Quebec	6.6	6.5	8.7	6.0	93.4	93.5	91.3	94.0
Ontario	28.2	29.1	33.2	26.9	71.8	70.9	66.8	73.1
Prairies	22.6	23.6	31.0	22.9	77.4	76.4	69.0	77.1
British Columbia and Territories	42.8	43.5	43.9	41.7	57.2	56.5	56.1	58.3

Table 4.6 Average Annual Unit Energy Consumption of Electric Ranges by Type

Model Year	Non-Self-Cleaning (kWh/yr)	Self-Cleaning (kWh/yr)	Total (kWh/yr)
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

Table 4.7 Average Annual Unit Energy Consumption of Electric Ranges by Channel, by Region/Province, 2004–2007

Region/Province	Builder				Retail			
	2004	2005	2006	2007	2004	2005	2006	2007
	(kWh/yr)				(kWh/yr)			
Canada	730.9	604.5	541.3	508.9	631.3	563.5	535.7	528.4
Atlantic	709.5	595.3	524.5	511.4	677.8	590.0	535.1	521.3
Quebec	714.3	620.3	562.1	534.1	625.9	563.8	537.4	529.2
Ontario	739.5	612.4	551.4	508.5	634.6	560.5	532.2	527.9
Prairies	724.1	586.1	532.7	503.6	610.2	553.3	538.2	528.6
British Columbia and Territories	728.7	600.3	518.2	501.3	684.2	587.8	538.7	531.2

Table 4.8 Annual Energy Savings for Electric Ranges, 1992–2007

Model Year	Energy Consumed WITHOUT Manufacturers' Improvements and the MEPS (PJ)	Energy Consumed WITH Manufacturers' Improvements and the MEPS (PJ)	Annual Energy Savings (PJ)	Cumulative Energy Savings (with retirement factor) (PJ)
1992	0.94	0.94	0.00	0.00
1993	1.13	1.14	-0.01	-0.01
1994	1.09	1.08	0.01	0.00
1995	0.96	0.95	0.01	0.01
1996	1.15	1.14	0.01	0.02
1997	1.25	1.24	0.01	0.03
1998	1.35	1.34	0.01	0.04
1999	1.39	1.36	0.04	0.08
2000	1.35	1.31	0.03	0.11
2001	1.34	1.32	0.03	0.14
2002	1.67	1.63	0.05	0.18
2003	1.81	1.65	0.16	0.35
2004	1.97	1.65	0.32	0.66
2005	1.90	1.39	0.50	1.17
2006	1.77	1.22	0.55	1.72
2007	2.14	1.44	0.70	2.41

Table 5.1 Distribution of Clothes Washers by Type

Model Year	Front-Loading Clothes Washers (%)	Top-Loading Clothes Washers (%)
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
Total Change	▲ 39.6	▼ 39.6

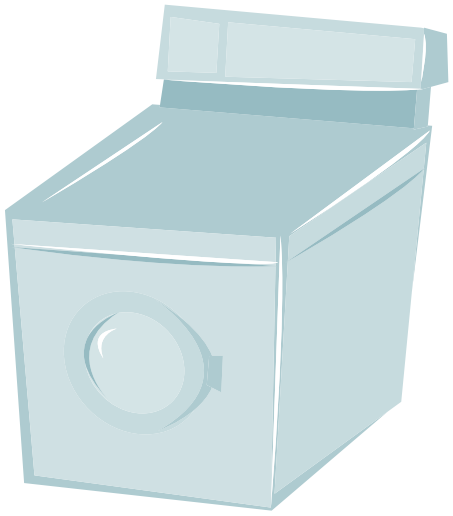

Table 5.2 Distribution of Clothes Washers by Average Annual Unit Energy Consumption

Model Year	kWh/yr							
	<400	400–499.9	500–599.9	600–699.9	700–799.9	800–899.9	900–999	≥1000
	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
1990	0.0	0.0	0.0	1.8	0.0	10.9	23.0	64.3
1991	0.0	0.0	0.0	0.4	0.0	21.8	12.2	65.7
1992	0.0	0.0	0.0	0.1	0.0	10.4	12.2	77.3
1993	0.0	0.0	0.0	0.1	0.3	15.6	13.4	70.6
1994	0.0	0.0	0.0	0.2	0.5	23.5	25.5	50.3
1995	0.0	0.0	0.0	0.4	0.5	26.7	28.0	44.4
1996	0.2	0.0	0.0	1.5	0.6	34.9	17.9	44.9
1997	2.7	0.0	0.0	1.6	0.3	37.1	10.4	47.9
1998	7.7	0.1	0.0	1.1	1.8	28.5	11.1	49.6
1999	10.6	1.3	0.0	1.6	10.3	18.4	31.3	26.4
2000	13.0	0.3	0.0	0.8	12.9	15.7	45.9	11.4
2001	17.0	0.1	0.0	0.3	13.1	14.9	51.6	3.0
2002	22.3	0.0	0.0	0.1	12.5	14.5	45.5	5.0
2003	28.5	0.1	4.2	0.2	10.3	18.2	36.9	1.6
2004	35.7	2.5	16.6	10.0	8.3	10.2	16.7	0.0
2005	48.3	3.4	28.3	7.8	4.4	2.4	5.5	0.0
2006	54.6	11.5	19.8	7.3	3.4	0.8	2.7	0.0
2007	71.0	26.3	0.3	1.8	0.5	0.0	0.2	0.0
Total Change	**71.0**	**26.3**	**0.3**	**0.0**	**0.5**	**10.9**	**22.8**	**64.3**

Table 5.3 Distribution of Clothes Washers by Type, by Region/Province, 2004–2007

Region/Province	Front-Loading Clothes Washers				Top-Loading Clothes Washers			
	2004	2005	2006	2007	2004	2005	2006	2007
	(%)				(%)			
Canada	29.2	42.3	46.9	55.3	70.8	57.7	53.1	44.7
Atlantic and Quebec	22.8	36.2	39.0	46.9	77.2	63.8	61.0	53.1
Ontario	27.7	45.4	50.5	58.3	72.3	54.6	49.5	41.7
Prairies	28.9	44.9	49.2	58.7	71.1	55.1	50.8	41.3
British Columbia and Territories	30.2	48.6	59.1	66.2	69.8	51.4	40.9	33.8

Table 5.4 Distribution of Clothes Washers by Average Annual Unit Energy Consumption, by Region/Province, 2004–2007

Region/Province	kWh/yr															
	<400				400–499.9				500–599.9				600–699.9			
	2004	2005	2006	2007	2004	2005	2006	2007	2004	2005	2006	2007	2004	2005	2006	2007
	(%)				(%)				(%)				(%)			
Canada	35.7	48.3	54.6	71.0	2.5	3.4	11.5	26.3	16.6	28.3	19.8	0.3	10.0	7.8	7.3	1.8
Atlantic and Quebec	27.7	41.8	47.2	66.3	1.5	3.0	15.0	31.8	19.9	35.3	22.3	0.2	8.5	6.6	8.4	1.1
Ontario	36.9	52.5	58.1	71.7	3.9	4.3	10.6	24.8	16.5	23.5	17.9	0.3	11.6	8.3	6.5	2.3
Prairies	35.9	50.0	57.2	74.4	2.2	2.9	8.8	23.3	16.5	28.1	22.0	0.4	10.0	7.4	6.3	1.5
British Columbia and Territories	35.6	53.0	62.9	76.1	3.2	2.8	8.2	19.9	11.0	17.9	9.9	0.3	16.8	12.1	9.2	2.8

Region/Province	kWh/yr											
	700–799.9				800–899.9				900–999.9			
	2004	2005	2006	2007	2004	2005	2006	2007	2004	2005	2006	2007
	(%)				(%)				(%)			
Canada	8.3	4.4	3.4	0.5	10.2	2.4	0.8	0.0	16.7	5.5	2.7	0.2
Atlantic and Quebec	8.7	4.9	3.4	0.5	11.6	3.1	0.5	0.0	22.1	5.3	3.2	0.2
Ontario	6.9	4.1	3.7	0.6	9.9	1.9	0.4	0.0	14.3	5.5	2.8	0.2
Prairies	9.1	4.4	2.6	0.3	12.0	2.2	1.4	0.0	14.3	4.9	1.7	0.2
British Columbia and Territories	7.4	3.9	4.8	0.6	5.7	1.7	1.4	0.0	20.3	8.6	3.6	0.3

Table 5.5 Distribution of Clothes Washers by Channel, by Region/Province, 2004–2007

Region/Province	Builder				Retail			
	2004	2005	2006	2007	2004	2005	2006	2007
	(%)				(%)			
Canada	5.8	5.7	5.7	5.8	94.2	94.3	94.3	94.2
Atlantic and Quebec	2.0	1.9	1.6	1.6	98.0	98.1	98.4	98.4
Ontario	6.4	5.6	6.0	5.9	93.6	94.4	94.0	94.1
Prairies	8.5	8.1	7.9	7.8	91.5	91.9	92.1	92.2
British Columbia and Territories	18.5	16.7	15.6	15.4	81.5	83.3	84.4	84.6

Table 5.6 Average Annual Unit Energy Consumption of Clothes Washers by Type

Model Year	Front-Loading Clothes Washers (kWh/yr)	Top-Loading Clothes Washers (kWh/yr)	Total (kWh/yr)
1990	–	–	1218.0
1991	–	–	1197.4
1992	–	–	1175.5
1993	–	–	1094.1
1994	–	–	989.1
1995	–	–	965.9
1996	–	–	948.7
1997	–	–	930.1
1998	–	–	903.3
1999	–	–	859.9
2000	274.2	922.7	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

Table 5.7 Average Annual Unit Energy Consumption of Clothes Washers by Channel, by Region/Province, 2004–2007

Region/Province	Builder				Retail			
	2004	2005	2006	2007	2004	2005	2006	2007
	(kWh/yr)				(kWh/yr)			
Canada	653.0	529.9	499.9	319.5	568.0	438.4	382.9	285.2
Atlantic and Quebec	651.1	513.7	526.0	368.5	629.0	469.8	415.7	302.0
Ontario	641.0	510.4	475.6	321.6	550.7	420.7	369.1	281.3
Prairies	706.3	588.9	550.5	340.6	556.0	419.1	362.3	272.6
British Columbia and Territories	590.7	475.6	449.8	261.7	585.3	428.3	352.4	268.7

Table 5.8 Annual Energy Savings for Clothes Washers, 1992–2007

Model Year	Energy Consumed WITHOUT Manufacturers' Improvements and the MEPS (PJ)	Energy Consumed WITH Manufacturers' Improvements and the MEPS (PJ)	Annual Energy Savings (PJ)	Cumulative Energy Savings (with retirement factor) (PJ)
1992	1.70	1.70	0.00	0.00
1993	1.80	1.67	0.12	0.12
1994	1.94	1.64	0.31	0.43
1995	1.84	1.51	0.33	0.76
1996	1.93	1.56	0.37	1.13
1997	2.14	1.69	0.45	1.58
1998	2.16	1.66	0.50	2.08
1999	2.43	1.78	0.65	2.73
2000	2.50	1.78	0.72	3.45
2001	2.60	1.79	0.81	4.26
2002	2.81	1.87	0.95	5.20
2003	2.92	1.76	1.16	6.32
2004	3.10	1.51	1.59	7.84
2005	3.31	1.25	2.06	9.79
2006	3.23	1.07	2.16	11.80
2007	3.60	0.88	2.72	14.32

Table 6.1 Distribution of Electric Clothes Dryers by Average Annual Unit Energy Consumption

Model Year	kWh/yr					
	<800 (%)	800–899.9 (%)	900–949.9 (%)	950–999.9 (%)	1000–1049.9 (%)	≥1050 (%)
1990	4.7	7.8	14.4	0.0	6.6	66.5
1991	5.3	0.2	30.0	22.6	15.4	26.5
1992	4.4	28.9	37.5	13.6	4.6	11.0
1993	4.1	28.9	53.6	0.1	7.1	6.1
1994	4.3	24.0	54.6	0.0	14.9	2.2
1995	3.2	16.2	68.5	0.8	10.0	1.3
1996	4.2	11.8	82.8	1.1	0.2	0.0
1997	4.9	12.9	80.7	1.4	0.0	0.0
1998	3.2	8.8	87.0	1.0	0.0	0.0
1999	2.7	7.2	88.3	1.8	0.0	0.0
2000	2.7	7.7	84.6	5.0	0.0	0.0
2001	2.3	4.3	87.1	6.3	0.0	0.0
2002	2.5	5.2	85.5	6.7	0.0	0.0
2003	2.7	10.0	77.0	10.3	0.0	0.0
2004	4.0	4.4	75.3	16.3	0.0	0.0
2005	6.1	3.2	74.1	16.6	0.0	0.0
2006	6.1	2.8	69.8	21.2	0.0	0.0
2007	4.9	2.9	67.8	24.4	0.0	0.0
Total Change	▲ 0.2	▼ 4.9	▲ 53.4	▲ 24.4	▼ 6.6	▼ 66.5

Table 6.2 Distribution of Electric Clothes Dryers by Average Annual Energy Consumption, by Region/Province, 2004–2007

Region/Province	kWh/yr															
	<800				800–899.9				900–949.9				950–999.9			
	2004	2005	2006	2007	2004	2005	2006	2007	2004	2005	2006	2007	2004	2005	2006	2007
	(%)				(%)				(%)				(%)			
Canada	4.0	6.1	6.1	4.9	4.4	3.2	2.8	2.9	75.3	74.1	69.8	67.8	16.3	16.6	21.2	24.4
Atlantic and Quebec	1.8	3.7	3.9	3.0	3.6	2.6	2.0	2.1	82.1	81.0	79.4	76.3	12.4	12.7	14.7	18.6
Ontario	5.9	7.9	7.2	5.7	6.3	4.7	4.2	4.3	69.7	69.9	66.4	64.4	18.1	17.5	22.1	25.6
Prairies	2.8	4.6	4.9	3.8	3.4	2.1	1.9	1.9	74.8	72.9	63.2	63.0	19.0	20.4	29.9	31.3
British Columbia and Territories	9.4	14.8	14.7	12.0	5.5	3.3	3.0	3.4	65.1	64.6	62.9	63.1	19.9	17.4	19.5	21.6

Table 6.3 Distribution of Electric Clothes Dryers by Channel, by Region/Province, 2004–2007

Region/Province	Builder				Retail			
	2004	2005	2006	2007	2004	2005	2006	2007
	(%)				(%)			
Canada	6.3	6.1	5.9	6.3	93.7	93.9	94.1	93.7
Atlantic and Quebec	2.0	1.9	1.5	1.6	98.0	98.1	98.5	98.4
Ontario	7.2	6.4	6.4	6.9	92.8	93.6	93.6	93.1
Prairies	8.9	8.5	8.1	8.2	91.1	91.5	91.9	91.8
British Columbia and Territories	18.9	17.3	15.4	15.7	81.1	82.7	84.6	84.3

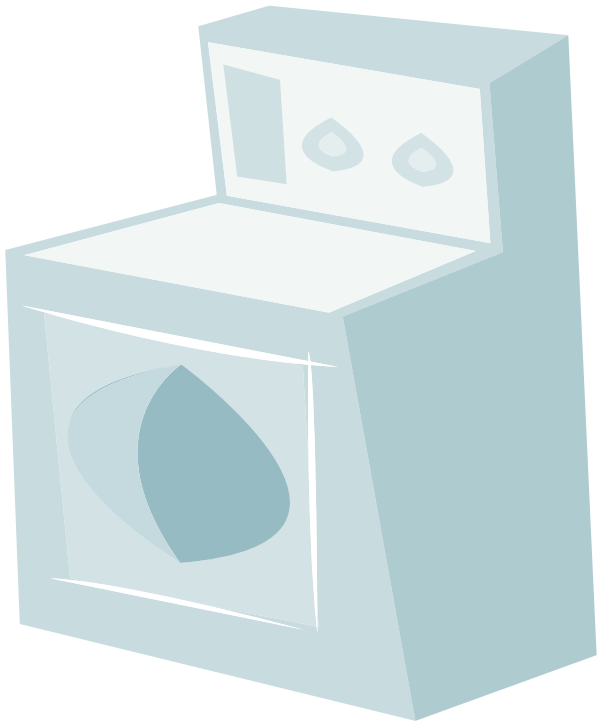

Table 6.4 Average Annual Unit Energy Consumption of Electric Clothes Dryers by Model Year

Model Year	kWh/yr
1990	1102.6
1991	1108.7
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

Table 6.5 Average Annual Unit Energy Consumption of Electric Clothes Dryers by Channel, by Region/Province, 2004–2007

Region/Province	Builder				Retail			
	2004	2005	2006	2007	2004	2005	2006	2007
	(kWh/yr)				(kWh/yr)			
Canada	843.1	832.2	821.4	838.2	916.5	908.5	909.7	917.0
Atlantic and Quebec	836.2	827.3	868.6	883.9	924.1	917.0	915.6	920.3
Ontario	817.1	796.4	803.1	829.2	907.7	900.5	904.9	913.2
Prairies	870.1	865.3	853.7	876.1	923.6	918.0	918.7	924.0
British Columbia and Territories	851.3	838.9	783.7	776.3	892.1	865.2	877.2	896.4

Table 6.6 Annual Energy Savings for Clothes Dryers, 1992–2007

Model Year	Energy Consumed WITHOUT Manufacturers' Improvements and the MEPS (PJ)	Energy Consumed WITH Manufacturers' Improvements and the MEPS (PJ)	Annual Energy Savings (PJ)	Cumulative Energy Savings (with retirement factor) (PJ)
1992	1.23	1.23	0.00	0.00
1993	1.27	1.20	0.07	0.07
1994	1.31	1.21	0.10	0.17
1995	1.15	1.07	0.09	0.25
1996	1.27	1.15	0.12	0.38
1997	1.39	1.26	0.14	0.51
1998	1.41	1.29	0.12	0.63
1999	1.59	1.47	0.12	0.76
2000	1.64	1.52	0.12	0.88
2001	1.73	1.62	0.12	1.00
2002	1.96	1.82	0.13	1.13
2003	2.02	1.88	0.14	1.27
2004	2.18	2.02	0.16	1.43
2005	2.36	2.17	0.19	1.62
2006	2.40	2.21	0.19	1.81
2007	2.66	2.47	0.19	1.97

Table 7.1 Annual Energy Savings for All Major Household Appliances, 1992–2007

Model Year	Energy Consumed WITHOUT Manufacturers' Improvements and the MEPS (PJ)	Energy Consumed WITH Manufacturers' Improvements and the MEPS (PJ)	Annual Energy Savings (PJ)	Cumulative Energy Savings (with retirement factor) (PJ)
1992	6.30	6.30	0.00	0.00
1993	7.05	6.51	0.55	0.55
1994	7.57	6.45	1.12	1.66
1995	7.09	5.84	1.26	2.92
1996	7.58	6.21	1.37	4.29
1997	8.23	6.72	1.51	5.80
1998	8.75	7.10	1.66	7.46
1999	9.84	7.81	2.03	9.49
2000	9.81	7.73	2.08	11.57
2001	10.15	7.70	2.45	14.02
2002	11.49	8.41	3.08	17.09
2003	11.90	8.25	3.65	20.68
2004	12.88	8.25	4.63	25.16
2005	13.43	7.83	5.60	30.48
2006	12.93	7.32	5.61	35.67
2007	14.39	7.83	6.56	41.69