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# ENERGY CONSUMPTION of Major Household Appliances Shipped in Canada

## Trends for 1990–2010



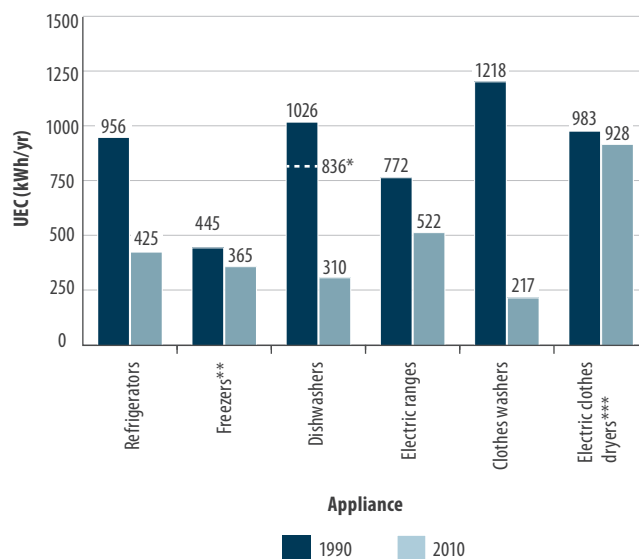
The *Energy Consumption of Major Household Appliances Shipped in Canada – Trends for 1990–2010* report analyses shipment data for the six major household appliances (refrigerators, freezers, dishwashers, electric ranges, clothes washers and electric clothes dryers) between 1990 and 2010. These data were collected through the co-operation of the Canadian Appliance Manufacturers Association and represent the majority of shipments to Canadian retailers and builders during this period.

### Key findings of the report

- The reduction in average annual unit energy consumption (UEC) ranged from 6 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
  - research and development carried out by appliance 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
  - incentives and rebates offered by the provincial/territorial and municipal governments and utilities

The following figure compares the average annual UEC of appliances shipped in 1990 and 2010.

Average annual UEC of appliances, 1990 and 2010



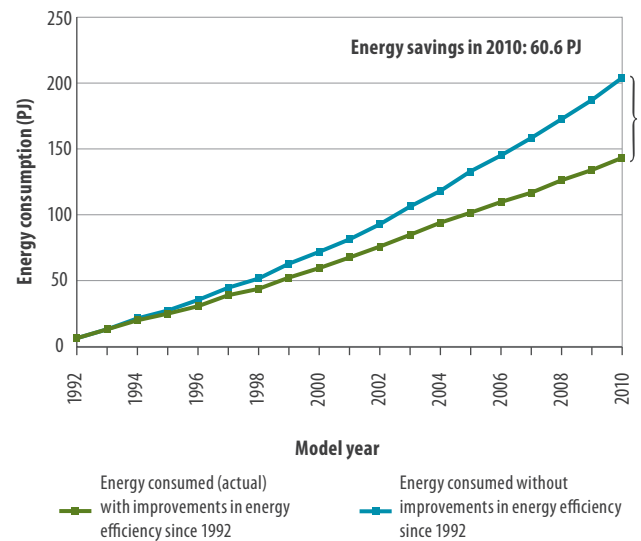
\*This figure represents the average annual UEC of dishwashers in 1990 if the frequency of use is assumed to be the same as in 2010.

\*\*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.

- A household operating an average set of major household appliances purchased in 2010 might expect them to consume fewer than 2800 kilowatt hours per year (kWh/yr) of electricity, approximately half as much as a set purchased in 1990 (assuming similar operating patterns<sup>1</sup>). In addition to reducing energy demand and the associated impacts of electricity generation (such as greenhouse gas emissions), these energy efficiency improvements reduce household expenditures on electricity. Assuming an electricity price of 9.7 cents/kWh,<sup>2</sup> annual electricity costs for a set of appliances purchased in 1990 would be approximately \$535, while costs for a set of appliances purchased in 2010 would be reduced by half, to approximately \$268.
- The following figure quantifies the energy savings that resulted from improvements in energy efficiency between 1992 and 2010. The bottom line represents the total energy consumption of major household appliances shipped in Canada from 1992 to 2010, 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. In 2010, the estimated energy savings exceeded 60 petajoules (PJ) – the equivalent of one year's energy for approximately 570 000 households.

#### Energy consumption of all shipped appliances, with and without improvements in energy efficiency, 1992–2010



To see the entire report, visit the Web site at [oee.nrcan.gc.ca/statistics/publications](http://oee.nrcan.gc.ca/statistics/publications).

For more information about the services of Natural Resources Canada's Office of Energy Efficiency, send an e-mail to [euc.cec@nrcan-rncan.gc.ca](mailto:euc.cec@nrcan-rncan.gc.ca).

<sup>1</sup> 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)

<sup>2</sup> This was the average Canadian residential price in 2009 (Natural Resources Canada, 2012, *Energy Use Data Handbook, 1990 to 2009*, Table 18, Residential Sector, [oee.nrcan.gc.ca/corporate/statistics/neud/dpa/tableshandbook2/res\\_00\\_18\\_e\\_5.cfm](http://oee.nrcan.gc.ca/corporate/statistics/neud/dpa/tableshandbook2/res_00_18_e_5.cfm)).