

# Comparing energy efficiency gains in new homes and cars

**Energy efficiency matters to Canadians – we all want to pay less to operate our homes and drive our cars, and we know that using less energy is good for the environment.**

We also know that today's new homes and cars use less energy than in the past.

But exactly how much more energy efficient are homes and cars today than 25 or 30 years ago? And how does the improvement in houses and cars compare?

You may be surprised at the answer.

It's useful to do an 'apples to apples' comparison: looking at exactly the same home and car model built today, and its older version. Here's what this comparison shows.

First, let's examine a typical house, like the one in the photo, built in the Ottawa area about 1975. Using construction specifications from that time, and computer simulation software developed by the Government of Canada, we find that this home used a total of 345 GJ<sup>1</sup> of energy per

year, for all purposes. A typical family car of the day, such as the Chevrolet Impala, would have delivered fuel efficiency of about 19 MPG<sup>2</sup> or 12.4 litres per 100 km of travel.

Today, that same house, built to current Ontario Building Code requirements, would use only 116.8 GJ of energy per year – **66% less.**



Photo of the "Typical House" cited

<sup>1</sup> GJ = A gigajoule (GJ) is a metric term used for measuring energy use. One GJ is equivalent to 277.8 kWh of electricity – enough to keep a 60-watt bulb lit continuously for six months.

<sup>2</sup> MPG = Miles per U.S. Gallon based on combined city/highway performance.

A 2012 Chevrolet Impala delivers 22 MPG or 10.7 litres per 100 km of travel, a 15.8% improvement.

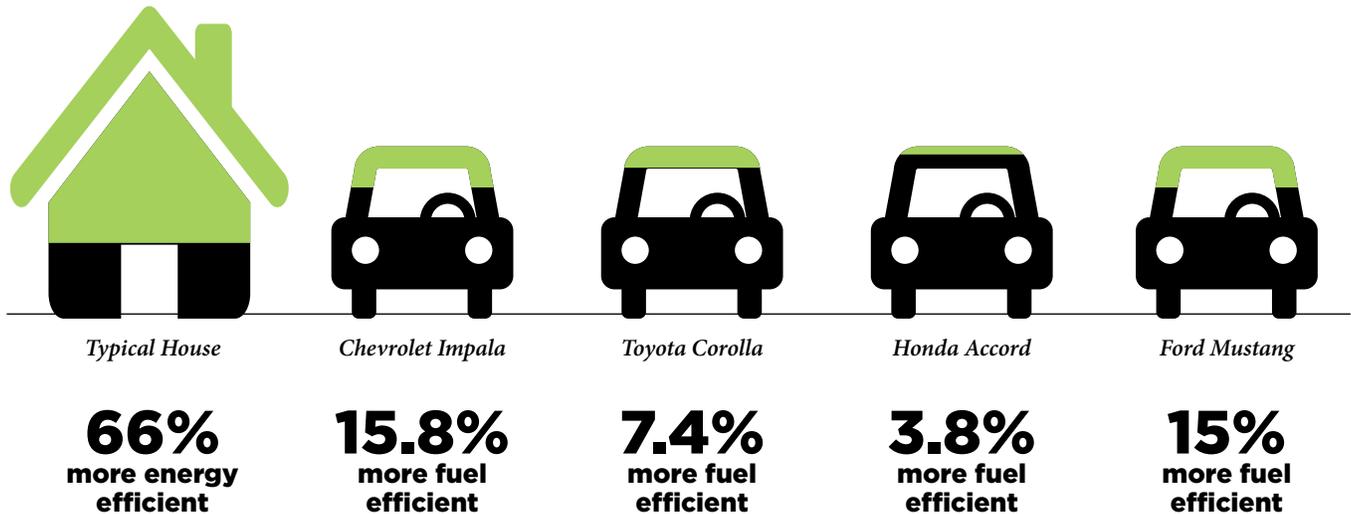
In short, the home's energy efficiency has improved **four times more** than the car's.

For other car models, the improvement has been even more modest. Comparing 1985<sup>3</sup> and 2012 models of the Toyota Corolla shows a 7.4% improvement. For the Honda Accord,

a 3.8% improvement. The Ford Mustang's fuel efficiency today is 15% better than it was in 1985.

Today's new home buyers benefit from the tremendous energy performance improvement achieved by Canada's home building industry. Monthly costs are much lower than they would otherwise be. And other benefits, like improved indoor comfort and convenience, are simply "part of the package". ●

## Energy Efficiency Improvements in Homes and Cars



<sup>3</sup> Comprehensive car fuel efficiency data is available from the United States Environmental Protection Agency (USEPA) only for model years 1985 and newer. 1985 and 2012 data were used in this publication. For older model years, some data can be found, but differences in how fuel efficiency was calculated make fair comparison difficult.