

# Energy research and development expenditures by area of technology, 2016 (final)

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## Expenditures remain constant on energy related research and development

Of the \$18.1 billion spent by companies on in-house research and development (R&D) in Canada in 2016, just under 9% (\$1.6 billion) was directed toward energy-related technologies. R&D spending on fossil fuels, including the production and transportation of coal, oil and natural gas, has been decreasing since 2014. It now accounts for 43.0% (\$699 million) of total in-house energy-related R&D spending in Canada.

## Spending declines on in-house energy R&D related to fossil fuels

In-house energy-related R&D expenditures on fossil fuels continued to decrease, reflecting the impact of the 2015 downturn in oil prices. These expenditures fell from \$1.3 billion in 2014 to \$948 million in 2015, and then down to \$699 million in 2016. In particular, in-house R&D expenditures on fossil fuels in the oil and gas extraction, contract drilling and related services industry decreased by almost 50%, falling from \$1.1 billion in 2014 to \$571 million in 2016.

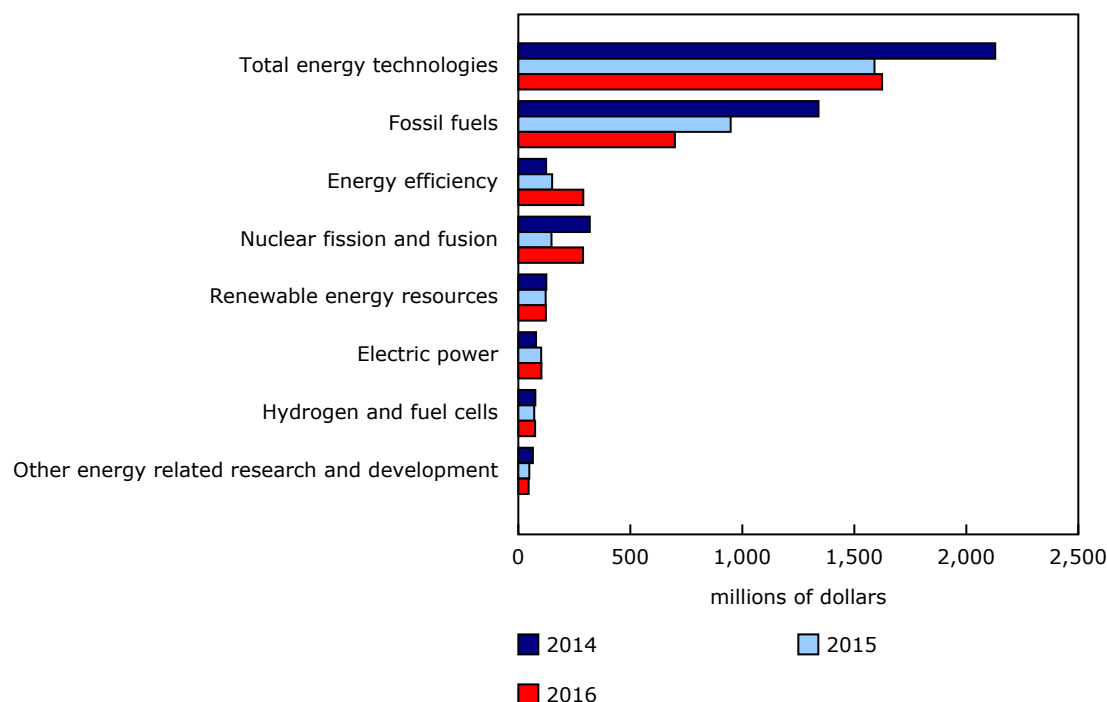
## Higher proportion of in-house energy-related R&D expenditures allocated to energy efficient technologies

In 2016, R&D activities in the area of energy efficiency accounted for almost 20% of total in-house energy-related R&D expenditures. In-house R&D spending on energy efficiency technologies almost doubled, from \$151 million in 2015 to \$290 million in 2016. This trend was observed in almost all industries where energy efficiency technologies exist, particularly in the manufacturing sector.



Chart 1

## Energy-related in-house research and development expenditures by area of technology in Canada



Source(s): Table 27-10-0347-01.

## Share of spending by foreign-controlled firms increasing in both in-house and outsourced energy-related R&D

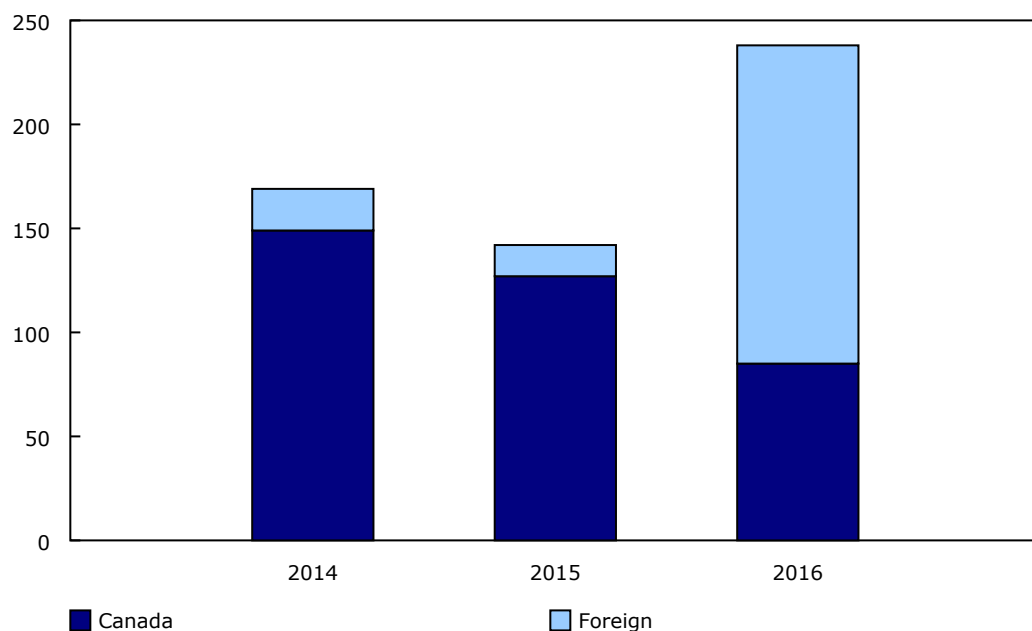
Spending by foreign-controlled firms on in-house energy-related R&D increased to \$403 million in 2016, after declining from \$432 million in 2014 to \$324 million in 2015. These firms represented almost one-quarter of all energy-related in-house R&D expenditures, with over 30% of this segment dedicated to energy-efficiency technologies. Foreign-controlled firms dedicated approximately one-third of their energy-related R&D spending to fossil-fuel technologies in 2016, down from the three-quarters spent on this area of technology in 2014.

Additionally, spending by foreign-controlled firms on outsourced energy-related R&D grew from \$15 million in 2015 to \$153 million in 2016. These firms increased their spending tenfold, from \$13 million in 2015 to \$136 million within Canada in 2016. These firms represented almost two-thirds of all energy-related outsourced R&D expenditures.

**Chart 2**

**Energy-related outsourced research and development expenditures by country of control**

millions of dollars



Source(s): Table [27-10-0347-01](#).

**Note to readers**

**Energy-related technologies**

Energy-related technologies include: fossil fuels, renewable energy sources, nuclear fission and fusion, electric power, hydrogen and fuel cells, energy efficiency and other energy-related technologies.

**Data collection**

The Energy Research and Development Expenditures by Area of Technology survey data are collected by the Annual Survey of Research and Development in Canadian Industry.

**Available tables:** table [27-10-0347-01](#).

**Definitions, data sources and methods:** survey number [4205](#).

For more information, or to enquire about the concepts, methods or data quality of this release, contact us (toll-free 1-800-263-1136; 514-283-8300; [STATCAN.infostats-infostats.STATCAN@canada.ca](mailto:STATCAN.infostats-infostats.STATCAN@canada.ca)) or Media Relations (613-951-4636; [STATCAN.mediahotline-ligneinfomedias.STATCAN@canada.ca](mailto:STATCAN.mediahotline-ligneinfomedias.STATCAN@canada.ca)).