

# Energy Efficiency

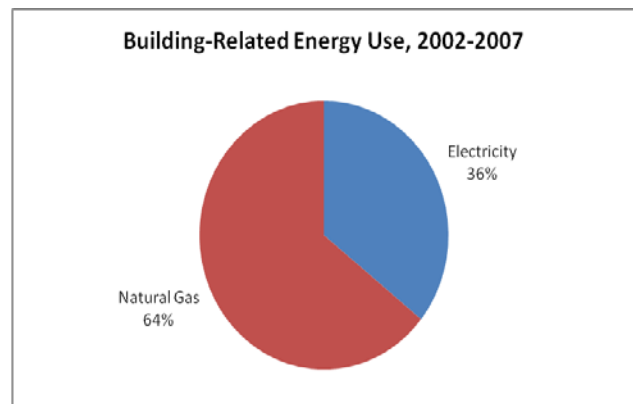
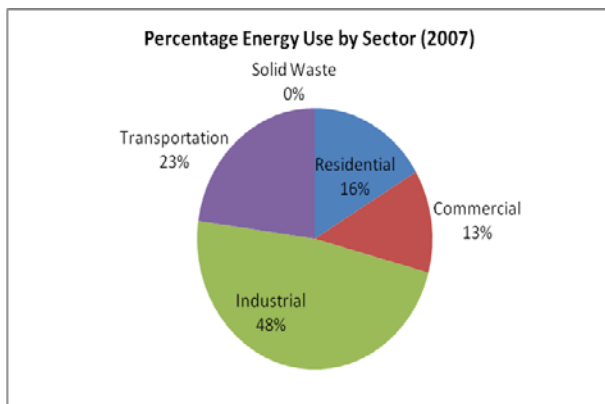
## Description

Energy efficiency is a cornerstone of sustainability. Efficiency is the combined result of technology, design, and patterns of use that reduce the use of energy. Improved efficiency also reduces costs and decreases dependence on greenhouse gas-emitting fuels. Investment in increasing efficiency locally – for example building energy retrofits – creates local business opportunities and jobs. It also frees up capital in industrial and commercial operations to invest in other aspects of the business.



## Status and Trends

Like other North American communities, Prince George uses a lot of energy. The Industrial sector accounts for about half of the energy in the community; of the remaining building-related energy, more than half is from natural gas, typically used for space and water heating. This breakdown suggests that Prince George's best opportunities are industrial process efficiency, the use of industrial waste heat, and building space and water heating efficiency. Some progress has already been made in this area, and the City has a Sustainable Energy Management Plan for its own operations.



*Adapted from: Environ 2009. Memorandum to the City of Prince George, June 12, 2009.*

Only 30% of the homes in Prince George were built in the last 30 years, so significant improvements can be made through building retrofits. NRCAN recently estimated that if all of the existing homes in Prince George were retrofitted according to EcoEnergy guidelines, energy savings would be approximately 1.4 million GJ, equating to about 50,000 tonnes CO<sub>2</sub>e every year. Similar data is unfortunately not available for commercial buildings. Sharing heating between buildings can also increase heating efficiency significantly. Such systems are being investigated in Prince George.

## Performance Measurement

**Of the potential measures listed below, which should we use to measure and communicate progress? Would you rather use another one? Why?**

The following are suggested as ways to measure performance in this area:

- Total Annual Energy Use for each Sector (Residential, Commercial, Industrial and Transportation)
- Energy use per capita and per household
- Energy use per square meter, residential and commercial

## Questions for Consideration

- **Going beyond Provincial and Federal efforts:** How can we accelerate building energy retrofits dramatically, given the City's limited powers and current energy prices?
- **Industrial energy efficiency:** What are the best opportunities to increase local industrial energy efficiency? What are the most important barriers to implementation?
- **Community Energy System:** Given how much waste heat is produced by Prince George industries, a system that captures one or multiple of these sources would result in significant efficiency gains for the producer and end user. What are the best opportunities for creating such a system? Key barriers?

## More Information

[Sustainable Energy Management Plan](#)

[2007 Community Energy and Emissions Inventory](#) (BC Ministry of the Environment)

[City of Prince George Climate Change webpage](#)