

Local Renewable Energy

Description

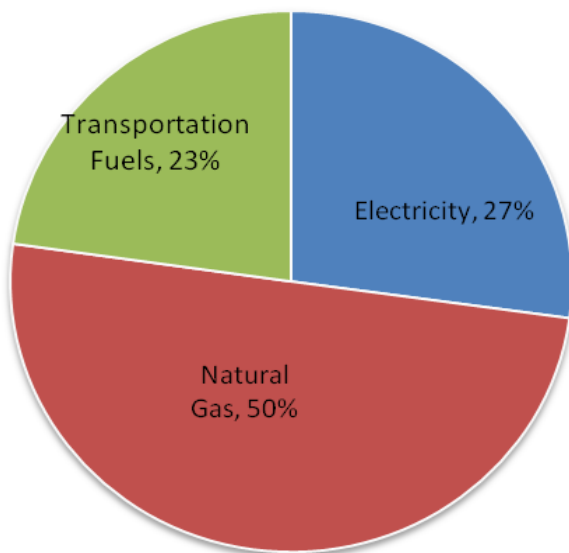
Many renewable energy technologies are now available. Sources include wind, solar, ground-source heat, wood, micro-hydro, and others. Technologies include solar hot water, neighbourhood-scale energy utilities, and combined heat-and-power (often in conjunction with industrial users). These reduce or eliminate greenhouse emissions, and usually (not always) have fewer local environmental impacts.



Aside from the environmental benefits, local renewable energy systems are valuable because users support local companies rather than buying energy from large companies based elsewhere in the world. Also, renewable energy prices are expected to continue to drop gradually over the next 30-50 years, while those of fossil fuels are expected to rise significantly over the same period.

Status and Trends

Of the electricity used in Prince George, 90% is generated from hydro-power facilities—a clean source of renewable energy. The BC Energy Plan commits the Province and BC Hydro to “ensure clean or renewable electricity generation continues to account for at least 90 percent of total generation.” However, electricity accounts for only 27% of energy use in the City. The other 73% is natural gas, and diesel and gasoline for vehicles.



Energy Use by Type in Prince George (2007)

To displace natural gas for heating – the easiest area in which to have an impact, the City has investigated solar hot water and combined heat-and-power systems. Both are viable, but each faces challenges to implementation; the use of waste industrial heat is of particular interest given the scale of industrial activity in the community. Another opportunity is use of methane gas generated from wastewater treatment to produce electricity and heat using turbines or boilers. The University of BC is currently investigating the feasibility of a wider range of renewable energy systems in Prince George.

Currently, the largest use of local renewable energy in Prince George is in the form of pulping residue and wood waste used to power the operations of pulp plants and mills, and wood burned in woodstoves for home-heating. When wood is harvested sustainably burned cleanly, these can be sustainable sources. Data does not currently exist on the amount of pulping residue and firewood used 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:

- Percentage and Total Amount of Energy Used from Local Renewable Sources for each sector (Residential, Commercial, Industrial and Transportation).
- Amount of pulping residue and firewood used.

Questions for Consideration

- **Incentives:** Which types of policies and incentives for renewable energy would be most appropriate for each sector, and what level of government is best suited to provide these?
- **Transportation:** What options exist to support transportation with local renewables?
- **Residential wood-based heat:** Under what circumstances could firewood be considered a sustainable local renewable energy strategy? What would limit its application?

More Information

[Sheltair Group \(2007\). City of Prince George Energy and Greenhouse Gas Management Plan](#)
[CALP \(2009\). A Preliminary Assessment of Renewable Energy Capacity in Prince George, BC](#)