

# West Kootenay Community Energy & Infrastructure Report: Technical Summary

By the West Kootenay EcoSociety

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## 1. Methodology

West Kootenay EcoSociety compiled this report through research and conversations with city representatives and local experts. Local governments were contacted to review their community's section and provide edits and input. Further information used to draft each report section is below.

### A) About the communities

- The population, % employed, and three largest industries data was sourced from City-data.com.
- The natural gas and electricity suppliers and service availability information was sourced from callmepower.ca, and Fortis BC's [Service Area Map](#).
- The governance structure and operating budget was sourced from each community's most recent and available Annual Report.

### B) Documented support for renewable energy and sustainability guiding documents

- Most documented support was sourced from each community's Official Community Plan (OCP), though it was also sourced from additional sustainability documents that are specific to the community in question, or from the community's website.

### C) Regulations and Incentives

- Were sourced from each community's website.
- Were sourced from OCPs, additional sustainability documents, and from our consultation with city representatives.

### D) Residential buildings emissions calculations

This analysis was conducted with the 2007, 2010 and 2012 Community Energy and Emissions Inventory (CEEI) data. The CEEI data is collected by communities and/or regional districts as part their obligation for setting and monitoring emission reductions as per their Climate Action Charter commitments which are to be included in their official community plans.

In this report, the Residential Buildings: Per Capita Energy Consumption Analysis was the only analysis conducted with the CEEI data, since data available to the public for the transportation and Industrial sectors are incomplete and/or were thought to be of insufficient quality.

Consumption in kilowatt-hours (KWh) and Giga Joules (GJ), and CO<sub>2</sub> equivalent in tonnes [CO<sub>2</sub>e (t)] values listed in the report were calculated by the following means:

Electrical:

- $\text{Total Electrical Consumption (KWh) / Population} = \text{Per Capita Electrical Consumption (KWh)}$
- $\text{Total CO}_2\text{e (t) Emissions from Electricity Consumption / Population} = \text{Per Capita CO}_2\text{e (t) Emissions from Electricity Consumption}$

Natural Gas:

- $\text{Total Natural Gas Consumption (GJ) / Population} = \text{Per Capita Natural Gas Consumption (GJ)}$
- $\text{Total CO}_2\text{e (t) Emissions from Natural Gas Consumption / Population} = \text{Per Capita CO}_2\text{e (t) Emissions from Natural Gas Consumption}$

Heating Oil, Propane, Wood:

- $[\text{Total Heating Oil Consumption (GJ)} + \text{Total Propane Consumption (GJ)} + \text{Total Wood Consumption (GJ)}] / \text{Population} = \text{Per Capita Heating Oil, Propane \& Wood Consumption (GJ)}$
- $[\text{Total CO}_2\text{e (t) Emissions from Heating Oil Consumption} + \text{Total CO}_2\text{e (t) Emissions from Propane Consumption} + \text{Total CO}_2\text{e (t) Emissions from Wood Consumption}] / \text{Population} = \text{Per Capita CO}_2\text{e (t) Emissions from Heating Oil, Propane \& Wood Consumption}$

Total CO<sub>2</sub>e (t):

- $\text{Calculated Per Capita CO}_2\text{e (t) Emissions from Electricity Consumption} + \text{Calculated Per Capita CO}_2\text{e (t) Emissions from Natural Gas Consumption} + \text{Calculated Per Capita CO}_2\text{e (t) Emissions from Heating Oil, Propane \& Wood Consumption} = \text{Total CO}_2\text{e (t) Consumption Per Capita}$

Note that there is an asterisk located next to the Heating Oil, Propane & Wood Values. This is because these values are estimates based on best practices and regional variances. More information regarding these calculations can be found in the 2010 Report: [Residential Heating Oil, Propane, and Wood Heat Estimates for BC Communities](#) prepared for the BC Ministry of Environment by Enerficiency Consulting.

#### E) Highlighted projects

- Highlighted projects were selected for the purpose of showcasing a variety of energy demand side management programs as well as implemented renewable energy infrastructure.

- Technical information was sourced from reports if they were available, from media publications, and from contacts at local governments.

## 2. List of Referenced Documents & Web Resources

Below are the documents EcoSociety reviewed to compile this report.

### Region Wide

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Strategic Community Energy & Emissions Planning: Executive Summary for Fortis BC, 2016.

Residential Heating Oil, Propane, and Wood Heat Estimates for BC Communities, 2010, [http://www2.gov.bc.ca/assets/gov/environment/climate-change/z-orphaned/ceei/residential\\_heat\\_estimates.pdf](http://www2.gov.bc.ca/assets/gov/environment/climate-change/z-orphaned/ceei/residential_heat_estimates.pdf)

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