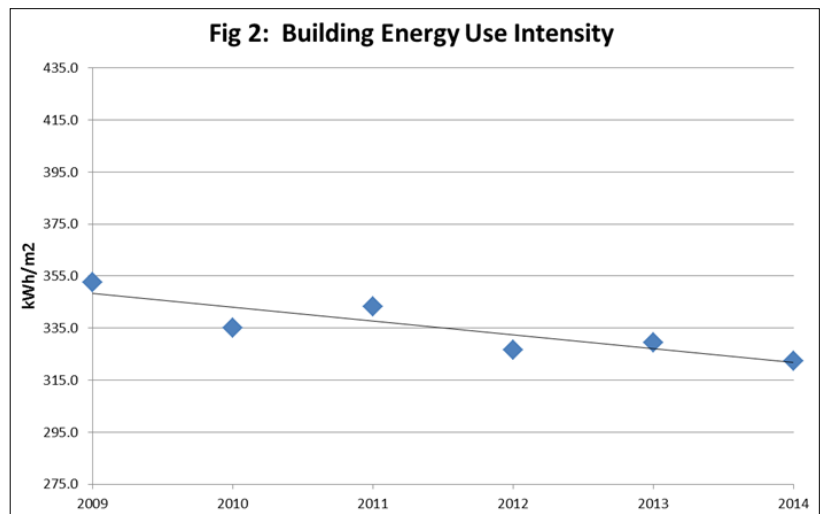
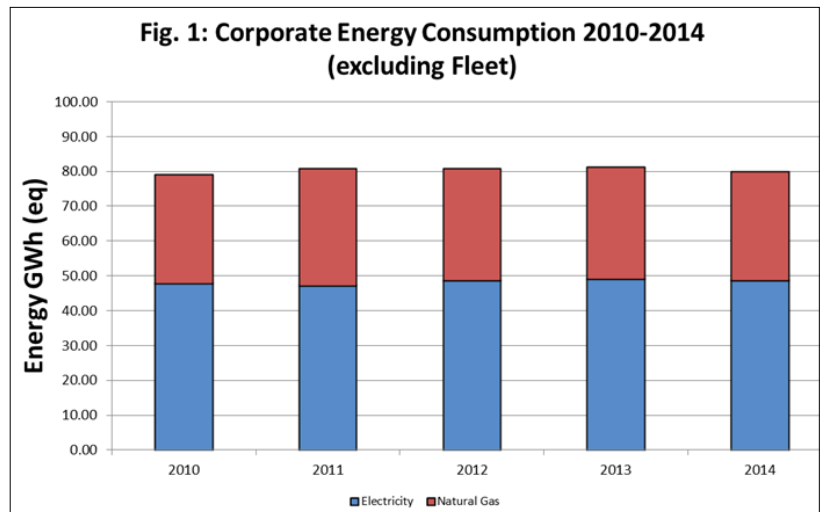


# Energy Update Report

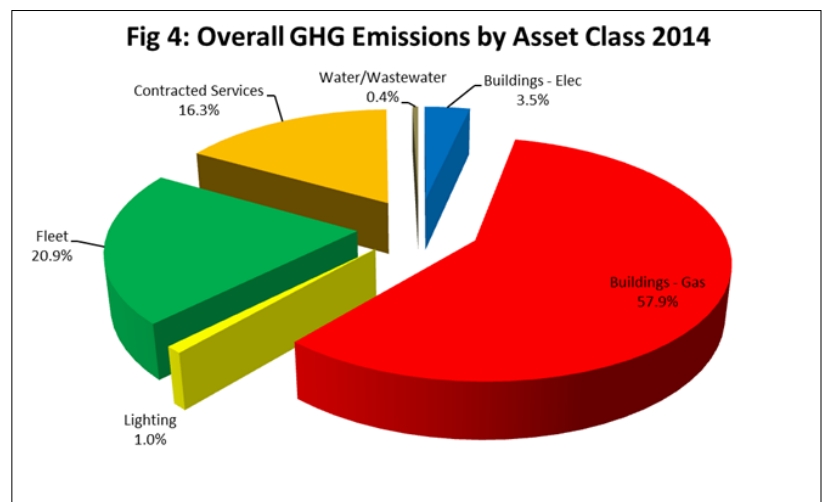
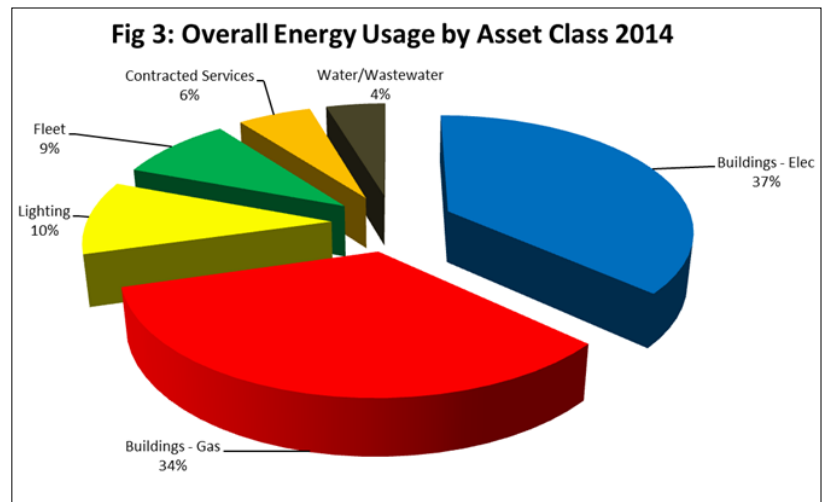
## Summary 2014



- Cost of energy in 2014 for the City of Richmond buildings, lighting, water and wastewater services = **\$6.1 million dollars or 80.4 GWh** (this is equal to the average power consumed in ~2,000 homes in Richmond in 1 year).
- This energy use resulted in approximately 5,889 tonnes of greenhouse gas (GHG) emissions.
- The total energy use for City infrastructure has remained fairly stable since 2010.
- Cumulatively since 2008, energy conservation projects at the City have saved approximately **38.0 GWh** of energy (equal to the energy consumption in ~950 Richmond homes per year), and over **6,000 tonnes** of greenhouse gas emissions (equal to emissions from ~1,750 Richmond cars).
- Without the continued investment and improvement in resource use efficiency in existing buildings and equipment, it is estimated that the City's energy use would have increased by **10%** since 2010.



- In 2014, the majority of corporate energy use was by **buildings-71%**, followed by **lighting-10%** and **Fleet services-9%**.
- For corporate GHG emissions, gas usage at buildings is responsible for a majority of the City's annual emissions – accounting for approximately 58%.
- Continued focus and work is on-going in City facilities to reduce and/or displace natural gas use, which will reduce corporate GHG emissions and costs.



## 2014 Highlights:

- Maintained the City's **Carbon Neutral** status for corporate operations.
- Secured over **\$280,000** of external funding to support the Energy Management Program.
- Received the BC Hydro PowerSmart Leadership Excellence Award for its energy efficiency and conservation work – the only municipality in BC to receive this high level of recognition.
- Achieved an estimated reduction of **1.7 GWh** in electrical and natural gas use and approximately **170 tonnes** of greenhouse gas emissions from a variety of projects in 2014.
- This energy reduction represents approximately **2.1%** of the City's current corporate annual energy use and the GHG emissions reduction are equal to removing approximately **55 vehicles** from Richmond roads each year.
- The energy reduction will result in over **\$100,000** in operational cost avoidance savings.



## Showcase Projects:

- Upgraded the refrigeration plant and installed a heat recovery system at Richmond Ice Centre.
- Projected energy savings for Richmond Ice Centre projects = **1.2 GWh or a 20% reduction in energy use at the facility.**
- Major civic facilities are currently undergoing modernization of their building automation systems – with target energy use reductions of between 5 and 10%.

## Policy Implementation:

- It is projected that the new Minoru Complex facility and Fire Hall No. 1 will achieve LEED Gold designation with a strong focus on energy efficiency.
- For the new Minoru Complex, the positive benefits that can be attributed to this high level of designation include; doubling the size of the facility with **no increase in energy use, reduction of GHG emissions by 70%**, and integrating **renewable power generation** at the facility.



## 2015 Vision and Goals

- Improve the energy use monitoring at City facilities, to optimize facility operation and reduce energy use and costs.
- Ensure that energy use and GHG emission accounting (in relation to reduction goals) is a high priority during the designing of new facilities and equipment replacement.
- Continue to pursue external funding and partnerships with outside agencies.
- Continue to increase energy use awareness within the organization and community.

## 2015 Action items:

- Significant heating plant and mechanical improvements at Watermania Aquatic Centre.
- Completion of building automation system upgrades and improved energy monitoring capabilities at City Hall, Works Yard, and Thompson Community Centre.
- Lighting retrofits and improvements at various facilities, including City Hall and Britannia Shipyards.
- Heating system and lighting optimization at various civic recreational facilities.

