



# ENERGY SURVEY REPORT

Organization: Red Lion Area Senior Center  
 Facility: Red Lion Area Community Services  
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 Date: December 31, 2008  
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Effective energy management is not a once and done proposition, but an ongoing process. The purpose of the York Energy Program is to assist you in establishing a program to reduce your energy costs in the long-term.

This report is just the first step in our process of technical assistance. It provides you with an evaluation of your current energy consumption and a list of potential energy saving measures which should be implemented (or investigated in greater detail) in your facility. Following this report I will be in contact with you to schedule a time to review my findings. I am also available to discuss this report with the appropriate group (i.e. building, property or financing committee, or the board of directors) during their next scheduled meeting.

The next step in this process is to identify those measures you wish to implement. As a part of this step, we can provide more detailed information for any of the energy saving opportunities. This could include an economic analysis of any energy saving opportunity including estimated costs, savings and payback for your facility. We are also available to prepare simple specifications; assist in the bidding process; evaluate proposals from vendors and contractors; work with contractors during installation; and serve as an unbiased consultant on any project affecting the energy consumption of your building.

Over time we will be monitoring your progress through annual evaluations of your energy bills. I look forward to working with you to lower your energy costs. The information presented below is based on data acquired during my visit to your facility on December 10, 2008.

## Energy Billing Analysis - 2007

FUEL	COST (\$)	\$/SqFt	% COST	BTU/SqFt	% USAGE
Electricity	6948	0.96	59	31,196	40
Natural Gas	4318	0.60	37	46,475	60
Water	458	0.06	4	---	---
Total	11724	1.62	---	77,671	---

The energy consumption and cost of the building are contained in the chart above. The usage (BTU/SqFt) and the cost (\$/SqFt) are higher than average for a nonprofit facility in York County. Enclosed with this report is a more complete summary of your energy consumption data (Building Energy Consumption Analysis).

Electricity is provided by GPU Energy on the General Secondary Medium (GS) rate. A portion of the building falls under the Volunteer Fire Company provision of the tariff and as such only pays a kWh charge. The remainder of the building is assessed a demand charge of \$6.96 per kW and a kWh charge that decreases with increased consumption. Demand (KW) charges account for 20 to 40 percent of your billing. See the enclosed sheet on demand meters for a complete explanation on demand charges. Electricity accounts for 59% of your energy cost but only 40% of the energy usage.

Natural gas is provided by Columbia Gas on the Commercial rate. Gas accounts for 37% of energy costs and 60% of energy usage.

### **Energy Saving Opportunities**

This list of energy saving opportunities should be implemented or investigated further. The listing order does not indicate any priority. The measures in this list will generally have a payback period of less than 5 years, some less than a year. For more specific information on these energy saving opportunities refer to the enclosed book, "How to Reduce Your Energy Costs".

1. *Monitor Energy Usage and Cost* - The first step in reducing your energy costs is to know what you are now spending. Continual monitoring can help to spot billing errors, provide feedback on your progress, and help determine if your actions are achieving results. You should keep records on the cost, energy units (i.e. kWh, CCF, gallons of oil, etc.), and demand charges on your electric bill (kW). Simply paying attention to your energy use and cost will usually result in lower bills. The Energy Program will be analyzing your energy use over the next few years to see how your efforts are progressing.
2. *Who's Responsible?* - Buildings with low energy costs invariably have one thing in common: a single person or a very small group who is given the responsibility for keeping the energy costs as low as possible. Energy conservation by committee is almost always less effective. The person given this responsibility should have access to the energy bills and be responsible for communicating this information to the remaining staff, building committee, and board of directors.
3. *Insulation and Air Sealing* - This particular type of metal building is notoriously difficult to insulate well. During my visit it was observed that the building's insulation was not properly placed in the attic with numerous gaps in the thermal envelop. In addition several areas of infiltration were identified. The attic stair is typically a major area of heat loss. A potential product to consider is the Energy Guardian - <http://www.essnrg.com/>. See the infrared scan report for further details.
4. *Repair/Replace Ductwork* - The vast majority of ducts are located in an unheated attic space. There are considerable signs of leaking, deteriorated, and ineffective ducts. See the infrared scan report for further details.
5. *Install Programmable Thermostats* - The existing thermostats should be replaced with

programmable stats capable of adaptive recovery such as a Honeywell VisionPro 8000. See the enclosed fact sheet on *Unoccupied Temperature Control*.

6. *Retrofit Lighting System* - Typically one of the most cost-effective energy saving strategies is to retrofit your lighting systems. The payback is typically under 4 years. The T12 fluorescent tubes and magnetic ballasts should be retrofitted with T8 tubes and electronic ballasts. The specific retrofits will depend upon many factors and will require a more detailed survey. Incandescent bulbs should be replaced with compact fluorescent lamps. Some of the exterior fixtures like the flood light and above the doors should be fitted with motion sensors instead of being controlled by a timer. We can assist you with some additional specifics and connect you with vendors who do this kind of work.
7. *Office Equipment* - When purchasing new office equipment look for Energy Star rated computers, copiers, printers, etc. - <http://www.energystar.gov/> Replacing the CRT monitors with flat screens will significantly reduce energy use.
8. *HVAC System Replacements* - Many of the HVAC units are past their rated service life and will need to be replaced over the coming years. A plan should be developed to schedule the replacement of these units rather than the typical approach of replacing equipment when it fails. Replacement at failure generally results in having to take off-the-shelf replacements which are generally not high efficiency units. Planning for replacement allows the work to proceed in a more comprehensive manner and will result in greater efficiency gains. The new systems you install will affect energy performance for the next 20 years so rushed choices then to have very long term effects.
9. *Call the Energy Program!* - Whenever you are considering a purchase that will impact on the energy consumption of your facility please contact the Energy Program. Whether you are buying a new refrigerator or construction a new building, we are available to assist you in ensuring that your purchase will have as little impact as possible on your utility costs. We can provide you with the technical assistance you need to make a fully informed decision.
10. *Project Finances* - The York County Community Foundation provides financial assistance in the form of grants for certain projects. Contact Marcus for details.