NEW HAMPSHIRE ENERGYSMART SCHOOLS PROGRAM

Energy Benchmarking Report for:

George Emerson Elementart

Fitzwilliams, NH

Period: May 2009 - April 2010

PREPARED BY:

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I. Introduction

The Sustainable Energy Division of the New Hampshire Public Utilities Commission, with support from the New Hampshire Department of Education (DOE), have sponsored TRC to develop the New Hampshire *EnergySmart Schools Program* to support New Hampshire K-12 public and private schools in the pursuit of energy efficiency and sustainability initiatives.

Energy efficiency has become an increasingly important issue for schools due to tightening budgets and rising energy costs. Since 2003, the prices of natural gas, fuel oil and electricity have increased by 123%, 107% and 32% respectively. Schools that have participated in energy benchmarking programs have shown a decrease in overall energy use by approximately 22% through the adoption of energy efficiency measures.

Tracking and documenting the energy use and associated carbon emissions in the State's K-12 schools will allow New Hampshire to account for the impact of its energy efficiency and renewable energy programs and determine which have the greatest effect. The analysis in this report, provided by the *EnergySmart Schools Program* is designed to help you:

- Understand the energy consumption and cost trends at each of your school buildings
- Learn how your buildings are performing compared to other schools locally and nationally
- Identify opportunities for improving operations and reducing costs
- Take advantage of resources to implement efficiency improvements and save money

II. Benchmarking Review Results

a. Building Data

Building and energy usage of your school was analyzed to assess the basic nature of your energy consumption and utility costs. Table 1 summarizes this information.

Figures 1a, 1b, 2a, and 2b display the energy use, demand, and cost data tracked on a monthly basis. This demonstrates the energy consumption of your building over the course of the year. As a part of the program's focus on sustainability, your school's carbon footprint was also measured and is presented in Figure 3.

Table 1: George Emerson Elementart Building Data Summary

Building Data			
District	SAU 38 Monadnock	**School Name**	George Emerson Elementart
City	Fitzwilliams	**Zip Code**	03447
Year Built	1950	**Floor Area (sq.ft.)**	29,500
Number of Students	214	**Number of PCs**	60
Weekly Operating Hours	35	**Months School Used**	10
Cooking?	YES	**% AC**	0
Pool Size?	N/A	**Months Pool Used**	0

Utility Data			
Data End Point	4/30/2010	**Total Cost ($)**	62,143
Electric Provider	PSNH	**Natural Gas Provider**	N/A
Electricity Usage (kWh)	173,360	**Electricity Cost ($)**	25,056
Natural Gas Usage (therms)	0	**Natural Gas Cost ($)**	0
Fuel Oil Usage (gal)	14,853	**Fuel Oil Cost ($)**	35,937
Other Fuel Usage (gal)	672	**Other Fuel Cost ($)**	1,149

Energy Indicators			
EPA Score	52	**Electric Usage (kWh/sq.ft.)**	5.9
Heating Fuel Usage (kBtu/sq.ft.)	72	**Weather Adjusted Heating Usage (Btu/sq.ft./HDD)**	10.6
Site Energy (kBtu/sq.ft.)	92	**Source Energy (kBtu/sq.ft.)**	140
Environmental Impact Indicators			
Greenhouse Gas Emissions			
Last Year Heating Fuel CO_2e (Mt)	190	**Last Year Total CO_2e (Mt)**	264.2
Last Year Electricity CO_2e (Mt)	73.5	**CO_2e Efficiency Savings Over Previous Year (Mt)**	-58.3
EPA Target Score			
Target Score	75	**Site Energy Reduction Needed (kBtu/sq.ft.)**	18.3

Figure 1a.George Emerson Elementart Monthly Electricity Use & Max Demand

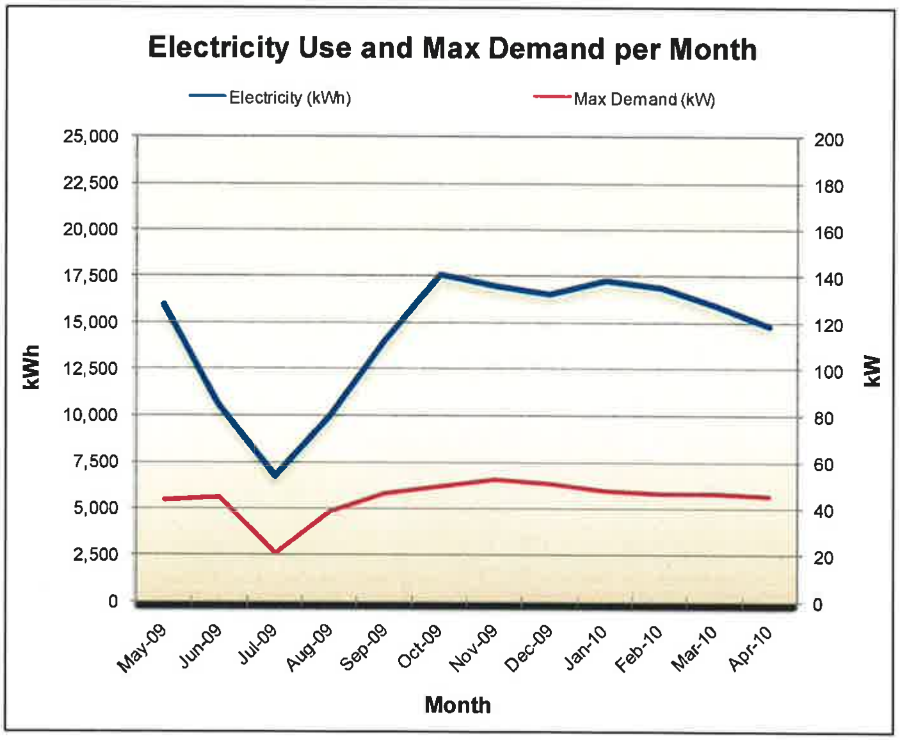


Figure 1b.George Emerson Elementart Monthly Electricity Use Vs. Cost

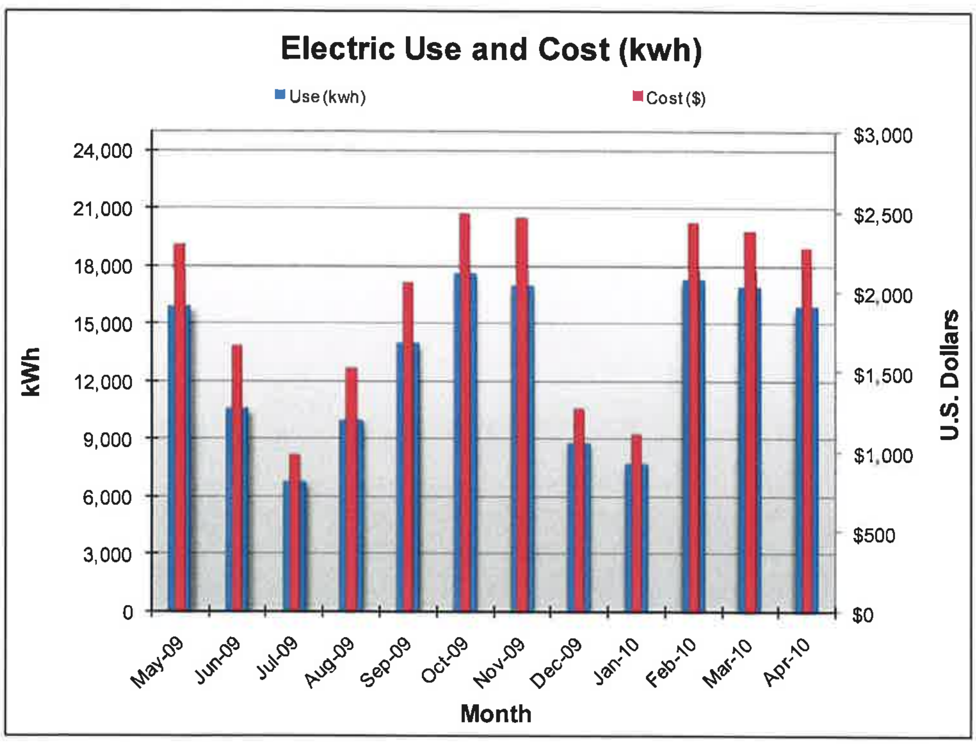


Figure 2a. George Emerson Elementart Monthly Heating Fuel Use

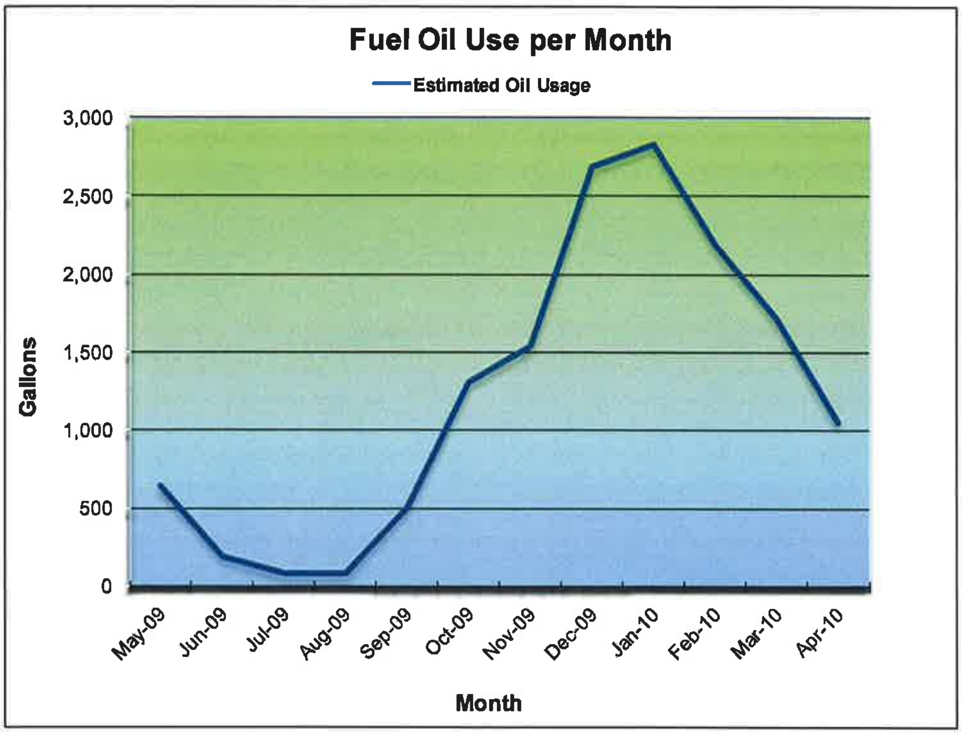


Figure 2b. George Emerson Elementart Monthly Heating Fuel Use Vs. Cost

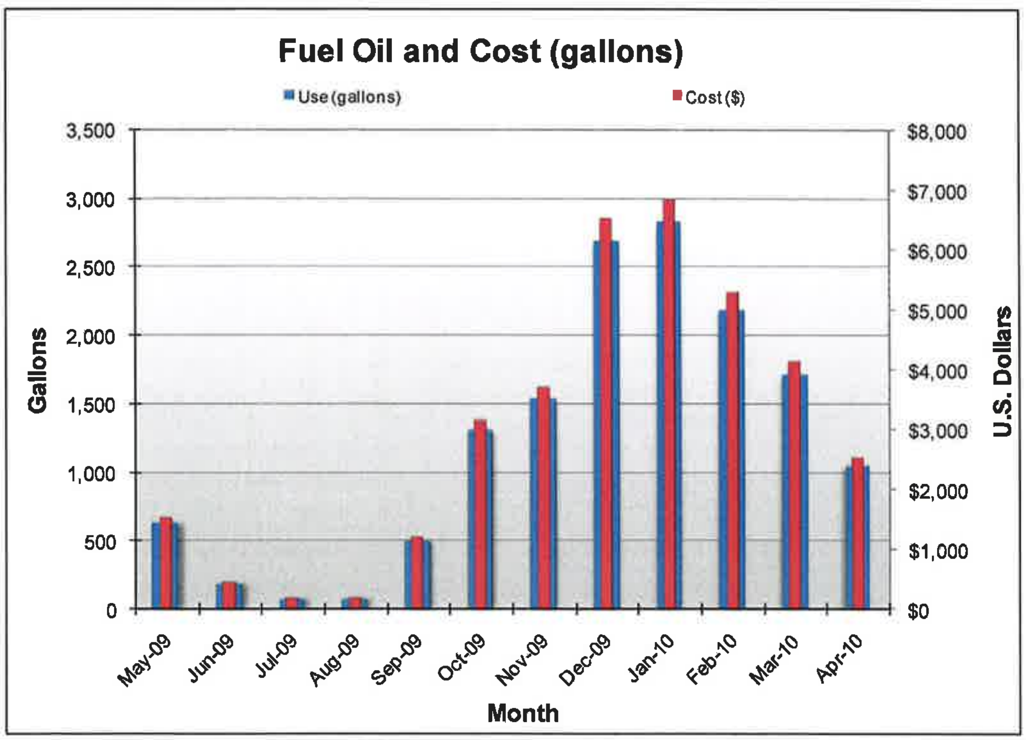


Figure 3a. George Emerson Elementart Monthly Propane Use

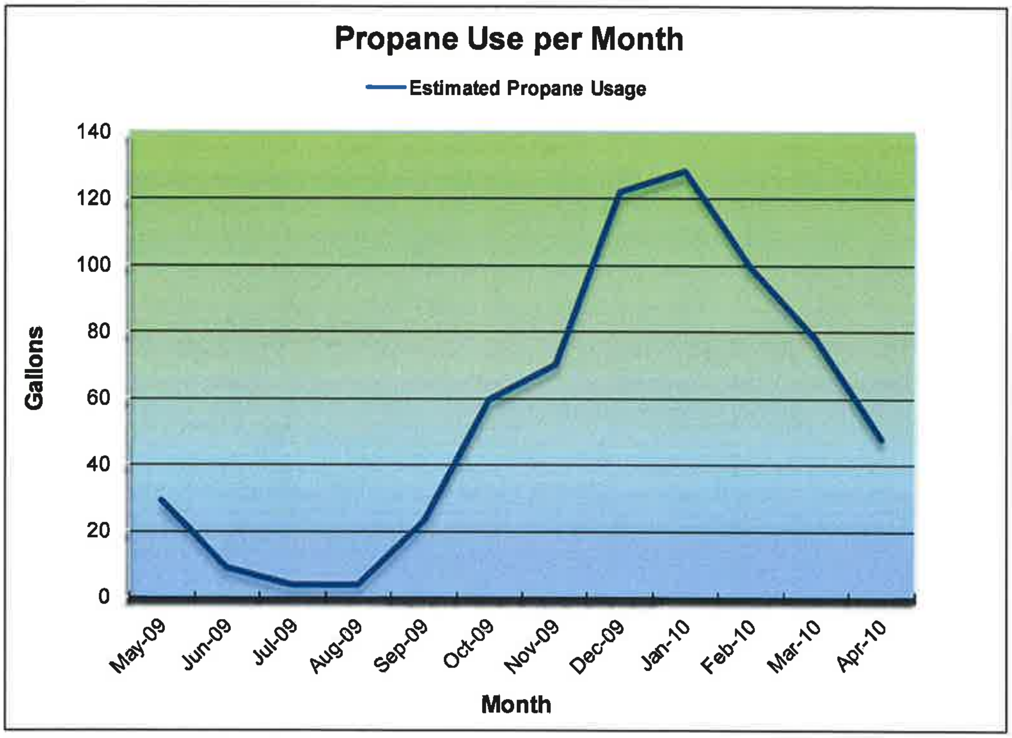


Figure 3b. George Emerson Elementart Monthly Propane Use Vs. Cost

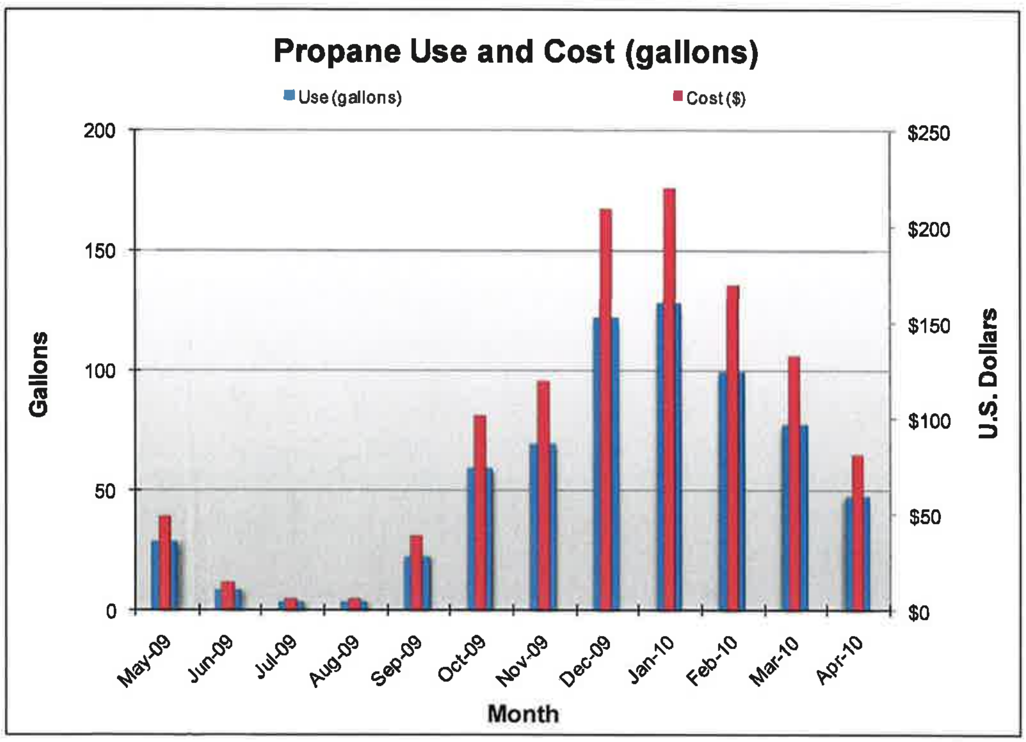
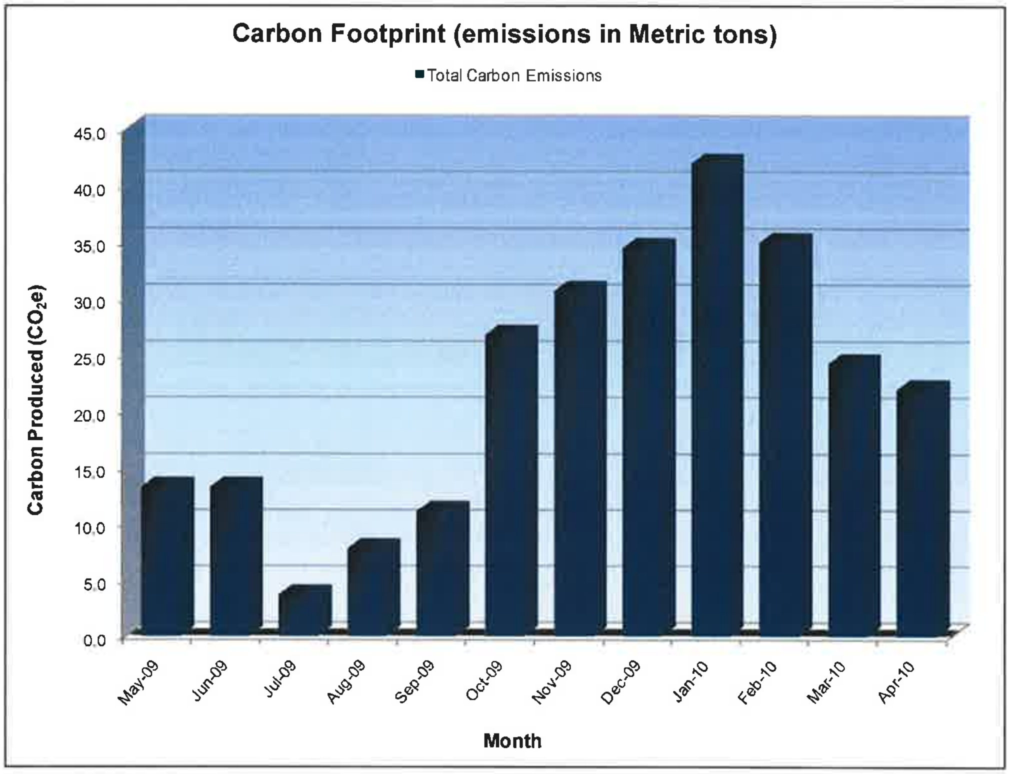


Figure 4. George Emerson Elementart Monthly Greenhouse Gas Emissions



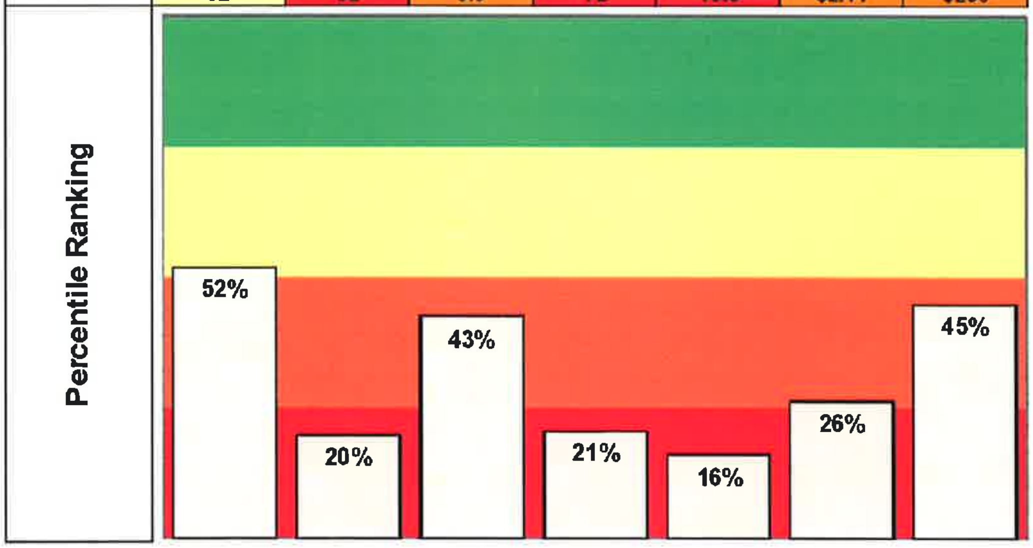
b. Benchmarking Data

To evaluate the energy and environmental performance of your school, the building data collected above has been compared against two different sets of school energy data: the U.S. Environmental Protection Agency's national data and New Hampshire specific state data. The results are illustrated in Figure 4.

This allows you to assess your building's performance relative to other buildings designed and constructed to the same codes and standards, operating under the same regulations and schedules, and similar weather conditions. The indicators are calculated on a *per square foot* or *per student* basis, so you can compare your school to different sized schools.

Figure 5. George Emerson Elementart Energy Smart Schools Benchmarks

Schools	U.S. EPA Portfolio Manager Score	New Hampshire State Schools (annual data)					
		Total Energy Use (kBtu/sq.ft.)	Electric Use (kWh/sq.ft.)	Heating Fuel Use (kBtu/sq.ft.)	Weather Adjusted Heating Fuel Use (Btu/sq.ft./ HDD)	Total Energy Cost ($/sq.ft.)	Total Energy Cost ($/student)
NH Average:	50	68	5.6	47	6.1	$1.57	$271
You:	52	92	5.9	72	10.6	$2.11	$290



Major Benchmark Indicators:

1. Total Energy Use, kBtu/sq.ft.

This indicator shows how much total energy your school consumes each year. It includes the energy used for heating, cooling (if any), lights, cooking, computers, etc.

Your school's total energy use of 92 kBtu per square foot per year (kBtu/sq.ft.) is worse than the NH K-12 schools state average, 68 kBtu/sq.ft. This figure is higher than 80% of New Hampshire K-12 schools. The EnergySmart School report is weather normalized so fuel consumption for heating takes the difference in climate between northern and southern NH into account.

This is a good indicator of how well, overall, your school is performing. However, it doesn't help you find **where** in your building to look for improvement opportunities. Multiple factors included below can help with that.

Analysis of energy consumption for this program does not control for operational variations. An example is an improperly ventilated school may appear to have lower energy consumption. Not operating ventilation results in lower indoor air quality.

2. Electricity Data

Most electric utilities use the following two factors to estimate your electricity bill – Electric use and Electric demand.

a. Electric Use, kWh/sq.ft.

This shows how well the building does with its lights, cooling/air conditioners and cafeteria systems (if any), and what's referred to as "plug load." Plug load is anything that plugs into a socket. The major plug loads are generally computers (including monitors, printers and copiers), refrigerators, coffee machines, fans, shop equipment, and projectors. If electric consumption is much higher than average, but heating fuel use (see below) is average or better, then focus your efforts on the electric-powered elements listed above.

New Hampshire schools state average electric use is **5.6** kWh per square foot. Your school's electric consumption of 5.9 kWh per square foot this year is higher than 57% of New Hampshire schools benchmarked through the NH EnergySmart Schools Program.

b. Electric Demand, W/sq.ft.

Demand is a measure of the maximum electric draw in kW that your building places on the grid and is measured by adding up the kW draw for a 15 minute period. To give an analogy; if electricity usage is the amount of water going through a hose in gallons, electric demand would be how fast that water flows expressed in gallons per minute. Whichever 15 minute period during your monthly billing cycle places the highest kW demand on the grid is the demand factor applied to your bill. The best way to improve this demand factor is to stagger the times when your electrical systems draw at their maximum or reduce unnecessary electric load altogether.

The average electric demand for NH schools is 2.0 watts per square foot. Your school's electric demand is 1.78 watts per square foot and is lower than 66% of New Hampshire Schools benchmarked through the NH EnergySmart Schools Program.

3. Heating Fuel Use, kBtu/sq.ft.

Reviewing these indicators is relatively straightforward. If your school's heating fuel use is much higher than average, an audit of your heating system along with your building envelope - doors, windows, roof - is recommended. This factor is 'fuel-neutral' as it works for either fuel oil or natural gas heating systems.

New Hampshire K-12 schools state average heating fuel use is **47** kBtu/sq.ft. or **6.1** Btu/sq.ft./HDD. Your school's heating fuel use of 72 kBtu/sq.ft. per year is higher than 79% of other New Hampshire schools in the database. Your school's weather adjusted heating fuel use of 10.6 Btu/sq.ft./HDD is higher than 84% of other New Hampshire schools benchmarked through the NH EnergySmart Schools Program.

4. Energy Cost, $/sq.ft. & $/student

Cost is the bottom line. These numbers help you understand, in terms of budget, the gain through energy efficiency improvements. New Hampshire K-12 schools state averages **$1.57**/sq.ft. and **$271**/student. Your school's annual energy cost of $2.11 per square foot is higher than 74% of other New Hampshire benchmarked schools. Your school's cost expressed on a per student basis of $290 is higher than 55% of other New Hampshire schools benchmarked through the NH EnergySmart Schools Program. However because of your school's low student density per square foot, this statistic is inflated and is largely responsible for your high student cost figure.

5. U.S. EPA *Portfolio Manager* Score

Portfolio Manager is a benchmarking model based on a national set of data from K-12 schools. It is provided by the U.S. Environmental Protection Agency's ENERGY STAR® Program. The impact of factors outside of your control (such as location, occupancy, and operating hours) are removed, providing a 1-100 ranking of a school's energy performance relative to the national school building market. A score of 50 represents the national average, and a score of 100 is best. Schools that achieve a score of 75 or higher are eligible for EPA's ENERGY STAR® Building Label, the national symbol for protecting the environment through energy efficiency. Districts can achieve ENERGY STAR® Leader Awards in recognition if their buildings, on average, improve by 10%, 20%, 30%, etc. over their baseline year of reported energy use or if the district's overall weighted average *Portfolio Manager* Score is at least a 75.

Your school's *Portfolio Manager* Score of 52 places it higher than 52% of K-12 schools nationwide.

III. Potential Energy Saving Opportunities

Based on the preceding analysis of your school's energy performance, implementation of the following recommendations can help you save energy and money. The first step is to look at reducing electrical lighting and HVAC consumption (burners, circulators and fans) which typically account for 67% of a building's electric consumption.

1. Perform an Energy Audit on the Building

An energy audit involves a comprehensive analysis of the building's general characteristics, its energy use and allocation of that use amongst the facility's energy end uses. The goal is to identify sources of potential energy savings. Your auditor should develop a list of recommendations that will result in substantial energy and operational cost savings. These may include, building envelope improvement and mechanical systems, lighting upgrades, equipment replacement and installation of lighting and HVAC control mechanisms, among others.

A good audit should include information specific to each recommendation which *at least* includes approximate annual energy unit and cost savings, demand reduction, installation cost, lifetime cost savings and information related to cost-effectiveness. This will help to prioritize the recommendations based on their energy efficiency and shortest payback.

The recommendations provided in an energy audit report may reduce facility energy bills by 20% or more in addition to improving occupant health and comfort. Following this report, an energy audit is the next step in realizing the full potential of energy savings opportunities.

2. Request Retro-Commissioning

Retro-commissioning is a detailed process applied to existing facilities aimed at correcting many of the degradations and inefficiencies that are indicative of older and/or poorly performing buildings. Many older buildings tend to be less comfortable and operate less efficiently when not properly commissioned. Retro-commissioning includes a detailed energy audit and focuses on not only potential energy savings but also the interaction of the building's equipments and mechanical systems with an eye toward restoring it to optimal performance.

In contrast to an energy audit, this optimization focuses on operational improvements to existing equipment, rather than replacement. Apart from energy savings, other improvements and benefits include substantial operation and maintenance (O&M) cost savings, improved air quality, occupant comfort, health and safety, equipment controls, and improved system interactivity.

In addition to providing recommendations, retro-commissioning includes implementation of the recommended improvements and hence the cost for retro-commissioning is higher than an audit. However, when the costs of improvements are added to the energy audit cost, prices may be comparable. If high O&M costs or occupant health, comfort and safety are concerns in addition to reduction in energy use, retro-commissioning may be a suitable strategy.

3. Upgrade Lighting Systems

Lighting typically accounts for 30-60% of all energy consumed in school buildings. Additionally, the electrical energy consumed by lights during the summer creates heat and increases cooling costs.

George Emerson Elementart's electricity consumption is high compared to other schools in the State. Upgraded lighting systems in high consumption areas like classrooms, gymnasiums, libraries, offices etc. can reduce these costs, improve the lighting quality, and increase occupant comfort and productivity.

Over-lit Spaces:
Light levels should be recorded in classrooms and hallways to ensure they are not over lit: 40-50 foot candles are adequate light levels for an instructional space. If classroom light levels are much higher than 50 foot candles, George Emerson Elementart should consider de-lamping classrooms or installing dimming ballasts, which dim the lights when outdoor light levels are adequate. In over-lit hallway spaces photo sensors can be installed, to turn lights off completely when light levels exceed a pre-set threshold.

In over lit spaces a T8 to Super T8 lighting retro-fit can reduce the number of light fixtures needed. Super T8 lamps use between 4 and 7 Watts less electricity than standard T8 lamps, but they produce more light per Watt. In some cases this increase in light per Watt can allow for the removal of an entire lamp, saving 32 Watts. The room characteristics must be factored in before this type of retro-fit. The shape of the space, ceiling height, color of the walls, etc. all need to be taken into account when exploring a de-lamping project. We recommend that before retro-fitting the entire facility, begin by changing one classroom and monitor the comfort level of the occupants at George Emerson Elementart.

Another proven energy reduction measure with a short payback period is to identify any areas where your school may still be using metal halide lighting. Typically metal halide lights are found in gymnasiums or cafeteria areas, many districts have been very satisfied by replacing these lights with high bay T5 lighting fixtures. In addition to the reduced operational wattage, high bay T5 lights turn on instantly, as opposed to metal halide fixtures which have an extended warm up period. The long warm up period associated with metal halides typically leads to the lights being left on all day, at 250 to 400 watts a fixture; the costs begin to add up. Adding occupancy sensors to high bay T5 fixtures further reduces the payback period.

Occupancy Sensors:
We recommend that you explore the use of occupancy sensors to ensure that lights are turned off in unoccupied spaces; lights controlled by occupancy sensors typically run a third of the time when compared with manually controlled lighting. Reduced runtime leads to decreases in both energy usage and operation and maintenance costs. Additionally, a study conducted in Massachusetts found that controlling the security lighting with occupancy sensors reduced vandalism; neighbors and police recognized something wrong when the lights were on in a building that was typically dark and investigated.

To summarize and add, a few ways for George Emerson Elementart to save with facility lighting upgrades are to:

- Design light quantity and quality for the task and occupants' needs in that area
- Maximize lamp and ballast efficiency
- Activate the power saving features on office equipment such as copiers, printers, and fax machines and ensure that they are turned off at the end of the day.
- Use automatic controls to turn lights off or dim lights in unoccupied spaces
- Establish a maintenance schedule for group re-lamping and fixture cleaning
- Replace T12 fixtures with the most efficient fixtures which may include T8/super T8/T5 fixtures
- Replace incandescent lighting with compact fluorescent technology
- Replace incandescent exit lighting which consumes 30 Watts with LED type exit lights with 1.5 Watts consumption. LED units last up to 10 years, which is a maintenance advantage
- Install daylight sensors in areas with significant natural light
- Install occupancy sensors in areas that are often unoccupied
- Lighting retrofits reduce maintenance costs associated with lighting that is close to end of life
- Establish a regular cleaning schedule particularly for areas where student safety of low light levels may be a concern, such as shop classes
- Look to make lamp and fixture selection as uniform as possible to reduce maintenance and inventory overhead
- Educate students and staff to turn off lights when rooms are unoccupied

Lighting upgrades seek to reduce the connected electrical load (kW) and energy consumption (kWh) of lighting equipment. Lighting controls can also significantly reduce operating hours and costs by turning off lighting when spaces are unoccupied or sufficiently lit by natural light.

4. Install NEMA Premium Motors and VFDs

Commercial and industrial electric motor-driven systems consume approximately 23% of all electricity in the U.S., making it the single largest category contributor to electric use in the country. With very high operating hours, the annual energy cost to run a system is more than its installation cost. Even a small increase in the efficiency of an electric motor can result in substantial energy cost savings. Typical opportunities for motor upgrades in schools include: ventilation fans, and heating and cooling system pumps and fans.

Motors with efficiency up to 90% are available to replace the older ones with efficiency less than 75%. Although standards for efficiency of new equipment are set by the Energy Policy Act, motor efficiency can be further increased by selecting Premium Efficiency motors as specified by the National Electrical Manufacturers Association (NEMA). This can cut the electric motor system demand by as much as 18%.

Savings can be increased further by optimizing system performance through the use of variable frequency drives (VFDs). When system load is known to vary substantially, these flow control systems can be utilized to match system output to system demand, significantly reducing energy usage during partial load hours. By employing high-efficiency motors and VFDs, facility owners can improve environmental conditions, utilize better control of motor-driven processes, and reduce waste output.

5. Install Demand Control Ventilation

Demand control ventilation (DCV) monitors indoor air CO_2 content as a result of occupancy production levels and uses this data to regulate the amount of outdoor air that is permitted for ventilation. In order to ensure adequate air quality, standard ventilation systems permit outside air based on estimated occupancy levels in CFM, cubic feet per minute/occupant. However, during low occupancy hours, the space may become over ventilated due to decreased CO_2 levels and unnecessary ventilation results in wasted energy. DCV reduces unnecessary outdoor air intake by regulating ventilation based on actual CO_2 levels, saving energy. DCV is most suited for areas where occupancy levels are known to fluctuate considerably such as auditoriums, cafeterias, and gymnasiums.

Install Energy Recovery Ventilators. According to energy recovery equipment manufacturer's typical paybacks are less than 5 years for schools without cooling. The keys to success with ventilation retrofits are going with fewer larger units with long run hours as opposed to several small units with limited run time. Equipment with moisture recovery capabilities would cut humidity up to 50% during the cooling season.

6. Improve/Replace Inefficient Heating Systems

Replacing an old boiler that is < 70% efficient with a modern 85-90% efficient natural gas-fired furnace alone will reduce heating costs by 15-20%. This combined with additional system improvements and installation of advanced HVAC control mechanisms can result in up to 20%+ heating load reduction.

Because of the high capital cost of new heating systems, some financial analysis should be performed to assess the cost-effectiveness of immediate replacement. If the current system is fairly new, replacement may not be immediately justifiable from a financial standpoint. However, as is the case with cooling systems, early replacement may prove to be a more cost-effective solution than waiting until existing systems fail or reach the end of their estimated useful life.

7. <u>Improve/Replace Inefficient Air Conditioning Systems</u>

The useful life of a rooftop A/C unit is generally 12-18 years. However, depending on the efficiency, early replacement of outdated, inefficient, split, or packaged rooftop air conditioning units with new A/C systems that are 15% more efficient than 10-15 year old equipments can considerably reduce annual energy consumption. The energy cost savings and maintenance savings offset the high installation cost of a more efficient system. Installing thermostats and/or economizers on new or existing A/C systems will further reduce the cooling demand.

Economizers provide "free" cooling by using controllable dampers that bring in outside air to cool the space when the outdoor temperature or enthalpy is below the building's return air conditions. Although they require operation by a well calibrated and maintained control system, economizers have impressive energy-saving capabilities.

8. <u>Install Occupancy Controlled/Programmable Thermostats</u>

Combining efficient HVAC equipment with occupancy controlled and programmable thermostats can save a facility up to 10% of its annual heating and cooling costs:

- Areas with unpredictable occupancy on a daily/weekly basis - gym, bathrooms, outdoors:
  Use an *occupancy controlled thermostat* - a thermostat paired with a sensor and/or door detector to identify movement/occupancy. If occupancy is sensed by the sensor, the thermostat goes into an occupied mode (i.e. programmed setpoint). If a pre-programmed time frame elapses (i.e. 30 minutes) and no occupancy is sensed during that time, the thermostat goes into an unoccupied mode (e.g., setback setpoint or off) until occupancy is sensed again. This reduces the overall time the heating or cooling system is running, saving energy.

- Areas with predictable occupancy: e.g.: classrooms, cafeteria, offices:
  A *programmable thermostat* is recommended. This device is programmed on a schedule to reduce the heating or cooling output of the facility's HVAC systems in relation to its predetermined occupancy schedule. In this way, the thermostat acts to set-back or set-up the facility temperature during unoccupied hours, and re-establish a comfortable facility temperature during business hours. By employing programmable thermostat technology, the heating and cooling system demand coincides with occupancy level, reducing energy usage.

9. <u>Install Vending Misers on Vending Machines</u>

Vending misers for refrigerated and non-refrigerated vending machines is an often overlooked source of potential savings. Uncontrolled, vending machine lights remain on 24/7, consuming a constant amount of energy year round. By controlling these lights with an occupancy sensor, energy consumption attributed to vending machines can be reduced considerably, in many cases, by as much as 50% and can save up to $150 per machine per year.

In the case of refrigerated vending machines, electric demand can be further reduced by controlling the machines' refrigeration systems. In a manner similar to programmable thermostats, vending misers for refrigerated machines act on a pre-set occupancy schedule to allow a marginal increase in operating temperature during non-business hours. Although products in the machine are delivered to the customer at the same temperature as in an uncontrolled vending machine, products are not being cooled unnecessarily when the machine is not in use, significantly reducing the machine's energy consumption.

Because of the relatively low vending miser installation cost and high operating hours of vending machines, this improvement is typically cost-effective with a very short payback period.

10. Install ENERGY STAR® Rated Equipment/Control Plug Loads

Plug loads (computers, televisions, coffee makers, etc.) account for, on average, about 10% of total non-residential energy consumption. One of the easiest and most cost-effective energy saving strategies is the reduction of electric usage through installation of efficient appliances and the control of plug loads. In addition to utilizing ENERGY STAR® qualified appliances, greater savings can be realized through the various devices available that control every day plug loads. By connecting non-critical loads (coffee makers, fans, microwave ovens, etc.) to an occupancy or timer controlled power strip, significant energy savings can be achieved. These savings result not only from the neglect of the user to turn the device off manually, but also from reduction of "phantom load". Phantom load is the small, but constant energy draw from many plug-in devices when not in use. By connecting certain appliances to an occupancy controlled power strip, phantom load can be eliminated by cutting power supply to those devices.

When replacing or ordering new equipment, emphasize ENERGY STAR® devices when they are available. Also, purchase controlled power strips and connect appropriate devices to those strips to reduce unnecessary consumption due to phantom load and appliances left on.

The EPA offers free computer power management software which has saved some districts as much as $75 per computer per year. This software can be found at:

http://www.energystar.gov/index.cfm?c=power_mgt.pr_power_management

IV. Resources:

The State of New Hampshire along with the electric and gas utilities offer multiple programs designed to help improve the energy efficiency of school buildings through financial incentives and technical support. These include:

NH Department of Education:

- **School Building Aid**
  The School Building Aid program provides financial reimbursement for the cost of construction or substantial renovation of school buildings. School districts may receive up to 60 percent of the cost of construction, land acquisition, planning & design, furniture, fixtures, and equipment. This office also provides information and technical advice concerning planning, construction, and maintenance of school facilities.
  http://www.ed.state.nh.us/education/doe/organization/programsupport/osba.htm

Public Service of New Hampshire:

- **Small Business Retrofit Program**
  The NHSaves@Work/Small Business Energy Solutions Program provides financial incentives and technical assistance to improve energy efficiency in buildings with an average monthly demand of less than 100 kW. Through this program, PSNH pays up to a maximum of **50%** of labor and material costs for installation of the measures including fluorescent ballasts, lamps, fixtures, CFLs, occupancy sensors, thermostats, heater controls, cooler economizers, HW tank wraps and high intensity discharge lighting systems.
  http://www.psnh.com/Business/Efficiency/SmallBusinessRetrofit.asp

- **Schools Program** (For major renovation or equipment replacement projects)
  This program offers prescriptive rebates for energy efficient lighting, motors, HVAC, chillers, and variable frequency drives, and custom rebates to towns that install energy efficient equipment at their schools.
  http://www.psnh.com/Energy/Business_Efficiency/schools.asp

- Technical assistance is also offered through the Schools Program. Assistance includes project evaluation of energy audits or retro-commissioning studies that help facilitate the identification and installation of premium energy efficient equipment and measures.

- **Smart Start**
  The SmartSTART (Savings Through Affordable Retrofit Technologies) advantage is simple - pay nothing out of pocket to have energy efficiency products and services installed in your building. The cost of the improvements is repaid over time, using the savings generated by the products themselves! This program is for lighting and lighting controls, air sealing, insulation and other verifiable energy savings measures.
  http://www.psnh.com/Business/Efficiency/PaySave.asp

Clean Air – Cool Planet:

- **Community Energy Efficiency**
  CA-CP works with communities throughout the Northeast to find solutions to climate change and build constituencies for effective climate policies and actions. They advise and partner with citizens, educators, faith groups, small businesses, municipal governments, and other local leaders. They explore cost-effective opportunities that exist for communities to reduce their emissions as well as their vulnerability to climate impacts.
  http://www.cleanair-coolplanet.org/for_communities/index.php

EPA:

- **Energy Star Challenge for Schools**
  EPA is challenging school administrators and building managers to improve energy efficiency throughout their facilities. More than 500 school districts across the country are helping to fight climate change by committing to reducing their energy use with help from Energy Star. Schools that take the Energy Star Challenge can use energy tracking tools, technical guidance, case studies, and other Energy Star tools and resources to help them improve their energy efficiency.
  http://yosemite.epa.gov/opa/admpress.nsf/d985312f6895893b852574ac005f1e40/d74f768ecfa9e11f8525762500522260!OpenDocument

For additional assistance in helping you save money and improve school conditions, please call TRC at (603) 766-1913 or (877) 442-9181.