North Hampton School
Facility Energy Use

Electricity
Fuel Oil
Water

North Hampton Energy Committee
Peter Philbrook
School Board Presentation
25 October 2012

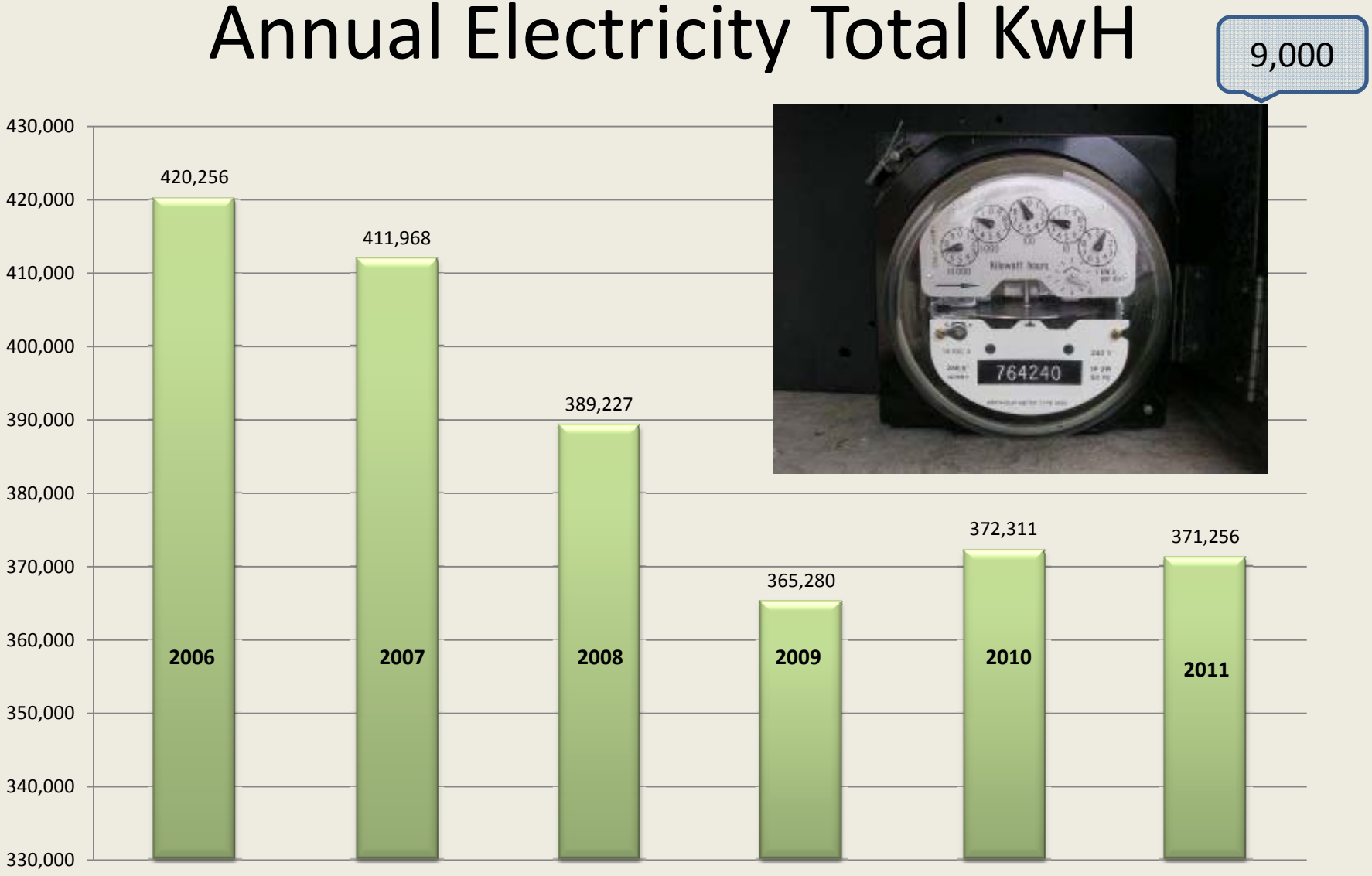
US EPA Portfolio Manager

- Energy Management Tool
- Rate Building Energy Performance
- Estimate Carbon Footprint
- Gain EPA Recognition (Energy Star)

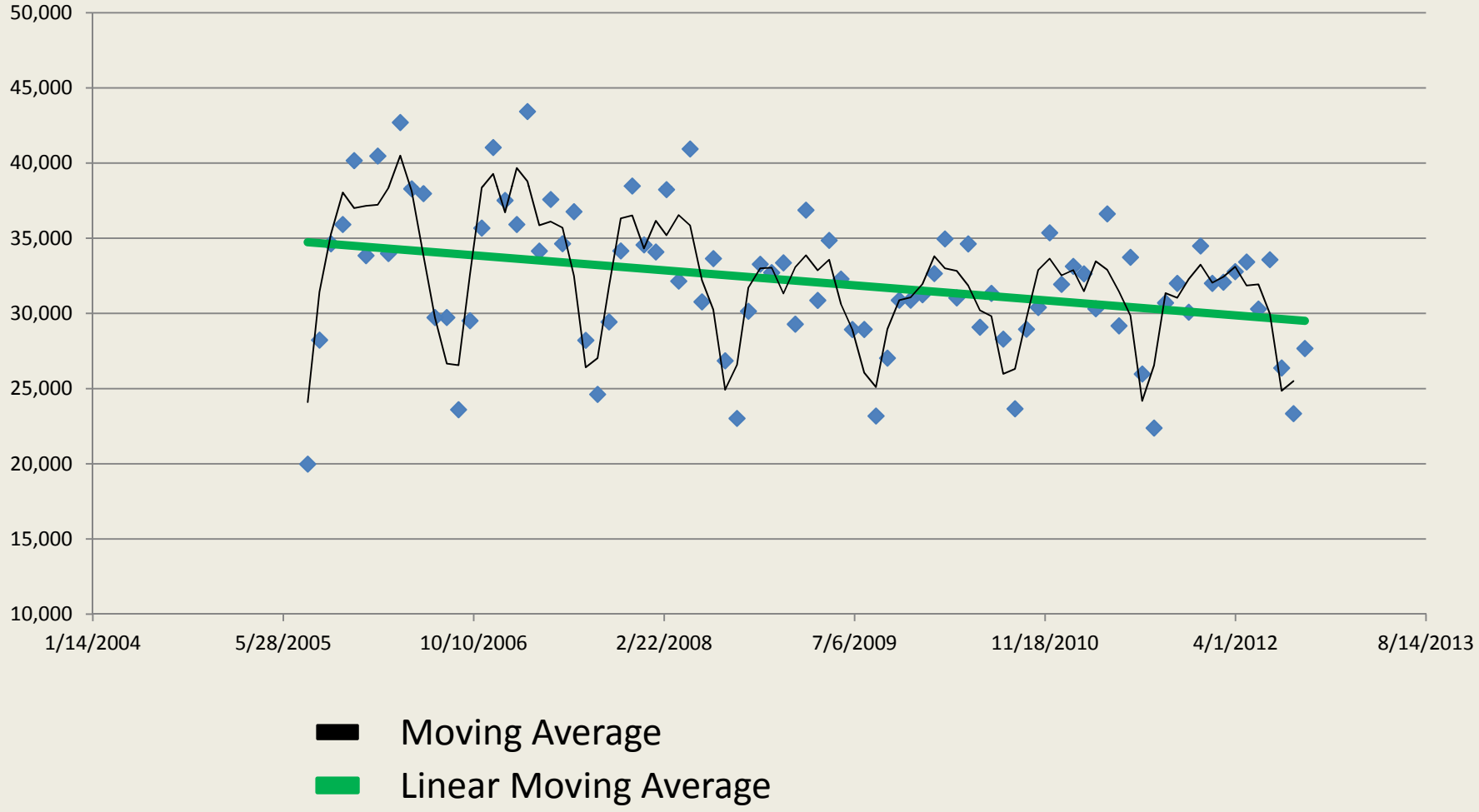
Entering Metrics – Data on Physical Structure, and Complete Energy Usage

http://www.energystar.gov/index.cfm?c=evaluate_performance.bus_portfoliomanager

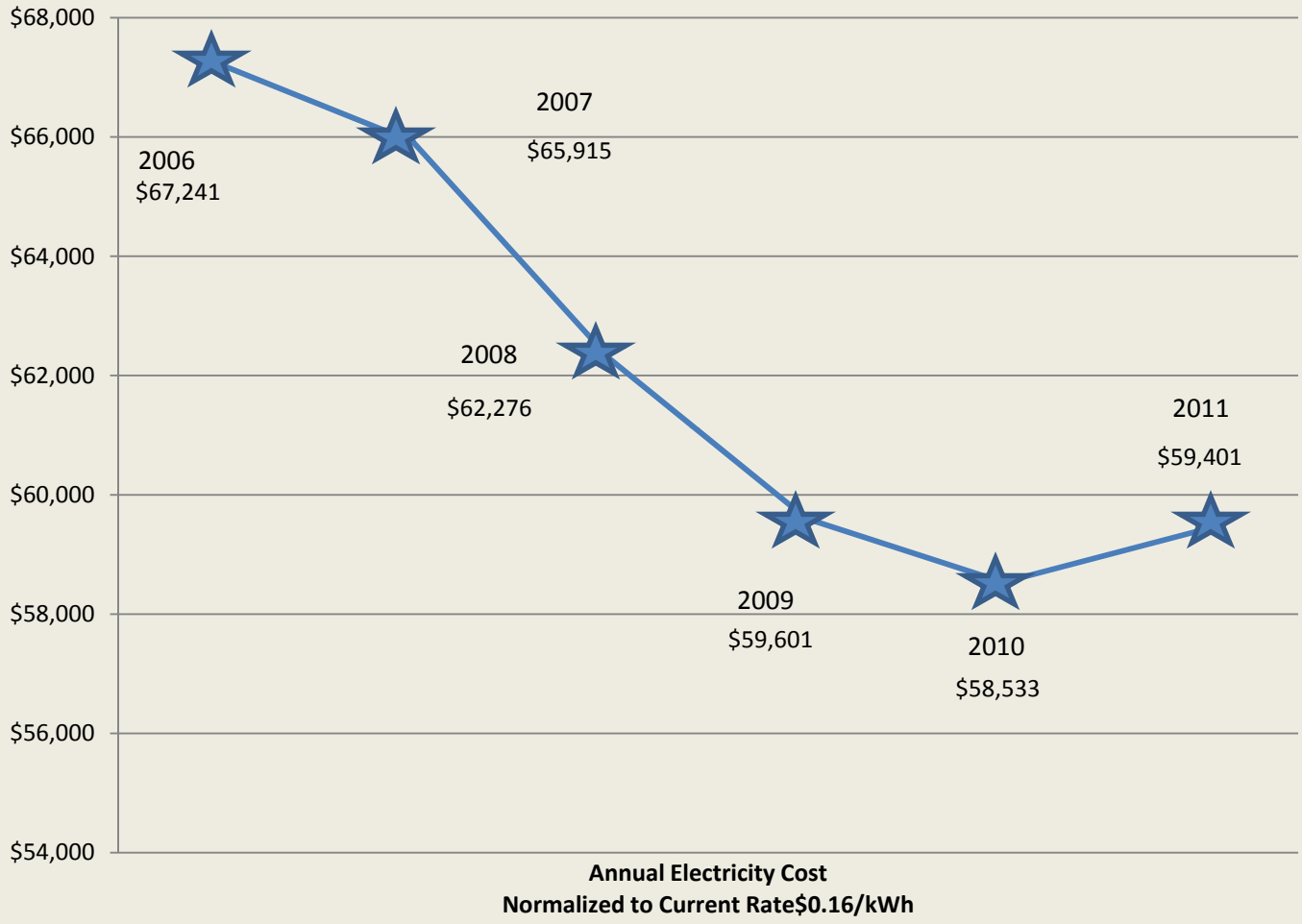
North Hampton School
Annual Electricity Total KwH



North Hampton School Electricity (KwH) 2005 - 2012



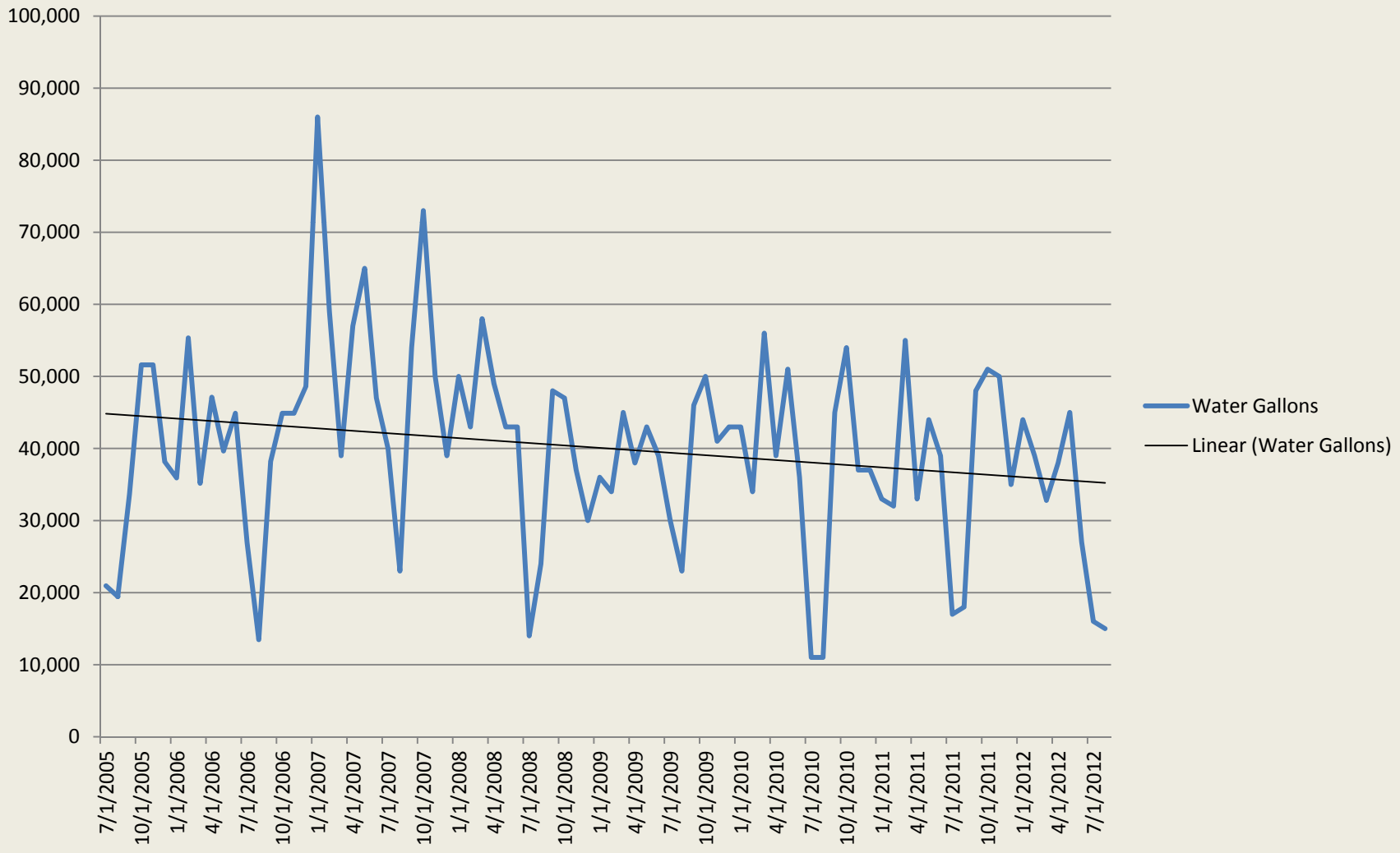
Electricity Cost Savings Over Time



$1326 $3639 $2675 $1068 $868

Total 5 Year Savings $7840

Historical Water Use at NHS



North Hampton School
Annual #2 Fuel Oil Consumption

Heating Degree Days

2006	4528
2007	5356
2008	5143
2009	5270
2010	4560
2011	4887

OMB No. 2060-0347

STATEMENT OF ENERGY PERFORMANCE
North Hampton School

Building ID: 1683042
For 12-month Period Ending: September 30, 2012[1]
Date SEP becomes ineligible: N/A

Date SEP Generated: October 25, 2012

Facility
North Hampton School
Atlantic Ave
North Hampton, NH 03862

Facility Owner
N/A

Primary Contact for this Facility
N/A

Year Built: 1960
Gross Floor Area (ft²): 72,000

Energy Performance Rating[2] (1-100) 85

Site Energy Use Summary[3]	
Electricity - Grid Purchase(kBtu)	1,256,032
Fuel Oil (No. 2) (kBtu)	2,948,976
Natural Gas - (kBtu)[4]	0
Total Energy (kBtu)	4,205,008

Energy Intensity[4]	
Site (kBtu/ft²/yr)	58
Source (kBtu/ft²/yr)	100

Emissions (based on site energy use)	
Greenhouse Gas Emissions ($MtCO_2e$/year)	356

Electric Distribution Utility
Public Service Co of New Hampshire [Northeast Utilities]

National Median Comparison	
National Median Site EUI	86
National Median Source EUI	147
% Difference from National Median Source EUI	-32%
Building Type	K-12 School

Stamp of Certifying Professional

Based on the conditions observed at the time of my visit to this building, I certify that the information contained within this statement is accurate.

Meets Industry Standards[5] **for Indoor Environmental Conditions:**

Ventilation for Acceptable Indoor Air Quality	**N/A**
Acceptable Thermal Environmental Conditions	**N/A**
Adequate Illumination	**N/A**

Certifying Professional
N/A

Notes:
1. Application for the ENERGY STAR must be submitted to EPA within 4 months of the Period Ending date. Award of the ENERGY STAR is not final until approval is received from EPA.
2. The EPA Energy Performance Rating is based on total source energy. A rating of 75 is the minimum to be eligible for the ENERGY STAR.
3. Values represent energy consumption, annualized to a 12-month period.
4. Values represent energy intensity, annualized to a 12-month period.
5. Based on Meeting ASHRAE Standard 62 for ventilation for acceptable indoor air quality, ASHRAE Standard 55 for thermal comfort, and IESNA Lighting Handbook for lighting quality.

Facility Metrics

Site Energy Use Summary
Total Energy (kBtu)

Energy Intensity (12 month)
Site = 58 (Raw Fuel)
Source = 100 (Equivalent Units)
EUI = Energy Use Intensity

Calculates Greenhouse Gas Emissions (Carbon Footprint)

Statement of Energy Performance

2012

North Hampton School
Atlantic Ave
North Hampton, NH 03862

Portfolio Manager Building ID: 1683042

The energy use of this building has been measured and compared to other similar buildings using the Environmental Protection Agency's (EPA's) Energy Performance Scale of 1–100, with 1 being the least energy efficient and 100 the most energy efficient. For more information, visit energystar.gov/benchmark.

This building's score

85

1 — 50 — 100

Least Efficient — Median — Most Efficient

This building uses 100 kBtu per square foot per year.*

*Based on source energy intensity for the 12 month period ending September 2012

Buildings with a score of 75 or higher may qualify for EPA's ENERGY STAR.

I certify that the information contained within this statement is accurate and in accordance with U.S. Environmental Protection Agency's measurement standards, found at energystar.gov

Date of certification

EPA United States Environmental Protection Agency

Date Generated: 10/25/2012

North Hampton School Scores 85

"Most Efficient"

Scores > 75 Qualify for Energy Star

Not all energy is entered need propane data for kitchen

Engineer is required to validate Square footage etc.

Number of computers needs to be validated

% Area that is air conditioned needs to be calculated

Energy Savings
Proactive & Reactive

Proactive Savings - Requires Some Thought

Motion Sensing Lighting
Converting fluorescent lights from T-12 to T-8
Turning Things Off! (Printers, Computers, Summer Shut Down)
Building Upgrades (Kitchen, Bathrooms, ADA Doors, Windows, Science Labs)
Replacing Exit Signs With LEDs

Reactive Savings – Replacing

When something breaks - The replacement item is Energy Star rated – or more energy efficient.

Computers , monitors (CRT to LCD), toilets, CFLs,

Future Options To Keep The Current Downward Trend

- Get the Student Body Involved, Use Energy Savings as a Learning Tool in the Classroom Have Students Submit For Energy Star Rating
- Institute Best Practices - In Everything You Do
- Keep Score - Annual Report Card
- Spread the Word! Placards – Signs -
- Incentives to Facilities Manager?
- Compete with Other Schools Within SAU?

Questions ?