

# THE PATH TO ENERGY STAR

## NASH-ROCKY MOUNT PUBLIC SCHOOLS



# Energy Management Assessment

## Three Levels of Implementation are:

- Little or no evidence
- Some elements
- Fully implemented



# Starting the Energy Program using ENERGY STAR Guidelines

- Make a commitment
- Assess performance
- Establish goals
- Create and implement plan
- Measure results
- Provide internal and external recognition



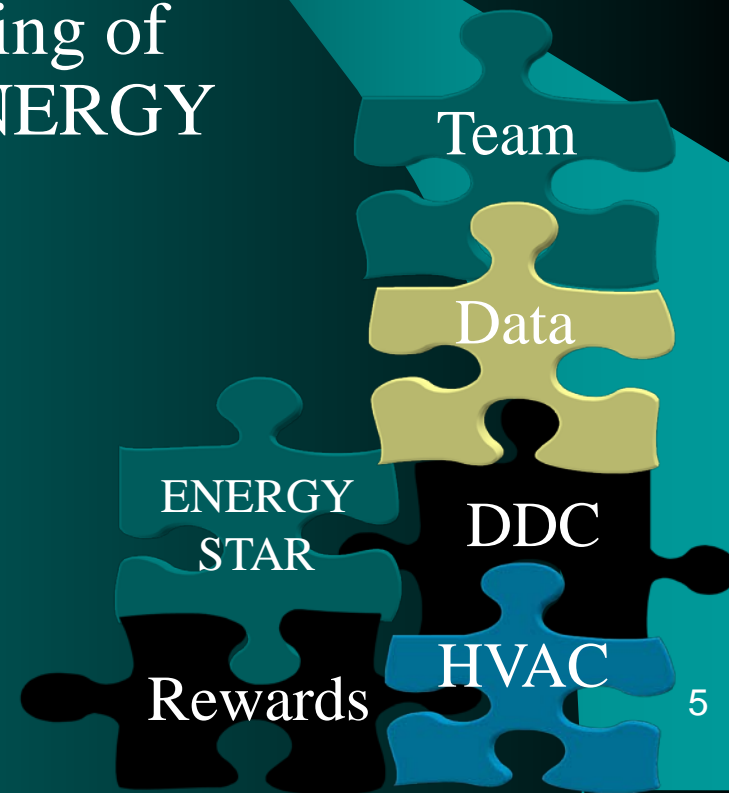
# Areas to look at!

- How do you start?
  - Do you even have a program?
  - Are you trying to improve an existing program?
- Where do you go for help?
  - Start from the ground up even if you have a program.
  - Ask questions!



# Plan from Nash-Rocky Mount Schools

- Improve the comfort levels and energy savings will come.
- Performance Contracting, Rate Structures, Energy Consultant, Re-commissioning of DDC system, improvement with ENERGY STAR.
- Find all the pieces of the puzzle!



# Monitoring and Data Input

Are you currently monitoring usage and entering data to be tracked?

Try ENERGY STAR's Portfolio Manager tool

How are you using this information?

Reports to the Maintenance Director

Sharing with Staff and Board members



# Understanding Your Current Energy Use

- Benchmarking through ENERGY STAR's (EPA's) Portfolio Manager allows you to:
  - Compare one building against a national sample of similar buildings
  - Compare all of your buildings of a similar type to each other
  - Set priorities for use of limited staff time and/or investment capital

# Understanding Your Current Energy Use

## Portfolio Manager

- Benchmark the energy use of all of your buildings – receive an energy use intensity (EUI) and K-12 schools and office buildings can receive energy performance ratings on a 1-100 scale
- Track changes in energy use over time in single buildings, groups of buildings, or entire portfolios
- Track cost savings and CO2 emissions
- Apply for the ENERGY STAR
- Track water usage

<http://www.energystar.gov/benchmark>



# Ratable Spaces in Portfolio Manager

K-12 Schools



Offices



Hospitals



Supermarkets



Hotels



Retail Stores



**Others include: Warehouse, Residence Halls, Courthouses, Medical Offices, Financial Centers/Banks, and Wastewater Treatment Plants**

# ENERGY STAR for Buildings

- ENERGY STAR qualified buildings use 35 percent less energy than average buildings.
- Nearly 5,500 buildings, including more than 1,100 K-12 schools, have earned the ENERGY STAR for energy efficiency.



**Red Oak Middle**



**Nashville Elementary**

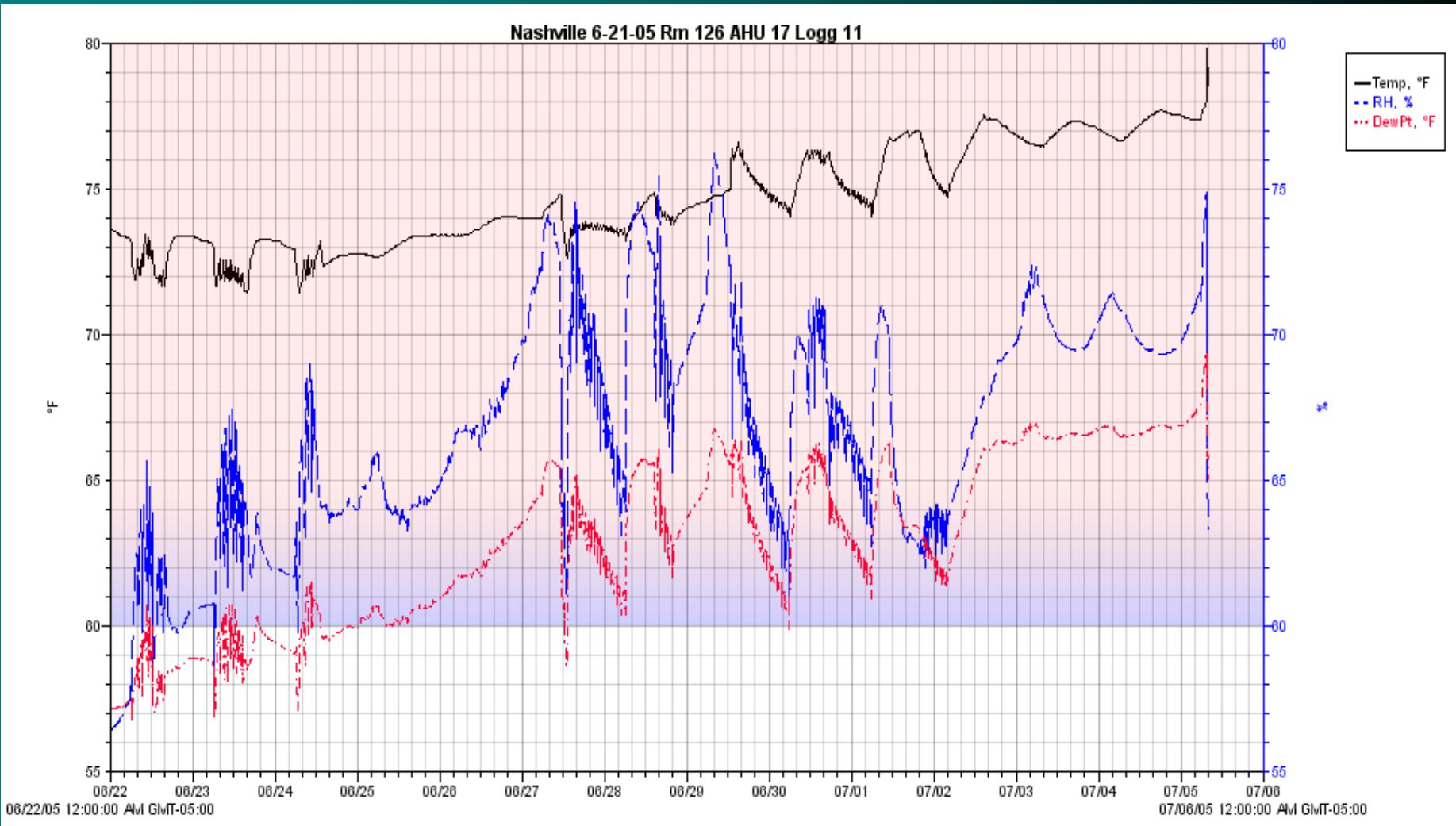


# Data Loggers

- Are you testing classrooms for proper comfort levels?
- Did Bubba look at the relative humidity in the classrooms or space temp only?



# Findings from Data Loggers

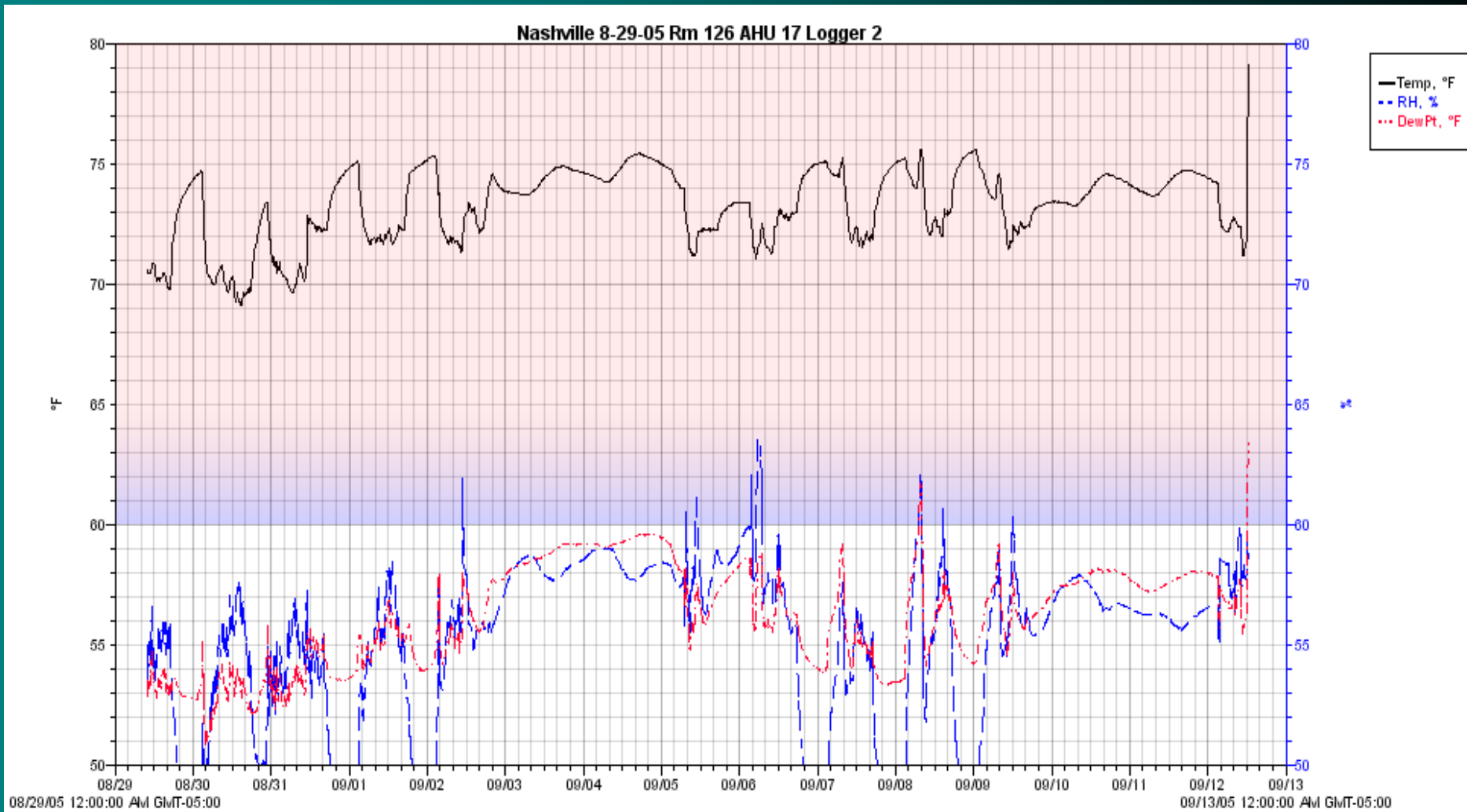


# DDC Tune-ups

- Have you re-commissioned your DDC software programs?
  - If it has been more than two years you may have energy savings as well as comfort improvement.
  - Adding schedules to the system can give you savings.
  - The N C Energy Office offered financial aid with DDC tune-ups.



# Results after DDC Tune-ups



# Nash-Rocky Mount Schools Dollar Savings for 5 years

1. Cost Avoidance Savings -- \$5,704,691
  - The check that you don't write
2. Hard Dollars Saved ----- \$104,453
  - Money in the bank
3. Billing Errors Found ----- \$191,053
  - Monitoring of your bills



# Nash-Rocky Mount Schools Environmental Impact for 5 years

- Highest Total Energy Reduction is 30%
- KWH Reduction is 33,464,669

This is equal to the avoided emissions reduction of 24,033  
Metric Tons of Carbon Dioxide or:

- Greenhouse gases from 4,595 automobiles.
- CO2 emissions from electricity use of 3,121 homes for one year.
- Carbon sequestered annually by 5,124 acres of pine forests.





# Summary

Tracking of data, testing of classrooms, DDC tune ups can give you increased accountability, improved comfort levels, and dramatically reduce energy usage and cost.



# Where to Get More Information

- <http://www.nrms.k12.nc.us/>
- <http://www.energync.net/>
- <http://www.energystar.gov/>
- <http://educonenergy.com/>

