



## Upper Dublin School District • Maple Glen, PA 19002

### Welcome to the First Energy Program Newsletter for Upper Dublin School District

#### *Opening*

In October of 2009, the Board of School Directors launched an energy management program with ARAMARK Education. In this first edition newsletter, we will explore the features of this program and the expected activities, as well as share some of the information already available.

To begin, let's look at the reasons behind the implementation of this program. Everyone is keenly aware of the impact of rising energy prices, especially when it comes to our home utility bills. The school district is certainly no different, and a district's energy spending typically represents the largest percentage of the non-fixed budget. In practicing sound fiscal responsibility, the Administration issued a request for contract proposals to investigate whether opportunities were available in the marketplace to help the district reduce energy spending. After reviewing the alternatives, the district chose a comprehensive partnership plan with the intent of achieving the greatest amount of long term benefit. The program is structured to provide this implementation and support service for five years with the intent that the district will have the new tools and processes in place to continue maintaining an efficient energy profile far into the future.

#### *Program Activities*

In terms of what is to come, a part-time Energy Manager from Aramark Technical Services, Nate Paist, will be working with the district. He will report directly to the Director of Facilities, Robert Prezuhy and to the Business Administrator, Brenda Jones Bray.

The first steps are to make sure that the current energy-use data is completely accurate and to become more familiar with the buildings and the systems controlling them. Data is gathered directly from the bills and utility providers to establish an accurate baseline of energy use for the district as a whole and for each individual building. This baseline is used as the comparison point to measure the performance of the program. The performance measurement is very simple; compare how much energy was used during the baseline, to what is being used with the program in-place, and multiply that change in energy use by the current unit cost of that energy. This is done on a monthly basis for each type of energy used, whether it is electricity, natural gas, fuel oil, etc. The baseline will provide an indication of the performance of each building. The buildings are then prioritized to determine where activities should be focused first in order to achieve the greatest amount of savings as quickly as possible. Additionally, this will usually address problematic areas first, frequently improving the environmental conditions of the buildings. Familiarization with the buildings and systems helps to identify minor capital investment projects, which are needed to make the necessary reductions in energy consumption. A team of ARAMARK engineers will make an initial survey of the buildings and provide a report of recommended projects.

The Energy Manager will continue this process throughout the term of the contract to update this project list and validate the success of measures taken. There will be meetings with various groups to discuss the program and what everyone can do to participate.



# Upper Dublin Energy Program Newsletter

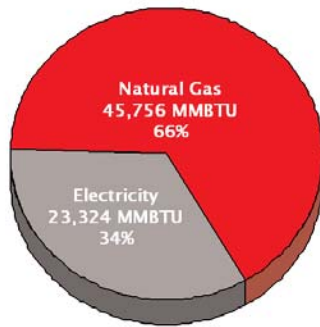
## General Information

The graphs below present some insight into the current energy profile of the district, reflecting the overall cost and consumption of electricity and of fossil fuels as a group. Note: electricity, which is normally presented in kilowatt-hours, has been converted to British Thermal Units in order to compare all energy sources on the same chart; for further explanation of kilowatt-hours and British Thermal Units, see page 4.

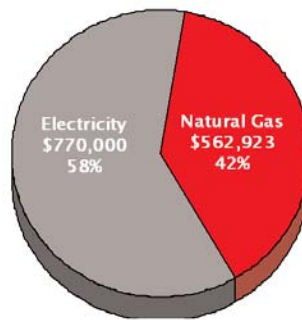
2007/08 Cost and Consumption Summary



Consumption (MMBTU)



Cost

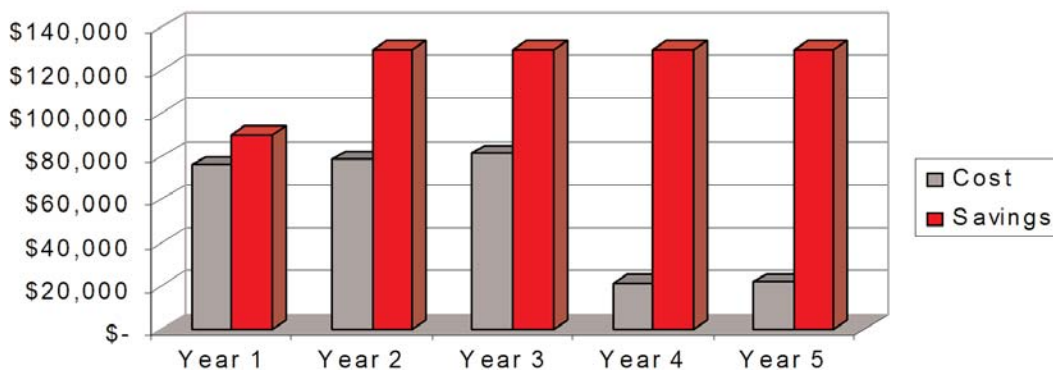


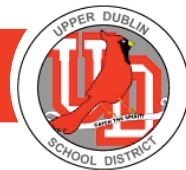
Total Consumption: 69,080 MMBTU  
Total Cost: \$1,332,923

## Program Financial Performance 2009

The goal of the Energy Management Program is savings, both environmental and financial. The overall savings goal for the five year program is \$610k. The ARAMARK fee for implementing this program is \$400k and savings are guaranteed to be at least that amount. *Even if the actual savings are less, the program is structured so that it will come to no cost to the district.*

Program Cost and Savings





# Upper Dublin Energy Program Newsletter

## District's Energy Message

If you would you like to get involved, please join in on the districts efforts! The district will create an energy team from members of the academic community and operations staff. Our goal is to have representatives from different areas who are interested in developing ways to reduce energy use in every school and take information about the program back to their colleagues. If you're interested, contact the District's Director of Facilities, Robert Prezuhy at (215) 643-8817 or via email at Rprezuhy@udsd.org. The discussion does not have to be limited to energy systems. Join the growing movement in "Sustainability" which, until recently, has been largely associated with Universities and Colleges across the country.

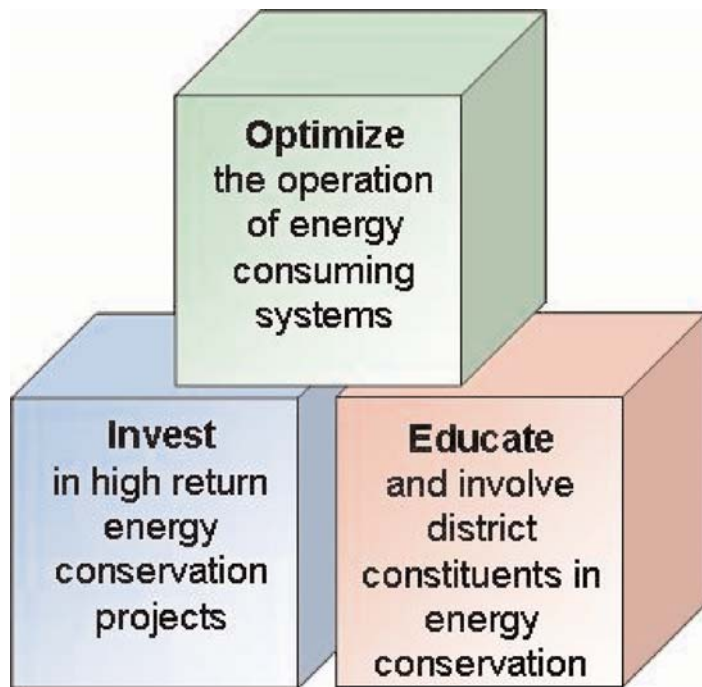
## About the ARAMARK Program

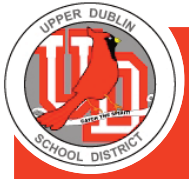
What is ARAMARK's energy management strategy? The core of this program is based first on operating as efficiently as possible with existing systems and equipment. Often, only minor expenditures are needed to repair or upgrade existing equipment in order to achieve significant benefits through reduction in energy consumption, as well as improving overall environmental comfort for the occupants. This is called "Optimization". Frequently, many reasons exist why equipment may not be operating efficiently. Considering the age of the building, number of people over the years who have been maintaining the equipment and the changes in facilities funding over the years; efficiency declines. Even new systems may not be operating efficiently from the time of construction. The ARAMARK program brings expertise into many areas in order to address all of these issues.

Of course, any time you are dealing with multiple buildings of various ages there will be a need for more significant investment to achieve the desired benefits. This program identifies the needs and attempts to address those which have a relatively short payback, a few years compared to a decade or more for larger projects (the "Investment" piece of this program will address both deferred maintenance and energy upgrade projects and are sometimes directed at simply making building operation easier, which can have a significant indirect impact on lowering energy use. High value lighting projects are an example of an investment portion to the program. (The "large," long term payback projects are more appropriately dealt with in a Facilities Master Plan which addresses building renovations).

The Education component of the Energy Management Program is possibly the most exciting for the students and faculty. This is an educational institution so the benefits of providing knowledge and training are well understood. From facilities personnel to administration, teachers to students, there is something for everyone to learn in how buildings are designed to operate best. Everyone can contribute to reducing the district's energy consumption and impact on the environment.

Please join us in **MAKING A DIFFERENCE TODAY.**





# Upper Dublin Energy Program Newsletter



## Energy Tips and News

### Things you can do to help are:

1. Turn out lights when you leave the room (don't forget about faculty rooms, copy rooms, etc.), even if it's for only a minute or so (as a fact, it does not consume more energy to turn the lights back on). Take advantage of natural day light when possible by turning off room lights that are not contributing to overall light levels. Also, it is possible to keep some of the hall lights off if there is enough natural light as well. Gymnasiums and other spaces with the type of lights that need to warm up could be turned off, if the space will not be used for more than an hour (i.e. a class period with no scheduled class).
2. Keep doors and windows closed when the cooling or heating systems are active. If a school building does not have air conditioning, then opening windows and doors may be the only source of cooling, but many buildings are designed to operate with doors and windows closed to maintain optimal conditions. If a room can't maintain district recommended temperatures, there may be a problem with the equipment and it should be inspected by a maintenance technician.
3. Keep doors to the outside closed at all times. Propping open exterior doors is a huge, unnecessary waste of energy, in addition to posing obvious safety concerns.

## Energy & Environmental Facts

Kilowatt-hours are measures of electricity usage. We see this measurement on our home electric bills. 1 kilowatt = 1000 watts - this is equivalent to ten 100 watt light-bulbs.

A kilowatt hour indicates the amount of energy used over a period of time.

Example – if those ten light-bulbs are left on for 3 hours then the total energy used is 1000 (watts) x 3 (hours) = 3000 kilowatt hours.

A BTU – British Thermal Unit is a standard measurement used to indicate the usage of fossil fuels.

A BTU is the amount of energy required to raise one pound of water by 1° F (there are almost 8 pounds of water in a gallon). Boiler heating capacities are measured in BTU per Hour.

Different fuels, such as natural gas, propane and No. 2 heating oil have different heat values, the amount of heat given off by burning that volume of fuel. One gallon of No. 2 heating oil has a heat value of 139,000 BTUs. One gallon of propane has a heat value of 91,600 BTUs. Natural gas, which is measured in cubic feet, has a heat value of approximately 1000 BTUs per cubic foot. The value for natural gas varies because this gas is a mixture which can consist of varying percentages of the gases which make up that mixture.

Even kilowatts can be converted to a BTU equivalent; 1 kilowatt-hour = 3412 BTUs. We use this number along with fossil fuels, to show total energy usage per square foot of building space when we make certain comparisons.

1 MMBTU = 1,000,000 BTUs = 1 decatherm and is equivalent to 1,000 cubic feet of gas.

