



Town of Middletown

Aquidneck Island Energy Conference

Presented by Shawn J. Brown, Town Administrator

September 20, 2008



Group Electricity Purchasing

- The Town of Middletown uses approximately 200,000 kwh of electricity per month.
- The Town of Middletown purchases its electricity through the Rhode Island Energy Aggregation Program, which is a consortium of thirty-six Rhode Island cities and towns which are organized under the auspices of the Rhode Island League of Cities & Towns for the purpose of purchasing electricity and other energy related services from energy power suppliers at the lowest possible prices and with the highest quality of service.
- Since July 2005, the Town has realized an estimated savings of \$329K.



Fuel Practices

- The Town purchases gasoline and diesel fuel through a master price agreement negotiated by the State of Rhode Island Purchasing Division; the Town has expressed interest in joining a consortium that may be created by RIPTA to purchase diesel fuel.
- The Town participates in an annual multijurisdictional bid for heating oil; fixed and variable rate options are solicited and considered.
- The Town is presently working with the School District to group the Town and School accounts; the School District has been extremely successful in soliciting online bids for bulk purchases of natural gas.



Retrofitting

- All of the Town's buildings have undergone an energy audit performed by RISE Engineering and the majority of the recommendations have been implemented.
- Trane Building Services recently completed an HVAC study at Town Hall and is in the process of installing an energy management system.
- Vehicle exhaust systems have been installed at the Fire Department and Public Works.
- Windows have been replaced at the Fire Station, Library, Public Works, Senior Center, and Town Hall.
- The heating systems at the Fire/Police Station, Public Works, and Senior Center have been upgraded.
- The Town has reduced the size of its fleet of vehicles:
 - The Town has retired 9 Ford Crown Victorias and replaced them with vehicles that use less fuel:
 - Ford Focus – 2
 - Ford Taurus - 2
 - Dodge Chargers (*The V-8 HEMI engine features Chrysler Group's Multi-displacement System, which seamlessly alternates between smooth, high fuel economy four-cylinder mode when less power is needed and V-8 mode when more power is required. Fuel efficiency improves by up to 20 percent with MDS, but not at the expense of performance.*) – 5
 - The planned purchase of an additional Ford Explorer was reconsidered, and a Ford Taurus was purchased in its place.



New Police Station

- General Building Construction:
 - Exterior masonry walls have 3" of rigid insulation in the cavity in place of the traditional 2". R-value goes from 16.44 to 21.44, an increase of 30%.
 - Batt insulation over the first floor will be two layers of 6" with a total R-value of 38. With R-30 the traditional standard, an increase of 26% results.
 - Windows are constructed of aluminum with a thermal break to prevent transfer of cold to the inside. Low-E insulated glass will be used.
 - Window openings around the building have been minimized to reduce heat loss without affecting the visibility to the exterior.
 - Roof overhangs will create shading on windows during summer, thus reducing heat gain.
- Electrical:
 - Energy efficient lamps in the lighting fixtures - T8 and compact fluorescent.
 - Occupancy sensors and time clock controls (automatic lighting controls).
 - Reduced voltage drop on all wiring (maximum of 2% on feeders, 3% on branch circuits).
 - Exceeded energy code of 1.2 watts per square foot (design is 1.08 watts per sq ft).
- Items incorporated into the HVAC design are:
 - Variable speed pumping (VFD's) on Chilled water & Hot Water Pumps.
 - Energy Recovery Wheels in both RTU's.
 - Direct Digital Control System (Night Setback, Outside Air Temperature Reset Adjustments).
 - Equipment selected as "High Efficiency".



More

- The School District entered into an energy-savings performance contract with Honeywell Corporation in 2003 which included lighting retrofits, water & sewer upgrades, boiler retrofits, temperature and control upgrades, and installation of energy management systems at the Gaudet Middle School, Middletown High School, JFK Elementary School, Forest Avenue Elementary School, Aquidneck Elementary School, and the Oliphant Administration Building.
- The Town implemented a pay-as-you-throw refuse and recycling program (reduced traffic to the collection station, recycling rate in excess of 40%, and diversion rate in excess of 50%).
- The Town Council established a committee to look at the possibility of constructing a wind turbine(s) to offset the Town's use of electricity; the committee is schedule to meet with the Town Council on October 20th.



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