

Energy Conservation Initiatives



**Board of
Supervisors**

Work Session

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October 23, 2007

Energy Conservation Initiatives

Developing a sustainable energy plan

- James City County is leading by example in the areas of environmental and energy stewardship guided by our Strategic Management Plan to “Steward the natural environment and historic heritage”.
- **Program goals are in the areas of:**
 - Energy Conservation
 - Recycling
 - Green Building Design
 - Fleet Management



Energy Conservation Initiatives

JCC Energy & Environmental Policies

- September 25, 2007 Resolution: Cool Counties Declaration (votes 5-0)
 - Strategic Goals to stop greenhouse gas emissions growth by 2010 and work toward 80% reduction by 2050.
- FY07: Board of Supervisors endorsed staffing of a full-time position to promote and develop measurable goals for energy conservation and Green Building Design.
- January 13, 2004 Resolution: Reduction of Transportation Petroleum Use (votes 5-0)
 - "...reduce the County's annual usage of petroleum for transportation purposes by January 1, 2010, by twenty percent with respect to the amount used in calendar year 2003 by James City County, James City Service Authority, Williamsburg Area Transport Company, and Williamsburg-James City Schools..."

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Benchmarks

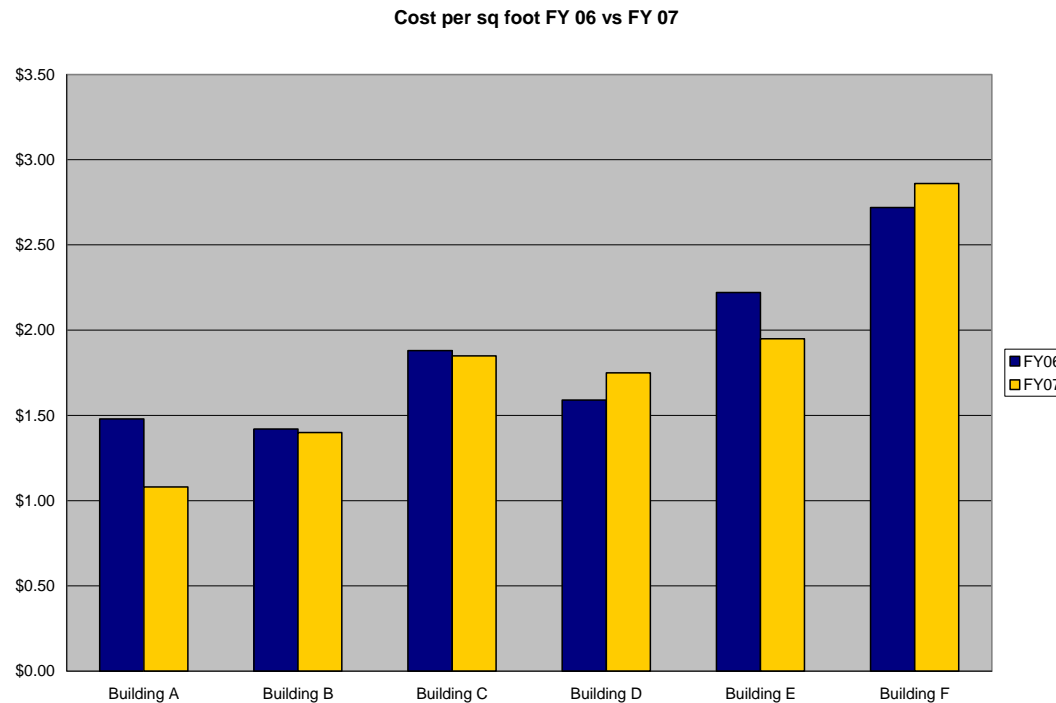
James City County Gov't Complex

- Government Complex Building Energy Usage
- Utilities Expense Projection
- Lighting Usage

Energy Conservation Initiatives

Quick Summary of initiatives and activities

Government Complex Building Energy Usage



In FY07 the electrical cost per square foot was reduced by 7%. Factors could be a milder winter, building renovations using energy efficient technology, and replacement of HVAC compressors that are more energy efficient.

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Quick Summary of initiatives and activities

Lighting Usage/Utilities Expense Projection

- “Low-hanging fruit” in lighting through energy efficient bulbs, motion sensor conversions, and awareness.
- Energy accounting provides a tool for forecasting energy usage and trends.



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Quick Summary of initiatives and activities

Alternative Fuel Fleet

- FY07: 6% reduction of petroleum usage
- 26 Flex Fuel E85 compatible vehicles
- 20 Hybrid vehicles – 4 more on order this year



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Greenhouse Gas Reduction Baseline

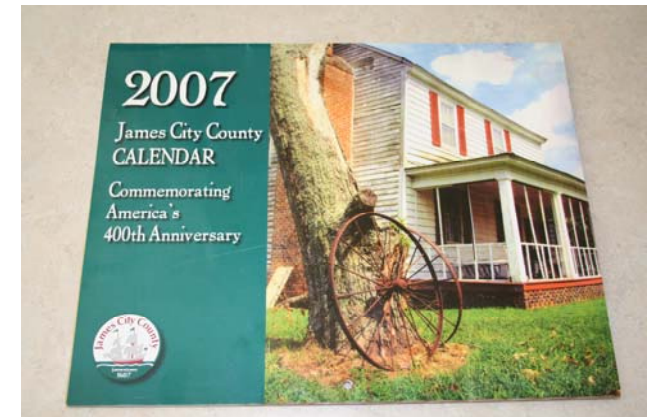
Waste Prevention & Recycling Assessment – JCC Gov't

WasteWi\$, an EPA initiative that assists local governments to develop waste reduction programs. WARM calculates greenhouse gas reductions associated with waste prevention & recycling activities.

Recyclable

Pounds

- Office Paper 200,630
- Computers 1,805
- Tires 13,750
- Motor Oil 12,843



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Greenhouse Gas Reduction Baseline 2006

Equivalencies

| Conversion | Waste Prevention & Recycling | Description |
|---|------------------------------|--|
| Passenger vehicles per year | 90.71 | Removing this many passenger cars from road for one year (based on CO2E annually emitted per car) |
| Gallons of gasoline | 57,109.38 | This many gallons of gasoline (based on CO2 emissions per gallon) |
| Barrels of oil | 1,163.58 | This many barrels of crude oil (based on CO2 emissions per barrel) |
| Tanker truck of gasoline | 6.72 | This number of tanker trucks filled with gasoline. |
| Single-family household electricity use (# of households) | 49.79 | Household electricity use for one year (# of households) |
| Tons of waste recycled instead of landfilled | 171.94 | Tons of waste recycled instead of landfilled (based on CO2E emissions per ton of waste landfilled) |
| Equivalent Greenhouse Gas Reduction | 498.04 | Metric tons of greenhouse gases (carbon dioxide equivalent) reduced |

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Summary

County activities leading by example:

- Green Building Initiatives
- Energized Recycling Programs
- HRAEE Community Education Award
- Solar panel installation on facility
- Reduced energy cost in County buildings
- Alternative Fuel Fleet

Energy Conservation Initiatives

Good for the Environment, Good for the Economy

Where do we go from here?

- Reduce energy consumption through no-cost changes up to investing in high-efficiency HVAC equipment
- Develop partnership with Energy Star, and programs related to energy sustainability and greenhouse gas reduction.
- Comprehensive Plan related to sustainability
- Green Team outreach
- Green Building Design to minimize impact on environment and promote energy efficiency