

GREENING A LEASED OFFICE

*U.S. Department of the Interior
U.S. Fish and Wildlife Service
Northeast Region
Hadley, Massachusetts*

ENERGY AND WATER

- *Energy use reduced about 50%.*
- *Water use reduced about 25%.*
- *Renewable solar photovoltaic system on roof is 108 kW.*
- *Most recent project payback is about 7 years.*



SUSTAINABLE

- *Meeting sustainability policy and performance goals of new Executive Order 13693.*
- *LEED Gold rating.*
- *Pollinator gardens with native plants supporting President's agenda.*
- *Environmentally preferable purchasing.*
- *Successful recycling program.*
- *Alternative transportation.*
- *Energy and water efficient.*

GSA LEASE

- *Net space in building is about 72,000 square feet.*
- *Natural gas heat.*
- *Electric air conditioning.*
- *Constructed in 1992.*



GREEN TEAM

- *Green Team established in 2005 with the help of \$5,000 from the Division of Engineering for use in greening the building.*
- *Consensus planning process.*
- *Communication with management and staff.*
- *Proposals solicited from utility company.*

EARLY SUCCESSSES



- *Lighting retrofit.*
- *Occupancy sensors.*
- **ENERGY STAR®** refrigerator.
- *Stickers to encourage closing outside doors.*
- *Low flow showerheads.*
- *Recycling program.*
- *Messaging to promote sustainability.*

**LEASE
RENEWAL
OPPORTUNITY**

- *Proposals by Green Team.*
- *Meetings with GSA, Building Owner and the U.S. Fish and Wildlife Service.*
- *A final list of work items to move forward.*
- *Sustainability featured prevalently in upgrades to building prior to lease renewal after 20 years of building occupancy.*

ENERGY AUDIT

- *Level II ASHRAE energy audit.*
- *Leaking ducts.*
- *Inefficient HVAC units.*
- *Gaps in some areas of building envelope.*
- *Additional light fixtures needing efficiency upgrades.*

SITE

- *Impervious surfaces reduced.*
- *Native plants increased.*



WATER

- *Low flow fixtures.*
- *Automated fixtures.*
- *Native plants that don't need irrigation.*



ENERGY

- *Leaking ducts replaced.*
- *Replaced 26 rooftop units.*
- *Replaced roofing with cool roof.*
- *Improved controls for HVAC.*
- *Energy recovery ventilators (ERV).*
- *Thermal displacement ventilation with an enthalpy wheel.*
- *CO₂ Demand Ventilation Control (DVC).*
- *Photovoltaic system provides up to 12% of the building's energy. This 108 kW system is the largest system on a building fully occupied by the U.S. Fish and Wildlife Service!*

MATERIALS

- *Recycled content carpet.*
- *Salvage and reuse of systems furniture.*
- *Office products with recycled content.*
- *EPEAT and **ENERGY STAR**® computers.*
- *Recycling of unneeded electronic equipment.*



INDOOR QUALITY

- *Zero volatile organic compound (VOC) paint.*
- *Green cleaning with less toxic products .*
- *Indoor air quality protection measures during work in building.*

INNOVATIONS

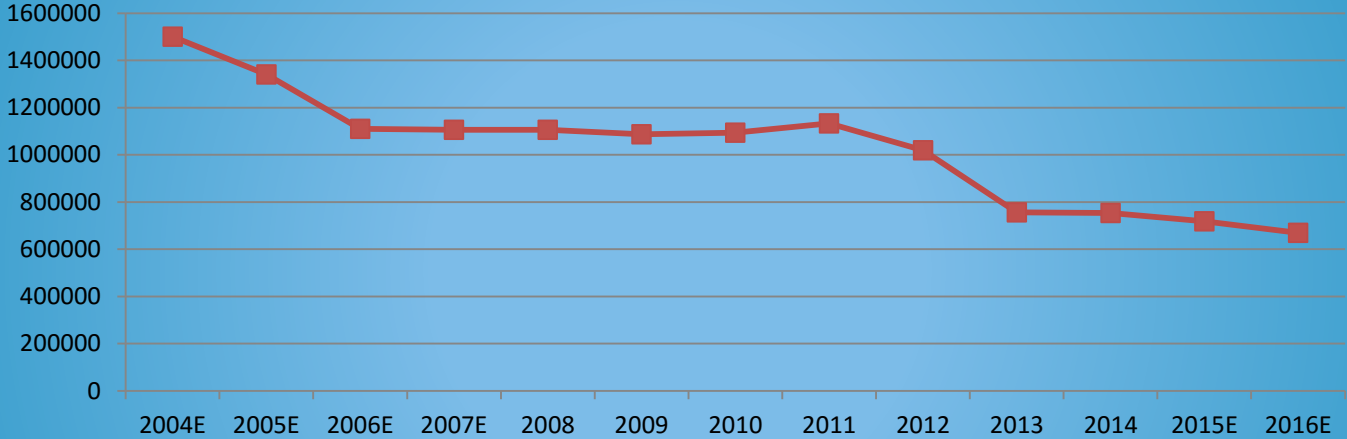
- *Updated building controls, enabling remote adjustments, improves occupant comfort and reduces energy use and costs.*
- *Commissioning of systems.*
- *Combination of contracting strategies by the team and GSA, utility and State incentives, funding by the building owner, and some donations.*

REGIONAL PRIORITIES

- *Alternative transportation: encouragement of bicycle commuting, public transportation and car pooling.*
- *Partnership with MassRIDES to increase use of alternative transportation.*
- *Renewable energy: photovoltaic system covers roof.*

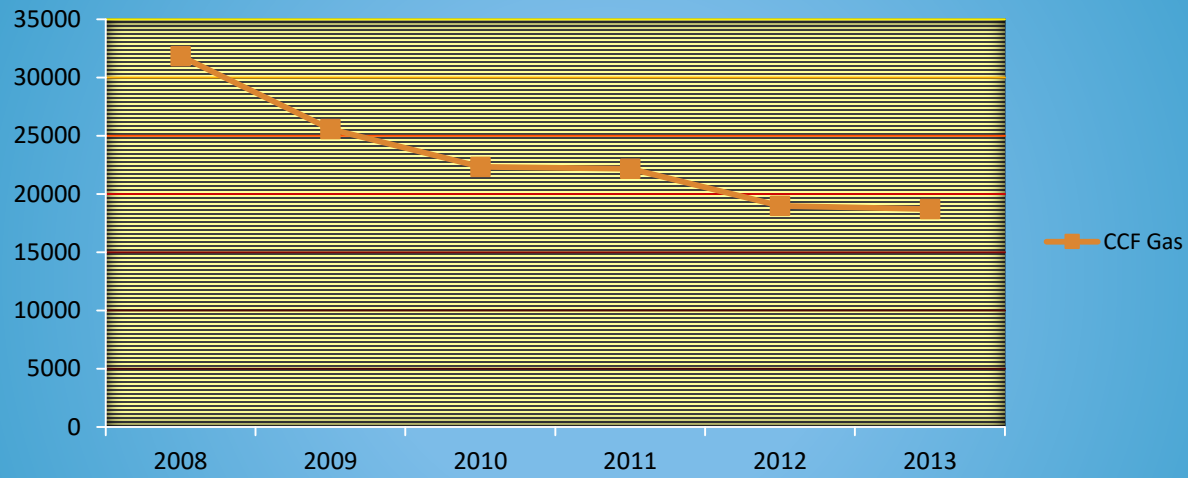


KWh Electricity

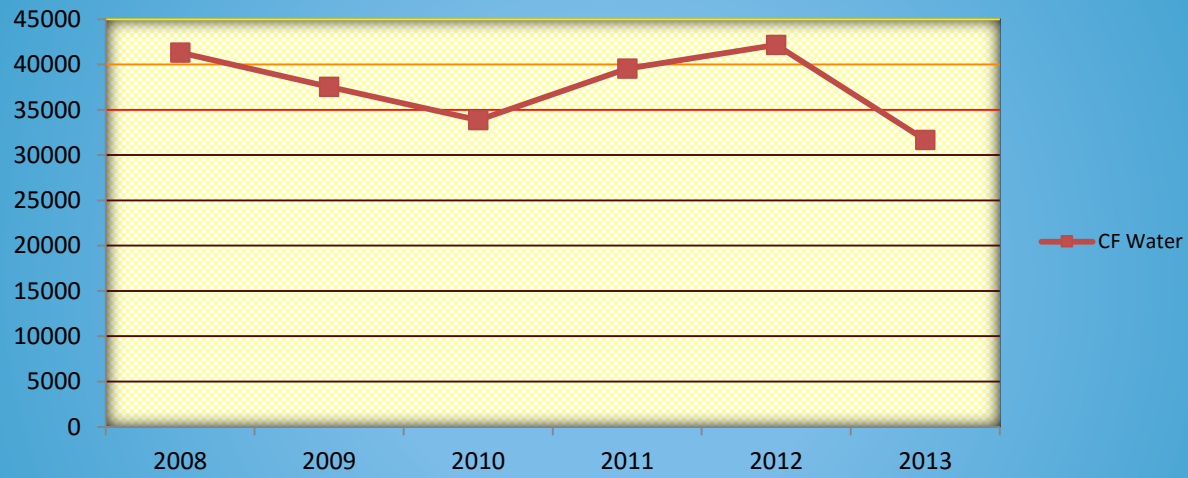


E = Estimated

CCF Gas



CF Water



FOOTPRINT REDUCTION

- *136,000 gallons of water conserved annually inside building.*
- *354 metric tons of greenhouse gas emissions reduced annually.*
- *Measurement and verification.*
- *Print and television news coverage.*
- *Green Team continues to seek ways to improve sustainability.*
- *Benefits to our environment!*