



FY 2012 Sustainability Performance Review

Office of Facilities Management
Department of Central Services
a department of
Office of State Finance

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The Office of Facilities Management

Mission: Provide a safe, comfortable workspace for our tenants and guests through quality facilities and responsive service.

The Office of Facilities Management (OFM) is committed to sustainable practices and the stewardship of resources to make state government and its public sector partners an example of sustainable stewardship for the citizens of the state. OFM's unique role of assisting customers in procurement of goods and services, remodel and renovation projects, and the operation of state facilities affords exceptional opportunities to pursue sustainability, as reflected in its' strategic plan.

OFM consists of 76 employees in three divisions:

- Administration
- Energy Management
- Facility Services

This report will reflect the actions of a former division of OFM which was the Office of State Leasing. Leasing consist of 6 employees. As this division was a part of OFM when FY12 began this report will also reflect their goals and progress in order for continuity.

OFM Responsibilities

Oversee annual renewal of contracts for a multitude of services and commodities.

Manage the design and construction projects in DCS managed buildings; OFM has taken a lead role in promoting and developing sustainable building practices.

OFM continues to promote sustainability in the design, construction, and operation standards for state owned facilities through the objectives in the OFM Sustainability Plan.

Provide maintenance & grounds operations on the Capitol Campus, customer/tenant improvement services, fire & security systems maintenance, heating ventilation & air conditioning (HVAC) operations, environmental & life safety, & card access for public facilities.

OFM continues to pursue conservation of energy/resources and continued reduction of utility costs for state facilities.

OFM welcomes hundreds of thousands of visitors each year to the historic buildings and grounds of the Capitol Complex in Oklahoma City.

OFM is working with its partners to ensure a sustainable future for all Oklahoma residents.

The Office of State Leasing

Mission: Assist state agencies in accomplishing their missions by providing essential real estate services through uniform leasing and space standards, detailed space evaluations, uniformity in contractual terms, favorable and economical rental rates, and agency staff training.

The Department of Central Services (DCS) is statutorily charged with the responsibility for assigning all space in state-owned and non state-owned facilities, authorizing the amount of space to be acquired by agencies, and executing all leasing contracts on behalf of the agencies. The Director of DCS has delegated these responsibilities to the State Leasing Office.

State Leasing Responsibilities

Prior to the transfer, the Office of State Leasing sought to assist our client agencies in the following areas:

- Providing expertise in property management, lease terms and conditions, and market rate information to the agencies we serve.
- Providing information and encouraging the real estate community to do business with the State of Oklahoma.
- Assigning space in state-owned buildings or leasing space from the private sector.
- Authorizing the amount of space to be acquired by state agencies and executing leasing contracts on behalf of state agencies.
- Assisting the client agencies in completing the required forms.
- Serving the unique real estate needs of state government leasing by providing expertise in various types of space including industrial, storage, parking, hangar, boat slips, etc.
- Maintaining a computerized database of leased and owned real property for the approximately 4.4 million square feet occupied by state agencies.
- Providing a single communication point for all state agencies and the real estate community regarding: leased space; state owned space; space standards; lease terms and conditions; rental rates; and contract expectations.

Executive Summary

OFM established a goal-oriented sustainability plan for fiscal year 2009 (FY09) to reduce energy use and associated costs of state building operations. In reducing consumption and excess spending, OFM minimized the environmental impact of its facilities and maximized the efficiency of building equipment.

The establishment of sustainability goals demonstrates OFM's commitment to financial and environmental stewardship. The plan's accountability system will ensure continuous improvement each year by determining manageable targets and sharpening each unit's priorities. This report presents the goals, objectives, measurements and related annotations for fiscal year 2012 (FY12). When not specified, the benchmark year is FY08.

As a fundamental service provider to state and other public agencies, OFM has the opportunity to be a leader in sustainable stewardship in three key areas:

- Design and construction management of public works projects.
- Operations and Maintenance of DCS managed facilities.
- Procurement of goods and services.

Purposes

- To assess OFM's environmental impacts.
- To create a long-term vision for reducing the division's environmental impacts with interim organizational goals.
- To provide structure and mechanism with accountability for OFM to reduce negative environmental impacts from its operations.
- To address issues to make OFM's programs and activities more sustainable.
- To document OFM's leadership and commitment to improving the environment by more sustainable practices.
- To help our customers continue with their own sustainability efforts through OFM's example, leadership and technical assistance.

Goals

1. IMPLEMENT SUSTAINABLE BUILDING PRACTICES.
2. REDUCE TRANSPORTATION RELATED POLLUTION.
3. MAXIMIZE RECYCLING, MINIMIZE WASTE AND PRODUCTS WITH 100% RECYCLABLE MATERIALS.
4. MINIMIZE FACILITY RELATED ENERGY AND WATER USE.
5. REDUCE FACILITY ASSOCIATED POLLUTION.
6. SUSTAINABLE PRACTICES IN REAL ESTATE, LEASING AND ASSET SERVICES.

Goal 1: Sustainable Building Practices

Objectives and Tasks

- 1.1: qualify all projects with the requirements of Standard 189.1-2009.
Tasks: Develop a checklist or similar tracking method for design firm to incorporate in proposal/design packages.
- 1.2: publish and Implement IECC 2006 Standards on interior and exterior lighting.
Tasks: Distribute tables to design teams.
- 1.3: implement energy modeling practices in lieu of like kind equipment replacement.
Tasks: Model Energy consumption as per the latest requirements of ASHRAE standards 90.1-2007 and 62.1-2007.
- 1.4: exceed adopted building standards 75% of time.
Tasks: Work with architects, engineers and Facilities Services to ensure the adopted standards are implemented in all remodel/renovation projects.
- 1.5: use best available for applications 100% of time.
Tasks: Research best available options and industry climate; ensure that water and lighting projects adhere to the established standards in objective 1.1.

Progress to Date

OFM, when planning for space improvements, ensured that the requirements of Standard 189.1-2009 were adhered to. Policies in the International Energy Conservation Code (IECC) 2006 tables for exterior and interior lighting were distributed and adhered to when possible. In addition to IECC the American Society of Heating, Refrigeration and Air Conditioning Engineers (ASHRAE) was used to evaluate air conditioning units according to life cycle costing methods. This method takes into account all costs associated with owning a particular piece of equipment including maintenance, energy, and financing costs. ASHRAE standards of 90.1-2007 and 62.1-2007 were implemented in all 2012 projects and proposals.

OFM also insured that research was done to ensure the adherence to ASHRAE and IECC for water and energy efficiency. This included the inclusion of native drought resistant vegetation for new and rehabbed planting beds.

Challenges

A formal checklist was not developed, but on going discussions and project specific adoption of the codes and standards have been implemented. The diversity of funding

sources, whether tenant driven or funded by OFM, determines the authority level to specify that certain energy codes and standards are followed. This disconnect between funding agency and OFM in addition to budgetary constraints makes the implementation of requirements listed in Standard 189.1-2009 difficult and at times impossible to implement.

Goal 2: Vehicle Related Pollution

Objectives and Tasks

2.1: benchmark mansion grounds gasoline usage for FY13 comparison.
Tasks: Develop Benchmark gasoline usage.

Progress to Date

Benchmarked was established in FY 2012 for gasoline consumption. This is shown in documentation maintained by the OFM programs team.

Challenges

None were recognized.

Goal 3: Maximize Recycling, Minimize Waste

Objectives and Tasks

- 3.1: reduce office paper use 10% based on FY 10 baseline.
Tasks: Reduce office paper use through the use of electronic tablets.
- 3.2: maintain 100% of copy paper purchased for OFM use at 100% recycled content.
Tasks: Continue with current paper purchasing procedures.
- 3.3: require that janitorial paper products are chlorine free if available and contain 30% recycled content.
Tasks: Write requirement into janitorial contract and ensure compliance
- 3.4: recycle 100% of all fluorescent bulbs and rechargeable batteries.
Tasks: Recycle using bulb-crusher and utilizing state surplus for batteries.
- 3.5: compact fluorescent bulbs will be disposed of through an environmental management company.
Tasks: Utilize bulb-crusher with proper training on usage.

Progress to Date

OFM was successful in reducing paper usage by 10% in FY 12. Purchasing policies in place allowed the purchase of 100% recycled content office paper. Janitorial requirements of Chlorine free (where available) and 30% recycled content were written into the contract and enforced by OFM. All fluorescent bulbs both compact fluorescent and regular bulbs were recycled using the bulb-crusher total of 3600lbs. Classes were held which allowed technicians to learn the proper procedures for disposal of bulbs. Rechargeable batteries were recycled through state surplus.

Challenges

None were recognized.

Goal 4: Reduce Facility Energy & Water Use

Objectives and Tasks

- 4.1: reduce greenhouse gas emission/energy use by 25%..
Tasks: Establish lighting upgrade for 2 buildings. Complete plans and bid process for projects in the Denver Davison, Jim Thorpe and Agricultural buildings.
- 4.2: reduce water use by 30% per square foot from FY 08 benchmark.
Tasks: Complete irrigation on-call contract process.
- 4.3: implement Increase renewable energy kW potential based on FY 11 benchmark.
Tasks: Complete PV project at Banking Commission building. Complete design and construction of wind generator at Library.
- 4.4: achieve an Energy Star Rating of 75 or higher for ten DCS managed buildings.
Tasks: Work with architects, engineers and Facilities Services to ensure the adopted standards are implemented in all remodel/renovation projects.
- 4.5: achieve an Energy Star portfolio average rating of 85 or higher.
Tasks: Target projects in underperforming buildings to raise average rating.
- 4.6: achieve Power Factor (PF) of 90 in all buildings.
Tasks: Target projects in underperforming building to raise PF to 90.
- 4.7: achieve Energy Star certification for ten buildings.
Tasks: Same as 4.4.
- 4.8: two employees will become certified energy managers.
Tasks: Determine training opportunities and determine eligibility of personnel.
- 4.9: two employees to become LEED green associates.
Tasks: Study and schedule LEED exams.

Progress to Date

Lighting audits were performed in five buildings resulting in 3 major lighting retrofits in the Oliver Hodge, Sequoyah, and Jim Thorpe building resulting in a total reduction in wattage of approximately 324,454 kWh. In addition to these major retrofits another project was implemented to retrofit 2x2 F32T8/u-bend with f17t8 17 watt linear bulbs saving an estimated 39,390 watts.

Energy Projects are proceeding at the Jim Thorpe, Denver Davison, and Library

buildings. Jim Thorpe is in the process of getting a replacement chiller that is much more efficient than the one which it replaced. In addition, a new cooling tower was installed that was designed to more efficiently handle the cooling needs of the building. Denver Davison's ventilation system was upgraded from a constant volume air terminal system to a variable air volume system which can be zoned for better tenant comfort with increases in efficiency due to the increased flexibility of temperature control. A new cooling tower was installed that will handle the buildings cooling needs more efficiently. All of these projects have allowed OFM to reduce total energy usage was reduced by 48,291,386 kilo-British thermal units (kBtu) (23%) from FY08 usage to FY12 usage saving \$2,875,098; see [chart 1](#).

Water reduction was another focus for OFM. A new global controller is currently being installed at the Will Rogers building which is a major component of phase one; the vision of the landscape and irrigation plan is to monitor and track water usage and control of the system via internet. An example is the more efficiently irrigate planting beds and grass areas around the Capitol. This controller will be used to eventually integrate the irrigation system campus wide. Water consumption was reduced from the FY 08 bench mark by 13,876,000 gallons (25%); see [chart 2](#).

Though there were no major natural gas projects OFM reduced out put of natural gas by 15,249 Dekatherms (Dth) (35%) from FY08 usage totals; see [chart 3](#).

Our renewable energy project at the Banking Commission building was completed in 2012 and has produced approximately 32,880 kWh of electricity since its completion. This installation added another 41 KW of capacity to our renewable energy portfolio.

We currently are seeking recertification of 6 Building through Energy Star and are seeking to also add one additional building to our list of Energy Star Certified properties. This has been achieved through tenants avoiding after hours operations, and through the use of our building management system to leverage the efficiencies throughout the system into energy savings which has raised our average campus wide Energy Star score to an 87, this means that we are outperforming 87% of the buildings with the same operating characteristics nation wide.

Through Energy Star efforts as well as some additional projects OFM once again had a reduction of 9,732,309 kilo-watt-hours (kWh) (22%), see [chart 4](#), based on FY08 benchmark; see chart 4. Here is a list in it's entirety of all projects that aided in this:

- ***Connors and Hodge***: damper replacement and actuator installation for fresh air intakes; with addition of CO2 Sensors this allows us to control the amount of out-side air entering the building allowing the reduction of outdoor air that needs to be cooled or heated from outdoor temperature to building temperature giving substantial savings.

- **State Capitol:** replaced 34 heat pumps at the Capitol, replacing older less efficient units with newer more efficient ones.
- **DOT:** replace dampers and actuators on fresh air intakes, allowing the control of exterior hot or cold air entering the building resulting in large energy savings.
- **DOT:** installation of free cooling heat exchanger which allows cooling through evaporative cooling from cooling tower rather than running chiller.
- **Multi-building:** replaced inefficient motors with new more energy efficient motors.
- **Agriculture:** tinted windows with solar film which helps prevent heat gain during the summer. Also wet sealed
- windows; caulking was replaced.
- **Agriculture:** hot water on demand tanks were installed limit hot water production to actual needs.
- **Banking:** installed 41 kW solar panel installation, added to renewable energy portfolio.
- **Library:** upgraded air distribution system going from dual duct constant volume to
- variable air volume units. Allows zone control for more efficient and comfortable building operation.
- **Library:** installed new high efficiency white roof. Lighter color and better insulation reduces the amount of heat generated by the roof.
- **Kerr/Edmondson:** air handler upgrade allows more efficient zoned control of tenant spaces.
- **Kerr/Edmondson:** installation of high speed dock doors prevents air intrusion into conditioned space.
- **Sequoyah:** replacement of North and South Entry doors.
- **Thorpe:** north exterior door replacement.
- **Thorpe:** air handler 2 steam heating coil replacement. Stopped historic leak wasting energy.
- **Thorpe:** tuck pointing and cleaning of exterior masonry surfaces.
- **Thorpe:** damper replacement and actuator installation for fresh air intakes.
- **Mansion:** Carriage house tuck pointing.

- **Capitol Parks:** replaced planting beds on south side of building and median with xeriscape which reduces water needs.

OFM personnel have achieved the following:

- 2 have attained their Certified Energy Auditor certification.
- 1 has attained a Certified Energy Manager certification.
- 1 has become a LEED Green Associate
- 1 has attained a Professional Energy Manager certification.

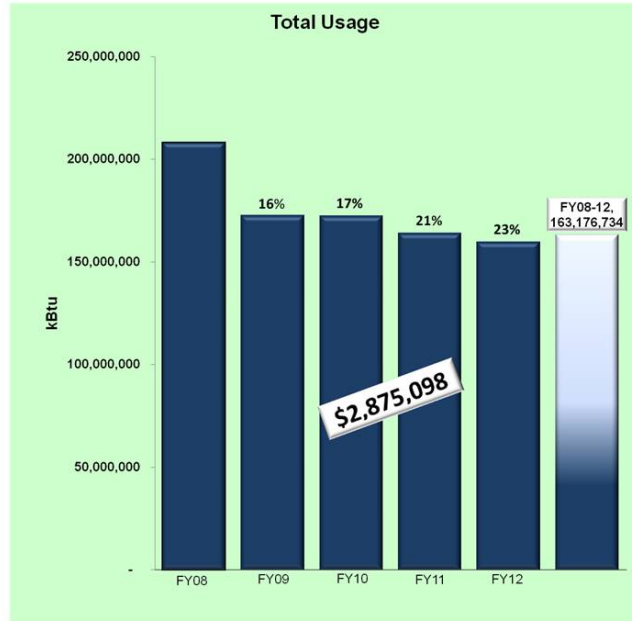
Challenges

The Agriculture Laboratory represents approximately 2% of OFM-managed square footage, yet is responsible for 20% of campus natural gas usage. Humidification is required in the lab 24 hours per day, 7 days per week, further driving up natural gas and water consumption. Much of the building's key components use natural gas, shrinking the perceived impact of natural gas-saving efforts in other areas of the complex. Lack of funding for improvement/modernization projects may be a major issue in achieving energy efficiency objectives in the future.

A lack of sub-metering between Will Rogers, Sequoyah, Connors, and Hodge buildings and the inter-connecting tunnel system prevents Energy Star rating for each of these buildings individually, complicating the performance tracking & certification processes.

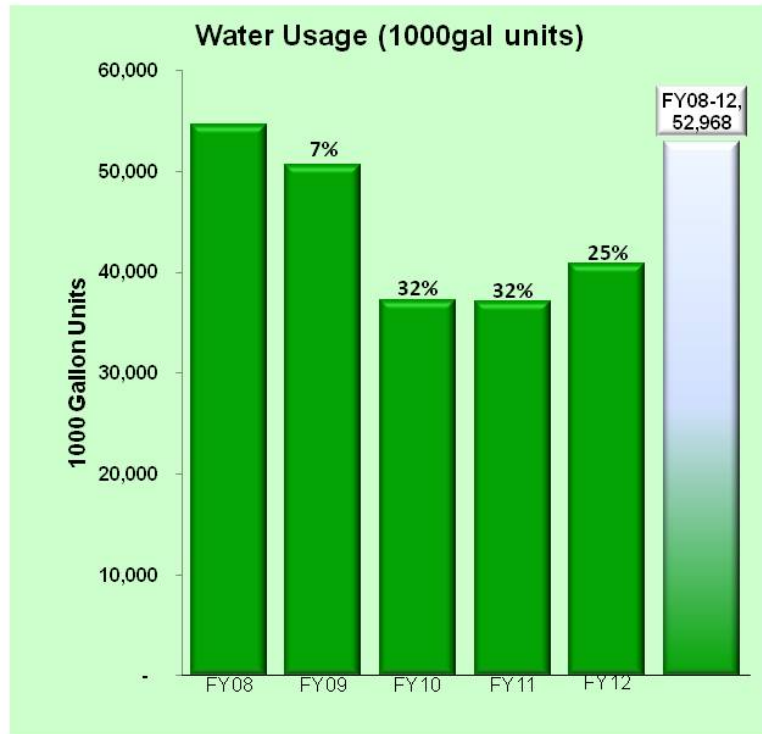
A lack of automatic controls for grounds irrigation systems causes inefficient & inconsistent watering patterns; the 'human factor' is still present. Automatic, "smart" irrigation controllers which can account for weather conditions will be necessary to ensure future outdoor water use efficiency.

Chart 1



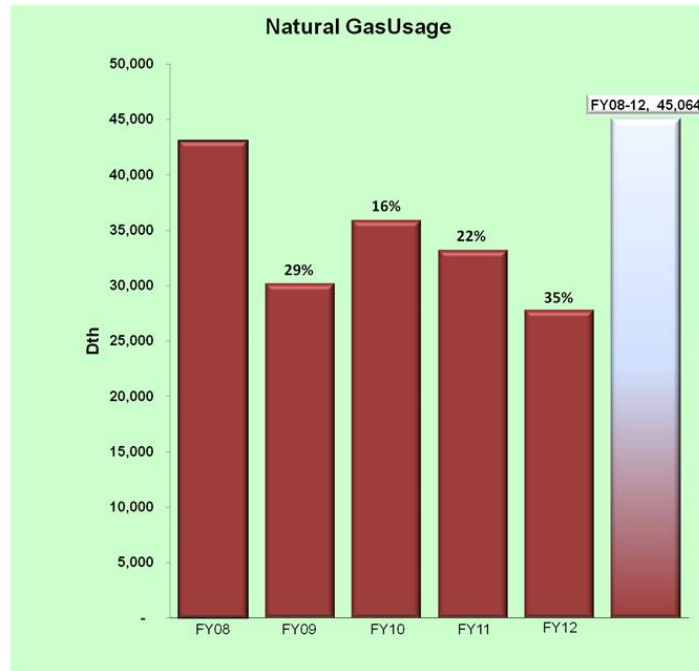
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Chart 2



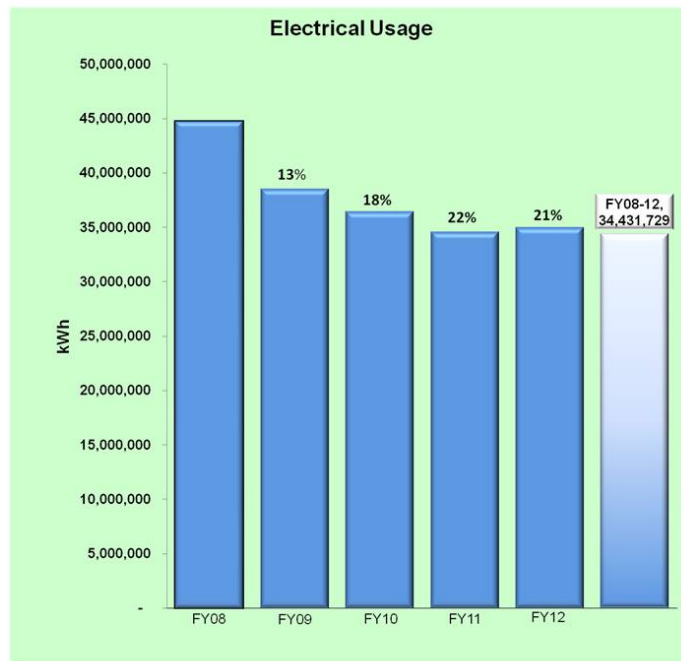
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Chart 3



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Chart 4



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Goal 5: Reduce Toxic Products & Chemicals

Objectives and Tasks

5.1: Facilities Management will establish procedures and guidelines for the procurement of environmentally friendly products.

Tasks: Establish checklist for the procurement of Environmentally Preferred Products/Services (EPP) contracts/products.

5.2: ensure that all janitorial products are green Seal approved.

Tasks: Verify green Seal on all products.

5.3: use non-persistent toxins in all of Facilities managed landscaping.

Tasks: Reduce or eliminate the use of products with persistent toxins.

Progress to Date

All tasks were completed. OFM has successfully moved to using environmentally friendly cleaning products in every aspect possible while still ensuring the cleaning needs are being met.

Grounds at all OFM managed are utilizing non persistent toxins while still meeting the requirements to maintain the grounds.

Challenges

None were recognized.

Goal 6: Sustainable Practices in State Leasing

Objectives and Tasks

6.1: leasing had set a goal to assist in the drafting of legislation, and all the tasks involved, to require that all privately leased building carry the Energy Star rating.

Tasks: Research requirements from other states then work with administration of Central Services to seek a legislative sponsor.

6.2: establish cost tier to enable consideration of sustainable practices when calculating the total cost per square foot of leased space g.

Tasks: Create checklist for lessors and brokers to complete and submit with proposals and incorporate items on checklist on agency evaluation tool.

Progress to Date

Tasks where only 50 % complete when challenges arose.

Challenges

Due to the consolidation the nature of the State Leasing was changed and the division underwent a structural reorganization.

Future Objectives

Goal 1 FY 13 Implement Sustainable Building Practices:

- 1.1: all projects shall be qualified with up to date energy standards; when cost justified.
- 1.2: best available energy efficiency equipment utilized in all projects.
- 1.3: 90% of OFM remodel and renovation projects will exceed adopted building codes and standards.
- 1.4: develop plan to comply with 1096 legislation initiatives.
- 1.5: communicate sustainability plan.

Goal 2 FY13 Reduce Vehicle Associated Pollution:

- 2.1: reduce mansion grounds gasoline usage by 10% from FY12 baseline.
- 2.2: benchmark Kerr Edmondson.
- 2.3: measure FY13 all tools for future battery operated options.
- 2.4: consider solar cart possibilities.
- 2.5: benchmark travel between OKC and Tulsa.

Goal 3 FY 13 Maximize Recycling, Minimize Waste:

- 3.1: 15% reduction in office paper use based on FY10 baseline.
- 3.2: maintain 100% of copy paper purchased for OFM use is 100% recycled content (white 8 ½ 11).
- 3.3: increase recycling of all recyclable material at all OFM managed properties.
- 3.4: 100% green janitorial paper products.
- 3.5: track and recycle used oils.

Goal 4 FY 13 Minimize Facility Related Energy & Water Use:

- 4.1: reduce greenhouse gas emission/energy use by 27.5%.
- 4.2: reduce water use by 30% per square foot from FY08 benchmark.
- 4.3: feasibility; Increase renewable energy kW potential based on FY11 benchmark.
- 4.4: achieve an ENERGY STAR rating of 80 or higher for ten (10) DCS-managed buildings.
- 4.5: achieve ENERGY STAR Portfolio average rating of 85 or higher.
- 4.6: achieve power factor of 90 in all buildings.

Goal 5 FY 13 Reduce Facility Associated Pollution:

- 5.1: OFM (Purchasing) will establish procedures and guidelines (checklist) for the procurement of Environmentally Preferred Products/Services (EPP) contracts/products.
- 5.2: 100% of OFM janitorial products used will be Green Seal approved or equivalent.
- 5.3: limit environmental impact of landscaping activities.
- 5.4: ensure 100% of OFM buildings have complete IAQ processing.
- 5.5: 100% IAQ related AIM issues have Energy Management/IAQ phase included.