



# State of Efficiency



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The productive use of **resources**;  
the degree to which something is  
done well or without wasted energy

# YEAR IN REVIEW

This special issue of the *State of Efficiency* is a look back at the progress and changes made in fiscal year 2012 (FY12). Inside, you will find recyclable material collection totals, energy and water reduction totals, as well as details of major projects that also contribute to savings. In the near future, our web site will undergo some changes. It is our hope that this newsletter becomes a frequent and up-to-date resource, as well as the first place state employees go for energy related news.

The Office of Facilities Management (OFM) sustainability plan

goals, objectives and tasks are updated in the [FY12 Sustainability Performance Review](#). This report details the evolution of the Sustainability Plan from July 2011, to the end of June 2012. OFM reviewed each goal and listed the challenges and success factors that either hindered or helped achieve the objectives.

The ENERGY STAR Guidelines for *Superior Energy Management* places a great deal of importance on reassessment. Each year, OFM looks to build upon the program's successes and continuously improve

energy efficiency in OFM-managed facilities. This step is vital in the evolution of our sustainability plan to maximize financial and environmental benefits.

Thank you for your continued interest in the operations of state government buildings and energy efficiency programs. Together, we will succeed in accomplishing our mission.

Remember to [subscribe](#) to the *State of Efficiency* to stay up-to-date on OFM projects and sustainability program initiatives in state government.

Re-Invent Your Print! Mission Statement: "We, the public servants of the state of Oklahoma, are hereby committed to the conservation of resources and the protection of future generations through the promotion and implementation of sustainable business practices."

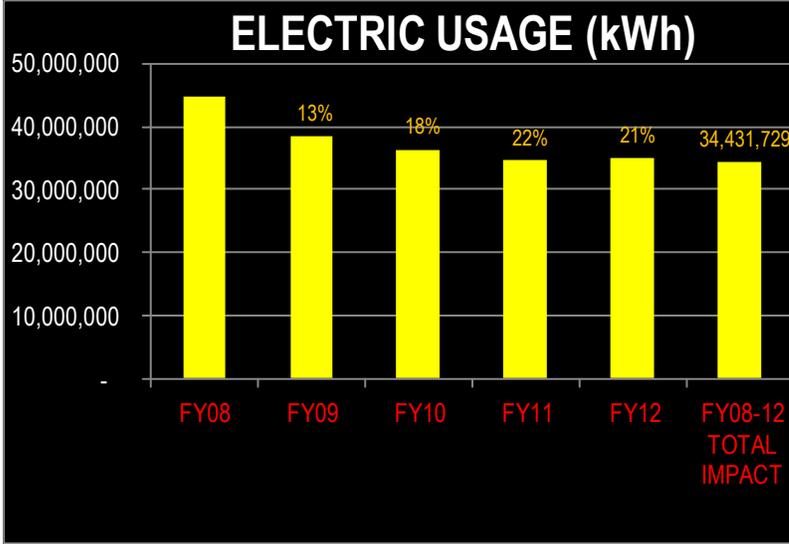


## WHAT'S INSIDE:

<a href="#">Energy Use Totals for FY12</a>	2
<a href="#">Facilities Spotlight: Mark Sauchuk</a>	5
<a href="#">Energy Star-Certified Facilities</a>	7

# ELECTRICITY

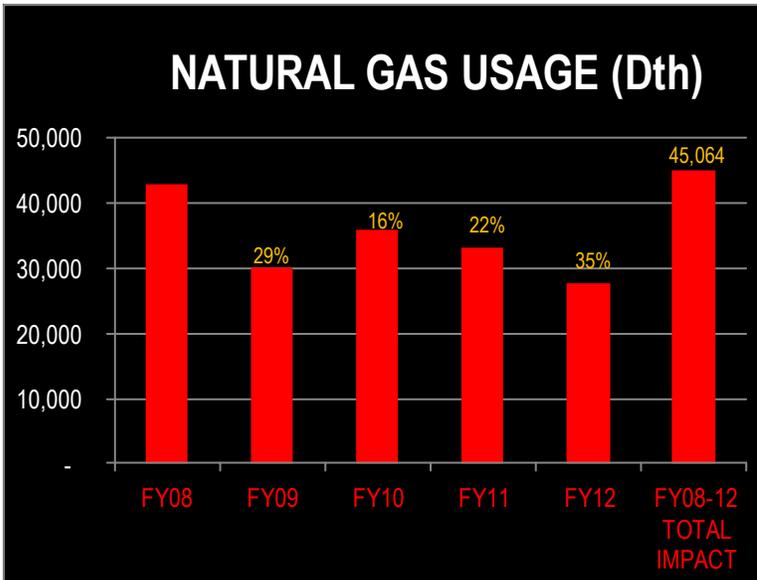
In FY12, efficiency projects and the continued support of state agencies resulted in a reduction of **9,732,309 kilo-watt-hours (kWh) (22%)** based on FY08 benchmark. All percentages on the following charts are yearly reductions from the FY 08 base line measurement. This information can also be viewed any time on our [web site](#).



# NATURAL GAS

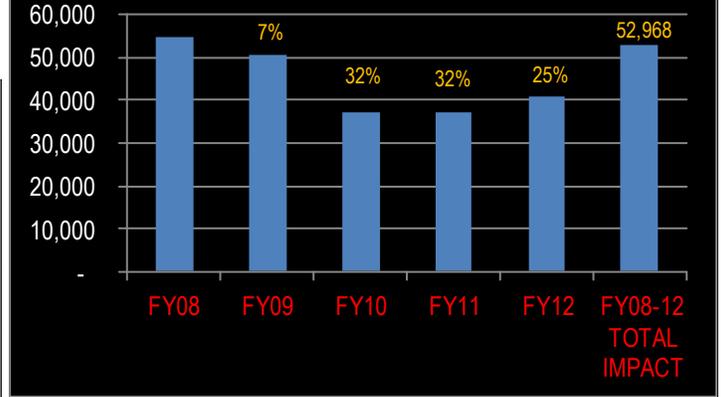
FY12 natural gas usage was reduced by **15,249 Dekatherms (Dth) (35%)** from FY08 usage totals. So how does reducing natural gas usage help you?

The reduction of natural gas avoids generating CO<sup>2</sup> emissions. Through OFMs efforts this fiscal year the equivalent to the annual emissions of roughly **149 vehicles** has been removed from the air you breathe.



# WATER

## WATER USAGE (1000 GALLONS)

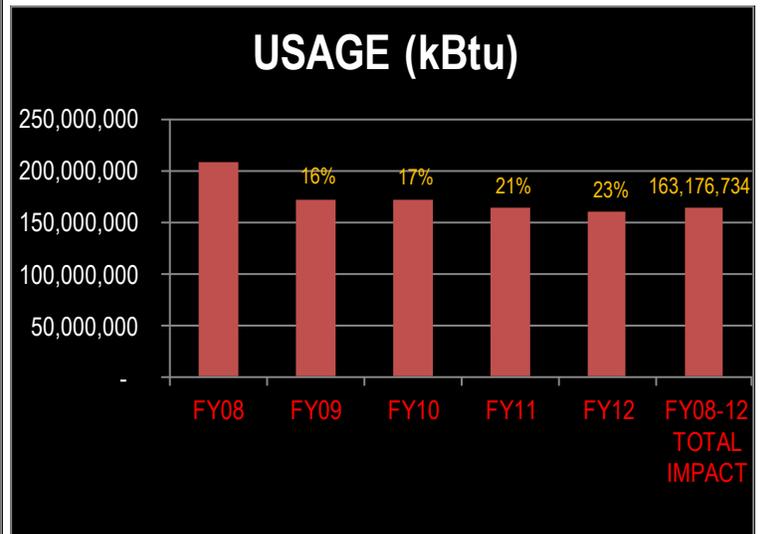


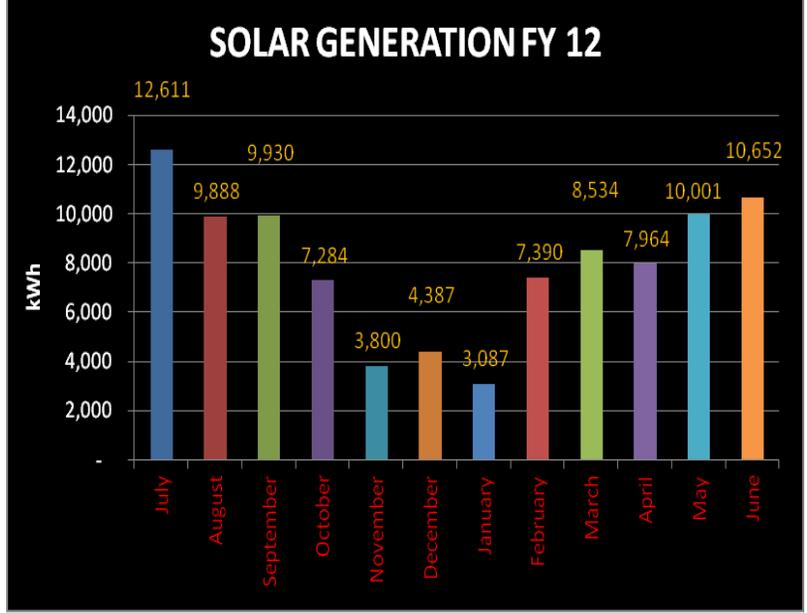
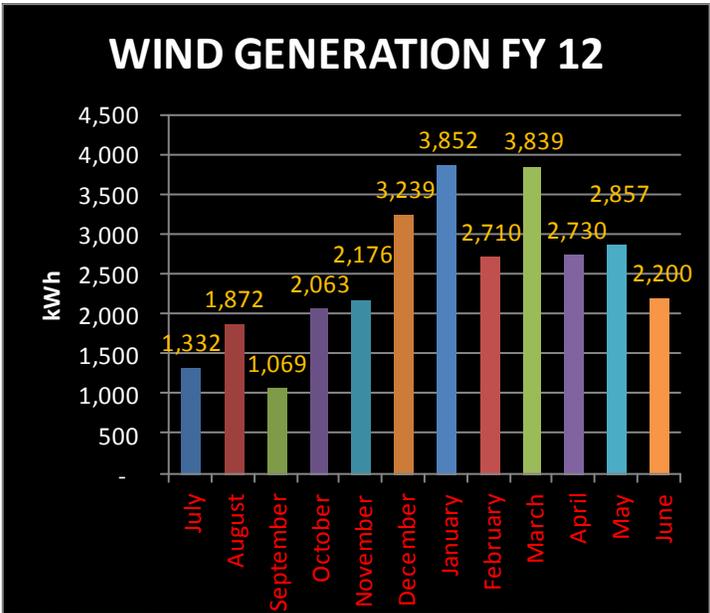
Water conservation efforts continued in OFM managed facilities in FY12. Water consumption was reduced from the FY 08 benchmark by **13,876,000 gallons (25%)**. Let us break this down for you. Essentially OFM saved approximately **222 million glasses of water**, if you didn't spill any, or it could fill **21 Olympic sized pools**...swim in that Michael Phelps.

# TOTAL ENERGY

Total energy usage was reduced by **48,291,386 kilo-British thermal units (kBtu) (23%)** from FY08 usage to FY12 usage. kBtu is a common unit of measurement for energy, including electricity, natural gas and steam (steam and chilled water numbers available on web site).

The total energy reduction since FY 08 has saved Oklahoma tax payers **\$2,875,098**...yes nearly **\$3 million**. We continue to strive for more!





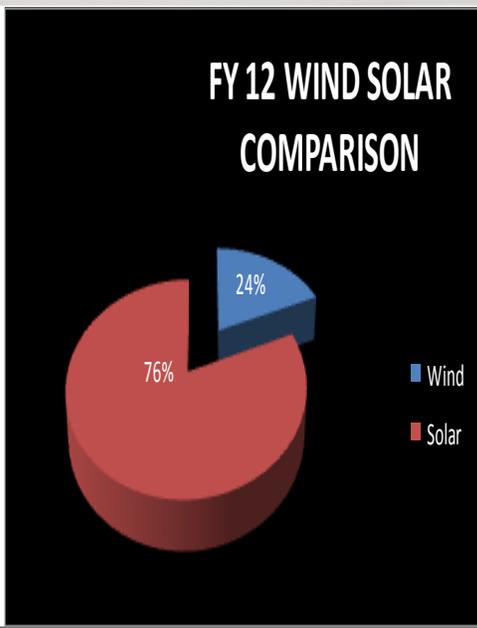
Renewable sources at the DHS-CAP building, the Governor’s Mansion, and our new installation at the Banking Commission building produced a total of **158,347 kWh**. The clean energy generated in FY12 is the equivalent of removing **272,357 lbs of CO<sup>2</sup> from the atmosphere!** This is like taking **38 cars** off of the road for a year according to [American Forests.org](http://AmericanForests.org) based on 25.5mpg and an average of 12,000 miles driven a year.

We currently have three solar panel or photovoltaic installations for a total capacity of 107.5 Kilowatts (kW). As seen in the cut out picture below, our CAP building is leading the way in solar production for OFM buildings. As a side note, the first reported energy reading from our newest installation at the Banking building was in June for the period January 31<sup>st</sup> thru June 30<sup>th</sup> which created the huge spike in production for that month.

Our wind energy capacity is currently 20kW. Oklahoma is a prime state for generating wind energy as any one who has lived here very long knows. OFM is excited about taking advantage of every opportunity Mother Nature provides us.

For details of each solar and wind project, visit the [Renewable Energy](#) page on the DCS website.

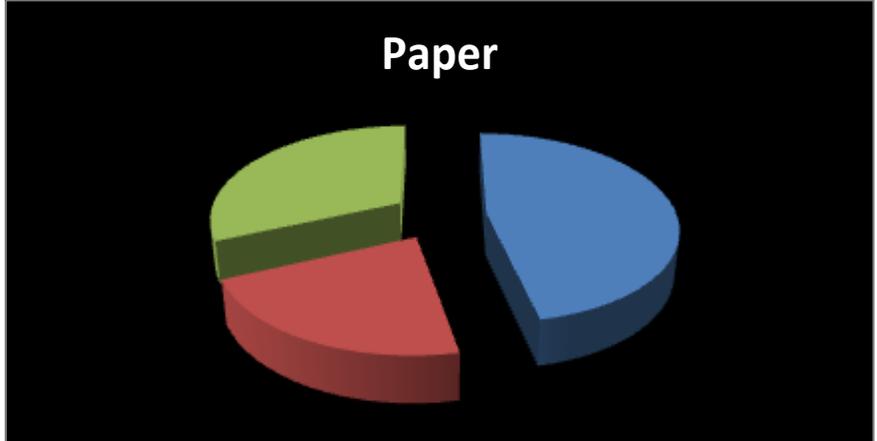
picture from website renbl.com



# RECYCLING

FY 10	FY 11	FY 12
999.8506	464.4047	675.1480

Weights in Tons



The OFM Recycling program, run by the Property Distribution Division of DCS, includes 15 buildings; Department of Transportation, Denver Davison, Jim Thorpe, Allen Wright Memorial Library, Department of Agriculture, Attorney General, the Capitol, Will Rogers, the Governor’s Mansion, Connors, Sequoyah, Hodge, DHS-CAP, Facilities Annex, Judicial Center and even a non-DCS run building 3812 N. Santa Fe Ave and they are looking to grow.

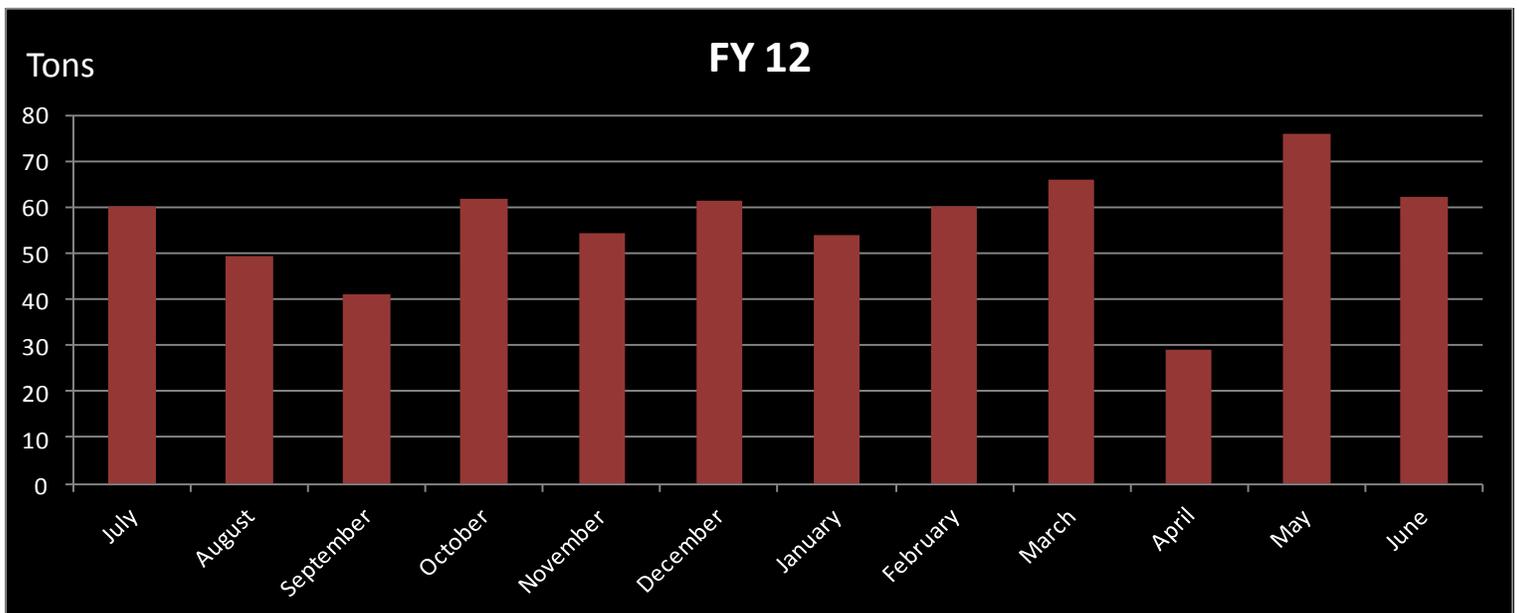
Brian Deshazo, 425-2700 or [email](#), would be more than happy to look

into your recycling needs and see if they can be accommodated. Just because you are in a non-OFM run building does not mean that you are not able to recycle through Brian and his team. Please explore the options for your recycling program with a quick call or short email to Brian.

According to the [Environmental Protection Agency](#) (EPA), only 33% of municipal waste is recycled. Statistics such as these highlight the drastic impact state employees can have in decreasing office waste and breaking the customs of our

disposable culture. FY12 was a step in the right direction in some respects, and a step backward in others. Many offices have been striving for a “paperless” environment which may lower the count in overall tonnage. DCS is working to make the recycling program even more productive in FY 13. Help us reach our goal by ensuring all of your recycling gets rinsed and truly recycled; it only takes a few extra moments to do your part for our future generations.

For more information on the OFM Recycling Program, contact Jerry Shelton via [email](#) or at (405) 521-3315.



Mark, tell us a little about yourself. "I grew up in Massachusetts, but relocated to El Paso, Texas during my senior year in high school. I'm a graduate of Burgess High in El Paso. After graduation, I served 4 ½ years in the Air Force as an Electrical Power Production Specialist. I enjoyed being stationed at Valdosta Air Force Base in Georgia and Little Rock Air Force Base in Arkansas. I married while stationed in Georgia - going on 33 years this November. After leaving the service, I did some commercial and residential construction. I began my career with the state in 1985 as a Maintenance Repair Technician in Tulsa. I feel extremely fortunate for the opportunities my career with the state has provided."



[Email Mark](#)

### The Facts

#### **Name:**

**Mark Sauchuk**

#### **Occupation:**

**Interim Director  
OFM**

#### **Years with DCS:**

**27**

#### **Hometown:**

**Danvers, MS**

What previous experience have you acquired that aids in your current position?

"Probably my overall employment with the state. During this timeframe, I have had the opportunity to mentor under a number of different supervisors. Having the opportunity to see how they manage situations, problem solve and provide customer service has had significant influence on my management style."

What do you miss about your home town? "Family. I still have brothers and sisters living in Massachusetts, New Hampshire and Virginia areas."

What is your favorite thing about OKC or Oklahoma in general? "The lakes. I love the lakes for camping and fishing."

I'm sure that leads into your favorite past time. "I enjoy outdoor activities such as golfing, fishing, camping, laying around the pool or going to the beach."

Now I am sure our readers will be able to figure this out from your photo but what are your favorite sports teams? "Unlike some that have a tendency to root for the teams from where they currently live, I have remained true to New England; Boston Celtics, Red Sox, Patriots and Bruins. I was never big on college sports until I moved to Oklahoma. I have adopted OU as my favorite college program."

## FY12 Energy Projects

**Connors and Hodge:** replaced dampers and did actuator installation for fresh air intakes, with addition of CO<sup>2</sup> sensors. This allows us to control the amount of outside air entering the building reducing the outdoor air that needs to be cooled or heated from outdoor temperature to building temperature which provides substantial savings.

**State Capitol:** replaced 34 older, less efficient heat pumps with newer more efficient units.

**DOT:** replaced dampers and actuators on fresh air intakes which allowed the control of exterior hot or cold air entering the building resulted in large energy savings.

**DOT:** installed 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 helped prevent heat gain during the summer. Also wet sealed windows and replaced caulking.

**Agriculture:** installed hot water on demand tanks limiting hot water production to actual needs.

**Banking:** installed 41 kW solar panels adding to renewable energy portfolio.

**Library:** upgraded air distribution system going from dual duct constant

volume to variable air volume units. This 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:** upgraded air handler for more efficient zoned control of tenant spaces.

**Kerr/Edmondson:** installed high speed dock doors prevents air intrusion into conditioned space.

**Sequoyah:** replaced of North and South entry doors.

**Thorpe:** replaced North exterior door.

**Thorpe:** Replaced air handler 2 steam heating coil which stopped historic leak wasting energy.

**Thorpe:** tuck pointed and cleaned exterior masonry surfaces.

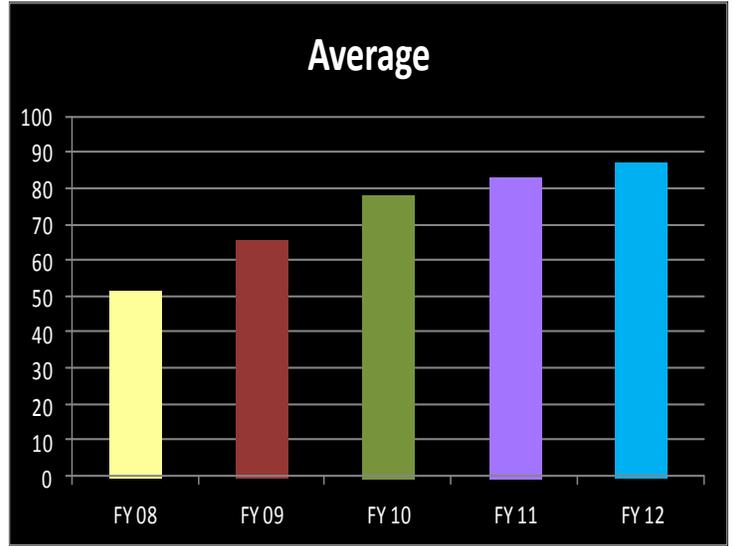
**Thorpe:** replaced damper and actuators for fresh air intakes.

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

# LEADING THE WAY WITH ENERGY STAR

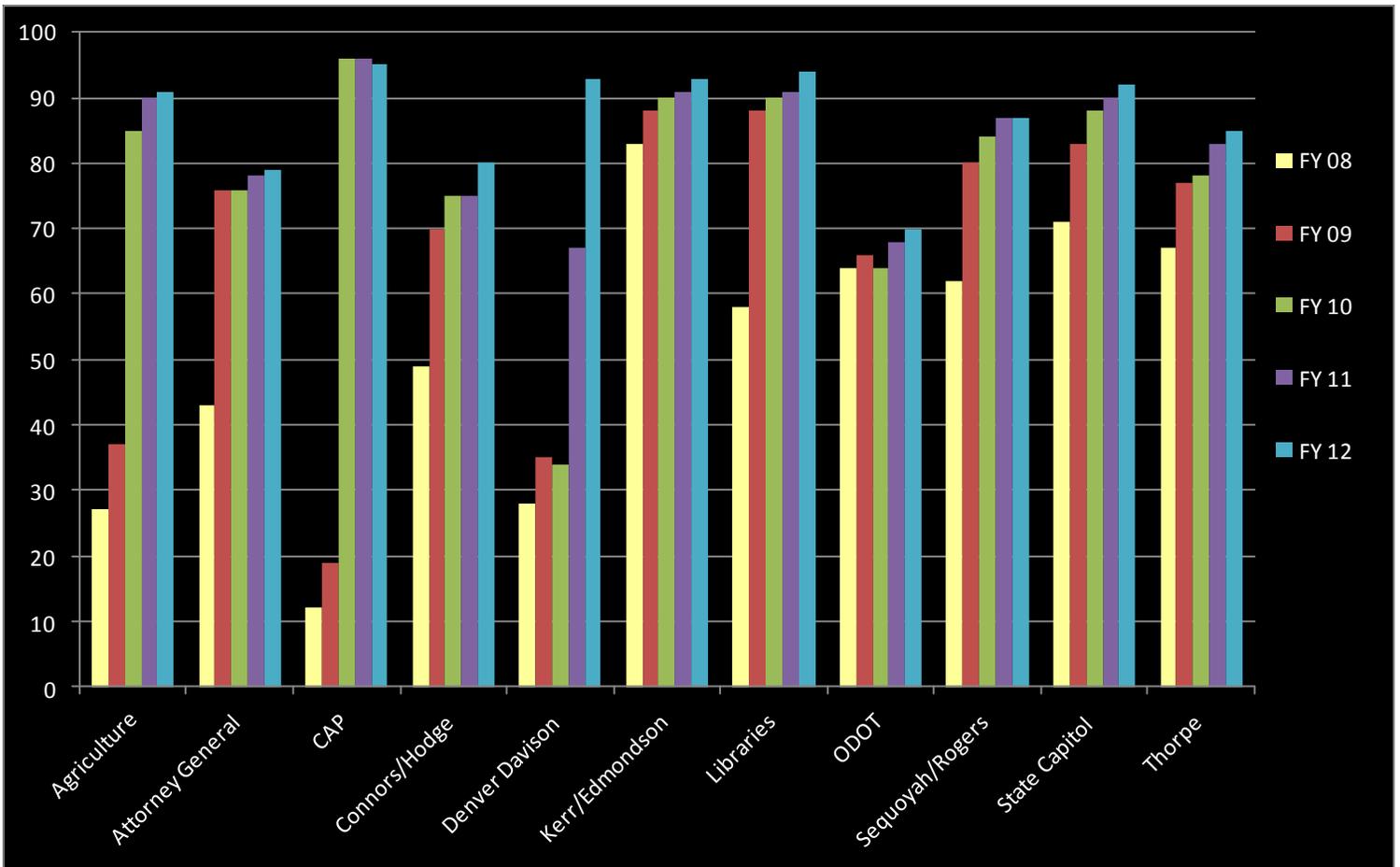
DCS and the Office of Facilities Management (OFM) continues to be an ENERGY STAR Leader in the Environmental Protection Agency (EPA) ENERGY STAR program. With a 20% improvement in portfolio average rating and reduction of greenhouse gas emissions, OFM will continue to lead the way in making state buildings more environmentally friendly.

The chart to the right illustrates the yearly improvement in average portfolio rating. The data backing the rating increase is proof of the positive impact the DCS Sustainability Program is making on the efficiency of state government building operations and the agency's budget. DCS looks forward to further improvements as SB1096 begins to take effect.



ENERGY STAR Portfolio Average Rating at the end of each fiscal year

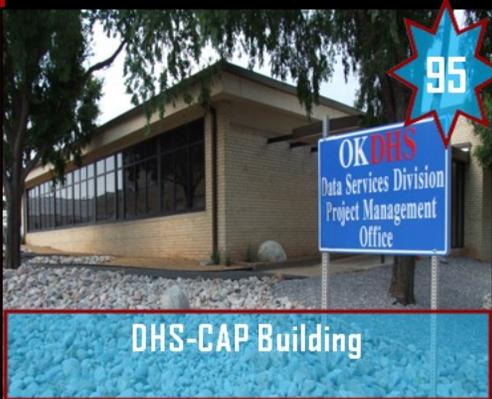
For more information about the ENERGY STAR , ENERGY STAR rating system, or other aspects of ENERGY STAR certification program, please visits the EPA's [ENERGY STAR website](#).



ENERGY STAR Rating per building on July 1 of each year

# ENERGY STAR-certified facilities

As of July 1, 2012, a total of six (6) buildings in the DCS Portfolio are Energy Star certified, with another one, Denver Davison, well on the way. The buildings below meet ENERGYSTAR criteria for energy use. According to the EPA's website, buildings earning the Energy Star certification meet strict energy performance standards set by EPA, use less energy, are less expensive to operate, and cause fewer greenhouse gas emissions than their peers. To qualify for ENERGY STAR certification a building or manufacturing plant must earn a 75 or higher on EPA's 1-100 energy performance scale, indicating that the facility performs better than at least 75% of similar buildings nationwide. The ENERGY STAR energy performance scale accounts for differences in operating conditions, regional weather data, and other important considerations. [CLICK HERE](#) to see the ratings for all DCS-managed buildings.



DHS-CAP Building



Attorney General



Kerr-Edmondson



Jim Thorpe



State Capitol



Dept. of Agriculture



Denver Davison



Allen Wright Memorial Library



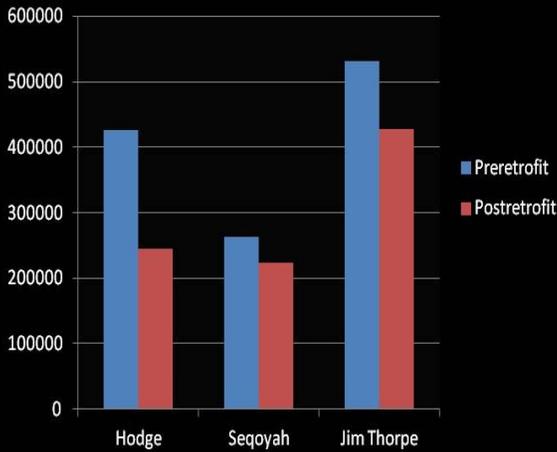
Sequoyah/Rogers



Hodge/Connors

# This Year in Lighting a review of progress in FY 12

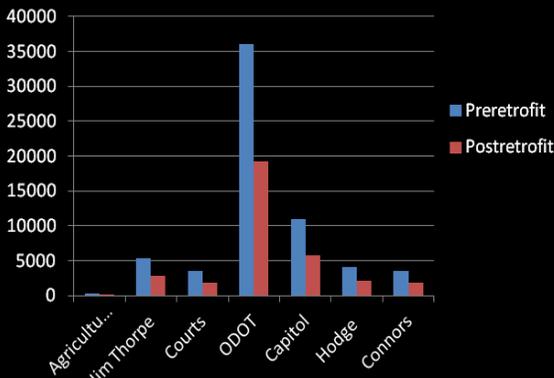
T-8 32 TO 25 WATT RETROFIT



Accomplishments: In fiscal year 2012, we have reduced lighting by 131,522 watts or 341,957 kWh per year while still maintaining the same quality of lighting for state workers and guests. We have accomplished this through the following efforts:

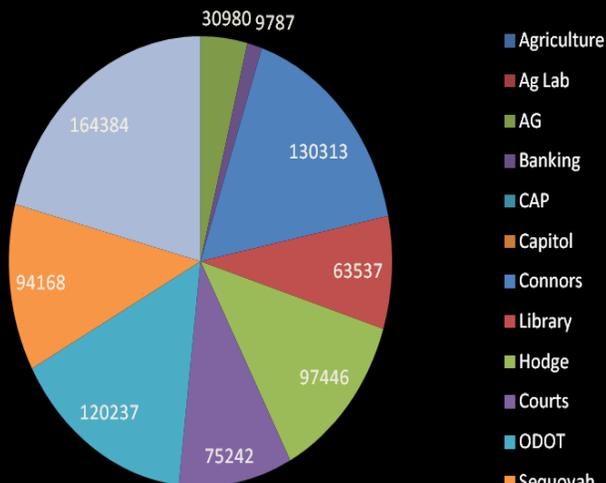
We re-lamped three building changing from full wattage four foot fluorescent (32 watts each) to newer more energy efficient (25 watts each) bulbs which will save approximately 124,791 watts. This adds up to 324,454 kWh per year. We also retrofitted 2X2 fixtures in seven buildings changing from two 32 watt bulbs to two 17 watt bulbs which saved us around 30,000 watts or 78,000 kWh per year.

2 X 2 Retrofit

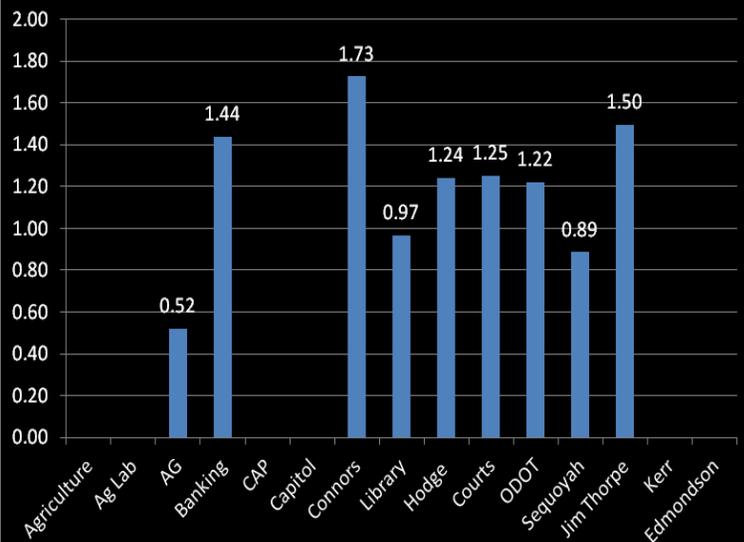


In addition to the wattage reduction and kilowatt savings, we also completed comprehensive lighting surveys in nine buildings. These lighting surveys include square footage information that allows us to calculate energy usage and intensity per building. This information allows us to target buildings with the highest square foot lighting energy usage first.

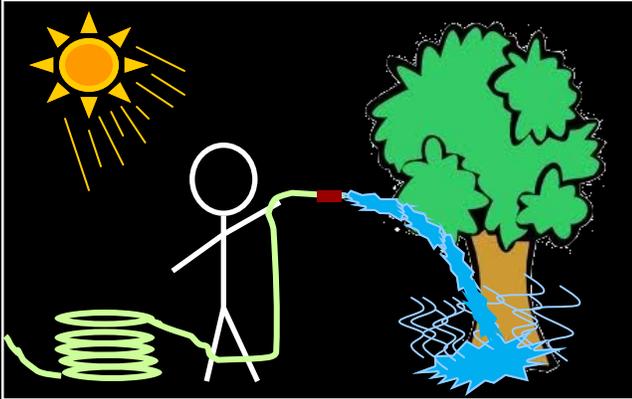
LIGHTING WATTAGE PER BUILDING



WATTS PER SQUARE FOOT



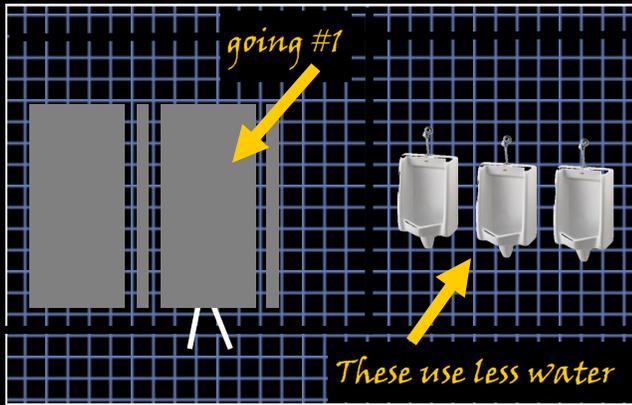
Way to Waste Water #47



Way to Waste Water #12



Way to Waste Water #243



Please remember to make efficient use of water at work and at home!  
[CLICK HERE](#) to learn how you can start conserving water today!



**Help control indoor insect populations;  
Remember to RINSE containers before recycling!**



Click below to request an [accessible version](#) of the *State of Efficiency!*



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