



## DOUGLAS COUNTY ADMINISTRATION

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**To: Board of County Commissioners**

**CC: Craig Weinaug, Sarah Plinsky**

**Re: Progress toward County's energy efficiency goal**

In 2011, the County Commission adopted a Sustainability Plan for Douglas County. This Plan was created by department directors, and expresses our commitment to integrating the values of sustainability throughout our operations and services.

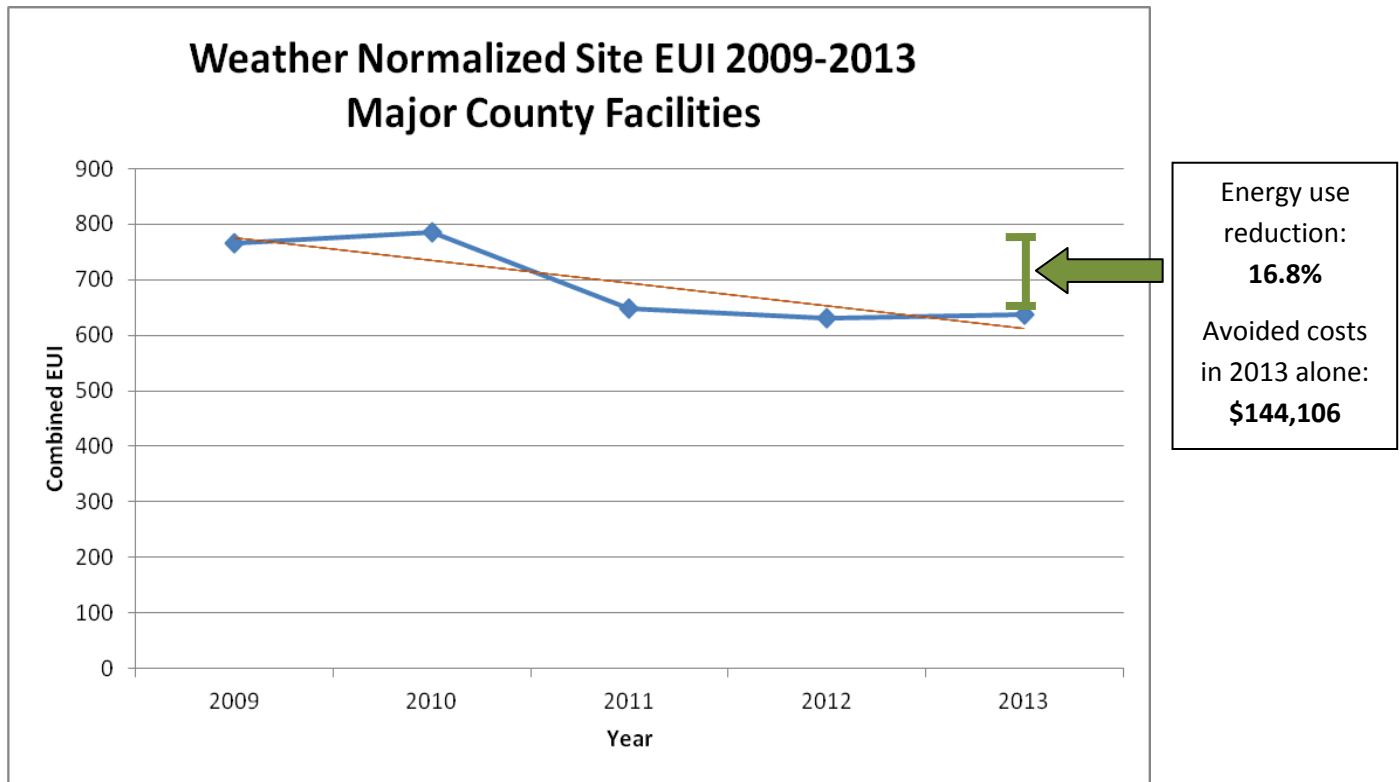
One of the key recommendations of the Plan was to "Reduce energy consumption in our buildings by 30% by 2015" recognizing that the energy used by our County facilities has a significant impact on our environment and County budget. This goal used 2009 as the baseline year for comparison.

From 2010-2013 the County undertook energy efficiency projects to achieve that goal, including the following major projects:

- In August 2010, we replaced the **County Courthouse** boiler, which had been in service since 1976. We replaced it with a new, 99% efficient boiler. We also sealed and weatherized our historic windows, a project that will both save energy and preserve the historic character of the Courthouse.
- In late 2010, we also initiated a project to retrofit the **Judicial Law Enforcement Building** – completing a major upgrade to the energy controls and systems.
- In 2011, we installed a 4.2 kW solar photovoltaic system on the **Douglas County Extension Office** to offset 20% of that building's use with renewable energy.
- In 2012, we completed lighting retrofits at the fairgrounds' **Building 21**, at the **Douglas County Extension Office**, and at the Lawrence-Douglas County Health Department.
- In 2012, we assisted the **United Way building** with their purchase of a new boiler, replacing their 40-year-old energy hog.
- In 2012, we completed an exterior and parking lot lighting retrofit at **Youth Services**.
- In 2013, we completed a controls upgrade at the **County Courthouse**, to better control and automate the building's HVAC system.

Since 2009, we have made significant progress towards our goal of reducing energy consumption in our buildings. We utilize Energy STAR's Portfolio Manager Tool to track energy usage and the Energy Use Intensity (EUI) across our eight major county facilities. EUI is calculated by dividing the total energy consumed by the building in one year by the total gross floor area of the building. Weather normalizing the data allows for a comparison of a building's energy use relative to itself over time, accounting for year-to-year differences in weather.

Between 2009-2013, we reduced energy use in our major County facilities by 16.8%.



In addition to significantly reducing energy consumption, the County is also saving money on our utility bills. We calculated the avoided costs that represent what we would have spent in 2013 if we had the same consumption level as 2009 (but at 2013 utility rates). Utility rates for both electricity and natural gas have increased over this four year period. The avoided costs in 2013 alone = \$144,106.

Tracking our energy use through the EUI metric also allows us to identify key buildings for future energy efficiency savings. The table below summarizes the major county facilities and the EUI for 2013.

Property Name	Weather Normalized Site EUI (kBtu/ft <sup>2</sup> )
Douglas County Courthouse	65.8
Law Enforcement Center	82
Douglas County Jail	72
Youth Services	162.6
United Way Building	69.7
Douglas County Extension	23
Fairgrounds Building 21	112.5
Public Works Administration	50.6

We continue to look for opportunities for further energy savings improvements. LED lighting technologies continue to improve and provide cost-effective options for lighting retrofits in many applications. Also, the Youth Services building (with its 15-year-old HVAC system) is due for energy efficiency upgrades.

This past fall, P1 Engineering Solutions conducted an investment grade energy audit to help identify energy-savings solutions at Youth Services. Their key recommendations involve upgrading facility lighting and HVAC systems, upgrades that could provide additional energy and cost savings.