

# LET'S SAVE ENERGY

## School Energy Efficiency News

KSBA-SEMP ... Cultivating energy efficiency,  
best practices in Kentucky school districts



December 2015

### Six years of energy savings totaling \$68 million: New report shows 84 percent of school districts have cut energy use

New data shows the success of statewide efforts by public schools to save energy since state law began requiring districts to track energy use six years ago.

The major yardstick for these calculations is energy use intensity (EUI), which measures energy use (kBtu) per square foot. For the base year 2009-10, the statewide EUI index was 65.4 kBtu per square foot. In 2013-14 the EUI index was 60.9. That figure has now dropped to 57.6 kBtu per square foot for 2014-15. Further, the corresponding cumulative avoided cost during that period through consumption reduction, rate corrections, rebates, refunds and utility case interventions is over \$68 million. Also significant is that 84 percent of districts have reduced energy consumption over the same period.

Those findings have been submitted to the Legislative Research Commission and the state Department for Energy Development and Independence in the annual Energy Management Report required by KRS 160.325 and local school board policy. Each year, the report reviews the status and development of energy management plans by local boards of education and the anticipated savings to be obtained by those plans.

Other overall observations and conclusions when comparing 2014-15 with base year 2009-10 include:

- Conditioned square footage has increased 6.3 percent.
- Total energy use (MMBTU) has decreased 6.5 percent even with the addition of over 6 million square feet.
- Total expenditure of energy for public school districts has increased 6.8 percent since 2009-10. These are the contributing factors:
  - ♦ Spending on electricity has increased 9.7 percent.
  - ♦ The cost per kilowatt hour of electricity has increased 16.3 percent.
  - ♦ Spending on natural gas has decreased 32 percent.
  - ♦ The cost per 100 cubic feet of natural gas has decreased 26.7 percent.

Thirty-three districts also reported active energy performance contracts to help them reduce their energy usage and costs.

KSBA's School Energy Managers Project (SEMP) has funded and trained local school energy managers since 2010. This funding currently is in partnership with Louisville Gas & Electric/Kentucky Utilities Company and Kentucky Power Company. SEMP personnel help school districts:

- Break down analytical and technical issues.
- Develop and implement energy management plans.
- Comply with statutory and board policy requirements.
- Track energy usage.
- Coordinate recognition events.
- Consolidate and report statewide energy data to Legislative Research Commission and the Energy and Environment Cabinet.
- Collaborate with the Kentucky Energy and Environment Cabinet, utility companies, and other stakeholders to work on energy-saving activities.

Figure 8. MUNIS K-12 Facility Energy Expenditures  
FY2000 - FY2015

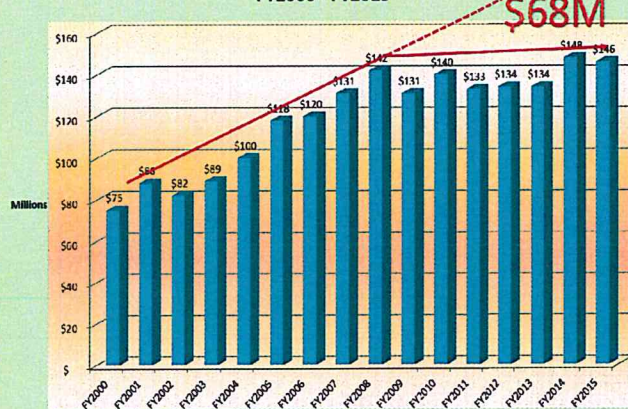


Figure 8 above shows a graph of the MUNIS-reported school energy costs from fiscal year 2000 through fiscal year 2015. This graph shows that these costs had nearly doubled between fiscal years 2000 and 2008. The red lines on the graph illustrate the projected trajectory of costs and the cumulative savings of over \$68 million.

# FY 2014/15

## Table 2, District Energy Ranking By Energy Use Intensity

| Rank | District       | 2010<br>EUI | 2015<br>EUI | Rank | District      | 2010<br>EUI | 2015<br>EUI | Rank | District       | 2010<br>EUI | 2015<br>EUI | Rank | District       | 2010<br>EUI | 2015<br>EUI |
|------|----------------|-------------|-------------|------|---------------|-------------|-------------|------|----------------|-------------|-------------|------|----------------|-------------|-------------|
| 1    | Butler         | 42.8        | 32.7        | 45   | Floyd         | 52.0        | 49.5        | 89   | Williamsburg   | 54.9        | 56.1        | 133  | Carroll        | 82.9        | 63.6        |
| 2    | Owen           | 62.5        | 36.1        | 46   | Whitley       | 57.7        | 49.7        | 90   | Monroe         | 48.6        | 56.4        | 134  | Danville       | 64.6        | 63.7        |
| 3    | Nelson         | 51.5        | 37.8        | 47   | Daviess       | 53.9        | 49.9        | 91   | Cloverport     | 72.7        | 56.5        | 135  | Bowling Green  | 73.6        | 63.9        |
| 4    | Scott          | 53.3        | 39.3        | 48   | Paintsville   | 53.3        | 50.0        | 92   | Rockcastle     | 59.9        | 56.7        | 136  | Jefferson      | 68.2        | 64.0        |
| 5    | Oldham         | 45.7        | 40.5        | 49   | Clark         | 74.7        | 50.0        | 93   | Calloway       | 56.2        | 56.9        | 137  | Todd           | 70.0        | 64.0        |
| 6    | East Bernstadt |             | 40.7        | 50   | Marion        | 60.3        | 50.2        | 94   | West Point     |             | 56.9        | 138  | Bardstown      | 72.9        | 64.3        |
| 7    | Corbin         | 51.6        | 41.7        | 51   | Edmonson      | 58.7        | 50.3        | 95   | Wayne          | 64.2        | 57.2        | 139  | Mayfield       | 60.9        | 65.1        |
| 8    | Warren         | 50.7        | 41.7        | 52   | Fort Thomas   | 80.7        | 50.6        | 96   | Beechwood      | 62.6        | 57.4        | 140  | LaRue          | 55.1        | 65.5        |
| 9    | Anderson       | 52.3        | 42.0        | 53   | Greenup       | 64.1        | 50.9        | 97   | Harlan County  | 55.7        | 57.5        | 141  | Ludlow         | 107.9       | 65.7        |
| 10   | Walton-Vero    | 44.6        | 42.3        | 54   | Pineville     | 58.5        | 51.0        | 98   | Bell           | 81.5        | 57.8        | 142  | Hickman        | 67.6        | 66.0        |
| 11   | Bullitt        | 53.7        | 42.3        | 55   | Pulaski       | 60.9        | 51.0        | 99   | Campbellsville | 76.4        | 58.2        | 143  | Hopkins        | 71.7        | 66.4        |
| 12   | Robertson      | 114.5       | 42.8        | 56   | Owsley        |             | 51.3        | 100  | Mason          | 59.2        | 58.3        | 144  | Fayette        | 78.2        | 67.4        |
| 13   | Allen          | 57.1        | 43.4        | 57   | Adair         | 71.1        | 51.4        | 101  | Rowan          | 72.3        | 58.4        | 145  | Ballard        | 80.1        | 67.7        |
| 14   | Henry          | 67.7        | 43.8        | 58   | Metcalfe      | 60.9        | 51.5        | 102  | Fort Thomas    | 72.2        | 58.7        | 146  | Laurel         |             | 68.1        |
| 15   | Jessamine      | 50.3        | 43.8        | 59   | Knott         |             | 51.6        | 103  | Magoffin       | 64.7        | 58.8        | 147  | Henderson      | 74.1        | 68.3        |
| 16   | Gallatin       | 60.0        | 44.6        | 60   | Knox          | 64.8        | 51.7        | 104  | Silver Grove   | 69.2        | 58.9        | 148  | Bath           | 87.8        | 68.6        |
| 17   | Shelby         | 71.6        | 44.6        | 61   | Russellville  | 52.5        | 51.7        | 105  | Paducah        | 73.9        | 59.0        | 149  | Graves         |             | 68.9        |
| 18   | Trimble        | 52.3        | 45.0        | 62   | Lawrence      | 68.6        | 52.5        | 106  | McCracken      | 62.7        | 59.1        | 150  | Montgomery     | 70.2        | 69.5        |
| 19   | Meade          | 48.7        | 45.3        | 63   | Lee           | 78.3        | 52.5        | 107  | Johnson        | 78.2        | 59.5        | 151  | Boone          | 74.0        | 69.9        |
| 20   | Trigg          | 60.2        | 45.8        | 64   | Grayson       | 60.0        | 52.7        | 108  | Fulton Co      | 69.4        | 59.7        | 152  | Barbourville   | 76.8        | 70.7        |
| 21   | Burgin         | 60.5        | 46.1        | 65   | Russell ind   | 80.5        | 52.7        | 109  | Franklin       | 87.3        | 59.9        | 153  | Breckinridge   | 72.1        | 71.4        |
| 22   | Harlan Ind     | 52.3        | 46.1        | 66   | Boyd          | 81.2        | 53.0        | 110  | Lewis          | 65.6        | 60.2        | 154  | Caverna        | 84.2        | 72.0        |
| 23   | Woodford       | 63.5        | 46.1        | 67   | Carter        | 59.3        | 53.1        | 111  | Fulton Ind.    | 69.0        | 60.3        | 155  | Wolfe          |             | 72.2        |
| 24   | Murray         | 47.2        | 47.0        | 68   | Ohio          | 64.4        | 53.3        | 112  | Dayton         | 67.4        | 60.4        | 156  | Marshall       | 70.9        | 74.7        |
| 25   | Elliott        |             | 47.1        | 69   | Barren        | 49.8        | 53.3        | 113  | Pike County    | 64.9        | 60.6        | 157  | Simpson        | 73.6        | 75.1        |
| 26   | Casey          | 49.5        | 47.2        | 70   | Paris         | 59.6        | 53.5        | 114  | Morgan         | 116.8       | 60.6        | 158  | Breathitt      | 64.0        | 75.3        |
| 27   | Erlanger       | 56.9        | 47.2        | 71   | Madison       | 56.4        | 53.6        | 115  | Nicholas       | 80.7        | 60.7        | 159  | Bellevue       | 68.4        | 75.8        |
| 28   | Hardin         | 54.3        | 47.4        | 72   | Dawson Spring | 61.0        | 53.7        | 116  | Harrison       | 61.9        | 61.0        | 160  | Berea          | 75.7        | 76.3        |
| 29   | McLean         | 45.9        | 47.4        | 73   | Livingston    | 56.9        | 53.9        | 117  | Clay           | 63.3        | 61.1        | 161  | Anchorage      | 73.8        | 76.4        |
| 30   | Spencer        |             | 47.7        | 74   | Carlisle      | 46.9        | 54.0        | 118  | Garrard        | 51.5        | 61.1        | 162  | Eminence       | 85.3        | 76.4        |
| 31   | Hancock        | 57.8        | 47.7        | 75   | Crittenden    | 57.1        | 54.0        | 119  | Mercer         | 78.3        | 61.2        | 163  | Hart           | 73.5        | 77.5        |
| 32   | Clinton        | 53.5        | 48.0        | 76   | Kenton        | 64.9        | 54.1        | 120  | Race-Worth     | 67.0        | 61.2        | 164  | Campbell       | 70.2        | 78.4        |
| 33   | Newport        | 44.5        | 48.1        | 77   | Hazard        | 87.2        | 54.2        | 121  | Grant          | 70.7        | 61.8        | 165  | Covington Ind. | 80.5        | 78.6        |
| 34   | Caldwell       | 60.7        | 48.1        | 78   | Bracken       | 55.0        | 54.2        | 122  | Ashland        | 75.1        | 61.9        | 166  | Elizabethtown  | 76.9        | 79.0        |
| 35   | Glasgow        | 62.6        | 48.3        | 79   | Washington    | 83.5        | 54.5        | 123  | Perry          | 67.0        | 62.0        | 167  | Somerset       | 89.8        | 79.7        |
| 36   | Logan          | 54.5        | 48.4        | 80   | Jackson Co    | 55.2        | 54.6        | 124  | Union          | 69.1        | 62.1        | 168  | Menifee        | 90.4        | 83.0        |
| 37   | Estill         | 53.4        | 48.5        | 81   | Lyon          | 53.7        | 54.8        | 125  | Middlesboro    | 97.2        | 62.2        | 169  | Green          | 88.2        | 85.4        |
| 38   | Fleming        | 69.8        | 48.5        | 82   | Owensboro     | 70.1        | 55.1        | 126  | Taylor         | 64.7        | 62.2        | 170  | Fairview       | 79.7        | 85.9        |
| 39   | South Gate     | 47.2        | 48.6        | 83   | Webster       | 75.5        | 55.2        | 127  | Muhlenberg     | 68.5        | 62.3        | 171  | Powell         | 97.0        | 86.0        |
| 40   | Russell        | 70.3        | 48.7        | 84   | Boyle         | 65.9        | 55.5        | 128  | Pikeville      | 81.9        | 62.6        | 172  | McCreary       | 94.8        | 92.3        |
| 41   | Jenkins        | 0.0         | 48.8        | 85   | Christian     | 70.1        | 55.8        | 129  | Bourbon        | 65.0        | 62.6        | 173  | Jackson Ind    | 117.6       | 106.5       |
| 42   | Letcher        | 62.9        | 48.8        | 86   | Pendleton     | 55.9        | 55.8        | 130  | Lincoln        | 70.7        | 63.0        |      |                |             |             |
| 43   | Science Hill   | 56.5        | 49.3        | 87   | Cumberland    | 71.1        | 55.9        | 131  | Martin         |             | 63.1        |      |                |             |             |
| 44   | Williamstown   | 63.3        | 49.5        | 88   | Augusta       | 55.6        | 55.9        | 132  | Leslie         | 69.4        | 63.1        |      |                |             |             |