

# School Energy Manager Program Grant

## Summary

The School Districts in the Northern Kentucky region propose to collaborate as a region to work together and share best practices on energy management. The region will be split into 5 areas, each headed by an Energy Manager.

The districts will be grouped into five areas:

| Area 1<br>School Districts     | # of<br>schools |
|--------------------------------|-----------------|
| Bellevue                       | 2               |
| <b>Campbell County schools</b> | 7               |
| Dayton                         | 2               |
| Pendleton                      | 4               |
| Silver Grove                   | 1               |
| Ft. Thomas                     | 5               |
| Southgate                      | 1               |
| Total                          | 22              |

| Area 2<br>School District | # of<br>schools |
|---------------------------|-----------------|
| <b>Kenton County</b>      | 19              |
| Total                     | 19              |

| Area 3<br>School Districts | # of<br>schools |
|----------------------------|-----------------|
| Ludlow                     | 2               |
| Erlanger                   | 6               |
| <b>Covington</b>           | 7               |
| Beechwood                  | 2               |
| Total                      | 17              |

| Area 4 School Districts | # of<br>schools |
|-------------------------|-----------------|
| <b>Boone County</b>     | 22              |
| Walton-Verona           | 3               |
| Total                   | 25              |

| Area 5<br>School Districts | # of<br>schools |
|----------------------------|-----------------|
| Gallatin                   | 5               |
| Carroll                    | 4               |
| Williamstown               | 2               |
| <b>Grant</b>               | 7               |
| Owen                       | 4               |
| Total                      | 22              |

The bolded school district in each area will act as the fiscal agent and employ the Energy Manager and the cost sharing will be based on total square footage of each district. By collaborating as a region, we will be very well poised to work with KSBA, KEEPS, NEED and the local energy providers as a group. The Energy Managers of the Northern Kentucky Region will meet at least quarterly to share best practices, share ideas, and provide training on various topics with the assistance of KSBA, KEEPS, NEED, and the Cincinnati chapter of AEE (Association of Energy Engineers.)

Each Energy Manager will track each districts avoided energy costs as a result of their efforts during the grant period. The school districts are committed to post-grant Energy Manager Employment if the avoided energy costs are sufficient to fund the Energy Manager positions.

## ***Area 1 Proposal***

Area 1 of the Northern Kentucky Region will be comprised of seven school districts with a total of 22 schools: Bellevue Independent Schools, Campbell County Schools, Dayton Independent Schools, Pendleton County Schools, Silver Grove Independent Schools, Ft. Thomas Independent Schools, and Southgate Independent Schools. The fiscal agent for this area will be Campbell County Schools and will employ the Energy Manager.

### **Fiscal Agent:**

**District:** Campbell County Schools  
**Superintendent:** Mr. R. Anthony Strong  
**District Office:** 101 Orchard Lane  
Alexandria, KY 41001  
(859)635-2173

### **District Description:**

Campbell County Schools has a total of 8 school buildings comprised of 5 elementary schools, 1 middle school, 1 high school and 1 educational center that houses Campbell County Day Treatment. The district serves around 5,000 students and several communities including Highland Heights, Cold Spring, Wilder, Alexandria and Grant's Lick.

### **Schools:**

Campbell County High School, Campbell County Middle School, Campbell Ridge Elementary, Crossroads Elementary, Donald E. Cline Elementary, John W. Reiley Elementary, Grant's Lick Elementary and Alexandria Educational Center

**District Designee:** Kerry Hill/Sharon Alexander

### **Description of current energy activities:**

All of our buildings have automated controls for HVAC equipment. Campbell Ridge Elementary and Crossroads Elementary also have motion sensors on lighting. We currently monitor the utility bills. Around 25 hours of time per week is spent managing controls software.

### **Energy manager(s):**

We have no energy managers at this time and consider our district to be in the development stages of an overall Energy Management Plan

### **Partnering Districts:**

**District:** Bellevue Independent Schools  
**Superintendent:** Mr. Wayne Starnes  
**District Office:** 219 Center St.  
Bellevue, KY 41073  
(859)261-2108

**District Description:** Bellevue Independent Schools serves approximately 835 students (including pre-school students) of the City of Bellevue comprising a geographic area of one square mile. The District has two school buildings, 1 High School/Middle School (grades 7-12) and 1 Elementary School (grades Pre-School to 6). Additionally, other service buildings include:

Ben Flora Gymnasium (a detached gym used by the High School) and two small houses that contain administrative offices.

**Schools:** Bellevue High School and Grandview Elementary

**District Designee:** David Feldmann, Director of Facilities

**Description of current energy activities:** Bellevue High School is the only building that has automated controls for HVAC equipment throughout. Grandview Elementary has a large multi-purpose room that serves as a cafeteria and gym, which has a newly installed automated HVAC system. All elementary classrooms have individually AC units and central heating with pneumatic controlled thermostats. Also at Grandview Elementary several classrooms in an area called the "Commons" have seven roof units that supply HVAC controlled via standard "Honeywell" type thermostats. Ben Flora Gym was recently upgraded with a central HVAC system controlled with "Honeywell" type thermostats. We currently monitor the utility bills for all buildings. It is estimated that around 1 to 3 hours of time per week is spent managing controls and HVAC software. Approximately 10-20 hours per week are spent maintaining the individual heat pumps units at the High School and Grandview.

**Energy manager(s):** Bellevue Schools has no energy manager(s) at this time and consider our district to be in the development stages of an overall Energy Management Plan.

**District:** Dayton Independent Schools  
**Superintendent:** Mr. Gary Rye  
**District Office:** 200 Clay St.  
Dayton, KY 41074  
(859)491-6565

**District Description:** The Dayton Independent School District has two schools: Lincoln Elementary with grades P-6 and Dayton High School with grades 7-12. The district serves approximately 1000 students residing in the city of Dayton.

**Schools:** Lincoln Elementary and Dayton High School

**District Designee:** William Voelker/Casey Woods

**Description of current energy activities:** The Dayton Independent Schools completed renovations to the mechanical systems in both schools during the summer of 2009. These renovations included occupation sensors in classrooms for temperature control as well as lighting; Energy Star rated HVAC systems at both schools; Energy Star rated refrigeration units in the food service department; replacement of all T12 lamps with energy efficient T8 lamps; correct areas of poor air infiltration and poor insulation; and installation of new low water consumption plumbing fixtures in restrooms at both schools.

**Energy manager(s):** none at this time and consider our district to be in the development stages of an overall Energy Management Plan.

**District:** Fort Thomas Independent Schools  
**Superintendent:** Mr. John R. Williamson  
**District Office:** 28 North Fort Thomas Avenue  
Fort Thomas, KY 41075  
(859)781-3333

**District Description:**

Fort Thomas Independent Schools has a total of five school buildings comprised of three elementary schools, one middle school, and one high school. The district serves around 2,500 students and serves primarily the community of Fort Thomas.

**Schools:**

Highlands High School, Highlands Middle School, Robert D. Johnson Elementary School, Ruth Moyer Elementary School, and Samuel Woodfill Elementary School

**District Designee:**

Jerry Wissman, Director of Operations

**Description of current energy activities:**

Highlands Middle School is the only building that has an HVAC system that is completely automated. Highlands High School has about 60% of the campus that is operated by an automated HVAC system. We currently have a building project underway to replace Samuel Woodfill Elementary School. At the conclusion of this project, their building will have an automated HVAC system. We have several student groups at our elementary level and at Highlands Middle School that work for energy conservation in their buildings.

**Energy manager (s):**

We have no formal energy manager at this time and consider our district to be in the development stages of an overall Energy Management Plan.

**District:** Pendleton County Schools  
**Superintendent:** Mr. Robert Yost  
**District Office:** 2525 Hwy. 27 North  
Falmouth, KY 41040  
(859)654-6911

**District Description:** District Description: Pendleton County Schools has a total of 4 school buildings comprised of 2 elementary schools, 1 middle school and 1 high school. The district serves around 2600 students and serves Falmouth, Butler and all of Pendleton County.

**Schools:** Northern Elementary School [Butler], Southern Elementary School [Falmouth], Phillip Sharp Middle School and Pendleton County Memorial High School

**District Designee:** Gary Grigson, Maintenance Supervisor/Martha Gosney, Maintenance Secretary

**Description of current energy activities:** All of our buildings have automated controls for HVAC equipment. Recent addition/renovation at Pendleton County High School has included software that will automatically shut off lights in some areas. Current addition/renovation of two elementary schools includes motion sensors on lighting. Lighting retrofit occurred 8 years ago in the district. Pendleton County Middle school has a NEED team, student group that has done an audit of the school, promoted consumer light bulb change out and promotion of energy conservation to 4<sup>th</sup> grade elementary school students. Some attempts to monitor utility bills has been done.

**Energy manager(s):** No energy managers at this time and consider our district to be in the developmental stages of an overall Energy Management Plan.

**District:** Silver Grove Independent Schools  
**Superintendent:** Mr. Danny Montgomery  
**District Office:** 101 W. Third St.  
Silver Grove, KY 41085  
(859)441-3873

**District Description:** Silver Grove consists of one school, K-12, with a student population of 325

**Schools:** Silver Grove School

**District Designee:** Jennifer Biddle (Technology Director) and Larry Hiller (Maintenance Director)

**Description of current energy activities:** Our elementary school, library and Central Office have natural gas heat and central air, and have automated HVAC controls. Our middle school has natural gas heat and window AC units with manual controls. Our high school has a fuel oil boiler and window AC units with manual controls.

**Energy manager(s):** Silver Grove does not have an energy manager.

**District:** Southgate Independent Schools  
**Superintendent:** Mr. Jim Palm  
**District Office:** Wm. Blatt & Evergreen  
Southgate, KY 41071  
(859)441-0743

**District Description:** Southgate Public School is a PreK-8 independent school system located in Campbell County, in Northern Kentucky. Southgate is a suburb of Cincinnati, Ohio - only ten minutes from downtown. We are a community-based school and pride ourselves by providing a caring, safe environment and individual attention to our students.

**Schools:** One school grades P-8 of 250 students.

**District Designee:** James R. Palm

**Description of current energy activities:** Changed lighting to T-1 in the building.

**Energy manager(s):** Southgate does not have an energy manager.

**Cost and Time Sharing Formula:**

The following cost sharing chart is based on hiring an Energy Manager for Area 1 with a total salary and fringe package equaling \$55,000. The expectation is that the time sharing will match the percentages, but many of the duties of the Energy Manager will be easily reproduced for each district (energy policy, energy plan, etc.) The time sharing does not necessarily mean that the Energy Manager will spend a certain percentage of time in each district. However, each district expects to receive the same deliverables (policy, energy plan, energy reporting, etc.)

| Area 1<br>School Districts | # of<br>Schools | Total<br>Sq. Ft.<br>of Schools | % of<br>Cost   | 1st Year<br>Salary &<br>Fringe Cost | 2nd Year<br>Salary &<br>Fringe Cost | Salary & Fringe<br>After grant | Estimated<br>Operating<br>Expense |
|----------------------------|-----------------|--------------------------------|----------------|-------------------------------------|-------------------------------------|--------------------------------|-----------------------------------|
| Bellevue                   | 2               | 105,944                        | 5.30%          | \$729.34                            | \$1,215.56                          | \$2,917.35                     | \$265.21                          |
| Campbell County Schools    | 7               | 707,000                        | 35.40%         | \$4,867.11                          | \$8,111.85                          | \$19,468.43                    | \$1,769.86                        |
| Dayton                     | 2               | 150,263                        | 7.52%          | \$1,034.44                          | \$1,724.06                          | \$4,137.74                     | \$376.16                          |
| Pendleton                  | 4               | 472,469                        | 23.65%         | \$3,252.56                          | \$5,420.93                          | \$13,010.23                    | \$1,182.75                        |
| Silver Grove               | 1               | 58,830                         | 2.95%          | \$405.00                            | \$674.99                            | \$1,619.98                     | \$147.27                          |
| Ft. Thomas                 | 5               | 475,047                        | 23.78%         | \$3,270.30                          | \$5,450.51                          | \$13,081.22                    | \$1,189.20                        |
| Southgate                  | 1               | 27,783                         | 1.39%          | \$191.26                            | \$318.77                            | \$765.05                       | \$69.55                           |
| <b>Total</b>               |                 | <b>1,997,336</b>               | <b>100.00%</b> | <b>\$13,750.00</b>                  | <b>\$22,916.67</b>                  | <b>\$55,000.00</b>             | <b>\$5,000.00</b>                 |

**Post Grant Employment:**

The Energy Manager will track each district's avoided energy costs as a result of their efforts during the grant period. The school districts are committed to post-grant Energy Manager Employment if the avoided energy costs are sufficient to fund the Energy Manager positions.

**C.E.M. Training:**

The Northern Kentucky region will partner with the Cincinnati Chapter of AEE (Association of Energy Engineers) to provide local Certified Energy Manager Training and Certification. By partnering with the local chapter, the cost of the training is greatly reduced and the need for out of town travel costs will be eliminated.

**Energy Efficiency Curriculum:**

The area Energy Manager will work with KY NEED to implement energy efficiency curriculum in the schools. The areas within the Northern Kentucky region will work together to host NEED workshops for teachers. The Kenton County School District has energy efficiency curriculum incorporated into all of their schools and this will be used as a model for the other school districts to use to help them create their own curriculum programs.

## Supplemental Proposal:

Area 1 is proposing an alternative proposal if additional funding is available. This proposal includes an Energy Manager and an Energy Coordinator. This would enable the Energy Manager to accomplish much more during the grant period than he would be able to do by himself. Additionally, this will serve as excellent professional development and experience for the Energy Coordinator. The Energy Coordinator would be an entry level position and would report to the Energy Manager. The following chart is based on an Energy Manager with a total salary and fringe package equaling \$55,000 and an Energy Coordinator with a total salary and fringe package equaling \$35,000.

| Area 1<br>School Districts | # of<br>Schools | Total<br>Sq. Ft.<br>of Schools | % of<br>Cost   | 1st Year<br>Salary &<br>Fringe Cost | 2nd Year<br>Salary &<br>Fringe Cost | Salary & Fringe<br>After grant | Estimated<br>Operating<br>Expense |
|----------------------------|-----------------|--------------------------------|----------------|-------------------------------------|-------------------------------------|--------------------------------|-----------------------------------|
| Bellevue                   | 2               | 105,944                        | 5.30%          | \$1,193.46                          | \$1,989.10                          | \$4,773.84                     | \$265.21                          |
| Campbell County Schools    | 7               | 707,000                        | 35.40%         | \$7,964.36                          | \$13,273.93                         | \$31,857.43                    | \$1,769.86                        |
| Dayton                     | 2               | 150,263                        | 7.52%          | \$1,692.71                          | \$2,821.19                          | \$6,770.85                     | \$376.16                          |
| Pendleton                  | 4               | 472,469                        | 23.65%         | \$5,322.37                          | \$8,870.61                          | \$21,289.46                    | \$1,182.75                        |
| Silver Grove               | 1               | 58,830                         | 2.95%          | \$662.72                            | \$1,104.53                          | \$2,650.88                     | \$147.27                          |
| Ft. Thomas                 | 5               | 475,047                        | 23.78%         | \$5,351.41                          | \$8,919.01                          | \$21,405.63                    | \$1,189.20                        |
| Southgate                  | 1               | 27,783                         | 1.39%          | \$312.98                            | \$521.63                            | \$1,251.90                     | \$69.55                           |
| <b>Total</b>               |                 | <b>1,997,336</b>               | <b>100.00%</b> | <b>\$22,500.00</b>                  | <b>\$37,500.00</b>                  | <b>\$90,000.00</b>             | <b>\$5,000.00</b>                 |