

## Appliance Standards Awareness Project

### 2023 State Clean Lighting

#### Savings estimates for: Kentucky

| State    | Potential annual reductions in 2030 |                                     |                                       | Potential annual electricity savings in 2030 (GWh) | Potential annual electricity bill savings in 2030 (million 2020\$) |
|----------|-------------------------------------|-------------------------------------|---------------------------------------|--|--|
|          | Mercury in lamps shipped (lbs)      | Power plant mercury emissions (lbs) | CO <sub>2</sub> emissions (thous. MT) |  |  |
| Kentucky | 14.4                                | 1.51                                | 264                                   | 665  | 49   |

Assuming a compliance date of 2025.

| State    | Potential cumulative reductions through 2050 |                                     |                                       | Cumulative electricity bill savings through 2050 (million 2020\$) | Total benefit-cost ratio |
|----------|--|-------------------------------------|---------------------------------------|---|--------------------------|
|          | Mercury in lamps shipped (lbs)               | Power plant mercury emissions (lbs) | CO <sub>2</sub> emissions (thous. MT) |   |                          |
| Kentucky | 168  | 16.8                                | 3,009                                 | 588   | 9.1                      |

Assuming a compliance date of 2025. The total benefit-cost ratio is calculated as the present value of the total utility bill savings from products sold through 2050 for the recommended standard divided by the present value of the total additional costs.

#### Fluorescent vs. LED: Economic analysis for most-shipped lamps (commercial sector)

| Fluorescent lamp type | LED incremental cost (2020\$) | First-year electricity bill savings from LED (2020\$) | Life-cycle cost savings from LED (2020\$) | Payback period (years) |
|-----------------------|-------------------------------|---|---|------------------------|
| 4-foot T12 – 40 W     | 2.59                          | 7.04  | 33  | 0.3                    |
| 4-foot T12 – 34 W     | 3.67                          | 5.05  | 26  | 0.6                    |
| 4-foot T8             | 0.54                          | 3.42  | 20  | 0.03                   |
| 4-foot T5             | 2.29                          | 4.53  | 29  | 0.3                    |
| 4-foot T5 high output | 4.61                          | 9.00  | 55  | 0.4                    |
| Pin-based CFL         | 3.02                          | 5.63  | 17  | 0.4                    |