

Somerset County Goes Green!

(and Red and Amber too)

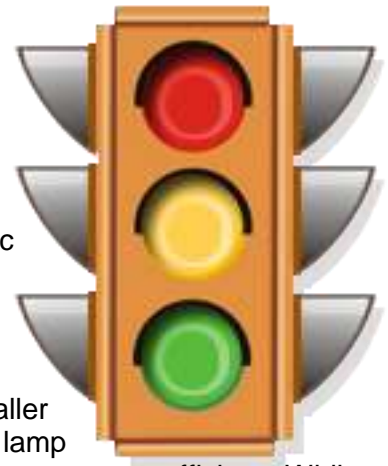
Traffic Light LED Conversion Program

Founded in 1991, the Consortium for Energy Efficiency (CEE) is a nonprofit, public-benefit corporation that works with its members to promote the use of energy-efficient products, technologies and services.

CEE promotes energy-efficient traffic signals and expands awareness of light-emitting diode (LED) technology as a high-efficiency lighting source. LED traffic signals consume 80 to 90 percent less energy and generally last 5 to 7 years.¹

In January of 2007 the United States adopted new minimum standards for traffic lights, requiring that all equipment meet Energy Star criteria.²

In 2003, *four years prior* to the United States' adoption of the new standards for traffic lights, Somerset County installed new, brighter, more energy-efficient traffic lights at every intersection throughout the County. Old incandescent red, green and amber traffic signals were replaced with new lamps that use LEDs. All traffic signals, as well as walk/don't walk signals, and emergency flashing signals for fire departments, were all replaced as part of the program.



Instead of a single incandescent light bulb, the new LED lights feature a number of smaller lights assembled in one unit. Together, the numerous pinpoints of light from an LED lamp are brighter than a comparable incandescent lamp, and as much as 80 percent more energy efficient. While traditional incandescent traffic lamps use between 65 and 135 watts each, LED lights use between 6 and 15 watts, depending on size, color and type. The energy consumption of LED lights in traffic signals is generally accepted to be about 33% of normal incandescent lights. The incandescent light bulbs in all 135 intersections in Somerset County have been replaced by LED lights. If the Main Street and Findern Ave intersection in Bridgewater is analyzed to obtain an average savings per intersection, and that number is multiplied by 135, an approximate savings for all of the intersections in Somerset County can be achieved. The approximate amount saved by converting all the traffic signals in the County to LED lights is a total of 26,855 MWh of electricity.³ This has saved some 44,041 lbs a year at current (2006) levels and approximately \$3,000 energy dollars have been saved annually since 2003.

LEDs provide other benefits as well. When an incandescent traffic-signal lamp fails, it burns out all at once, and incandescent lights typically need to be replaced every two years. The numerous pinpoints of light in an LED lamp, on the other hand, don't all burn out at the same time, and LED lamps can have a lifespan of up to 10 years. Fewer burned-out traffic signals would mean safer intersections, an important improvement in public safety. Agencies that have installed LEDs have discovered additional savings in traffic-signal maintenance and lamp-replacement costs because highway crews need to replace burned-out traffic signals less frequently. As an additional safety feature, brighter LED lights are more visible in foggy conditions.

In addition to the Traffic Light LED Conversion Program, Somerset County also has installed solar-powered emergency signage, such as the road-closure signal on Old York Road between Bridgewater and Branchburg. Several of the school-crossing flashers in Somerset County are also solar powered.

The warning light for Griggstown Causeway in Franklin and Montgomery, the lighting on the Millstone Causeway between Millstone and Franklin, and the bridge on Main Street between Bound Brook and Middlesex all use compact-fluorescent lamps. These lamps are more energy efficient than traditional lamps used for this purpose.

- Sources: 1. <http://www.cee1.org/gov/gov-main.php3>
2. <http://www.cee1.org/gov/led/led-main.php3>
3. <http://www.dialight.com/Products/TrafficSignals.cfm>