

Deer Path Middle School

2026 Project Report



The Project:

Deer Path Middle School's Green Team launched *Operation Light Swap* to reduce energy use and carbon emissions by retrofitting emergency hallway lighting with LED troffers. Focusing on 7th and 8th grade hallways, students targeted lights that run 24/7, using this highly visible infrastructure upgrade to conserve energy, lower costs, and educate the school community about the impact of efficient lighting.

Project Focus: Energy Reduction

Students involved: 30

Staff Involved: 9

Location: Lake Forest, IL



Our project will demonstrate to the school community how much energy, and consequently cost, could be saved by switching to LEDs, making it a manageable and effective demonstration project.



The Process:

Guided by their Green Team leader and IGSP mentor, students investigated how lighting technology affects energy use, cost, and carbon emissions. They discovered that while classrooms had transitioned to LEDs, hallway emergency lights still relied on fluorescent bulbs operating year-round. Students learned how to calculate watts, kilowatt-hours, energy costs, and carbon footprint, and compared fluorescent and LED troffers to quantify potential savings. To maximize impact, the team secured funding through the IGSP Mini Grant, an EcoRise Innovation Grant and a Spirit of 67 grant, while facilities staff donated labor and supported procurement. Students shared updates through school newsletters, weekly recycling reminders, and staff communications, submitted work requests to address faulty occupancy sensors, and prepared to present their findings to the school board.

The Outcomes:

Student analysis showed that replacing a single fluorescent troffer with an LED light results in an **approximately 64.5% reduction** in energy use, energy cost, and carbon footprint. Based on the projected summer installation of **24 LED troffers**, the school expects annual savings of: **13,034.88 kWh**, **\$651 in energy costs**, and **4,040 kg of CO₂ emissions**. Beyond the measurable savings, the project strengthened student understanding of energy systems, carbon reduction, and facilities decision-making. The team plans to use these results to advocate for LED retrofits across additional hallways and schools in the district, positioning students as informed leaders in long-term energy conservation.

