



NEW YORK STATE ENVIRONMENTAL EXCELLENCE AWARD CASE STUDY

Solar One - Green Design Lab™ – Honored for their innovative sustainability education program that focuses on the school building itself, both as a laboratory for learning and a tool for environmental change

SUMMARY

Solar One - Green Design Lab™ received an award in 2012 for their innovative sustainability education program that focuses on the school building itself, both as a laboratory for learning and a tool for environmental change. Launched in 2010, this program is empowering New York City school students to be the next generation of more educated and aware environmental stewards. Solar One is a not-for-profit organization created to empower people with the knowledge and resources to advance sustainability in their communities.

BENEFITS

Solar One has partnered with the New York City Department of Education to deliver the Green Design Lab Program, which is aligned with Common Core standards and National Science and STEM education standards. This program is achieving many environmental and social benefits, including: reducing energy use by more than 900,000 kWh and reducing carbon emissions by 625 metric tons annually; training more than 250 teachers and educating more than 5,000 students about environmental sustainability; and training approximately 700 individuals for green sector jobs. The program serves as a model that can be implemented in any K-12 school in the country.

KEY METRICS

- 900,000 kWh reduction in energy use annually
- 625 metric tons of carbon emissions reduced annually
- 700 people trained for green sector jobs
- 10% reduction of energy usage

ABOUT SOLAR ONE

- 23 New York City K-12 schools participating
- Using the school building as the learning tool to talk/learn about climate change and environmental impact

NYS Environmental Excellence Award: Annual recognition of outstanding innovative and sustainable projects or programs and unique partnerships that are improving and protecting New York State's environmental resources and contributing to a stronger economy

A MODEL OF EXCELLENCE

- Goal to reach 150 NYC schools by 2014
- GDL program “Triple Bottom Line Impact” reducing energy consumption and CO₂ emissions in school buildings
- Uses the physical school building as a model to study the benefits of sustainability, helping to foster a shift in environmental education
- 1,200 school buildings in the NYC school system to become more efficient and receive aid in energy reduction measures
- The GDL Program provides education, awareness and the means to take action
- GDL teaches students collaboration, critical thinking, graphing, inquiry, problem solving, systems thinking, and written and oral communication in environmental concerns

HIGHLIGHTS

There are 23 New York City K-12 schools currently participating in the program, which includes curricular units focused on energy, materials, air quality, water and food. Each unit develops students’ skills by engaging them in projects within their schools. The Green Design Lab (GDL) Program also provides vocational and career training to prepare students for the green jobs market.

Each unit in the GDL curriculum includes both a teacher guide and a student guide, elevating the GDL from simply a classroom tool to one that teaches *teachers* how to eventually lead the lessons themselves. Solar One educators deliver the program in schools 1-2 days per week, working side by side with teachers to reinforce and model the curriculum. The objective is to facilitate learning that encourages students and faculty to think of their school building as an organism and laboratory connected to the local environment, ultimately leading to improving the school’s energy efficiency and increasing environmental literacy in the school community.

The GDL is place based and locally focused, which is critical to changing behavior. Solar One has found that students become engaged and motivated when the environment being discussed is the one in which they live. Using examples like the South Bronx, the East River, Manhattan, and other local areas helps youth look at familiar places in new ways. Students can start to see everyday types of inefficiency – e.g., windows open when heating or air conditioning is on, lights left on in empty rooms and drippy faucets – in their schools, homes and elsewhere. In Solar One’s experience, this sense of connection builds students’ understanding that they play an important role in addressing the seemingly overwhelming problem of climate change warming. This understanding carries over into behavioral change, energy reduction, and cost savings, and proves the GDL is far more than simply an academic curriculum.

FUNDING

The GDL Program has corporate sponsors and grants. Partners in this project have been the NYC Dept. of Education School Facilities, the NYC Dept. of Education Sustainability Initiative, and the Mayor’s Office of Long-Term Planning and Sustainability (PlaNYC).