

Global Citizenship Experience Lab School

2023 Project Report

Which of these will use the most Energy?



The Project:

The Global Citizenship Experience Lab School in downtown Chicago partnered with Illinois Green volunteer mentors from Arup to review their current infrastructure and future ambitions for sustainability monitoring of power, air quality, and water in their classrooms. This data will be used to provide students with hands-on experience to learn about resource efficiency in their everyday lives and will provide the school with a platform to demonstrate commitment to the U.N. Sustainability Goals.

Project Focus: Path to Net Zero

Location: Chicago, IL

Staff Involved: 5

Students: 45



These systems will give... instructors a tangible data source to teach students about energy consumption in their own lives and at the building scale.



The Process:

Arup partnered specifically with the GCE Lab School's Energy and Urban Planning courses to guest lecture on energy in the built environment, collaborate with the course instructors to insert relevant sustainability topics into their courses, and be a resource for students on careers in engineering and sustainability. Activities included visiting the school's Energy and Urban planning classes to discuss energy efficiency with students and present ourselves as resources for student development, collaborating with teachers to provide feedback on how built-environment sustainability topics can be integrated into their courses, and meeting in-person with school leadership and teachers to discuss goals for sustainability monitoring (power, air quality, and water) and steps for implementing such systems in the school.

The Outcomes:

Collaboration highlights between the Green Schools Mentors + GCE Lab School include:

- Arup engineers guest lectured on power consumption with the school's Energy class
- Including interactive demonstration of plug-in power meter and common appliances
- Provided information to class instructor related to Battery Energy Storage Systems (BESS) and how to integrate into curriculum
- Helped school leadership develop goals and implementation plan for school-wide monitoring of sustainability metrics
- Scheduled guest lecture and project engagement with Urban Planning class and the associated 'model home' building project

GCE Lab School plans to purchase multiple plug-in power meters for future classroom demonstrations on power consumption. In addition, they plan to evaluate the cost & feasibility of electricity meter installation on main panelboard serving the school to provide metrics for school power consumption, as well as an air quality sensor installation to record & display data that students can use to monitor air quality in the school spaces.