

Project Overview & Objectives

What problem(s) does your work address?

This project addresses two interconnected challenges: *workforce development in the clean energy sector and the need for resilient, sustainable energy infrastructure for schools*. The Energy Park initiative supports two local high schools by integrating battery energy storage and solar energy systems that provide emergency backup power during outages. At the same time, the project creates opportunities for local high school students to engage directly with clean energy technologies, real-world energy data, and career pathways in the growing energy and sustainability workforces. Building these pathways is critical to preparing the next generation workforce needed for a sustainable energy transition.

What is the current state of the issue/project?

Both Wakefield Memorial High School and Northeast Metro Tech are connected to the Energy Park and are currently under construction as part of broader modernization efforts. Previously, the old Wakefield Memorial High School was one of the highest energy-consuming buildings in the town. With the implementation of the Energy Park and new clean energy infrastructure, the schools’ overall energy usage and peak demand have decreased significantly. The project has now moved into an education and workforce development phase. Current efforts are focused on connecting students with real-world clean energy applications, developing partnerships for co-op and workforce opportunities, and creating educational resources that support STEM and career technical education initiatives.

Approach and Methods

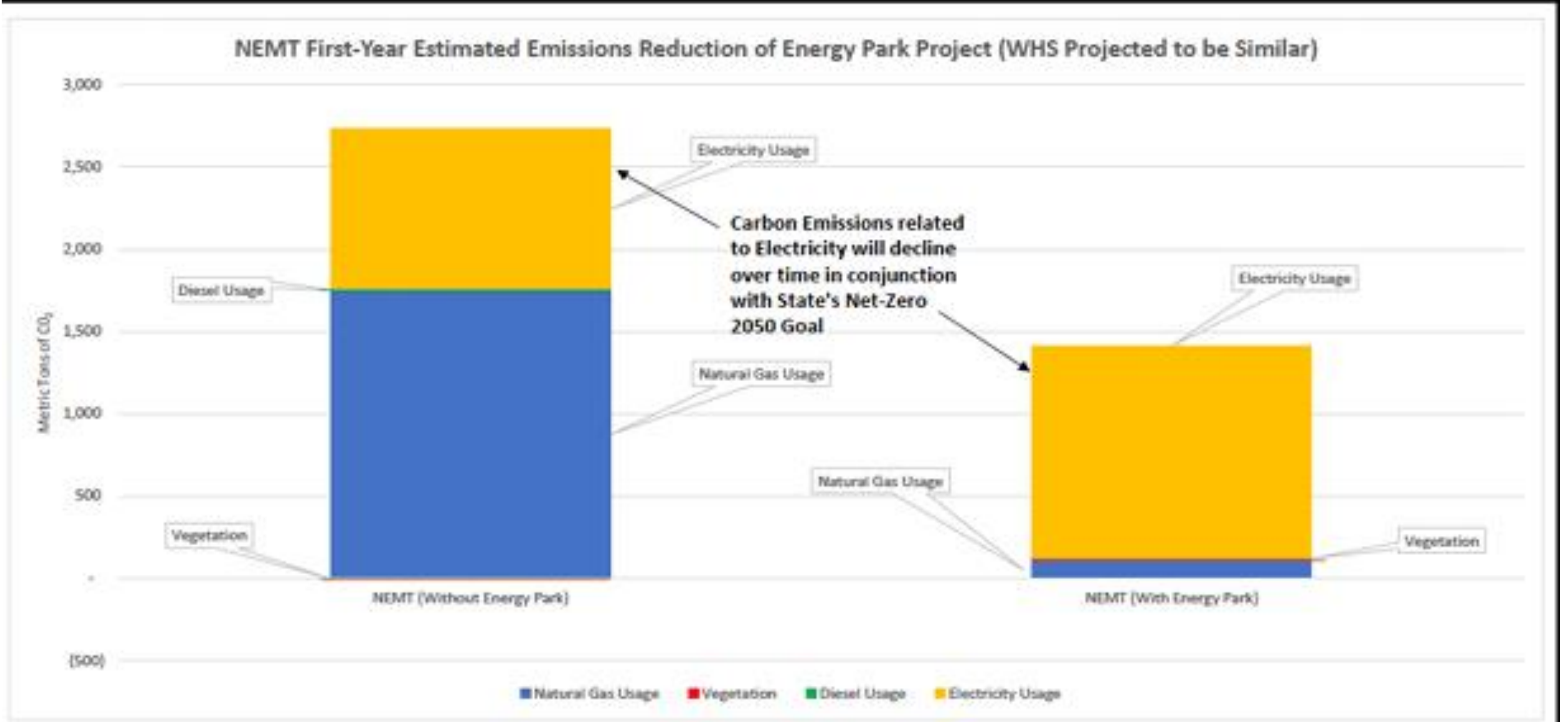
This work is supported through collaboration with the CELT (Clean Energy & Environment Legacy Transition) Fellowship and resources from organizations such as WMGLD, MassCEC, and APPA DEED. The project framework focuses on bridging classroom learning with hands-on experience in the utility and engineering industries. The framework uses science communication principles to make energy systems, utility operations, battery storage, solar integration, and grid management understandable and accessible for students, educators, and the broader community. Brings experience in communications design, outreach, and the creation of marketing and educational materials to support public awareness and engagement initiatives.

Impact: Purpose and Need

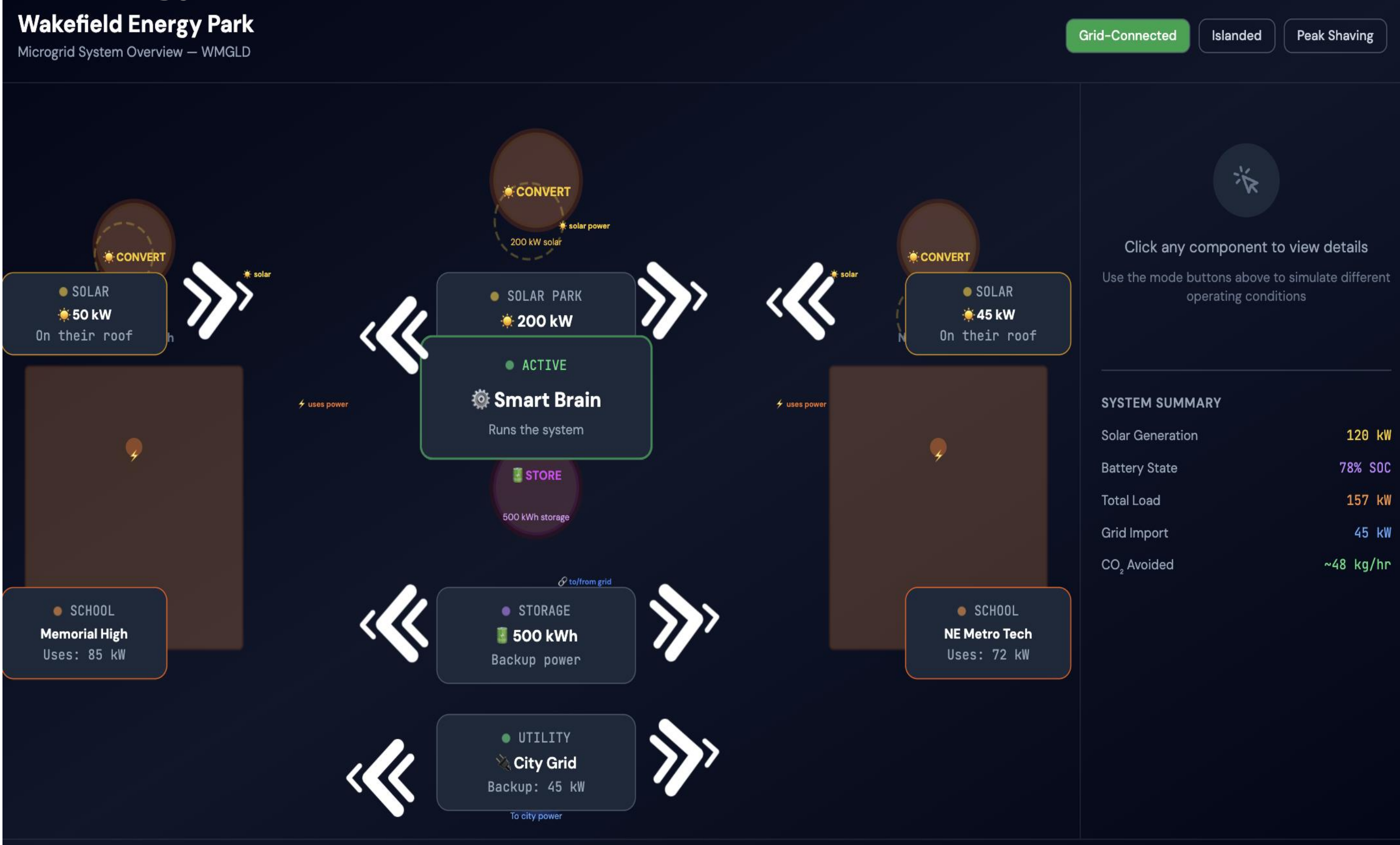
- Reduces greenhouse gas emissions and balances local distributed energy resources, lowers peak demand costs during high-usage periods & eliminates need for two diesel backup generators
- Coordinates solar, battery storage, and grid power automatically for efficient energy management and provides backup power during outages and extreme weather events to keep both schools operational during emergencies

Deliverables and Findings

Wakefield Municipal Light and Gas Department Energy Park



Energy Park Interactive Dashboard for Students & Teachers



Main Takeaways

Key Takeaway 1

The **built environment plays a significant role in student learning, health, and overall school effectiveness**. Modernized, energy-efficient school buildings equipped with resilient infrastructure can create safer, healthier, and more supportive learning environments for students and staff. Investments in clean energy infrastructure are not only environmental initiatives, but also investments in educational spaces and long-term community resilience. Through partnerships with utilities like WMGLD, students can engage and benefit directly with clean energy systems, engineering concepts, and utility operations while exploring future careers in fields such as electrical work, HVAC, robotics, renewable energy, and energy management.

Key Takeaway 2

Successfully integrating clean energy education and workforce development into schools requires dedicated time, staffing, and coordination from both utilities and educators. Both WMGLD and teachers need support, training, and resources to meaningfully integrate Energy Park concepts and data into their curriculum, co-ops, and workforce development opportunities for students. This highlights **the importance of sustained funding mechanisms and dedicated positions**, such as the CELT Fellowship, to support the long-term implementation, coordination, and growth of these programs.

Acknowledgements

Municipal Points of Contact

- Dave Polson, Engineering and Operations Manager, WMGLD
- Olivia Tully, Business Analyst, WMGLD

Additional Acknowledgements

Special thanks to the following partners and organizations for their collaboration, support, and commitment to advancing clean energy education and workforce development initiatives:

- Northeast Metro Tech Superintendent and faculty
- Wakefield Memorial High School (WMHS) Superintendent and faculty
- Wakefield Municipal Gas & Light Department (WMGLD) staff

Their continued partnership, technical expertise, and willingness to support students and educators have been essential to the success and growth of the Energy Park initiative and related workforce development efforts.