

The future of learning is powered by the sun

COMMUNITY SCHOOLS ARE LEADING THE CHARGE TOWARD THE NEW GREEN ECONOMY.

By: Cemile Kavountzis, for Siemens

With plans to reopen across the nation, some schools are doing more than welcoming students back to the classroom. A new generation of students will be learning in solar-powered schools: a demonstration of what renewable energy and sustainable technology can accomplish right now.



In Southern Illinois, the Eldorado Community Unit School District has partnered with Calibrant Energy, a joint venture offering Energy-as-a-Service (EaaS) solutions to help fund the transition toward decarbonization.

Calibrant Energy is a joint venture between:

- Siemens Smart Infrastructure (SI)
- Siemens Financial Services (SFS)
- Macquarie's Green Investment Group

Until recently, funding has been a major hurdle in the journey toward a green future. EaaS solutions represent an important tipping point for the new green economy, with solar powered schools of the future leading the charge.

Understanding the impact of CO₂

The call to reduce greenhouse gas emissions, such as

CO₂

has gained a sense of

CO₂ in the atmosphere has increased

47%

since the start of the



urgency and traction around the world. Industrial Revolution.

After sharp increases over the past four decades, one bright spot during the pandemic was a drop in global energy demand.



Not-so-fun fact:

CO₂ stays in the atmosphere for **300 to 1,000** years¹

As the world reopens, cost-effective renewable energy can help:



upgrade the nation's current energy grid



reduce the reliance on fossil fuels



open the doors to the future

Time for change

2018

CO₂ emissions rose

1.7%

% hitting a new record ²

2020

Global energy demand dropped

3.8%

compared to 2019 ³

2021

the U.S. committed to reducing emissions by

50%

% hitting a new record

A sustainable future is possible right now



In terms of their footprint, educational buildings are the **#2** largest public infrastructure investment⁴ and among the biggest energy consumers in the public sector.

U.S. schools take up around **12 billion sq ft** of space⁵ and represent **14%** of all non-residential building space⁶ and account for **8%** of all the energy used in commercial buildings [K-12 schools]⁷

To understand the impact of these percentages, consider the number of schools in the U.S. as of 2018:⁸


98,469
public schools

32,461
private schools

6,502
institutions of higher ed

Community Impact

On a community level, Siemens is helping transform schools with technology to future-proof their energy needs with no upfront costs.

The Eldorado Community Unit School District has signed a 20-year solar power purchase agreement (PPA). 

Impact on a community level in Eldorado:

- Siemens installed **1,190 solar panels**
- Provides approximately **458 kW total**
- Eldorado Elementary School is **45% solar-powered**
- Eldorado Middle School is **89% solar-powered**



Solar retrofits like the one in Eldorado also help create a healthier atmosphere for everyone – especially children.

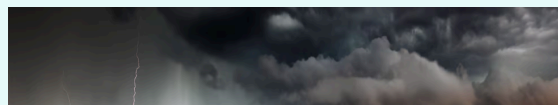


*Poor air quality disproportionately affects children⁹

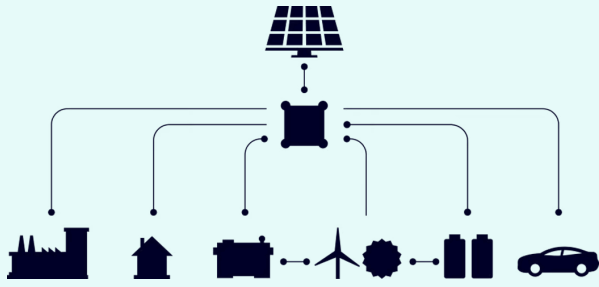


How microgrids work

Microgrids offer a modern and efficient way to manage energy needs: They can work with the grid, independently or a combination of both. They can generate, distribute and store renewable energy for schools



and campuses, among other institutions or remote areas.



During blackouts or outages caused by bad weather, microgrids are resilient and able to provide uninterrupted power. As a result, a snow day may shut down a school, but its systems will remain up and running.



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