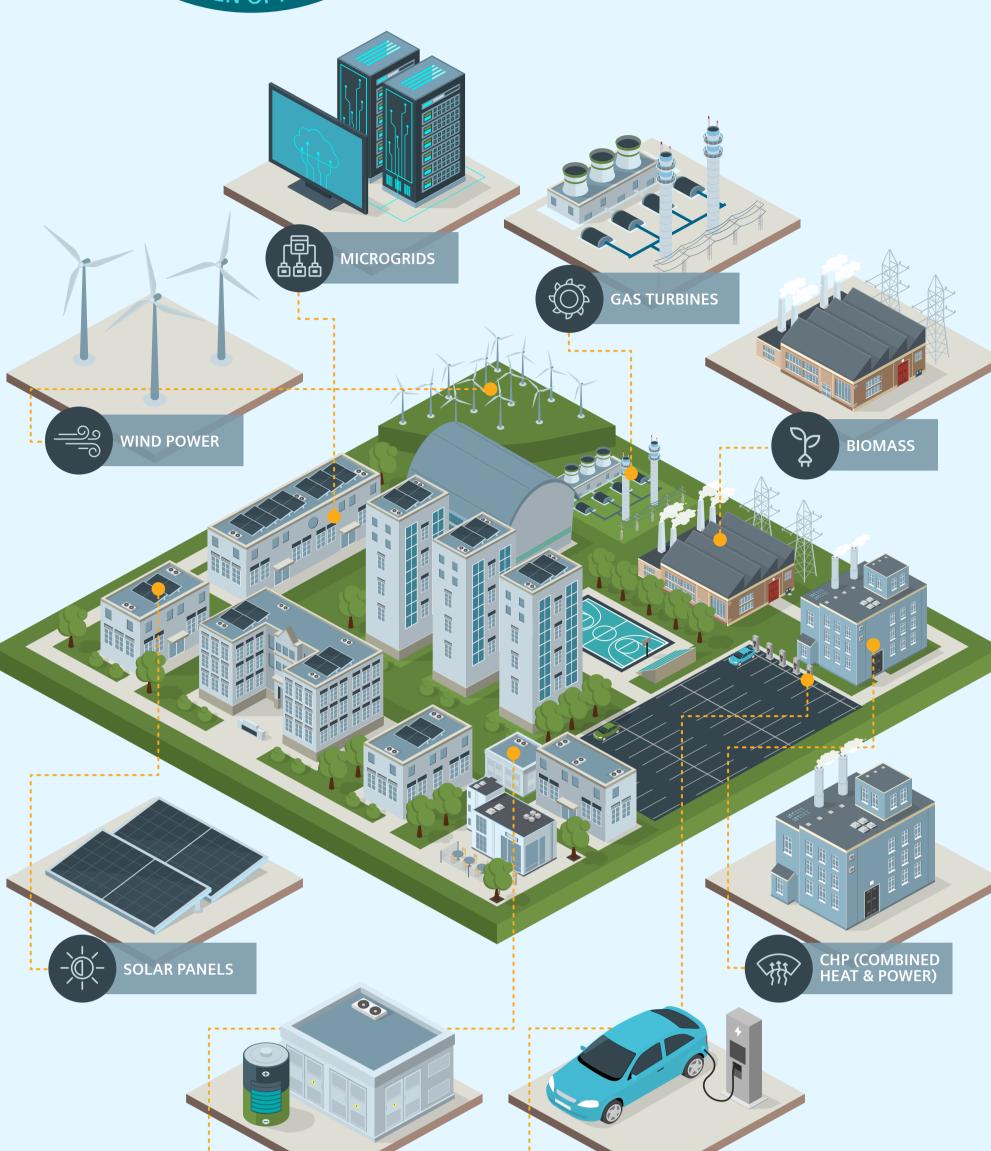
Distributed Energy Systems THE CAMPUS CONNECTION



Colleges and Universities today are adopting a total energy management approach that couples energy use reduction with smart procurement practices and on-site energy generation. By implementing Distributed Energy Systems (DES), they utilize a diverse array of generation, storage, energy monitoring and control solutions. DES technologies represent a paradigm shift and offer significant opportunities to reduce cost, improve reliability, enhance sustainability and secure additional revenue through dynamic load management, on-site generation, and storage.





Microgrids give educational institutions the ability to optimize their energy portfolio and single point disconnection and independence from the grid, as

Wind power is a cost-effective source of clean

energy. Highly visible, on-campus wind turbines

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BATTERY

STORAGE



Solar photovoltaic and solar thermal offer space-flexible, cost competitive and visible promotion of clean energy. Can be owned or contracted via Power Purchase Agreement.

E.V. CHARGING

STATIONS



underscore a school's commitment to green power. Power Purchase Agreements from remote wind projects enhance wind power's availability.



use of low cost and clean power supplies, while providing supply security.

Battery storage allows schools to optimize the



and cost-effective way for universities to generate electricity at a large range of outputs.

Gas turbines burn clean and provide an efficient



CHP (Combined Heat and Power) leverages the concurrent and highly efficient production of electricity and useful thermal energy from a

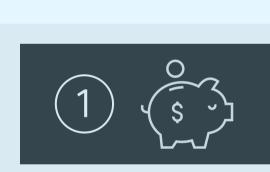
variety of fuel sources.



Biomass produces energy without fossil fuels and offers both fuel flexibility and cogeneration potential.



CAMPUS BENEFITS OF EMBRACING A HOLISTIC APPROACH



Cost Savings

Educational institutions can adapt their sources of energy to shifts in volatile market prices, while leveraging a variety of incentives and tax credits.



Energy Efficiency

Real-time data monitoring and multipoint control of buildings, plants, and networks enables operational efficiency.



Security & Stability of Power Supply

In the event of natural or manmade disasters, microgrids and on-site generation can support facilities during emergencies and maintain power quality.



Emissions & Pollution Reduction

Microgrids and DES incorporate renewable, low-carbon energy sources that reduce the impact of the energy systems on the environment, improve air quality, and reduce health risks.

DES SUCCESS STORIES



ALGONQU COLLEGE

Embracing Renewable

WESLEYAN UNIVERSITY

Smart Heating Solution

an average of

Solar Implementation

A 100 kW solar array was placed on the roof of a parking garage that annually generates approximately

> 130,000 kWH of electricity

This solar energy saves the equivalent of 208 BARRELS of oil or one acre of forest from deforestation **Energy Generation** Implemented a

MICROGRID with a variety of clean and renewable energy sources

These changes have saved them in annual operating costs

676 kW gas engine saves the university

\$1,000 PER DAY in gas and electricity charges

Siemens provides on-site, end to end, turnkey energy solutions that are making it easier for educational institutions to move forward in modernizing their power infrastructure. Reliable partners, such as Siemens, have the knowledge and expertise to help campuses manage each step of their power resourcing and modernization process. To learn more about Siemens higher education energy solutions, download the full-length white paper—On-Site Energy for Higher Education.

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