How Construction Sites Can Utilize Clean Energy

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The 2022 Global Status Report for Building and Construction reports that the buildings and construction industry represents an estimated 37% of global operational energy and process-related carbon dioxide (CO_2) emissions.

As a construction business owner, it's important to recognize the growing need in the industry to reduce carbon emissions and minimize environmental impact. One of the most effective ways to achieve this goal is through integrating clean energy solutions at construction sites. Renewable energy plays an integral role in cost reduction, environmental protection, and creating a sustainable future.

In Wisconsin, renewable energy was used to support the construction of a 210,000-square-foot cheese production factory, powering job trailers, site lighting, engine block heaters, and power tools. How did this organization, a forward-thinking North American dairy leader, benef t from integrating clean energy into the construction process? What are the advantages of utilizing off-grid energy to power a construction jobsite?

ENERGY SOLUTIONS THAT MEET INDUSTRY ENERGY GOALS

The f rst step in implementing clean energy on a construction project is to understand the energy requirements through an energy assessment. Complex project jobsites like this require signif cant electrical power to support work being completed

by contractors and trade partners. A determining factor in the renewable energy use on this build was the organization's signif cant environmental, social, and governance (ESG) goals, including working toward a U.S. dairy industrywide goal to achieve net-zero emissions by 2050 or sooner.

DISTRIBUTED ENERGY RESOURCES

Understanding how much energy a jobsite requires to power the work that will take place over the lifetime of the construction project is critical to determining the best distributed energy resources (DERs) to use. Some common examples of DERs include solar, wind, battery storage, and generators. If the goal is to be as close to net-zero as possible, as was the case with this organization, f nding a DER solution

that enables the achievement of that goal is paramount. Depending on the DERs used, the jobsite can be entirely off-grid or connected to the utility grid, used in tandem with utility power. For this project, the energy solutions were completely off-grid, which helped the customer meet their project deadlines due to the quick implementation of the resources.

USING A MICROGRID TO POWER A CONSTRUCTION SITE

microgrids in construction but also its economic and environmental benefits. As the industry continues to evolve, clean energy solutions like microgrids are no longer a futuristic concept but a present-day reality. By embracing this trend, construction businesses can significantly reduce their carbon footprint and save money, while also appealing to clients that prioritize sustainability. The continued growth of construction companies that make renewable energy an integral part of their energy equation paves the way for a greener and more sustainable future for all.

About the Author

As a project development manager at <u>EnTech Solutions</u>, Michael Voigt works with customers to support various types of clean energy projects. This includes solutions that involve metering, efficiency improvements, energy generation, and energy storage, determining which mix of solutions will provide the most value to customers. Voigt has a strong passion for renewable energy, electric vehicles, microgrids, and science.

About the Article

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