

# The Future of Energy is Electric:

By Matt Haakenstad

**The future of electricity is low carbon, but includes more power disruptions and higher costs. This transition is driven by trends that experts in the industry label, “The Three D’s” Decarbonization, Digitalization, and Decentralization. Each of these trends is leaving a mark on the power grid, forcing traditional suppliers to scramble to redefine their role in this transformed world to remain relevant.**

To highlight an example of where all three trends intersect, imagine a customer that decides to take control of their energy destiny by installing a combination of Distributed Energy Resources (DERs). DERs may consist of solar, wind, batteries, Combined Heat and Power (CHP), fuel cells, etc., and can be bundled together to form a microgrid. A microgrid has the capability to isolate itself from the electric grid if necessary, allowing the facility to continue operation even when the power grid goes dark. When designed properly, microgrids can help deliver cost effective, reliable and relatively clean power to the facility.

A multitude of factors can cause the power grid to go dark. Some examples include weather events, wildfires, aging utility infrastructure or equipment malfunction. When an instance like this occurs, microgrids are still able to thrive due to their reliability and resilience. These qualities have always been immensely important for facilities like hospitals that must operate around the clock and would be seriously harmed if they were forced to function without power. Today, it has become more critical than ever for these microgrids to be integrated in establishments such as data centers, university campuses, airports, manufacturing plants, waste water treatment facilities, etc.

The consistent expansion of technology throughout this market is driving the transformation of the energy market on many fronts. Consumers are demanding more energy and at less convenient times. The ultimate game changer at this point in time is the pairing of renewable energy with battery storage. Evolving technologies such as solar, wind, or battery enhancements are evolving so rapidly that cost curves from just two years ago are now completely out of date. We find batteries are plummeting in cost, solar is now cheaper than conventional generation, wind turbines are becoming larger and more efficient, just to name a few. Right now, natural gas generation picks up the slack from the intermittency of renewables, but in the future batteries will fill more and more of this void.

The future of energy is exciting and filled with possibilities. Advancements in technology are allowing the market to progress in a beneficial direction for suppliers and consumers. The key is to understand the various options and alternatives in order to make decisions that lead to cost effective, reliable and clean energy. World Kinect Energy Services is an experienced and trusted partner in helping to navigate this path.