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P3s Could Help Businesses, Communities Move to Microgrids.

The use of private financing to develop microgrids — alternative sources of power generation for use when the energy grid goes down — is on the rise and a growing level of investment is occurring through P3s.

Although 90 percent of microgrid projects had been financed entirely by their private users from 2010 to 2014, the amount of mixed investment in such projects is expected to reach 38 percent this year. Partners will include utilities and public agencies, according to an article in the Aug. 30 issue of Utility Dive.

The use of microgrids to distribute power produced diesel generators solar arrays, combustion turbines and other equipment, is increasing rapidly as well, possibly due to the infrastructure damage caused by serious weather events, such as hurricanes and western wildfires. Interest in microgrids surged in 2012 in the wake of Hurricane Sandy, for example. As a result, U.S. microgrid capacity is expected to reach 4.3 gigawatts in four years, a 116 percent increase in annual installed capacity, according to a report on microgrids published by GTM Research (paywall).

The Port of Los Angeles is also teaming up with Pasha Stevedoring & Terminals L.P. the private company that runs the port, to replace its aging electrical system by installing a $27 million rooftop solar photovoltaic system that will be supplemented by a 2.6 megawatt battery storage system, PV Magazine reported. The Green Omni Terminal Project will be a scalable model that can be used to upgrade the port's other 26 terminals and others nationwide.

The California Air Resources Board is also providing $14.5 million for the project, which is designed to help the port meet the state's strict air quality requirements and will incorporate electric vehicles and cargo handling equipment into port operations.

In addition to its environmental benefits, building a microgrid to distribute the energy produced could help the port keep functioning during a disaster or an attack and save a great deal of money. It has been estimated that total service disruption at the port could cost the national economy a billion dollars a day.

Examples of small-town supplemental energy P3 projects — which could lead to microgrid development — are starting to sprout up as well. The village of Minster, Ohio, which owns a local electricity distribution network, negotiated a power purchase agreement with energy and financing company Half Moon Ventures. The company financed the construction of a 3-megawatt solar array and a 7-megawatt lithium-ion energy storage system. The agreement sets electricity fees at prices comparable to those charged by the regional utility and will allow the city to store energy to prevent power disruptions to key businesses in the area should the primary power grid fail, another Utility Dive article said. The project's success has caused Minster to begin considering building its own microgrid.

Although the ability to build a microgrid may be beyond the reach of many small communities —

especially those that do not have access to private financing — large companies, such as Walmart and Ikea could benefit from the existence of this infrastructure through which they could buy renewable energy through power purchase agreements negotiated with alternative energy producers.

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