

Why Does a Microgrid Cost What it Costs?

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By Guest Post

*Microgrid Knowledge asked industry thought leaders to weigh in on the question: What does a microgrid cost? In this entry, Erik Svanholm, vice president, non-wires alternatives for **S&C Electric**, offers insight into the elements that drive microgrid costs.*

The cost of a microgrid is dependent on what the system includes and the capabilities it will have. If you compare microgrids being built today to microgrids that came online five years ago, you'd see an overall decrease in price and an overall increase in capability. The question we should be asking is "why does a microgrid cost what it costs?" Total price is impacted by engineering design, generating assets, labor costs, tariffs, location, and total capabilities.

You can't build a microgrid without generation to support your needs, and generation is getting more affordable. **BloombergNEF** found that ground mounted PV now costs around \$50-57/MWh — that's an 18% decrease



Erik Svanholm, vice president, non-wires alternatives for S&C Electric

from 2018. The **National Renewable Energy Laboratory** reports system costs for a 4-hour duration battery energy storage system is approximately \$389/mWh. Pricing out generation in advance helps give a starting point for anticipated costs, but anywhere from 20-80% of the total cost for a microgrid will go towards the design and construction of the system.

The cost of designing and building a microgrid goes up with the electrical complexity of the system. If you want a system that incorporates various use cases, the price tag will be significantly more than one that has fewer capabilities. One way to drive design costs down for complex systems is to work with an integrator who has microgrid experience as opposed to one who will be learning on the job. Allowing your experienced integrator the opportunity to help choose the equipment used in the design can help lower engineering costs, as the team will be able to work with products they are familiar with, limiting design or engineering flaws.

While microgrids do have a cost associated with them, the trend of microgrids as a service is on the rise giving customers more opportunities to finance systems through third parties.