Load shifting nouakchott

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Few things impact an industrial facility"s utility bill more than peak loads. These are periods of high energy usage, usually in the evening or during weather extremes when the grid is strained and renewables aren"t available. To meet this demand and avoid blackouts or brownouts, utilities are often forced to rely on fossil fuel peaker plants, causing electricity rates to soar.

For industrial facilities, this becomes especially problematic when the bulk of their energy usage is during peak load periods, resulting in costly demand charges. But how can industrial facilities avoid these costs while still powering their mission-critical operations?

There are two options: peak shaving and load shifting. While both energy management approaches reduce stress on the grid, they differ in their timing, approach, and objectives.

Peak shaving is about reducing energy consumption during peak demand. As its name suggests, it involves "shaving" energy peaks. At peak demand, another energy source besides the grid will be used. Often, this is a demand-side battery that stores energy during off-peak times when renewables are abundant to be discharged at peak times.

Batteries add reliance and stability to the grid. They"re also an essential resource for reducing an industrial facility"s energy bills as they avoid reliance on the grid at peak times when energy is the most expensive. Demand-side battery energy storage systems can also be bidirectional, meaning they can discharge to the grid, helping further balance the grid while adding an additional revenue stream to industrial facilities.

Load shifting is similar to peak shaving in that it aims to alleviate stress on the grid during peak times. But it works differently. With load shifting, energy consumption is shifted from peak hours to off-peak hours when demand is the lowest. This balances the grid by shifting demand to off-peak times. Load shifting is all about redistributing energy consumption.

A good example is an industrial facility that could schedule its machines to operate during the middle of the day when there"s less demand on the grid. Of course, this would only work if the machines aren"t mission-critical and can be operated at another time. And that"s one of the biggest drawbacks of load shifting.

Load shifting is all about when you use energy. In other words, when you use energy is just as important as how much you use it. That means that load shifting doesn"t actually reduce energy usage. It simply changes when you use energy.

While both peak shaving and load shifting enhance demand-side flexibility, peak shaving manages peak loads while load shifting optimizes energy usage based on price or grid conditions. Another important difference is

that peak shaving reduces the overall energy being consumed from the grid, while load shifting doesn"t reduce overall grid consumption. What does this mean for your facility?

For many industrial facilities, peak shaving is the best option as this reduces their heavy demand charges and energy usage without affecting the facility’s operations. This is key. Generally, facilities have inflexible loads that can’t be shifted to low peak hours. For example, there might be an HVAC system that’s crucial to the facility’s operations or a machine that needs to run continuously. In this case, it’s impossible to load shift.

Peak shaving and load shifting are a departure from how C& I buildings and industrial facilities have traditionally consumed energy. While different, both play important roles in the energy mix.

Navigating the world of energy management can be overwhelming, but it doesn’t have to be. We’re here to help you build a peak shaving strategy that suits your facility. Book a call with us to learn more about our solar and no-cost energy storage solutions.

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