Peak Shaving: Lower Energy Costs with an Efficient Power-Sonic PULSE™ System

Many electric utilities are charging higher rates when there's more demand ("peak pricing"). For instance, you may pay more for energy from 1:00 pm to 7:00 pm — exactly when you're using energy-intensive air conditioning or industrial/commercial machines.

Your goal is to pay the lowest possible price for electricity.

Simply analyze your last 12 months of electricity bills to determine how much of your power costs are driven by peak power usage. Your bill must tell you your peak periods and your power regular rate and your peak power rate.

THE PROBLEM: PEAK PRICING CAN VACUUM OUT YOUR WALLET. JUST ASK TEXANS:

In February 2021, extreme peak pricing hit Texas during winter power outages. News station KHOU11 reported that some Texans with variable-rate plans saw their electric prices skyrocket from $0.03–$0.08 per kilowatt-hour (kWh) to $9/kWh.

Texas's grid breakdown was a nightmare scenario for customers on a variable rate plan. But Texas isn't the only state with different pricing tiers for electricity based on demand or time of day.

Called Time-of-Use (TOU) pricing, the practice first entered widespread use in California, which leads the nation in energy policy. Across the country and the world, major utilities are following suit.

WHY DO ENERGY COMPANIES CHARGE A PEAK RATE?

There are many reasons, but primarily, it's supply and demand.

See, electrical companies have a fleet of power plants to supply the baseload – the minimum amount of electricity needed.

But many businesses and residences need more power at the same time: during business hours and on summer afternoons when air conditioning loads are highest.

Extra electricity during peak times comes from backup power plants called peaking plants, and they're much more expensive to run.

Peaking plants are only used for a few months a year — but electric companies pay to have them maintained and ready for operation 24/7. It's like hiring full year-round staff for a seasonal hotel. Worse, peaking plants are typically less efficient. That means that every kWh of power costs more to produce.

It’s no wonder power companies offer rebates for energy-efficient appliances, insulation, and other energy conservation; they don't want to fire up costly peaking plants, and they definitely don’t want to build more of them.

And you probably don’t want to pay extra money for electricity from them.

HERE’S HOW SAVVY BUSINESSES AVOID PEAK DEMAND PRICES (THE EQUIPMENT DOES THE WORK):

1. Store cheaper (non-peak) electricity in a building battery system.
2. Use battery power when grid power is expensive (peak demand).
3. Recharge batteries when kWh prices are lower (off-peak hours).

This way, you reduce your electric bill without disrupting or changing your everyday operations.

PEAK SHAVING WITH BATTERIES DOESN’T JUST SAVE MONEY; IT ALSO IMPROVES POWER RELIABILITY.

A peak shaving system gives you battery backup in case of a power outage. Depending on the capacity of your home or building battery system, you’ll be able to keep the lights on for several hours or longer. Businesses have long known the importance of uptime. And as more 9-to-5 employees work from home, they’re also discovering the importance of reliable power.

OF COURSE, PEAK SHAVING ISN’T FOR EVERYONE.

If your electricity is flat rate (same price all day), then buying peak shaving equipment will actually *cost* you money. If you pay a peak rate, you’ll want to review the numbers with an expert to be sure it’s right for your business or home.

WHAT EQUIPMENT DO YOU NEED TO PEAK SHAVE?

You probably already have a lot of the equipment you'll need to peak shave. If you have a business or rent a business space, your location has electrical wiring throughout your building. You're connected to the grid. And you have a breaker box(es).

So, you'll only need a Power-Sonic Pulse system which incorporates – high quality lithium Iron Phosphate batteries (the safest lithium batteries), a small subpanel to connect them, and a sophisticated integrated inverter.

PULSE WORKS WITHOUT SOLAR PANELS: You don't need to invest in solar panels to cut your electric bill. Sometimes, the best bang for your buck may be grid-tied battery backup – if your site isn't well-suited to solar production.

A battery-only peak shaving system is easy, simple, and affordable for professionals to install. Setup is much simpler than solar+storage. Why?

- There are fewer, less expensive components (no solar panels, for instance)
- The job requires fewer permits and fewer installation hours.
- You can size batteries to power your building for *hours,* rather than days.
- The PULSE system with 4 battery sets will provide TWO business days of power during normal energy use.

PULSE WORKS WITH SOLAR PANELS: With PULSE, you can also peak shave with solar+storage for maximum benefits. You'll have additional flexibility and redundancy, long-term energy savings, and reduced emissions. And because your solar panels will store energy in your business battery, you won't need grid power during peak demand rates.

With PULSE, you will be able to sell your batteries' surplus energy back to the grid.

Beware: Many appliances – particularly with compressors, such as refrigerators, air conditioners, and other machinery – use far more power during startup. With PULSE, our system will handle a large surge capacity (the ability to handle higher electrical demand for a short time).

WHAT'S PULSE PEAK SHAVING LIKE, DAY-TO-DAY?

With PULSE, peak shaving is like heating or cooling your home. You don't do anything day-to-day, after the PULSE system is programmed, it automatically works in the background.

And like HVAC, maintenance is minimal. The PULSE system monitors itself and will notify the operator if there are issues. And thankfully, it's easy.

WHAT TO EXPECT WHEN YOU'RE LOOKING INTO PEAK SHAVING:

First, you own your business, and you should have a trusted licensed electrical contractor to call for your PULSE installation.

Second, your installer will talk with you about your electrical needs. They'll determine how much power you use during peak hours. This discussion should determine the number of PULSE Lithium Battery packs your business will require.

They may also recommend an energy audit of your building's envelope (leaks, insulation, etc.) and mechanical system. Energy audits typically offer a high ROI because they show you where you're losing money. For instance, leaking conditioned air or operating a power-hungry appliance. Armed with their advice, you can slash your energy consumption *and* reduce how much battery storage you need, all at the same time.

Next, the installer or battery expert will walk you through their calculations. You'll see whether peak shaving makes sense for you – and how much you could save.

These calculations will also allow you to determine your ROI for your PULSE system.

From there, you can have your Power Sonic PULSE peak shaving system installed quickly and start paying less for electricity.