Use metering to manage peak demand costs in manufacturing

Who is this for?

Energy procurement managers, CFOs, site engineers and operations managers who want to reduce exposure to volatile energy costs, improve load management and futureproof against rising peak tariffs and demand charges.

Why it matters

Peak demand charges can account for 30–60%* of a site's electricity bill and are often triggered by short-duration spikes. These hidden peaks erode profitability, especially when high-load equipment starts simultaneously or when systems cycle unpredictably.

Real-time metering and equipment-level monitoring help identify and manage these risks. Load visibility supports smarter scheduling, smoother ramp-up and targeted use of batteries or on-site generation.

Managing peak demand reduces bills while building operational resilience, supporting emissions goals and avoiding unnecessary upgrades.

**Based on grant program data and analysis of NSW large business tariffs and typical load profiles.*

Key metering benefits

- Identify costly peak events and causes.
- Enable load shedding, staggering and rescheduling.
- Support integration with batteries or demand response.
- Link energy peaks to specific processes for smarter investment.
- Strengthen business case for electrification and control systems.
- Improve return on assets through better sequencing and forecasting.

How it works in practice

Without interval data, most manufacturers rely on monthly bills which hide short spikes driving demand charges. Installing submeters at the equipment, line or process level gives insight into exactly when and why peaks occur. With this insight, manufacturers can:

- reschedule high-load processes to avoid overlap.
- stagger equipment start-up times.
- detect hidden contributors to peaks, like hot water or defrost systems.
- align production and energy plans.

Real-time alerts also allow for quick changes avoid threshold breaches and test upgrades before committing capital.

What to look for in a good system:

- real-time interval data and load profile visualisation
- custom alerts for demand threshold breaches
- circuit-level or process-level disaggregation
- integration with building management and supervisory control and data acquisition (SCADA) systems, or automation platforms
- exportable trend data for analysis
- support for demand response or automated controls.

Getting started

- **Start small:** identify top three peak loads using interval data.
- **Trial quick fixes:** test staggered starts and process rescheduling.
- **Use data to build the case:** support battery, storage or control investments.
- **Tap into support:** NSW government programs like the Energy Savings Scheme and Peak Demand Reduction Scheme can help fund upgrades.

Related resources

- NSW Energy Savings Scheme
- NSW Peak Demand Reduction Scheme

Real life success stories

1. Beverage manufacturer, metro NSW

- Used SCADA-integrated meters on chillers and steam systems.
- Adjusted sequencing to avoid compressor overlap.
- Saved more than 900 GJ per year by reducing gas peak loads.

2. Cold storage operator, regional NSW

- Installed meters on refrigeration and defrost cycles.
- Identified restarts and auto-defrosts as peak triggers.
- Rescheduled defrosts, substantially reducing demand charges.
- Avoided a costly switchboard upgrade.

3. Food manufacturer, regional NSW

- Sub-metered refrigeration, compressors and pumps.
- Cut demand charges by 22% via load rescheduling.
- Adjusted staff shift start times based on live alerts.
- Used data to justify a 25-kW battery trial.

4. Dairy processor, regional NSW

- Logged steam load patterns to optimise boiler use.
- Balanced loads reducing peak gas demand.
- Avoided boiler upgrade and saved 10% of gas consumption.