

Total Cost of Ownership

Are you properly evaluating UPS system cost?



Confidently purchasing or replacing any critical asset for your business requires visibility and understanding of several factors beyond initial capital expenditure.

UPS systems are no different and, in many cases, more important as they serve to protect and ensure the continued business operation or safe shut down of other assets or processes.

While upfront costs can have a significant bearing on financial planning and budgets, the long-term costs that ensure your UPS system performs when needed can ultimately exceed your initial capital investment.

Preventative maintenance, servicing, proactive component replacement and upgrades are all essential considerations across the lifetime of a UPS system. The best approach to analysing these alongside the unique requirements of your business is to develop a Total Cost of Ownership (TCO)

analysis.

A well-crafted TCO is a crucial tool in helping you see the bigger picture and evaluate what equipment best meets short and long-term budgetary goals.

Can your operation afford the costs of downtime?

If your answer is a hard 'No!' then read on as we outline the best approach for developing a TCO and why you need one to choose your UPS solution with confidence.

The best way to begin your TCO process is to split the costs into two groups:

1. Deployment Costs - Capital Expenditure (CAPEX)
2. Operating Costs - Operating Expenditure (OPEX)

CAPEX

The key factors affecting your initial capital investment are electrical-load audit, equipment purchase, footprint/environment requirements, installation, commissioning and energy storage.

When selecting UPS equipment, it pays to partner with experts who can assess the current load requirements of your operation and allow headroom for the potential load increase as your business grows.

Your UPS specialists will conduct a full analysis of your operation and your site to determine:

- Critical load
- Headroom for future load increase
- Battery runtime autonomy
- UPS redundancy (N+1)

This analysis enables careful site planning for the UPS update/installation, confirms suitability within the existing building electrical infrastructure and ensures minimum disruption to your site operations.

It's particularly important to review your load requirements if you are upgrading or replacing your UPS solution as it's highly likely that your electrical load has changed over time.

You can also confirm that the equipment footprint and environmental requirements, such as temperature, suits your location or whether preparation work will be required. Space is a valuable fixed asset and will be a major factor when planning your installation.

Battery quality varies depending on make and type, with battery solutions offering varying lifespans before replacement is necessary.

The amount of backup time your operation requires will also influence the overall initial investment, as energy storage costs scale roughly linearly to runtime.

A carefully selected UPS solution will offer the flexibility to be adapted to future load, factors that must feature in your TCO analysis.

Once you are confident your new UPS system is tailored to the unique requirements of your site and operation, consideration should be given to installation, testing and commissioning.

Your UPS specialists will install your new system, perform internal upstream and downstream electrical connections, start-up and test the UPS and energy storage systems before commissioning the UPS and setting up the UPS alarm and battery monitoring solutions.

Quantifying these costs is another important TCO consideration and should take into account the expertise and experience of your selected UPS installation partner.

OPEX

At the core of a well-prepared TCO is the lifetime costs of an asset beyond your initial capital outlay.

Ensuring optimal performance for the lifetime of your UPS system must be a major focus of your TCO evaluation.

Notable operating costs of a fit-for-purpose UPS solution include power consumption (of both the system and any environmental assets such as air-conditioning), upgrades and preventative maintenance & servicing.

Modern UPS solutions are very efficient and have high output power factors. It is worth working with a UPS specialist to compare the efficiencies and energy saving capabilities of different units under different load scenarios.

Efficiency is highly load dependent and most UPS vendors publish an efficiency curve showing the highest efficiency at full load, with most UPS systems operating in the 30-70% load range. It is important to consider the efficiency of the UPS at the load level you forecast.

Another major consideration is regular preventative maintenance and servicing to ensure that your UPS system and batteries can support your critical load in the event of a power interruption.

The terms and costs of maintenance contracts vary between suppliers, however it is important to ensure your UPS specialists will conduct periodic scheduled maintenance that also includes battery load testing and the replacement of certain consumable components such as filters, fans and capacitors.

Lifecycle management and accurate reporting of UPS equipment is essential to maximise the uptime and return on investment. This can provide advance visibility, helping you budget for end of life replacement.

Because power issues can occur at any time, it's also prudent to confirm that your UPS service provider offers a 24/7 callout facility and is known for rapid response times.

Again, the costs of downtime and the loss of production can far exceed the deployment costs and operating costs combined.

Knowing your selected provider's after-sales service offer can extend to the number of suitably trained people they have available in New Zealand and whether they are direct employees or contractors.

The availability of spare parts locally, as well as logistics and handling should also be considered. Relying on offshore experts or parts introduces risk and delayed response times.

As with your UPS solution being ready to perform when needed, your UPS partner should also be ready to rapidly support your operation when needed.

You're Buying Assurance

A UPS solution should be measured by its value and not by its cost. What it can bring to your business is continuity, resilience and disaster recovery – values that will ensure a business can continue to operate even in the event of prolonged and unexpected power outages.

Every business should do its own due diligence, compare purchase costs and understand the value it can derive from its UPS investment – or the costs associated with not having one!

To truly understand the value equation, a total cost of ownership analysis is vital in ensuring a high-level of power protection while delivering the best value for money.

Choosing to work with a reliable supplier who will act in your best interest as a trusted advisor and provide ongoing support is essential.