Effective Energy Management

With depleting natural resources and increasing energy costs now ever-present business concerns, achieving cost and greenhouse gas reduction with energy management initiatives is of critical importance. We provide innovative and professional energy management services and solutions encompassing site assessment and solution design and implementation to help your site or organisation to increase energy efficiency, lower energy consumption costs and improve equipment lifespan and operation. Our approach to energy management emphasises the triple bottom line by considering people (safety), planet (energy consumption reduction) and profit (cost savings) when providing all of our services and solutions.

Energy Management Services

- Energy Footprints
- Energy Audits
- Power Analysis
- Tariff Reviews
- Electrical Risk Assessments
- Environmental Safety & Risk Assessments
- Energy Management Program Development & Training

Energy Management Solutions

- Power Optimisation
- Carpark Emission Control Systems
- Intelligent Monitoring & Control Systems
- Sub-metering Solutions
- Plant & Equipment Refurbishment
- Energy Management Systems
- Switchboard Upgrades

Energy Management Services

At Cypher we realise that no two industrial or commercial sites are the same. When considering energy management initiatives it is important to consider factors that are unique to each site and apply design criteria accordingly. Our process for delivering effective energy management solutions involves conducting or reviewing site assessments to determine what energy saving initiatives are the most suitable for your site. We provide a variety of cost-effective energy management services to identify potential energy management solutions ranging from introductory Energy Footprints to complex Energy Audits and Power Analysis.

Energy Footprints

An Energy Footprint is an ideal starting point to begin exploring energy management initiatives for your industrial or commercial site. Our Energy Footprints provide a summary of annual consumption from electricity and/or gas energy sources along with a corresponding carbon footprint that can be integrated into your organisation's Environmental Management System and Energy Management Program. In addition an Energy Footprint will determine an energy performance indicator for your site that serves as a measure of how efficiently energy is used at site and also acts as a benchmark against which the success of energy saving initiatives can be measured. The energy performance indicator can also be used to rate your organisation's energy efficiency against others in your industry, which can present a good opportunity to promote your site/organisation as environmentally responsible.

Advice on how to proceed with pursuing energy saving initiatives for your site will also be supplied with an Energy Footprint, as well as general recommendations for energy efficiency practices and an optional electricity tariff review to determine whether your electricity contract is the best available for your site.

Energy Audits

When considering the implementation of energy saving initiatives, Energy Audits are a cost-effective method for determining the best course of action for your site or organisation.

An Energy Audit provides a site-wide analysis of energy consumption for your site; and uses this analysis to generate recommendations for site specific Energy Management Solutions.

The applicable Australian Standard for undertaking Energy Audits is AS3598:2000, which outlines three levels of auditing. Given the low level of accuracy required in the Australian Standard for Level 1 Audits, we only offer Level 2 and 3 Audits as these provide more value in determining appropriate energy management initiatives.

Level 2 Audits

A Level 2 Audit provides an analysis of energy consumption for your entire site including a breakdown of the proportion of consumption attributable to specific items of plant or processes. Consumption data is taken from both energy bills and via scientific onsite measurements that reveal the source of energy management issues at your site. A wealth of engineering experience is then applied to ascertain the most effective energy saving initiatives for your site. A statement of costs and savings relating to each recommended initiative is supplied with an order of accuracy within +/-20% as per AS3598:2000. Our Level 2 Audits typically identify potential annual energy savings between 10-30%, which represent significant energy and greenhouse gas reductions.

Level 3 Audits

A Level 3 Audit provides a detailed investment grade analysis for either an entire site or a specific piece of plant and equipment or process. Economic analysis of costs and savings for energy saving initiatives is supplied with an accuracy of +/-10%. This level of energy audit is most suitable following a lower level of audit, footprint or site assessment that has recommended the pursuit of a particular energy saving initiative.

Power Analysis

A key component of examining any energy management project is to analyse power usage and electrical load characteristics for either the entire site or specific plant and equipment. Our Power Analysis service gathers and reports on consumption statistics over a business cycle to uncover unique operating information and address any existing energy management issues. Power Analysis may be provided as an inclusion in one of our Energy Audits, or can be provided separately where required. This type of analysis is particularly useful when investigating whether your site is suitable for a power optimisation solution such as our proprietary Power Plateau system.

Tariff Reviews

Utility market deregulation has presented a significant opportunity for your business to cut energy consumption costs by finding the best contract available. Each business has different energy needs; and these need to be reflected in your choice of energy provider. The process of collecting and analysing all of the information required to find the best available supplier can often be daunting and time-consuming. We can take the hassle out of this process by providing a Tariff Review service in which we will do the legwork required to find you the best contract for your business. Whether you are a small-to-medium business spending between $2,000 - $20,000 per year or a large business spending more than $20,000 per year significant savings can generally be found.

Electrical Risk Assessment

Electrical safety for people, plant and equipment is a key concern for any site. Our team has in-depth knowledge and experience in the application of the Electrical Safety Act 2002. We perform onsite Electrical Risk Assessments to verify that all plant and equipment at your site and its method of installation complies with the Electrical Safety Act and provides a safe environment for both employees and customers. Electrical safety issues may be identified either during the course of one of our alternative site assessments or through an independent Electrical Risk Assessment. All issues that are observed at your site will be reported to you along with options for remediation.

Environmental Safety & Risk Assessments

While addressing energy management issues at your site we treat environmental safety as critically important. Throughout the course of our work we may identify general environmental risks that are worth consideration, or may be required to perform an environmental assessment to investigate the suitability of a proposed energy management recommendation. These assessments can vary from auditing the levels of toxic gas present in certain areas to identifying potential fire hazards at your site. In any case, safety is our top priority when providing energy management services and solutions to our clients.

Energy Management Program Development & Training

The success of energy management initiatives depends on an organisation's approach. In order to effectively plan and implement energy management projects an Energy Management Program is a necessary tool for establishing key goals, decision criteria and processes for achieving higher levels of energy efficiency. We can assist your organisation to develop and implement an effective Energy Management Program by drawing on our field and industry knowledge and experience. In addition we are able to provide staff training in energy management and important energy issues more broadly.

Energy Management Solutions

Our Energy Management Solutions enable energy consumption costs to be reduced without compromising safety or requiring behavioural change from customers, tenants or guests. By utilising sophisticated measuring and monitoring technology energy systems can be controlled with precision to ensure greater energy efficiency. We have solutions available for a broad range of energy management applications including:

Power Optimisation

Most modern industrial plants, office buildings and residential and retail complexes have rapidly growing proportions of non-linear electrical load such as fluorescent lighting systems and electric motors. These devices cause inefficiencies in power supply by increasing pressure on electrical infrastructure, which can increase energy costs and cause damage to plant and equipment. Applying our proprietary Power Plateau power optimisation solution to your site provides energy cost reductions, increased equipment life and extra system capacity by ensuring that your site receives an efficient supply of electricity from the network. The savings achievable with the Power Plateau depend on your site's electrical load characteristics; and are generally around 6-10% of current consumption costs.

Carpark Emission Control Systems

Many carpark exhaust ventilation systems are designed to consume much more energy than necessary. Our emission control systems precisely monitor the levels of gases present in enclosed carparks and regulate airflow to provide a safe environment for customers and employees while reducing energy consumption. By adjusting airflow according to vehicle movement our emission control systems typically deliver savings between 15-30% of current electricity costs.

Intelligent Monitoring & Control Systems

Through our work at both industrial and commercial facilities we have found that significant energy cost reductions are achievable with the implementation of intelligent monitoring and control systems that ensure that energy is only used as and when required. These systems vary widely according to your specific application from industrial motor control to site-wide energy management systems.

Sub-metering Solutions

As the saying goes, you can't manage what you can't measure. This is often the case in retail, commercial and residential sites with a single utility bill that is divided among tenants. By implementing a sub-metering system energy use can be divided equitably among tenants and each tenant can take responsibility for managing their own energy consumption. Sub-metering systems provide incentive for pursuing energy efficiency opportunities and allow building management to focus on controlling community consumption without the added stress of attempting to control individual tenants' consumption.

Plant & Equipment Refurbishment

Both expected and unexpected wear and tear on plant and equipment can lead to efficiency losses and increase energy consumption. These efficiency losses can often be eliminated by refurbishing plant and equipment or implementing preventative maintenance programs. Our team draws on a great depth of engineering experience to supply plant and equipment solutions that provide increased energy efficiency, increased equipment life, reduced downtime and also improved output efficiency.

Energy Management Systems

Running a site efficiently requires access to real-time relevant activity data. By monitoring energy consumption throughout your site, whether in an industrial process line or a resort apartment block, it is possible to adjust consumption patterns to minimise cost and increase efficiency. Our Energy Management Systems are custom-designed for your site to provide maximum possible control for your budget and operational requirements ranging from simple overall consumption monitoring systems to site-wide systems that enable you to monitor and control consumption in specific areas while also recording and analysing data as necessary. Implementing an Energy Management Systems allows you to minimise energy wastage while allocating consumption to where it is most needed.

Switchboard Upgrades

Effective energy management cannot be achieved without the right electrical infrastructure to ensure safe and smooth power supply. Our switchboard upgrade solutions provide effective and reliable electrical equipment to safeguard your switchboard against power supply interruptions and equipment failure events.

Please contact our Energy Management Director for more information on our services and solutions

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