



Photo: Elana Clark Photography/OEH

Energy Saver

Electricity metering and monitoring

Metering and monitoring is a central component of good facility management. It can help you manage energy use and costs, report on your energy performance, achieve regulatory compliance and operate your facility more effectively.

What is electricity metering and monitoring?

Electricity metering and monitoring is a management tool that uses a combination of hardware and software to gather data and turn it into useful and actionable information about your facility or your equipment, or both.

A metering and monitoring system can incorporate data from a range of sources, including:

- utility meters and energy bills
- electricity usage by tenants and separate cost centres
- building management and control systems

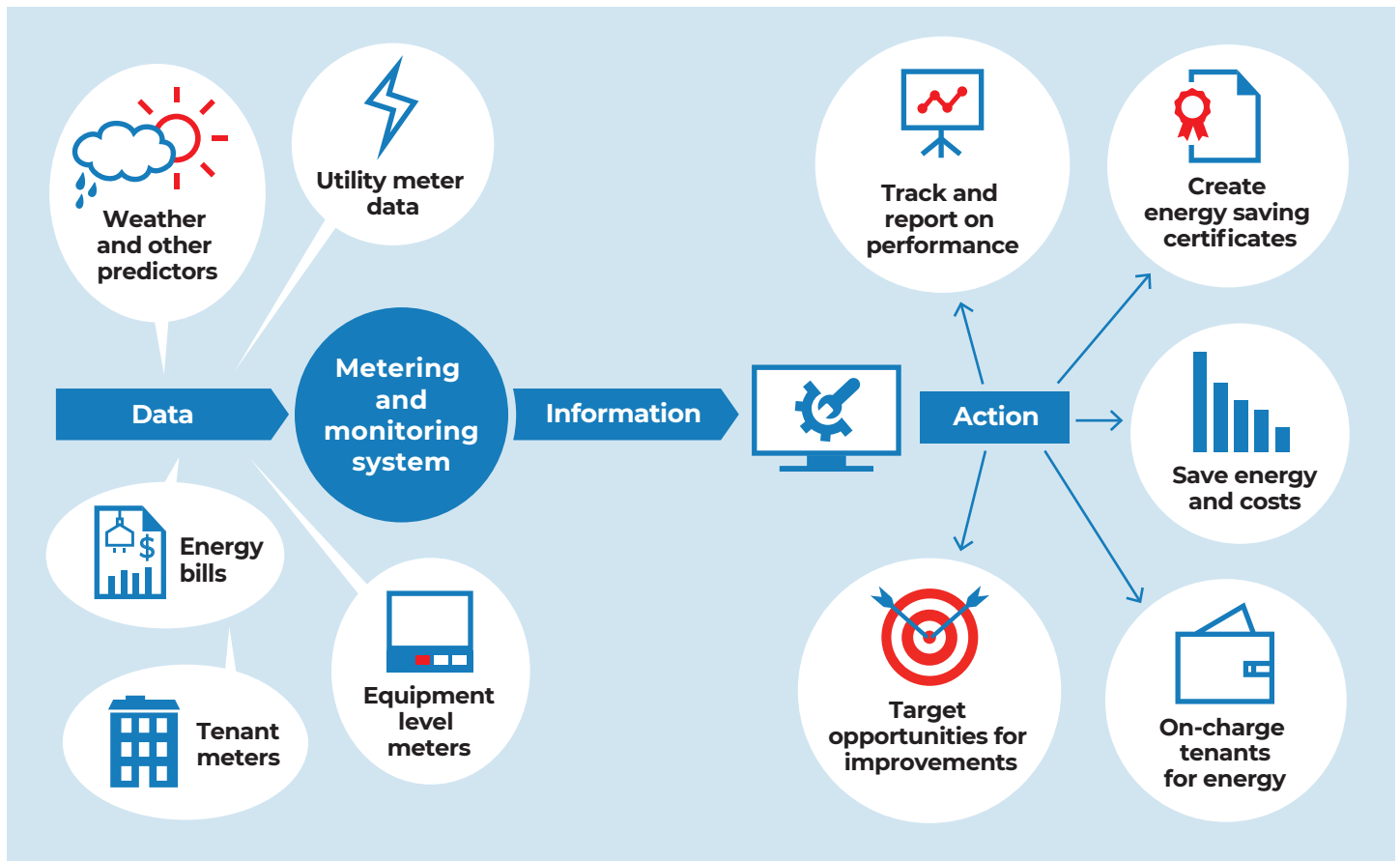
Metering and monitoring are an essential part of good facility management.



Photo: Elana Clark Photography/OEH

- individually metered appliances or distribution boards
- other factors that influence energy consumption such as the weather, production output or building occupancy.
- An electricity metering and monitoring system can aggregate the data and provide you with information you can act on to cut costs, manage assets and identify efficiencies.

Metering and monitoring system overview



How can metering and monitoring benefit your business?

Electricity metering and monitoring can help you to:

- save energy, money and time, and operate your facility more effectively
 - create an energy management plan and set up an energy management system
 - target opportunities for improvement
 - track and report your energy performance improvements
 - predict the savings impact from purchasing new, more-efficient equipment such as chillers, pumps or lights
 - allocate costs to tenants or separate business units
- comply with regulations
- secure funding for energy efficiency upgrades.



An electricity metering and monitoring system can aggregate the data and provide you with information you can act on to cut costs, manage assets and identify efficiencies.

Indicative savings from implementing electrical metering and monitoring

Action	Typical energy savings	Savings mechanism
Installation of meters only	0 to 2%	Awareness that consumption is being monitored; savings not likely to persist
Enhanced billing and allocation	2 to 5%	Improved awareness, ongoing
Feedback on consumption and facility tune-up	5 to 15%	Improved awareness, and identification of opportunities for simple operational and maintenance improvements
Real-time feedback and continuous commissioning	15 to 30+%	Improved awareness, identification of opportunities for simple operational and maintenance improvements, implementation of energy efficiency projects with verified results, continuing management attention

More information about the sources of these savings can be found in the Office of Environment and Heritage (OEH) [Electricity Metering and Monitoring Guide](#).

Is metering and monitoring right for you?

How do you know if a metering and monitoring system is right for you? Consider the following situations:

1. You don't understand how and where energy is used at your facility.
2. You don't know what to do to reduce energy costs.
3. You spend over \$50,000 a year on energy costs.
4. You have multiple tenants or cost centres and you need to allocate costs or bill them for electricity.
5. Your facility performance is drifting over time, and you aren't tracking asset or contractor performance in relation to energy use.
6. You don't know if the energy efficiency measures you have implemented have actually worked.
7. You need to secure finance to pay for upgrades, to help reduce your ongoing energy costs.

If any of these situations are relevant to you, then now is a good time to investigate procuring an electricity metering and monitoring system.

How metering can improve your performance

Reliable energy data, recorded and tracked over time, can be the key to unlocking year-on-year energy savings and improving asset management. Organisations can set energy and greenhouse emissions targets, regularly report on these targets and track the impact of energy-saving opportunities over time.

Participation in rating schemes and sustainability reporting programs, such as NABERS and Green Star, can help realise benefits from increased awareness of sustainability performance, such as greater brand awareness and increased rental yields. Some of these schemes have minimum requirements for metering and monitoring; see OEH's Electricity Metering and Monitoring Guide for more information.

The availability of equipment-level power measurements can enable savings from upgrades to be measured and verified, and could create energy savings certificates under the NSW Government Energy Savings Scheme.

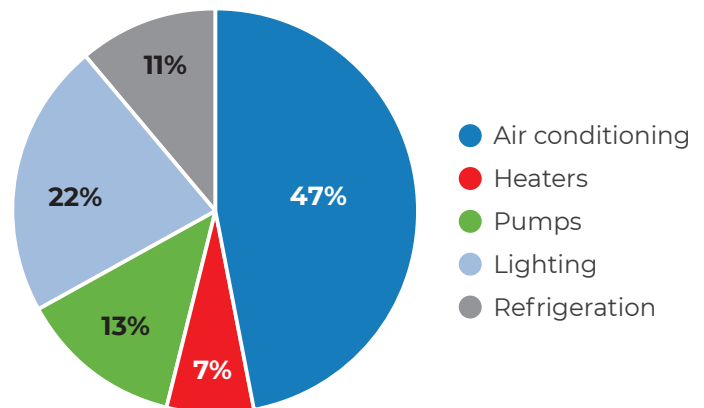
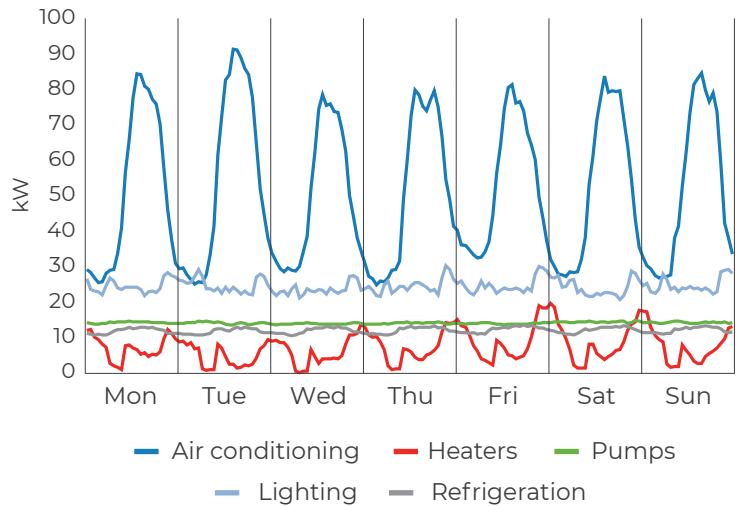
Setting clear goals is an important first step towards procuring an effective metering and monitoring solution.

Where do you start?

Start with the [Electricity Metering and Monitoring Guide](#) produced by the Office of Environment and Heritage. It includes a seven-step implementation plan, tips and checklists, and an associated Request for Proposal Template. The guide will help you to understand the basics, set goals, prepare budgets and business cases, define your requirements, set guidelines for suppliers, and successfully install and commission a metering and monitoring system.

Seven steps to successful implementation

1. **Set your goals** – to ensure you procure a solution which addresses your requirements.
2. **Understand your current situation** – consider what information you already have access to and the equipment you have on site.
3. **Investigate costs** – factor in all the upfront and ongoing costs and work out how much you can spend.
4. **Investigate and choose solutions** – review the various electricity metering and monitoring options and decide which system will best meet your needs, e.g consider what information you will need from the system, how you will act on this information, and what hardware and software or service contracts you will need.
5. **Develop a business case** – communicate the likely costs and benefits of the proposed metering and monitoring system.
6. **Implement your new measurement and monitoring system** – send the right information to suppliers, ensure it is correctly installed and commissioned, and staff are appropriately trained to use it.
7. **Monitor and review performance** – establish energy performance indicators, incorporate ongoing energy performance into management reporting protocols and job descriptions.



Typical power profile with pie graph showing breakdown

Find out more

Need help using gas? See the OEH website for advice about gas measurement and monitoring:

energysaver.nsw.gov.au/business/equipment-and-technology-guides/gas-measurement-and-monitoring.

Find an energy expert: See the OEH website to find a pre-approved specialist who can help with your energy optimisation project:

energysaver.nsw.gov.au/business/evaluate-your-usage/find-energy-expert.

Offset your upfront costs by creating energy savings certificates. You may be eligible to create energy saving certificates from an energy conservation measure.

Talk to an accredited certificate provider to find out more: www.ess.nsw.gov.au/Accredited_Certificate_Providers/List_of_Accredited_Certificate_Providers.