Energy use & reduction

PlanetMark

This toolkit is designed to introduce businesses and organisations to building **energy measurement and reduction** best practice.

Contents

Why is **measuring and reducing** your energy use important?
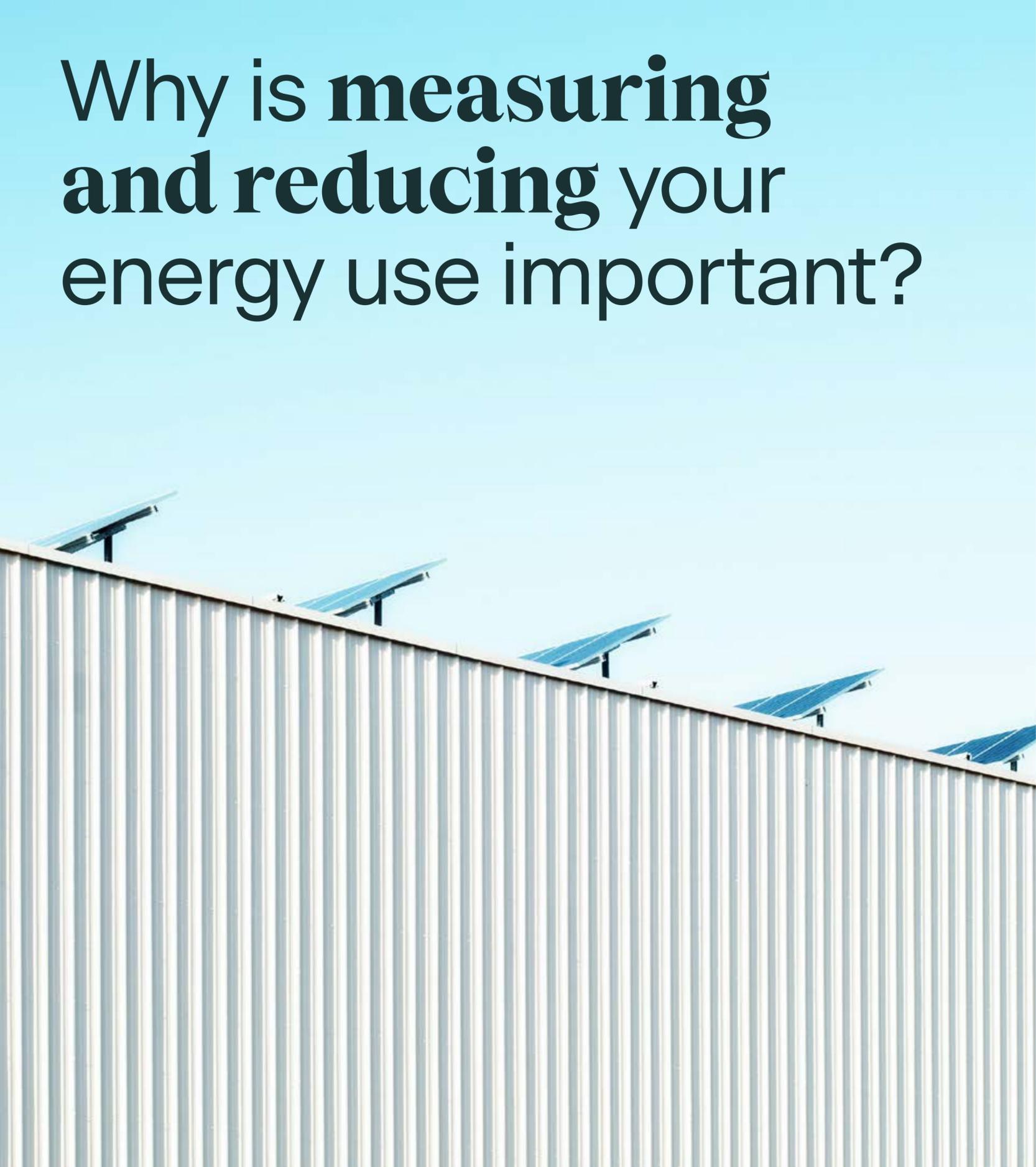
Climate change is becoming a strategic priority in the boardrooms of businesses across the world. How we create and consume energy is at the centre of how we manage climate change, and businesses are increasingly recognising their responsibility to reduce energy consumption.

Businesses and organisations are also beginning to understand the many benefits of measuring and reducing their energy output. There are clear cost benefits to managing energy use efficiently. If a single laptop is left on for 24 hours a day, it will cost around £50 in electricity per year. If the laptop is left on during working hours only, this cost drops by over 80%.

These benefits are felt even more acutely in a volatile market for energy. The effects of fuel shortages are already impacting prices. Businesses and organisations with lower energy use will be future-fit and more resilient to price fluctuations.

The modern technological revolution means that competitive businesses are consuming more electricity than ever before. Smart devices and increased electrification has seen global demand for energy skyrocket.

While electricity is becoming greener (as more renewable energy is produced), it is also becoming more widely consumed, making efficiency even more important for a modern business.

Reducing your business or organisation's energy demand can also have positive local impacts. Workplaces with low energy demand often display productivity, health and wellbeing benefits for their occupiers. If energy is consumed on-site, lower local emissions could have positive impacts for the local environment.

Research also shows that employees are more likely to want to work with a company that is taking action on climate change. Reducing work-based emissions is a great way to engage teams in positive change and drive collective action.

For the planet, for profit margins, or for the people in your organisation, there are many reasons to save energy throughout your business. These guides are a step-by-step approach to measuring and reducing your energy emissions in the most responsible way.

Planet Mark

What's a **normal level of energy use?**

Before beginning to measure your business or organisation's energy use, it is important to get a try to benchmark energy use in your area and industry. However, all businesses have different energy demands. Two businesses of equal sizes and in the same industry will still have different offices, with different heating, appliances and working patterns that will affect the amount of energy used.

While not an exact science, it is important to check standards for your industry. If your results are dramatically different to these, it can be an indicator that energy use can be changed, or that your calculations are inaccurate.

The below tables will also provide estimates for how much electricity and gas your business may use.

Gas

Business size	Low end usage (kWh)	High end usage (kWh)
Microbusiness	5,000	15,000
Small business	15,000	30,000
Medium business	30,000	65,000

Electricity

Business size	Low end usage (kWh)	High end usage (kWh)
Microbusiness	5,000	15,000
Small business	15,000	25,000
Medium business	25,000	50,000

What can create **inefficient** energy use?

There are many reasons why a business could be energy inefficient. Faulty or dated technology can lead to excess energy use. In particular, there has been large advances in lighting and refrigeration technology that makes modern products much more energy efficient than their older counterparts.

Human factors can also contribute to inefficient energy use. Open doors, overused lighting and appliance standby modes all contribute to higher energy bills and larger carbon emissions.

Finally, building and office design can contribute to energy waste. Whether it is poorly designed automatic heating, or poorly ventilated spaces, facilities and office manages can be important stakeholders in making sustainable changes and reducing energy emissions.

Assessing the impact of all of these factors requires proper measurement. In the next section, we will share best practice on measuring your business energy use.

How to **measure your energy use**

Measurement is a vital first step in any successful sustainability strategy. Without a thorough measuring process, it is much more difficult to identify priority areas to increase energy efficiency, to plan for the future and communicate successes.

We recommend collecting data for at least 12 months. This allows for a business to account for seasonal and business-year fluctuations that may impact energy consumption, and give like-for-like comparisons. Heating, for example, is extremely seasonal, and must be measured annually to give accurate comparisons.

To get the best measurements, your business needs the best quality data available. The rollout of smart meters has dramatically increased the availability of data to users, showing energy use for businesses at an appliance-level. This is the gold standard of reporting, and will help businesses make the most accurate decisions.

However, we know that not all businesses will be able to get the best data in all circumstances. That is why we have created a data hierarchy for gas and electric use for business.
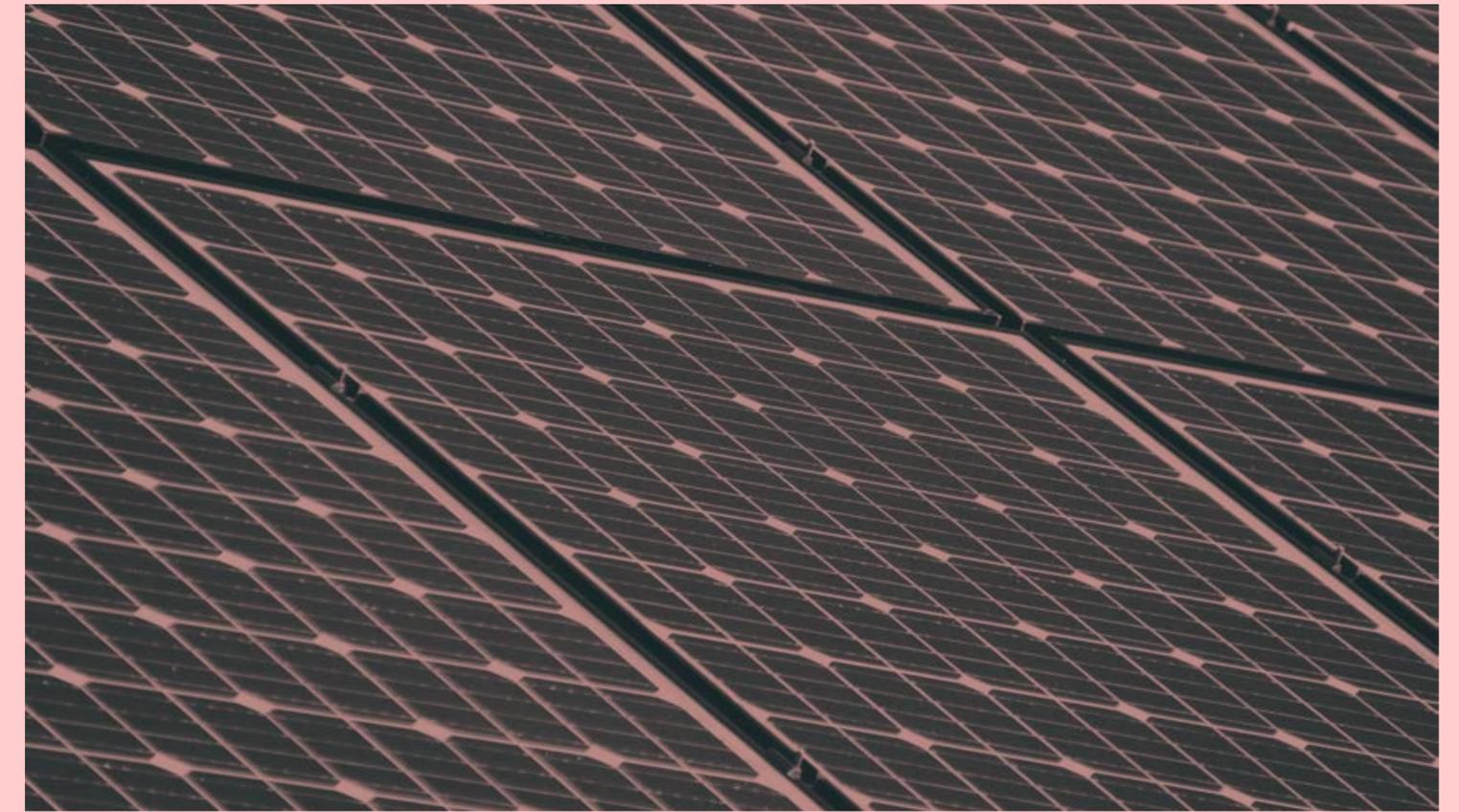
Data hierarchy

The data hierarchy is a priority list of how to best source gas and electricity emissions data. The hierarchy is:

1	Half-hourly meter data, provided by smart meters (or sub-meters if your business is in a shared building)
2	Invoices containing meter readings or energy consumption covering at least 12 months
3	Meter readings taken internally throughout the year
4	Pro-rata estimates of entire building use, or estimates provided by landlords. These estimates can also be used for shared areas in your business (such as shared kitchens or lobbies).

Once this data has been collected, it can be **compared against industry and regional standards,** and used to identify priority areas of action.

Other areas of **consideration**

1 Actual vs estimated data

9 months of actual data readings is more valuable than 12 months of estimated reading. Where possible, prioritise obtaining precise data and evidence.

2 Picture of meters

Pictures of meter readings at the beginning and at the end of each year is a great way of obtaining very accurate data.

3 On-site renewables

If you have on-site renewables, such as solar PV or on-site heat pumps, your organisation may have different meter data that regular business consumers.

It is vital to measure electricity imported and exported to the grid, and to factor this into your energy measurement calculations.

4 On-site fuels

If your business uses other building fuels, such as LPG, it is important to get accurate fuel usage from your supplier. This would ideally be through purchase orders, logged for 12 months, and accounting for stock at the beginning and end of each reporting period.

5 Homeworking

Homeworking has become the norm for many businesses, and can complicate business energy emissions.

The best data set is able to calculate how many days each employee spends at home each year, and if they buy their energy from a renewable supplier. As with energy use, logging homeworking over a period of 12 months accounts for seasonal variations of working patterns in your business. From this data, Planet Mark can then provide estimated energy use for your staff working from home.

While a green energy tariff will not necessarily benefit your carbon footprint (renewables from the grid are incorporated in emissions factors), it does **add value to your sustainability programme** and shows that you are supporting green energy provision.

Contact us to find out about energy procurement solutions.

Planet Mark

Want to know more?

Get in touch with
our team

PlanetMark