Carbon Co-op

Smart meters explained

A smart meter is a more techy version of a normal energy meter. They can record and send energy data, allowing you and your energy supplier to see what you use in real time.

Newer smart meters send data every 30 minutes for electricity, and monthly for gas. You can request for this to be changed to:

- every day for electricity,
- every 30 minutes or daily for gas.

There are advantages to 30 minute data which are described in more detail below.

Smart meters can:

- make billing easier, removing the need to send meter readings.
- give you access to information about when and how much energy you use. This could help you save energy and money. For example, by getting more efficient appliances or changing when and how you use them.
- give you access to tariffs that reward you for moving your energy use to times when the energy grid is less busy, or when there is predicted to be more than we need.



The smart meter itself will be hard wired to your electricity supply (fixed to a wall), like above.



Image: CC BY-NC-ND 4.0 | Trusted Reviews

You may also have an 'In Home Display' or 'Smart Energy Monitor.' These connect to the smart meter and display its information. They usually have a plug and can be used wirelessly.

You can have a smart meter regardless of whether you:

- Pay as you go (prepayment)
- pay monthly by direct debit (spreading your costs over a year)
- pay on receipt of a bill.

Frequently asked questions about smart meters

How do you tell the difference between a traditional meter and a smart meter?



Left photo by Arthur Lambillotte on Unsplash

Left: an old style meter. Some old meters do have a digital screen. For example, the photo below shows an old style prepayment meter.



Smart meters look similar to older meters - you can still see the reading on the display. They have a digital screen.

Your energy supplier's website or app will give you access to the data. However, the way they present this varies, and you may only have access to the last year's worth of data.

Other tools are available which may offer greater access to your smart meter data, and better ways of analysing it. For example, what are the carbon emissions associated with your energy use? What times of day do you use more or less energy? How has your use changed over many years?

Can I get a smart meter if I rent?

You can get a smart meter if you rent your home from a private landlord, the council or housing association. This is especially the case if you pay for electricity and/or gas.

Ofgem advice is to tell your landlord before you get a smart meter. This is because some tenancy agreements include rules about how energy is supplied to your home, including the type of meter. But, if the tenancy agreements says you need their permission, the landlord should 'not unreasonably prevent it.'

If the landlord pays your energy bills, it's their decision whether to get a smart meter or not.

Do I have to pay for a smart meter?

Smart meters are being rolled out as part of a national programme. They are installed by your energy supplier. The costs of smart meters are included in all of our energy bills, so you should not be charged separately for fitting a meter or receiving an In Home Display.

If anyone tries to get you to pay for a meter separately, it's likely a scam.

Who has access to my energy data?

A smart meter simply records how much gas and electricity you use, by sending meter readings to your energy supplier.

A smart meter does not record, or send, personal details like:

- your bank or payment details
- your name
- your address.

However, in Great Britain smart meter data is classed as private data. It is owned by you, the consumer. Anyone who uses the data has to be very careful to follow Data Protection regulations (the General Data Protection Regulation, plus the Smart Energy Code). Data is sent over the smart meter network, but this uses a high level of encryption and security standards.

Who else benefits ?

Smart meter data is useful to organisations and companies. But this is only available where you (a householder) agrees. This is often called permission or consent. For example, at Carbon Co-op we use smart meter data to do research and plan products and services that benefit households and support the transition to a cleaner and more equitable energy system.

At Carbon Co-op we would like to see common standards for how users access their data and manage consent for others to access their data. This would make the system easier to understand and more transparent for consumers.

We would also like to see barriers reduced for organisations that have a community benefit or not for profit purpose.

Smart meter data is also very useful to organisations like District Network Operators (such as Electricity North West) who maintain the equipment that supplies electricity to our homes. For example, as more of us move to electric heating systems (like heat pumps) this often decreases gas use, but increases electricity demand on the network. Knowing where and when this is happening allows them to:

- plan investment (such as upgrading wires and equipment)
- Identify areas of higher demand - in these places network operators look for ‘flexibility’ services where they pay consumers to reduce their energy use. They may look for a long term reduction in energy, or very specific periods of time where peak demand needs to be ‘turned down.’

Giving your consent for more accurate data to be shared (every 30 minutes) will open up more opportunities for you to get paid for providing benefit to the energy grid.

Are smart meters dangerous?

No, this is a myth. There is a lot of scientific research (reviewed by lots of different experts), and backed by health organisations (like Public Health England), which says that smart meters are safe. Exposure to the radio waves they produce does not pose a health risk.

“The level of radio waves that smart meters produce is typically one million times less than guideline levels. It is much lower than the items we use every day such as microwaves, TVs and mobile phones.”

How reliable are smart meters?

There have been no shortage of stories in the news about smart meters, and it’s true that there have been problems with older equipment especially. Further upgrades may also be needed when the old 2G and 3G networks are switched off (these were used for mobile phones in the 1990s and early 2000s).

However, smart meters are on the whole very valuable and important in the energy transition. Having more data about our actual energy use is really important in understanding how well retrofit and other home improvements perform, and whether they deliver positive outcomes for residents.

At Carbon Co-op, we want to support householders to understand and get smart meters, so that the benefits of the energy transition (including access to smart tariffs, flexibility services and payments) are available to as many people as possible.

If you are concerned that your smart meter isn’t working, a good first step is to try the Citizens Advice tool.

Can suppliers remotely switch to prepayment?

It is true that an energy supplier can remotely switch a smart meter to work in prepayment mode. They may do this if you have slipped into debt on your energy accounts.

However, there are tighter rules about doing this, introduced by the energy regulator Ofgem in late 2023. This includes more safeguards, like a ban on forcing prepayment meters on those over 75 years old, families with young children, a disability or health condition that would make it unsafe, you can’t afford to top-up or if you can’t access your meter.

The main thing to note is that a supplier can only do this **after they have taken all reasonable steps to agree payment.** It should only be a last resort in order to avoid disconnecting your supply.

Scan or click the QR code for more advice on smart prepayment meters and your rights.

Check your smart meter is smart!

The vast majority of smart meters send the reading automatically to your energy supplier. Occasionally there are hiccups with data transfer and this doesn't happen.

The most common reason is that you have an early smart meter (put in before 2018). These are often called 'first generation' or SMETS1 smart meters. When a household switched energy supplier, these meters sometimes stopped sending automatic readings.

However, a lot of first generation meters have now been upgraded and moved on to the new network. In most cases this has fixed any problems.

The Data Communications Company (DCC) is working with energy suppliers to identify the rest of the old meters and resolve the problem. If this doesn't work, your supplier will need to install a new 'second generation' SMETS2 meter.

There can be other reasons why a smart meter is not working properly. See the next page for a useful link on resolving smart meter issues.

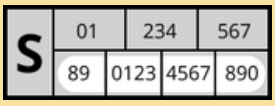
Check your meters with Citizens Advice

You can check if your smart meters are working in smart mode using this handy tool from Citizens Advice: smartmetercheck.citizensadvice.org.uk

To use the tool you'll need two or three pieces of information, all of which can be found on your energy bills.

Electricity

- Your Meter Point Administration Number (MPAN) will be on your electricity bill, where it's sometimes called your 'supply number'. It has 12 or 13 digits. You only need the numbers on the bottom row.
- Your post code.



Gas

- Your Meter Point Reference Number (MPRN) will be on your gas bill. It has between 6 and 11 digits.
- Your post code.

If you don't have a recent gas bill to hand, you can also search for your MPRN using this tool: findmysupplier.energy

Want to learn more?

Ask us about our related information sheets on:

- Understanding your energy use
- Making the most of changes happening in the energy system
- Smart meter tools: Carbon Co-op's PowerShaper Monitor

For more facts about smart meters

Smart Energy GB
smartenergygb.org

The Centre for Sustainable Energy:
smart meters

Got a problem with your smart meter?

Contact your energy supplier to make sure they investigate and fix the problem. You'll find their telephone number on a bill.

Make sure you send manual meter readings in the meantime, otherwise you may end up over or under paying for your energy.

Centre for Sustainable Energy page about resolving issues with smart meters

Useful links from the Data Communication Company

If you're considering a smart meter
smartdcc.co.uk

If you think you have an old ('first generation') smart meter

Not sure who your energy supplier is?

Scan or click the QR code to visit the Citizens Advice website for advice on how to find out who your energy supplier is.