

Automatic meter reading

Automatic meter reading (AMR) ensures bills are based on actual, rather than estimated, consumption, and avoids the need for manual readings, which can be impractical and unreliable.



What is automatic meter reading?

Overview

Automatic meter reading (AMR) ensures bills are based on actual, rather than estimated, consumption, and avoids the need for manual readings, which can be impractical and unreliable.

AMR means you can:

- check that you're being billed correctly
- see how much energy you're using and when.

Through AMR you can opt to have your meter read as often as you like, from once a month to every few seconds in some cases. How often a reading is taken will depend on the type of equipment installed, the application and if the equipment belongs to you or the supply company. The more frequently you have it read, the more data you'll collect, allowing you to better understand your consumption and spot potential savings.

Plus, as it costs far less to install an AMR system than it once did, it's a much more realistic option today than it has been in the past.



Is it right for me?

You can't manage what you don't measure, and any business can benefit from AMR and use it to keep closer track of energy use. However, larger sites that use more energy stand to receive a quicker payback against the cost of metering than smaller sites.

AMR is also particularly useful if you qualify for the new Carbon Reduction Commitment (CRC) – due to come into effect in April 2010.

Will I qualify for CRC?

If your business's electricity consumption is greater than 6,000MWh, and you're not already part of any other emissions trading scheme, you will qualify for the CRC.

As part of the new scheme you will need to provide accurate, up-to-date figures of your own energy consumption – and AMR is a particularly reliable way to get this.

AMR will also count in the initial league table positioning for the CRC, meaning you could stand to benefit further.

[Further information on the CRC.](#)

Useful publications

1. [CRC: What you need to know](#)

2. [CRC: How to prepare for the CRC](#)

3. [CRC: How to reduce energy consumption](#)

4. [CRC: How to improve energy efficiency](#)

5. [CRC: How to improve energy efficiency](#)



How does it work?

The AMR device can be built into a meter, or it can be separate but connected to your existing meter. This will depend on the kind of meter you have to begin with.

In both cases, data on how much energy you are using is automatically captured from the meter and tagged with a unique meter reference and time stamp, so you know exactly when each reading was taken.

The data is captured in one of the following ways:

- the data collection system regularly reads the meter
- the meter sends its data to the data collection system or a central location for processing.

Both methods mean that the details of your consumption are automatically read and can then be transferred to a software package for interpretation and analysis. Once you have a better understanding of how you are using energy, you can use this information to form the basis of an energy management programme.

AMR can be applied to gas, water or electricity meters. In the case of gas and water, your existing meter can usually be upgraded to AMR, but for electricity you may need to have a new meter fitted.

Half-hourly meters

If you have a site that uses a lot of energy, suppliers will install half-hourly meters that record data at 30 minute intervals. If you have a smaller site it is likely you will have to pay for a half-hourly meter to be installed by an independent meter provider.

Sub-metering

If you have a large site, one meter reading for the entire site may not provide a detailed enough breakdown. In this case you can install sub-meters, which will show patterns of use across the whole site. This will give you a better understanding of your energy use and allow you to better analyse consumption patterns. A complex site may have a hundred or more sub-meters, all using AMR.

Energy Data

Energy Data

Energy Data

How will I benefit?

AMR ensures you are only billed for what you use, potentially saving you energy and money. If your meter is not read often, your bills will be based on estimates about your consumption, rather than on the amount you are actually using.

Keeping track of how much electricity, gas and water you use is also vital for an effective energy management programme. If you already have one in place, AMR can help by giving you access to more accurate data. If you haven't, it's a great way to kick-start it.

Having AMR installed will also mean that you can more easily put in place a monitoring and targeting (M&T) programme. M&T gives you an even better understanding of your energy use, and allows you to relate it to factors such as production levels or the weather. In particular, M&T will allow you to identify if there is any energy being used that does not need to be.

Either way, the more you understand your energy use, the easier you will find it to manage it – and the more successful you'll be in doing so.

What will it cost me?

The costs to install AMR systems tend to be specific to the application, but typically to buy a meter and have it installed might cost you £300. There may possibly be additional charges on top of that, for connection and ongoing services if needed.

What should I do next?

Check what you are doing at the moment. Review the type of metering that you have and the frequency of readings, billing and bill checking. Do you already have half hourly data from your utility supplier?

Also review what you know of how the energy at your site is used. If you do not have much information then you may need to do an audit. Clip-on temporary monitoring equipment can be used for continuous electricity profiles. They will show you where benefits would come from AMR and how many meters you might need.

You can also contact the Carbon Trust on 0800 085 2005 for help identifying the ways in which you could improve your energy efficiency or develop an appropriate management programme.

To go ahead with installing AMR, either contact your supplier or a sub-metering specialist. Metering providers can be found at the [ESTA website](#), under the metering and monitoring group.