

Smart meters: Making a positive difference to our climate.



What role do smart meters play in climate action?



Smart meters are digital devices that record energy consumption in real-time and communicate that data securely to the consumer and energy provider.

By offering detailed insight into when and how electricity is used (and produced, if solar panels are installed), smart meters can help reduce emissions, optimize energy use, and support smarter energy systems.

Did you know?



According to a 2023 UK government study, smart meters enabled average reductions in electricity consumption of 3.3% to 3.6% and in gas consumption of 2.9% to 3.1%.

[\[Source\]](#)



Photo credit: [Siân Wynn-Jones](#) on Unsplash

Key information provided by smart meters

Electricity consumption profiles

Know exactly how much energy you're using at different times of the day.

Solar energy production

Track how much clean energy you generate and feed into the grid.

Remote monitoring

Support family members (e.g., check on a parent's energy use).

Energy saving opportunities

Adjust behaviour or appliances based on patterns.



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Smart meters.



Smart meters and public perception

Some opposition exists due to concerns around Wi-Fi signals or 5G, particularly among privacy-conscious individuals or groups.

However, smart meters do not transmit personal information and comply with strict data protection regulations. Meter data is aggregated and anonymised for broader use, such as in community energy planning.

How communities use smart meter data



Energy heat maps

Visualise zones of high energy use to identify inefficiencies.

Policy planning

Use neighbourhood-level data to support renovation and energy poverty relief.

Collective renovation projects

Target poor-performing buildings for upgrades.

Community engagement

Provide shared dashboards or tools for buildings or districts.

Note: Current heat maps focus on thermal energy and are not yet fully integrated with smart meter data. Public data is limited to aggregated areas for privacy protection.

Challenges and considerations when using smart meters

Data privacy

Household energy data is protected and only anonymised data is used for local policy and planning, ensuring individual privacy is maintained.

Limited use of data

Smart meter data is not yet fully integrated into climate action or urban planning tools, limiting its potential for broader environmental and policy applications.

Access by local authorities

Data is controlled by Distribution System Operators (DSOs), so clear policies and frameworks are needed to enable responsible sharing with local governments and community planners.