Department for
Business, Energy
& Industrial Strategy

Smart Meters

Quarterly Report to end March 2017
Great Britain

Statistical Release:
Experimental National Statistics

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Executive Summary

This quarterly release presents statistics on the roll-out of smart meters in Great Britain. It includes information on the number of smart meters installed in domestic properties and smaller non-domestic sites during the first quarter of 2017 by large energy suppliers, as well as the total number of meters operated by large suppliers at the end of quarter one (Q1) 2017.

For completeness, information on small energy suppliers[1] to the end of December 2016 is also included in this report.

Key findings:

Smart meter installations

- A total of 1,027,700[2] domestic smart meters were installed by large energy suppliers in the first quarter of 2017 (446,000 gas and 581,700 electricity meters). This represents a 10 per cent increase in domestic smart meter installations compared to the previous quarter.
- Over the same period, 13,800 smart and advanced meters were installed in smaller non-domestic sites by large energy suppliers (of which 8,500 were advanced meters and the rest smart meters). This represents a six per cent increase in overall smart and advanced meter installations compared to quarter four 2016.

Smart meters in operation

- As at 31 March 2017 there were 5.76 million meters operated in smart mode by large energy suppliers in domestic properties across Great Britain. Overall, this represents around 12 per cent of all domestic meters operated by large suppliers.
- As at 31 March 2017 there were 589,800 (56,100 gas and 533,800 electricity) non-domestic smart and advanced meters operating in smart mode or with advanced functionality by large energy suppliers. This represents over one fifth of all non-domestic meters currently operated by large energy suppliers.
- **There are now over 6.78[3,4] million smart and advanced meters operating across homes and businesses in Great Britain, by both large and small energy suppliers.**

[1] Small energy supplier statistics are collected on annual basis, therefore information on these suppliers relate to the last full calendar year available, 2016.
[2] Individual numbers are independently rounded to the nearest 100 and can result in totals that are different from the sum of their constituent items.
[3] Due to the differing data collection frequency for large and small suppliers, the total quoted reflects the latest operating figures available (as at 31 March 2017 for large suppliers and 31 December 2016 for small suppliers).
[4] There is a likelihood that small suppliers approaching the 250,000 customer threshold by end year, will transition to 'large' supplier status over the course of the next calendar year.

Chapter 1: Introduction to Smart Metering

1.1 Overview

The Government is committed to ensuring that every home and small business in the country is offered a smart meter by the end of 2020, delivered as cost effectively as possible. The Smart Metering Programme aims to roll-out over 50 million smart gas and electricity meters to all domestic properties and smart or advanced meters to smaller non-domestic sites in Great Britain - impacting approximately 30 million premises. Further information about the Programme can be found on the Gov.uk website.

The Smart Metering Programme is being delivered in two phases. During the Foundation Stage, which began in 2011, the Government engaged with the energy industry, consumer groups and other stakeholders and put commercial and regulatory frameworks in place to support smart metering, trial and test systems, protect consumers and learn lessons from early installations. This was followed by the main installation stage, which began in November 2016 and will run to the end of 2020. This is the period when most households and small businesses will have smart meters installed by their energy supplier using the national smart meters data and communications infrastructure.

Energy suppliers are responsible for planning and delivering the installation of smart meters for their customers and are free to plan the roll-out in a way that suits their business and the needs of their customers, subject to the requirement to complete the roll-out by the end of 2020. As such, energy suppliers' proposed approaches to the roll-out vary and take into account factors such as the location of their customer base, installation workforce and when their customers would need their traditional meters replaced on a routine basis. The approaches adopted by energy suppliers may also change as they progress through the roll-out. Fluctuations in the number of smart meters installed each quarter is therefore expected, as different energy suppliers install smart meters according to their own commercial strategies.

The first statistical report on the progress of Smart Metering roll-out obligation for large energy suppliers was published in September 2013 and has been updated every quarter since. From Q4 2015, end year reports include smart meter roll-out activity carried out by small suppliers during the calendar year (see Section 1.3 for further details on large and small suppliers). As well as presenting the latest quarterly activity for large energy suppliers, this report includes the latest annual update on small supplier activity for 2016 (first published in the March 2017 quarterly report).

BEIS will continue to monitor smart meter installations and the number of meters in operation in Great Britain on a quarterly basis until the end of the Programme. More detailed information on the methodology used to produce estimates of the number of meters installed and operating during the roll-out period is included in the accompanying methodology note, available at:

https://www.gov.uk/government/collections/smart-meters-statistics

1.2 Types of Premise

Under the smart meter obligations, energy suppliers are required to replace traditional meters with smart or advanced meters, in two types of property.

Domestic Properties

Domestic properties are defined as properties where the customer is supplied with electricity or gas, wholly or mainly for domestic purposes.

Smaller non-domestic sites

These are business or public sector customers whose sites use low to medium amounts of electricity (defined as a smaller non-domestic site falling within Balancing and Settlement Code Profile Classes[5] 1, 2, 3 or 4) or gas (defined as a smaller non-domestic site using less than 732MWh of gas per annum). The sites therefore range from individual micro- and small businesses to the smaller sites of private and public sector organisations.

1.3 Types of Supplier

Large energy suppliers

Large energy suppliers are defined as those that supply gas or electricity to at least 250,000 domestic customers; they may also supply non-domestic sites. A large energy supplier need only supply 250,000 domestic customers a single fuel to be classed as a large energy supplier (i.e. an energy supplier supplying gas to 250,000 domestic customers but who does not supply electricity customers is still classed as a large energy supplier). Under their supply licence conditions large energy suppliers are required to provide numbers of smart meter installations and meters in operation to BEIS on a quarterly basis. This information is reported in the quarterly statistics.

Currently twelve energy suppliers meet these criteria and are thus referred to as large energy suppliers throughout this report (see Annex A for further details).

Small energy suppliers

Small energy suppliers are defined as those that supply gas to less than 250,000 domestic customers and electricity to less than 250,000 domestic customers; they may also supply non-domestic sites. Under their supply licence conditions, small energy suppliers are required to provide information to BEIS on an annual basis and are therefore reported on at the end of the calendar year.

The number of small suppliers reported on year to year is subject to change, as some suppliers will change classification to ‘large’ supplier status over the course of the calendar year, while others might enter, or exit the retail energy market.

At the end of 2016, 46 small energy suppliers were required to provide data returns under these conditions and are referred to as small suppliers throughout this report (see Annex A for further details).

[5] https://www.elexon.co.uk/knowledgebase/profile-classes/

1.4 Types of Gas and Electricity meters

Smart Meters

Smart meters are the next generation of gas and electricity meters and offer a range of intelligent functions. All domestic consumers will be offered an In-Home Display (IHD) as part of the smart meter roll-out, which shows how much energy is being used, and how much it is costing, in near-real-time. This information will help them control and manage their energy use, save money and reduce emissions. Smart meters will also bring an end to estimated meter readings, providing consumers with more accurate bills.

A smart meter is compliant with the Smart Meter Equipment Technical Specification[6] (SMETS) and has functionality such as being able to transmit meter readings to energy suppliers and receive data remotely. Each large energy supplier reports the number of smart meters it has installed and is operating in smart mode to BEIS on a quarterly basis, while small suppliers report to BEIS on an annual basis. This includes both meters that are SMETS compliant and those they expect to upgrade to become SMETS compliant. Some smart meters currently installed will need to receive updates before they are fully SMETS compliant.

Only smart meters that meet the SMETS regulations count towards supplier roll-out obligations. Energy suppliers must take all reasonable steps to replace other meter types in domestic properties with these meters by the end of 2020 in order to fulfil their licence conditions.

Smart-type Meters

Some suppliers have chosen to make an early start by rolling out smart-type meters without the full functionalities included in SMETS. Energy suppliers have learned lessons from installing and operating smart-type meters, which will benefit the smart meter roll-out and has allowed their customers to have early access to some of the benefits of smart metering. All data relating to smart-type meters are referred to as such in this report.

Smart-type meters are not classed as ‘smart meters’ and therefore do not count towards the supplier’s roll-out obligation in domestic sites. Smart-type meters installed in domestic properties will need to be replaced with SMETS compliant smart meters by the end of 2020 in accordance with energy suppliers’ roll-out obligations.

Smart-type meters however exceed the minimum specification for advanced meters (described below) and will count towards supplier roll-out obligations in smaller non-domestic sites.

Advanced Meters (only installed in smaller non-domestic sites)

Advanced meters must, at minimum, be able to store half-hourly electricity and hourly gas data, to which the customer can have timely access and the supplier has remote access. However, meters described as “advanced” in this report may have additional functions found in a smart meter that meets the Government’s technical specification.

[6] https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/381535/SMIP_E2E_SMETS2.pdf

Traditional Meters

Traditional meters are currently found in most domestic and smaller non-domestic sites and do not have any smart capability. Traditional meters will be replaced by smart and advanced meters during the smart meter roll-out.

1.5 Further information

The next quarterly publication is planned for publication on 31 August 2017.
The content and format of the quarterly smart meters statistical report is open to review and will seek to include more relevant information as it becomes available (for example, roll-out progress on the next generation of SMETS meters). The format and context may be subject to change in future versions.

Any enquiries or comments in relation to this statistical release (including suggestions for developing the publication) should be sent to Masuma Ahmed in the Smart Meter Statistics Team at the following email address:

energyefficiency.stats@beis.gov.uk

Contact telephone: 0300 068 5922

The statistician responsible for this publication is Julian Prime.

Further information on energy statistics is available at:
https://www.gov.uk/government/organisations/department-for-business-energy-and-industrial-strategy/about/statistics

Chapter 2: Domestic Smart Metering

This chapter reports on the latest number of smart meters installed in domestic properties during the first quarter of 2017 by the large energy suppliers; as well as the final number of meters operating in smart mode as at 31 March 2017.

Also presented here are the latest domestic smart meter installations reported by small energy suppliers during the full 2016 calendar year, and the number operated as at 31 December 2016[7].

Detailed breakdowns on installation and operating figures can be found in the accompanying tables to this report, available at:

https://www.gov.uk/government/collections/smart-meters-statistics

2.1 Smart meter installations in domestic properties

A total of 1,027,700 smart meters were installed by the large energy suppliers in the first quarter of 2017 (446,000 gas and 581,700 electricity meters)[8]. This represents a 10 per cent increase in smart meter installations compared to the previous quarter (9 per cent increase for gas smart meters and 11 per cent increase for electricity smart meters).

From the start of the Programme up until 31 March 2017, large energy suppliers have reported installing an estimated total of 6,007,200 smart meters across domestic properties in Great Britain – 2,546,400 of which have been gas smart meters and 3,460,800 have been electricity smart meters.

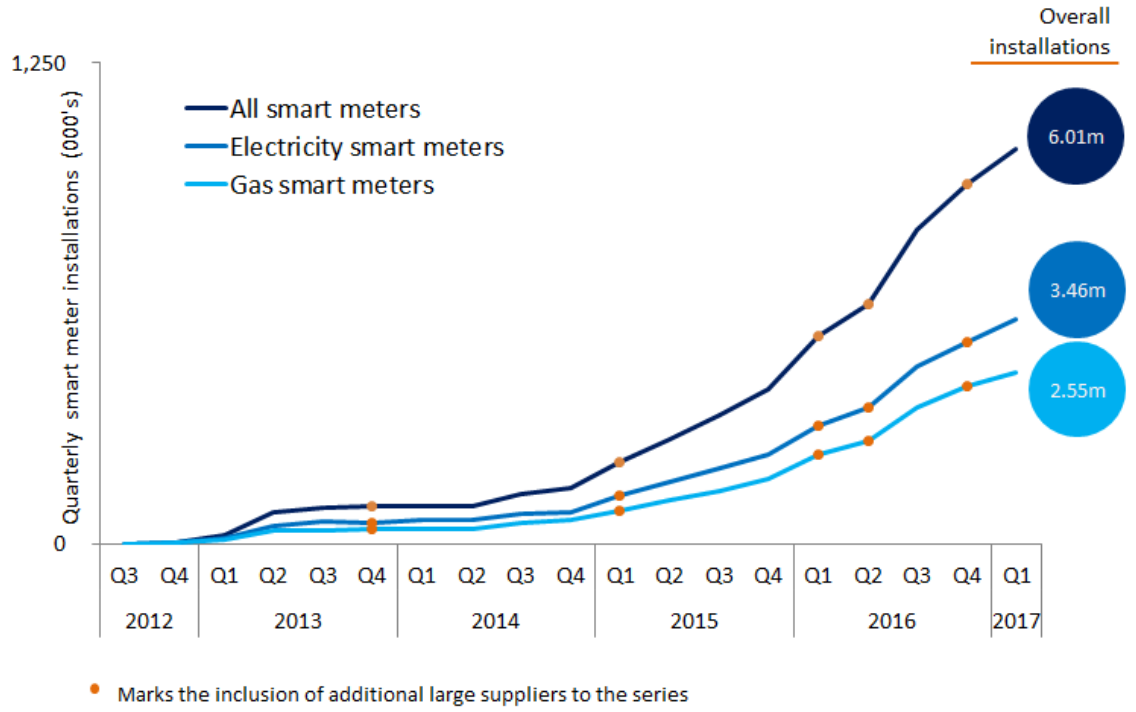
Small energy suppliers have reported installing a total of 11,700 smart meters during the 2016 calendar year, of which, 4,700 were gas smart meters and 7,000 electricity smart meters.

Collectively across both large and small suppliers, around 6.30 million smart meters have been installed in domestic properties to date[9].

[7] Note, a repeat of the small supplier statistics are presented from the March 2017 publication for completeness, as these are collected on an annual basis, with 2016 being the most recent period.
[8] Individual numbers are independently rounded to the nearest 100 and can result in totals that are different from the sum of their constituent items.
[9] Due to the differing data collection frequency for small and large suppliers, the installation total quoted reflects all cumulative installations as at 31 March 2017 for large suppliers and 31 December 2016 for small suppliers.

Figure 1 shows the installation activity by large energy suppliers over the course of the Programme. This chart shows that more electricity smart meters have been installed every quarter compared to gas smart meters. This is due to some properties having an electricity only supply, and also some energy suppliers choosing to carry out electricity only installations at present.

Figure 1: Quarterly domestic installation activity for large energy suppliers

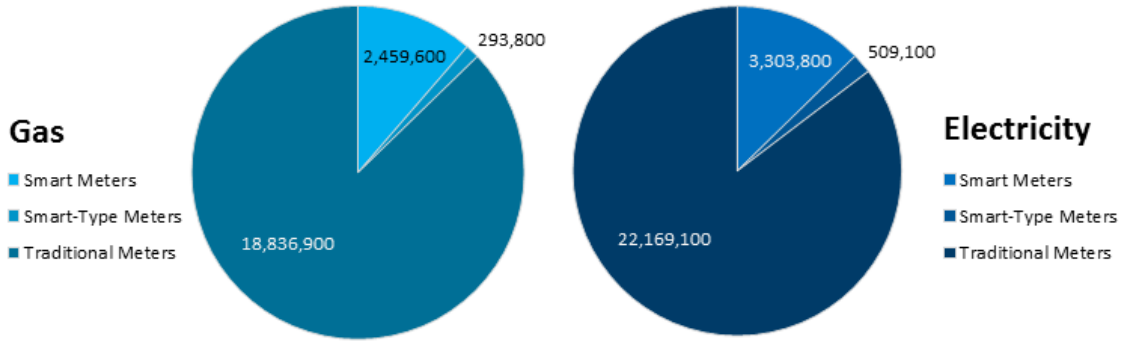


Note, the above chart excludes historic data which can be found in the accompanying Excel Table 1a.

2.2 Operational meters in domestic properties

As of 31 March 2017, there were a total of 21.59 million gas meters and 25.98 million electricity meters operated by large energy suppliers in domestic properties across Great Britain. Figure 2 below shows the breakdown of all large supplier operated meters by different meter and fuel types. Note, only smart meters count towards the roll-out figures reported under this Programme.

Figure 2: Domestic meters operated by large energy suppliers as at 31 March 2017[10]



[10] Individual numbers are independently rounded to the nearest 100 and can result in totals that are different from the

The number of smart meters in operation is defined as the number of smart meters that energy suppliers are operating in smart mode.

As expected, large energy suppliers have seen a steady increase in the number of smart meters in operation from quarter to quarter[11] and as at 31 March 2017 there were 5.76 million smart meters operating in smart mode in domestic properties across Great Britain. Overall, this represents 12 per cent of all domestic meters operated by large energy suppliers.

The number of smart meters operating in smart mode at the end of Quarter 1 2017 (5.76 million) is less than the number installed to date (6.01 million) for large energy suppliers

Totals of meters installed and operated are not directly comparable for two reasons; the transition of suppliers between the small and large classifications used in this series, and customers switching from large to small suppliers.

Where installation data have been published previously, they have not been transferred across to the supplier's new classification. However, operational totals are reported at the end of each quarter for large suppliers (or year for small suppliers) and therefore reflect current classifications. Customer switches from large to small suppliers will be removed from large supplier counts at the end of the reporting quarter, but only captured at their new supplier at the annual small supplier reporting point.

There are technical issues that mean some meters may be operated in traditional mode, such as meters being unable to communicate externally via the wide area network or customers choosing to switch to suppliers currently unable to operate smart meters in smart mode.

Other reasons operational and installation figures may differ are included in the methodology note for this publication.

It should be noted, the total number of domestic meters in operation is seen to fluctuate between reporting periods. This occurs for a variety of reasons: for example, meter installations in new buildings, building demolitions and customers switching to and from small energy suppliers.

sum of their constituent items.

[11] See Table 2a in accompanying tables: https://www.gov.uk/government/collections/smart-meters-statistics

Chapter 3: Non-domestic Smart Metering

This chapter reports on the latest number of smart and advanced meters installed in smaller non-domestic sites during the first quarter of 2017 by large energy suppliers; and the number of meters operated by large suppliers as at 31 March 2017.

Also presented here are the latest smart and advanced meter installations reported by small energy suppliers during the full 2016 calendar year[12].

Detailed breakdowns on installation and operating figures can be found in the accompanying tables to this report, available at:

https://www.gov.uk/government/collections/smart-meters-statistics

3.1 Installations in smaller non-domestic sites

In the first quarter of 2017, there were 13,800 smart and advanced meters installed in smaller non-domestic sites by large energy suppliers (of which 8,500 were advanced meters and the rest smart meters). This represents a six per cent increase in overall smart and advanced meter installations compared to quarter four 2016.

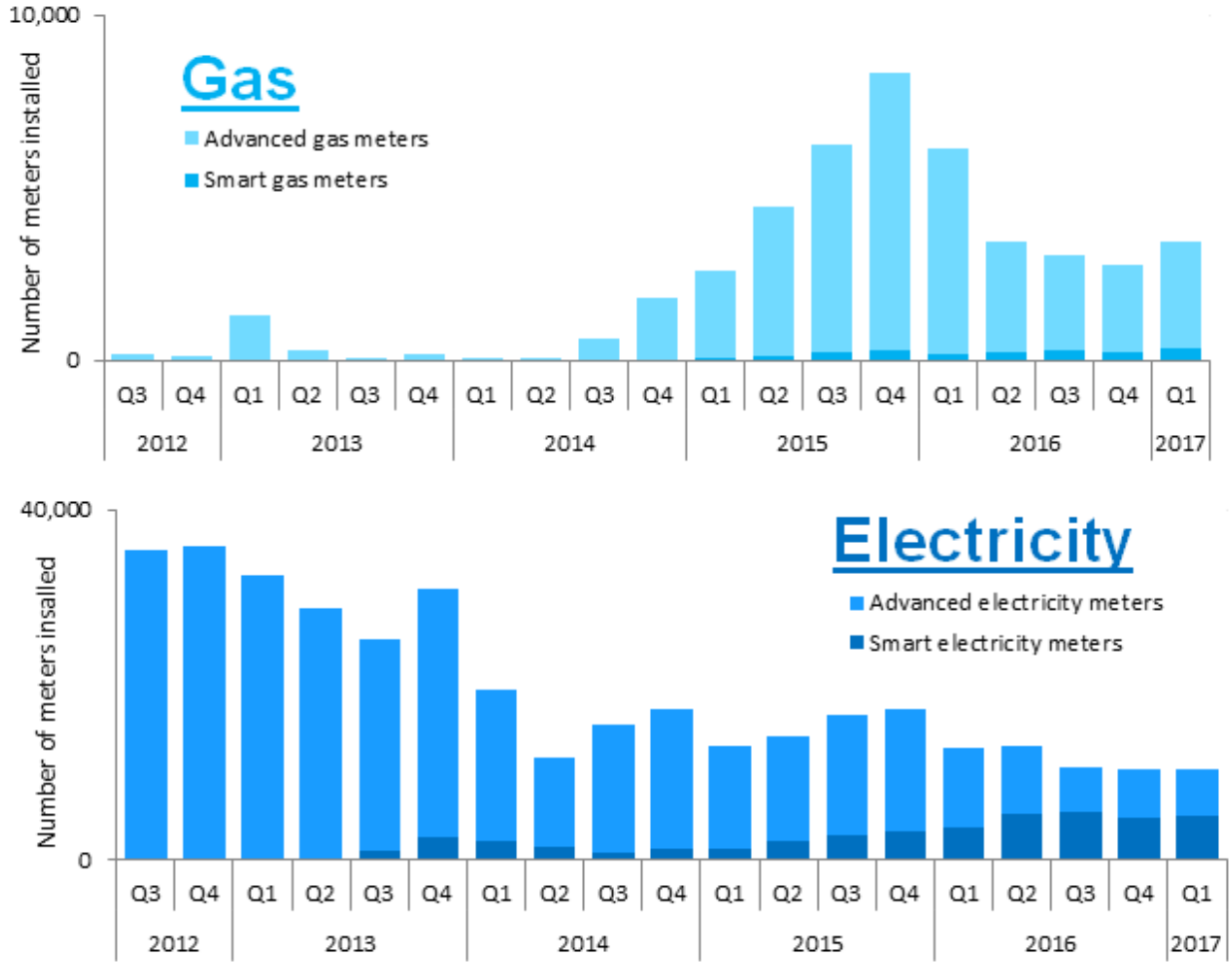
Small energy suppliers reported installing a total of 65,300 smart and advanced meters in non-domestic sites during the calendar year 2016.

To date (up to 31 March 2017) an estimated total of 745,600 smart and advanced meters have been installed in smaller non-domestic sites by large energy suppliers. These meters count towards energy suppliers' roll-out obligations.

Figure 3 shows the number of non-domestic smart and advanced meter installations by large suppliers over time. From the chart, it is apparent that installation volumes tend to vary from one quarter to the next, as different energy suppliers install smart and advanced meters according to their own commercial strategies.

[12] Note, a repeat of the small supplier statistics are presented from the March 2017 publication for completeness, as these are collected on an annual basis, with 2016 being the most recent period.

Figure 3: Number of smart and advanced meters installed by large energy suppliers in smaller non-domestic sites, by fuel type and quarter



Note, the above chart excludes historic data which can be found in the accompanying Excel Tables 3a, 3b and 3c.

3.2 Operational meters in smaller non-domestic sites

As of 31 March 2017, there were a total of 2.53 million meters operated by large energy suppliers in smaller non-domestic sites in Great Britain. Of these, 2.08 million are electricity meters and 0.45 million are gas meters.

The number of smart and advanced meters in operation is defined as the number of smart and advanced meters which energy suppliers are operating in smart mode, or with advanced functionality, at 31 March 2017.

The total number of meters in operation in smaller non-domestic sites is seen to fluctuate between reporting periods. This occurs for a variety of reasons: for example, meter installations in new buildings, building demolitions and customers switching to and from

energy suppliers who do not operate smart or advanced meters in either a smart mode or with advanced functionality.

As at 31 March 2017 there were 589,800 (56,100 gas and 533,800 electricity) non-domestic smart and advanced meters operating in smart mode or with advanced functionality by large energy suppliers. This represents over one fifth of all non-domestic meters currently in operation.

Annex A: Data and processing

Energy Suppliers

The table below lists the energy suppliers included in the analysis for this report.

Large Energy Suppliers (twelve):

- British Gas
- Co-operative Energy
- E.ON
- EDF Energy
- Extra Energy
- First Utility
- Npower
- Ovo Energy
- Scottish Power
- SSE
- Utilita
- Utility Warehouse

Small Energy suppliers (forty six):

- Affect Energy
- Axis for Business
- BES Utilities
- Better Energy
- Breeze Energy
- Bristol Energy
- Bulb
- Business Power and Gas
- CNG
- Corona Energy
- Crown Gas and Power
- D-ENERGi
- DONG Energy
- Dual Energy
- E
- Economy Energy
- Ecotricity
- ENGIE
- Flow Energy
- Future Energy
- Gazprom
- GnERGY
- Go Effortless Energy
- Good Energy
- Green Energy
- Green Star Energy
- Haven Power

- iSupply
- LoCO2 Energy
- MB Energy
- National Gas
- Octopus Energy
- Opus Energy
- Our Power
- PFP Energy
- Regent Gas
- Robin Hood Energy
- Smartest Energy
- So Energy
- Spark Energy
- TEGS
- Total Gas and Power
- Verastar Group (Economy Gas)
- Verastar Group (Sinq Power Limited)
- Yorkshire Gas and Power
- Zog Energy

Experimental Statistics

These data are released as Experimental National Statistics, this means they are new statistics and have not undergone the full evaluation process that is required for National Statistics. They are published in order to involve users and stakeholders in their development and as a means to build in quality assurance during development.

More information on the methodology is included in the accompanying Methodology note:

https://www.gov.uk/government/collections/smart-meters-statistics

As with any new data collection, there are likely to be some data quality issues to resolve as the process beds in. Therefore, data in the quarterly reports should be treated as provisional and subject to revision.

Any revisions will be marked in the data tables and for any significant revisions we will provide an explanation of the main reasons.

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