



Department for
Business, Energy
& Industrial Strategy

Smart Meters

Quarterly Report to end December
2017

Statistical Release:
Experimental National Statistics



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Any enquiries regarding this publication should be sent to us at energyefficiency.stats@beis.gov.uk.

The statistician responsible for this publication is Masuma Ahmed.

This publication is available for download at <https://www.gov.uk/government/collections/smart-meters-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 fourth quarter of 2017 by large energy suppliers, as well as the total number of meters operated by large suppliers on 31 December 2017.

For completeness, information on small energy suppliers^{1,2} to the end of December 2017 is also included in this report.

Key findings:

Smart meters in operation

- **There are now over 10 million smart and advanced meters operating across homes and businesses in Great Britain, by both large and small energy suppliers³ - a 17 per cent increase from the previous quarter, and a 71 per cent increase on the number of meters in operation as at 31 December 2016.**

Meters operated as at 31 December 2017 (large and small suppliers)		Domestic	Non-domestic	All Meters
Smart Meters	Large suppliers	8,762,400	51,900	8,814,300
	Small suppliers	213,200	1,700	214,900
	Total	8,975,600	53,600	9,029,300
Advanced Meters	Large suppliers	-	585,100	585,100
	Small suppliers	-	421,900	421,900
	Total	-	1,007,000	1,007,000
All Smart and advanced meters		8,975,600	1,060,600	10,036,200

Smart meter installations

- To date, over 11 million smart and advanced meters have been installed in homes and businesses across Great Britain by both large and small energy suppliers – over 10 million (91 per cent) of these were installed in domestic properties and a further one million in smaller non-domestic sites.

¹ Small energy supplier statistics are collected on annual basis, therefore information on these suppliers relate to the last full calendar year available, 2017.

² Over the course of the calendar year 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. Equally, large suppliers below this threshold at year end will transition back to small supplier status. There are currently, 13 large suppliers and 63 small suppliers.

³ See Tables 2a, 2d, 4a & 4d in the accompanying Excel tables for a breakdown of this total <https://www.gov.uk/government/collections/smart-meters-statistics>.

- A total of 1,317,900⁴ domestic smart meters have been installed by large energy suppliers in the fourth quarter of 2017 (576,300 gas and 741,500 electricity meters). This represents a twelve per cent increase in domestic smart meter installations compared to the previous quarter.
- Over the same period, 16,800 smart and advanced meters were installed in smaller non-domestic sites by large energy suppliers (of which 10,200 were advanced meters and the rest smart meters). This is a seven per cent increase in non-domestic smart and advanced installations compared to the previous quarter.
- Small energy suppliers report installing a total of 161,100 domestic smart meters and a further 88,100 smart and advanced meters in smaller non-domestic sites during the calendar year 2017.

⁴ Individual numbers are independently rounded to the nearest 100 and can result in totals that are different from the sum of their constituent items.

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. 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](https://www.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 is 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 2017.

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 Classes⁵ 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 thirteen energy suppliers (compared to twelve during Q3 2017) meet these criteria and are 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 2017, 63 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 Specification⁶ (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.

The national data and communications infrastructure, being delivered by the Data and Communications Company (DCC) is now live across GB, enabling energy suppliers to install and operate the new generation of smart meters (SMETS2 meters) on its systems. It is the Government's intention to also enrol the first generation of smart meters (SMETS1 meters) into this network, ensuring that consumers have the same positive experience of smart meters, regardless of which type of meter they have.

Smart Meters Operating in Smart Mode

Smart Meters operating in 'smart mode' are reported on in this report. This may differ from the total numbers installed for a number of reasons:

- Operational totals are reported at the end of each quarter for large suppliers (or each year for small suppliers). When a customer changes their energy supplier from a large to small supplier, the meter no longer appears in the large supplier count for that quarter. The customer meter will only count within the small supplier figures at the end of the reporting year. Data for intervening quarters therefore miss this customer meter count.
- Technical issues may lead to some meters operating in traditional mode. These can include meters unable to communicate externally via the wide area network or customers choosing to switch to suppliers currently unable to operate them in smart mode.

Further explanations on the differences between the two sets of figures can be found in the methodology note for the publication.

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

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.

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 May 2018.

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 Mita Kerai in the Smart Meter Statistics Team at the following email address:

energyefficiency.stats@beis.gov.uk

Contact telephone: 0300 068 5044

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 fourth quarter of 2017 by the large energy suppliers; as well as the final number of meters operating in smart mode as at 31 December 2017.

Also presented here are the latest domestic smart meter installations reported by small energy suppliers during the full 2017 calendar year, and the number operated as at 31 December 2017⁷.

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

Cumulative Installations (to end of December 2017)

From the start of the Programme up until 31 December 2017 around 10.02 million smart meters have been installed in domestic properties to date by both large and small suppliers.

Large energy suppliers have reported installing an estimated total of 9,564,400 smart meters across domestic properties in Great Britain – 4,099,000 of which have been gas smart meters and 5,465,400 have been electricity smart meters.

Cumulatively, small energy suppliers have installed a total of 457,800 smart meters in domestic properties as at the end of 2017^{8,9}.

Installations during 2017

Figure 1 shows installation activity by large and small energy suppliers over the course of the Programme¹⁰. More electricity smart meters have been installed overall 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.

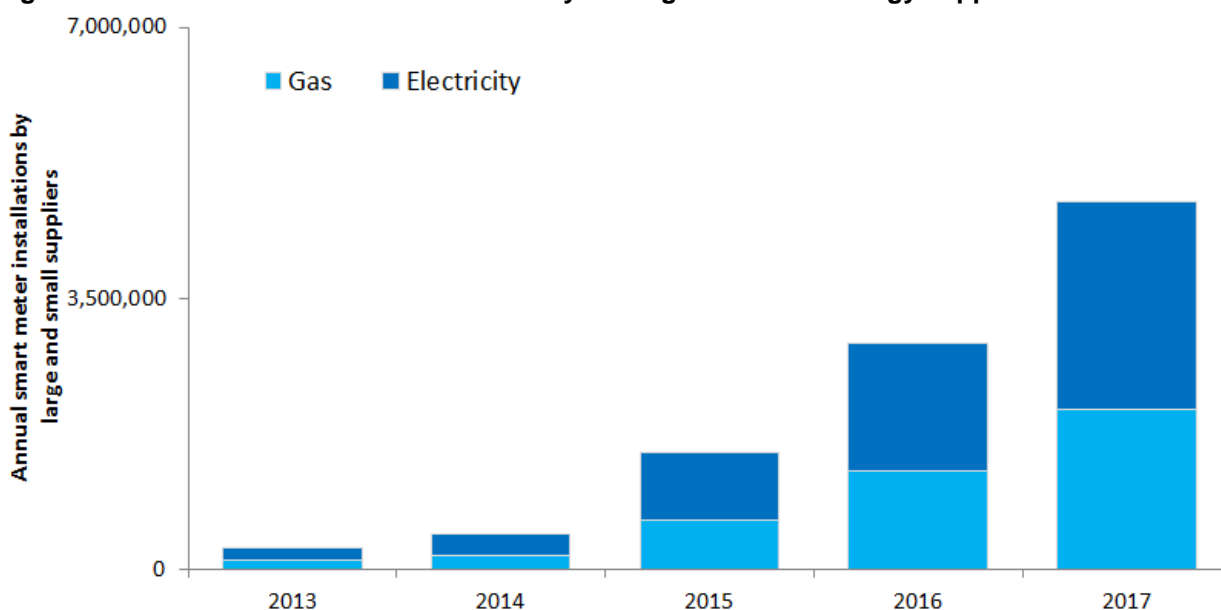
⁷ Small supplier statistics are collected on an annual basis, with 2017 being the most recent period.

⁸ Note, small supplier statistics are collected on an annual basis, with 2017 being the most recent period.

⁹ This includes smart meters installed between 2015-2017 details can be found in Table 1b in the accompanying tables <https://www.gov.uk/government/collections/smart-meters-statistics>

¹⁰ Note, small supplier statistics are only available from 2015 onwards

Figure 1: Annual domestic installation activity for large and small energy suppliers



	2013		2014		2015		2016		2017	
	Gas	Elec	Gas	Elec	Gas	Elec	Gas	Elec	Gas	Elec
Small	-	-	-	-	137,500	147,500	4,700	7,000	72,500	88,600
Large	121,000	171,400	189,200	279,700	504,600	718,400	1,264,900	1,648,600	1,998,700	2,586,200
All	121,000	171,400	189,200	279,700	642,100	865,900	1,269,600	1,655,600	2,071,200	2,674,800

In total, 4,746,000 smart meters were installed in domestic properties during 2017 by large and small energy suppliers, of which 97 per cent (4,584,900) were installed by large suppliers.

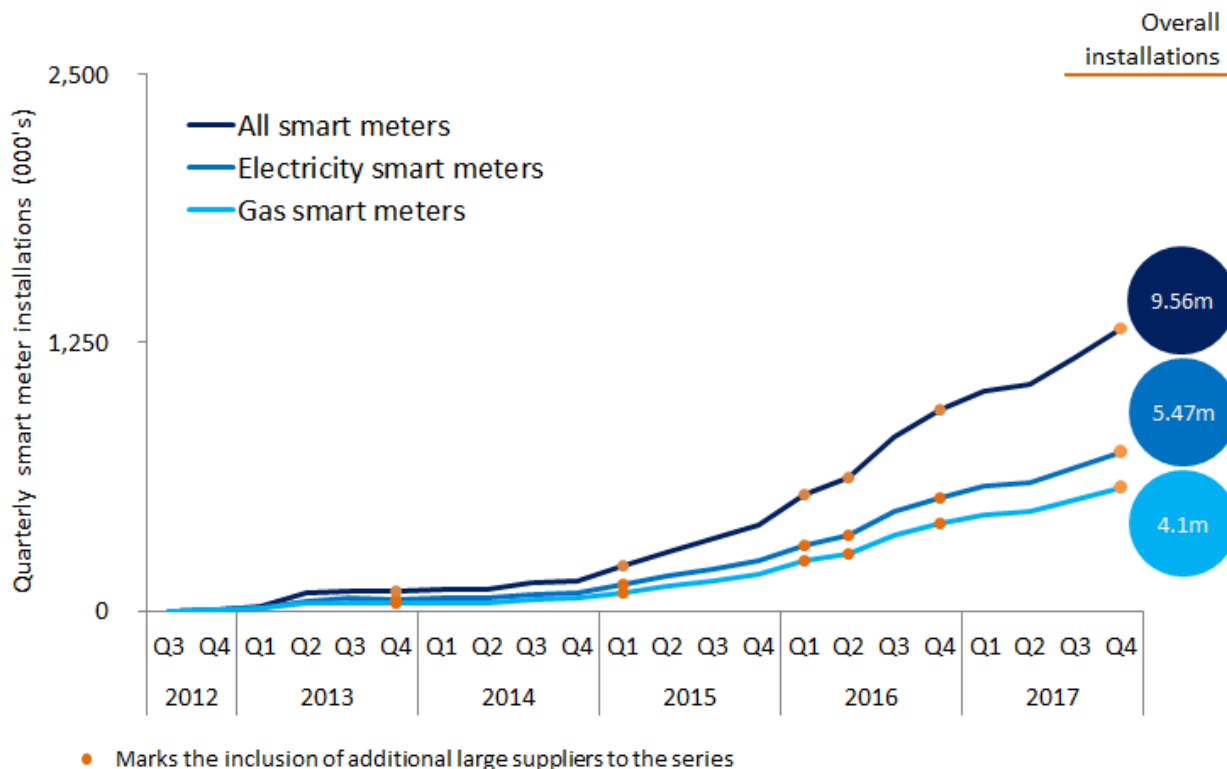
Quarter 4 2017 Installations (October to December)

A total of 1,317,900 smart meters were installed by the **large energy suppliers** in the fourth quarter of 2017 (576,300 gas and 741,500 electricity meters)¹¹. This represents a 12 per cent increase in smart meter installations compared to the previous quarter (with both gas and electricity smart meters installations increasing by 12 per cent since quarter three).

Figure 2 shows quarterly installation activity by large energy suppliers over the course of the Programme

¹¹ Individual numbers are independently rounded to the nearest 100 and can result in totals that are different from the sum of their constituent items.

Figure 2: 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

Meters in operation (as at end of December 2017)

As of 31 December 2017, there were a total of 22.59 million gas meters and 27.31 million electricity meters operated by large and small energy suppliers in domestic properties across Great Britain. Table 1 below shows the breakdown of all domestic meters operated by both large and small suppliers. Note, only smart meters count towards the roll-out figures reported under this Programme.

Table 1: Domestic meters operated by large and small energy suppliers as at 31 December 2017¹²

Meters operated as at 31 December 2017	Smart Meters	Smart-Type Meters	Traditional Meters	All Meters
Large suppliers	8,762,500	813,600	36,879,500	46,455,500
Small suppliers	213,200	141,200	3,092,700	3,447,100
Large and small suppliers	8,975,700	954,800	39,972,200	49,902,600

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

¹² Individual numbers are independently rounded to the nearest 100 and can result in totals that are different from the sum of their constituent items.

As expected, large energy suppliers have seen a steady increase in the number of smart meters in operation from quarter to quarter¹³ and as at 31 December 2017 there were 8.76 million smart meters operating in smart mode in domestic properties across Great Britain. Overall, this represents 19 per cent of all domestic meters operated by large energy suppliers.

Small energy suppliers reported operating a total of 213,200 smart meters as at the end of 2017.

Across both large and small energy suppliers there were 8.98 million smart meters in operation in domestic properties in Great Britain as at 31 December 2017.

¹³ 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 fourth quarter of 2017 by large energy suppliers; and the number of meters operated by large suppliers as at 31 December 2017.

Also presented here are the latest smart and advanced meter installations reported by small energy suppliers during the full 2017 calendar year¹⁴.

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

Cumulative Installations (to end of December 2017)

To date an estimated total of 1.01 million smart and advanced meters have been installed in smaller non-domestic sites by both large and small energy suppliers. These meters count towards energy suppliers' roll-out obligations. 792,000 (79%) of these meters were installed by large energy suppliers.

Installations during 2017

In total, 148,100 smart and advanced meters were installed in non-domestic properties during 2017 by large and small energy suppliers, of which around 60,000 (41%) were installed by large suppliers.

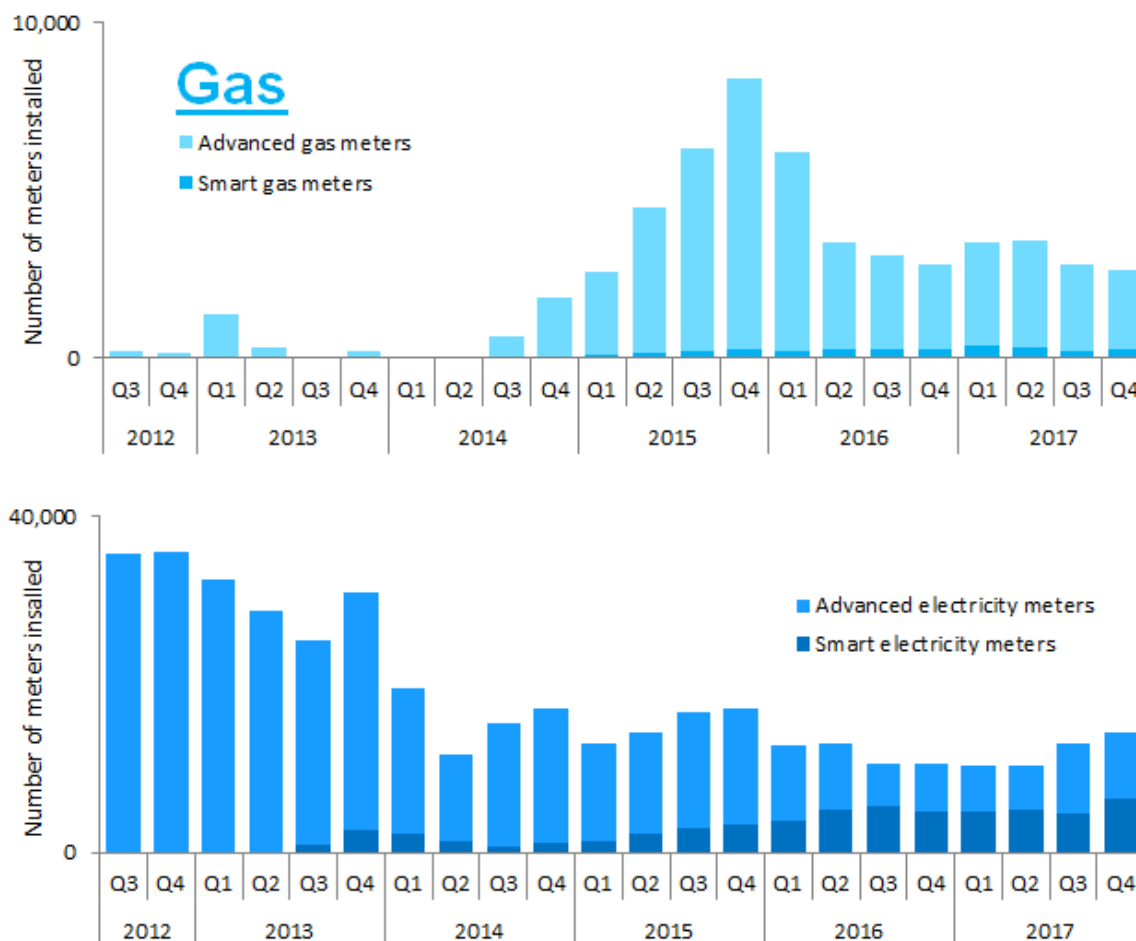
Quarter 4 2017 Installations (October to December)

In the fourth quarter of 2017, there were 16,800 smart and advanced meters installed in smaller non-domestic sites by **large energy suppliers** (of which 10,200 were advanced meters and the rest smart meters). This represents a seven per cent increase from last quarter.

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.

¹⁴ Note, small supplier statistics are collected on an annual basis, with 2017 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

Meters in operation (as at end of December 2017)

As at 31 December 2017, there were a total of 2.41 million meters operated by **large energy suppliers** in smaller non-domestic sites in Great Britain. Of these, 637,000 (62,200 gas and 574,800 electricity) were operating in smart mode, or with advanced functionality, representing over a quarter of all no-domestic meters in operation.

Small energy suppliers reported operating a total of 423,600 smart and advanced meters operating with smart or advanced mode functionality in smaller non-domestic sites as at the end of 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.

Collectively, at the end of 31 December 2017, there were 1.06 million smart and advanced meters in operation across smaller non-domestic sites across Great Britain by both large and small energy suppliers.

Annex A: Data and processing

Energy Suppliers

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

Large Energy Suppliers (Thirteen):

- British Gas
- Co-operative Energy
- E.ON
- Economy Energy
(Transitioned to large in Q4 2017)
- EDF Energy
- First Utility
- Hudson Green Star
(Transitioned to large in Q4 2017)
- Npower
- Ovo Energy
- Scottish Power
- SSE
- Utilita
- Utility Warehouse

Small Energy suppliers (Sixty-three):

- Affect Energy
- Avanti Gas
- Avid Energy
- Axis for Business
- BES Utilities
- Better Energy
- Breeze Energy
- Bristol Energy
- Brook Green Supply
- Bryt
- Bulb
- Business Power and Gas
- CNG
- Corona Energy
- Crown Gas and Power
- D-ENERGi
- Dual Energy
- E
- Ecotricity
- ENGIE
- Entice Energy
- Eversmart
- Extra Energy
(Transitioned to small in Q4 2017)
- Flow Energy
- Foxglove Energy
- Gazprom
- GnERGY
- Go Effortless Energy
- Good Energy
- Great Western Energy
- Green Energy
- Green Network Energy
- Haven Power
- Igloo Energy
- Iresa
- iSupply
- MA Energy
- MB Energy
- National Gas
- Octopus Energy
- Opal Gas
- Opus Energy
- Orsted
- Our Power
- PFP Energy
- Regent Gas
- Robin Hood Energy
- Smartest Energy
- So Energy
- Solarplicity
- Spark Energy
- Squeaky Clean Energy
- Tonik Energy
- TEGS
- Total Gas and Power
- Tru Energy
- Toto Energy
- Verastar Group
(Economy Gas)
- Verastar Group
(Sinq Power Limited)
- Yorkshire Gas and Power
- Yu
- Zebra 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.

