



Department for  
Business, Energy  
& Industrial Strategy

# Smart Meters

## Quarterly Report to end September 2017

Statistical Release:  
Experimental National Statistics



30 November 2017

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Any enquiries regarding this publication should be sent to us at [energyefficiency.stats@beis.gov.uk](mailto: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 third quarter of 2017 by large energy suppliers, as well as the total number of meters operated by large suppliers on 30 September 2017.

For completeness, information on small energy suppliers<sup>1</sup> to the end of December 2016 is also included in this report.

## Key findings:

### Smart meters in operation

- **There are now over 8.61<sup>2,3</sup> million smart and advanced meters operating across homes and businesses in Great Britain, by both large and small energy suppliers<sup>4</sup> - a twelve per cent increase from previous quarter.**

Meters operated as at 30 September 2017 (large suppliers) and 31st December 2016 (small suppliers)		Domestic	Non-domestic	All Meters
Smart Meters	Large suppliers	7,590,300	46,000	7,636,300
	Small suppliers	83,700	800	84,500
	<b>Total</b>	<b>7,674,000</b>	<b>46,800</b>	<b>7,720,800</b>
Advanced Meters	Large suppliers	-	553,000	553,000
	Small suppliers	-	339,900	339,900
	<b>Total</b>	<b>-</b>	<b>892,900</b>	<b>892,900</b>
<b>All Smart and advanced meters</b>		<b>7,674,000</b>	<b>939,700</b>	<b>8,613,700</b>

### Smart meter installations

- A total of 1,181,200<sup>5</sup> domestic smart meters were installed by large energy suppliers in the third quarter of 2017 (516,300 gas and 664,900 electricity meters). This represents a twelve per cent increase in domestic smart meter installations compared to the previous quarter.

<sup>1</sup> Small energy supplier statistics are collected on an annual basis, therefore information on these suppliers relate to the last full calendar year available, 2016.

<sup>2</sup> Due to the differing data collection frequency for large and small suppliers, the total quoted reflects the latest operating figures available (as at 30 September 2017 for large suppliers and 31 December 2016 for small suppliers).

<sup>3</sup> 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.

<sup>4</sup> 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>.

<sup>5</sup> Individual numbers are independently rounded to the nearest 100 and can result in totals that are different from the sum of their constituent items.

- Over the same period, 15,200 smart and advanced meters were installed in smaller non-domestic sites by large energy suppliers (of which 10,300 were advanced meters and the rest smart meters). This is a ten per cent increase in non-domestic smart and advanced installations compared to the previous quarter.
- To date<sup>6</sup>, 9.44 million smart and advanced meters have been installed in homes and businesses across Great Britain by both large and small energy suppliers, a fifteen per cent increase from the previous quarter.

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<sup>6</sup> Due to the differing data collection frequency for small and large suppliers, the installation total quoted reflects all cumulative installations as at 30 September 2017 for large suppliers and 31 December 2016 for small suppliers.

# 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 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<sup>7</sup> 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 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).

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<sup>7</sup> <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<sup>8</sup> (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:

- The transition of suppliers between the small and large classifications used in this series - when this occurs, the meter installation under the suppliers original classification remains and is not transferred to the suppliers new classification.
- 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.

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<sup>8</sup> [https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/381535/SMIP\\_E2E\\_SMETS2.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/381535/SMIP_E2E_SMETS2.pdf)



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

### **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 29 March 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](mailto: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 third quarter of 2017 by the large energy suppliers; as well as the final number of meters operating in smart mode as at 30 September 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<sup>9</sup>.

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 September 2017)**

From the start of the Programme up until 30 September 2017 around 8.54 million smart meters have been installed in domestic properties to date<sup>10</sup> by both large and small suppliers – a sixteen per cent increase on the previous cumulative quarterly total.

Large energy suppliers have reported installing an estimated total of 8,246,500 smart meters across domestic properties in Great Britain – 3,522,700 of which have been gas smart meters and 4,723,800 have been electricity smart meters.

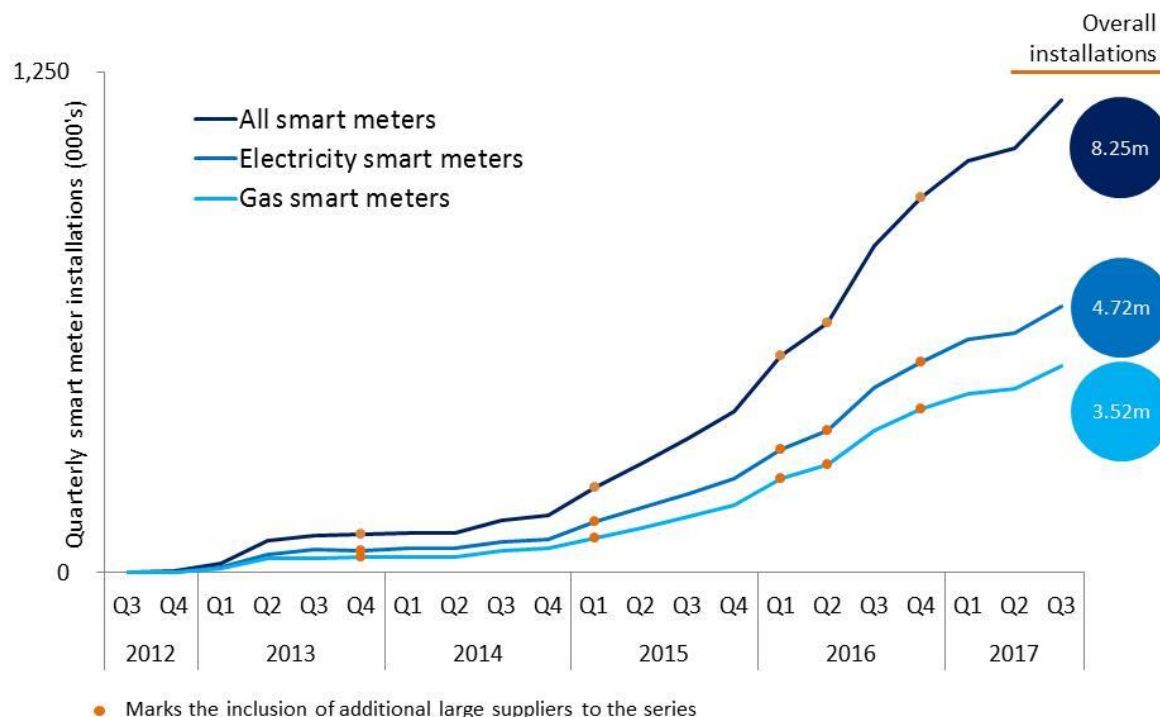
Figure 1 shows installation activity by large energy suppliers over the course of the Programme. This chart shows that more electricity smart meters have been installed every quarter compared to gas smart meters. This is due to some properties having an electricity only supply, and also some energy suppliers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

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<sup>9</sup> 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.

<sup>10</sup> Due to the differing data collection frequency for small and large suppliers, the installation total quoted reflects all cumulative installations as at 30 September 2017 for large suppliers and 31 December 2016 for small suppliers.

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.

Cumulatively, small energy suppliers have reported installing a total of 296,600 smart meters as at the end of 2016<sup>11,12</sup>, of which, 142,100 were gas smart meters and 154,500 electricity smart meters.

### Quarter 3 2017 Installations (July to September)

A total of 1,181,200 smart meters were installed by the **large energy suppliers** in the third quarter of 2017 (516,300 gas and 664,900 electricity meters)<sup>13</sup>. This represents a twelve per cent increase in smart meter installations compared to the previous quarter (with gas smart meters installations increasing by 12 per cent and electricity smart meters by 11 per cent since quarter two).

## 2.2 Operational meters in domestic properties

### Meters in operation (as at end of September 2017)

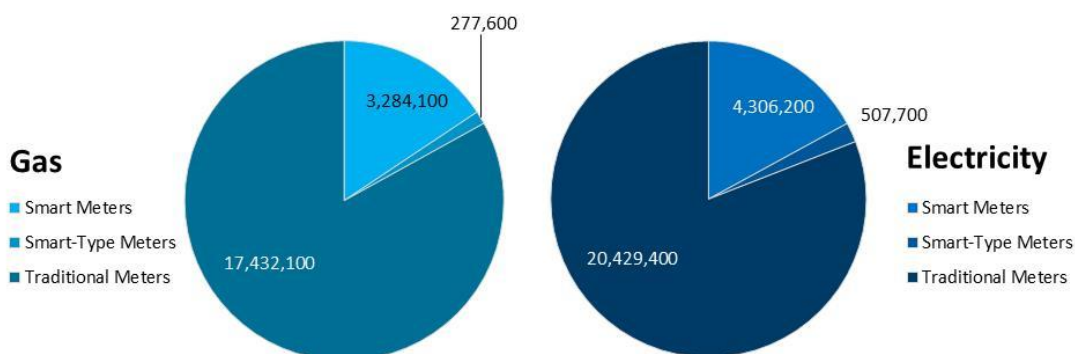
As of 30 September 2017, there were a total of 20.99 million gas meters and 25.24 million electricity meters operated by large energy suppliers in domestic properties across Great Britain. Figure 2 below shows the breakdown of all large supplier operated meters by different meter and fuel types. Note, only smart meters count towards the roll-out figures reported under this Programme.

<sup>11</sup> Due to the differing data collection frequency for small and large suppliers, the installation total quoted reflects all cumulative installations as at 30 September 2017 for large suppliers and 31 December 2016 for small suppliers

<sup>12</sup> This includes smart meters installed in both 2015 and 2016, details can be found in Table 1b in the accompanying tables <https://www.gov.uk/government/collections/smart-meters-statistics>

<sup>13</sup> 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: Domestic meters operated by large energy suppliers as at 30 September 2017<sup>14</sup>



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<sup>15</sup> and as at 30 September 2017 there were 7.59 million smart meters operating in smart mode in domestic properties across Great Britain. Overall, this represents 16 per cent of all domestic meters operated by large energy suppliers.

Small energy suppliers reported to operate a total of 83,700 smart meters as at the end of 2016<sup>16</sup>.

Across both large and small energy suppliers there were 7.67 million smart meters in operation in domestic properties in Great Britain as at 30 September 2017<sup>17</sup> - a fourteen per cent increase on the previous quarter.

<sup>14</sup> Individual numbers are independently rounded to the nearest 100 and can result in totals that are different from the sum of their constituent items.

<sup>15</sup> See Table 2a in accompanying tables: <https://www.gov.uk/government/collections/smart-meters-statistics>

<sup>16</sup> Due to the differing data collection frequency for small and large suppliers, the installation total quoted reflects all cumulative installations as at 30 September 2017 for large suppliers and 31 December 2016 for small suppliers

<sup>17</sup>

Due to the differing data collection frequency for large and small suppliers, the total quoted reflects the latest operating figures available (as at 30 September 2017 for large suppliers and 31 December 2016 for small suppliers).

## 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 third quarter of 2017 by large energy suppliers; and the number of meters operated by large suppliers as at 30 September 2017.

Also presented here are the latest smart and advanced meter installations reported by small energy suppliers during the full 2016 calendar year<sup>18</sup>.

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 September 2017)**

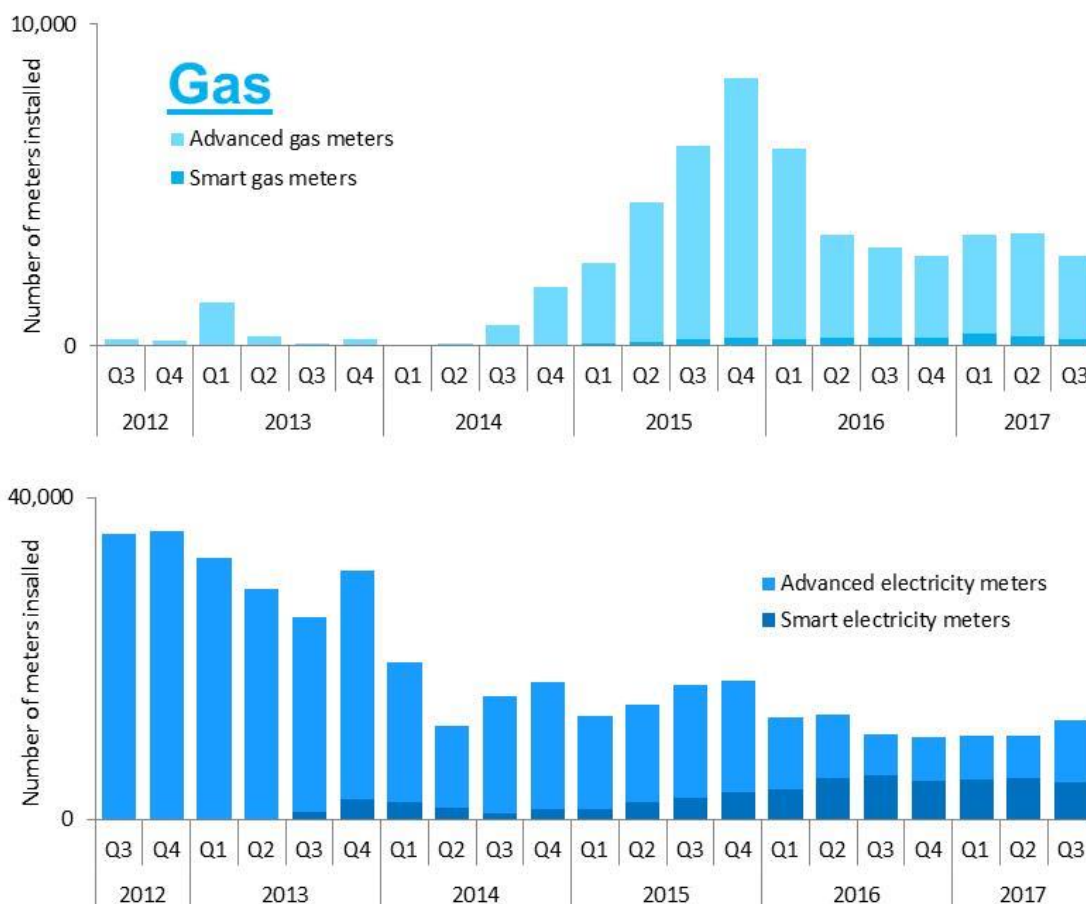
To date an estimated total of 901,500 smart and advanced meters have been installed in smaller non-domestic sites by both large and small energy suppliers – a two per cent increase on the previous quarter. These meters count towards energy suppliers' roll-out obligations. Eighty-six per cent (774,700) of these meters were installed by large energy suppliers.

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.

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<sup>18</sup> 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.

Small energy suppliers reported installing a total of 126,900 smart and advanced meters in non-domestic sites as at the end of 2016<sup>19,20</sup>.

### Quarter 3 2017 Installations (July to September)

In the third quarter of 2017, there were 15,200 smart and advanced meters installed in smaller non-domestic sites by **large energy suppliers** (of which 10,300 were advanced meters and the rest smart meters). This represents a 10 per cent increase from last quarter.

<sup>19</sup> Due to the differing data collection frequency for small and large suppliers, the installation total quoted reflects all cumulative installations as at 30 September 2017 for large suppliers and 31 December 2016 for small suppliers

<sup>20</sup> This includes smart meters installed in both 2015 and 2016, details can be found in Table 3d in the accompanying tables <https://www.gov.uk/government/collections/smart-meters-statistics>

## 3.2 Operational meters in smaller non-domestic sites

### Meters in operation (as at end of September 2017)

As at 30 September 2017, there were a total of 2.46 million meters operated by **large energy suppliers** in smaller non-domestic sites in Great Britain. Of these, 599,000 (55,000 gas and 544,000 electricity) were operating as smart meters and advanced meter in smart mode, or with advanced functionality, representing almost one quarter of all non-domestic meters in operation.

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.

Small energy suppliers reported to operate a total of 340,700 smart and advanced meters in smaller non-domestic sites as at the end of 2016.

Collectively, at the end of 30 September 2017, there were 939,700 smart meters in operation across smaller non-domestic sites across Great Britain by both large and small suppliers<sup>21</sup> - a negligible change on the previous quarter.

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<sup>21</sup> Due to the differing data collection frequency for small and large suppliers, the installation total quoted reflects all cumulative installations as at 30 September 2017 for large suppliers and 31 December 2016 for small 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 (twelve) as at 30 September 2017:

- 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) as at 31 December 2016:

- 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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