Department for Business, Energy & Industrial Strategy

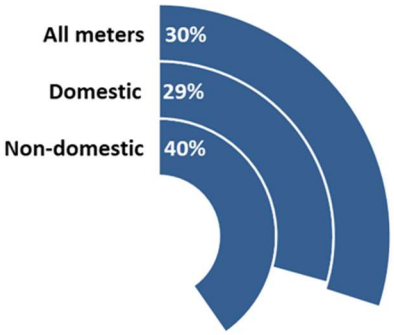
Smart Meter Statistics in Great Britain: Quarterly Report to end December 2019

12th March 2020 **Official Statistics**

This end of 2019 report includes all suppliers in the GB energy market

At end 2019 there were **16.5 million** smart and advanced meters operating in homes and businesses across Great Britain

30% of all meters are now smart meters operating in smart mode or with advanced functionality



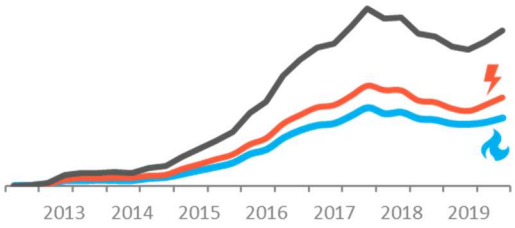
4.5 million smart and advanced meters were installed in 2019

In Q4 2019 large suppliers installed:

Domestic

1.2m smart meters

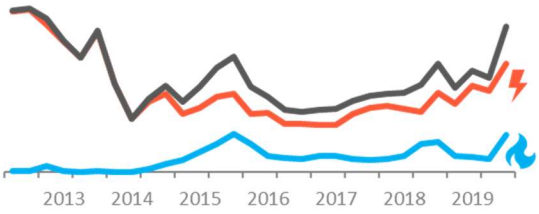
8.2% more than Q3 2019



Non-domestic

32,000 smart/advanced meters

53% more than Q3 2019



What you need to know about these statistics:
This quarterly release includes information on the number of smart meters installed in domestic properties and smaller non-domestic sites during the fourth quarter of 2019 by the 16 largest energy suppliers, as well as the number installed across 2019 by small suppliers. It also includes total number of meters operated by all suppliers on 31 December 2019.

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Next publication: 28th May 2020

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Introduction

This quarterly release presents statistics on the roll-out of smart meters in Great Britain. It reports the number of smart meters installed in domestic properties and smaller non-domestic sites during the fourth quarter of 2019 by the 16 large energy suppliers (see Definitions section for more details). It also includes information on meters installed throughout 2019 by small suppliers and the total number of meters operated by all suppliers on 31 December 2019.

The replacement of traditional gas and electricity meters with smart meters is an essential national energy infrastructure upgrade for Great Britain that will help make our energy system cheaper, more efficient and reliable. Smart meters are the next generation of gas and electricity meters and offer a range of intelligent functions. For example, they can tell customers how much energy they are using in pounds and pence through an In-Home Display (IHD). This information will help customers manage their energy use, save money and reduce emissions. Smart meters communicate directly with energy suppliers, meaning customers will get accurate bills.

The successful delivery of smart metering benefits depends upon coordinated effort from a wide range of organisations. The Smart Metering Implementation Programme is led by the Department for Business, Energy and Industrial Strategy (BEIS), regulated by the Office of Gas and Electricity Markets (Ofgem), and delivered by energy suppliers. The majority of meter installations to date have been first generation smart meters (SMETS1). They have provided energy suppliers with valuable experience and are helping consumers save energy and money. The market is now transitioning to installing second generation smart meters (SMETS2).

Ahead of the national smart metering communications infrastructure being in place, the Government defined a standard, known as SMETS1, to ensure minimum common functionality and to stop the variability in the smart-type meters which some energy suppliers were already installing at that time. This was important to ensure a consistent consumer experience and for these meters to be later enrolled into the communications infrastructure and made interoperable between all energy suppliers.

The national data and communications infrastructure, run by the Data and Communications Company (DCC) across GB, enables energy suppliers to install and operate second generation smart meters (SMETS2 meters). The upgrade to the national smart metering network to support the enrolment of first-generation smart meters has started and will be completed by the end of 2020.

The next quarterly publication is planned for publication on 28 May 2020.

Meters in operation

In the data tables accompanying this publication, Table 1 shows domestic meters operated by large suppliers, Table 3 shows non-domestic meters operated by large suppliers and Table 5 shows annual data on meters in operation, for both large and small suppliers. All tables also show the split by fuel and meter type.

At the end of 2019 there were **16.5 million** smart meters operating in smart mode and advanced meters in homes and businesses in Great Britain, operated by both large and small energy suppliers.[1]. Table 1 summarises how this total is calculated across domestic and non-domestic sectors and large and small suppliers. For a full breakdown including by fuel type, see Table 5 in the accompanying tables to this report.

Table 1: 16.5 million smart and advanced meters are operating at end Q4 2019

Great Britain, to end Q4 2019

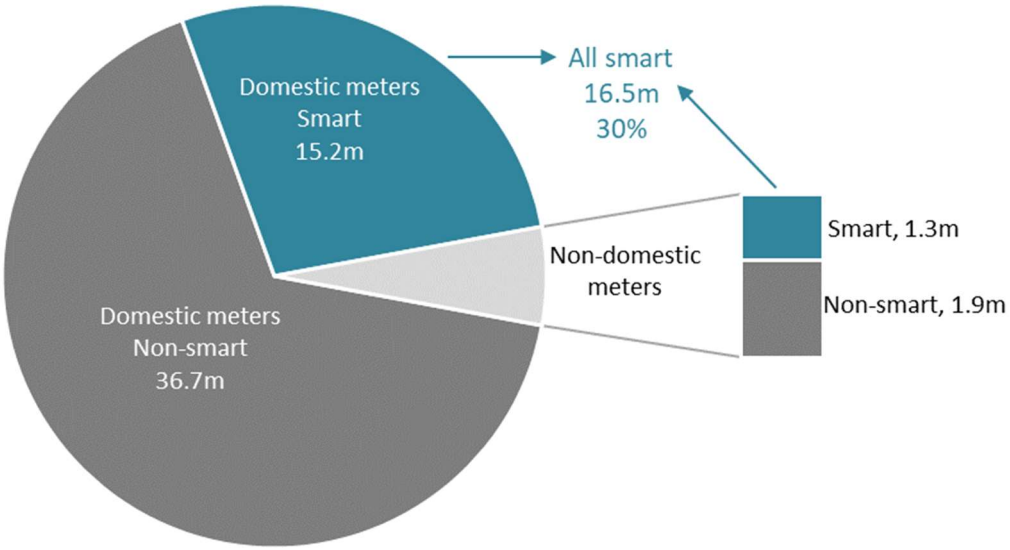
	Large Suppliers	Small Suppliers	Total
Total domestic smart meters	14,726,000	469,000	15,195,000
Total non-domestic smart and advanced meters	980,000	310,000	1,290,000
Total	15,706,000	779,000	**16,485,000**

Source: Energy Suppliers reporting to BEIS

Across large and small suppliers, **29%** of the 51.8 million domestic meters and **40%** of the 3.2 million non-domestic meters operating are now smart meters in smart mode (or advanced meters for non-domestic sites), see Figure 1. Overall, **30%** of all meters in Great Britain are now smart.

Figure 1: Thirty percent of all meters covered by the smart meter roll-out are smart

Great Britain, meters operated by all energy suppliers, non-domestic includes advanced meters
2019



Source: Energy Suppliers reporting to BEIS.

[1] There have been four supplier transitions since the same period last year; three large suppliers entering and one exiting. Our large supplier definition has been updated this quarter to have a consistent definition across domestic and non-domestic suppliers. See Definitions on page 13 for further details.

Data from suppliers indicates that just under 4.0 million smart meters were known to be operating in traditional mode at end December 2019.[2] Smart meters can temporarily operate in traditional mode for a number of reasons including:

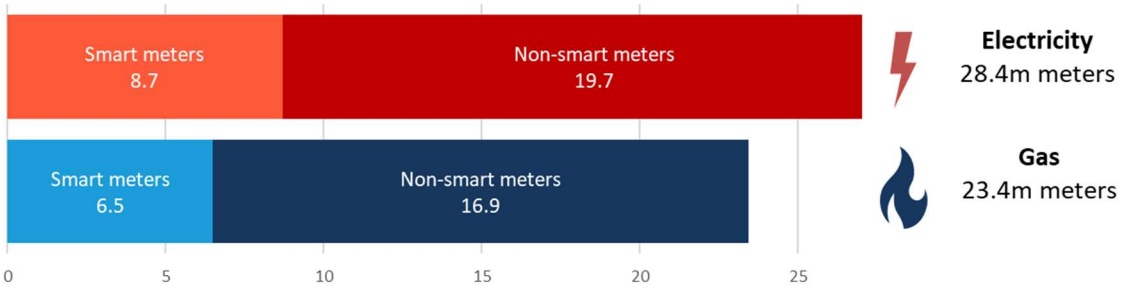
- customers switching to suppliers currently unable to operate the meter in smart mode,
- meters being unable to communicate via the wide area network at the point of reporting,
- customers having their meter installed in traditional mode,
- installed meters yet to be commissioned (e.g. in new build premises).

Operational meters in domestic properties

Collectively across both large and small energy suppliers, there were 15.2 million smart meters operating in domestic properties in Great Britain at the end of 2019, representing 29% of all domestic meters (Figure 2). Of the 15.2 million domestic smart meters operating at the end of 2019, 19% were in prepayment mode. For comparison, 15% of all domestic meters are prepayment meters.

Figure 2: Twenty-nine percent of domestic meters are smart

Great Britain, domestic meters operated by all energy suppliers
Q4 2019, millions



Source: Energy Suppliers reporting to BEIS.

Figure 3 illustrates that large energy suppliers operated 93% of domestic meters at the end of 2019, of which 30% were smart. For small suppliers, only 13% were smart; a smaller proportion compared to large suppliers.

Figure 3: A greater proportion of meters are smart for large compared to small suppliers

Great Britain, domestic meters
Q4 2019

Source: Energy Suppliers reporting to BEIS.

[2] Based on operational mode of smart meters reported to BEIS in supplier returns

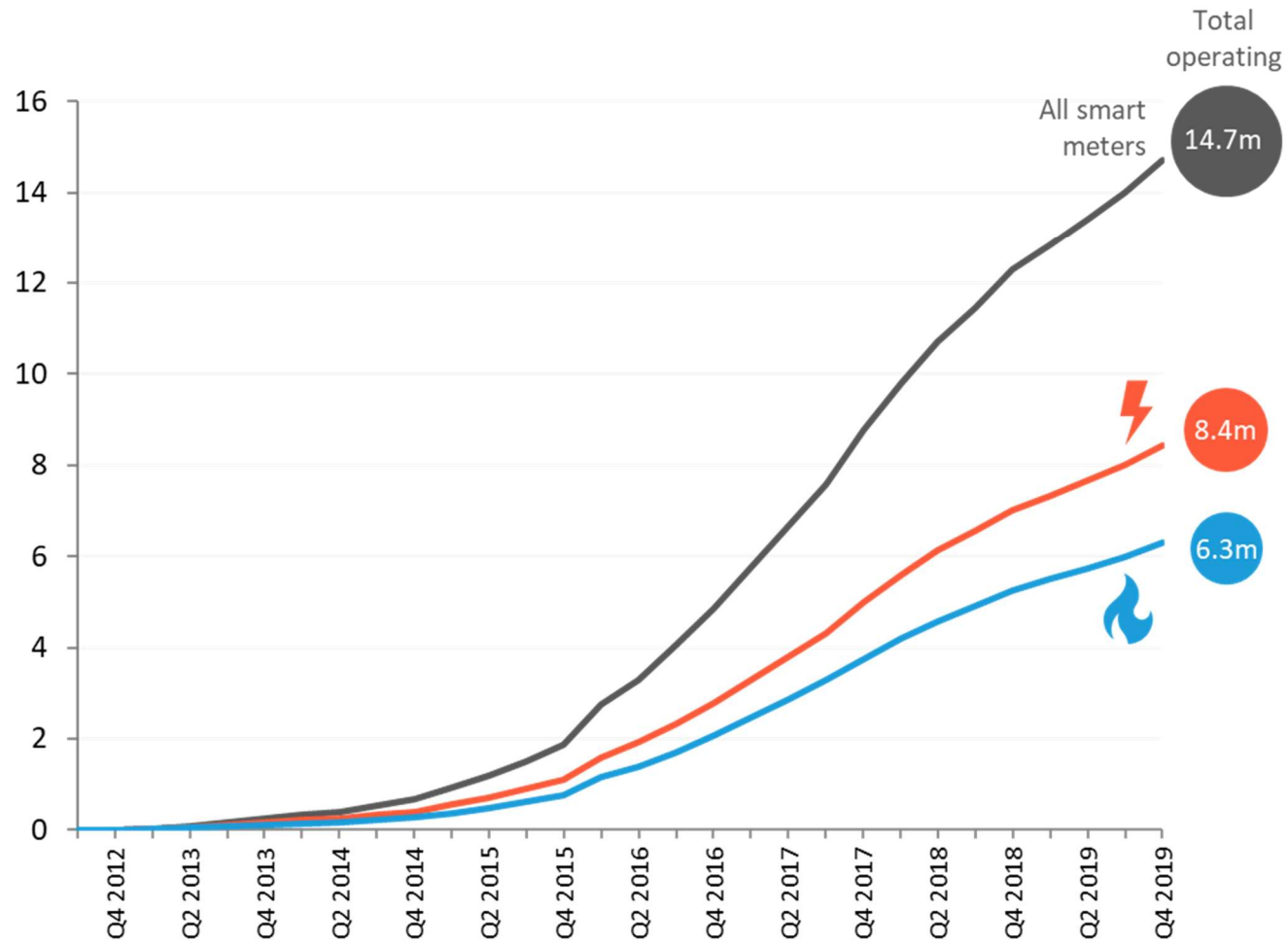
Industry information from the Data Communications Company (DCC) show that as of 31 December 2019, there were 3.3 million domestic SMETS2 meters connected to the system. This has increased from 2.3 million at the end of September 2019.

When looking at quarterly changes, using large supplier data only, the steady increase in smart meters operating is shown in Figure 4. The latest figures show that 14.7 million domestic smart meters in smart mode are operated by large suppliers, 57% of which are electricity meters. This is an increase of 5% from last quarter's total.

Figure 4: Domestic smart meters in operation continue to increase

Great Britain, domestic smart meters operated by large suppliers

Q4 2019, millions



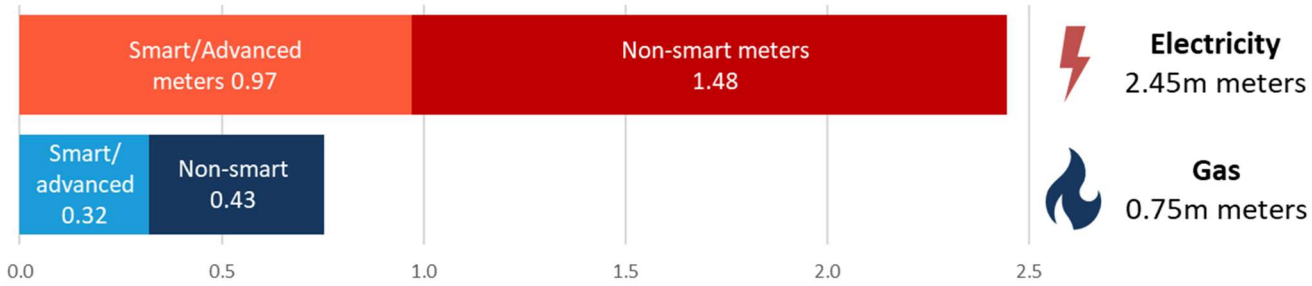
Source: Energy Suppliers reporting to BEIS.

Operational meters in smaller non-domestic sites

Collectively, both large and small energy suppliers were operating 1.3 million smart and advanced meters across smaller non-domestic sites in Great Britain; 40% of their total non-domestic meters (Figure 5).

Figure 5: Forty per cent of non-domestic meters are smart or advanced

Great Britain, non-domestic meters operated by all energy suppliers
Q4 2019, millions

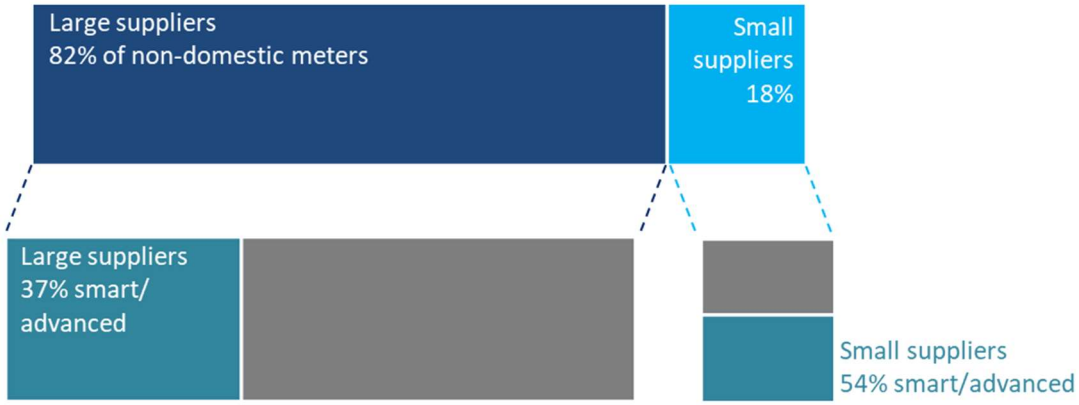


Source: Energy Suppliers reporting to BEIS.

Figure 6 illustrates that large energy suppliers operated 82% of non-domestic meters at the end 2019, of which 37% were smart or advanced. For small suppliers, 54% were smart or advanced, a higher proportion than for large supplier and a contrast to the domestic sector where the reverse pattern was seen.

Figure 6: A greater proportion of meters are smart or advanced for small compared to large suppliers

Great Britain, non-domestic meters
Q4 2019



Source: Energy Suppliers reporting to BEIS.

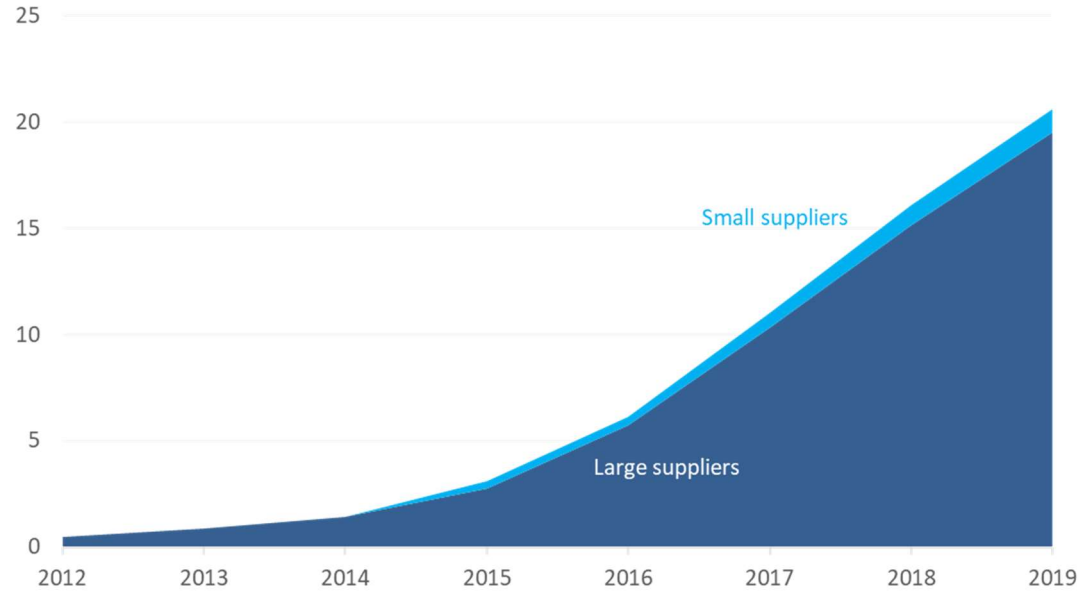
Meters installed

In the data tables accompanying this publication, Table 2 shows a quarterly breakdown of domestic meters installed by large suppliers, Table 4 shows the non-domestic installations by large suppliers and Table 6 gives the annual installation data for both large and small suppliers. All tables show the split by fuel and meter type.

By the end of 2019, a total of 20.6 million smart and advanced meters had been installed across domestic and non-domestic properties in Great Britain (Figure 7). A total of **4.5 million** meters were installed in 2019, with most installed by large suppliers, with small suppliers contributing 3.5% of the installations. This is a decrease from the 5.1 million installed in 2018. During 2019, energy suppliers transitioned their workforces to installing second generation meters, which had an impact on installation volumes when installers were taken out of the field to receive training. Figure 8 (large supplier data) indicates that this impact was greater in the first half of 2019, with Q4 2019 volumes more in line with pre-transition volumes.

Figure 7: Over twenty million smart meters have been installed

Great Britain, cumulative smart meters installed by all energy suppliers
2012 to 2019, millions



Source: Energy Suppliers reporting to BEIS.

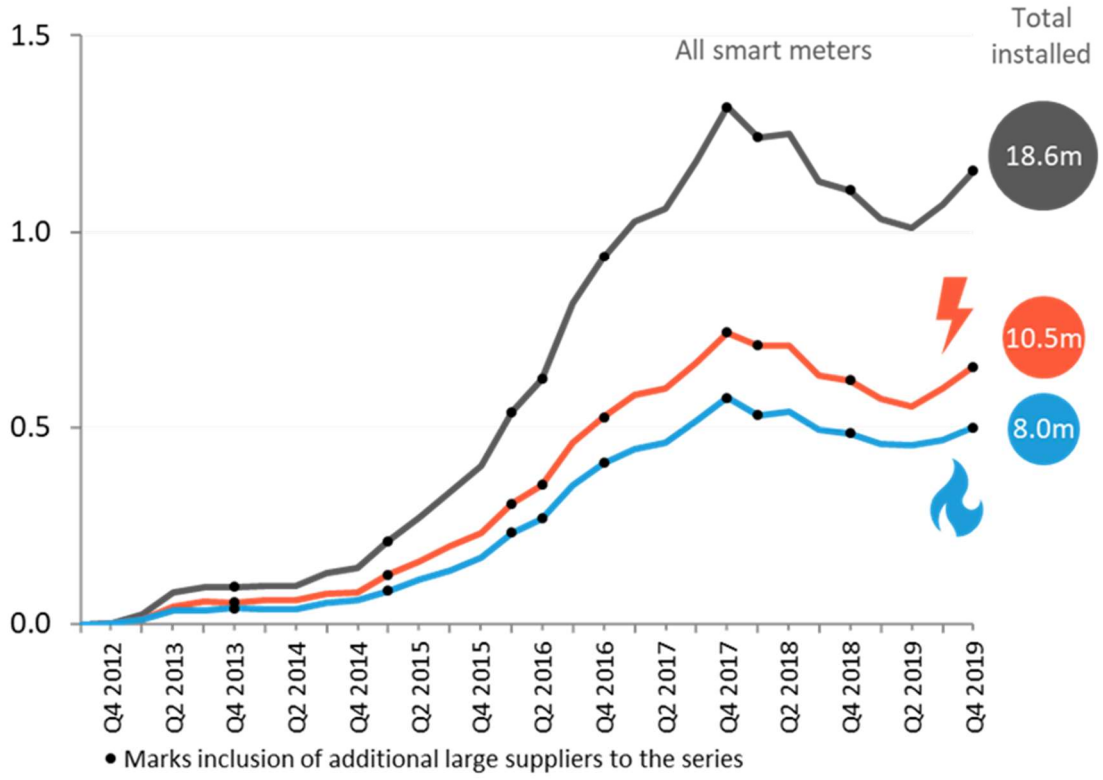
Meters installed in domestic properties

In 2019, a total of 4.4 million domestic SMETS meters were installed, of which 97% were installed by large suppliers and 67% were SMETS2. This compares to 2018, where a total of 4.9 million domestic SMETS meters were installed, of which 96% were by large suppliers and 4.5% were SMETS2. SMETS1 meters installed after 15th March 2019 do not count towards supplier roll-out obligations, as regulated by Ofgem. SMETS1 meters are being remotely enrolled to the national smart metering communications infrastructure so that they will be fully interoperable between all energy suppliers.

Figure 8 shows quarterly installation activity by large energy suppliers over the course of the Smart Metering Implementation Programme. In the fourth quarter of 2019, **1.2 million** smart meters were installed by large energy suppliers. This represents an **8.2%** increase in smart meter installations compared to the previous quarter, driven by an increase in both electricity (9.1%) and gas (7.0%) installations. Compared to the same quarter last year, installation activity by large energy suppliers is 4.5% higher. This was the twelfth consecutive quarter (three calendar years) with over a million smart meters installed.

Figure 8: Installation numbers increased in Q4 2019

Great Britain, domestic meters installed by large suppliers
Q3 2012 to Q4 2019, millions



Source: Energy Suppliers reporting to BEIS.

Meters installed in smaller non-domestic properties

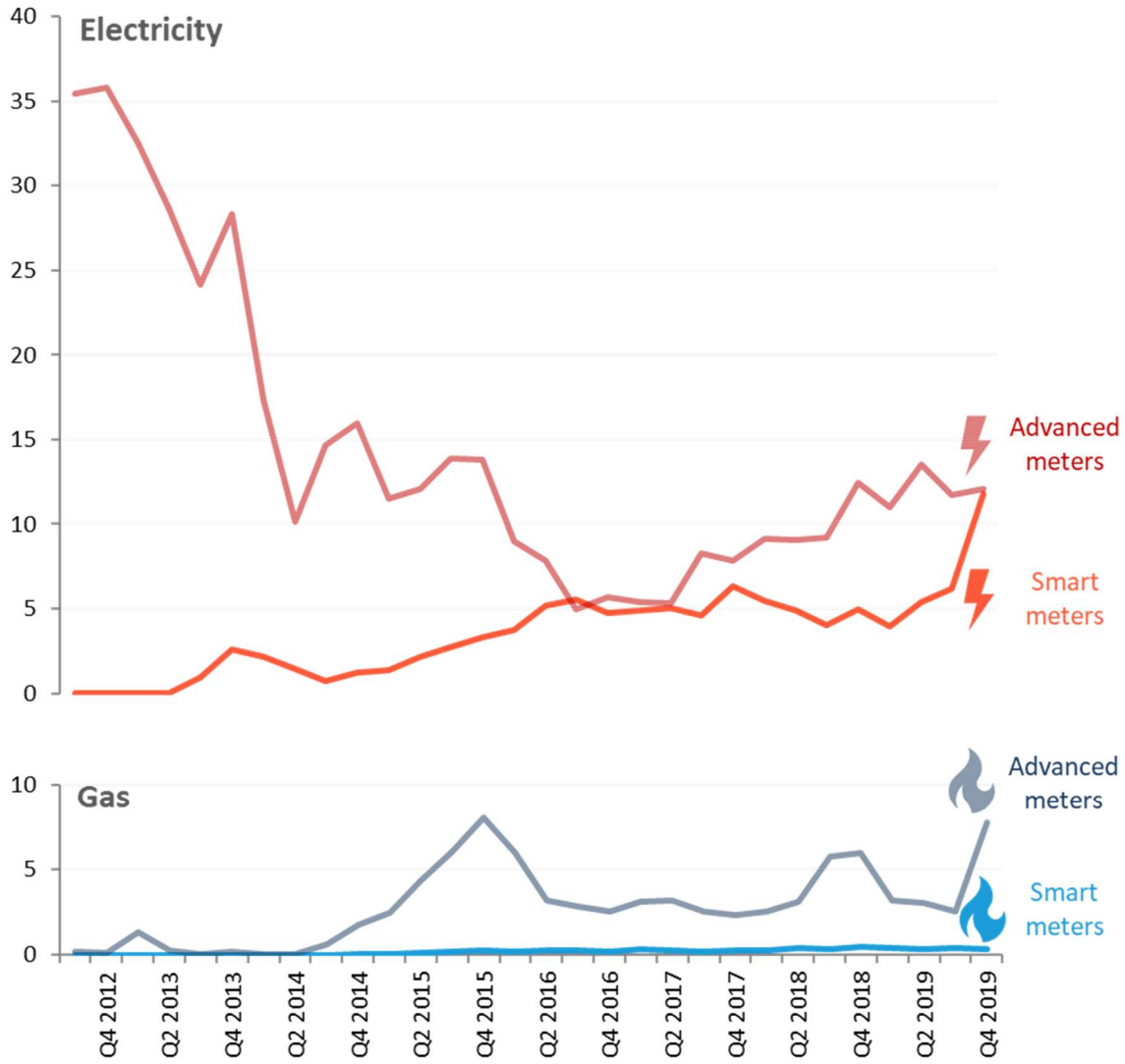
In 2019, 120,800 smart and advanced meters were installed in smaller non-domestic sites by both large and small energy suppliers in Great Britain. Of these meters, (77%) were installed by large energy suppliers. The majority of installations were electricity meters (74%), as expected by the imbalance of electricity versus gas meters in the non-domestic sector.

In the fourth quarter of 2019, **32,000** smart and advanced meters were installed in smaller non-domestic sites by large energy suppliers (of which 19,900 were advanced meters and the rest smart meters). Figure 9 demonstrates that there is no consistent pattern to the quarterly installation numbers in non-domestic properties.

Figure 9: Installation numbers for non-domestic meters remain variable

Great Britain, non-domestic meters installed by large suppliers

Q3 2012 to Q4 2019, thousands



Source: Energy Suppliers reporting to BEIS.

Accompanying tables

The following tables are available in Excel format on the department's statistics website https://www.gov.uk/government/collections/smart-meters-statistics:

Quarterly – Large Supplier Data

1 Domestic meters operated by large energy suppliers
2 Domestic smart meters installed by large energy suppliers
3 Non-domestic meters operated by large energy suppliers
4 Non-domestic smart and advanced meters installed by large energy suppliers

Annual – Large and Small Supplier Data

5 Meters operated by large and small energy suppliers
6 Smart and advanced meters installed by large and small energy suppliers

Technical information

Energy suppliers report data quarterly for large suppliers and annually for small suppliers. This data is received by BEIS one month after the end of each reporting period. It undergoes quality assurance before being combined to provide an industry-level estimate, protecting commercial sensitivity. The data used in this report includes the number of meters installed in a given period, while the number of meters in operation is calculated at the end point.

The first statistical report on the Smart Meter roll-out reported on Q2 2013 for large energy suppliers. Subsequent reports are published on a quarterly basis. Annual small supplier data were published alongside large supplier data for the first time for Q4 2015. Prior to this, data received from many of the small suppliers did not meet the quality standards required for publication.

Small energy supplier data is cross-checked against external administrative data sources such as ElectraLink, Elexon and DCC. These data sources have also been used to impute portfolio positions where supplier data is unavailable. For 2019, data from three small suppliers' installation numbers was estimated using these sources as a result of market exits and non-response to our survey, covering less than 1% of the annual installation total. Data was estimated for operating numbers for one small supplier who did not provide data, covering less than 0.005% of the total market.

The following transitions from small to large suppliers have occurred in this publication series:

- Utility Warehouse - incorporated Q4 2013
- First Utility (now Shell Energy) - incorporated Q1 2015
- OVO - incorporated Q1 2015
- Utilita - incorporated Q1 2016
- Extra Energy - incorporated Q2 2016; removed Q4 2017
- Co-operative Energy - incorporated Q4 2016; removed Q4 2019[3]
- Economy Energy - incorporated Q4 2017; removed Q1 2019
- Hudson Green Star - incorporated Q4 2017

[3] Co-operative Energy was bought by Octopus Energy in 2019 and their portfolio remains in the large supplier group from Q4 2019.

- Bulb - incorporated Q1 2018
- Octopus Energy - incorporated Q4 2018
- Avro Energy - incorporated Q4 2019
- Green Network Energy - incorporated Q4 2019
- Opus Energy - incorporated Q4 2019

Before Q1 2016, meters installed under the mandate by energy suppliers before they transitioned to large suppliers were included within the historic installation estimates for large suppliers. This ensured that reported totals installed to date by large energy suppliers were as accurate as possible. Following the introduction of small supplier statistics in Q4 2015, this was no longer needed. Historic installation totals for transitioning suppliers remain in the small supplier totals reported on at the end of the previous calendar year.

Energy Suppliers included in this report

16 Large Energy Suppliers:

Avro	Hudson Green Star	Scottish Power
British Gas	Npower	SSE
Bulb	Octopus Energy	Utilita
E.ON	Opus Energy	Utility Warehouse
EDF Energy	OVO	
Green Network Energy	Shell Energy	

72 Small Energy suppliers as at 31 December 2019:

Ampower	Foxglove Energy	Peoples Energy
Avanti Gas	Gazprom	PFP Energy
Axis	GnERGY	Pozitive Energy
BES Utilities	Go Effortless Energy	Pure Planet
Bluegreen Energy	Good Energy	Regent Gas
BPG Energy	GOTO Energy	Robin Hood Energy
Bristol Energy	Green.	Simplicity Energy
Brook Green Supply	Green Energy	Smartest Energy
Bryt Energy	Gulf Gas & Power	So Energy
CNG	Haven Power	Social Energy
Corona Energy	Igloo Energy	Symbio Energy
Crown Gas & Power	iSupplyEnergy	Together Energy
D-Energi	Logicor Energy	Tonik Energy
Daligas	MA Energy	Total Gas & Power
Delta Gas & Power	Marble Power	Tru Energy
Dual Energy	Maxen Power	United Gas & Power
Dyce Energy	MB Energy	Utility Point
E	Moneyplus Energy	Valda Energy
Ecotricity	Nabuh Energy	Verastar
ElectroRoute	National Gas	Xcel Energy
ENGIE	Northumbria Energy	Yorkshire Energy
Enstroga	Opal Gas	Yorkshire Gas & Power
Entice Energy	Orbit Energy	Yu Energy
ESB	Orsted	Zebra Power
		Zog Energy

Definitions

Advanced meters	Advanced meters must, at minimum, be able to store half-hourly electricity and hourly gas data, to which the non-domestic customer has timely access and the supplier has remote access
DCC	Data and Communications Company (DCC) - the holder of the Smart Meter communication licence, Smart DCC Ltd. The DCC Licence was awarded under section 7AB of the Gas Act 1986, and section 5 of the Electricity Act, each allowing Smart DCC Ltd to undertake the activity of providing a Smart Meter communication service.
Domestic properties	Properties where the customer is supplied with electricity or gas, wholly or mainly for domestic purposes
IHD	In-Home Display (IHD) - an electronic device paired to the Smart Metering System, which provides near real-time information on a consumer's energy consumption
Large energy suppliers	Supply either gas or electricity to at least 250,000 domestic or non-domestic metering points. An energy supplier need only supply 250,000 domestic or non-domestic customers a single fuel to be classed as a large energy supplier (e.g. an energy supplier supplying gas to 250,000 domestic customers and no electricity or non-domestic customers is a large energy supplier). Note that up to Q3 2019, large suppliers were defined by domestic customers only.
Non-smart meters	All meters which are not 'smart meters operating in smart mode'
Ofgem	Office of Gas and Electricity Markets (Ofgem) - the Government regulator for the electricity and downstream natural gas markets in Great Britain
Small energy suppliers	Supply either gas or electricity to less than 250,000 domestic or non-domestic metering points
Smaller non-domestic sites	Business or public sector customers whose sites use low to medium amounts of electricity (Balancing and Settlement Code Profile Classes 1, 2, 3 or 4) or gas (using less than 732MWh of gas per annum)
Smart meter	Compliant with the Smart Meter Equipment Technical Specification (SMETS) and has functionality such as being able to transmit meter readings to energy suppliers and receive data remotely
SMETS1	Smart Metering Equipment Technical Specification version 1 (SMETS1) - the first version of the Smart Metering Equipment Technical Specification which was designated by the Secretary of State
SMETS2	Smart Metering Equipment Technical Specification version 2 (SMETS2) - the second version of the Smart Metering Equipment Technical Specification which was designated by the Secretary of State

Further information

Future updates to these statistics

The next quarterly publication is planned for publication on 28 May 2020. 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. The format and context may be subject to change in future versions.

Related statistics

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

The figures within this publication series represent a large sub-set of meters found in other Departmental consumption statistics.

Sub-national gas and electricity consumption statistics

This publication provides estimates of annual electricity and gas consumption below national level. Latest estimates are for 2018 covering UK and include a number of developments to improve the quality and value of the estimates for users.
https://www.gov.uk/government/statistics/sub-national-electricity-and-gas-consumption-summary-report-2018

Digest of UK Energy Statistics (DUKES)

DUKES contains annual data on production and consumption of overall energy and of the individual fuels in the United Kingdom. Also includes a commentary covering all the major aspects of energy and gives a comprehensive picture of energy production and use over the last five years with key series back to 1970.
www.gov.uk/government/collections/digest-of-uk-energy-statistics-dukes

National Energy Efficiency Data-Framework (NEED)

The National Energy Efficiency Data-Framework (NEED) was set up to provide a better understanding of energy use and energy efficiency in domestic and non-domestic buildings in Great Britain. The data framework matches gas and electricity consumption data, collected for BEIS sub-national energy consumption statistics, with information on energy efficiency measures installed in homes, from the Homes Energy Efficiency Database (HEED), Green Deal, the Energy Company Obligation (ECO) and the Feed-in Tariff (FIT) scheme. It also includes data about property attributes and household characteristics, obtained from a range of sources.
https://www.gov.uk/government/collections/national-energy-efficiency-data-need-framework

Revisions policy

The BEIS statistical revisions policy sets out the revisions policy for these statistics, which has been developed in accordance with the UK Statistics Authority Code of Practice for Statistics.

Uses of these statistics

The data associated with this release is used in internal analysis to help form policy decisions and is also used by industry to monitor trends in the roll-out. The data within and associated with this publication are also used to answer Parliamentary questions and Freedom of Information requests.

User engagement

Users are encouraged to provide comments and feedback on how these statistics are used and how well they meet user needs. Comments on any issues relating to this statistical release are welcomed and should be sent to: smartmeter.stats@beis.gov.uk

The BEIS statement on statistical public engagement and data standards sets out the department's commitments on public engagement and data standards as outlined by the Code of Practice for Statistics.

Pre-release access to statistics

Some ministers and officials receive access to these statistics up to 24 hours before release. Details of the arrangements for doing this and a list of the ministers and officials that receive pre-release access to these statistics can be found in the BEIS statement of compliance with the Pre-Release Access to Official Statistics Order 2008.

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This publication is available from: https://www.gov.uk/government/collections/smart-meters-statistics

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