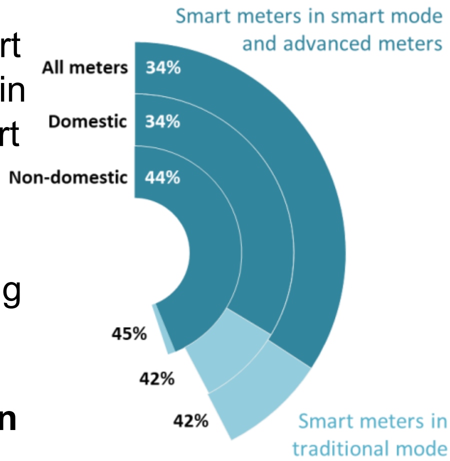
Department for
Business, Energy
& Industrial Strategy

Smart Meter Statistics in Great Britain: Quarterly Report to end December 2020

9th March 2021 **Official Statistics**

This report includes an update from all energy suppliers in the Great Britain energy market at end of 2020

As of 31 December 2020, there were **23.6 million** smart and advanced meters in homes and small businesses in Great Britain, of which **19.1 million** were smart in smart mode or advanced meters



Over a **third** of all meters are smart meters in smart mode or advanced meters, rising to **42%** when including smart meters in traditional mode

In 2020, energy suppliers installed a total of **3.2 million** smart and advanced meters:

Domestic
3.1 million smart meters

Non-domestic
98,600 smart/advanced meters

Installation numbers during 2020 were affected by the coronavirus (COVID-19) pandemic with the greatest impact occurring during Q2 2020. Since then, data provided quarterly by large suppliers shows that installation numbers are rising, with Q4 2020 levels increasing by 14% on Q3 2020

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 2020 by the 15 largest energy suppliers and annual installations for 67 small suppliers, as well as the total number of meters operated by all energy suppliers on 31 December 2020.

Responsible statistician: Mita Kerai **Email: smartmeter.stats@beis.gov.uk**
Media enquiries: 020 7215 1000 **Public enquiries: 0300 068 5044** **Next publication: 27th May 2021**

Contents

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 2020 by the 15 large energy suppliers (see Definitions section for more details), as well as the total number of meters they operated on 31 December 2020. The report also includes the number of meters installed in 2020 and operated by small suppliers at the end of 2020.

The replacement of traditional gas and electricity meters with smart meters is an essential national infrastructure upgrade for Great Britain that will help make our energy system cheaper, cleaner and more 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 helps customers manage their energy use, save money and reduce emissions. Smart meters communicate automatically with energy suppliers, which avoids manual meter reads and provides customers with accurate bills.

Smart meters also support the transition to a low-carbon energy system by unlocking new approaches to managing demand. Products such as smart ‘time of use’ tariffs incentivise consumers to save money by using energy away from peak times and enable technologies such as electric vehicles and smart appliances to be cost-effectively integrated with renewable energy sources.

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 & 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. Energy suppliers are now installing second generation smart meters (SMETS2) as the default choice.

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 network and made interoperable between all energy suppliers.

SMETS1 meters are now being moved onto the national communications network, run by the Data Communications Company (DCC), so that consumers regain and keep smart services if they switch supplier. Meters are being enrolled remotely, without consumers needing to take any action, and priority is being given to those which have temporarily lost smart functionality. SMETS2 meters are connected to the DCC’s network from the point of installation, so are already compatible between energy suppliers.

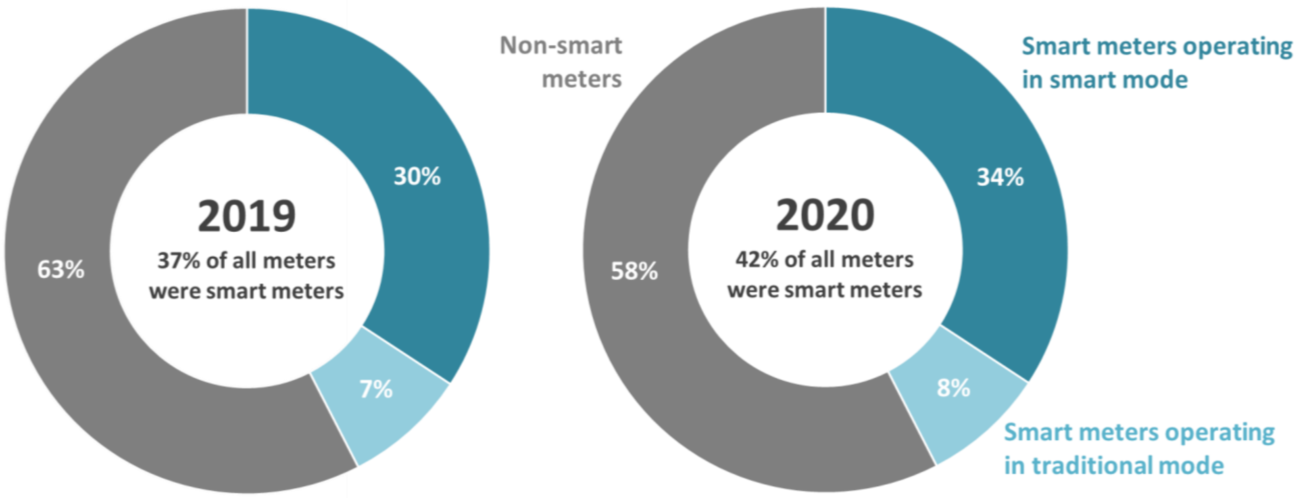
The next quarterly publication is planned for publication on 27 May 2021.

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 2020, there were **23.6 million** smart and advanced meters in Great Britain in homes and small businesses (Figure 1). This includes updated data from both large and small suppliers to the end of the year.[1] Of these, **19.1 million** were smart meters operating in smart mode and advanced meters. This means that **34%** of all meters were smart in smart mode or advanced meters, with a further 8% of meters being smart meters in traditional mode (42% smart in total).[2] Of the 23.6 million smart and advanced meters, 15.7 million are SMETS1, 6.7 million SMETS2 and 1.3 million advanced. The number of smart meters operating in smart mode at the end of 2020 increased by 2.6 million since the end of 2019.

Figure 1: The proportion of smart meters operating in smart mode or advanced meters has increased since 2019
Great Britain, meters operated by all energy suppliers
End 2019 and 2020



Source: Energy Suppliers reporting to BEIS

Table 1 summarises how the total smart meters in operation at the end of 2020 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.

[1] There has been one small supplier entering the large supplier group since the same period in 2019 and nine small suppliers exiting the market. See Definitions on page 13 for further details of our large supplier definitions.
[2] Note, statistics presented are independently rounded. This means the sum of their components may differ from the totals.

Table 1: There were 19.1 million smart meters operating in smart mode and advanced meters at end of 2020
Great Britain, to end of 2020

		Large Suppliers	Small Suppliers	Total
Smart (smart mode) and advanced meters	Domestic meters	17,112,000	521,000	**19,071,000**
	Non-domestic meters	1,029,000	409,000	
Smart (traditional mode)	Domestic meters	3,966,000	570,000	**4,574,000**
	Non-domestic meters	28,000	10,000	
Total		**22,136,000**	**1,510,000**	**23,646,000**

Source: Energy Suppliers reporting to BEIS

Smart meters can temporarily operate in traditional mode for several 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).

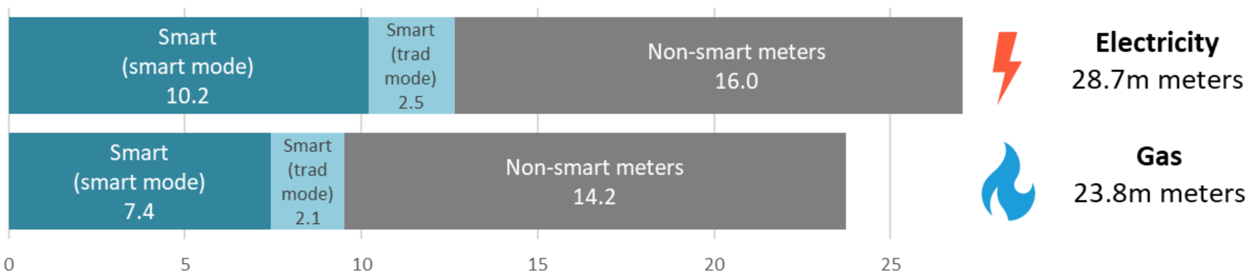
SMETS1 meters are being remotely enrolled onto the DCC's national network in order to restore smart services, and priority is being given to those which are temporarily operating in traditional mode.

Operational meters in domestic properties

Collectively across both large and small energy suppliers, there were 22.2 million smart meters in domestic properties in Great Britain at the end of 2020; 42% of all domestic meters (Figure 2). The rollout out for smart prepayment is in line with prepayment market share. At the end of 2020, 14% of all smart meters were in prepayment mode, in line with the levels of prepayment meters in the market (also 14%). Of the 22.2 million domestic smart meters operating at the end of 2020, 17.6 million were smart meters operating in smart mode.

Figure 2: Thirty-four percent of domestic meters were smart meters operating in smart mode

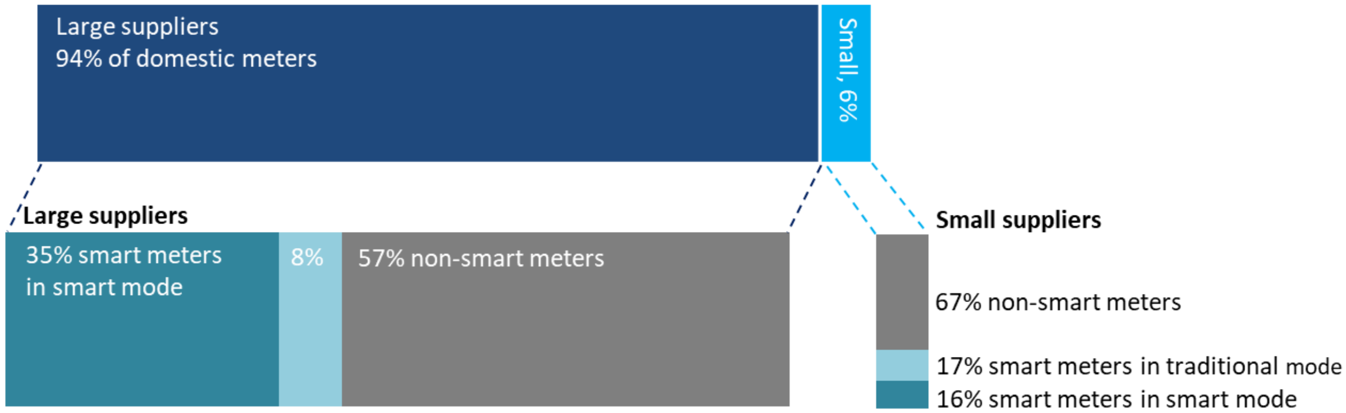
Great Britain, domestic meters operated by all energy suppliers
To end 2020, millions



Source: Energy Suppliers reporting to BEIS

Figure 3 illustrates that large energy suppliers operated 94% of domestic meters at the end of 2020. Of the smart meters operated by large suppliers, 81% of these were operating in smart mode. This contrasts with small suppliers, where 48% of smart meters were operating in smart mode.

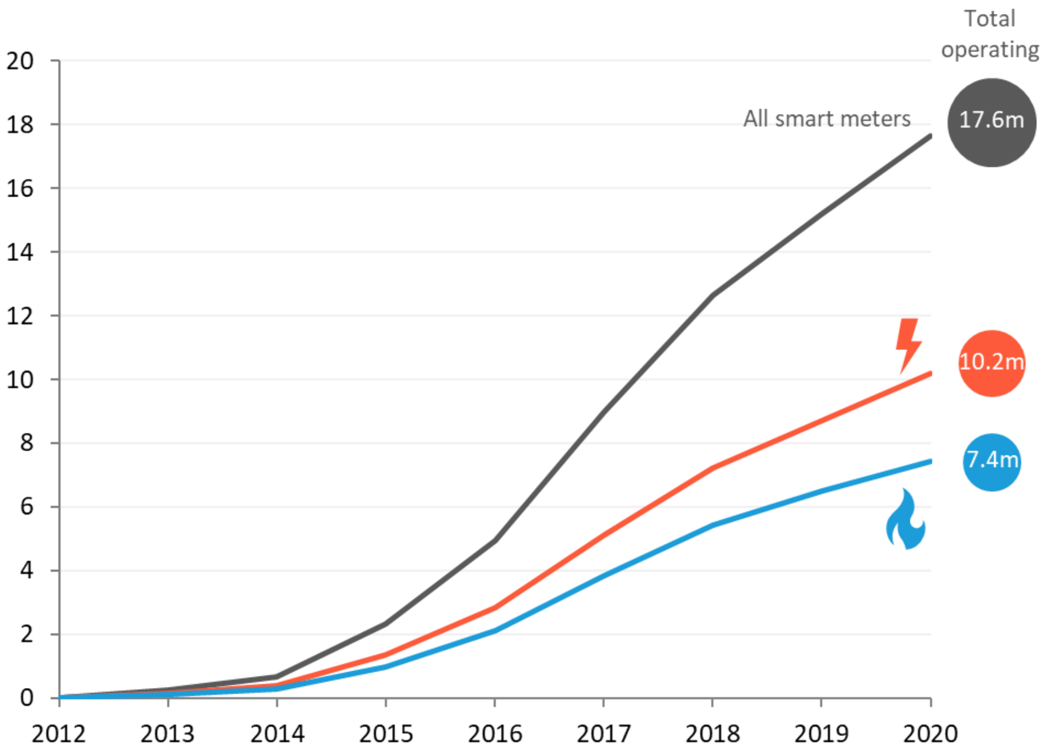
Figure 3: A greater proportion of meters were smart meters for large suppliers compared to small suppliers
Great Britain, domestic meters
End 2020



Source: Energy Suppliers reporting to BEIS

The annual increase in smart meters operating in smart mode is shown in Figure 4. The latest figures show that 17.6 million domestic smart meters in smart mode were operated by all energy suppliers, 58% of which are electricity meters.

Figure 4: Domestic smart meters operating in smart mode increased to 17.6 million at the end of 2020
Great Britain, domestic smart meters operated in smart mode by all energy suppliers
2012 to 2020, millions



Source: Energy Suppliers reporting to BEIS.

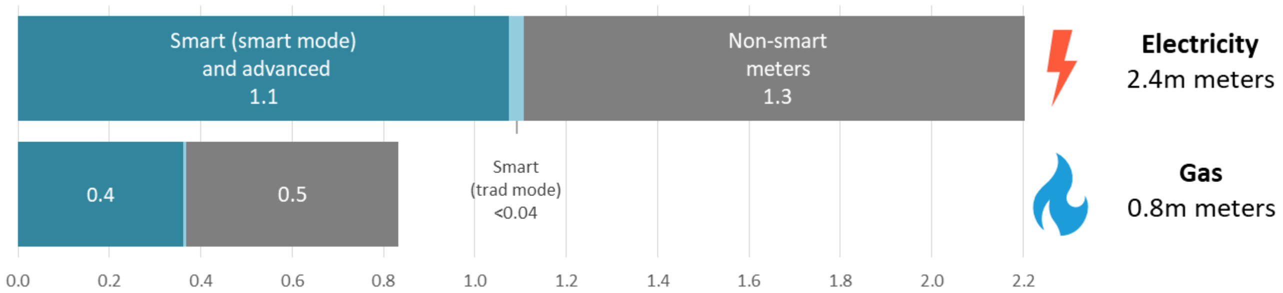
Operational meters in smaller non-domestic sites

Collectively across both large and small energy suppliers, there were 1.5 million smart and advanced meters in non-domestic sites in Great Britain at the end of 2020; 45% of all non-domestic meters. The proportion of gas and electricity meters that were operating in smart mode or advanced meters is the same (44%) as very few non-domestic meters were smart meters operating in traditional mode.

Figure 5: Forty-four per cent of non-domestic meters were smart meters operating in smart mode or advanced

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

Q4 2020, millions



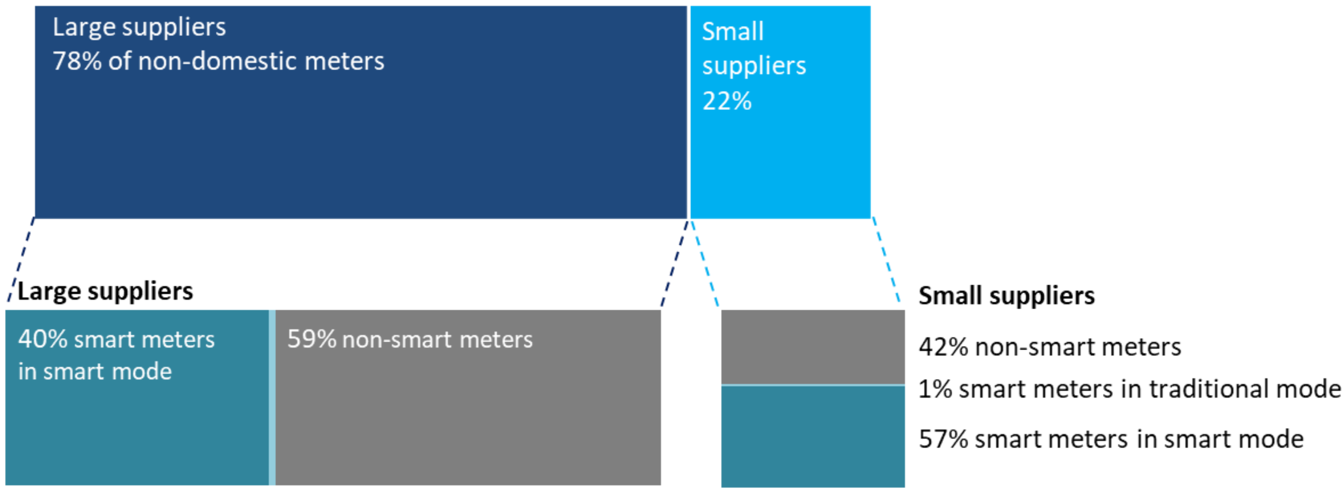
Source: Energy Suppliers reporting to BEIS

Figure 6 illustrates that large energy suppliers operated 78% of non-domestic meters at the end 2020, of which 40% were smart meters operating in smart mode or advanced meters. For small suppliers, 57% were smart meters operating in smart mode or advanced meters, a higher proportion than for large suppliers, and a contrast to the pattern seen in the domestic sector.

Figure 6: A greater proportion of meters were smart for small suppliers compared to large suppliers

Great Britain, non-domestic meters

End 2020



Source: Energy Suppliers reporting to BEIS

Meters installed

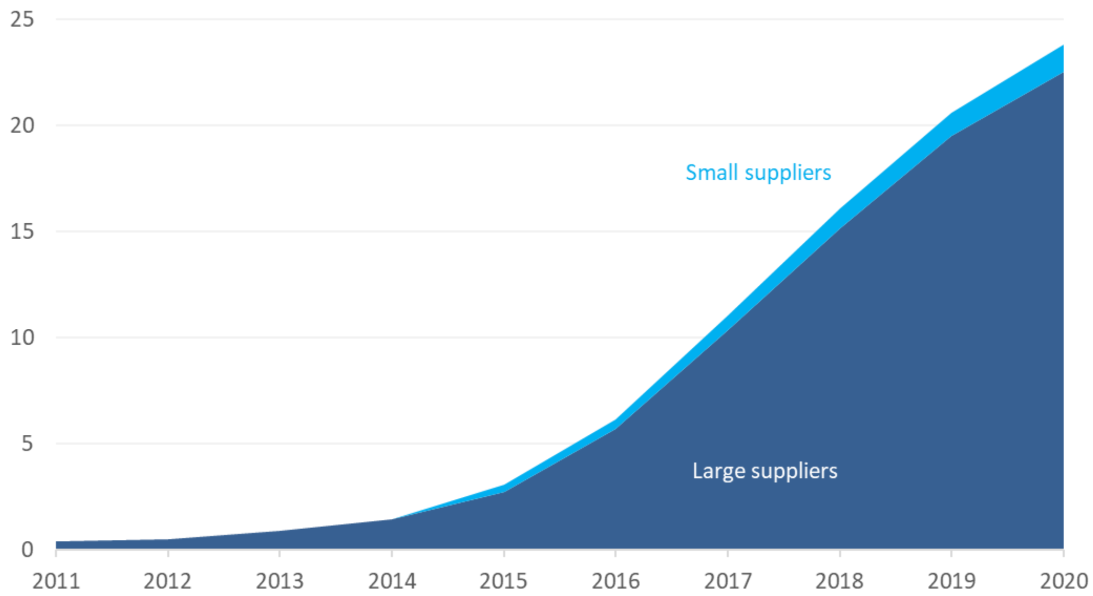
In the data tables accompanying this publication, Table 2 shows a quarterly breakdown of domestic meters installed by large suppliers, Table 4 shows the non-domestic installations by large suppliers and Table 6 gives the annual installation data for both large and small suppliers. All tables show the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

A total of **3.2 million** meters were installed in 2020, with most installed by large suppliers (5% by small suppliers). This is a decrease from the 4.5 million installed in 2019, as expected due to the ongoing impacts of the coronavirus (COVID-19) pandemic. Large supplier quarterly data indicates that the greatest COVID-19 impacts were in Q2 2020. This aligns with industry data which indicated that installation levels fell in the lead up to and after stay at home guidance was issued, when energy suppliers focused on emergency meter installations. Collectively across this time series, a total of 23.8 million smart and advanced meters have been installed across domestic and non-domestic properties in Great Britain (Figure 7).

Figure 7: Nearly twenty-four million smart meters have been installed

Great Britain, cumulative smart meters installed by all energy suppliers

2012 to 2020, millions



Source: Energy Suppliers reporting to BEIS

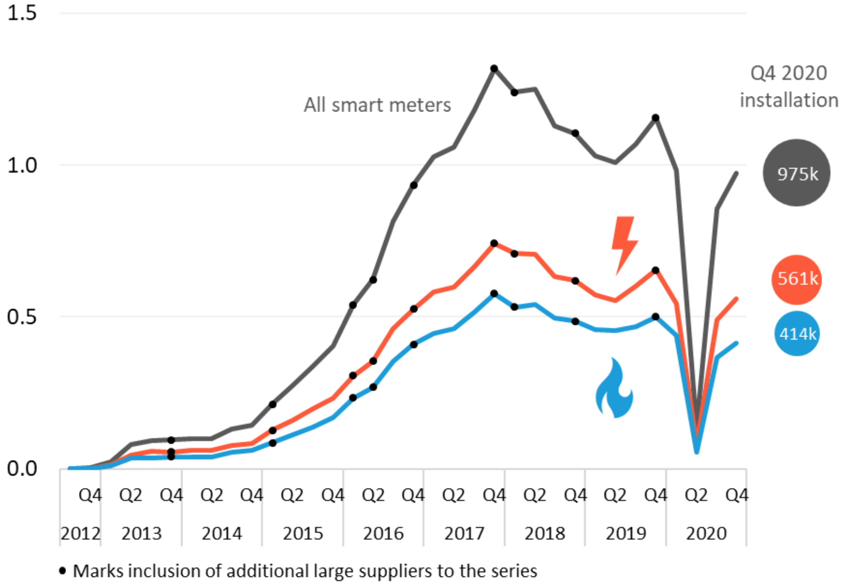
Meters installed in domestic properties

In 2020, a total of 3.1 million smart meters were installed in domestic properties, of which 96% were installed by large suppliers. Figure 8 shows quarterly installation activity by large energy suppliers over the course of the Smart Metering Implementation Programme. In Q4 2020, **974,800** smart meters were installed by large energy suppliers. This represents a 14% increase in smart meter installations compared to the previous quarter. The quarterly increase is seen in both electricity (15%) and gas (13%) installations.

Figure 8: Domestic installations continue to increase during Q4 2020

Great Britain, domestic meters installed by large suppliers

Q3 2012 to Q4 2020, millions



Source: Energy Suppliers reporting to BEIS.

Meters installed in smaller non-domestic properties

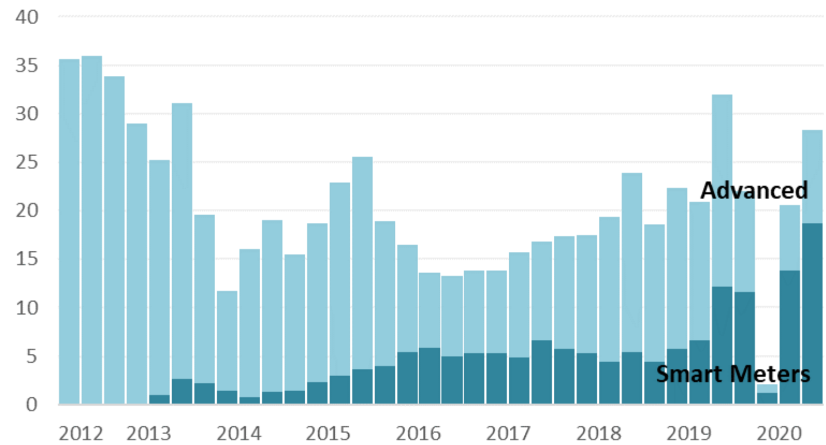
In 2020, 98,600 smart and advanced meters were installed in smaller non-domestic sites by both large and small energy suppliers in Great Britain. Of these meters, 74% were installed by large energy suppliers. The majority of large supplier installations were electricity meters (87%), as expected by the imbalance of electricity versus gas meters in the non-domestic sector.

In Q4 2020, there were 28,300 smart and advanced meters installed in smaller non-domestic sites by large energy suppliers. This is 37% more than were carried out during Q3 2020. Figure 9 shows that in Q4 2020, smart meter installations were the highest seen so far in the rollout. Overall, non-domestic installation numbers in Q4 2020 were in line with levels recorded in the last few years before the start of the coronavirus (COVID-19) pandemic.

Figure 9: Non-domestic smart meter installs in Q4 2020 are highest on record

Great Britain, non-domestic meters installed by large suppliers

Q3 2012 to Q4 2020, 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

Large energy suppliers report data quarterly and data is reported annually by small suppliers. This means that the total meters covered in the quarterly data varies due to customers switching between large and 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 was published in 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.

Energy supplier data is cross-checked against external administrative data sources such as ElectraLink, Elexon, DCC and Xoserve. These data sources have also been used to estimate portfolio position and installations where supplier data is unavailable, for example due to market exits and one non-response. Operating numbers for five suppliers were estimated as well as some installation numbers (these summed to 0.8% of all 2020 smart installations).

The following transitions in large supplier reporting 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

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

- Hudson Green Star - incorporated Q4 2017; re-branded under Shell Energy Q4 2020
- 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
- People's Energy - incorporated Q4 2020
- npower - removed in Q4 2020[4]

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

15 Large Energy Suppliers:

- Avro
- British Gas
- Bulb
- E.ON (incl. npower)
- EDF Energy
- Green Network Energy
- Octopus Energy
- Opus Energy
- OVO
- People's Energy
- Scottish Power
- Shell Energy (incl. Hudson Green Star)
- SSE Energy Solutions
- Utilita
- Utility Warehouse

67 Small Energy suppliers as at 31 December 2020:

- Ampower
- Avanti Gas
- BES Utilities
- Bluegreen Energy
- BPG Energy
- Brook Green Supply
- Bryt Energy
- CNG
- Colorado Energy
- Corona Energy
- Crown Gas & Power
- D-ENERGi
- Daligas
- Delta Gas & Power
- Dual Energy (rebranded to SmartestEnergy Business)
- Dyce Energy
- E
- Ecotricity
- ElectroRoute
- ENGIE
- Enstroga
- Entice Energy
- ESB
- Foxglove Energy
- Gazprom
- Good Energy
- GOTO Energy
- Green.
- Green Energy
- Gulf Gas & Power
- Haven Power
- Igloo Energy
- Logicor Energy
- MA Energy
- Marble Power
- Maxen Power
- MB Energy
- Moneyplus Energy
- Nabuh Energy
- National Gas
- Neon Reef
- Northumbria Energy
- Omni Energy
- Opal Gas
- Orbit Energy
- Orsted
- PFP Energy
- Pozitive Energy
- Pure Planet
- Regent Gas
- SmartestEnergy
- So Energy
- Social Energy
- Symbio Energy
- Together Energy
- Total Gas & Power
- TruEnergy
- United Gas & Power
- Utility Point
- Valda Energy
- Verastar
- Xcel Energy
- Yorkshire Gas & Power
- Yu Energy
- Zebra Power
- Zog Energy

[4] npower merged with E.ON in 2019, with combined reporting to BEIS for these statistics starting from Q4 2020. Their portfolio therefore remains in the large supplier group from Q4 2020.

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 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
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 27 May 2021. 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 2019 covering UK and include a number of developments to improve the quality and value of the estimates for users. Data for 2020 is due to be published in December 2021.
https://www.gov.uk/government/statistics/sub-national-electricity-and-gas-consumption-summary-report-2019

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.

Contact

- Responsible statistician: Mita Kerai
- Email: smartmeter.stats@beis.gov.uk
- Media enquiries: 020 7215 1000
- Public enquiries: 0300 068 5044

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

If you need a version of this document in a more accessible format, please email smartmeter.stats@beis.gov.uk. Please tell us what format you need. It will help us if you say what assistive technology you use.