

Smart Meter Statistics in Great Britain: Quarterly Report to end December 2021

8 March 2022

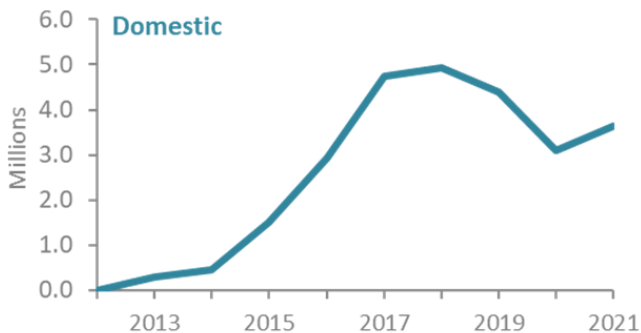
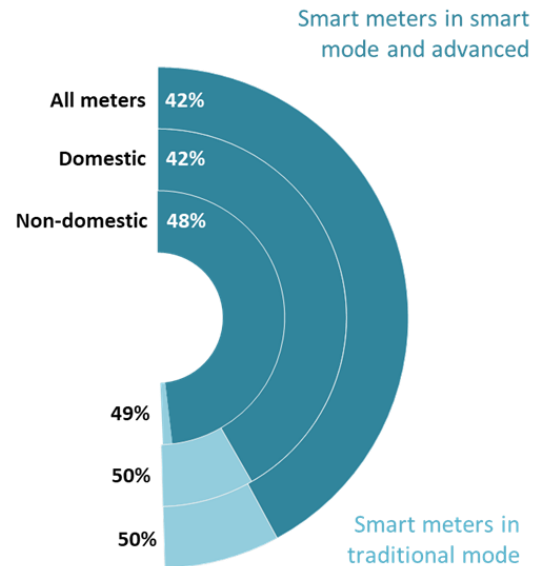
Official Statistics

This report includes an update from all energy suppliers in the energy market in Great Britain.

At end of 2021, there were **27.8 million** smart and advanced meters in homes and small businesses in Great Britain, of which **23.6 million** were smart in smart mode or advanced meters at the end of 2021

50% of all meters are smart or advanced meters; a **seven** percentage point increase from the end of 2020

A total of **3.8 million** meters were installed in 2021, with most installed by large suppliers (6% by small suppliers). While 2021 continued to see coronavirus (COVID-19) restrictions, installations increased by 19% compared to 2020, though remain lower than pre-COVID levels



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 by large energy suppliers in fourth quarter of 2021, as well as the total number of meters operated on 31 December 2021. The report also includes annual information for small suppliers to the end of 2021.

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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 2021 by large energy suppliers, as well as the total number of meters they operated on 31 December 2021. This release also includes an update on small suppliers' installation activity during 2021 and meters operated at the end of 2021. The report also includes some estimated data for small suppliers who exited the energy market in late 2021; see [Technical Information](#) for guidance on how their activity has been included.

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.

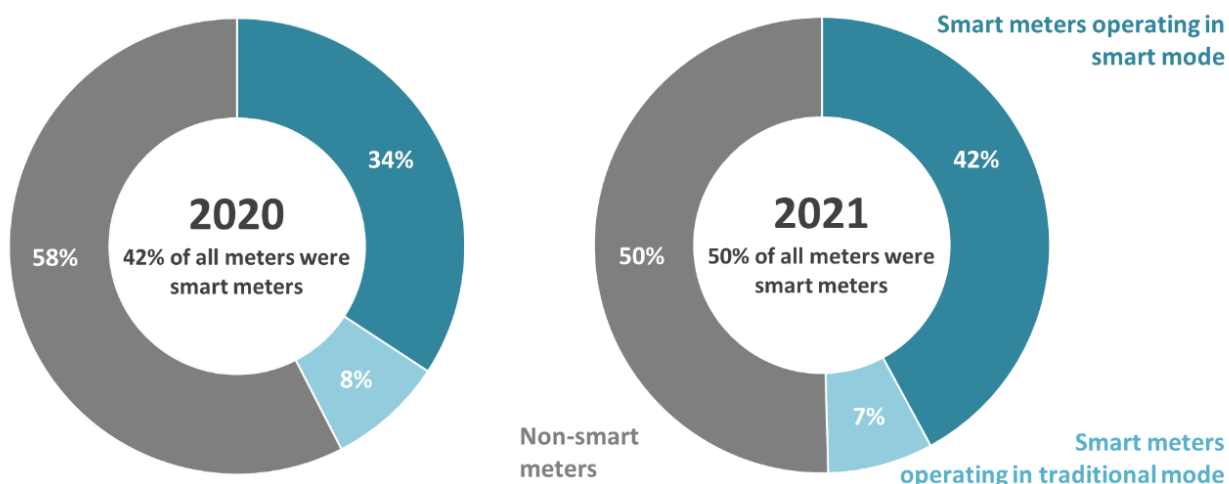
The next quarterly publication is planned for publication on 26 May 2022.

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 2021, there were **27.8 million** smart and advanced meters in Great Britain in homes and small businesses.^{1,2} Of these, **23.6 million** were smart meters operating in smart mode or advanced meters, an increase of 4.5 million from the end of 2020. This means that **42%** of all meters were smart in smart mode or advanced meters, with a further 7% of meters being smart meters in traditional mode. In total, at the end of 2021, 50% of meters operating were smart, an increase of eight percentage points from the end of 2020 (Figure 1).³ Of the 27.8 million smart and advanced meters, 15.3 million are SMETS1, 11.1 million SMETS2 and 1.3 million advanced.

Figure 1: Half of all meters in operation are smart
Great Britain, meters operated by all energy suppliers
End 2020 and end 2021



Source: Energy Suppliers reporting to BEIS.

Table 1 summarises how the total smart meters in operation at the end of 2021 is split 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: There were 27.8 million smart and advanced meters were operating at end of 2021

Great Britain, to end of 2021

		Large Suppliers	Small Suppliers	Total ³
Smart (smart mode) and advanced meters	Domestic meters	21,853,000	137,000	23,594,000
	Non-domestic meters	1,159,000	445,000	
Smart (traditional mode)	Domestic meters	4,088,000	57,000	4,184,000
	Non-domestic meters	29,000	10,000	
Total		27,129,000	649,000	27,778,000

Source: Energy Suppliers reporting to BEIS.

¹ This includes updated data from both large and small suppliers to the end of the year

² See [Technical Information](#) section for supplier changes in 2021

³ Note, statistics presented are independently rounded. This means the sum of their components may differ from the totals.

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.

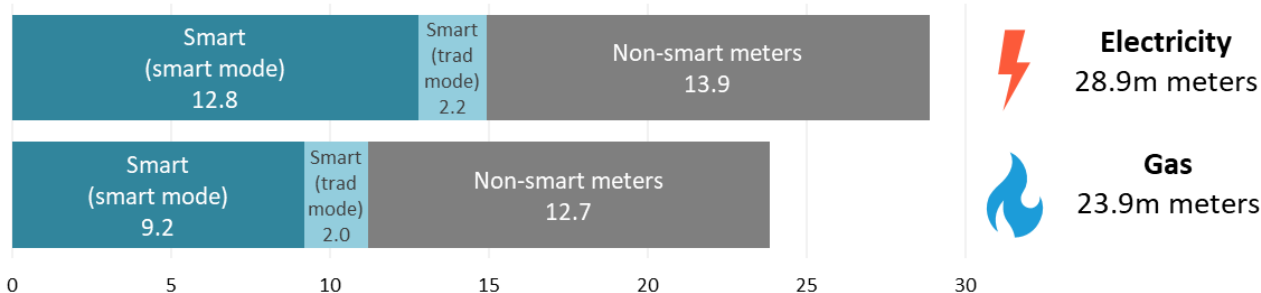
Operational meters in domestic properties

Collectively across both large and small energy suppliers, there were 26.1 million smart meters in domestic properties in Great Britain at the end of 2021; 50% of all domestic meters. Of the 26.1 million domestic smart meters operating at the end of 2021, 22.0 million were smart meters operating in smart mode (Figure 2). At the end of 2021, 13% of all smart meters were in prepayment mode, broadly in line with the levels of prepayment meters in the market (14%).

Figure 2: Forty-two percent of domestic meters were smart meters operating in smart mode

Great Britain, domestic meters operated by all energy suppliers

End 2021, millions



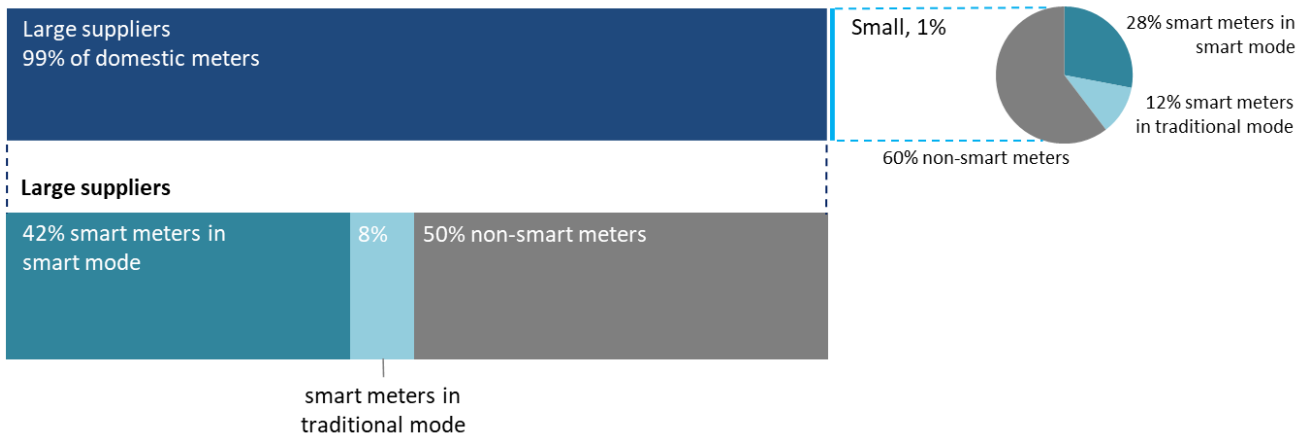
Source: Energy Suppliers reporting to BEIS.

Figure 3 illustrates that large energy suppliers operated 99% of domestic meters at the end of 2021; this is five percentage points higher than at the end of 2020. The increase is due the number of small suppliers exiting the energy market during 2021 where most customers have been transferred to large suppliers as part of the Supplier of Last Resort Process.⁴ The definition for large suppliers has also been updated for end 2021, so that more suppliers are included. Of the smart meters operated by large suppliers, 84% were operated in smart mode.

⁴ <https://www.ofgem.gov.uk/news-and-views/blog/how-youre-protected-when-energy-firms-collapse>

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

Great Britain, domestic meters
End 2021, millions

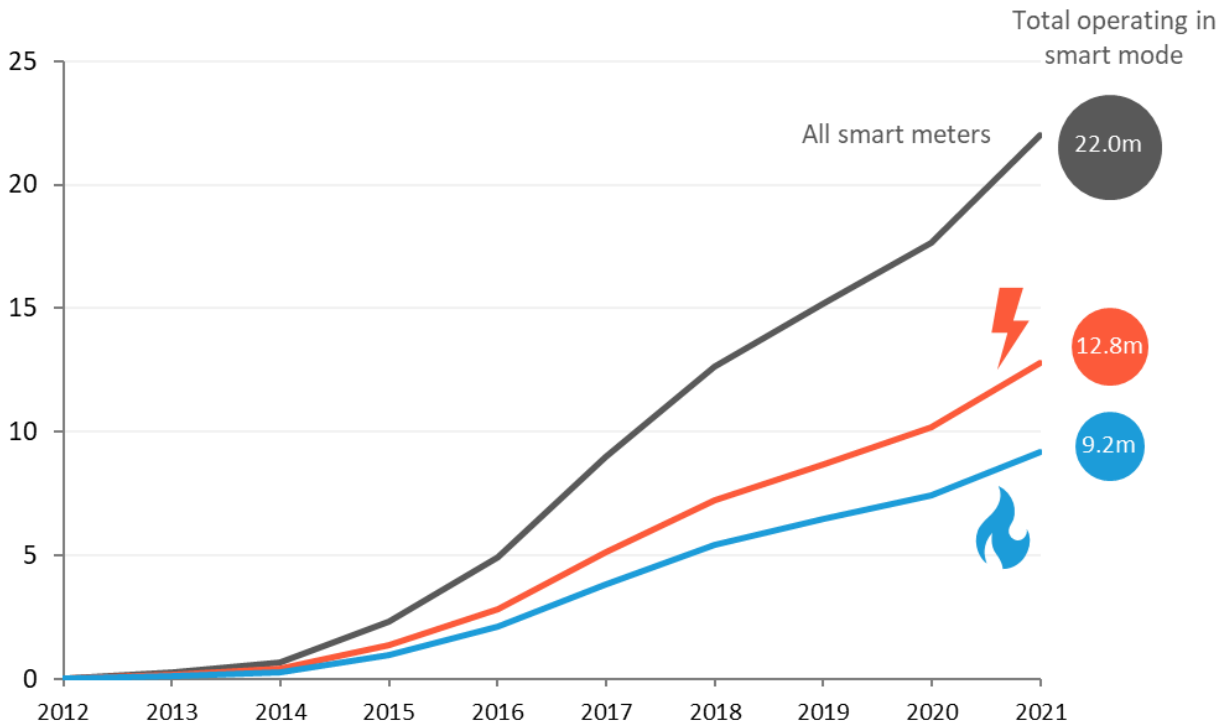


Source: Energy Suppliers reporting to BEIS.

The annual increase in smart meters operating in smart mode is shown in Figure 4. The latest figures show that 22.0 million domestic smart meters in smart mode were operated by all energy suppliers, up by 25% from the end of 2020. This increase is driven by new installations in 2021 as well as ongoing enrolment of dormant SMETS1 meters on to the national communications network, run by DCC.

Figure 4: Domestic smart meters operating in smart mode increased to 22.0 million at the end of 2021

Great Britain, domestic smart meters operated in smart mode by all energy suppliers
2012 to 2021, millions



Source: Energy Suppliers reporting to BEIS.

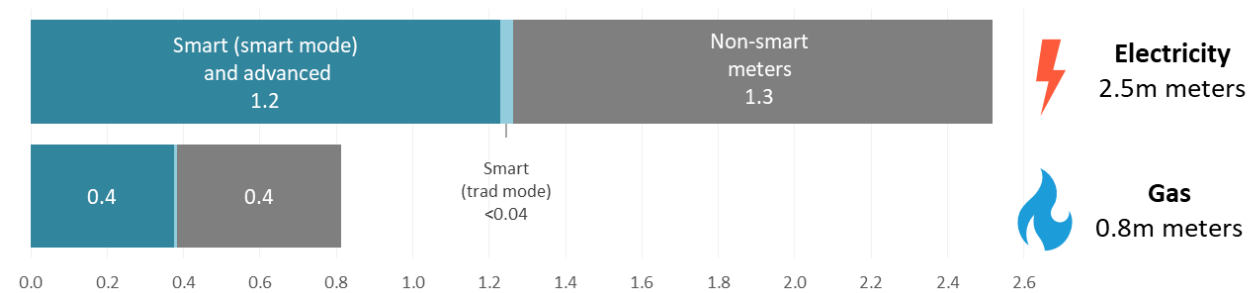
Operational meters in smaller non-domestic sites

Collectively across both large and small energy suppliers, there were 1.6 million smart and advanced meters in non-domestic sites in Great Britain at the end of 2021; 49% of all meters (Figure 5). The proportion of meters in operation that were smart or advanced meters remains broadly consistent when including smart meters operating in traditional mode, since so few were operating in traditional mode.

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

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

End 2021, millions



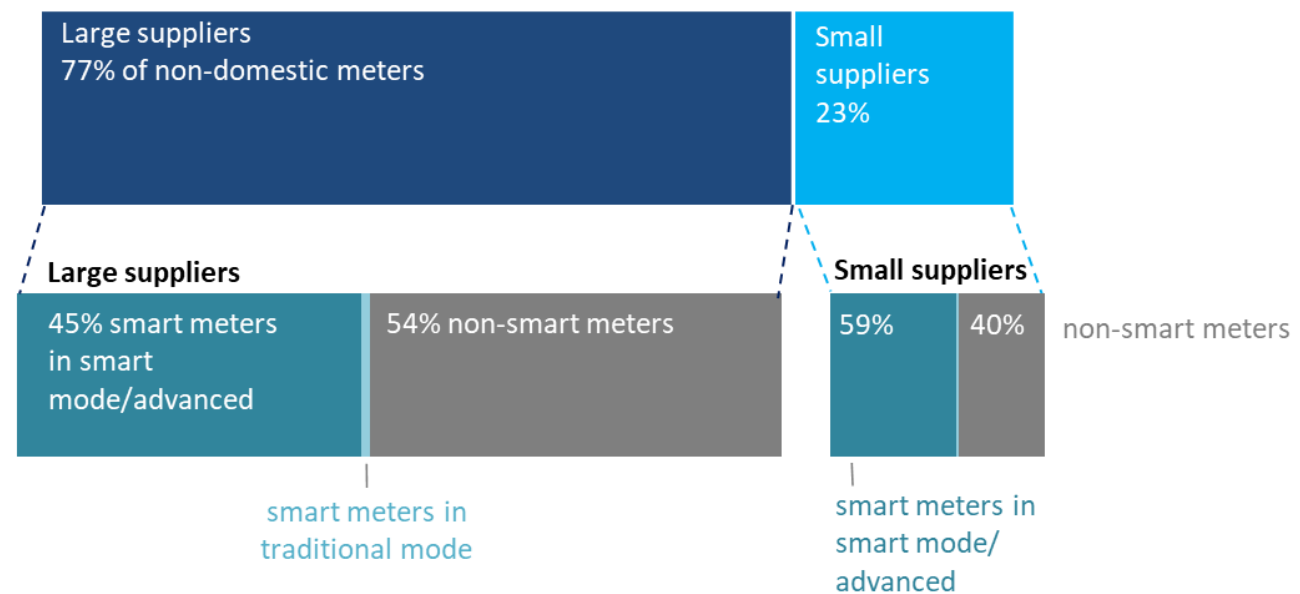
Source: Energy Suppliers reporting to BEIS.

Figure 6 illustrates that large energy suppliers operated 77% of non-domestic meters at the end of 2021, of which 45% were smart meters operating in smart mode or advanced meters. For small suppliers, 59% were smart meters operating in smart mode or advanced meters.

Figure 6: Small suppliers operate a greater proportion of non-domestic meters compared to the domestic sector

Great Britain, non-domestic meters

End 2021



Source: Energy Suppliers reporting to BEIS.

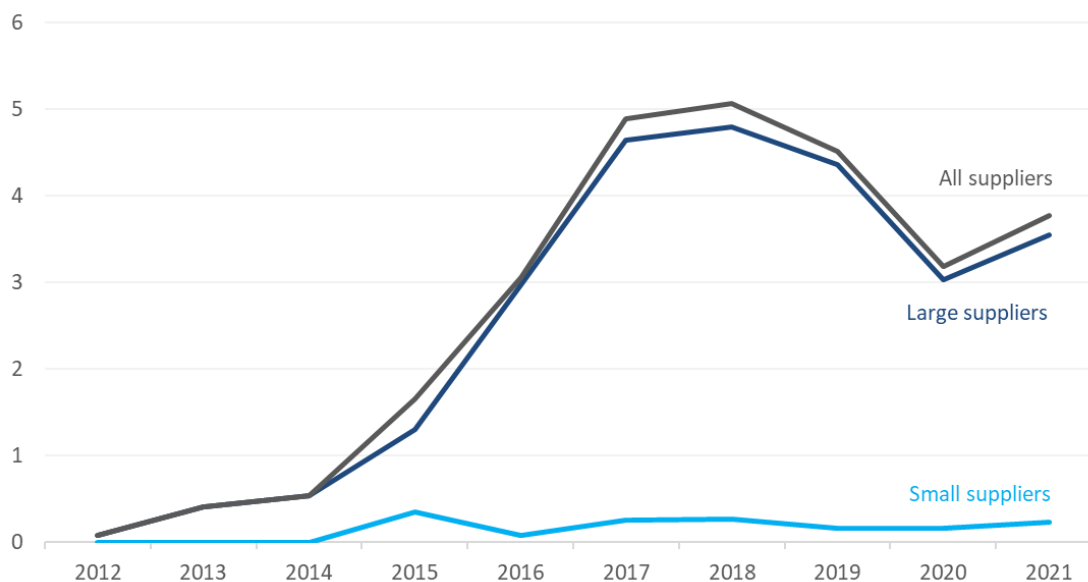
Meters installed

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 **3.8 million** meters were installed in 2021, with most installed by large suppliers (6% by small suppliers). While 2021 continued to see coronavirus (COVID-19) restrictions, installations increased by 19% compared to 2020, though remain lower than pre-COVID levels (Figure 7).

Figure 7: Smart and advanced meters installations have increased in 2021 compared to 2020

Great Britain, smart and advanced meters installed by all energy suppliers
2012 to 2021, millions



Source: Energy Suppliers reporting to BEIS.

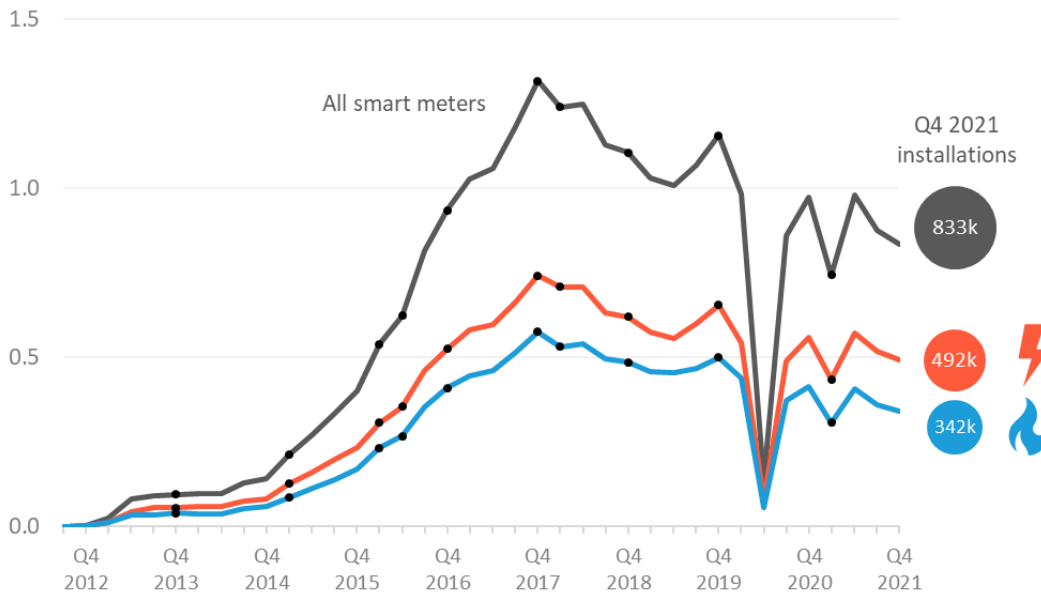
Meters installed in domestic properties

In 2021, a total of 3.6 million smart meters were installed in domestic properties, of which 95% (3.4 million) were installed by large suppliers and 5% (198,100) by small suppliers. In total, domestic installations have increased by 18% since 2020. Figure 8 shows quarterly installation activity by large energy suppliers over the course of the smart meter rollout. In Q4 2021, **833,700** smart meters were installed by large energy suppliers representing a five percent decrease in smart meter installations compared to the previous quarter.

Figure 8: Domestic installations in Q4 2021 are down on Q3 2021

Great Britain, domestic meters installed by large energy suppliers

Q3 2012 to Q4 2021, millions



• Marks inclusion of additional large suppliers to the series

Source: Energy Suppliers reporting to BEIS.

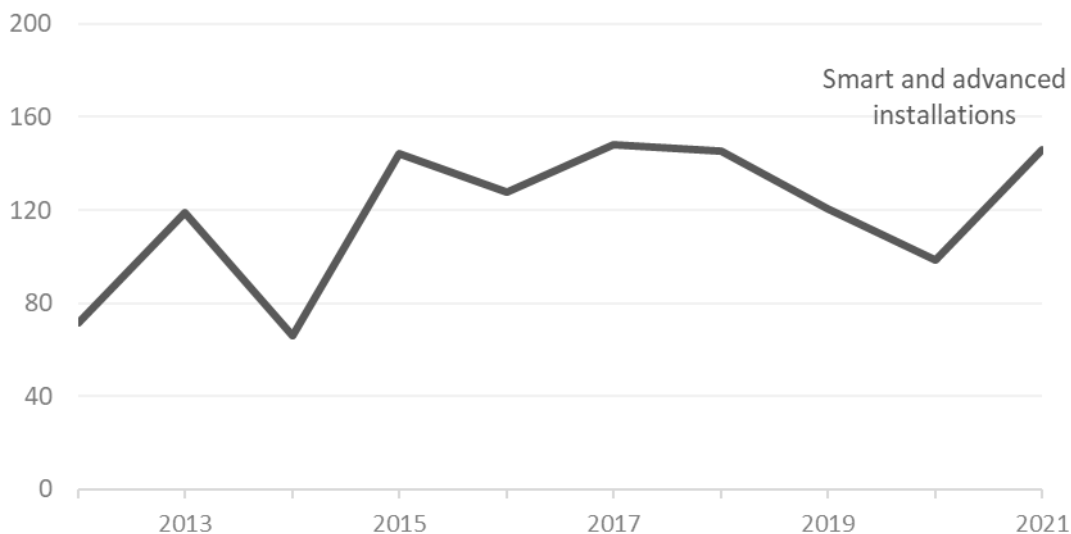
Meters installed in smaller non-domestic properties

In 2021, 145,900 smart and advanced meters were installed in smaller non-domestic sites by all energy suppliers in Great Britain; an increase of 48% on 2020 and similar to levels last seen in 2018 (Figure 9). Of these meters, 114,200 (78%) were installed by large suppliers and 31,700 (22%) by small suppliers. The majority of large supplier installations were electricity meters (86%).

Figure 9: Smart and advanced meters installations in non-domestic sites are higher than pre-COVID levels

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

2012 to 2021, thousands

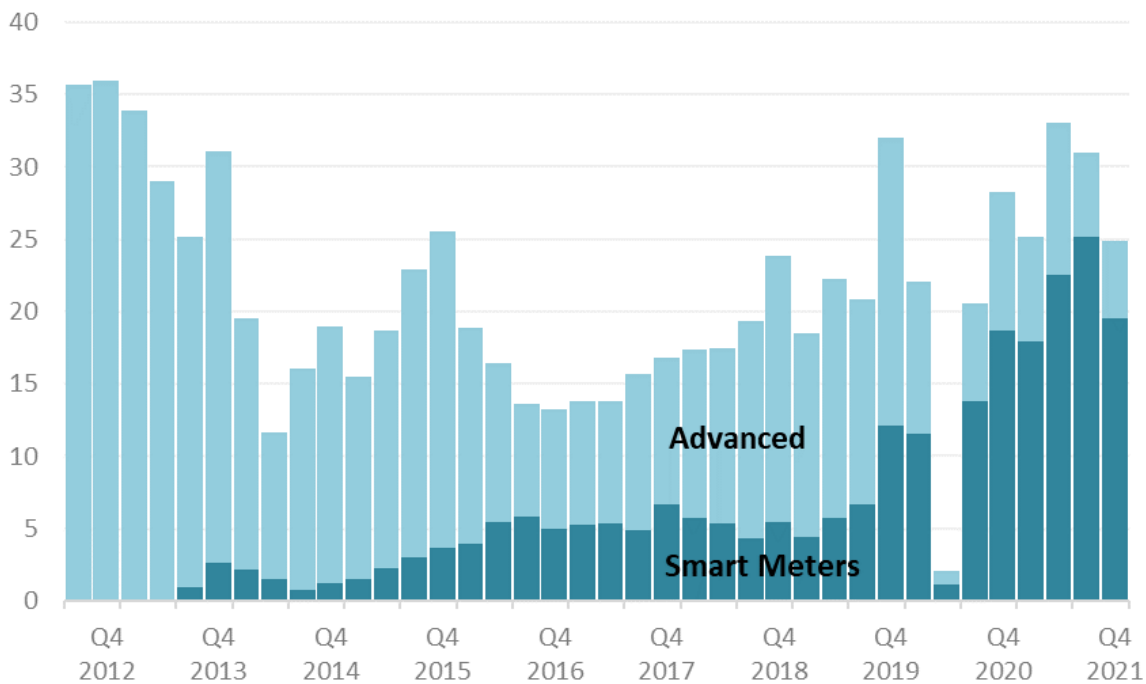


Source: Energy Suppliers reporting to BEIS.

Quarterly installation activity by large energy suppliers in the non-domestic sites is shown in Figure 10. In Q4 2021, there were **24,900** smart and advanced meters installed in smaller non-domestic sites by large energy suppliers. This is 20% less than were completed during the previous quarter but remains at pre-COVID levels. Figure 9 shows that the majority of non-domestic installations continue to be smart rather than advanced; in Q4 2021 the proportion was 79%.

Figure 10: For the second quarter, eight in ten smart/advanced meters installed at non-domestic sites were smart meters

Great Britain, non-domestic meters installed by large suppliers
 Q3 2012 to Q4 2021, thousands



Source: Energy Suppliers reporting to BEIS.

Accompanying tables

The following tables are available in two formats⁵ on the department's statistics website <https://www.gov.uk/government/collections/smart-meters-statistics>:

Quarterly – Large Supplier Data

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

Annual – Large and Small Supplier Data

- 5 Annual meters operated by large and small energy suppliers
- 6 Annual smart and advanced meters installed by large and small energy suppliers

⁵ Excel (.xlsx) and Open Document Spreadsheet (.ods)

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 each 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 was 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, DCC and Xoserve. These data sources have also been used for estimating installation activity for 23 small energy suppliers who exited the energy market between August and December 2021, and meters operating and installations for two suppliers (Together Energy and Xcel Energy) who exited the market at the start of 2022. The remaining suppliers have had their customer portfolio migrated to the Supplier of Last Resort (SoLR) and are therefore included in their operating data. These estimates represent less than 1% of the total number of meters operated by all energy suppliers at the end of 2021 and 2% of smart and advanced meter installations in 2021.

In addition to the recent market exits, there have also been some definitional changes to the large supplier classification, so that more suppliers are included. This means that E and So Energy, which includes ESB, will be transitioned into large energy suppliers (Table 2); their meters in operation have been transitioned in the Q4 2021 publication to avoid disclosing individual supplier information. Installation activity for these suppliers to date will remain in the small supplier group and will be reported with the large supplier group from the Q1 2022 publication.

Table 2: Suppliers transitioning to large supplier classification

Supplier	Added	Removed	Detailed information (where applicable)
Utility Warehouse	Q4 2013		
Shell Energy Retail	Q1 2015		Previously known as First Utility
OVO	Q1 2015		
Utilita	Q1 2016		
Extra Energy	Q2 2016	Q4 2017	Transitioned to small supplier classification
Co-operative Energy	Q4 2016	Q4 2019	Bought by Octopus Energy in 2019
Economy Energy	Q4 2017	Q1 2019	Ceased trading, customers transitioned to OVO Energy
Just Energy (previously Hudson Green Star)	Q4 2017	Q4 2020 Q4 2021	Domestic business bought by Shell Energy Retail Q4 2020. Nondomestic Shell Energy UK transitioned to small supplier group
Bulb	Q1 2018		
Octopus Energy	Q4 2018		
Avro Energy	Q4 2019	Q3 2021	Ceased trading, customers transitioned to Octopus Energy
Green Network Energy	Q4 2019	Q1 2021	Ceased trading, customers transitioned to EDF

Supplier	Added	Removed	Detailed information (where applicable)
Opus Energy	Q4 2019		
People's Energy	Q4 2020 ⁶	Q3 2021	Ceased trading, customers transitioned to British Gas
nPower		Q4 2020	Combined reporting with E.ON, following merger in 2019
E	Q4 2021 ⁵		
So Energy	Q4 2021 ⁵		Includes ESB

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

14 Large Energy Suppliers:

British Gas	Octopus Energy	So Energy (includes ESB)
Bulb	Opus Energy	SSE Energy Solutions
E	OVO	Utilita
E.ON Next	Scottish Power	Utility Warehouse
EDF Energy	Shell Energy Retail	

Meters in operation reported with large suppliers also includes Together Energy and Zog Energy, their customer accounts will be migrated to their respective SoLR suppliers (British Gas and EDF)

62 Small Energy suppliers at the end of 2021:

Ampower*	ENGIE	National Gas	Switch Business
Avanti Gas	Enstroga*	Neon Reef*	Gas
BES Utilities	Entice Energy*	Northumbria Energy	and Power
BlueGreen Energy*	Foxglove Energy	Omni Energy*	TruEnergy
BPG Energy	Gazprom	Opal Gas	UK Gas Supply
Brook Green Supply	Good Energy	Orbit Energy*	Utility Point*
Bryt Energy	GOTO Energy*	Pozitive Energy	United Gas &
Corona Energy	Green Energy	PFP Energy*	Power
CNG*	Green Supplier Limited*	Pure Planet*	Valda Energy
Colorado*	Hub Energy*	Regent Gas	Verastar
Crown Gas & Power	Igloo Energy*	Shell Energy UK	Xcel Energy*
D-ENERGi	Logicor Energy	Smartest Energy	Yorkshire Gas &
Daligas*	MA Energy*	Smartest Energy Business	Power
Delta Gas & Power	Marble Power	Symbio Energy*	Yü Energy
Drax Energy	Maxen Power	Total Energies	Zebra Power*
Dyce Energy	MB Energy	Social Energy*	
Ecotricity	MoneyPlus Energy*	Squeaky Clean Energy	

* Small suppliers who have exited the market and have been estimated in the Q4 2021 publication. For more information on the estimation, refer to the beginning of the [Technical Information](#) section

⁶ Meters installed included in the large supplier group from the subsequent quarter

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	<p><u>From 2022</u> Supply gas and/or electricity to at least 150,000 metering points irrespective of domestic/non-domestic market</p> <p><u>Pre-2022</u> Supplying either gas or electricity to at least 250,000 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.</p>
Non-smart meters	All meters which are not smart (or advanced for non-domestic) 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	<p><u>From 2022</u> Supply gas and/or electricity to less than 150,000 metering points irrespective of domestic/non-domestic market</p> <p><u>Pre-2022</u> Supplying either gas or electricity to less than 250,000 metering points.</p>
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 26 May 2022. 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 can be found on the [energy statistics](#) webpage.

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 2020 covering UK, the data for 2021 is due to be published in December 2022.

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.

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.

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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