Department for Business, Energy & Industrial Strategy

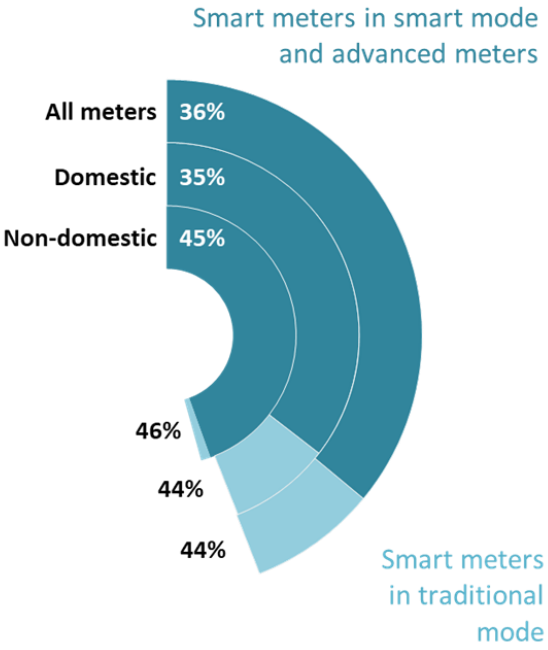
# Smart Meter Statistics in Great Britain: Quarterly Report to end March 2021

**27th May 2021** **Official Statistics**

This report includes an update from all large suppliers in the Great Britain energy market at end of Q1 2021, with data from small suppliers up to end 2020

As of 31 March 2021, there were **24.2 million** smart and advanced meters in homes and small businesses in Great Britain, of which **19.8 million** were smart in smart mode or advanced meters

**44%** of all meters are smart or advanced meters; a **five** percentage point increase from the same time last year




In Q1 2021 large suppliers installed:

**Domestic**

**760,900** smart meters

213,900 less than Q4 2020

**Non-domestic**

**25,200** smart/advanced meters

3,100 less than Q4 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 first quarter of 2021 by the 14 largest energy suppliers, as well as the total number of meters operated by large suppliers on 31 March 2021. The report also includes information for small suppliers to the end of 2020.

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**Next publication: 26th August 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 first quarter of 2021 by the 14 large energy suppliers (see Definitions section for more details), as well as the total number of meters they operated on 31 March 2021. The report also includes an update from small suppliers on the number of meters installed up to the end of 2020 and operated 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 26 August 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 March 2021, there were **24.2 million** smart and advanced meters in Great Britain in homes and small businesses.[1] Of these, **19.8 million** were smart meters operating in smart mode and advanced meters. This represents **36%** of all meters, with a further 8% of meters being smart meters in traditional mode. Therefore, a total of 44% of all meters were smart or advanced meters at the end of the quarter; an increase of five percentage points in the last year. Table 1 summarises how the total smart meters in operation at the end of the first quarter of 2021 is calculated across domestic and non-domestic sectors and large and small suppliers.[2] For a full breakdown including by fuel type, see Table 5 in the accompanying tables to this report.

**Table 1: There were 19.8 million smart meters operating in smart mode and advanced meters at end of March 2021**

*Great Britain, to end of Q1 2021*

| | | Large Suppliers | Small Suppliers | Total |
|---|---|---|---|---|
| **Smart (smart mode) and advanced meters** | Domestic meters | 17,812,000 | 521,000 | **19,789,000** |
| | Non-domestic meters | 1,047,000 | 409,000 | |
| **Smart (traditional mode)** | Domestic meters | 3,823,000 | 570,000 | **4,432,000** |
| | Non-domestic meters | 29,000 | 10,000 | |
| **Total** | | 22,711,000 | 1,510,000 | **24,221,000** |

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

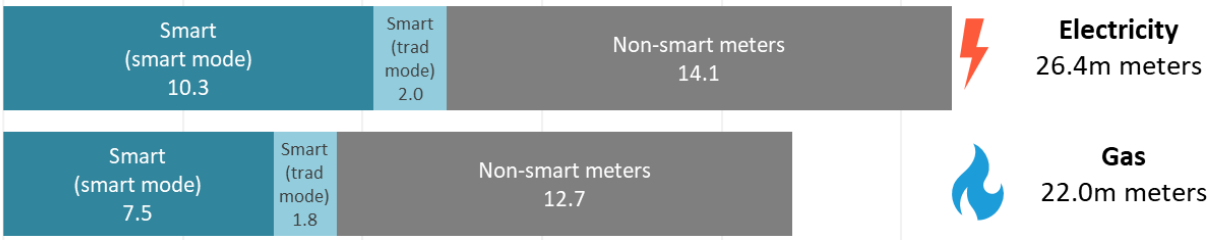
As of 31 March 2021, there were a total of 22.0 million gas meters and 26.4 million electricity meters operated by large energy suppliers in domestic properties across Great Britain. Figure 1 shows the breakdown of all large supplier-operated meters by different meter and fuel types.

[1] This includes smart meters operated by large suppliers at the end of March 2021 and small suppliers at the end of 2020.

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

## Figure 1: Forty-five percent of domestic meters with large suppliers are now smart meters

**Great Britain, domestic meters operated by large energy suppliers**
Q1 2021, millions

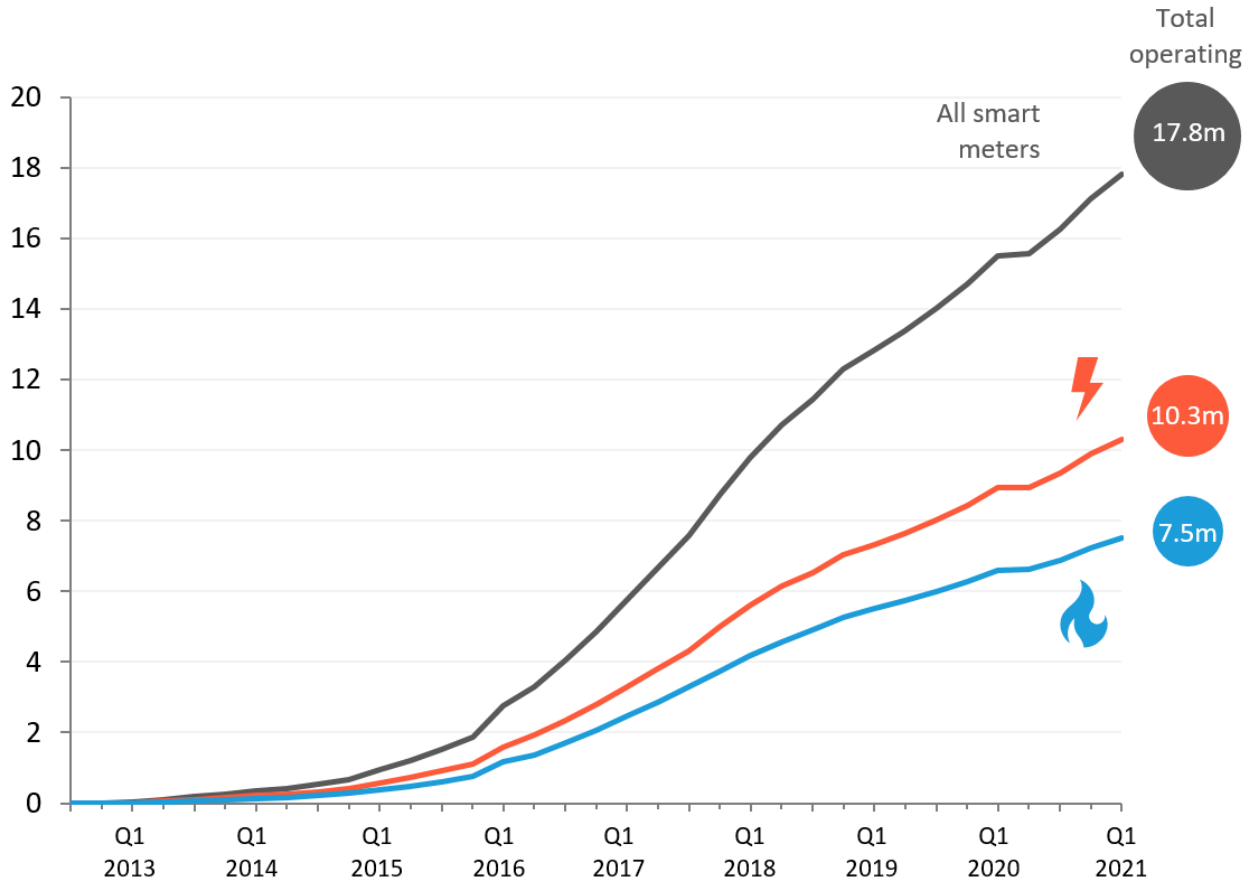



Source: Energy Suppliers reporting to BEIS.

At the end of March 2021, 37% of all domestic meters operated by large energy suppliers were smart in smart mode (34% for gas and 39% for electricity). When including smart meters in traditional mode, this rises to 42% for gas, 47% for electricity and 45% overall. The number of smart meters operating in smart mode increased from the previous quarter by 4%, as shown in Figure 2. The latest figures show that 17.8 million domestic smart meters in smart mode are operated by large suppliers, 58% of which are electricity meters.

## Figure 2: Domestic smart meters operating in smart mode continue to increase

**Great Britain, domestic smart meters operated in smart mode by large suppliers**
Q3 2012 to Q1 2021, millions




Source: Energy Suppliers reporting to BEIS.

At the end of 2020, small suppliers reported operating a total of 521,500 smart meters in smart mode, with a further 570,400 in traditional mode. Collectively across all energy suppliers, there were 22.7 million domestic smart meters (including those in smart or traditional mode) in Great Britain at the end of Q1 2021; 44% of all domestic meters.

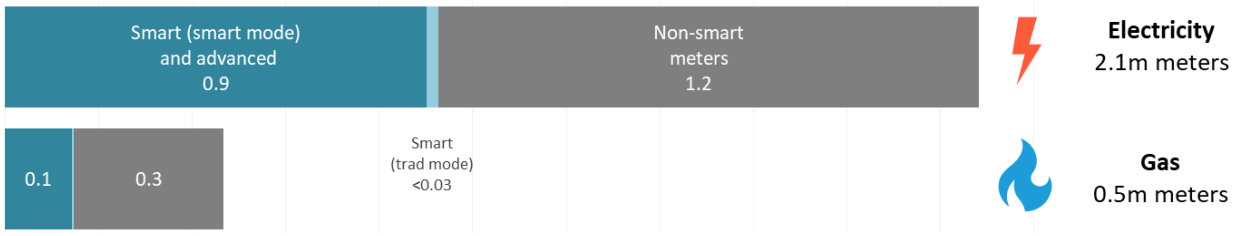
## Operational meters in smaller non-domestic sites

At the end of March 2021, there were over 1.0 million smart meters operating in smart mode or advanced meters representing 41% of all non-domestic meters in operation by large suppliers (Figure 3). A greater proportion of electricity meters are smart or advanced than gas (43% versus 31%). When including smart meters in traditional mode, these percentages are relatively unchanged since so few non-domestic meters are smart meters in traditional mode (electricity 45%, gas 32% and overall, 42%).

**Figure 3: Forty-two per cent of non-domestic meters are smart or advanced**

**Great Britain, non-domestic meters operated by large energy suppliers**

Q1 2021, millions




Source: Energy Suppliers reporting to BEIS.

At the end of 2020, small energy suppliers reported operating a total of 408,800 smart meters in smart mode and advanced meters in smaller non-domestic sites. An additional 9,700 were smart meters operating in traditional mode. Collectively, across both large and small energy suppliers, at the end of Q1 2021 there were 1.46 million smart meters in smart mode and advanced meters across small non-domestic sites in Great Britain; 45% of the total or 46% when including smart meters in traditional mode.

# 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.

Installation numbers in Q1 2021 showed an ongoing impact from the coronavirus (COVID-19) pandemic, since further stay at home guidance was issued at the start of 2021 by relevant authorities. Specific restrictions in Scotland meant that energy suppliers were only able to focus on emergency metering work and metering related support for vulnerable customers.

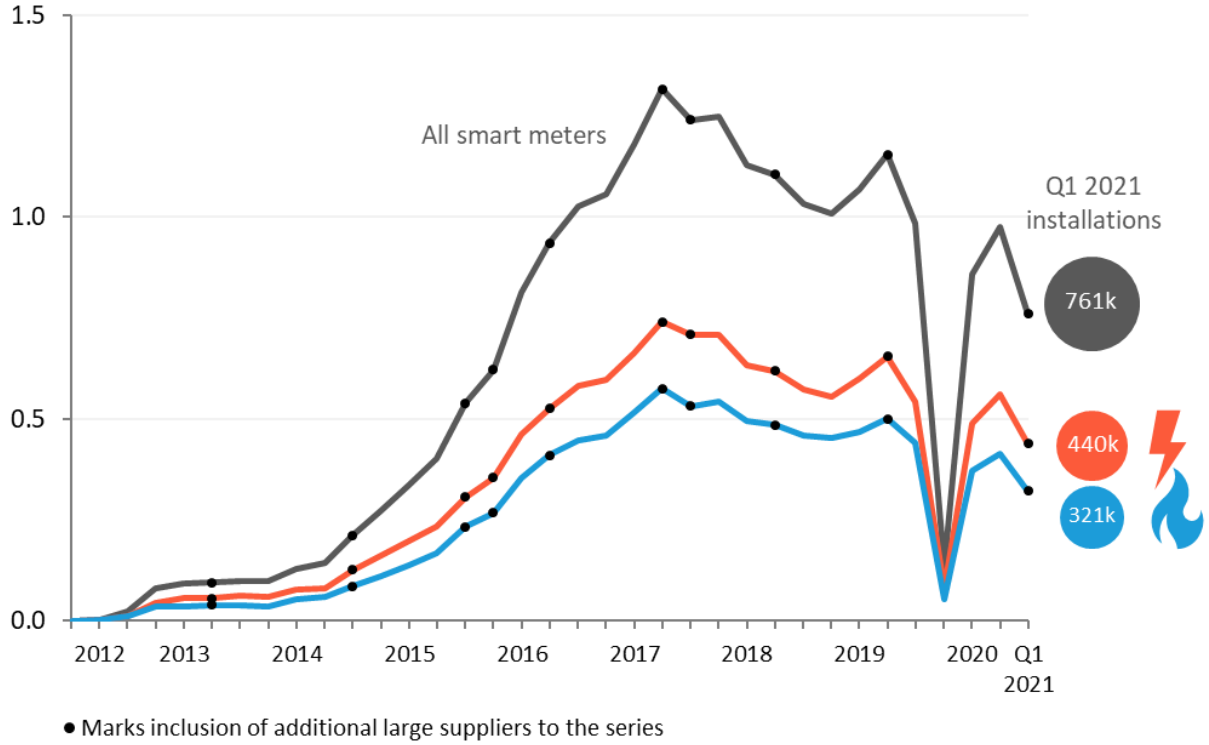
## Meters installed in domestic properties

Quarterly installation activity by large energy suppliers over the course of the Smart Metering Implementation Programme is shown in Figure 4. In the first quarter of 2021, **760,900** smart meters were installed by large energy suppliers. This represents a **22%** decrease in smart meter installations compared to the previous quarter, with same impacts on gas and electricity (22% for both fuels).

**Figure 4: Ongoing impacts of COVID-19 seen in Q1 2021 installation totals**

**Great Britain, domestic meters installed by large suppliers**

Q3 2012 to Q1 2021, millions




Source: Energy Suppliers reporting to BEIS.

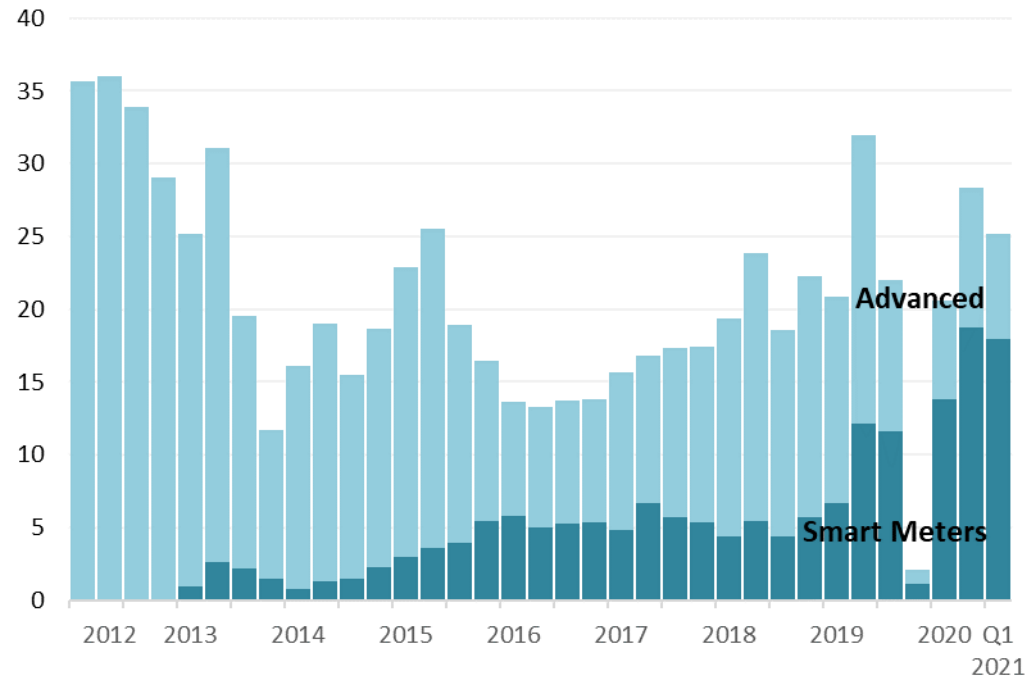
# Meters installed in smaller non-domestic properties

Quarterly installation activity by large energy suppliers in the non-domestic sector is shown in Figure 5. In the first quarter of 2021, there were 25,200 smart and advanced meters installed in smaller non-domestic sites by large energy suppliers. This is 14% more than were carried out during the same quarter last year, though an 11% decrease from Q4 2020. This quarter also showed the highest proportion of smart compared to advanced installations in the series, where 71% of all non-domestic installations were smart meters.

**Figure 5: The proportion of smart (versus advanced) meters installed in smaller non-domestic sites continues to increase**

**Great Britain, non-domestic meters installed by large suppliers**

*Q3 2012 to Q1 2021, 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.

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
- 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, removed Q1 2021
- Opus Energy - incorporated Q4 2019
- People's Energy - incorporated Q4 2020, installations included with large suppliers from Q1 2021
- npower - removed 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.

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

# Energy Suppliers included in this report

## 14 Large Energy Suppliers:

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

## 66 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

# 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 26 August 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.

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

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