To: Domestic electricity and gas
suppliers, price comparison
websites, consumer groups and
other interested parties

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Date: 18th October 2019

Dear colleague,

**This letter sets out Ofgem's proposed updates to the Typical Domestic
Consumption Values (TDCVs) for gas and electricity to reflect continued falls in
consumption for electricity and to keep the TDCVs for gas unchanged, as part of
Ofgem's routine consumption review process.**[1] This includes our proposal to increase
our estimate of the proportion of peak consumption for the average peak / off-peak split,
which is used to calculate the typical bill for an Economy 7 meter type. The consumption
split reflects the proportion of consumption that is assumed to take place in peak periods
(which covers daytime usage), and off-peak periods (which covers night-time usage).

To provide time for implementation and to ensure a coordinated approach, we propose that
these new values be used from 1 April 2020.

If you have feedback on these proposals, and in particular our approach to the peak / off-
peak split, please share these with us by 18th November 2019.

Background

The TDCVs are industry standard values for the annual gas and electricity usage of a typical
domestic consumer. They are expressed in kilowatt hours (kWh).

The TDCVs are commonly, but not exclusively, used to derive the typical bills quoted by
suppliers and price comparison websites when a customer's actual annual consumption
may not be known. They allow energy consumers who are unsure of their own consumption
to have an indication of how much energy they might typically expect to use in a year.
They are also used by industry, government and media to provide a common basis for
comparing energy prices across suppliers, regions and over time.

Representative domestic consumption values are also important when assessing whether
changes in how we regulate and serve consumers' interests. These indicative consumption
figures are a key input for any analysis setting out costs and benefits to consumers -
particularly models or estimates of bill values or price calculations. Analysis using the

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[1] The TDCVs represent annual consumption by a typical household; however, there are significant differences in
energy use between households depending on the region of the country, number of occupants, the type and age
of the property. For this reason, we recommend that where possible consumers use their own consumption figures
for the purposes of comparing suppliers or estimating their bills.

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TDCVs informs policy development and helps with monitoring and evaluation of the electricity and gas markets.

The TDCVs were first established in 2003 by Energywatch. In 2013, we put a framework in place for future updates to the TDCVs. Following that review we stated we would revise the TDCVs every two years, if the latest consumption data results in materially[2] different values. We calculate the typical low, medium and high TDCVs for gas and electricity by calculating the lower quartile, median and upper quartile[3] of household consumption using the two most recent years of available data, and then taking the average. We are now undertaking the latest update to the TDCVs. Following our approach to the updates in 2017, we have included additional information on the distribution across households in addition to the lower quartile, median and upper quartile consumption values.

Methodology

The TDCVs are calculated using an average of the complete data sets available for the latest two years of sub-national consumption data available (2016 and 2017 for this review). Gas and electricity data are gathered over different dates:

- For both electricity meter profile 1 and profile 2 data, the dates cover February 2016 to January 2018. The data is collected by BEIS from data aggregators (on behalf of electricity suppliers).

- For the gas data, the dates cover July 2016 to June 2018. The data is collected from BEIS and sourced from Xoserve and independent gas transporters.

We have calculated an updated average GB peak / off-peak split using settlement data for Economy 7 from June 2019. This includes meters with an 8 or 8.5 hour off-peak period (i.e. "white meters").

Mean consumption values for customers with restricted electricity meters

Around 4 million out of a total of 29 million domestic electricity customers in Great Britain have restricted (or "profile class 2") meters. These are meters that charge different rates at certain times of the day, typically to allow customers to be charged lower rates for electricity used during off-peak periods. Some types of restricted metering systems may consist of one meter, whilst others may consist of two and some may record the consumption separately. Households that do not have access to gas and/or use electricity to heat their homes are more likely to have meters of this type.

Profile class 2 encompasses a large number of differing meter types. The majority are Economy 7 meters, which record consumption separately in a 7-hour night time period, during which customers are charged a reduced rate for the electricity they use. A significant number of customers in profile class 2 have other arrangements, such as Economy 10 meters.

While our TDCVs for profile class 2 electricity customers show the median consumption across all customers with restricted meters, the actual consumption patterns of customers with this type of metering arrangement are likely to vary significantly within this. Therefore, to provide more transparency on the energy consumption patterns for customers with different types of restricted meter, we have calculated mean annual consumption values for Economy 7 and Economy 10 meters as distinct separable subsets.

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[2] Material in this context means changes to the TDCVs of at least 100 kWh for electricity and 500 kWh for gas when rounded.
[3] Most consumers consume relatively small amounts of energy, while a few consume large amounts. The median or second quartile is a more representative of the typical "medium" usage. We use the first and third quartiles to represent the typical "low" and typical "high" usage respectively. In real terms, if consumers were ranked in order of energy consumption, the lower quartile reflects the annual consumption that only 25% of all consumers use less than. The higher quartile reflects the annual consumption that only 25% of all consumers use more than.

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This is based on settlement data collected from suppliers and Elexon. The results of our analysis are provided in Annex 4.

Our Proposal

The below table sets out the proposed revised TDCVs. The TDCVs are calculated using the meter level data, which underlies the Department for Business, Energy and Industrial Strategy's (BEIS) sub-national energy consumption statistics. More information can be found in Annex 1. **To provide time for implementation and to ensure a coordinated approach, we propose that these new values be used from 1 April 2020.**

	kWh	Current TDCVs	Revised TDCVs
Gas	Low	8,000	8,000
	Medium	12,000	12,000
	High	17,000	17,000
Electricity: Profile Class 1	Low	1,900	1,800
	Medium	3,100	2,900
	High	4,600	4,300
Electricity: Profile Class 2	Low	2,500	2,400
	Medium	4,200	4,200
	High	7,100	7,100

Profile class 2 predominantly consists of Economy 7 meters which have two rates, peak and off-peak. We have calculated a consumption split for Economy 7 meters for consumers to better estimate a typical bill.

	2017 consumption split (GB)	2019 consumption split (GB)
Peak (day time usage)	58%	59%
Off-peak (night time usage)	42%	41%

The table above reflects our proposal to change the Economy 7 peak / off-peak consumption split. We are proposing to revise the proportion of peak and off-peak consumption to 59% and 41%, repectively. Unlike the annual kWh consumption values, we do not have a defined threshold for the values to be deemed materially different. More information on how this has been calculated can be found in Annex 3. **We welcome stakeholder views on whether this change is significant enough to revise the consumption split.**

Implications for our energy price caps

In 2017, the Competition and Markets Authority (CMA) introduced the prepayment price cap to cover over 4 million households on prepayment meters in April 2017, and it is administered by Ofgem. The Default Tariff Cap came into force on 1 January 2019, and is also administered by Ofgem. The Default Tariff Cap is temporary, and applies to tariffs for all customers on standard variable and default energy tariffs.[4] Both price caps limit the amount a supplier can charge consumers per unit of energy, the levels of which are updated twice annually.

The licence requirements that set out the obligations on suppliers for adhering to the prepayment price cap (SLC28.A) and the default tariff cap (SLC28.AD) note that the benchmark maximum charge will be calculated using a 'benchmark annual consumption level'. The benchmark annual consumption values used to set the level of the price caps are (at time of writing) aligned with the current (2017) TDCV values.

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[4] https://www.ofgem.gov.uk/energy-price-caps/consumers

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Any amendment to TDCV values **will not** automatically amend the benchmark annual consumption values in the licence condition, and we are not currently proposing to amend the benchmark annual consumption values at this time. With respect to price cap compliance, suppliers should continue to comply with their obligations as set out in SLC28.A and SLC28.AD, and the values used in those licence conditions.

Implications for communicating amount of a 'typical' bill

Across numerous reports and publications, including our retail indicators, we frequently communicate energy prices for a 'typical' dual fuel consumer, reflecting the price they would pay at TDCV. We recognise that updating TDCV values in line with our proposals will result in a reduction in communicated typical bill amounts, caused by a change in the underlying assumptions, not a change in the cost of energy.

Based on our proposed new TDCVs, we would estimate an annual bill for a medium usage customer on a dual fuel standard variable tariff paying by direct debit is around £36 lower.[5] This could give the impression that energy prices are decreasing, even if this may not be the case. We would seek to mitigate the risk of any potential confusion by clearly communicating on all of our materials where a change in TDCV values has taken place, which is the approach we have taken when updating TDCV values previously.

Next steps

We will consider any feedback from stakeholders and aim to announce a final decision on our revised TDCVs in December 2019.

The revised TDCVs set out in this letter represents our minded-to position and may change. As such, please ensure that any further information, which is relevant to our decision, is reported to us before the **18th November 2019** by contacting Lewis Edgar at MarketMonitoring@ofgem.gov.uk.

Yours faithfully,

Amy O'Mahoney
Head of Monitoring and Evaluation

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[5] Note: annual bill for a typical customer on a standard variable tariff as of 1 October 2019 paying by direct debit. The standard tariff we use is the average of the six largest energy suppliers' standard tariffs.

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Annex

This annex summarises the data and analysis underlying the TDCVs, the impact our proposed changes would have on "typical" bills and our additional work on the consumption of customers with different types of restricted meters.

1. Data and analysis

The TDCVs are calculated using the meter level data that underlies BEIS' sub-national energy consumption statistics.[6] These statistics are used by local authorities for targeting and monitoring energy efficiency and carbon reduction policies. They are classed as National Statistics.

The domestic electricity consumption data is based on non-half hourly (NHH) meters in profile classes 1 and 2.[7] Households with profile class 2 meters are more likely to use electricity to heat their homes. They typically have higher consumption as well as a greater range of consumption, so we present these households' typical annual consumption separately. In 2019, 80% of domestic electricity consumption was on profile class 1 and 20% was on profile class 2. Around 14% of all electricity meter points are in profile class 2. There is no meter type distinction for domestic gas consumption data.

The distribution of consumption levels across domestic customers for both gas and electricity is positively skewed – the mean is greater than the median. Since the small number of customers who use very high volumes of gas and electricity disproportionately influence the mean, we use median consumption values to calculate the TDCVs. This provides a more representative measure of the consumption of a typical customer as it is not affected by extreme values at either end of the distribution. As well as medium TDCVs, we also provide low and high values based on the first and third quartiles.

An issue that may contribute to the skewed profiles is the lack of reliable markers to indicate whether an individual meter is used by a household or small business customer:

- For gas, BEIS uses the industry standard "Annual Quantity" (AQ) cut-off point of 73,200 kWh and classifies all consumers using under that annual consumption as domestic consumers.

- For electricity, the cut-off point for non-domestic consumption is 100,000 kWh per year.

The data shows spikes at particular discrete consumption levels, especially for gas. This is because when actual readings are not available, the meter readings used are estimates. For example, there are regular instances where households of the same size in a particular area are given the same consumption estimate.

All three datasets contain very low or negative readings for meters. This is believed to be due to vacant properties and between-year adjustment for a meter to account for a previous overestimate. For both gas and electricity, meters consuming <100 kWh per year have been excluded from our analysis.

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[6] https://www.gov.uk/government/collections/sub-national-electricity-consumption-data.
[7] Profile 1 is standard domestic. Profile 2 is mainly derived from domestic customers with Economy 7 metering. However, it is applied to any domestic customers with switched storage heating and immersion loads. So as well as customers with Economy 7, domestic customers on other switched load tariffs, such as Economy 10, 8.5 hour Weathercall and Budget Warmth are also assigned to Profile Class 2.

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	kWh	Current TDCVs (including additional distribution)	Revised TDCVs (including additional distribution)
Gas	5th percentile	2,500	3,000
	10th percentile	4,500	4,500
	Low (25th percentile)	8,000	8,000
	Medium (median)	12,000	12,000
	High (75th percentile)	17,000	17,000
	90th percentile	23,500	23,500
	95th percentile	29,000	29,000
Electricity: Profile Class 1	5th percentile	600	600
	10th percentile	1,100	1,100
	Low (25th percentile)	1,900	1,800
	Medium (median)	3,100	2,900
	High (75th percentile)	4,600	4,300
	90th percentile	6,600	6,300
	95th percentile	8,400	8,200
Electricity: Profile Class 2	5th percentile	1,000	1,000
	10th percentile	1,500	1,400
	Low (25th percentile)	2,500	2,400
	Medium (median)	4,200	4,200
	High (75th percentile)	7,100	7,100
	90th percentile	11,000	11,000
	95th percentile	14,000	14,000

The meter-level data we use does not include any information about the type of property or the occupants. However, the National Energy Efficiency Data-Framework (NEED) has been set up by BEIS to provide a better understanding of energy use and energy efficiency in domestic and non-domestic buildings in Great Britain.[8] NEED is a data framework that matches this gas and electricity consumption data with information on energy efficiency measures installed in homes. It also includes data about property attributes and household characteristics.

The gas data is weather corrected at source.[9] The weather correction process may not fully compensate for extreme weather events where consumers increase their gas use in a short period of time. Therefore, the extreme weather conditions in February/March 2018 may not have been completely adjusted in the figures. The electricity data has not been weather corrected, however still provides a good indication of domestic consumption in Great Britain.

2. Impact of our proposed revisions on typical bills

Typical bill values, calculated using TDCVs, are frequently cited by consumer groups and the media, and influence consumers' perception of the cost of electricity and gas. **Based on our proposed new TDCVs, we would estimate an annual bill for a medium usage customer on a dual fuel standard variable tariff paying by direct debit to be around £1,142.[10] This is around £36 lower than a 'typical' bill calculated using current (2017) TDCVs.** The table below sets out further information about the impact on the 'typical' bill of updating the consumption values that are used to define the consumption of a low, medium and high user. The profile class 2 revised bill was calculated using the proposed 2019 consumption split.

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[8] Datasets and further information about NEED can be accessed from:
https://www.gov.uk/government/collections/national-energy-efficiency-data-need-framework.
[9] https://www.gov.uk/government/publications/overview-of-weather-correction-of-gas-industry-consumption-data
[10] Note: annual bill for a typical customer on a standard variable tariff as of 1 October 2019 paying by direct debit. The standard tariff we use is the average of the six largest energy suppliers' standard tariffs.

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Change in typical bills due to update to TDCVs	kWh	Current TDCVs	Revised TDCVs	Difference in the typical bill*
Gas	Low	8,000	8,000	-
	Medium	12,000	12,000	-
	High	17,000	17,000	-
Electricity: Profile Class 1	Low	1,900	1,800	-£18
	Medium	3,100	2,900	-£36
	High	4,600	4,300	-£54
Electricity: Profile Class 2	Low	2,500	2,400	-£14
	Medium	4,200	4,200	£4
	High	7,100	7,100	£8

3. Economy 7 peak / off-peak consumption split

Economy 7 meters provide cheaper electricity for 7 hours during the night and electricity that is more expensive during the day. In the vast majority of cases, the off-peak period is set at the same time every day (although the exact hours can vary by region).

To estimate the average proportion of Economy 7 customers' consumption that takes place in peak and off-peak periods, we have used Elexon settlement data. Using the Standard Settlement Codes (SSCs)[11], we have assigned the metering arrangement to categories based on supplier information and the number of off-peak hours associated with that settlement code. Our classification of Economy 7 meters includes meters with an 8 or 8.5 hour off-peak, and Economy 7 meters that are teleswitched.

The information provides total estimated annual consumption as of June 2019, split by region and supplier for each SSC. The consumption information is further broken down between the different time pattern regimes associated with each settlement configuration. We have identified total estimated consumption at peak and off-peak periods by classifying each of those time pattern regimes as peak or off-peak. For teleswitched meters, these designations are confirmed using the switched load indicators. Again, the consumption data that the values are based on relate to meter points, not households.

We have also looked at regional variation in these averages. The proportion of usage that takes place in peak periods ranges from 49% up to 68%. There are a total of four regions where average annual off-peak consumption exceeds peak consumption.

	2017 Consumption Split		2019 Consumption Split	
	Peak	Off Peak	Peak	Off Peak
East England	62%	38%	63%	37%
East Midlands	67%	33%	68%	32%
Northern Scotland	48%	52%	49%	51%
London	57%	43%	59%	41%
North Wales	47%	53%	50%	50%
Midlands	55%	45%	56%	44%
North East	49%	51%	51%	49%
North West	49%	51%	51%	49%
South East	62%	38%	63%	37%
Southern	49%	51%	51%	49%
Southern Scotland	53%	47%	55%	45%
South Wales	47%	53%	50%	50%
South West	46%	54%	49%	51%
Yorkshire	51%	49%	53%	47%
GB Average	**58%**	**42%**	**59%**	**41%**

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[11] Elexon definition of Standard Settlement Code (SSC): A definition of how a NHH meter is configured for settlement. Defines how many registers (TPRs) and the times that the registers record consumption.

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4. Further insight: Economy 7, White Meter / Economy 8, Economy 10 and other meter types

Restricted meters within profile class 2 vary across supplier, region and can be bespoke to a few households across GB. There are approximately 500 different SSCs in profile class 2 alone. The most common restricted meters are Economy 7, White Meters and Economy 10 that combined cover around 90% of the meter points in profile class 2. Despite the large variety of restricted meter types, many suppliers bill consumers on an Economy 7 or generic 'two rate' tariff arrangement irrespective of the exact configuration of their meter. We have considered consumption on different types of metering arrangements, not billing arrangements.

Economy 7 metering arrangements are more prominent in the East of England, East Midlands and the South East, accounting for 59% of all Economy 7 meters installed.

White Meter / Economy 8 metering arrangements provide cheaper electricity for 8 or 8.5 hours during the night and electricity that us more expensive during the day. Similar to Economy 7, the majority of off-peak periods are set at the same time every day (although the exact hours can vary by region). White Meter / Economy 8 metering arrangements are most prominent in Southern Scotland, accounting for 75% of all White Meter / Economy 8 meters installed.

Economy 10 meters provide cheaper electricity for 10 hours during the night (and in some cases during parts of the afternoon) and electricity that is more expensive during the day. Economy 10 metering arrangements are more prominent in the East of England, East Midlands, Northern Scotland and Southern England, accounting for around 69% of all customers on Economy 10 meters.

DTS meters are designed for electric heating customers, most often with no access to mains gas, allowing remote control of the heating load by suppliers. Unlike with standard Economy 7, White Meter / Economy 8 and Economy 10 meters, heating loads can be activated at different times every day, typically depending on weather conditions. DTS meters are mainly located in Scotland.

Using the same approach set out in above, our classification of Economy 7 meters includes meters with an 8 or 8.5 hour off-peak (White Meter / Economy 8), and Economy 7 meters that are teleswitched. Our classification of teleswitched meters includes any meter that is teleswitched and which is not categorised as Economy 7 or Economy 10. This category includes DTS, heating and off-peak metering arrangements. Off-peak meters include those with a single Time Pattern Regime (TPR).

The below table shows our estimates of the number of meter points per category of restricted meter in each regional distribution area. The GB total includes meter points connected with independent distribution networks, which are not shown here.

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Meter point counts	Economy 7 / white meter	Economy 10	Teleswitched (including DTS, off-peak and heating)	Other
East England	822,358	48,113	13,537	1,932
East Midlands	756,107	14,187	13,321	1,520
Northern Scotland	45,805	14,980	80,635	-
London	152,765	1,889	5,592	6,631
North Wales	83,372	1,401	3,459	2,752
Midlands	263,792	2,872	7,468	1,006
North East	79,013	1,333	13,207	590
North West	166,082	5,362	3,532	12
South East	405,356	2,916	22,655	15,074
Southern	237,225	12,789	46,529	793
Southern Scotland	152,285	8,230	101,636	145
South Wales	47,990	3,012	690	89
South West	196,265	4,284	12,025	3,384
Yorkshire	119,750	2,186	6,296	606
Total GB	**3,547,081**	**131,337**	**330,732**	**34,835**

While our TDCVs for profile class 2 electricity customers show the median consumption across all customers with restricted meters, the consumption patterns of customers with different metering arrangements varies within this. The table below provides estimates of mean annual consumption values by meter type. It is based on Elexon settlement data showing total estimated annual consumption for Profile Class 1, Economy 7 and Economy 10 meters as of June 2019, split by region. From our data, we are not able to calculate the consumption for the heating aspect of DTS meters, therefore we cannot accurately estimate the mean consumption for this meter type.

Because we use aggregated data, we are unable to break down consumption to meter point level, and so to derive the median consumption level, or to understand the distribution of consumption among customers with these different meter types. Nevertheless, these averages illustrate the consumption patterns that we observe between different groups of restricted meter customers.

	Annual mean consumption (kWh)
Profile Class 1	3,421
Economy 7 / White Meter	5,177
Economy 10	6,819

Please note that the values are calculated per meter and not per household. In some cases, there will be two meters within a property, recording electricity consumption at different times (or being used for different purposes). As a result, the averages presented above may underestimate the annual consumption of customers on restricted meters, as the true consumption of the household will be split across two meters. This also provides another reason why, wherever possible, we would encourage customers to use actual energy consumption.

We have published these statistics with a view to providing additional information about the consumption of those with restricted meters, rather than with the intention of replacing the profile class 2 TDCVs. This should help provide greater granularity and better insight into the data underlying our consumption statistics.

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