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Typical Domestic Consumption Values (TDCVs): Call for Input on proposed updates to TDCVs as part of Ofgem's routine consumption review process

Introduction

This Call for Input provides stakeholders with the opportunity to comment on our proposal to update the gas and electricity TDCVs and the estimate of the average peak/off-peak split used to calculate the typical bill for an Economy 7-meter type.

To provide time for implementation and ensure a coordinated approach, we propose that these new values be used from **1st October 2023**.

If you have comments on this proposal, and especially on the inclusion of 2020 domestic consumption data, please share these with us by **27th March 2023**.

Background

The TDCVs are industry standard values for the annual gas and electricity usage of a typical domestic consumer.

The TDCVs are used to derive the typical bills quoted in the publication of price cap and Energy Price Guarantee (EPG) updates. They are also commonly used 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. These figures are used by industry, government and media to provide a common basis to measure the impacts of price changes.

Representative domestic consumption values are also important when assessing costs and benefits to consumers of new policy developments, as well as when monitoring how the electricity and gas markets work.

The TDCVs were first established in 2003 by Energywatch. In 2013, we put a framework in place for future updates to the TDCVs.[1] We established that we would review the domestic consumption every two years and revise the TDCVs if the latest consumption data results in materially different values.[2] However, given the exceptional circumstances of the COVID-19 pandemic, in 2021 we decided to postpone the TDCV update until more data was available to assess the impact of the pandemic on domestic consumption.[3]

We are now undertaking the latest update to the TDCVs. In line with the 2019 TDCV Review, we are including the peak/off-peak consumption split for Economy 7 meters, to facilitate the typical bill estimate for consumers with this kind of meter. We have also continued to include, for additional information purposes only, the latest available mean consumption values for customers with restricted meters.

Methodology

Following to the established methodology, we have derived the typical low, medium and high TDCVs for gas and electricity. We have done so by calculating the lower quartile, median and upper quartile of household consumption using the two most recent years of available data, and then taking the average. The latest two years of consumption data available for this review were 2020 and 2021. Gas and electricity data are gathered over different dates:

- For both electricity meter profile 1 and profile 2 data, the dates cover from the beginning of February 2020 to the end of January 2022. The data is collected by BEIS from data aggregators (on behalf of electricity suppliers).
- For the gas data, the dates cover from mid-May 2020 to mid-May 2022. The data is collected from BEIS and sourced from Xoserve.

We have also run a sensitivity analysis to check the impact of excluding 2020 as the year affected by the exceptional circumstances of the COVID-19 pandemic. The 2020 reporting year covers from the beginning of February 2020 to the end of January 2021

[1] 2013 Decision for TDCVs: https://www.ofgem.gov.uk/sites/default/files/docs/2013/09/tdcv_decision_letter_final_2_1.pdf
[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] 2021 Decision for TDCVs: https://www.ofgem.gov.uk/sites/default/files/docs/2021/05/tdcv_decision_letter_2021_0.pdf

for electricity and from Mid-May 2020 to Mid-May 2021 for gas which captures all three national lockdowns beginning March 2020 and ending March 2021.

We have calculated an updated average GB peak / off-peak split using settlement data for Economy 7 from November 2022. This includes around 6% of meters with an 8- or 8.5-hour off-peak period (ie "white meters").

Mean consumption values for customers with restricted electricity meters

Around 3.7 million out of a total 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. 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.

The TDCVs for profile class 2 electricity customers show the median consumption across all customers with restricted meters. However, 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. This is based on settlement data collected from suppliers and Elexon. The results of our analysis are provided in the Annex.

Our proposal

The below table sets out the proposed revised TDCVs following the established methodology whereby we use the latest available two year's data and take an average to derive the typical low, medium and high TDCVs for gas and electricity. More information can be found in the Annex.

	kWh	**Current TDCVs**	**Proposed Revised TDCVs**
Gas	Low	8,000	7,500
	Medium	12,000	12,000
	High	17,000	17,000
Electricity: Profile Class 1	Low	1,800	1,800
	Medium	2,900	2,800
	High	4,300	4,200
Electricity: Profile Class 2	Low	2,400	2,200
	Medium	4,200	4,000
	High	7,100	6,900

We acknowledge the data used to calculate our proposed revised TDCVs covers a period including all three lockdowns when domestic consumption increased. We have considered an alternative approach to remove 2020 from the analysis and use data from 2019 and 2021. The result is a greater reduction in the alternative TDCVs for medium and high usage customers. Whilst this approach would be a discretionary deviation from the established methodology, it could be considered preferable as the outcome is more in line with the longer-term trend of declining domestic energy consumption. The results of our alternative TDCV analysis are provided in the Annex.

We welcome stakeholder views on whether the exceptional circumstances affecting energy consumption in 2020 would justify using the 2019 and 2021 data for the TDCVs calculation, instead of the 2020 and 2021 data.

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. 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 the Annex.

	Current consumption split based on 2017 data (GB)	2019 proposed consumption split (GB)	2023 proposed consumption split (GB)
Peak (day time usage)	58%	59%	60%
Off-peak (night time usage)	42%	41%	40%

In 2019, we had proposed an updated consumption split of 59/41, compared to the 2017 consumption split of 58/42. However, given the evidence received, the change was not considered material and of sufficient value for consumers and we decided to keep using the 2017 split of 58/42.[4] Our analysis of November 2022 data suggests that GB average consumption split for Economy 7 meters to be 60/40. **We welcome stakeholder views on whether the change is significant enough to revise the consumption split and adopt the proposed 60/40 consumption split.**

[4] 2020 Decision TDCVs: https://www.ofgem.gov.uk/sites/default/files/docs/2020/01/tdcvs_2020_decision_letter_0.pdf

Implications for price cap and energy price guarantee values

The energy price cap limits the amount a supplier can charge default tariff customers per unit of energy, with standing charges taken into account.[5] The energy price guarantee (EPG) is a temporary additional measure introduced by the government to protect consumers from the recent significant increases in wholesale gas prices.[6] The EPG was introduced on 1 October 2022 and will last until April 2024. The EPG acts to reduce the unit cost of electricity and gas comparative to the price cap and the government compensates suppliers the difference.

A revision to the TDCVs will not impact the price cap or EPG values as both schemes are in effect caps on standing charges and unit rates, not the bill amount, but the resulting bill amount is used prominently in communications surrounding the cap. Regarding the price cap, a revision to the TDCVs **will not** automatically amend the benchmark annual consumption values in the licence condition which uses the 2017 TDCVs. Furthermore, we are not proposing to amend the benchmark annual consumption values at this time, as the methodology of the price cap was designed with specific regard to the longer-term trend of declining demand. However, **we would welcome stakeholder views on whether this benchmark should be updated considering the proposed revised TDCVs.**

The 58/42 assumed consumption split for Economy 7 customers is also reflected in the price cap requirements. Suppliers must ensure that default Economy 7 tariffs do not exceed the relevant price cap level using this assumed split between peak and off-peak consumption. If the outcome of this TDCV review determines that the 2017 TDCV assumed consumption split (58/42) should be amended, we intend to consider whether it is appropriate to amend the licence to reflect the updated assumed consumption split with respect to the price cap requirements. We also intend to consider whether the use of a single assumed consumption split at the GB average level remains appropriate.

With respect to price cap and EPG compliance, suppliers should continue to comply with their obligations as set out in SLC28.A and SLC28.AD, and ensure values are set in accordance with EPG levels.

[5] https://www.ofgem.gov.uk/information-consumers/energy-advice-households/check-if-energy-price-cap-affects-you
[6] https://www.gov.uk/government/publications/energy-bills-support/energy-bills-support-factsheet-8-september-2022

Implications for communicating the 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 the annual bill would be around £35 lower for a medium usage customer on a dual fuel standard variable tariff paying by direct debit.[7] More detail on the impact of gas and electricity bills and different payment methods can be found in the Annex.

Next Steps

We will consider any feedback from stakeholders and aim to announce a final decision on our proposed revised TDCVs in April 2023.

The proposed 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 **27th March 2023** by contacting Evelyn Mulvin at MarketMonitoring@ofgem.gov.uk.

Yours faithfully,

Andrew Milligan

Deputy Director, Retail Market Intelligence and Stability

[7] Note: The standard variable tariff for a dual fuel customer paying by direct debit uses the Energy Price Guarantee rates for January to March 2023

Annex

Calculation of TDCVs

The TDCVs are calculated from the meter level data that underlies BEIS' sub-national energy consumption statistics.[8] 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.[9] 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 2022, 82% of domestic electricity consumption was on profile class 1 and 18% was on profile class 2. Around 13% 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.

[8] https://www.gov.uk/government/collections/sub-national-electricity-consumption-data
[9] 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.

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.

The table below[10] shows the results of our sensitivity analysis where we have assessed the TDCVs using an alternative timeframe. The proposed revised TDCVs follow the established methodology and use 2020 and 2021 data. The alternative TDCVs are calculated using 2019 and 2021 data to remove much of the atypical consumption data due to the pandemic. This is provided to facilitate the provision of feedback on whether the exceptional circumstances affecting energy consumption in 2020 would justify using the 2019 and 2021 data for the TDCVs calculation.

	kWh	**Current TDCVs (including additional distribution)**	**Proposed revised TDCVs (including additional distribution)**	**Alternative TDCVs using 2019 & 2021 data (including additional distribution)**
Gas	5th percentile	3,000	3,000	3,000
	10th percentile	4,500	4,500	4,500
	Low (25th percentile)	8,000	7,500	7,500
	Medium (median)	12,000	12,000	11,500
	High (75th percentile)	17,000	17,000	17,000
	90th percentile	23,500	23,500	23,500
	95th percentile	29,000	29,000	29,000
Electricity: Profile Class 1	5th percentile	600	800	800
	10th percentile	1,100	1,100	1,100
	Low (25th percentile)	1,800	1,800	1,800
	Medium (median)	2,900	2,800	2,700
	High (75th percentile)	4,300	4,200	4,100
	90th percentile	6,300	6,400	6,200
	95th percentile	8,200	8,600	8,200
Electricity: Profile Class 2	5th percentile	1,000	900	900
	10th percentile	1,400	1,300	1,300
	Low (25th percentile)	2,400	2,200	2,200
	Medium (median)	4,200	4,000	3,900
	High (75th percentile)	7,100	6,900	6,700
	90th percentile	11,000	10,900	10,600
	95th percentile	14,000	14,000	13,700

[10] Data previously supplied for 2016 and 2017, which underpins current TDCVs, has been revised in January 2023 due to the identification of a minor error. As a result, the additional distribution values for the current Electricity Profile Class 1 TDCVs are slightly higher than those shown in the table and are above or equal to the new proposed and alternative values.

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.[11] 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.[12] The weather correction process may not fully compensate for extreme weather events where consumers increase their gas use in a short period of time. The electricity data has not been weather corrected, however still provides a good indication of domestic consumption in Great Britain.

Calculation of 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 most 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), 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 (white meters), and Economy 7 meters that are teleswitched. The information provides total estimated annual consumption as of November 2022, 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

[11] Datasets and further information about NEED can be accessed from: https://www.gov.uk/government/collections/national-energy-efficiency-data-need-framework
[12] https://www.gov.uk/government/publications/overview-of-weather-correction-of-gas-industry-consumption-data

proportion of usage that takes place in peak periods ranges from 50% up to 68%. For three regions, East England, East Midlands and the South East, the proportion of peak consumption is higher than the national average.

	Current consumption split based on 2017 data		2019 Proposed Consumption Split		2023 Proposed Consumption Split	
	Peak	**Off Peak**	**Peak**	**Off Peak**	**Peak**	**Off Peak**
East England	62%	38%	63%	37%	64%	36%
East Midlands	67%	33%	68%	32%	68%	32%
Northern Scotland	48%	52%	49%	51%	50%	50%
London	57%	43%	59%	41%	60%	40%
North Wales	47%	53%	50%	50%	53%	47%
Midlands	55%	45%	56%	44%	58%	42%
North East	49%	51%	51%	49%	53%	47%
North West	49%	51%	51%	49%	54%	46%
South East	62%	38%	63%	37%	63%	37%
Southern	49%	51%	51%	49%	54%	46%
Southern Scotland	53%	47%	55%	45%	57%	43%
South Wales	47%	53%	50%	50%	53%	47%
South West	46%	54%	49%	51%	53%	47%
Yorkshire	51%	49%	53%	47%	56%	44%
GB Average	**58%**	**42%**	**59%**	**41%**	**60%**	**40%**

Impact of our proposed revisions on typical bills

The recent increase in public attention toward customer energy bills alongside more frequent price cap updates and the government EPG scheme has meant typical bill values are more prevalent within the media. **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 £2,465.**[13] This is £35 lower than a 'typical' bill calculated using current (2019) TDCVs. This reduction is purely presentational and only applies to cases where 'typical consumption' is used. It does not reflect a reduction in the underlying cost of energy and will not affect the bills for actual consumers.

The table below sets out further information about the impact on 'typical' gas and electricity bills when updating the consumption values used to define the consumption of

[13] Note: The standard variable tariff for a dual fuel customer paying by direct debit uses the Energy Price Guarantee rates for January to March 2023.

a low, medium and high usage consumer. The profile class 2 proposed revised bill was calculated using the proposed 2023 consumption split of 60/40.[14]

	kWh	**Current TDCVs**	**Proposed revised TDCVs**	**Difference in the typical bill for Direct Debit customers**
Gas	Low	8,000	7,500	-£52
	Medium	12,000	12,000	£0
	High	17,000	17,000	£0
Electricity: Profile Class 1	Low	1,800	1,800	£0
	Medium	2,900	2,800	-£34
	High	4,300	4,200	-£34
Electricity: Profile Class 2	Low	2,400	2,200	-£54
	Medium	4,200	4,000	-£45
	High	7,100	6,900	-£29

When calculating the TDCVs under the alternative timeframe that uses 2019 and 2021 data, 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 £2,379.[15] This is £121 lower than a 'typical' bill calculated using current (2019) TDCVs.

The tables below set out our a more detailed comparison of current typical bills across both fuels and different payment methods using current TDCVs, our proposed revised TDCVs and the alternative timeframe TDCVs.

Payment Method	*kWh*	**Current Typical Gas Bills**	**Difference in Typical Gas Bill using proposed TDCVs**	**Difference in Typical Gas Bill using alternative TDCVs**
Direct Debit	Low	£930	-£52	-£52
	Medium	£1,344	£0	-£52
	High	£1,860	£0	£0
Standard Credit	Low	£1,022	-£56	-£56
	Medium	£1,471	£0	-£56
	High	£2,033	£0	£0
Prepayment	Low	£1,003	-£54	-£54
	Medium	£1,435	£0	-£54
	High	£1,976	£0	£0

[14] The standard tariff used for Profile Class 2 meters is the average of the large energy suppliers' Economy 7-meter tariffs as of 31st January 2023

[15] Note: The standard variable tariff for a dual fuel customer paying by direct debit uses the Energy Price Guarantee rates for January to March 2023.

Payment Method	*kWh*	**Current Typical Electricity PC1 Bills**	**Difference in Typical Electricity Bill using proposed TDCVs**	**Difference in Typical Electricity Bill using alternative TDCVs**
Direct Debit	Low	£781	£0	£0
	Medium	£1,155	-£34	-£68
	High	£1,631	-£34	-£68
Standard Credit	Low	£868	£0	£0
	Medium	£1,282	-£38	-£75
	High	£1,808	-£38	-£75
Prepayment	Low	£782	£0	£0
	Medium	£1,145	-£33	-£66
	High	£1,607	-£33	-£66

Payment Method	*kWh*	**Current Typical Electricity PC2 Bills**	**Difference in Typical Electricity Bill using proposed TDCVs**	**Difference in Typical Electricity Bill using alternative TDCVs**
Direct Debit	Low	£960	-£54	-£54
	Medium	£1,554	-£45	-£78
	High	£2,510	-£29	-£96
Standard Credit	Low	£1,054	-£60	-£60
	Medium	£1,703	-£50	-£87
	High	£2,749	-£34	-£108
Prepayment	Low	£943	-£51	-£51
	Medium	£1,510	-£41	-£73
	High	£2,425	-£24	-£89

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. 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.

Using the same approach set out in 2019, our classification of Economy 7 meters includes meters with an 8 or 8.5 hour off-peak (White Meter / Economy 8), and Economy 7/8 meters that are teleswitched.[16] Our classification of teleswitched meters includes any meter that is teleswitched and which is not categorised as Economy 7 or Economy 10.

[16] 2021 Decision for TDCVs: https://www.ofgem.gov.uk/sites/default/files/docs/2019/10/tdcvs_2019_open_letter_0.pdf

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 in the table.

Meter point counts as of Nov 2022	Economy 7 / white meter	Economy 10	Teleswitched (including DTS, off-peak and heating)	Other
East England	749,382	41,665	9,159	2,581
East Midlands	671,198	13,614	8,149	1,859
Northern Scotland	44,970	14,545	72,604	1,210
London	145,744	1,781	4,718	6,306
North Wales	77,847	1,231	2,865	2,802
Midlands	242,512	2,590	6,076	1,120
North East	73,055	1,219	10,560	651
North West	152,947	4,993	2,276	472
South East	366,311	2,732	17,656	12,901
Southern	225,726	13,777	36,179	1,386
Southern Scotland	139,752	7,783	92,550	963
South Wales	44,573	2,855	517	261
South West	183,654	3,904	9,949	3,289
Yorkshire	108,712	2,019	5,677	713
Total GB	**3,249,338**	**122,674**	**279,067**	**36,888**

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 November 2022, averaged across region and supplier. 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 derive the median consumption level or understand the distribution of consumption among customers with different profile class 2 meter types.

	Annual mean consumption (kWh) as of Nov 2022
Profile Class 1	3,245
Economy 7 / White Meter	4,748
Economy 10	6,083

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 continue to publish 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.