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Review of typical domestic consumption values

Consultation

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Overview:

Suppliers and price comparison sites often use typical domestic consumption values to quote the annual electricity and gas bills of a typical domestic customer, which are widely used in the market and are frequently quoted in the media. As such, they influence consumers' perception of the cost of energy, even if individual customers' actual costs of energy are different, and can influence customers' switching decisions.

This document contains Ofgem's proposal for a reduction to the typical domestic consumption values used in the retail energy market. It also includes a proposal to establish a transparent framework for future revisions. Our objective is to provide representative and stable domestic consumption values.

We welcome feedback from stakeholders on the proposals set out in this consultation. We will consider responses and aim to announce a final decision on revised typical domestic consumption values before the autumn.

Context

Ofgem's principal objective is to protect the interests of existing and future consumers. Our remit requires us to lead in promoting value for money and, with others in government and industry, affordability as well. We also have an obligation to monitor the energy markets and consider trends in the industry[1].

Typical domestic consumption values are a key input to estimate the annual electricity and gas bill of a typical domestic customer. Understanding bill values for the typical consumer and their evolution is important to our monitoring, value for money and affordability work.

Cost trends that had been reducing during the eighties and nineties are now increasing throughout the supply chain. This is resulting in higher per unit energy prices for consumers. At the same time, people are using less energy than they were a few years ago, particularly gas. This is likely to reflect the impact of economic conditions, higher energy prices and energy efficiency measures.

We want to ensure this fall in consumption is reflected in the typical domestic consumption values. This will enable market participants to generate and quote more accurate annual bill estimates, ultimately helping shape more accurate consumer understanding of the cost of energy. This should improve switching decisions, increasing consumer trust and engagement in the market.

Associated documents

Review of typical domestic consumption values – open letter, 17 May 2013

Revision of typical domestic consumption values – decision letter, 5 November 2010

Review of typical domestic consumption values, 10 August 2010

[1] Ofgem is subject to a number of duties to monitor elements of the gas and electricity markets in Great Britain, see for example Section 34 Gas Act 1986, section 47 Electricity Act 1989, Article 37(1)(j) Electricity Directive and Article 41(1)(j) Gas Directive.

Contents

Executive Summary

Ofgem estimates the annual electricity and gas consumption of typical domestic customers. These typical domestic consumption values (TDCVs) are a key input into estimates of the annual cost of a typical customer's electricity and gas bill. These estimates are widely used in the retail energy market. Suppliers and switching sites often use them to quote the cost of energy products, where a generic quotation is used rather than a personal one. They are also often quoted in the media. As such, they influence perceptions of the cost of energy, even if individual customers' actual costs are different.

It is important that the TDCVs are representative of the actual consumption of the typical customer. This will enable market participants to generate more accurate annual bill estimates. This in turn should help shape more accurate consumer understanding of the cost of energy, which should improve switching decisions and help to increase consumer engagement in the market. It is also important that the values are sufficiently stable to avoid consumer confusion or disproportionate burdens on industry through excessively frequent revisions.

Since our last review of the TDCVs in 2010 (based on 2005-08 data), there have been significant changes in domestic energy consumption levels. Data published by the Department for Energy and Climate Change shows that, since 2008, aggregate annual domestic consumption has fallen by 9% for gas and 6% for electricity.

Based on our analysis of the data, we recommend a reduction to the current TDCVs for both gas and electricity. We propose a 'medium' gas value of 13,500 kWh (down from 16,500 kWh) and a 'medium' electricity value of 3,200 kWh (down from 3,300 kWh). These changes in the TDCVs would have a significant impact on annual bill estimates for a typical customer. For example, the annual direct debit dual fuel bill for a typical 'medium' customer would be around £1,129. That is £138 lower than the equivalent calculated using the current TDCVs. Of course, this change would not change actual bills.

We propose that these new values be used from a specific date by the end of December, to be determined later this year, in time for suppliers to use in the relevant Retail Market Review proposed requirements. We also propose a new framework for future revisions. We would assess domestic consumption every two years and revise TDCVs if the latest consumption data results in materially different TDCVs. We would aim to complete the next assessment in the first half of 2015.

The conclusions of this review will inform the consumption assumptions used in our Supply Market Indicator (SMI), which provides a weekly snapshot of margins on supplying an average, standard tariff customer. We intend to make any changes to the SMI at the same time as we conclude this review of the TDCVs, before the autumn.

We welcome views on the approach recommended in this consultation.

1. Introduction

Chapter Summary

Typical domestic consumption values are a key input into annual estimates of typical electricity and gas bills expressed in pounds per customer. Ofgem and a range of stakeholders use these values, and they are a central element of the communication between suppliers and customers. Therefore, it is important that these values are representative estimates of typical electricity and gas consumption levels. Given that the current values were last reviewed in 2010 and there is now evidence of declining domestic energy consumption, this review aims to determine whether the current values should be revised.

1.1. It is important that energy consumers know their own consumption patterns to enable them to make more informed choices about which offers may best suit their needs. This will become ever more important as innovative time-of-use tariffs develop from the platform of smart metering. In addition, both Ofgem and other organisations often need to understand and articulate trends within the market. This requires the use of generally representative figures, and typical low, medium and high values for annual domestic consumption are regularly employed.

1.2. As part of our obligation to monitor energy markets and consider trends in the industry, Ofgem estimates the average annual electricity and gas consumption of typical domestic customers. To reflect a range of usage, we estimate typical domestic consumption values (TDCVs) for low, medium and high consumption. Table 1 shows the current TDCVs. These values are used for a variety of purposes; including estimating typical annual bills, comparing tariffs, and helping consumers understand the impact of price changes. Ofgem is committed to ensuring that these values are robust and representative.

Table 1: Current TDCVs

	Level	kWh
Gas	Low	11,000
	Medium	16,500
	High	23,000
Electricity: Profile Class 1 (single rate meters)	Low	2,100
	Medium	3,300
	High	5,100
Electricity: Profile Class 2 (multi rate meters)	Low	2,900
	Medium	5,000
	High	8,300

1.3. The TDCVs are a key input into estimates of typical bill values (expressed in pounds per customer). Not only do they inform some of our work, but they are also widely used in the market and are sometimes viewed as the industry standard.

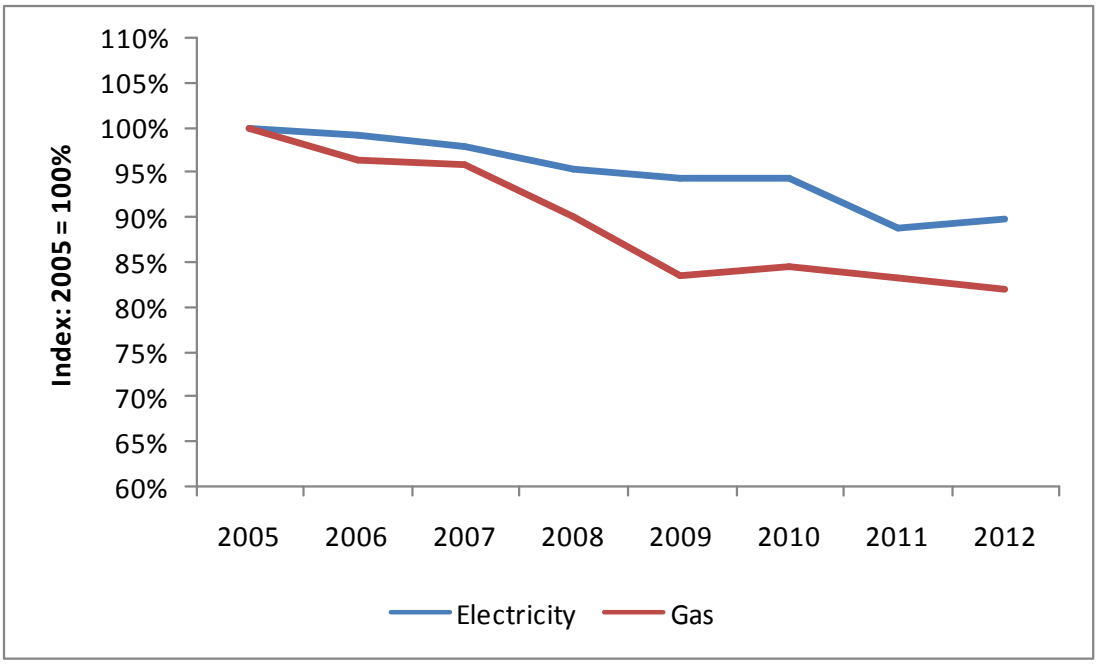
1.4. In Ofgem, the TDCVs underpin parts of both our monitoring and policy development work. For example, as part of our Retail Market Review reforms, we are proposing an obligation on suppliers to use the TDCVs to calculate the Tariff Comparison Rate for each of their tariffs, as well as the estimated annual cost figure to be included on each non-personalised Tariff Information Label. We also use these values in some of our publications, like the "Household Bills Explained" factsheet[2], and for wider internal analysis.

1.5. Outside Ofgem, a range of stakeholders use the TDCVs to present generic pricing information. Suppliers and price comparison websites use them to quote the cost of energy products, where a generic quotation is used rather than a personalised one. This information is a central element of the communication between suppliers and customers.

Review of TDCVs

1.6. Our last review of the TDCVs in 2010 was based on consumption data from 2005 until 2008. The resulting values took effect in January 2011. At the time, we noted we could review the 2010 figures again if there was evidence that consumption levels had subsequently changed significantly, such that our figures were no longer representative.

Figure 1: Domestic gas and electricity consumption



Source: DECC's *Energy Trends Statistics*.
Note: This data refers to total UK domestic consumption.

[2] Ofgem (2013), 'Updated household energy bills explained', January.

1.7. Since our last review, there is now evidence of a reduction in domestic consumption. As can be seen in figure 1, the general downward trend in consumption over the period 2005-08 has been maintained in recent years. This may be as a result of various factors, including the effect of price increases, improvements in energy efficiency and economic conditions constraining household budgets.

1.8. Following on from our May 2013 open letter, this consultation document considers the case for a revision to the TDCVs and for establishing a transparent framework for future revisions. We do not intend to reopen the main data and methodological questions around the calculation of TDCVs, as these were considered extensively during the last consumption review. Nevertheless, we welcome views on our recommendations and the options we considered in arriving at them.

Structure of this document

1.9. The structure of this document is as follows:

- Chapter 2 sets out the data we used and the analysis we undertook to calculate revised TDCVs
- Chapter 3 explains the rationale for representative and stable TDCVs, and outlines the implications of revising them
- Chapter 4 presents the case for establishing a transparent framework for future TDCV revisions, and provides options for future revisions
- Chapter 5 presents our recommendations and next steps.

2. Estimating TDCVs

Chapter Summary

DECC data shows an uneven distribution of electricity and gas consumption, which suggests that the median, rather than the mean, is more representative of the consumption of the typical customer. The data also shows a slight change in domestic electricity consumption but a significant change in domestic gas consumption. The revised TDCVs resulting from our analysis are lower than the current ones by 17-18% for gas and 3-5% for electricity, depending on the number of years of data used in the calculation.

Question 1: Do you agree with the options presented for calculating revised TDCVs? If not, which additional options would you consider?

2.1. As mentioned in our May 2013 open letter, the main data and methodological considerations around the calculation of TDCVs will be kept unchanged from the last consumption review. These were considered extensively during our 2010 review and received broad support from stakeholders in the last consultation. Specifically:

- DECC's sub-national energy consumption statistics will remain the source for the consumption data underpinning the analysis
- The first, second and third quartiles (the median being the second quartile) will be used to represent the consumption of a low, medium and high typical domestic customer, respectively.

Data

2.2. DECC's sub-national energy consumption statistics are particularly suitable for our needs[3]. These statistics are classed as National Statistics and as such allow for robust analysis of consumption levels for gas and electricity. The data covers Great Britain, is provided annually, and contains actual and estimated meter point data produced for annual gas and electricity data audits. The latest available data is for 2011. See appendix 2 for more details on the data collection methodology.

2.3. For the analysis of domestic consumption, meter points are used as a proxy for customer numbers[4]. The data excludes any inactive meters, and those that show null or negative consumption readings.

[3] DECC (2013), 'Sub-national methodology and guidance booklet', March.
[4] There is a difference of around 1% between meter and customer numbers in the domestic energy market, which makes meters a good proxy for customers. This is not the case in the non-domestic market.

2.4. The domestic electricity data is split according to meter type; domestic credit meters and two-rate or multi-rate maters. Domestic credit meters – the most common type – are known as "Profile Class 1" meters and two-rate or multi-rate meters (eg meters that support Economy 7-type tariffs) are known as "Profile Class 2" meters. There is only one meter type for domestic gas consumption data.

2.5. The raw data breaks down annual consumption in 10 kWh intervals and gives the regional meter count for each interval. The 0-10 kWh annual consumption interval shows a substantially higher meter count than any other interval for both gas and electricity, but still only a small proportion of overall meters (around 1% of gas and Profile Class 1 meters, and 3% of Profile Class 2 meters). It is likely that many of these meters, despite being classed as active, recorded zero consumption[5].

2.6. We have removed the meters in this consumption interval from the analysis. We believe this is appropriate since we are interested in the consumption of the typical customer, not the typical dwelling. It would be inappropriate to consider meters that record zero consumption as a proxy for customers. The impact of removing these meters is to increase the gas and Profile Class 1 electricity TDCV estimates by 2-3% and for Profile Class 2 electricity TDCV estimates by 5-8%.

Electricity data

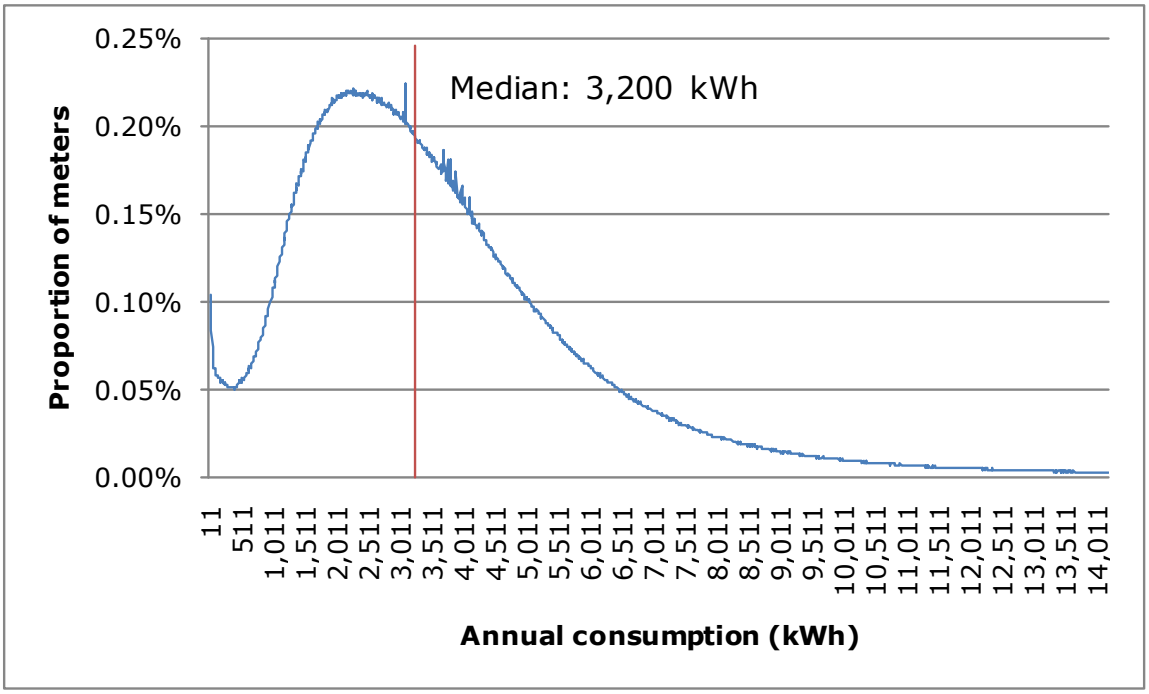
2.7. Profile Class 1 and 2 meters with annual consumption greater than 100,000 kWh are reallocated to the industrial and commercial sector. Also, those meters consuming over 50,000 kWh with address information indicating non-domestic consumption are also reallocated to the industrial and commercial sector. The electricity data is not weather corrected[6].

2.8. The distribution of consumption levels among both electricity meter types is skewed toward lower consumption values, with a greater proportion of customers consuming lower levels and fewer consuming higher levels[7]. Figures 2 and 3 show this distribution.

2.9. Since the small number of non-representative customers who use very high volumes of electricity will increase the mean, we use the median consumption value as it is, in this case, a more representative measure of the consumption of a typical customer. As discussed in next chapter, it is important that where consumers are making decisions about tariffs, the TDCVs used in estimating the annual cost of those tariffs are representative of the typical consumer.

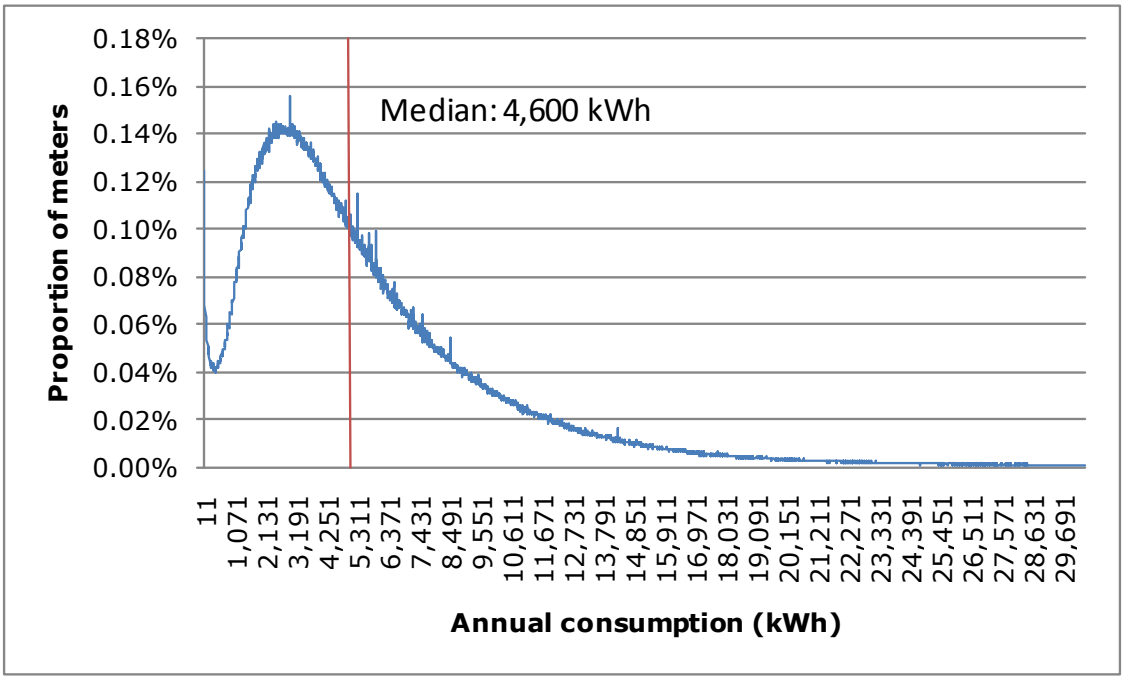
[5] It is outside the scope of this work to determine the causes for this. One possible explanation could be that these meters are in vacant properties or second residences.
[6] Weather does not affect domestic electricity consumption to the same extent as it does for domestic gas consumption. However, Profile Class 2 customers tend to use electricity for heating more so than Profile Class 1 ones. Therefore, weather will likely have a greater impact on Profile Class 2 electricity consumption.
[7] In 2011, 25% of meters with the highest consumption accounted for around 50% of domestic electricity consumption.

Figure 2: Distribution of 2011 Profile Class 1 electricity consumption



Source: DECC's sub-national energy consumption statistics

Figure 3: Distribution of 2011 Profile Class 2 electricity consumption



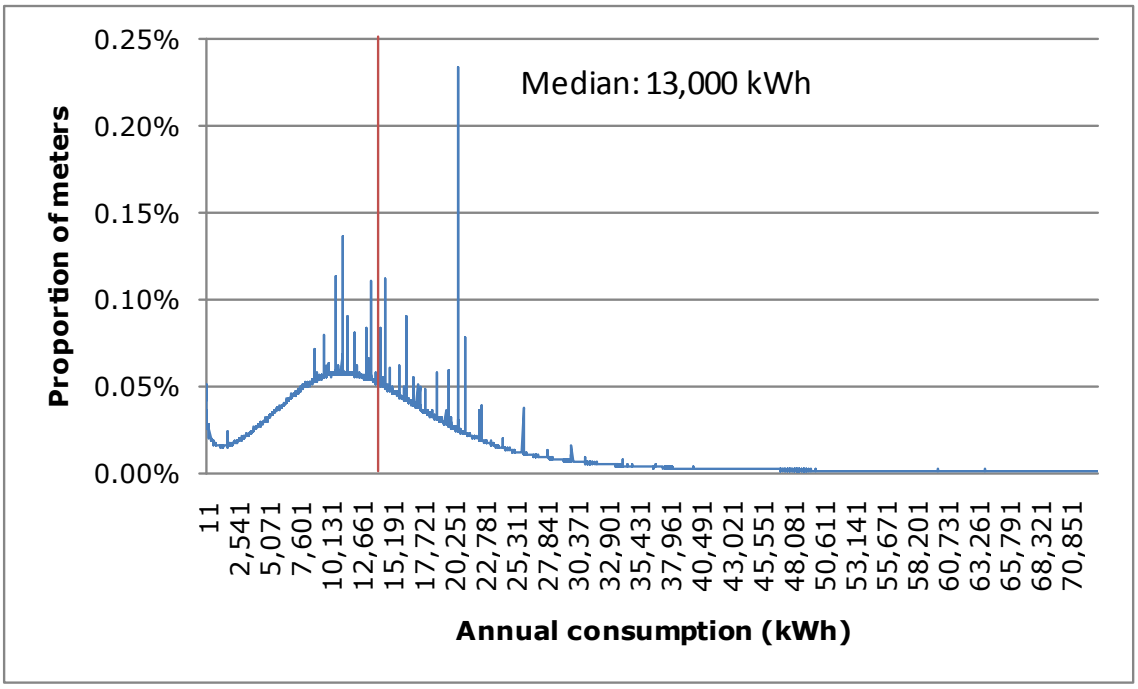
Source: DECC's sub-national energy consumption statistics

Gas data

2.10. In the gas data, meters that show annual consumption readings between 0 and 73,200 kWh are classed as domestic consumers[8]. Therefore the gas data has 73,200 kWh as the upper cut-off point[9]. Figure 4 shows the distribution for domestic gas consumption for 2011.

2.11. The gas data is weather corrected. As such, year-to-year changes in temperature (and thus gas demand for heating) are accounted for and are not reflected in the gas consumption data. This means that we can more directly compare gas consumption from one year to the next.

Figure 4: Distribution of 2011 gas consumption



Source: DECC's sub-national energy consumption statistics

2.12. The gas data also shows an uneven distribution of consumption, skewed towards lower consumption levels, but less so than in electricity. It also shows a disproportionately large number of meters recording an annual consumption of around 20,600 kWh. The reason for this (as well as the other smaller "spikes") is not clear, but may be explained by the use of estimates when actual readings are not available. For example, there are many instances where households of the same size in a particular area are given the same consumption estimate.

[8] DECC classifies all customers using less than 73,200 kWh as domestic. This is the gas industry standard "Annual Quantity" cut-off point.
[9] DECC estimates that around 2 million small businesses are incorrectly classed as domestic consumers using this cut-off threshold.

2.13. To ensure that this large number of estimates around 20,600 kWh does not have a misleading impact on the gas TDCV estimates, we test using two extreme hypothetical cases: (1) assume all these meters fall in the first interval (10-20 kWh); (2) assume they all fall in the last interval (73,190-73,200 kWh). The resulting TDCVs (rounded to the nearest 500 kWh) under (1) and (2) do not change.

Analysis

2.14. As set out above, the distribution of gas and electricity consumption is skewed towards lower values. That is, most customers consume relatively small amounts of energy while a few consume large amounts. Therefore, the median (ie the "middle" or 2nd quartile consumption level within an ordered sample) is a more representative indicator of the typical "medium" usage than the mean. Similarly, we use the 1st and 3rd quartiles to represent the typical "low" and typical "high" usage respectively.

2.15. We calculated the 1st, 2nd and 3rd quartile gas and electricity consumption for 2009-2011, which represent the low, medium and high estimates respectively. We have not considered historical data points that predate 2009 since they were incorporated in the previous TDCV revision.

2.16. The tables below present the results, which are rounded to the nearest 100 kWh for electricity, and 500 kWh for gas. We include the current TDCVs and the mean for reference.

Table 2: Annual electricity Profile Class 1 consumption

Year	1st quartile	Median	3rd quartile	Mean
2011	2,000	3,200	4,800	3,800
2010	2,000	3,200	4,900	3,900
2009	2,000	3,200	4,900	3,900
Current TDCVs (2005-08)	2,100	3,300	5,100	4,000

Table 3: Annual electricity Profile Class 2 consumption

Year	1st quartile	Median	3rd quartile	Mean
2011	2,700	4,600	7,800	5,700
2010	2,700	4,700	8,000	5,900
2009	2,700	4,700	8,100	5,900
Current TDCVs (2005-08)	2,900	5,000	8,300	6,200

Table 4: Annual gas consumption

Year	1st quartile	Median	3rd quartile	Mean
2011	8,500	13,000	18,500	14,500
2010	9,500	14,000	19,500	15,500
2009	9,500	14,000	20,000	15,500
Current TDCVs (2005-08)	10,000	16,500	23,000	18,000

2.17. Domestic electricity consumption has decreased slightly compared to the current TDCVs, with reductions across both meter types ranging from 3% to 8%. The fall in domestic gas consumption has been more significant, falling about 15-21% compared to the current TDCVs.

2.18. High volume users have tended to reduce their consumption more than low volume users. This suggests that the distribution of consumption has changed, becoming less skewed. This change in the distribution has a larger impact on the mean than the median.

2.19. Consequently, to fulfil our commitment to provide robust and representative estimates, we have decided that a downward revision of both electricity and gas TDCVs is justified.

Options for calculating revised TDCVs

2.20. There are different ways that the historical data can be used to calculate new TDCVs. For example, we could use only the most recent year's low, medium and high values (eg the medium gas TDCV would be the median 2011 consumption – 13,000 kWh). Alternatively, we could use a greater number of years (or data points) and take an average.

2.21. There are trade-offs attached to these different options. More years generally makes estimates more robust. However, given the declining trend in consumption, including many years makes the estimates less representative of current consumption. On the other hand, consumption in any one year may be atypical, so basing TDCVs on a single year may not be appropriate as the estimates risk being out of line with consumption trends.

2.22. The current TDCVs were calculated using the average of four data points: annual consumption data from 2005-2008. At the time, we felt it was appropriate to incorporate a number of historical data points. A majority of respondents to the consultation supported this choice, largely because they felt a model that used a larger number of historical data points was more robust. However, this approach may not be as appropriate now, given falling consumption trends.

2.23. We also considered incorporating projected consumption values in the calculation as this could reduce the frequency of revision needed to keep TDCVs representative of consumption. However, we have decided against it. This is mainly because there is a risk of error associated with using projected figures for annual consumption, especially now that consumption patterns are changing, and uncertainty regarding future energy consumption is high compared to the recent past. Furthermore, during the last review we included two options for estimating TDCVs that included projected values. Consultation responses showed that stakeholders also preferred that we restrict the analysis to historical data.

2.24. We have considered three options to calculate revised TDCVs for low, medium and high usage customers using the available historical data:

- **Option 1**: latest year of available consumption data (ie 2011)
- **Option 2**: average of latest two years of available consumption data (ie 2010-2011)
- **Option 3**: average of latest three years of available consumption data (ie 2009-2011).

2.25. Tables 5 and 6 present electricity and gas TDCVs corresponding to each of these options.

Table 5: Options for revised electricity TDCVs

		Option 1	Option 2	Option 3
		2011	Average (2010-2011)	Average (2009-2011)
Profile Class 1	Low	2,000	2,000	2,000
	Medium	3,200	3,200	3,200
	High	4,800	4,900	4,900

		Option 1	Option 2	Option 3
		2011	Average (2010-2011)	Average (2009-2011)
Profile Class 2	Low	2,700	2,700	2,700
	Medium	4,600	4,700	4,700
	High	7,800	7,900	8,000

Table 6: Options for revised gas TDCVs

		Option 1	Option 2	Option 3
		2011	Average (2010-2011)	Average (2009-2011)
Gas	Low	8,500	9,000	9,000
	Medium	13,000	13,500	13,500
	High	18,500	19,000	19,500

2.26. The different options yield very similar results for electricity TDCVs, with at most a 2.6% difference in consumption between options. The gas results are also similar across options, but the variations are slightly larger than for electricity, with the largest difference between options being around 6%.

2.27. Tables 7 and 8 show the typical annual electricity and gas bills that would result from the above options[10].

Table 7: Typical electricity bill resulting from revised TDCV options

		Option 1	Option 2	Option 3
		2011	Average (2010-2011)	Average (2009-2011)
Profile Class 1	Low	£338	£338	£338
	Medium	£501	£501	£501
	High	£720	£734	£734

		Option 1	Option 2	Option 3
		2011	Average (2010-2011)	Average (2009-2011)
Profile Class 2	Low	£371	£371	£371
	Medium	£584	£595	£595
	High	£943	£954	£965

Table 8: Typical gas bill resulting from revised TDCV options

		Option 1	Option 2	Option 3
		2011	Average (2010-2011)	Average (2009-2011)
Gas	Low	£450	£471	£471
	Medium	£640	£661	£661
	High	£872	£893	£914

2.28. The tables show that typical annual electricity bills for Profile Class 1 consumers would be identical across options except for "High" consumers. Bills for Profile Class 2 consumers would be very similar with some differences across options for "High" consumers. Finally, gas bills show a more noticeable difference across options.

2.29. We consider that option 2 strikes that right balance. It does not rely too much on a single year's observation, while not depending excessively on past year's data, which may not be representative of current consumption given the falling trend. The next chapter discusses the main implications of changing the current TDCVs.

2.30. Do you agree with the options presented for calculating revised TDCVs? If not, which additional options would you consider?

[10] Based on the average direct debit standard tariff of the six largest energy suppliers.

3. Implications of changing current TDCVs

Chapter Summary

The TDCVs are important inputs into parts of Ofgem policies and analysis, and are widely used in the retail energy sector. It is important to strike the right balance between TDCVs that are representative of current consumption but that are also relatively stable over time. Following non-negligible changes in gas and electricity consumption since the 2010 review, it is our view that a revision to the current gas and electricity TDCVs is warranted. We consider that a key implication of changing these values is a reduction of typical annual electricity and gas bill estimates.

Key principles

3.1. Ofgem and a variety of other organisations use the current typical consumption figures. Therefore, any change in these figures will impact both our work and publications, and other organisations that use this information.

3.2. Given the widespread use of TDCVs, we are mindful of the need to strike a balance between representativeness and stability. We want the values to remain representative and in line with trends in consumption but in a way that does not create uncertainty or confusion for consumers and other stakeholders or impose disproportionate burdens on industry.

Representative TDCVs

3.3. Actual individual energy consumption, not typical consumption, is one of the factors that ultimately drive a customer's energy bill. However, typical consumption values are used to estimate typical annual bill calculations. Given their high visibility (eg they are regularly quoted in the media), these bill estimates have an important role in shaping consumers' perception of the cost of energy, even if their individual real cost of energy is different. Therefore, it is important that TDCVs are representative of the actual consumption of the typical customer, as this will help shape more accurate consumer understanding of the cost of energy, which should improve switching decisions, increasing consumer trust and engagement.

3.4. Energy consumers and the sector are making important efforts to increase energy efficiency. A key benefit of improvements in energy efficiency is reduced consumption, which results in lower energy bills than would otherwise be the case. However, industry investments in energy efficiency also have a cost, which suppliers pass onto customers through higher energy prices, as is expected in a competitive market. Since the costs of energy efficiency are reflected in higher per unit energy prices (ie £/kWh), it is also important that the consumption assumptions (ie kWh/year) used in estimating typical annual energy bills (ie £/year) capture the benefits of investments in energy efficiency, namely reduced consumption.

3.5. Therefore, representative TDCVs help to align the perceived cost of energy with the actual cost of energy for the typical customer. This brings out more clearly the benefits of investments in energy efficiency, as well as contributing to improved customer switching decisions.

Stable TDCVs

3.6. Updating TDCVs and incorporating revised values has an associated cost for both Ofgem and those organisations that use them, as the task takes time and resources. This was corroborated during the last consumption review, where stakeholders flagged the importance of allowing enough lead time to implement changes as they need to amend systems, update relevant literature and brief staff.

3.7. In addition, stakeholders considered that it was important to have a pre-arranged "switchover date" when any new consumption figures would be adopted by relevant market participants. Such coordination should help ease consumer understanding of the change and minimise confusion.

3.8. We intend to allow sufficient lead time for stakeholders to incorporate any revised TDCVs. We also intend to set a specific go live date for the adoption of any revised TDCVs to ensure coordination.

3.9. It is not always easy to determine whether a change in energy consumption levels over short periods of time is a permanent trend (eg cyclical effects). As such, the costs of revising TDCVs at the first sign of consumption change may outweigh the benefits if subsequent consumption reverts to trend.

Striking a balance

3.10. In order to be proportionate in our regulatory interventions, the above factors need to be considered before revising the TDCVs.

3.11. The latest consumption data shows that the general downward trend in consumption over the period 2005-08 has been maintained in recent years. Therefore, we are of the view that a revision to both the current gas and electricity TDCVs is justified. Furthermore, the changing nature of consumption suggests that further revisions may be needed in the coming years. To minimise the burden associated with TDCV changes, we are proposing a transparent framework for conducting future revisions. We discuss this in chapter 4.

Main areas impacted

3.12. One of the main areas impacted by a change in consumption figures would be typical annual bill calculations. For example, the typical annual dual fuel bill for a customer on a standard tariff[11] paying by direct debit using the proposed medium gas and electricity consumption levels of 13,500 and 3,200 kWh respectively would be around £1,129. That is £138 lower per year than the equivalent average annual bill of £1,267 calculated using current medium consumption figures (16,500 and 3,300 kWh for gas and electricity respectively).

3.13. In general, this change would not represent any actual savings for customers, as suppliers use actual consumption for billing[12]. It would simply change the estimated annual bill for a typical low, medium or high domestic customer. However, by making the estimated energy costs more representative of the actual ones for the typical customer, it could improve customer switching decisions that are triggered by an at-a-glance bill comparison based on TDCVs rather actual individual usage.

3.14. Under our Retail Market Review (RMR) proposals, suppliers would have to use the revised TDCVs to calculate the Tariff Comparison Rate for each of their tariffs, and also the estimated annual cost figure to be included on each non-personalised Tariff Information Label. So, the use of TDCVs for this purpose would be mandated, whereas today suppliers (or any other stakeholder) are not required to use them.

3.15. Regarding Ofgem's use of TDCVs, we would expect to incorporate them into any data and trend analysis we may undertake, where appropriate. In doing so, we would provide an explanation about this revision, and outline the likely impact it may have.

3.16. Our Supply Market Indicator (SMI) provides a weekly snapshot of margins on supplying an average, standard tariff customer[13]. The model behind the SMI does not use TDCVs for its calculations. It uses values[14] based on mean domestic consumption instead of the consumption of the median customer. Nonetheless, the conclusions of this review will inform the SMI's consumption assumptions.

3.17. We understand that this work may have further impacts on other stakeholders and welcome views on what these may be, as well as any thoughts on how any potential concerns may be mitigated.

[11] The standard tariff we use is the average of the six large energy suppliers' standard tariffs.
[12] Suppliers may estimate consumption for billing over shorter periods of time (eg month to month or quarter to quarter), but over the longer term they adjust bills to reflect real consumption. Depending on tariff structures, changes to TDCVs may have a greater/lesser impact on the estimated annual cost of certain tariffs.
[13] Ofgem, 'Electricity and Gas Supply Market Indicators'.
[14] 4,000 kWh for electricity and 16,900 kWh for gas.

4. Future review process

Chapter Summary

Domestic energy consumption has generally been declining since 2005. There is significant uncertainty around the future evolution of domestic energy demand. Therefore, we think there is value in explicitly establishing a framework for considering future revisions. We propose two broad options for future revisions.

Question 2: Do you agree with our recommended framework for future revisions of the TDCVs?

Trends in domestic consumption patterns

4.1. The need to revise TDCVs is driven by significant changes in overall domestic energy consumption, and also changes in the distribution of consumption among customers.

4.2. As set out in chapter 2, domestic energy consumption, especially gas, has generally been declining since 2005. This followed a longer-term trend of overall increasing consumption since the 1970s. Recent falls in domestic consumption may be the result of a combination of factors, including the increasing cost of energy, improvements in energy efficiency, and economic conditions constraining household budgets.

4.3. We expect the effect of some of the factors driving consumption to continue in the same direction over the coming years, such as ongoing improvements in energy efficiency. However, there are uncertainties, including:

- The adoption of energy efficiency measures among households and their impact the overall distribution of domestic consumption
- The degree and speed of electrification of heat and transport
- The prospects for economic growth and the impact of the state of the economy on domestic energy consumption
- The cost of energy, which is affected by several forces. The likelihood and impact of some of these forces are better known (eg costs associated with deploying renewable energy), but others are currently uncertain (eg the development of unconventional gas outside the US).

4.4. Consequently, there is significant uncertainty around the future evolution of domestic gas and electricity demand. As such, we will continue not to include projections in the options for calculating TDCVs, as set out in chapter 2. This is also a

key reason we are considering the introduction of a framework for undertaking periodic revisions of the TDCVs in future.

Future revisions of TDCVs

4.5. The TDCVs originate from a 2003 Energywatch review[15]. They remained unchanged until January 2011, when we introduced revised values following an Ofgem review in 2010, which was based on data from 2005-2008.

4.6. In our Decision Letter concluding the 2010 review, we noted that we could review the 2010 figures again if there was evidence that consumption levels had subsequently changed significantly, or that our figures were no longer representative. Given the evidence on changing consumption patterns set out above, we launched this review and propose that another revision of the TDCVs is warranted.

4.7. Both the uncertainty around future domestic energy demand and the current declining trend in consumption suggest that further revisions in the coming years may be likely. Therefore, we think there is value in explicitly establishing a transparent framework for future revisions.

4.8. Given the widespread use of TDCVs and the impacts of changing them, as set out in chapter 3, our aim is to provide a transparent framework for revising these values. The objective is to ensure TDCVs remain representative and that we minimise the burden of revisions on relevant stakeholders.

4.9. We are seeking views on the following two revision framework options:

- **Option A – status quo**: keep domestic consumption under review and consider revising the TDCVs again should consumption patterns show signs of significant change.

- **Option B – revised approach**: commit to assess domestic consumption every two years and revise TDCVs if the latest consumption data results in different TDCVs given the current rounding to the nearest 100 kWh for electricity and 500 kWh for gas.

4.10. Option A represents a continuation of the current arrangement. It is a more passive approach toward reviewing consumption compared to Option B. This arrangement has been largely fit for purpose in the past, when domestic consumption tended to be more stable than in recent years.

[15] Consumption level decision letter to Regulation Managers, Energywatch, January 2004

4.11. Under Option B we would assess consumption data on a predetermined frequency. We are proposing to assess consumption every two years. We consider that this strikes the right balance between, on the one hand, keeping TDCVs stable over a period of time to minimise the burden on stakeholders associated with revisions, and on the other hand, keeping TDCVs updated and representative of domestic consumption in an environment of changing consumption levels.

4.12. In addition, the rounding to the nearest 100 kWh for electricity and 500 kWh for gas acts as a materiality threshold, so changes in consumption that are not material enough to change TDCVs by 100 kWh for electricity or 500 kWh for gas would not lead to revisions.

4.13. The alternatives to the proposed two-year frequency of revision would be to either (1) assess consumption yearly (this is the most frequent possible as DECC only publish the relevant data annually), or (2) assess consumption less frequently. We are of the view that (1) does not meet our stability objective, while (2) is not appropriate given the observed falling consumption trends, and the uncertainty around future demand.

4.14. We consider that Option B is more appropriate for the current environment characterised by falling consumption and uncertain future demand. We welcome views on the proposed frequency of revision and the rounding values for Option B.

5. Recommendations

Chapter Summary

We recommend using consumption data from the past two years to calculate the TDCVs (Option 2). This produces new 'medium' TDCVs of 3,200 kWh for Profile Class 1 electricity customers and of 13,500 kWh for gas customers. For future revisions, we propose to assess domestic consumption every two years and revise the TDCVs if the latest consumption data results in materially different TDCVs (Option B).

Question 3: Do you agree that our proposals strike an appropriate balance between having TDCVs that are representative of current consumption and providing stability over time?

5.1. As set out in chapter 2, we recommend deriving typical low, medium and high consumption levels for gas and electricity based on averaging the two most recent years of actual consumption data (Option 2). This approach is different from the one we used in our 2010 review, where we used the average of the latest four years of data. We consider that the 2010 approach may not be as appropriate now given the past and likely future trends in electricity and gas consumption.

5.2. Table 9 shows the current and proposed values, and the impact the revised values would have on the typical gas and electricity bill.

Table 9: Proposed revised TDCVs and the impact on the typical bill

kWh	Level	Current TDCVs	Proposed TDCVs	Difference in reporting the typical bill*
Gas	Low	11,000	9,000	-£84
	Medium	16,500	13,500	-£127
	High	23,000	19,000	-£169
Electricity: Profile Class 1 (single rate meters)	Low	2,100	2,000	-£14
	Medium	3,300	3,200	-£14
	High	5,100	4,900	-£27
Electricity: Profile Class 2 (multi rate meters)	Low	2,900	2,700	-£22
	Medium	5,000	4,700	-£34
	High	8,300	7,900	-£45

* Annual bill for a typical customer on a standard tariff paying by direct debit. The standard tariff we use is the average of the six largest energy suppliers' standard tariffs.

5.3. As set out in chapter 4, we recommend going forward to assess domestic consumption every two years and revise the TDCVs if the latest consumption data results in materially different values (Option B). Material in this context means TDCVs that change by at least 100 kWh for electricity and 500 kWh for gas when rounded.

5.4. DECC publishes the relevant domestic consumption data in December each year. The data relates to the previous year (ie 2012 data will be published in December 2013). Under Option B, we would propose to assess consumption data again in early 2015, once 2012 data and 2013 data are available. This would allow a decision on whether to revise TDCVs to be reached in the first half of 2015. The process would be repeated every two years thereafter (ie data assessment and decision in the first half of 2017).

Next steps

5.5. We will consider consultation responses and aim to announce a final decision on revised TDCVs before the autumn. We propose to allow a period of around three months to give stakeholders enough lead time to implement changes. This will ensure that new TDCVs are embedded by the proposed implementation date of RMR's Tariff Comparison Rate and Tariff Information Label (31 December 2013). We propose that these new values be used from a specific date by the end of December, to be determined later this year, to ensure a coordinated approach to implementation.

Appendices

Index

Appendix 1 - Consultation response and questions

1.1. Ofgem would like to hear the views of interested parties in relation to any of the issues set out in this document. We would especially welcome responses to the specific questions which we have set out at the beginning of each chapter heading and which are replicated below.

1.2. Responses should be received by 31 July 2013 and should be sent to:

Diego Villalobos
Energy Market Monitoring and Analysis
Ofgem
9 Millbank
London
0207 901 1848
diego.villalobos@ofgem.gov.uk

1.3. Unless marked confidential, all responses will be published by placing them in Ofgem's library and on its website www.ofgem.gov.uk. Respondents may request that their response is kept confidential. Ofgem shall respect this request, subject to any obligations to disclose information, for example, under the Freedom of Information Act 2000 or the Environmental Information Regulations 2004.

1.4. Respondents who wish to have their responses remain confidential should clearly mark the document/s to that effect and include the reasons for confidentiality. It would be helpful if responses could be submitted both electronically and in writing. Respondents are asked to put any confidential material in the appendices to their responses.

1.5. Next steps: Having considered the responses to this consultation, Ofgem intends to announce a final decision on revised TDCVs before the autumn. Any questions on this document should, in the first instance, be directed to Diego Villalobos at the contact details above.

CHAPTER: Two

Question 1: Do you agree with the options presented for calculating revised TDCVs? If not, which additional options would you consider?

CHAPTER: Four

Question 2: Do you agree with our recommended framework for future revisions of the TDCVs?

CHAPTER: Five

Question 3: Do you agree that our proposals strike an appropriate balance between having TDCVs that are representative of current consumption and providing stability over time?

Appendix 2 - Data collection methodology

1.1. This appendix provides more details on the data used and the methodology used for collecting it.

1.2. The gas and electricity consumption datasets compiled by DECC are based on meter point data[16]. The gas data has been weather corrected, whilst the electricity data has not. Despite these differences, the combined gas and electricity datasets provide a good indication of overall annual household energy consumption in GB due to the robustness of the data collection and collation process. Alternative datasets eg DUKES (Digest of United Kingdom Energy Statistics) or ECUK (Energy Consumption in the United Kingdom) are only available on a UK-wide basis.

1.3. The gas dataset includes customers in GB, whose consumption is recorded on a daily basis between 1 October and 30 September. The base data consists of weather-corrected[17] annualised estimates of consumption for all meters and is obtained from Xoserve and the independent gas transporters. It does not contain a reliable profile marker to indicate whether meters relate to domestic or non-domestic consumer. DECC classifies all customers using less than 73,200 kWh per year as domestic[18].

1.4. DECC estimated that around 2 million small businesses are incorrectly classed as domestic using this cut-off threshold and a small number of larger domestic consumers are also allocated to the non-domestic sector[19]. The data excludes a considerable amount of consumption fed directly to power stations and some very large industrial customers.

1.5. The meter readings used are sometimes estimates when actual readings are not available. For example, there are regular instances where households of the same size in a particular area are given the same consumption estimate.

1.6. The domestic electricity dataset is sourced from data aggregators (on behalf of electricity suppliers) and is based on Non-Half Hourly (NHH) electricity meters with standard domestic and Economy 7-type tariffs. The automatic cut-off point for non-domestic consumption is 100,000 kWh per year. However, domestic consumers with annual consumption between 50,000 and 100,000 kWh are reallocated to the non-domestic sector if the address indicates a non-domestic location.

[16] Both datasets contain a spike in the 0-10 kWh band; this is believed to be due to vacant property and second homes. As we are interested in consumers rather than properties, these have not been taken into account.
[17] A 17 year weather correction factor is used.
[18] 73,200 kWh is the gas industry standard "Annual Quantity" cut-off point.
[19] The use of a cut off point also implies that a small number of meters can change sector from year to year.

Appendix 3 - Glossary

D

Dual fuel

A dual fuel customer is one who takes their gas and electricity supply from the same energy supplier.

M

Median

The median is the "middle number" (in a sorted list of numbers). Half the numbers in the list will be less, and half the numbers will be greater.

P

Profile Class 1 meters

Domestic electricity credit meters, or "standard meters".

Profile Class 2 meters

Two-rate or multi-rate meters (eg Economy 7, Economy 10).

S

Skewed

Skewed data is not symmetrical around the mean (as is the case with data that is normally distributed).

Standard tariff

A tariff that has the following characteristics:

- Available to all customers (online signup/account management not required)
- Available for every payment method
- Evergreen in that they have no tariff end date
- Variable prices with no fixed/capped/tracker prices
- No exit fees/penalties when you switch away to a different tariff.

T

Typical consumption

In the context of the typical domestic consumption values, a typical consumer is one whose annual consumption of electricity and gas is closer to that of a larger number of consumers than the mean consumption. We use the median (or 2nd quartile) to represent the typical 'medium' consumer/consumption, the 1st quartile to represent the 'low' consumer/consumption and the 3rd quartile to represent the 'high' consumer/consumption.

W

Weather-corrected consumption

Raw consumption data is multiplied by a weather correction factor to remove the effect that weather has on consumption. This allows for greater comparability of consumption data across a period of years.

Appendix 4 - Feedback questionnaire

1.1. Ofgem considers that consultation is at the heart of good policy development. We are keen to consider any comments or complaints about the manner in which this consultation has been conducted. In any case, we would be keen to get your answers to the following questions:

1. Do you have any comments about the overall process that was adopted for this consultation?
2. Do you have any comments about the overall tone and content of the report?
3. Was the report easy to read and understand, could it have been better written?
4. To what extent did the report's conclusions provide a balanced view?
5. To what extent did the report make reasoned recommendations for improvement?
6. Do you have any further comments?

1.2. Please send your comments to:

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Consultation Co-ordinator
Ofgem
9 Millbank
London
SW1P 3GE
andrew.macfaul@ofgem.gov.uk