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Electricity and Gas Supply Market Report

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The analysis presented in this report shows that our indicator of energy supply net margin has continued to rise over the last three months as a result of falling wholesale energy costs. We estimate that the net margin for supplying a typical standard tariff dual fuel customer is now approximately £105 per customer per year in February 2010, up from £75 in November 2009.

This is less that we projected last quarter, partly because one major supplier, British Gas, has cut their gas prices by an average of 7%. We wait to see how and whether other major suppliers respond to this move, which, if reflected across all suppliers, would offset this quarter's increase in net margin.

British Gas' price cut, and the wide range of discounted online and fixed price deals, mean that many customers can now reduce their bills significantly by switching to another supplier. Typical savings of around £100 a year are available on standard tariffs and even larger savings are available on non-standard deals.

However, Ofgem continues to have concerns about whether the retail energy supply market is yet working enough in the interests of all consumers. These concerns were first highlighted in our Energy Supply Probe, published in October 2008 and have been reinforced by subsequent developments. We have since introduced significant changes to make the market work more effectively and to protect vulnerable consumers. For example, undue price discrimination is now prohibited, and new rules are in place to govern the conduct of doorstep selling of electricity and gas.

Ofgem has today announced further changes to potentially increase competition and make the market work more effectively for consumers. We have published proposals to make it easier for small and independent suppliers to enter the market by improving their access to the wholesale market products that they need to manage price risk. Without an effective threat of new entry, energy companies may not be sufficiently incentivised to pass through reductions in wholesale prices.

In the meantime Ofgem will continue to monitor the market closely, both in terms of the pricing behaviour of suppliers and the effectiveness of our market reforms. If, at any time, we feel that the current arrangements and our proposed reforms are insufficient to protect consumers, we will not hesitate to consider further action.

Associated documents

- Energy Supply Probe — Intial Findings Report. October 2008. Reference number 140/08
  http://www.ofgem.gov.uk/MARKETS/RETMKTS/ENSUPPRO/Documents1/Energy%20Supply%20Probe%20-%20Initial%20Findings%20Report.pdf

- Quarterly Wholesale/Retail Price Report. February 2009. Reference number 15/09
  http://www.ofgem.gov.uk/MARKETS/RETMKTS/ENSUPPRO/Documents1/Wholesale%20retail%20price%20link%20report%20-%20February09.pdf

- Quarterly Wholesale/Retail Price Report. May 2009. Reference number 57/09
  http://www.ofgem.gov.uk/MARKETS/RETMKTS/ENSUPPRO/Documents1/Wholesale%20retail%20report%20-%20May.pdf

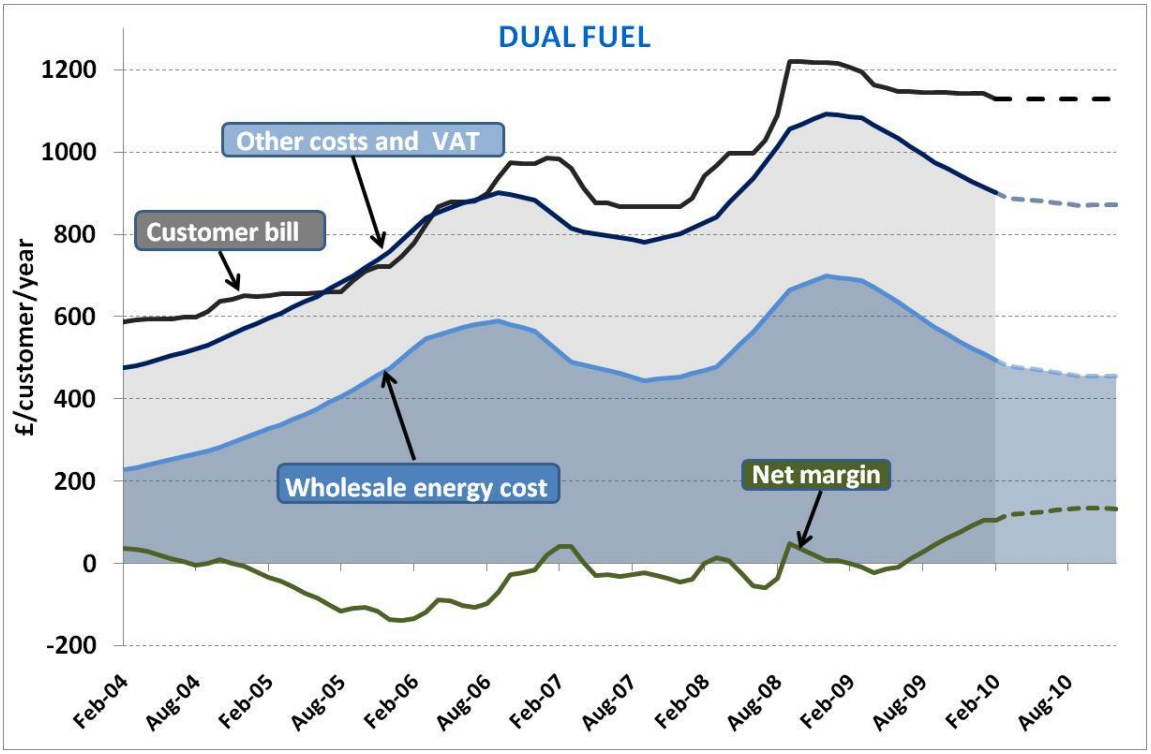
- Quarterly Wholesale/Retail Price Report. August 2009. Reference number 111/09
  http://www.ofgem.gov.uk/MARKETS/RETMKTS/ENSUPPRO/Documents1/August%20quarterly%20price%20report.pdf

- Quarterly Wholesale/Retail Price Report. December 2009. Reference number 150/09
  http://www.ofgem.gov.uk/MARKETS/RETMKTS/ENSUPPRO/Documents1/Quarterly%20Wholesale%20Retail%20Price%20Report%20November%202009.pdf

Summary

We estimate that energy supply margins have continued to rise over the past quarter. Our indicator of the net margin for supplying a standard tariff dual fuel customer is £105[1] per customer per year in February 2010 and was £75 in November 2009. This increase in the net margin is due to falling wholesale costs to suppliers, which have not been offset by falls in consumer bills, despite a recent cut to gas prices by British Gas.

Typical dual fuel customer bill, costs and net margins



[1] Note that February's figure includes the British Gas standard tariff gas price reduction, effective from 4 February 2010.

Dual fuel summary table (£/customer/year)

	Feb-2004	Feb-2006	Feb-2008	Feb-2009	Feb-2010
Customer bill	£590	£780	£940	£1205	£1130
Wholesale costs	£230	£525	£470	£690	£495
VAT and other costs	£250	£290	£360	£395	£405
Gross margins	£110	-£35	£110	£120	£225
Operating costs	£75	£100	£110	£120	£120
Implied net margins	£35	-£135	£0	£0	£105
Notes:	*Customer bill is for standard tariffs, weighted by payment method and market share. Average figures assume electricity consumption of 4MWh/yr, gas consumption of 16.9MWh/yr. Figures rounded to nearest 5 & may not sum due to rounding.*				

Our estimate of the current net margin is less than the February 2010 projection in our last report because of the British Gas price cut.[2] Our analysis indicates that without this 7% reduction to gas prices by British Gas, the net margin would have been £15 higher for the typical dual fuel customer across the industry.

We have not yet seen whether the other Big 6 companies will follow suit but, for illustration, if they were to make equivalent price cuts, the net margin would be £75, which would fully offset the increase in our estimate since November 2009. We note that energy supply companies who have purchased their energy over a longer time horizon are in a weaker position to cut prices to customers than companies using shorter hedging strategies, given recent wholesale price movements.

Impact on net margins from supplier price reductions

	Dual fuel			Gas only		
	No price reduction	**BG price reduction**	**Price reduction from all suppliers**	**No price reduction**	**BG price reduction**	**Price reduction from all suppliers**
Implied level of net margins	£120	£105	£75	£95	£80	£50
Change in net margins	£0	-£15	-£45	£0	-£15	-£45
Notes:	*Figures are for standard tariff bills for February 2010. Figures rounded to the nearest 5 and may not sum due to rounding. A uniform 7% gas price reduction is assumed where all suppliers reduce prices.*					

Customers can now save up to £100 a year on standard tariffs from switching between these energy suppliers, with even larger savings possible from moving to non-standard deals, such as online and fixed price.

In our last report, we provided analysis that showed increases in retail profits have been offset by lower generation profitability for Big 6 energy companies who are vertically integrated in electricity (see Appendix 4). This pattern of falling wholesale margins matched by rising retail margins further down the value chain is consistent with our findings in the 2008 Energy Supply Probe ("the Probe"). The Probe highlighted that the energy supply businesses of the Big 6 act as a hedge for the

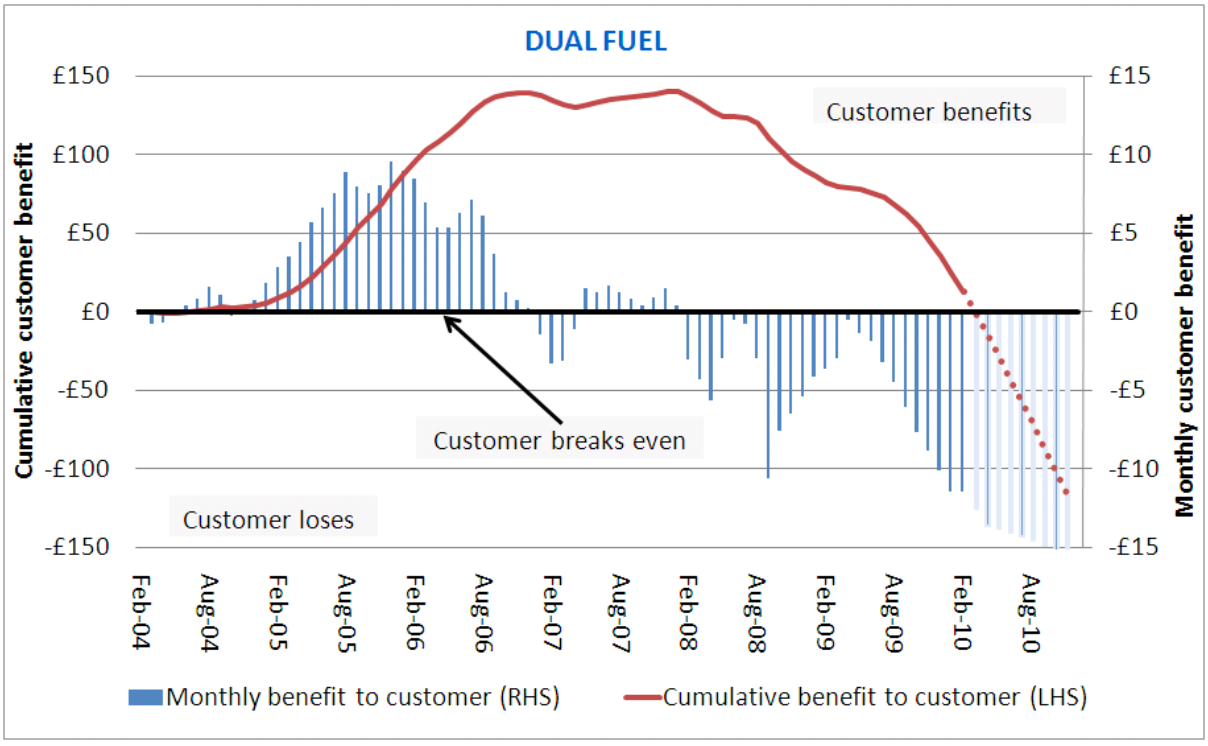
[2] The projections were based on unchanged retail and forward wholesale prices.

electricity generation business, as well as profit centres in their own right. Generally, we found that the top priority of the vertically integrated energy businesses was to deliver profits from the business as a whole and that, as part of this, suppliers accepted that changing wholesale prices may lead to profit shifting from upstream to downstream and vice versa.

As part of the Probe, we analysed suppliers' retail pricing strategies. We noted that the Big 6 suppliers' pricing patterns tracked one another closely. Information we gathered from suppliers' business plans confirmed that they pay close attention to the pricing levels of their competitors. While we found no evidence of a cartel, we noted signs of leader-follower behaviour, with British Gas frequently acting as "first mover". The pricing behaviour that we have observed in the market over recent months is consistent with these findings.

We estimate that the net margins earned on a typical dual fuel customer have averaged close to zero between 2007 and now. Our current estimates of high positive net margins follow on from estimates of low or negative net margins for the previous 3 to 4 years. In particular, a comparison of energy bills for typical customers against energy supplier costs indicates a broadly neutral effect over the period from 2004, which is illustrated below. However, this neutral effect will disappear later in 2010, and customers will lose out, if the current levels of net margins persist.

Typical dual fuel customer bill versus "tracker tariff"



Ofgem remains concerned about whether the energy supply market is working in the interests of all consumers. We continue to work on improving the market; we recently published Project Discovery and today we publish proposals for improving

wholesale market liquidity. In the meantime, Ofgem will continue to monitor the market closely and if we feel our current measures are insufficient to protect consumers, we will not hesitate to consider further action.

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Appendices

1. Customer bills, wholesale energy costs and gross margins

Gross margins in dual fuel and gas supply have reached new highs. These margins will remain high if wholesale costs to energy suppliers do not rise and/or if consumer bills do not fall.

1.1. This section shows the relationship between energy supply costs, customer bills and gross margins. Each point on the chart represents the expected cost, revenue or margin for the next year for an average dual fuel customer on a £/year basis. Wholesale costs are estimated using an 18 month hedging strategy.

1.2. This report examines the relationship between wholesale energy costs and standard tariff energy bills for a typical customer. It provides an indicator of margins from supplying energy to a typical customer, rather than estimating energy supply company profits. The analysis in this report is not based on accounting information provided to us by companies about their margins, which we expect to receive in autumn this year. Instead, it has been carried out by Ofgem based on information from publicly available sources as well as information gathered as part of the Energy Supply Probe in 2008. Please see Appendix 5 for more details about our assumptions. We welcome feedback on our methodology as well as our findings. In particular, we welcomed the responses to our previous report. Key changes since the last report are an updated average gas consumption figure and the inclusion of electricity shaping costs in the wholesale energy cost.

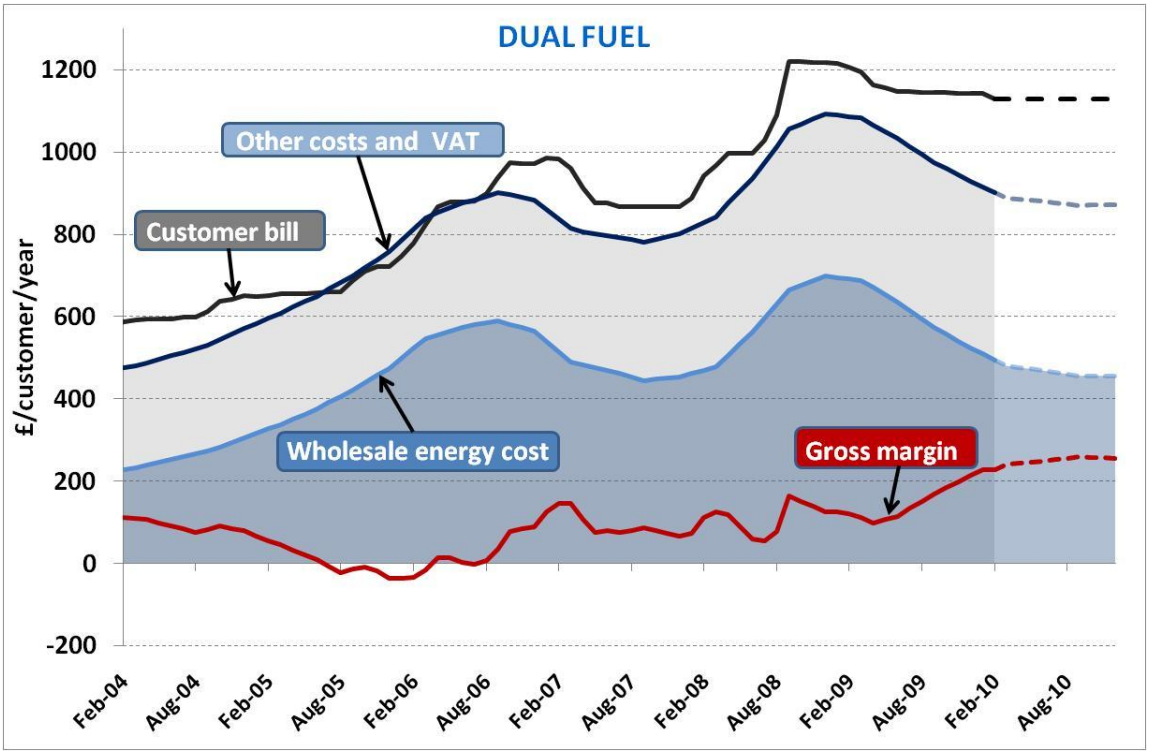
1.3. Our updated assumed consumption levels are based on average domestic consumption data from DECC *Energy Trends*[3]. We assume gas consumption of 16.9MWh compared to a figure of 18.2MWh that we used in previous reports. The consumption figure for electricity remains at 4MWh. This change to our methodology reflects feedback we have received to previous reports that we ought to reflect the declining trend in domestic average gas consumption since 2005. For simplicity, we keep consumption constant at this new lower level across all periods of analysis.

1.4. In each of the charts in this section, the average customer bill is represented by the black line. Wholesale costs are represented by the blue shaded area. 'Other costs', such as network costs and environmental charges, and VAT, are represented by the grey shaded area. The area between the customer bill and combined wholesale and other costs represents gross margins (which includes profits and operating costs). Gross margins are also represented by the red line.

1.5. Figure 1.1 shows that the estimated gross margin on supplying a typical dual fuel customer, for the year from February 2010 has risen to £225, up from £200 in November.

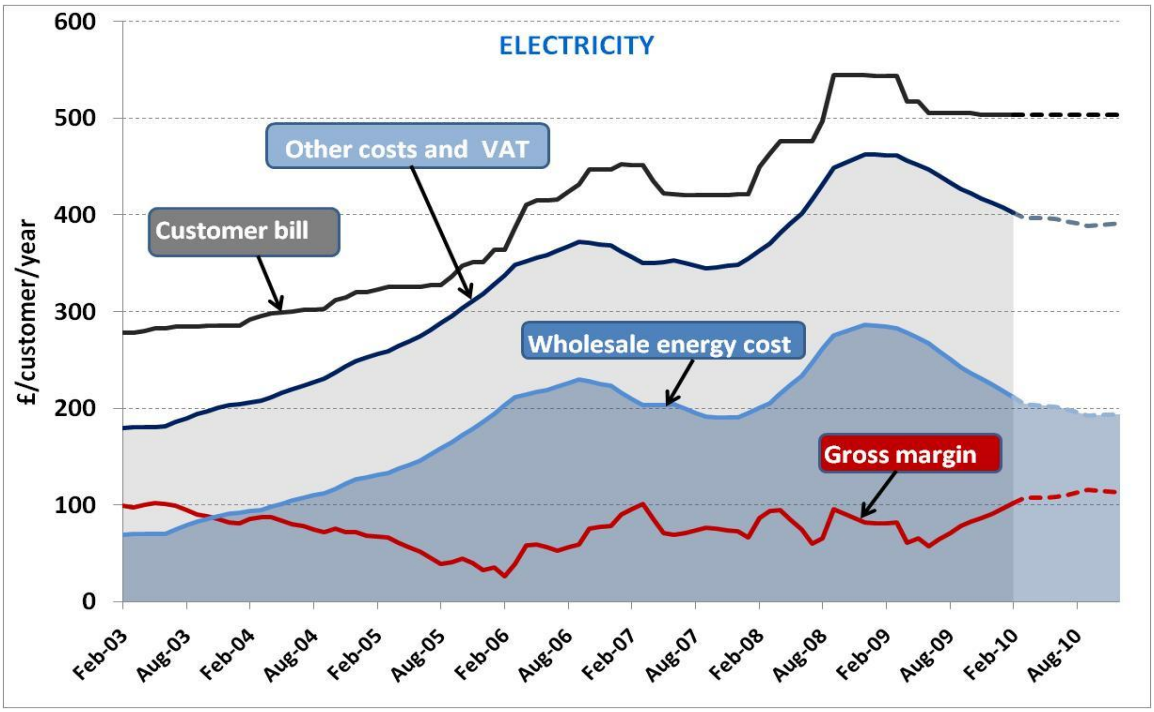
[3] http://www.decc.gov.uk/en/content/cms/statistics/publications/trends/trends.aspx

Figure 1.1: Typical dual fuel customer bill, costs and gross margins



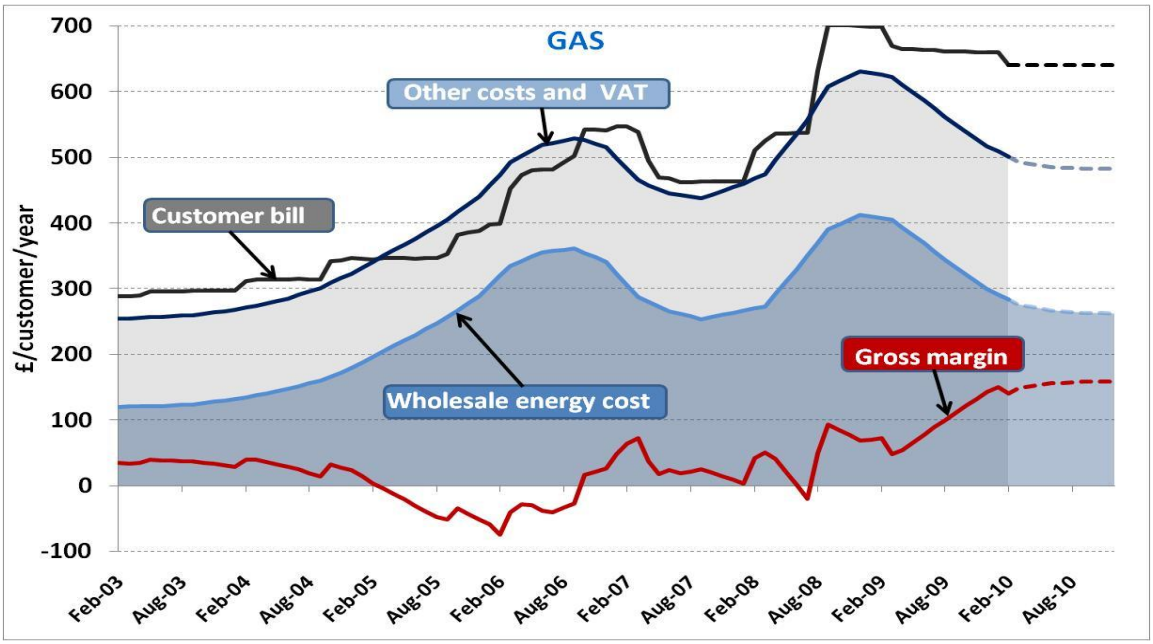
1.6. If retail prices remain unchanged, the gross margin looks set to remain at a high level. Wholesale costs, as estimated by an 18 month hedging strategy, have fallen over the last year, as the share of electricity and gas purchased in advance during more expensive months is gradually reduced. If retail prices do not fall, these lower costs will be reflected in higher margins. Please see Appendix 5 for a description of how we estimate an 18 month hedging strategy.

Figure 1.2: Typical electricity customer bill, costs and gross margins



1.7. Figure 1.2 shows the same chart for a typical stand-alone electricity account. Wholesale energy costs have fallen, which has led to a rise in gross margins over the last quarter to an estimated £100 per customer per year. Electricity supply costs are set to increase from April this year, due to increased network costs. This increase in costs slightly offsets the lower wholesale electricity costs we estimate suppliers face.

Figure 1.3: Typical gas customer bill, costs and gross margins



1.8. Figure 1.3 shows our analysis for a typical standalone gas account. It shows that the gross margin in the year from February is estimated to be £140 per customer. This has increased over the last year to new high levels, which partly reflects falling costs and partly a rebalancing between gas and electricity in response to the remedies arising from the Energy Supply Probe. The chart shows that if retail bills remain unchanged, the gross margin looks set to remain at high levels.

1.9. Our analysis indicates that the gross margin in energy supply is currently greater in gas than in electricity (see Figures 2.2 to 2.4), which offers a potential explanation of why British Gas has reduced the prices of their standard tariff gas bills.

2. Operating costs and net margins

Our analysis of net margins shows companies make an estimated profit of about £105 on a typical dual fuel customer per year. However, over the last three years, net margins have averaged close to zero and were sometimes negative.

2.1. The supplier operating cost estimates used in this net margins analysis are based on information gathered through the Energy Supply Probe for 2005-2007, with some adjustments for subsequent developments, although there is uncertainty around how these costs have changed. Operating costs include staff costs, IT costs and overheads. They also include discretionary elements (such as marketing) and bad debts costs, and we have made assumptions about how these have been affected by the current economic downturn. Please refer to Appendix 5 for further details on how we have calculated net margins.

Figure 2.1: Typical dual fuel customer bill, costs and net margins

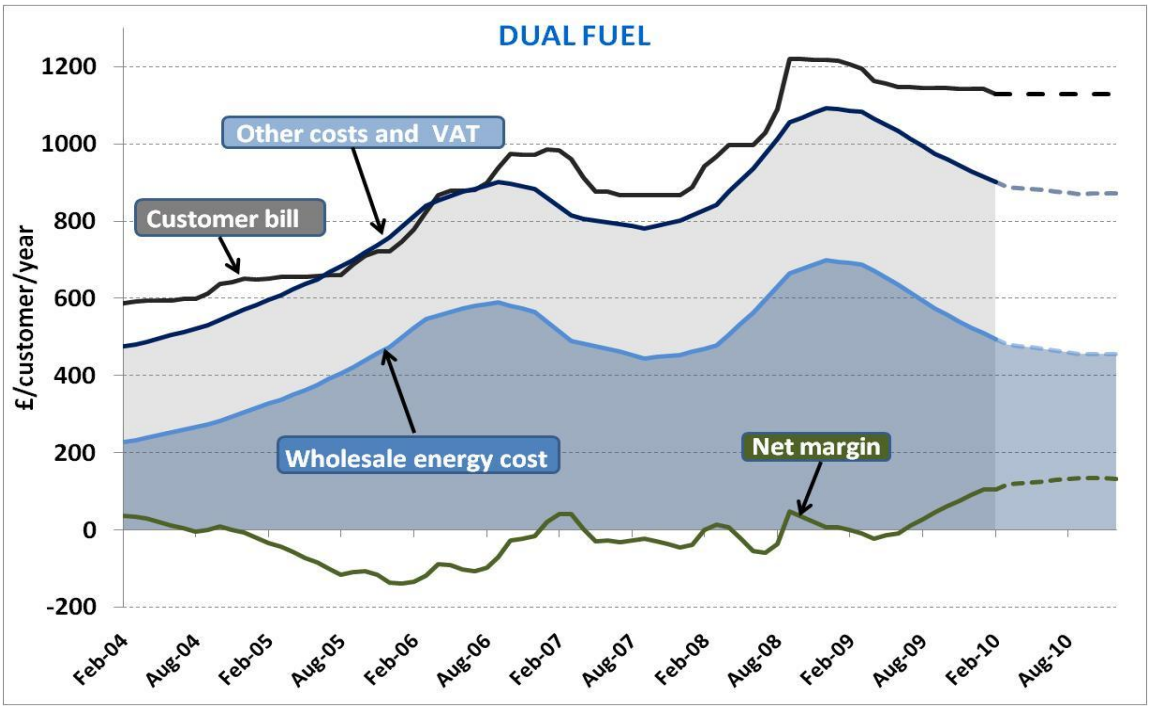


Figure 2.2: Dual fuel summary table (£/customer/year)

	Feb-2009	May-2009	Aug-2009	Nov-2009	Feb-2010
Customer bill	£1205	£1155	£1145	£1140	£1130
Wholesale costs	£690	£655	£595	£540	£495
VAT and other costs	£395	£395	£400	£405	£405
Gross margins	£120	£110	£150	£200	£225
Operating costs	£120	£120	£120	£120	£120
Implied net margins	£0	-£15	£25	£75	£105
Notes:	*Customer bill is for standard tariffs, weighted by payment method and market share. Average figures assume electricity consumption of 4MWh/yr, gas consumption of 16.9MWh/yr. Figures rounded to nearest 5 & may not sum due to rounding.*				

Figure 2.3: Electricity summary table (£/customer/year)

	Feb-09	May-09	Aug-09	Nov-09	Feb-10
Customer bill	£545	£515	£505	£505	£505
Wholesale costs	£285	£270	£250	£230	£210
VAT and other costs	£180	£180	£185	£185	£190
Gross margins	£80	£65	£70	£85	£100
Operating costs	£60	£60	£60	£60	£60
Implied net margins	£20	£5	£10	£25	£40
Notes:	*Customer bill is for standard tariffs, weighted by payment method and market share. Average figures assume electricity consumption of 4MWh/yr. Figures rounded to nearest 5 & may not sum due to rounding.*				

Figure 2.4: Gas summary table (£/customer/year)

	Feb-09	May-09	Aug-09	Nov-09	Feb-10
Customer bill	£700	£665	£660	£660	£640
Wholesale costs	£410	£380	£345	£310	£285
VAT and other costs	£220	£215	£220	£220	£215
Gross margins	£75	£65	£100	£130	£140
Operating costs	£60	£60	£60	£60	£60
Implied net margins	£15	£5	£35	£70	£80
Notes:	*Customer bill is for standard tariffs, weighted by payment method and market share. Average figures assume gas consumption of 16.9MWh/yr. Figures rounded to nearest 5 & may not sum due to rounding.*				

3. Additional analysis: impact of price cuts, hedging strategy sensitivity and effect of lower gas consumption

The British Gas price cut has reduced average margins on supplying a typical customer by £15. Net margins would have fallen by £45 if other energy supply companies had followed suit, which represents an additional reduction of £30 on current levels.

Net margins depend on how suppliers purchase energy in advance, or their hedging strategy. Our sensitivity analysis shows that differences in hedging strategies will mean that some companies are in a better position to cut prices than others.

Impact of price cuts on consumer bills

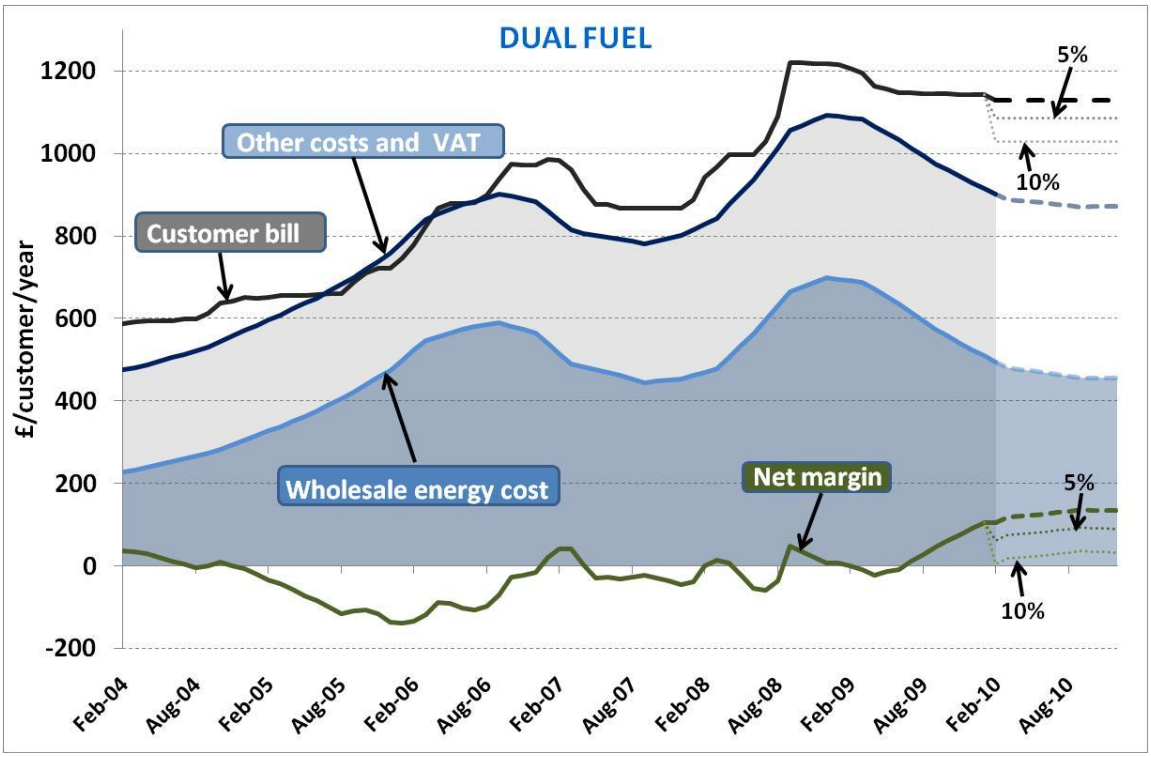
Figure 3.1: Impact on net margins from supplier price reductions

	Dual fuel			Gas only		
	No price reduction	**BG price reduction**	**Price reduction from all suppliers**	**No price reduction**	**BG price reduction**	**Price reduction from all suppliers**
Implied level of net margins	£120	£105	£75	£95	£80	£50
Change in net margins	£0	-£15	-£45	£0	-£15	-£45
Notes:	*Figures are for standard tariff bills for February 2010. Figures rounded to the nearest 5 and may not sum due to rounding. A uniform 7% gas price reduction is assumed where all suppliers reduce prices.*					

3.1. The above table sets out the impact on net margins from different supplier price cuts, compared to a situation in which no supplier had reduced their prices. Without British Gas' recent price cut, net margins would be £15 higher for the typical dual fuel customer than in our latest estimate. We have not yet seen whether the other Big 6 companies will follow suit but, for illustration, if they were to make equivalent price cuts, the overall net margins would fall by an additional £30 compared to current levels, which is a £45 reduction compared to the situation in which British Gas had not made their cuts to gas prices[4].

[4] Our methodology means a reduction in customer bills feeds directly through into reduced net margins i.e. a £15 reduction in consumer bills reduces net margins by £15. See Appendix 5 for further details.

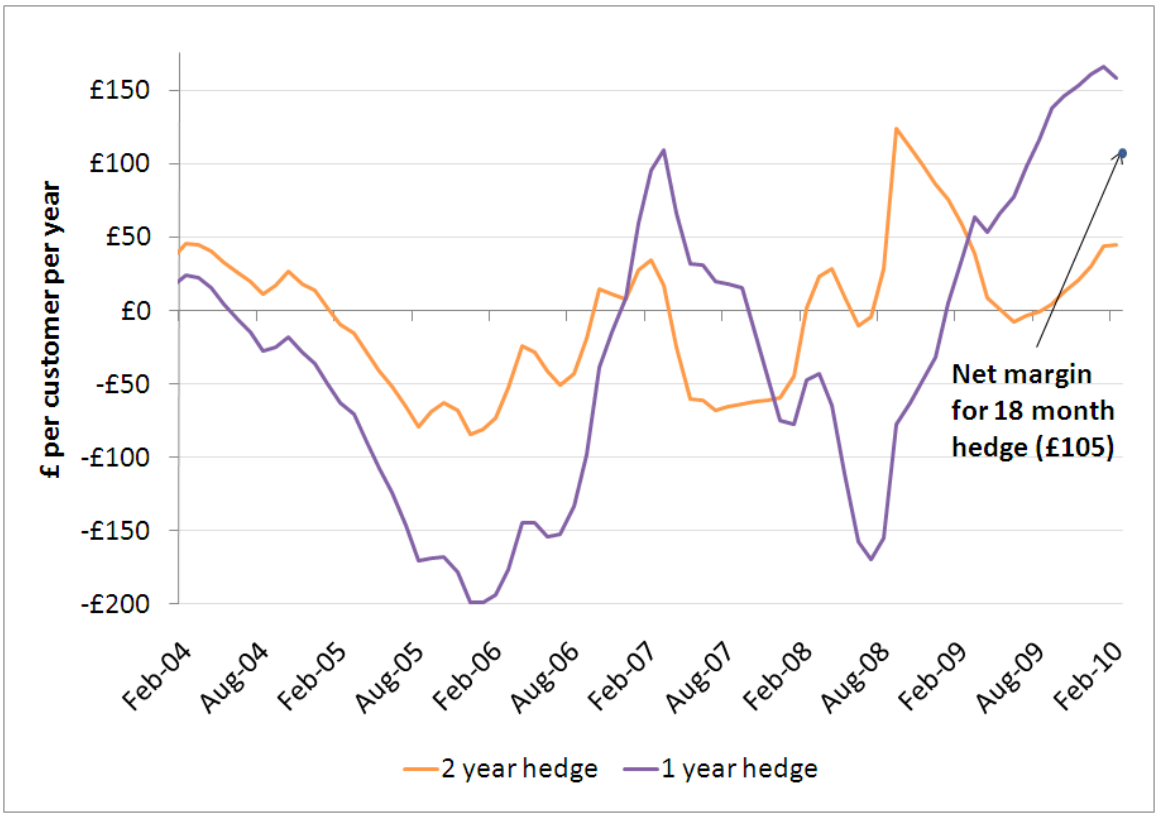
Figure 3.2: Indicative impact on net margins from all suppliers reducing their overall dual fuel prices by 5% and 10%



3.2. For illustration, Figure 3.2 shows the impact on net margins if all suppliers reduce their dual fuel bills by either 5% or 10%. The chart illustrates that net margins reduce but are still positive under the 5% price cuts scenario. With 10% price cuts, net margins fall to approximately zero. Note that the recent British Gas price cuts are equivalent to a 4% reduction to their dual fuel customer bills (7% for gas only customers). The 5% and 10% figures are for illustrative purposes only, and do not represent our expectations of price cuts.

Hedging strategy sensitivity

Figure 3.3: Sensitivity of dual fuel net margins to different hedging strategies



3.3. Figure 3.3 illustrates how net margins depend on a supplier's hedging strategy. The analysis throughout this report assumes an 18 month hedging strategy. However, to show the impact of changing this assumption, the above chart shows net margins for dual fuel under both the shortest (12 month) and longest (2 year) of the 4 hedging strategies detailed in Appendix 2.

3.4. Note that suppliers use a range of hedging strategies and can change their approach through time. The choice of strategies used for illustration purposes here are informed by data collected in the Energy Supply Probe. Our assumptions about hedging strategy choices are intended to be representative for industry as a whole rather than for individual firms.

3.5. The chart shows that net margins are more volatile if suppliers choose a shorter hedging strategy, which reflects the more volatile wholesale prices that suppliers face if they buy their energy requirements over a shorter period. At present, net margins are currently highest with a 12 month hedging strategy. However, under this strategy, a firm would have faced larger negative net margins in 2006 and 2008.

3.6. A longer hedging strategy reduces the volatility in the wholesale energy prices that suppliers face, which has the effect of reducing the volatility of the net margins. Net margins peaked in late summer 2008 under a 2 year hedging strategy, as customer bill increases outstripped wholesale energy cost rises under this strategy. Although net margins have yet to increase to levels seen over this period, they are currently projected to continue to rise as the electricity and gas purchased in advance during more expensive months is gradually reduced.

Effect of lower gas consumption

3.7. As noted, in this report we have updated our assumption for average gas consumption. Figure 3.4 shows the impact on consumer bills from revising our annual gas consumption assumptions from 18.2MWh to 16.9MWh per customer. The table shows that our revised gas consumption assumption reduces net and gross margins by about £10 for typical dual fuel and gas only customer bills. Margins are lower because the reduction in the customer bill outweighs the reduction in costs, which contain fixed elements. If suppliers did not anticipate lower consumption, then they may incur additional costs from selling back their excess energy requirements, purchased at times of higher prices.

Figure 3.4: Impact of revised gas consumption figures on consumer bills and margins, February 2010

	Dual fuel			Gas only		
	Previous (18.2MWh)	Updated (16.9MWh)	Difference	Previous (18.2MWh)	Updated (16.9MWh)	Difference
Customer bill	£1,170	£1,130	£40	£680	£640	£40
Wholesale costs	£515	£495	£20	£305	£285	£20
VAT and other costs	£420	£405	£15	£230	£215	£15
Gross margin	£235	£225	£10	£150	£140	£10
Operating costs	£120	£120	£0	£60	£60	£0
Implied net margins	£115	£105	£10	£90	£80	£10
Notes:	*Figures are for standard tariff bills for February 2010, assuming 4MWh electricity consumption in a dual fuel bill. Figures rounded to the nearest 5 & may not sum due to rounding.*					

Ofgem retail market monitoring work

3.8. When Ofgem published its Energy Supply Probe decisions and related licence modifications last year, we provided some details of our proposals for expanded, ongoing monitoring of the Probe remedies. We also committed to set out in more detail how we plan to monitor supplier performance against the Standards of Conduct. We intend to publish a Probe follow-up document shortly, updating stakeholders on our monitoring activities, with a particular focus on what we have observed since the introduction of the Undue Discrimination licence conditions in September of last year. This document will be the first of a series, each focussing on particular aspects of the Probe remedies. In parallel, we will consider whether what we observe from any of our monitoring activities raises any questions regarding compliance.

3.9. We note that there are substantial savings available to customers who switch and that many customers have already done so. For example, more than five million customers switched electricity supplier in the 12 months to November 2009. Our Energy Supply Probe found that the vast majority who switch do so in search of more competitive deals. A key goal of our Probe remedies package is to help ensure that customers make effective switching decisions.

Appendices

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Appendix 1 - Feedback 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.

1.2. Feedback should be received by 5 April 2010 and should be sent to:

Ed Harris
Energy Economics
9 Millbank
London
SW1P 3GE
020 7901 7348
Ed.Harris@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.

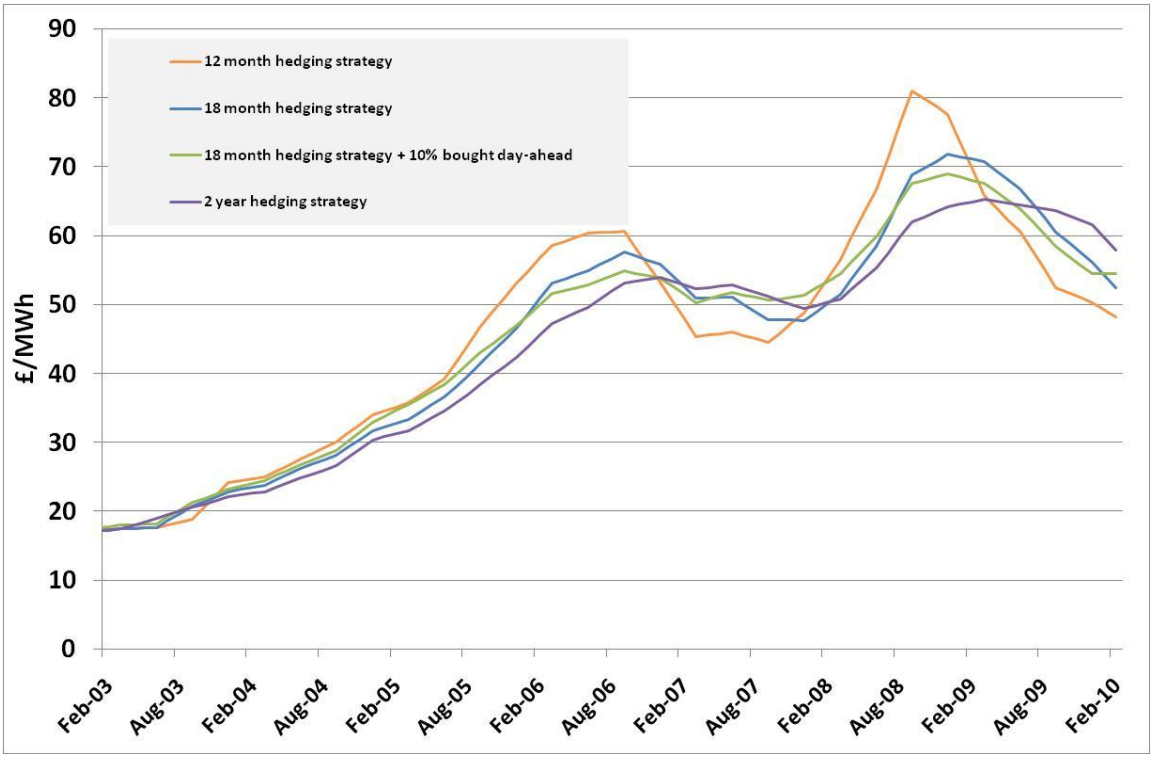
1.4. Respondents who wish to have their responses remain confidential should clearly mark the document/s to that effect and include the reasons for confidentiality. It would be helpful if responses could be submitted both electronically and in writing. Respondents are asked to put any confidential material in the appendices to their responses. Having considered the responses to this consultation, Ofgem intends to incorporate them in its next edition of this report.

1.5. Any questions on this document should, in the first instance, be directed to Ed Harris, whose contact details are given above.

Appendix 2 – Hedging strategies

1.1. Suppliers use a range of hedging strategies and can change their approach through time. This section compares the cost to a supplier of adopting different wholesale energy hedging strategies. The strategies are informed by information collected in the Energy Supply Probe. Note these strategies are intended to represent the industry as a whole rather than particular firms. Please refer to Appendix 5 for an explanation of the methodology.

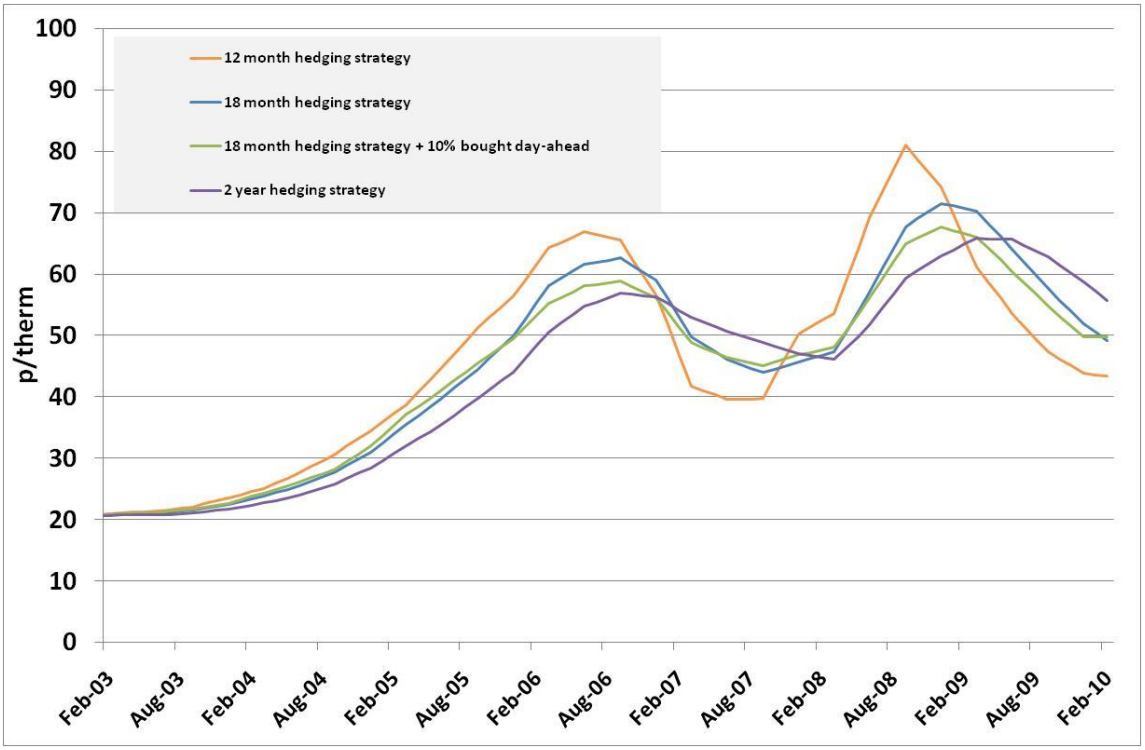
Figure 4.1: Electricity hedging strategies



1.2. Figure 4.1 shows that wholesale costs have come down over the last year, as measured by all four of the hedging strategies analysed. The average decrease has been over £15/MWh, or just over £60 per customer bill.

1.3. The largest fall in the last 6 months is with an 18 month hedging strategy, where wholesale costs have fallen by nearly 20%. In the 2 year hedging strategy wholesale costs have fallen by 10% in the last 6 months. This slower decline is because more electricity was purchased at times of high prices.

Figure 4.2: Gas hedging strategies



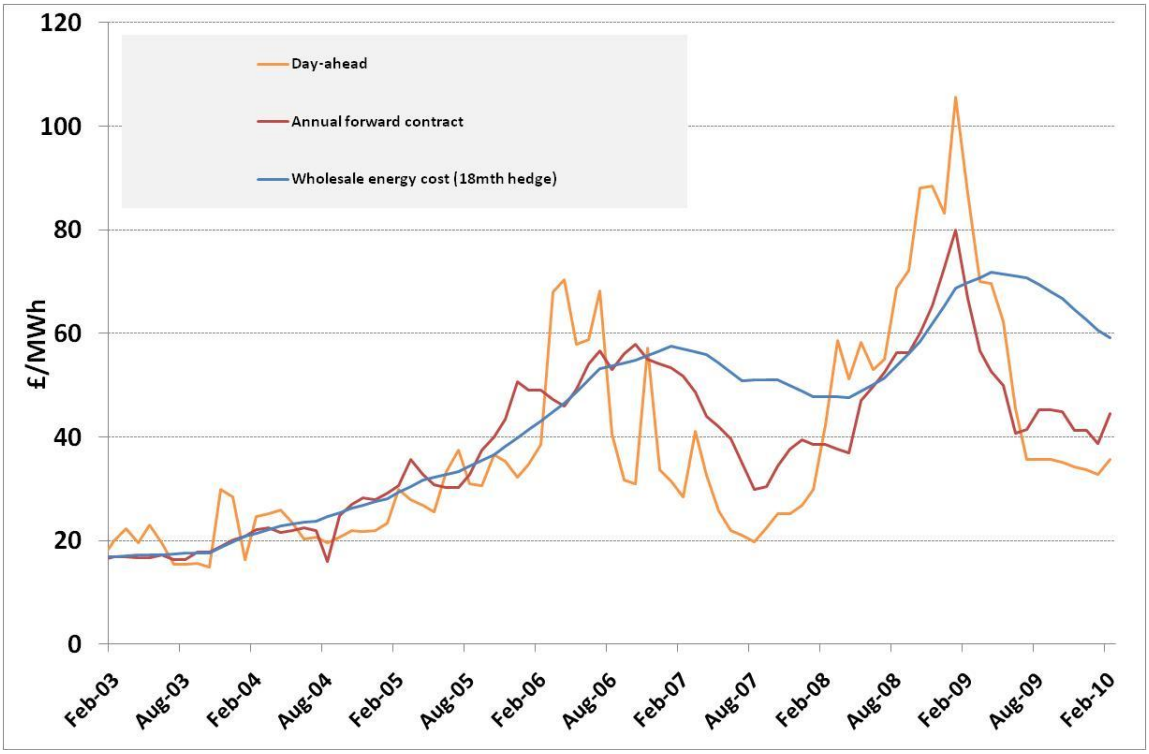
1.4. Figure 4.2 shows that wholesale costs have come down over the last year, as measured by all four of the hedging strategies. The average decrease has been nearly 17p/th, or almost £100 per customer bill.

1.5. The 12 month hedged cost has shown the largest decrease with costs falling 50% in the last year, compared against a 2 year strategy where wholesale costs have fallen by less than 16% over the same period.

Appendix 3 – Wholesale prices and wholesale costs

1.1. This section illustrates the relationship between the price of wholesale products and estimated wholesale costs[5]. It shows the extent of variation in wholesale prices and how suppliers can smooth costs by hedging. The charts compare day-ahead and annual forward products with our wholesale cost estimate based on an 18 month hedging strategy. Please refer to Appendix 5 for an explanation of the methodology.

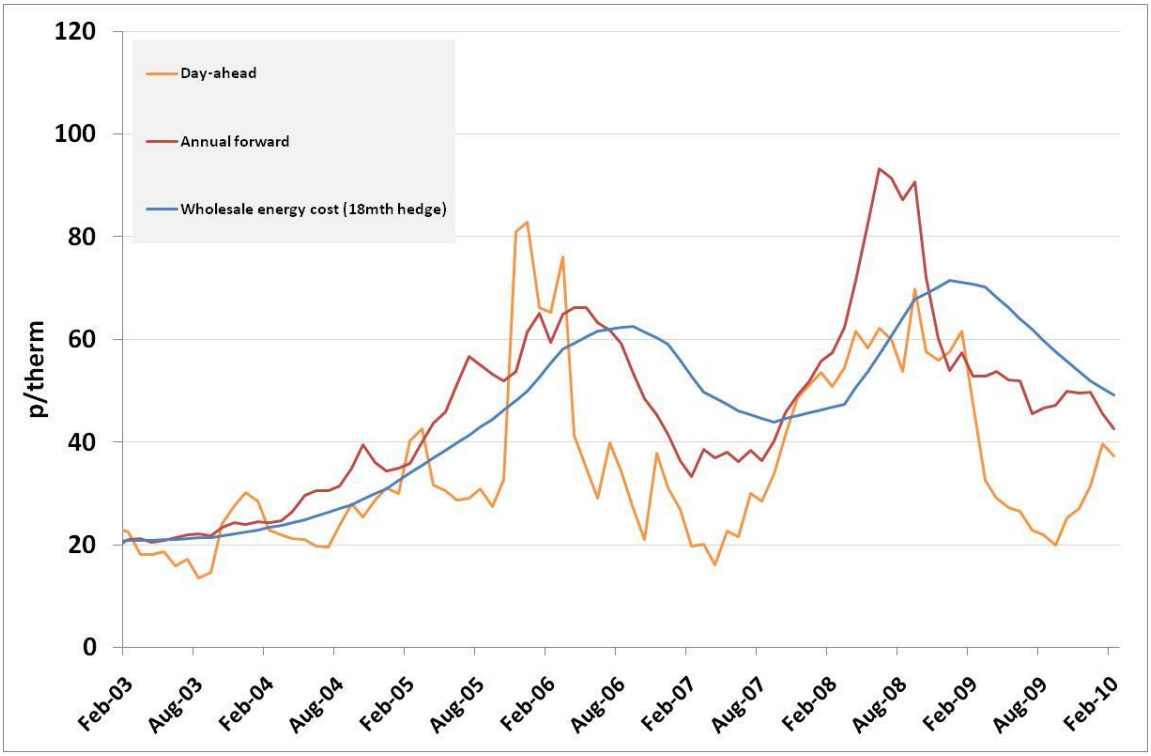
Figure 4.3: Electricity forward prices vs. 18 month hedge



1.2. Figures 4.3 and 4.4 illustrate the relationship between wholesale prices (wholesale prompt and annual forward prices) from January 2003 to November 2009, and hedged wholesale cost based on an 18 month hedging strategy.

[5] Wholesale product prices are based on quoted prices in Heren's EDEM and ESGM reports.

Figure 4.4: Gas forward prices vs. 18 month hedge

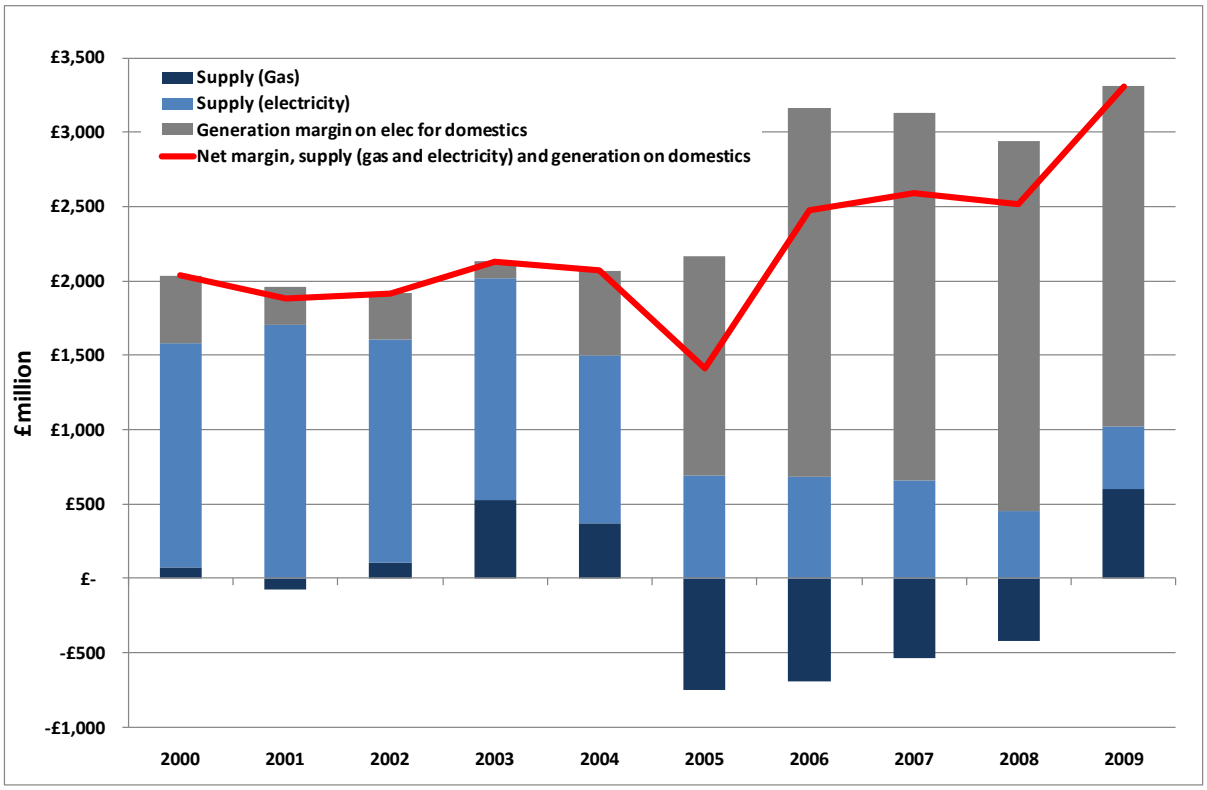


1.3. Hedged wholesale costs are much less volatile than wholesale prices, illustrating the reduction in risk to which suppliers are exposed when they hedge through purchasing their energy requirement in advance.

1.4. Figures 4.3 and 4.4 also illustrate the lag between wholesale price changes and changes in suppliers' forward energy costs. A longer hedging period leads to a greater lag between wholesale market prices and supplier energy costs.

Appendix 4 – Value chain analysis

Figure 4.5: Value chain profitability in domestic energy supply and power generation



1.1. Figure 4.5 illustrates how profitability has changed through the value chain for the supply of electricity and gas to the domestic sector. It updates the analysis presented in the Energy Supply Probe and published in the last Report. It is not based on accounting information provided to us by companies about their margins. The analysis draws on publically available data supplemented with information received during the Energy Supply Probe from the Big 6 and our own assumptions. Please refer to Appendix 5 for further details.

1.2. We have updated the 2009 values from the value chain analysis published in the last report, based on new information. Figure 4.6 shows the changes to our figures for 2009. Our updated analysis indicates that electricity and gas supply margins for 2009 were lower than we estimated in the last report, whereas generation margins were higher.

1.3. The chart shows that estimated retail margins were materially higher during the period 2000-2004. This was due to a period of lower and more stable wholesale prices, and had the effect of reducing generation profits. As wholesale electricity and gas prices increased, supply margins were squeezed with negative net margins in gas and significantly reduced electricity margins although this was more than offset by higher margins in generation. The negative margins observed in the gas market

may have been due to suppliers seeking to acquire customers and recovering margins from their generation business and electricity customers.

1.4. Figure 4.5 shows that overall net margins (as shown by the red line) is estimated to be the highest since the start of the decade in 2009. It also shows the significant increase in gas profitability in 2009 consistent with the analysis presented above. Although overall profit levels have increased over the period, this is against the background of a significant investment in the capital base of the sector, particularly in renewable energy, but also in new gas generation and the refurbishment and clean-up of older coal capacity. Figure 4.7 shows data for spot years of the value chain analysis, as displayed in Figure 4.5.

1.5. It is important to note that the generation margins are based on the average for all generators in the industry (rather than just for integrated generators), scaled to meet the requirement of the residential sector. In addition, generators' revenue is based on prices they would be expected to earn in the market given typical observed forward selling behaviour.

Figure 4.6: Net margins on domestic supply and generation, 2009 figures (£ million)

	December QPR	February QPR	Difference
Gas supply margin	£650	£605	-£45
Electricity supply margin	£495	£415	-£80
Generation margin	£1,870	£2,290	£420
Total net margin	£3,015	£3,310	£295

Figure 4.7: Net margins on domestic supply and generation (£ million)

	2000	2003	2006	2009
Gas supply margin	£75	£525	-£690	£605
Electricity supply margin	£1,505	£1,490	£680	£415
Generation margin	£455	£115	£2,480	£2,290
Total net margin	£2,035	£2,130	£2,470	£3,310

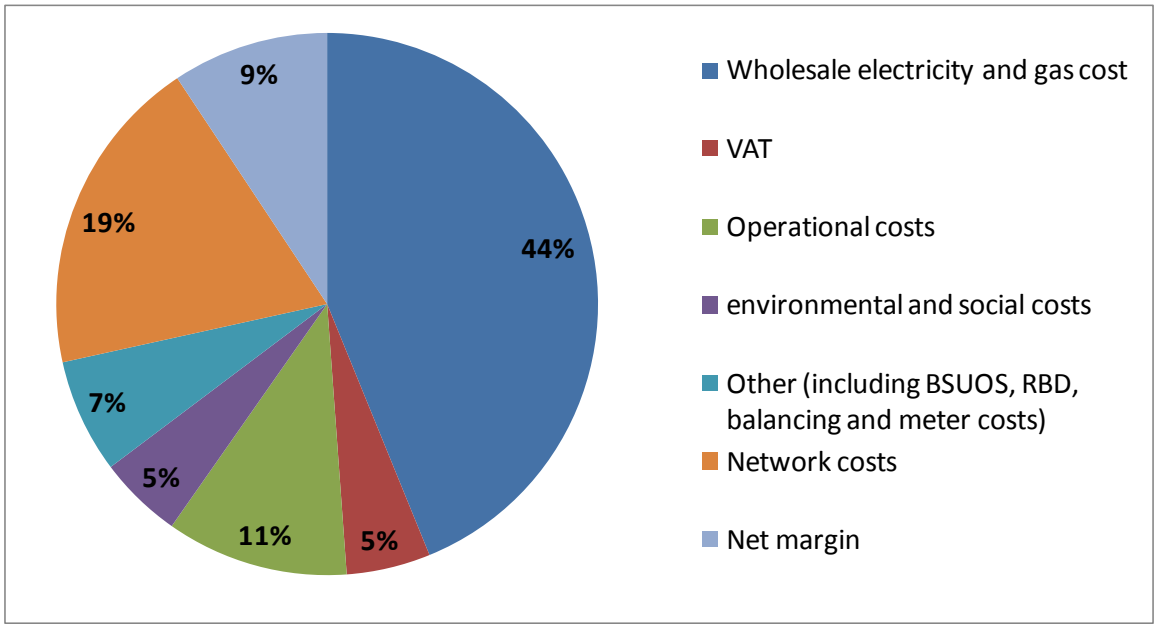
Appendix 5 – Methodology

1.1. This section provides a detailed description of the methodology Ofgem has used for the analysis in this report. It describes the following data used in this report:

- Consumption levels;
- Average customer bill;
- Wholesale energy cost;
- Other supply costs (including network, environmental and some meter costs);
- Gross margins (which includes profits and operating costs); and
- Net margins.

1.2. Prices and costs are calculated at an average consumption of 4MWh of electricity per annum and 16.9MWh of gas per annum for this report. This reflects data from DECC's *Energy Trends*, December 2009 publication. While these differ from the figures Ofgem currently uses, this does not represent a change in Ofgem's standard consumption figures (used for example in our 'Energy bills explained' factsheets). Ofgem is currently undertaking a review of these standard consumption levels and will consult on any proposed changes.

Figure 4.8: Illustrative breakdown of typical dual fuel customer bill



Average customer bill

1.3. The average customer bill is an estimate of the average cost paid by UK retail energy customers on standard tariffs. All price changes up to 11th February have been included.

1.4. The average customer bill in the report is constructed using monthly prices charged by the Big 6 companies and those of suppliers bought by, or merged with, the Big 6[6]. Each supplier's standard regional tariffs are averaged to give a national average price for each payment method. These national averages are weighted by the proportion of customers on each payment method and weighted by the market share of each company.

1.5. We haven't taken into account the impact of discounted and fixed price tariffs as we are carrying out the analysis from the perspective of a typical customer – and standard tariffs remain the most popular tariff form. We are not trying to model supply business profits.

Wholesale energy costs

1.6. The proportion of a customer's final energy bill which is accounted for by wholesale costs varies between suppliers and over time with changing wholesale costs and other costs. Historically, on average across the industry wholesale costs account for around 60 per cent of a customer's energy bill.[7]

1.7. Wholesale prices can be volatile. Suppliers therefore buy much of their energy requirement ahead of delivery (hedging), to reduce the effect of large changes in wholesale price. This helps suppliers to smooth costs and provides them with more certainty over future costs. Wholesale prices on any given day are therefore not a good indicator of suppliers' wholesale costs, nor are short term products such as within-day or day-ahead products. Note that we use wholesale energy price data up until 9th February.

1.8. We therefore estimate the relationship between wholesale prices and suppliers' wholesale energy costs. Our analysis is based on forward looking wholesale cost; in other words it estimates the expected cost of supplying energy to a customer for the next year at each point in time, based on pricing information available at that time. Costs are based on buying seasonal and quarterly products in electricity and gas respectively.

[6] Source:www.TheEnergyShop.com
[7] This varies by fuel, supplier, hedge strategy, region, consumption and other factors.

1.9. We have estimated costs based on a range of different hedging strategies. These strategies draw on information provided to us as part of the Energy Supply Probe. Our model shows what we believe are generally representative wholesale costs across the industry. However, it is important to note that hedging strategies vary between suppliers and suppliers may change their strategies over time in reaction to market conditions.

1.10. Firms operate a range of trading strategies, including purchasing energy internally and on long-term contracts. By using market-based prices to estimate wholesale costs, we are pricing energy at the price which firms are able to sell the energy at on the wholesale market[8].

1.11. Actual weighted average cost of electricity and gas could be different from this if companies purchase energy internally from their upstream generation business at a price different from the prevailing market price. Any margins made on energy bought below market prices would mean equivalently lower margins in the generation business. To improve transparency on margins, the Big 6 companies will be providing accounts setting out net margins in supply business from autumn 2010.

1.12. In Appendix 2 we present costs based on four different hedging strategies. In the report we choose a central hedging strategy where costs are based on firms starting to purchase energy 18 months ahead of time t, and have bought all their energy requirements for the year ahead at time t. Figures 4.1 and 4.2 show how wholesale costs vary with alternative hedging strategies. The alternative hedging strategies are:

- Firms starting to purchase energy 12 months ahead of time t;
- Firms starting to purchase energy 2 years ahead of time t; and
- Firms starting to purchase energy 18 months ahead of time t, but only hedging 90% with the remaining 10% purchased day-ahead.

1.13. Prices are weighted to take account of seasonal consumption trends (by quarter for gas and by season for electricity). For electricity, wholesale costs include both losses and shaping costs. Wholesale energy cost is calculated by averaging forward electricity and gas product prices over the buying period, assuming a constant rate of purchase.

1.14. The wholesale cost model calculates wholesale costs on a quarterly basis, which are then converted into a monthly series by taking a straight line average between quarterly points.

[8] Formally this is known as an opportunity cost methodology.

Other supply costs

1.15. The components of other supply costs are network charges (transmission and distribution), balancing costs, RBD costs, environmental costs (Energy Efficiency Commitment – EEC, Community Energy Savings Programme -CESP, Carbon Emissions Reduction Target – CERT, and Renewable Obligation Certificates – ROCs), other direct costs such as social tariffs and VAT. Note that electricity losses and shaping costs are included within the wholesale cost.

1.16. Other costs as the expected costs over the next year. This means for example, that suppliers' costs for the year from February 2009 take into account the DCPR5 distribution charge changes introduced from April 2010.

Gross Margins

1.17. Gross margins are calculated as the difference between the average customer bill and the sum of wholesale costs and other supply costs. In addition to operating profit, gross margins include suppliers' operating costs such as customer service staffing, IT, marketing, billing and bad debt costs.

1.18. The analysis in the Energy Supply Probe – Initial Findings Report is at a net margins level i.e. supplier's own internal operating costs were deducted and the net margins therefore equated to supplier profit.

Net margins

1.19. The net margins is calculated as the difference between the average customer bill and the sum of wholesale costs, other supply costs (as defined above) and operating costs. Operating costs include customer service staffing, IT, marketing, billing and bad debt costs.

1.20. Detailed operating cost data were collected from the Big 6 as part of the Energy Supply Probe for the period 2005 to 2007. The data has been updated based on a range of sources including publically available information and data provided to Ofgem on a bilateral basis by the companies. This includes updated information on the evolution of bad debt costs.

1.21. It is important to recognise that the net margins calculations are inherently more uncertain than the gross margins calculations where network, fuel and environmental costs account for the majority of total suppliers' costs. We have had to use a range of assumptions to derive the figures for recent years where certain cost data items are not available to us. The key assumption here is that where updated operating cost information is not available, it is assumed that costs increase in line with changes in previous years. We have also equalised the operating cost data between electricity and gas

Value chain analysis

1.22. The value chain analysis uses data from a number of sources to estimate retail and generation margins for the Big 6 suppliers.

1.23. Generation and retail consumption data is based on DUKES, National Grid, company sources and data collected during the Energy Supply Probe. The generation profits are based on the average for all generation in the industry, scaled to meet the requirement of the residential sector. It is not intended to be an accurate reflection of the profitability of generation owned by the Big 6 or total profitability in the GB generation market.

1.24. Generation input pricing data is based on data from DUKES, whilst generation revenue data is based on prices generators would be expected to earn in the market given typical observed forward selling behaviour. Carbon costs are calculated based on market data whilst operating costs are based on internal data and our own calculations.

1.25. Supplier wholesale energy costs are based on data from publically available sources and our 18 month hedging model with costs, adjusted using data obtained during the Energy Supply Probe.

1.26. Supply revenue is calculated by using the average price of standard tariffs offered by the Big 6, weighted by both the market share of the Big 6 and the number of customers on each payment method (DD, SC, PPM). Revenue is calculated for gas, electricity, electricity (economy 7) and dual fuel based on customer number and consumption data from publically available sources, Ofgem data and data obtained during the Energy Supply Probe. Analysis does not include non-standard tariffs such as fixed price, online or green tariffs.

1.27. Network, metering and environmental costs are based on publically available data and data obtained during the Energy Supply Probe. Operating cost data is based on information obtained during the probe for the period 2005 - 2007. Where possible the key cost components have been updated based on a range of assumptions and sources including publically available information and data provided to Ofgem on a bilateral basis by the companies.

Figure 4.9: Summary of changes since the last report

Updates	Source
Electricity shaping costs now reflected in the wholesale price	Ofgem analysis
ROC prices updated	Ofgem
BSUOS forecasts for 10/11 now factored in	National Grid
Consumption figures updated (16.9MWh gas, 4MWh electricity)	DECC Energy trends, December 09
CERT assumptions updated to include pahse 3 forecasts	DECC CERT extension consultation, December '09

Appendix 6 – The Authority's powers and duties

1.1. Ofgem is the Office of Gas and Electricity Markets which supports the Gas and Electricity Markets Authority ("the Authority"), the regulator of the gas and electricity industries in Great Britain. This Appendix summarises the primary powers and duties of the Authority. It is not comprehensive and is not a substitute to reference to the relevant legal instruments (including, but not limited to, those referred to below).

1.2. The Authority's powers and duties are largely provided for in statute, principally the Gas Act 1986, the Electricity Act 1989, the Utilities Act 2000, the Competition Act 1998, the Enterprise Act 2002 and the Energy Act 2004, as well as arising from directly effective European Community legislation. References to the Gas Act and the Electricity Act in this Appendix are to Part 1 of each of those Acts.[9]

1.3. Duties and functions relating to gas are set out in the Gas Act and those relating to electricity are set out in the Electricity Act. This Appendix must be read accordingly[10].

1.4. The Authority's principal objective when carrying out certain of its functions under each of the Gas Act and the Electricity Act is to protect the interests of existing and future consumers, wherever appropriate by promoting effective competition between persons engaged in, or in commercial activities connected with, the shipping, transportation or supply of gas conveyed through pipes, and the generation, transmission, distribution or supply of electricity or the provision or use of electricity interconnectors.

1.5. The Authority must when carrying out those functions have regard to:

- the need to secure that, so far as it is economical to meet them, all reasonable demands in Great Britain for gas conveyed through pipes are met;
- the need to secure that all reasonable demands for electricity are met;
- the need to secure that licence holders are able to finance the activities which are the subject of obligations on them[11];
- the need to contribute to the achievement of sustainable development; and
- the interests of individuals who are disabled or chronically sick, of pensionable age, with low incomes, or residing in rural areas.[12]

[9] Entitled "Gas Supply" and "Electricity Supply" respectively.
[10] However, in exercising a function under the Electricity Act the Authority may have regard to the interests of consumers in relation to gas conveyed through pipes and vice versa in the case of it exercising a function under the Gas Act.
[11] Under the Gas Act and the Utilities Act, in the case of Gas Act functions, or the Electricity Act, the Utilities Act and certain parts of the Energy Act in the case of Electricity Act functions.
[12] The Authority may have regard to other descriptions of consumers.

1.6. Subject to the above, the Authority is required to carry out the functions referred to in the manner which it considers is best calculated to:

- promote efficiency and economy on the part of those licensed[13] under the relevant Act and the efficient use of gas conveyed through pipes and electricity conveyed by distribution systems or transmission systems;
- protect the public from dangers arising from the conveyance of gas through pipes or the use of gas conveyed through pipes and from the generation, transmission, distribution or supply of electricity; and
- secure a diverse and viable long-term energy supply.

1.7. In carrying out the functions referred to, the Authority must also have regard, to:

- the effect on the environment of activities connected with the conveyance of gas through pipes or with the generation, transmission, distribution or supply of electricity;
- the principles under which regulatory activities should be transparent, accountable, proportionate, consistent and targeted only at cases in which action is needed and any other principles that appear to it to represent the best regulatory practice; and
- certain statutory guidance on social and environmental matters issued by the Secretary of State.

1.8. The Authority has powers under the Competition Act to investigate suspected anti-competitive activity and take action for breaches of the prohibitions in the legislation in respect of the gas and electricity sectors in Great Britain and is a designated National Competition Authority under the EC Modernisation Regulation[14] and therefore part of the European Competition Network. The Authority also has concurrent powers with the Office of Fair Trading in respect of market investigation references to the Competition Commission.

[13] or persons authorised by exemptions to carry on any activity.
[14] Council Regulation (EC) 1/2003

Appendix 7 - Feedback questionnaire

1.1. We are keen to consider any comments or complaints. In particular, we would be keen to get your answers to the following questions:

1. Do you have any comments about the overall process?
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. Please add any further comments?

1.2. Please send your comments to:

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