Quarterly Wholesale/Retail Price Report

August 2009

This is the third edition of the quarterly report. Its purpose is to provide information on the relationship between wholesale energy costs and retail energy prices. It is not intended to be used as a guide to customers as to which supplier, payment method, product or tariff they should choose. A range of information is available for this, from switching sites, Consumer Focus and suppliers themselves.

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1. Summary and overview

Summary

1.1 Based on an 18 month hedging strategy for the purchase of wholesale energy, our estimates of suppliers' expected gross margin on supplying a customer over the next year are around £170 for a dual fuel customer. This compares against a historic average gross margin of around £110 over the last 3 years for dual fuel. It should be noted that gross margin includes profit and supplier operating costs such as staffing, sales, marketing and IT costs. It also includes costs such as bad debt costs and social tariff provision which are likely to have risen recently.

1.2 Our analysis shows that based on an 18 month hedging strategy and assuming that retail prices remain unchanged, projected gross margin is set to increase by around £80 for dual fuel customers over the next 6 months. The picture changes somewhat over a 12 month horizon, since wholesale energy costs in our model start increasing again from the second quarter of next year, implying an increase in gross margin of about £30 in 12 months time. It is also important to note that suppliers face rising costs in the future, from higher network charges as well as environmental costs.

1.3 There has been some debate about the appropriate level of consumption on which to base gross margin estimates. Recently published data on domestic annual gas consumption from Centrica shows a 20% decline in household consumption over the last 5 years. This would have the effect of making gross margin £13 per customer per year lower in August than if our standard consumption level was assumed.

Overview

1.4 In October 2008 Ofgem published the *Energy Supply Probe – Initial Findings Report* which included analysis on the relationship between the wholesale energy costs faced by suppliers and retail prices faced by customers.[1]

1.5 Wholesale energy costs account for the majority of customers' bills – around 60%. Wholesale energy prices are volatile and vary depending on market conditions and the season, which if fed through immediately to customers would mean volatile bills that change seasonally. However, firms incur costs when they change prices and customers are likely to have a preference for some stability. To reduce the risk of large and frequent changes in suppliers' costs and consumers' bills, suppliers buy a large proportion of their energy requirement in advance of use (generally referred to as hedging). This means suppliers can set more stable retail prices.

[1] Chapter 7 "Company behaviour", Appendix 5 "Wholesale costs and retail prices"

1.6 As noted above, suppliers also face a wide range of other costs, not related to wholesale cost. Many of these, such as the cost of environmental commitments and network charges, are outside of their control and are passed on directly to consumers' bills. These have increased from £335 to £360 for a dual fuel customer over the last year and now make up approximately 30% of the customer bill.

1.7 Some other supplier costs have been increasing for instance providing social tariffs. There is also evidence that an increasing number of customers are finding it difficult to pay their bills as a result of the current economic climate. The costs to suppliers of servicing and recovering bad debt may therefore increase, which could put further upward pressure on customer bills in the future.

1.8 We wrote to suppliers telling them they owe it to their customers to better explain their pricing position to them. The responses to this letter have been published alongside this report today.

Notes

1.9 The aim of the report is not to forecast when or by how much retail prices may change. These decisions are for individual suppliers to make based on a wide range of factors including competition. As with the previous editions of this report, our analysis looks at the relationship between wholesale and retail prices over time for the electricity and gas industry as a whole, rather than for particular firms or individual customers.

1.10 Gross margin includes profit and supplier operating costs such as staffing, sales, marketing and IT costs, which are within a supplier's control. It excludes costs which are beyond suppliers' control (and are therefore passed on directly to customers) such as environmental charges and network costs. These are referred to as 'other supply costs' in our methodology.

1.11 Ofgem publishes this report on a quarterly basis. In addition, when appropriate, we may publish the report and related information outside of this time scale.

1.12 Whilst every effort has been made to ensure the accuracy of the data contained within this report, Ofgem does not provide any warranty regarding, or accept any responsibility for, the accuracy, completeness or otherwise of the information contained within this report. Furthermore Ofgem does not accept any liability for any loss or damage, howsoever caused, arising from the use of or reliance on any information or opinion contained within this report, including but not limited to any possible errors, omissions or misleading or inaccurate statements.

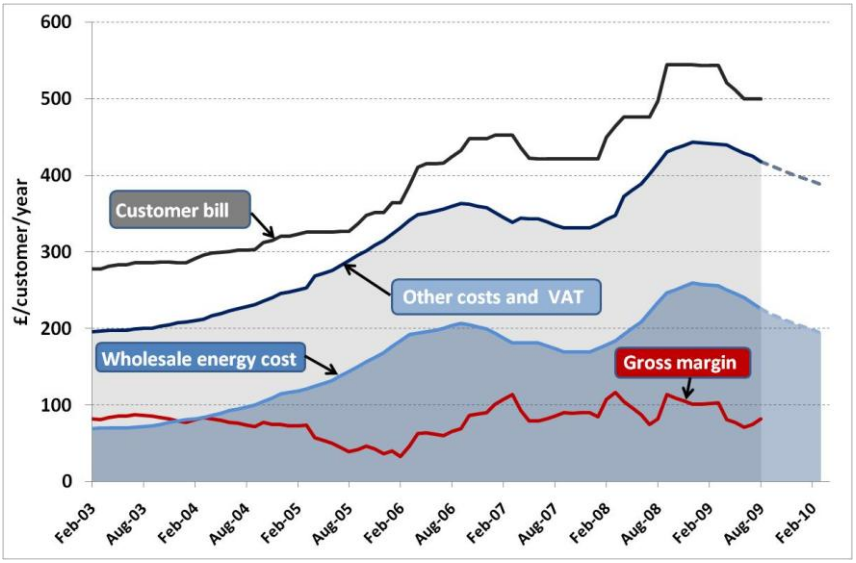
1.13 We welcome any suggestions on how this report could be improved or comments on our methodology. Please contact Ofgem press office on 0207 901 7225 / 7217 for media enquires, or for all other enquiries Ed Harris at ed.harris@ofgem.gov.uk.

2. Customer bills, wholesale energy costs and gross margin

This section estimates the relationship between customer bills and wholesale energy costs (assuming suppliers start buying wholesale energy 18 months ahead). Gross margin in August 2009 is estimated to be around £80 and £110 per customer per year for electricity and gas respectively. Gross margin for dual fuel customers is estimated to be about £170 per customer per year. Table 2.4 shows a breakdown of the data for Aug 09 of the charts in sections two and three.

2.1 In figures 2.1-2.3 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 remaining area between the customer bill and combined wholesale and other costs represents gross margin (which includes profits and operating costs). Gross margin is also represented by the red line.[2]

Fig 2.1: Electricity customer bill, wholesale cost and margin



Electricity

Figure 2.1 illustrates that based on an 18 month hedging strategy, gross margin has risen slightly in the last quarter to just over £80 per customer per year – although gross margin is lower than 6 months ago.

Estimated wholesale costs have fallen in the last 6 months, although other costs such as network charges have risen.

Figure 2.1 shows that the wholesale energy costs faced by suppliers are projected to decrease by nearly £30 over the next 6 months, equivalent to 6% of the customer bill. If retail prices do not change, these lower costs will be reflected in higher gross margin. Over a 12 month horizon the fall in wholesale costs is around £25 (see figure 5.1).

[2] All figures are based on data to 28 August 2009.

Fig 2.2: Gas customer bill, wholesale cost and margin

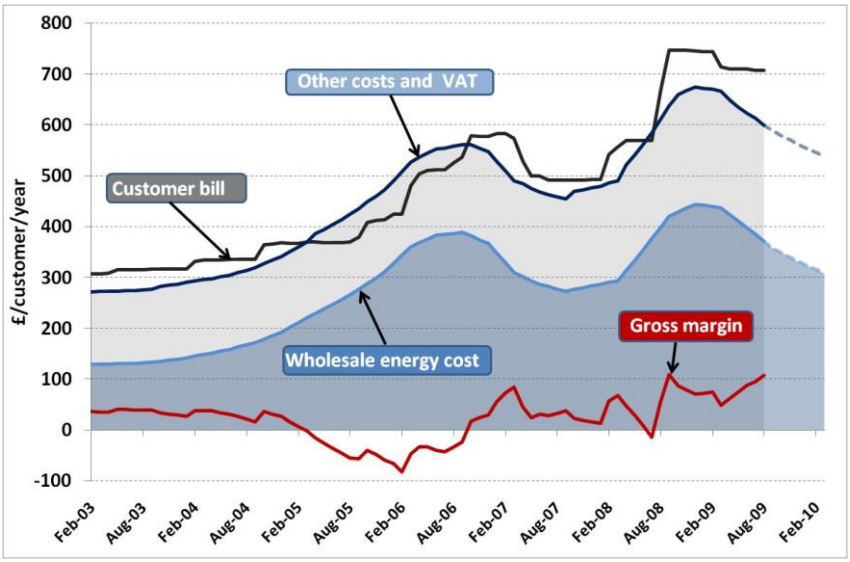
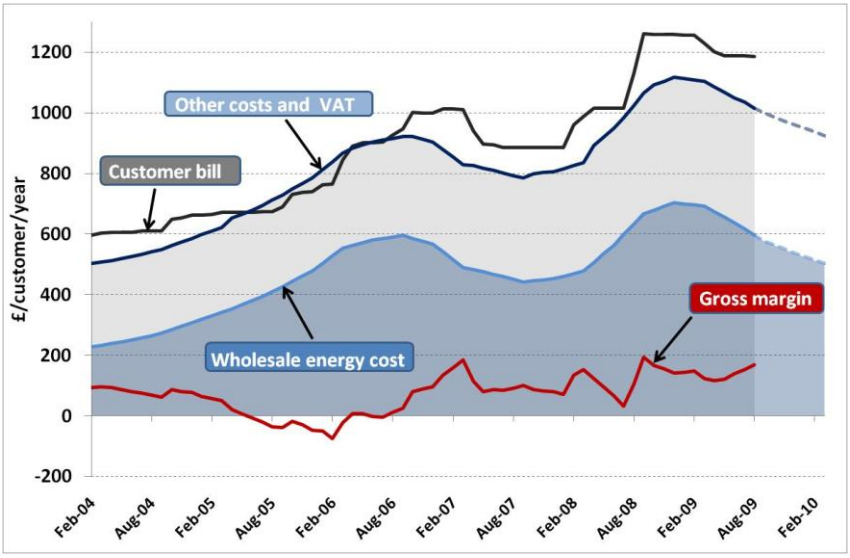


Fig 2.3: Dual fuel customer bill, wholesale cost and margin



Gas

Figure 2.2 shows that based on our assumed 18 month hedging strategy, the gross margin is about £110 per customer per year. This has increased over the last 6 months up to broadly the same level observed a year ago.

Figure 2.2 shows that the wholesale costs suppliers face for gas are projected to decrease by £55 over the next 6 months, equivalent to 8% of the customer bill. This occurs as the gas purchased in advance during more expensive months is gradually reduced. If retail prices do not change, these lower costs will be reflected in higher gross margin. Over a 12 month horizon wholesale costs are estimated to decrease by less, at around £40 (see figure 5.2).

Figure 2.3 shows that based on our assumed 18 month hedging strategy, the gross margin is £170 per customer per year.

Wholesale costs suppliers face for dual fuel are projected to decrease by around £85 over the next 6 months, equivalent to 7% of the customer bill. Over a 12 month horizon, the estimated fall in wholesale costs is about £65. This is because estimated wholesale costs start rising again from the second quarter of next year.

Table 2.4: August 2009 figures (£/customer/year)

	Customer bill	Wholesale costs	VAT and other costs	Gross margin
Electricity	500	226	192	82
Gas	707	371	228	108
Dual fuel	1186	597	419	169
Gas lower user	407	184	151	73
Gas Higher user	943	510	285	148
Electricity lower user	287	113	136	38
Electricity Higher user	685	311	224	150
Notes:	*Customer bill is weighted by payment method and market share.* *Average figures assume electricity consumption of 4MWh/yr, gas consumption of 18.2MWh/yr. Low figures assume electricity consumption of 2MWh/yr, gas consumption of 9MWh/yr. High figures assume electricity consumption of 5.5MWh/yr, gas consumption of 25MWh/yr.*			

3. Low and high use customer bills

Energy consumption, particularly in gas, has been declining in recent years due to improvements in efficiency and possibly due to the recession. This indicates that holding consumption at a constant level over time could lead to an over-estimation of gross margin. This section therefore looks at how gross margin varies with consumption. The first chart shows gross margin for high and low electricity users, with the second chart showing gross margin for high and low gas users. Please refer to 6.2 for the definition of assumed user levels.

Fig 3.1: Electricity high and low use customer bill and margin

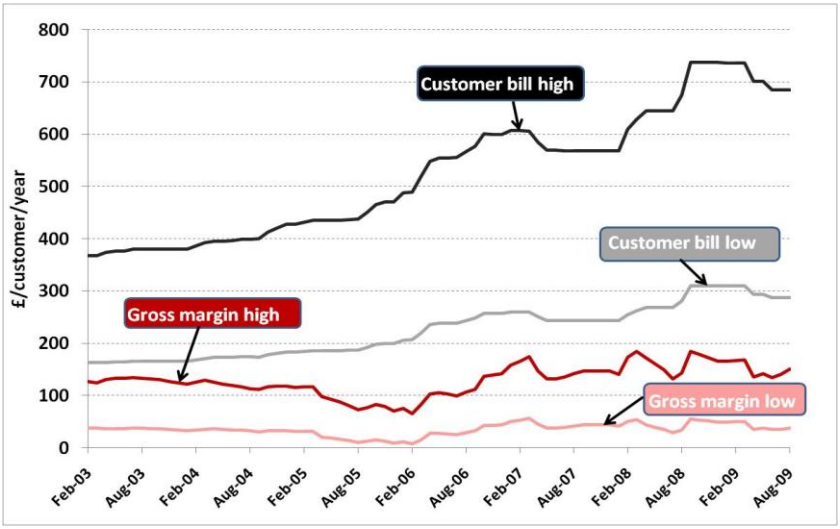
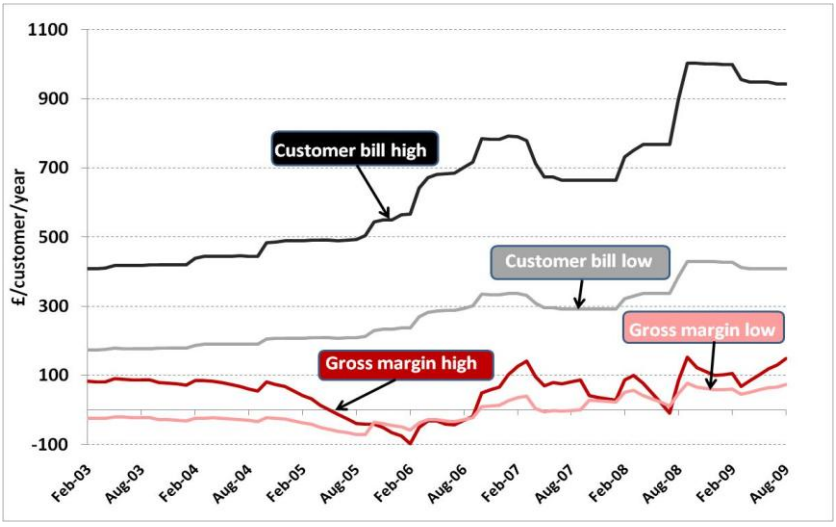


Fig 3.2: Gas high and low use customer bill and margin



High and low use electricity

Figure 3.1 shows that the gross margin for high use customers (5.5MWh/year) is currently £150, whilst the gross margin for low use customers (2MWh/year), is less than £40 based on an 18 month hedging strategy.

High and low use gas

Figure 3.2 shows that gross margin for high use customers (25MWh/year) is just below £150, whilst gross margin for low use customers (9MWh/year) is just over £70, based on an 18 month hedging strategy.

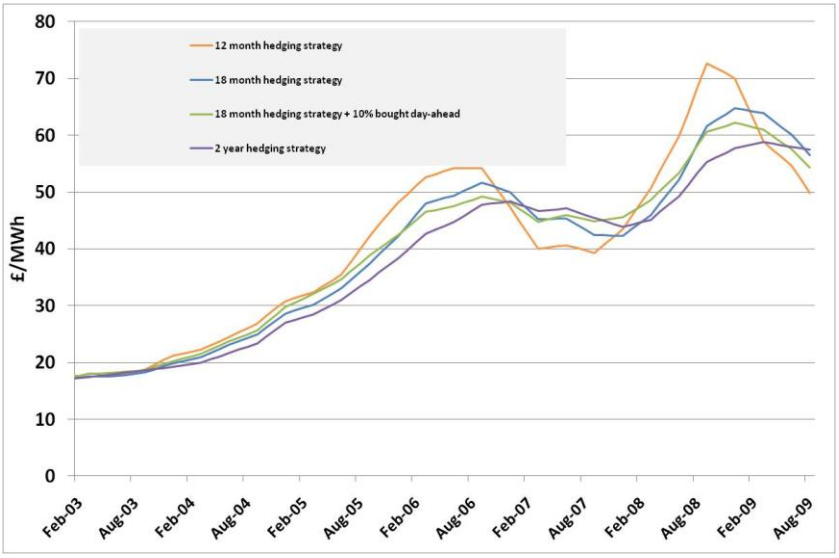
The most recent annual household consumption figure published by Centrica for gas[4] was 15.5MWh/yr, compared to our standard assumption of 18.2MWh/year used in this report. Centrica's figures show a 20% decline from 5 years ago. Gross margin for August, using Centrica's consumption level, is estimated to be £95 per customer per year, or £13 lower than gross margin derived with our standard consumption level.

[4] For electricity, Centrica's published 2008/09 household consumption figure is 3.9MWh – as such there is a minimal difference in gross margin compared against our standard assumption of 4MWh.

4. Hedging strategies

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 representative for industry as a whole rather than particular firms. Please refer to section 6 for an explanation of the methodology.

Fig 4.1: Wholesale Electricity costs under different hedging strategies

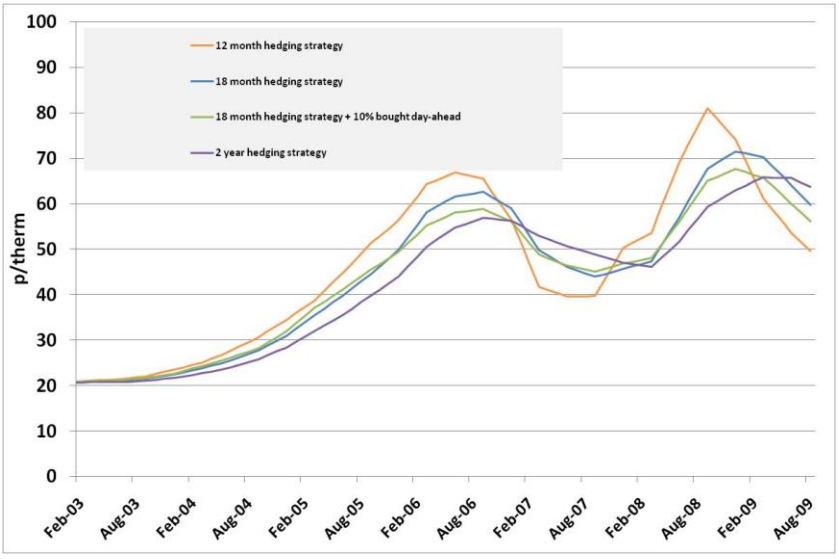


Electricity

Figure 4.1 shows that wholesale costs have come down over the last 6 months, as measured by all four of the hedging strategies analysed. The average decrease has been over £7/MWh, or £29 per customer bill.

The largest fall in the last 6 months is with a 12 month hedging strategy, where wholesale costs have fallen by over 20%. In the 2 year hedging strategy wholesale costs have fallen by less than 2% since the last quarter. This is because more electricity was purchased at times of high prices.

Fig 4.2: Wholesale Gas costs under different hedging strategies



Gas

Figure 4.2 shows that wholesale costs have come down over the last 6 months, as measured by all four of the hedging strategies. The average decrease has been nearly 10p/th, or £59 per customer bill.

The 12 month hedged cost has shown the largest decrease with costs falling 24% in the last 6 months, compared against a 2 year strategy where wholesale costs have fallen by less than 2% over the same period.

5. Wholesale prices and wholesale costs

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 section 6 for an explanation of the methodology.

Fig 5.1: Wholesale electricity forward prices vs 18mth hedge

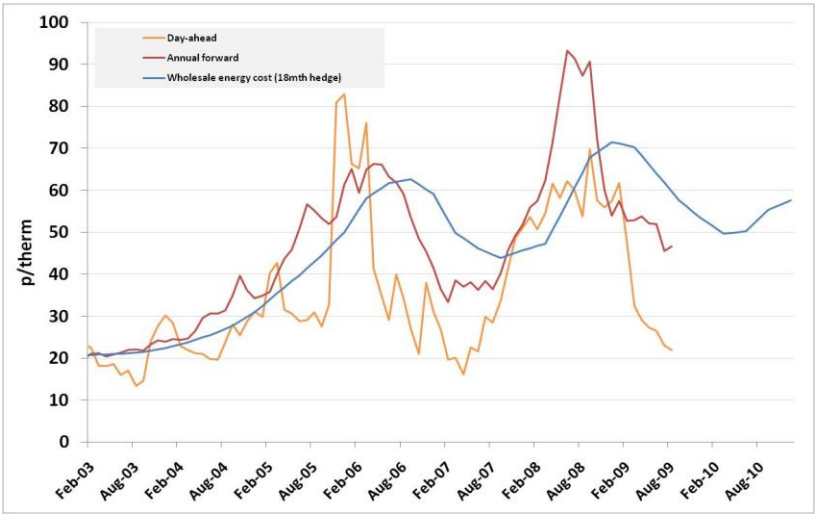
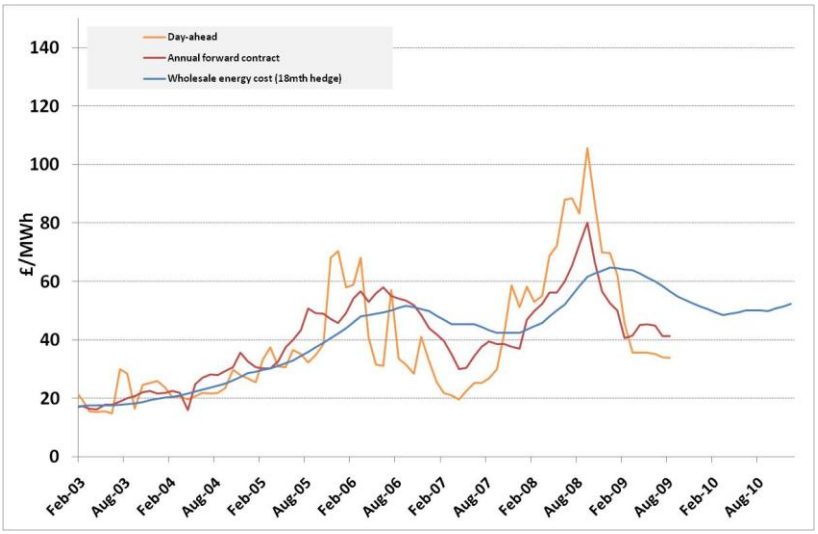


Fig 5.2: Wholesale gas forward prices vs 18mth hedge



Electricity and gas

Figures 5.1-2 illustrate the relationship between wholesale prices (wholesale prompt and annual forward prices) from January 2003 to July 2009, and hedged wholesale cost based on an 18 month hedging strategy.

Hedged wholesale costs are much less volatile than wholesale prices, illustrating the reduction in risk to which suppliers are exposed when they hedge.

Figures 5.1 and 5.2 also illustrate the lag between wholesale price changes and changes in suppliers' forward energy costs.

Wholesale costs are projected to rise beyond a 12 month horizon, due to the upward sloping forward curves for both electricity and gas.

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

6. Methodology

This section provides a detailed description of the methodology Ofgem has used in the analysis contained within this report. This methodology is very similar to that used to examine the relationship between wholesale and retail prices in the *Energy Supply Probe – Initial Finding Report* published in October 2008.

6.1 This section describes the following data series used in this report and how they have been constructed:

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

6.2 Prices and costs are calculated at an average consumption of 4MWh of electricity per annum and 18.2MWh of gas per annum for this report. While these differ from the figures Ofgem currently uses, this does not represent a change in Ofgem's standard consumption figures (used in our 'Energy bills explained' factsheets). Ofgem is currently undertaking a review of these standard consumption levels and will consult on any proposed changes before they are implemented. The high and low use figures assumed in this report are calculated by applying the same proportions as the low and high consumption figures used in the *Energy Supply Probe – Initial Finding Report.* Other costs such as environmental and transmission and distribution costs are adjusted for these high and low use figures.

Average customer bill

6.3 The average customer bill is an estimate of the average cost paid by UK retail energy customers. All price changes up to 28th August 2009 have been included.

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

[6] The 'big 6' are E.ON, RWE npower, SSE, Scottish Power, British Gas, EDF

Wholesale energy costs

6.5 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. On average across the industry wholesale costs account for around 60 per cent of a customer's energy bill.[7]

6.6 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.

6.7 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.

6.8 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.

6.9 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]

6.10 Actual weighted average cost of electricity and gas could be different from this if companies purchase energy internally from their upstream generation businesses 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. Ofgem has consulted on proposals to publish information on margins in retail supply businesses and generation business separately and this report does not intend to estimate suppliers' allocation of margins between the retail and wholesale markets[9].

6.11 In the report we present costs based on 4 different hedging strategies. Sections two and three show costs based on a hedging strategy where firms start purchasing energy 18 months ahead of time *t*, and have bought all their energy requirements for the year

[7] This varies by fuel, supplier, hedge strategy, region, consumption and other factors.
[8] Formally this is known as an opportunity cost methodology.
[9] *Energy Supply Probe – Proposed Retail Market Remedies*
http://www.ofgem.gov.uk/Markets/RetMkts/ensuppro/Documents1/Energy%20Supply%20Probe%20-%20proposed%20retail%20market%20remedies.pdf

ahead at time *t* (figures 2.1 – 3.2). Section four shows how wholesale costs vary with alternative hedging strategies (figures 4.1 and 4.2). 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.

6.12 Prices are weighted to take account of seasonal consumption trends (by quarter for gas and by season for electricity) and the electricity requirement is shaped for baseload and peak products. Wholesale energy cost is calculated by averaging forward electricity and gas product prices over the buying period, assuming a constant rate of purchase.

6.13 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.

Other supply costs

6.14 The components of other supply costs are network charges (transmission and distribution), balancing, environmental costs (Energy Efficiency Commitment – EEC, Carbon Emissions Reduction Target – CERT, and Renewable Obligation Certificates – ROCs), some meter costs and VAT.

Gross Margin

6.15 The gross margin is 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 margin includes suppliers' operating costs such as customer service staffing, IT, marketing, billing and bad debt costs.

6.16 The analysis in the *Energy Supply Probe – Initial Findings Report* is at a net margin level i.e. supplier's own internal operating costs were deducted and the net margin therefore equated to supplier profit. Given the limited availability of regular data to calculate net margin, these quarterly reports are at a gross margin level. However, given that fuel costs account for the majority of suppliers' total costs we do not believe this change will materially alter conclusions that can be drawn from the analysis.