



**The Consumer Council**

**Comparative Domestic Cost of  
Gas v Oil Report  
May 2013**

## **1. Introduction**

The cost of energy remains a key concern for consumers; since 2009 the average annual price of home heating oil (oil) has increased by 62 per cent<sup>1</sup>, whereas following the tariff increase on 1 April 2013, gas bills in the Greater Belfast area have risen by 38 per cent since 2009. The cost of both oil and gas has received a large degree of focus as prices have increased but there has also been a continuing debate regarding the comparative costs of these fuels.

The General Consumer Council for Northern Ireland (the Consumer Council) is an independent consumer organisation, working to bring about change to benefit Northern Ireland (NI) consumers. Our aim is to 'make the consumer voice heard and make it count'. We have a statutory role contained in the Energy Order (NI) 2003 to undertake consumer research, make proposals, provide advice and information and represent consumers on energy matters.

In fulfilling this role the Consumer Council has produced this briefing report to detail the range of oil and gas cost figures which have been calculated and the methodology behind each analysis. The report draws key findings from each analysis and attempts to bring some clarity and consistency in the cost figures used across the gas and oil industries here.

## **2. Background**

Northern Ireland has the largest percentage of domestic homes using oil in Western Europe – with 68 per cent of homes (82 per cent in rural areas) using oil as their primary heating source. It also has one of the highest fuel poverty levels with 42 per cent of households here in fuel poverty<sup>2</sup> – meaning that they spend ten per cent or more of their income on energy.

With such high dependency on oil, the price of oil remains a serious issue for the majority of consumers, particularly fuel poor households. There has been much

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<sup>1</sup> Given the volatility of oil prices, Consumer Council has used the oil survey to calculate the average annual prices of 300, 500 and 900 litre refills for full calendar years, in this case 2009 and 2012.

<sup>2</sup> Source: Home Energy Conservation Authority (HECA) annual report 2012.

debate about the actual costs of oil versus natural gas costs. This has highlighted significant disparities in the source of the data, the methodology used for analysis and therefore the estimated annual cost to oil and gas users. This has understandably caused confusion for consumers who attempt to assess which heating option is best for their circumstances. It is also an issue that causes debate amongst key stakeholders such as MLAs and lobby groups involved in the area of fuel poverty.

It is important that consumers and their representatives have access to clear, accurate and comparable information on the costs of energy. From the political representatives' perspective this is a must in the context of existing plans for investment to extend the gas network to the west of Northern Ireland. For consumers this clarity is essential to assess effectively what energy supply company they wish to use and the type of energy they require if a choice is available. It is vital that they are fully aware of the comparisons in prices to ensure their final decision on supplier and energy type is based on accurate and up to date information.

### **3. Executive Summary**

This document examines how various oil and gas cost figures have been calculated and attempts to bring some clarity and consistency to the cost figures used across the gas and oil industries here. Consumer Council research highlights a large disparity in the estimated annual cost of using oil for consumers. A number of key variables include boiler efficiency, date of purchase and quantity of the oil refill. This brief attempts to quantify these variables to help clarify the actual cost difference between gas and oil for consumers.

Throughout this paper we use a number of different figures for the various measures of price, cost and volume encountered. For example we use different rates for pence per litre of oil and pence per kilowatt hour for both gas and oil. This is unavoidable as it reflects the multiple sources and different measures and methodologies that can be applied to comparing fuel prices.

The Consumer Council has examined a range of calculations presented by key organisations involved in the domestic heating market in Northern Ireland. The analysis focused on information updated to 1 April 2013<sup>3</sup> presented by:

- Phoenix Natural Gas (Greater Belfast and Larne) – which includes the licence areas covered by Airtricity Gas Supply Ltd and Firmus energy;
- firmus energy (Ten Towns);
- Sutherland Tables January 2013;
- The Consumer Council; and
- Northern Ireland Oil Federation (NIOF).

The key findings of our research show the following:

- The Consumer Council's review of energy prices has shown that the estimated annual gas and oil bills in Northern Ireland are:
  - **£1,089** for gas; and
  - **£1,746** for oil <sup>4</sup>;
- On average consumers using oil spend an estimated **£657** more annually than the average gas consumer<sup>5</sup>;
- The annual average unit retail price of oil for the period April 2012 – March 2013 is 37 per cent more expensive than the average price of gas following the gas tariff increase on 1 April 2013<sup>6</sup>;
- Oil consumers with a non-condensing boiler spend on average an estimated 18 per cent<sup>7</sup> more a year than those with the more efficient condensing oil heating system;
- The Consumer Council annual oil consumption and cost figures reflect that 80 per cent<sup>8</sup> of oil heating systems in Northern Ireland households use the least efficient non condensing boiler, which as highlighted above costs 18 per cent more per year; and

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<sup>3</sup> Including the 8.7 per cent gas tariff increase introduced in Greater Belfast.

<sup>4</sup> The methodology used to calculate the figures is outlined later in this report.

<sup>5</sup> See Table 7 for details.

<sup>6</sup> See Table 5 for details.

<sup>7</sup> Between £220 and 421 depending on house size, source Sutherland Tables January 2013.

<sup>8</sup> Source: House Conditions Survey 2009. The Consumer Council is awaiting the publication of the NIHE House Conditions Survey 2011 to update the baseline figures used in our calculations.

- Consumers relying solely on 20 litre emergency drums spend 65 per cent more than the cost of the average oil refill<sup>9</sup>. These consumers would be paying a staggering 127 per cent more for their oil than those using natural gas as shown in table 6 of the report.

#### **4. Domestic cost of oil**

##### **A. Consumer Council oil cost figure**

As the home oil market is unregulated, the requirement imposed on regulated energy companies to collect and publish standard data is not replicated for the oil sector and therefore similar data is not collated (or at least published) by oil companies. Information such as oil consumption and price structures is not available from the home heating industry to inform this report. However, NIOF did confirm that it uses the Sutherland Tables as its information source. The Consumer Council has also historically used Sutherland Tables to compare energy costs, for example gas vs oil, as well as our own oil survey<sup>10</sup>.

Using this approach, Consumer Council calculations, based on the Sutherland Tables data, produced the figure of 5.5 refills of 500 litres of oil, or 2,750 litres as average annual household consumption. Using this estimated consumption the Consumer Council used the average oil price per litre from our oil survey to calculate the annual cost of oil for consumers. This calculation resulted in the reported £1,000 price differential<sup>11</sup> between gas and oil.

However, with the gas market opening in the Greater Belfast and Larne areas, and the further development of the gas network in the Ten Towns areas, a multitude of gas tariffs, annual consumptions and costs for the various license areas, has emerged. This development in the market compounded the problem of attempting to produce average gas consumption and cost figures for the whole of Northern Ireland.

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<sup>9</sup> Based on average Consumer Council oil survey price April 2012 – March 2013 of 63.48 p/litre and spot survey of 20ltrs drums in Belfast on 9 April 2013 shown in Table 6.

<sup>10</sup> The Consumer Council carries out a survey of oil prices across Northern Ireland twice weekly, <http://www.consumerCouncil.org.uk/oil-price-watch/>.

<sup>11</sup> The exact amount fluctuates in line with Consumer Council oil survey and gas tariff changes.

Consequently the Consumer Council decided to undertake a review of how figures for gas and oil are produced and compared in Northern Ireland.

The analysis in the following sections of this report demonstrates that the original methodology applied by the Consumer Council represented a fair estimation of the average heating cost for oil customers using the data available and taking into consideration the fact that around 80 per cent of oil users have a non condensing boiler. For example, the average consumption and cost of 2,750 litres and £1,746<sup>12</sup> respectively are broadly in line with the figures shown in Appendix 1 and Table 7. However, in producing this report our review has provided additional data and clarity on methodologies, which has enabled us to review how we calculate the annual gas consumption and cost figures for Northern Ireland and how to compare these with oil.

It is important to understand that the retail unit price of oil changes on a daily basis and that consumers buy their oil at intervals throughout the year. Therefore in order to reflect this we need to use the average price of a fill of oil across the entire year.

For example, as we stated in the introduction, if we compare the average annual price of oil for 2009 against that for 2012, we can see that it is 62 per cent higher in 2012<sup>13</sup>. Using the annual average price captures and balances out the volatility that is inherent in the pricing of oil.

However, if we did not use the above methodology and instead used the price of a fill of oil on a specific day to compare with the price of a fill of oil on another specific day this would simply capture the market at a moment in time - a snapshot. This snapshot method can be used to demonstrate the volatility of the oil market. For example, when we compare the price of a 500 litre refill oil on 20 February 2009 against that of 28 February 2012, £168.91 and £325.08 respectively, the price of oil increased by 92 per cent. A similar comparison between the prices on 30 December 2009 and 28 June 2012 of £218.85 and £275.90 respectively, shows an increase of 26 per cent. These 'snapshots' are important to note, along with the daily variation of

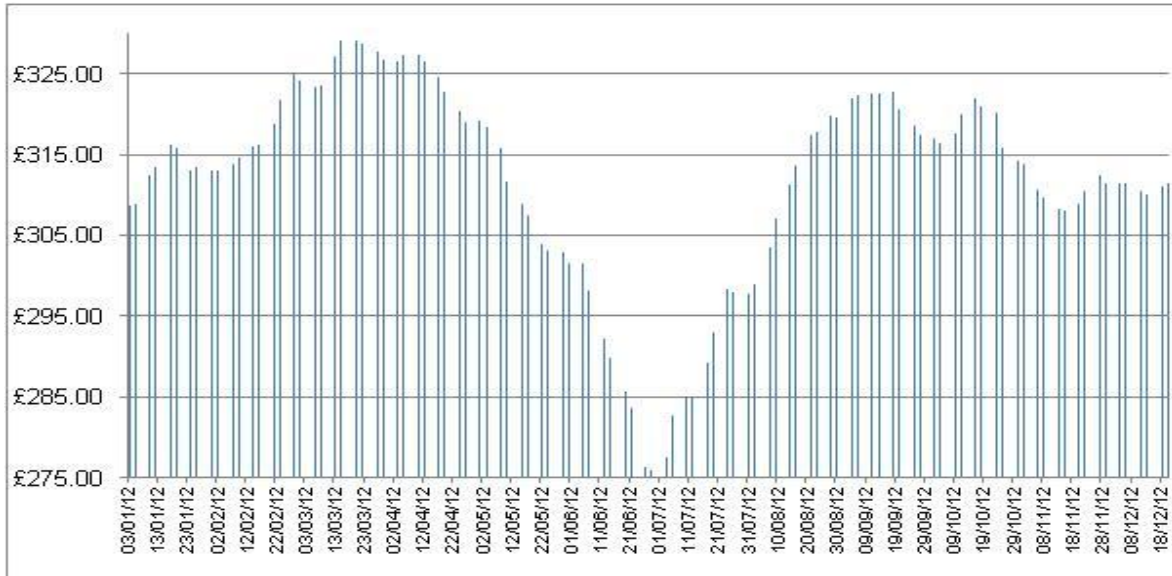
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<sup>12</sup> See Table 1 for details.

<sup>13</sup> Source: Consumer Council oil survey using the average annual price of a 300, 500 and 900 litre refill for 2009 and 2012.

oil prices as shown in Chart 1, to demonstrate the volatility of the oil market throughout the year.

**Chart 1: Variation Average Price (£) 500 litres refill oil 2012**



Source: CCNI Oil Survey 2012

The Consumer Council has also used oil data from the Sutherland Tables as well as key variables specific to Northern Ireland as a key source of information to estimate the average annual oil consumption, using the following methodology:

- Taking the oil annual cost figures for two, three and four bedroom houses from the Sutherland Tables for condensing and non condensing boilers;
- Converting the above annual cost figures to litres using the average price per litre of oil based on the Sutherland Tables unit price of oil in p/litre;
- Calculating two separate average oil consumption figures in litres for non condensing and condensing boilers; and
- Applying an 80:20 weight ratio<sup>14</sup> to the average oil consumption for non condensing and condensing boilers, which results in the average figure of 5.5 refills of 500 litres or 2,750 litres.

<sup>14</sup> Around 80 per cent of oil systems in Northern Ireland use a non condensing boiler, source: House Condition Survey 2009.

**Table 1: Consumer Council calculation of oil annual consumption based on Sutherland Tables**

	Annual oil usage (litres)	Annual Cost
<b>Consumer Council for Northern Ireland</b>	<b>2,750 litres</b>	<b>£1,746</b> based on 2750 litres using the average price of 300, 500 and 900 litres refill in Consumer Council survey for period April 2012 – March 2013 (63.48p/litre)

Source: Sutherland Tables January 2013 using oil date for the period October – December 2012 and Consumer Council oil survey 1 April 2012 - 31 March 2013

## **B. Sutherland Tables figures**

Sutherland Comparative Domestic Heating Costs Tables have been published regularly since 1976 and are used widely in the energy industry. They are mainly “intended to be used to compare different domestic fuels and the costs of using them under similar conditions”. They also provide a broad estimation of the domestic heating cost using the main fuels available, but this is not their main purpose.

The Sutherland Tables are a useful tool when attempting to compare the estimated cost of fuels and the cost of using less efficient heating systems compared to newer condensing boilers. However, we must stress that Sutherland Tables do not provide an average annual cost figure for Northern Ireland. The only data they obtain directly from gas and oil suppliers is the unit cost, not average consumption specific to Northern Ireland for each industry.

Sutherland Tables work on the assumption that households in each region, for example Northern Ireland, will use an annual amount of fuel in kWh that is dependent on the size of the house and other variables such as different climatic conditions. The unit cost in pence of the fuel and the energy efficiency of the heating system are also factored in to produce an estimated annual consumption in Sterling as shown in Appendix 1. The tables also provide for a comparison of cost between house types (usage) and efficiency of boiler (i.e. condensing v non-condensing).

Based on the most recent figures from Sutherland Tables January 2013, the typical cost of oil can range from **£997 - £1,891** for the more efficient condensing boiler or **£1,217 - £2,312** for the less efficient standard boiler which is believed to be used by



around 80 per cent of oil heating systems in Northern Ireland. More importantly, according to the data in the Sutherland Tables, the cost differential between using a condensing and non condensing oil boiler is 18 per cent of the annual bill.

### C. Estimated oil costs by natural gas distributors

Table 2 reflects the information and narrative that gas companies publish on their websites to compare the usage and unit price of gas vs oil. For example, firmus energy uses oil consumption data from the Energy Saving Trust (EST) whereas Phoenix Natural Gas (PNG) does not provide this information. For consistency purposes to allow a comparison to be made we have used the EST annual consumption figure for both companies.

With regards to the oil unit rate used by PNG and firmus energy, both companies have calculated an average oil price per litre using the Consumer Council's oil survey and converted it to kWh using the industry's standard conversion rate (i.e. 1 litre oil = 10.35 kWh<sup>15</sup>).

**Table 2: Estimated oil costs by natural gas distributors**

	<b>Oil annual energy usage (kWh)</b>	<b>Oil Cost Unit Rate (p/kWh)</b>	<b>Oil Annual Cost (CCNI calculations)</b>	<b>Oil Annual Oil Usage (litres) (CCNI calculations)</b>
<b>Phoenix Natural Gas</b> (Greater Belfast and Larne area)	<b>Not available</b>	5.88 p/kWh or 60.86 p/L PNG calculation using the average price of 900litres of oil between March 2012-2013 from the Consumer Council oil survey. Source: /www.phoenixnaturalgas.com/why-natural-gas/gas-vs-oil/	<b>£897</b> Consumer Council calculation based on firmus energy's 15,262kWh litres of oil estimation at 5.88p/kWh	<b>1,474 ltrs</b> based on annual cost of £897 at 60.86 p/litre using standard conversion rate of 10.35kWh per litre.
<b>firmus energy</b> (Ten Towns)	<b>15,262kWh</b> based on EST figures for annual heat and hot water for an average 3 bed semi with limited heating controls	6 p/kWh or 62.10 p/L firmus energy calculation based on Consumer Council oil survey. Source: www.firmusenergy.co.uk/for_home_10_towns.aspx?da_taid=499879	<b>£916</b> Consumer Council calculation based on 15,262kWh at 6p/kWh	<b>1,475 ltrs</b> based on annual cost of £916 at 62.1p/litre using standard conversion rate of 10.35kWh per litre.

Source: PNG website, firmus energy website and Airtricity Gas Supply Ltd

<sup>15</sup> Source Sutherland Tables.

Based on the comparisons in Table 2, the estimated annual cost of oil based on gas companies' figures ranges from **£897 to £916**. It is worth pointing out that these figures are considerably lower than those included in the Sutherland Tables or indeed the Consumer Council's calculation covered in point A. The reason for this is that the annual oil costs shown in Table 2 do not factor in energy efficiency variables such as boiler efficiency rates.

#### **D. Summary of Home Oil Costs**

In the absence of an industry accepted average consumption of oil for NI there are a range of values that have been used, as shown in Appendix 1 and Tables 1, 2 and 5 of this brief. A summary of the main figures is included below showing the range of annual usage, cost and unit rates considered. For example, the higher figure of 3,845 litres for oil annual usage corresponds to a four bedroom detached house taken from Sutherland Tables.

**Table 3: Summary of oil figures included in this report (usage, cost and price)**

	<b>Minimum</b>	<b>Maximum</b>
<b>Oil Annual Usage (Litres):</b>	<b>1,474 litres</b>	<b>3,845 litres</b>
<b>Oil Annual Usage (kWh):</b>	<b>12,000 kWh</b>	<b>24,200 kWh</b>
<b>Oil Annual Cost:</b>	<b>£897</b>	<b>£2,312</b>
<b>Oil Unit Rate (p/kWh):</b>	<b>5.88 p/kWh</b>	<b>10.14 p/kWh<sup>16</sup></b>

#### **5. Natural Gas Costs**

Appendix 2 provides a range of sources which can be used to estimate the annual cost (and usage) of natural gas for a typical household in Northern Ireland. A key difference with the oil figures is that some gas suppliers provide an official average domestic consumption.

<sup>16</sup> Both are unit retail price not taking into consideration oil boiler efficiency.

In the past the gas consumption average figure provided by suppliers, currently 12,110kWh, has been accepted as the gas industry standard for Northern Ireland. However, it has presented difficulties when attempting to compare the cost of gas vs oil as it is considerably lower than the estimated consumption used by Sutherland Tables and the Consumer Council to calculate gas and home heating costs as shown in Appendix 2. Therefore as a result of the research carried out as part of this report, the Consumer Council will adopt the average of the natural gas cost figures in the Sutherland Tables for two, three and four bedroom houses for the purpose of comparing the cost of gas vs oil. We believe this will ensure a consistent approach and methodology when calculating gas and oil costs.

### Summary of Natural Gas Costs

The different usage figures for gas (kWh) applied to determine an annual cost means that there are a broad range of costs produced as highlighted below and in Appendix 2.

A summary of the main figures is included below showing the range of annual usage, cost and unit rates considered. For example, the figure of 24,200 kWh is based on a four bedroom detached house, source Sutherland Tables January 2013.

**Table 4: Summary of natural gas figures used in this report (usage, cost and price)**

	<b>Minimum</b>	<b>Maximum</b>
<b>Gas Annual Usage (kWh)</b>	<b>12,000 kWh</b>	<b>24,200 kWh</b>
<b>Gas Annual Cost</b>	<b>£584</b>	<b>£1,735<sup>17</sup></b>
<b>Gas Cost Unit Rate (p/kWh)</b>	<b>4.122 p/kWh</b>	<b>7.14 p/useful kWh<sup>18</sup></b>

<sup>17</sup> Figure of £1,735 is based on a four bedroom detached house, source Sutherland Tables January 2013.

<sup>18</sup> 4.122p/kWh is an actual tariff unit rate, whereas 7.14p/useful kWh takes into consideration the boiler efficiency.

## 6. Cost comparison of gas and oil

### A. Gas and oil retail unit price comparison

One of the methods used by energy companies to compare the cost of oil versus gas is to use the retail unit price of both fuels<sup>19</sup>. The main difficulty with this method is the fact that gas and oil use different unit measures, kWh and litres respectively.

The standard practice in the energy industry is to convert litres of oil to kWh using a conversion factor of 10.35kWh for every litre<sup>20</sup>. This allows us to compare easily the average retail unit price of both fuels as shown in Table 5.

**Table 5: Retail unit price of gas and oil comparison**

	PNG (Greater Belfast and Larne)	firmus energy (Ten Towns)	Consumer Council	Sutherland Tables (using prices for the period October - December 2012)
Natural Gas	4.33p/kWh (average of Pay As You Go tariffs before 1 April 2013)	4.122p/kWh (Pay As You Go tariff)	4.47p/kWh (average between Pay As You Go tariffs in Greater Belfast and Ten Towns on 1 April 2013)	6.40p/kWh for first 2,000kWh 4.259p/kWh for balance kWh (Credit meter tariff Greater Belfast)
				6.080p/kWh for first 2,000kWh 4.046p/kWh for balance kWh (Credit meter tariff Ten Towns)
Oil	5.88p/kWh (PNG calculation using the average price of 900litres of oil March 2012-2013 from the Consumer Council oil survey. Source: <a href="http://www.phoenixnaturalgas.com/why-natural-gas/gas-vs-oil/">www.phoenixnaturalgas.com/why-natural-gas/gas-vs-oil/</a> )	6.00p/kWh (firmus energy calculation based on Consumer Council oil survey Nov 11-October 12)	6.13p/kWh based on 63.48p/litre average oil price CCNI Oil Survey 1 April 2012 – 31 March 2013	5.80p/kWh based on 60.12 pence per litre
Differential (%)	Oil is 36% more expensive than gas <sup>21</sup> or 1.55p/kWh	Oil is 45% more expensive than gas <sup>22</sup> or 1.878p/kWh	Oil is 37% more expensive than gas	N/A

<sup>19</sup> <http://www.phoenixnaturalgas.com/why-natural-gas/gas-vs-oil/>

<sup>20</sup> Source Sutherland Tables.

<sup>21</sup> <http://www.phoenixnaturalgas.com/why-natural-gas/gas-vs-oil/>

<sup>22</sup> [http://www.firmusenergy.co.uk/news\\_specific.aspx?dataid=921059](http://www.firmusenergy.co.uk/news_specific.aspx?dataid=921059)

Using this method there is a 36 per cent – 45 per cent unit retail price differential between gas and oil. This can fluctuate as oil and gas prices change as the Consumer Council's calculations in Table 5 show. The Consumer Council recognises this price differential as reflective of the price that consumers pay, however this unit price differential must not be considered in isolation.

When examining the methodology used, we have established that the calculations do not take account of variables such as boiler efficiency, household rating and amount of oil ordered. These have a key impact on consumers' annual heating costs and would increase the unit price to what the Sutherland Tables call "*cost per useful kWh*", which in practice represents how much it costs the consumer to generate one kWh of energy using their fuel of choice considering their heating system and household efficiencies.

Our research also shows that the unit price differential increases significantly as the quantity of the oil ordered lowers. This is a key difference between oil and natural gas, in that the tariff for the latter is not linked to the amount of fuel used<sup>23</sup>. The Consumer Council's research shows that consumers increasingly rely on smaller refills, even emergency oil drums, even though they are aware of the considerable higher price per litre<sup>24</sup>, in particular for 300 litre refills and 20 litre drums. In this instance consumers may have to pay up to 60 per cent more for their heating requirements than the average gas user.

#### Advantages and disadvantages of unit retail price comparison

The retail unit price comparison offers key advantages when attempting to compare the cost of oil versus gas. These include:

- Simple and clear and robust methodology;
- Using energy industry standard conversion factors;
- Figures are easily comparable; and

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<sup>23</sup> With the exception of the so called "minimum charge" applied by gas suppliers to low usage customers to cover essential services such as the gas emergency line – the concept and principle is the same as the line rental for telephone contracts.

<sup>24</sup> Source: Consumer Council Household Efficiency consumer panel, 2012.

- Data easily accessible from gas and oil suppliers and Consumer Council bi-weekly oil survey.

**Table 6: Average most expensive oil unit retail price (2012 – 2013)**

	<b>20 litre drum</b>	<b>Forecourt</b>	<b>300 litre</b> (Average most expensive CCNI Oil Survey April 2012-March 2013)	<b>500 litre</b> (Average most expensive CCNI Oil Survey April 2012-March 2013)	<b>900 litre</b> (Average most expensive CCNI Oil Survey April 2012-March 2013)
<b>Total cost</b>	£21	N/A	£218	£330	£573
<b>Price per litre</b>	£1.05/litre	74.90p/litre	72.63p/litre	66p/litre	63.66p/litre
<b>Retail Unit Price per kWh</b> (conversion using 10.35 factor)	10.14p/kWh	7.24p/kWh	7.02p/kWh	6.38p/kWh	6.15p/kWh
<b>Gas unit retail price differential with oil (%)</b>	Oil is 127% more expensive than the average gas retail unit price (1 April 2013 tariffs)	Oil is 62% more expensive than the average gas retail unit price (1 April 2013 tariffs)	Oil is 57% more expensive than the average gas retail unit price (1 April 2013 tariffs)	Oil is 43% more expensive than the average gas retail unit price (1 April 2013 tariffs)	Oil is 38% more expensive than the average gas retail unit price (1 April 2013 tariffs)

Source: Consumer Council oil survey 1 April 2012 – 31 March 2013 and small telephone survey of forecourts in Belfast 9 April 2013 for 20ltr drums and forecourts.

The above evidence supports the Consumer Council's view that the unit retail price should be used as an indicator to compare the price of gas versus oil. However, while it gives an indication of the cost differential between the fuels, it does not reflect the actual annual fuel cost to consumers. This is highly dependent on the following variables:

- The energy efficiency of the boiler;
- Volume of oil purchased;
- Household Standard Assessment Procedure (SAP) rating;
- House size;
- Number of occupants; and
- Other demographic factors such as age and employment status.

## B. Gas and heating annual cost comparison

The research outlined in this brief shows that making a direct comparison between the annual domestic expenditure in gas and oil in Northern Ireland continues to present challenges. From the oil perspective the main difficulty is the lack of consumption data provided by the oil industry. In the case of natural gas the difficulty emanates from the wide range of consumptions used by gas companies and energy data companies. Despite these difficulties, the Consumer Council has produced an annual cost comparison using the available data, as shown in Table 7 below.

The first thing we have established is the annual gross consumption of 17,500kWh, which is based on the average cost for the three house types included in the Sutherland Tables. The heating requirements should be broadly the same between gas and oil households.

With regards to the difference in the annual cost for both natural gas and oil between condensing and non condensing boilers, we have used a simple average of the costs for each of three house types in the Sutherland tables. The Consumer Council oil figure has been calculated using the methodology outlined earlier in this report.

**Table 7: Annual cost comparison gas and oil**

Heating system	Consumption <sup>25</sup>	Annual cost £
Natural Gas (average annual cost in NI for standard condensing boiler with gas prices on 1 April 2013)	17,500 kWh	£1,089
Oil Sutherland Tables non condensing boiler (60.12 p/litre, Sutherland Tables January 2013)	17,500 kWh	£1,715
Oil Sutherland Tables condensing boiler (60.12 p/litre, Sutherland Tables January 2013)	17,500 kWh	£1,403
Oil Consumer Council figure (63.48 p/litre average price of 300, 500 and 900 litres refill CCNI Oil Survey 1 April 2012 – 31 March 2013)	17,500 kWh	£1,746

Source: Sutherland Tables January 2013 (based on an average of all property types and using average oil prices Q4 2012 and gas prices on 1 April 2013) and Consumer Council oil survey average 1 April 2012 – 31 March 2013.

<sup>25</sup> Average of consumption for 2, 3 and 4 bedroom properties in Sutherland Tables January 2013.

## 7. Summary of findings

- The Consumer Council's review of energy prices has shown that the estimated annual gas and oil bills in Northern Ireland are £1,089 and £1,746 respectively<sup>26</sup>;
- The annual average unit retail price of oil for April 2012 - March 2013 is 37 per cent more expensive than the average price of gas following the gas tariff increase on 1 April 2013<sup>27</sup>; on average consumers using oil spend an estimated £657<sup>28</sup> more annually than the average gas consumer<sup>29</sup>;
- Oil consumers with a non-condensing boiler spend on average an estimated 18 per cent more a year than those with the more efficient condensing oil heating system;
- Consumers relying solely on oil 20 litre emergency drums spend 65 per cent more than the cost of the average oil refill<sup>30</sup>. These consumers would be paying a staggering 127 per cent more for their oil than those using natural gas;
- Oil annual costs range from £897 to £2,312 and are calculated based on different baselines and contributory factors such as house size and efficiency of the heating system used;
- Gas annual costs range from £584 to £1,735 and the unit rate for kWh of gas from 4.122p/kWh to 7.14p/kWh depending on what factors are included in the calculations such as different annual consumptions and whether energy efficiency of the heating system is weighted in or not;
- The Consumer Council annual oil consumption and cost figures are the only figures that factor in House Conditions Survey 2009 stats based on NI population and house energy status; and

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<sup>26</sup> The methodology used to calculate the figures is outlined earlier in this report.

<sup>27</sup> See table 5 for details.

<sup>28</sup> In the Greater Belfast and Ten Towns licence areas respectively.

<sup>29</sup> Source: Sutherland Tables January 2013 and Consumer Council Oil Survey 5 February 2012.

<sup>30</sup> Sources CCNI spot survey on 9 April 2013 and Consumer Council oil survey average oil price Q1 2013 for 300-500 and 900 litres refill.



- The Consumer Council annual oil consumption and cost figures reflect that 80 per cent<sup>31</sup> of oil heating systems in Northern Ireland households use a least efficient non condensing boiler.

## **8. Conclusion**

The Consumer Council's research demonstrates that the issue of the cost of gas vs oil is more complex than a simple comparison of retail unit prices or estimated annual costs using average standard energy consumptions. It is fair to say that the retail unit price of gas and oil, although fluctuating, gives a clear indication of the differential between both fuels.

Based on the evidence outlined in this report, the average unit retail price of oil for the year April 2012 to March 2013 in Northern Ireland is 37 per cent more expensive than the average price of gas following the gas tariff increase on 1 April 2013.

Therefore the Consumer Council recommends that this differential is used as an indicator of the relative cost differential between both fuels. However, in practical terms the annual cost differential for consumers might differ from the unit price when variables such as boiler efficiency are factored in.

Our research shows that on average consumers using oil spend an estimated £657 more annually than the average gas consumer. The Consumer Council believes that this figure should also be an indicator of the difference in cost between gas and oil.

While those two figures are useful and significant in themselves, our research also demonstrates that the cost of oil can be considerably higher for some consumers depending on their ability to afford the larger refills and also energy efficiency variables such as boiler efficiency rating. For example consumers relying solely on oil 20 litre emergency drums spend 65 per cent more than the cost of the average oil refill<sup>32</sup>. The same consumers would be paying a staggering 127 per cent more for their oil than those using natural gas.

It is difficult to determine the actual usage and dependence on emergency oil drums. However, in consumer panels the use of emergency oil drums is often highlighted. Many households struggling with other household bills find it easier to pay for a small

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<sup>31</sup> Source: House Condition Survey 2009. The Consumer Council is awaiting the publication of the NIHE House Conditions Survey 2011 to update the baseline figures used in our calculations

<sup>32</sup> Based on average Consumer Council oil survey price 1 April 2012 – 31 March 2013

20 litre drum on a day to day or weekly basis than a larger fill. But the impact is that these households are paying a significant premium to heat their home this way. There is an urgent need to identify the scale of dependence on emergency drums and consider approaches which would reduce this dependence and provide better value to homes across Northern Ireland.

The analysis of energy costs and comparisons outlined in this report also raises concerns about the issue of “self disconnection”.. The high levels of fuel poverty in Northern Ireland, the use of emergency oil drums and increase in demand for prepayment meters as shown in the Utility Regulator’s Annual Retail Report 2012<sup>33</sup> could indicate issues in relation to budgeting for energy, especially when costs are increasing. In this context it is important to identify whether there are consumers who are struggling to pay for their energy requirements and believe they are left with no option but to self disconnect.

CCNI intends to explore further the impact rising energy costs are having on consumers’ energy purchasing patterns, particularly the issue of self disconnection. CCNI will carry out research in this area during 2013-2014 to determine the reasons for the changes in purchasing trends and if they are resulting in consumers ‘Self Disconnecting’.

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<sup>33</sup> Source: [http://www.uregni.gov.uk/uploads/publications/ERR\\_4\\_Final\\_Draft.pdf](http://www.uregni.gov.uk/uploads/publications/ERR_4_Final_Draft.pdf)

## Appendix 1. Sutherland Tables estimated oil annual costs

	Annual Oil Usage (kWh)	Annual Cost		Useful Cost Unit Rate (p/kWh) <sup>34</sup>		Annual Oil Usage (litres) <sup>35</sup>		Standard/Condensing Boiler Cost Unit Rate – Annual Oil Usage Differential (%)
		Standard Boiler	Condensing Boiler	Standard Boiler	Condensing Boiler	Standard Boiler	Condensing Boiler	
<b>Sutherland Tables</b> (January 2013 data) (60.12 p/litre of oil)	<b>12,000 kWh</b> for two bedroom terraced house	<b>£1,217</b> based on January 2013 Sutherland Tables	<b>£997</b> based on January 2013 Sutherland Tables	<b>10.14p/kWh</b> based on £1,217 for 12,000kWh	<b>8.30p/kWh</b> based on £997 for 12,000kWh	<b>2,024 ltrs</b> based on £1,217 annual cost at 60.12p/litre	<b>1,658 ltrs</b> based on £997 at 60.12p/l	<b>18%</b>
	<b>16,300 kWh</b> three bedroom semi detached	<b>£1,615</b> based on January 2013 Sutherland Tables	<b>£1,321</b> based on January 2013 Sutherland Tables	<b>9.90p/kWh</b> based on £1,615 for 16,300kWh	<b>8.10p/kWh</b> based on £1,321 for 16,300kWh	<b>2686 ltrs</b> based on £1615 at 60.12p/l	<b>2197 ltrs</b> based on £1321 at 60.12p/l	
	<b>24,200 kWh</b> four bedroom detached	<b>£2,312</b> based on January 2013 Sutherland Tables	<b>£1,891</b> based on January 2013 Sutherland Tables	<b>9.55p/kWh</b> based on £2,312 for 24,200kWh	<b>7.81p/kWh</b> based on £1,891 for 24,200kWh	<b>3845 ltrs</b> based on £2312 at 60.12p/l	<b>3145 ltrs</b> based on £1891 at 60.12p/l	
<b>Average Sutherland Tables</b> (Consumer Council calculation based on January 2013 data for 2, 3 and 4 bedroom averages) (60.12 p/litre of oil)	<b>17,500 kWh</b>	<b>£1715</b>	<b>£1403</b>	<b>9.86p/kWh</b>	<b>8.07p/kWh</b>	<b>2852 ltrs</b>	<b>2333 ltrs</b>	<b>18%</b>

Source: Sutherland Tables January 2013 and Consumer Council calculations.

<sup>34</sup> Consumer Council calculation using Sutherland Tables data.

<sup>35</sup> Consumer Council calculation using Sutherland Tables data.

## Appendix 2. Natural gas annual consumption, cost and unit rate

	Annual usage kWh	Annual Cost (£)			Cost Unit Rate (p/kWh)	
		Licence Area	Standard Boiler	Condensing Boiler	Standard Boiler	Condensing Boiler
Sutherland Tables (January 2013)	17,500 kWh Consumer Council average based on Sutherland Tables January 2013 gas consumption figures for 2, 3 and 4 bedroom averages using gas tariffs from Q4 2012)	PNG	£1,297 based on average gas costs Sutherland Tables January 2013	£1,068 based on a average gas costs, Sutherland Tables January 2013	7.14p/useful kWh based on Sutherland Tables January 2013 and taking into account boiler efficiency	5.82p/useful kWh based on Sutherland Tables January 2013 and taking into account boiler efficiency
		firmus energy (Ten Towns)	N/A (all gas boilers in Ten Towns are condensing)	£1,018 based on a average gas costs, Sutherland Tables January 2013	N/A (all gas boilers in Ten Towns are condensing)	5.53p/useful kWh based on Sutherland Tables January 2013 and taking into account boiler efficiency
The Sutherland Tables are calculated on the assumption that the amount of kWh required varies depending on the size of the house. CCCNI calculations use the average cost of the three house types in the Sutherland Tables January 2013. They also take into account the boiler efficiency rating when calculating the annual cost and unit rate (p/kWh)						
Phoenix Natural Gas	12,110kWh (based on Airtricity Gas Supply average domestic consumption)	PNG (this includes two gas suppliers at present, Airtricity Gas Supply and firmus energy Greater Belfast)	£584 based on 12,110kWh at 4.82p/kWh (average Pay As You Go tariff)		4.82p/kWh average of all available Pay As You Go tariffs within the Greater Belfast licensed area. Does not take into account boiler efficiency.	
firmus energy (Ten Towns)	15,100kWh based on Energy Saving Trust figures for annual heat and hot water for an average 3 bed semi with limited heating controls	firmus energy Ten Towns	£622.42 based on 15,100kWh at 4.122p/kWh (firmus energy Pay As You Go tariff)		4.122p/kWh Pay As You Go tariff. Does not take into account boiler efficiency	

Source: Sutherland Tables January 2013, Phoenix Natural Gas,, firmus energy and Airtricity Gas Supply Ltd websites.