

# COMPARATIVE DOMESTIC HEATING ANNUAL REVIEW January - December 2019



**This document provides an analysis of the local domestic heating fuel market, for the previous 12 months (1st January to 31st December). It is published on an annual basis.**

**The Isle of Man prices shown within this publication are collated from the Domestic Heating Comparison, which is published on a monthly basis. Copies of all previous publications can be found at the following link:**

<https://www.gov.im/about-the-government/statutory-boards/isle-of-man-office-of-fair-trading/competition-and-markets/domestic-heating-comparisons/>

**The information contained within this schedule may not be used for advertising purposes without prior agreement from the OFT.**

## GLOSSARY:

<i>Average cost per unit over the year</i>	Average of prices charged across all suppliers currently providing pricing information to the OFT, collected on a monthly basis over the previous 12 months (01 January - 31 December). All calculations within this publication are based on prices over the previous 12 months.
<i>kWh</i>	The kilowatt-hour is a unit of energy equivalent to one kilowatt (1 kW) of power expended for one hour (1 h) of time.
<i>Heat Content</i>	The kWh of energy contained within a fuel. Heat contents quoted are as per those used in the monthly comparative heating schedule, which in turn were sourced as a benchmark from the 'Sutherland Tables': <a href="http://www.sutherlandtables.co.uk/">http://www.sutherlandtables.co.uk/</a>
<i>Cost Per kWh</i>	Expresses cost in relation to the total energy within a fuel. It is a theoretical comparator which assumes 100% efficiency with no wastage. Cost Per kWh = Cost Per Unit Sold / Heat Content (kWh) Per Unit Sold.
<i>Thermal Efficiency</i>	The percentage of energy contained within a fuel which the appliance can successfully extract and convert into useful heat. E.g. a 90% efficient boiler will convert 90% of energy within a fuel into useful heat. The remaining 10% is not usefully utilised and lost outside of the heating system.
<i>Cost Per Useful kWh</i>	Expresses cost in relation to the useable energy within a fuel, or in other words the heat energy that is likely to be extracted. It is intended to be a more realistic comparator which takes into account the efficiency of the appliance burning the fuel. Cost Per Useful kWh = (Cost Per Unit Sold / Heat Content (kWh) Per Unit Sold) / Thermal Efficiency of Appliance.
<i>Annual Cost Per Useful kWh</i>	Expresses annual cost in relation to the useable energy within a fuel, or in other words the heat energy that is likely to be extracted. Annual Cost Per Useful kWh = [(Cost Per Unit Sold / Heat Content (kWh) Per Unit Sold) / Thermal Efficiency of Appliance] x kWh Consumed.

*Please contact the Competition & Pricing Section of the Office of Fair Trading with any queries regarding this publication.*

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## COMPARATIVE DOMESTIC HEATING ANNUAL REVIEW Cost per Useful kWh

### HOW TO INTERPRET THIS SECTION:

All prices shown include VAT at 5%.

Some suppliers may offer discounts for bulk purchase and early payment. These offers are not included in the prices shown (with the exception of oil for bulk purchase). Consumers should contact suppliers directly to discuss available offers and discounts.

The price quoted for oil is the cost in pence per litre. Prices are collected for 28 sec domestic heating oil when purchasing in quantities of either 450 or 900 litres.

The Manx Utilities Authority currently offers a "Comfy Heat" tariff, which allows consumers to benefit from a cheaper tariff rate, if consuming electricity in the lower demand (off peak) hours. The thermal efficiency of "comfy heat" electricity is 5% lower than standard and the tariff is generally used by consumers with storage heaters. A small amount of useful heat is lost in the storing process, hence the lower efficiency rating.

This list is not an exhaustive list of domestic heating fuels available for purchase on the Island.

*Cylinder and bulk tank gas is priced per kWh at the All-Island Star Saver rate. The heat contents of cylinder and bulk gas have been rounded and therefore prices do not exactly equal the all-island tariff for the purpose of this publication.*

	Units Sold In	Average cost per unit over the year (pence)	Heat Content of Fuels (kWh)	Cost Per kWh (pence)	Optimum Thermal Efficiency of Appliance	Cost Per Useful kWh (pence)
<b>Electricity</b>						
Standard/Prepayment Electricity	1 kWh	18.7	1	18.7	100%	18.7
Comfy Heat Electricity (Composite)	1 kWh	12.5	1	12.5	95%	13.2
Heat pump (Composite)	1 kWh	13.0	1	13.0	300%	4.3
<b>Gas</b>						
Band A	1 kWh	10.2	1	10.2	90%	11.4
Band B	1 kWh	8.8	1	8.8	90%	9.8
Band C	1 kWh	8.5	1	8.5	90%	9.5
Band D	1 kWh	8.4	1	8.4	90%	9.3
Band E	1 kWh	8.3	1	8.3	90%	9.2
Band F	1 kWh	8.2	1	8.2	90%	9.1
Band G	1 kWh	8.0	1	8.0	90%	8.9
Band H	1 kWh	7.9	1	7.9	90%	8.8
Band I	1 kWh	8.1	1	8.1	90%	9.0
Cylinder Central Heating Gas	1 kWh	8.7	1	8.7	90%	9.6
Mini Bulk Gas	1 kWh	8.6	1	8.6	90%	9.6
LPG Gas Fire (BK & CB Tariff)	1 kWh	13.2	1	13.2	57%	23.1
Natural Gas Fire (NB Tariff)	1 kWh	10.1	1	10.1	57%	17.8

	<i>Units Sold In</i>	<i>Average cost per unit over the year (pence)</i>	<i>Heat Content of Fuels (kWh)</i>	<i>Cost Per kWh (pence)</i>	<i>Optimum Thermal Efficiency of Appliance</i>	<i>Cost Per Useful kWh (pence)</i>
<b>Heating Oil</b>						
<i>Ordered in volume of 900 litre</i>	<i>1 litre</i>	58.0	10.2	5.7	90%	6.3
<i>Ordered in volume of 450 litre</i>	<i>1 litre</i>	62.2	10.2	6.1	90%	6.8
<b>Solid Fuel</b>						
<i>Average House Coal</i>	<i>50 kg</i>	2442.2	423.5	5.8	75%	7.7
<i>Average Taybrite</i>	<i>50 kg</i>	2650.3	460.0	5.8	80%	7.2
<i>Average Anthracite</i>	<i>50 kg</i>	2621.3	452.3	5.8	75%	7.7
<i>Average Phurnacite</i>	<i>50 kg</i>	3024.2	435.7	6.9	75%	9.3
<b>Manufactured Wood</b>						
<i>Woodchip</i>	<i>1 tonne</i>	12600.0	3500.0	3.6	90%	4.0
<i>Heat Logs</i>	<i>10 kg</i>	541.7	55.0	9.8	80%	12.3

<b>Average Standing Charge Over Period</b>	<b>Per Day (pence)</b>	<b>Per Annum (£)</b>
Standard or Prepayment Electricity (MUA)	19.88	£72.54
Comfy Heat Electricity (MUA)	19.88	£72.54
Heat Pump (MUA)	19.88	£72.54
All Island Tariff (Manx Gas)		
Band A	16.90	£61.69
Band B	51.21	£186.92
Band C	64.73	£236.26
Band D	78.26	£285.65
Band E	91.97	£335.69
Band F	111.58	£407.27
Band G	146.37	£534.25
Band H	218.27	£796.69
Band I	16.90	£61.69
Cylinder Central Heating (Manx Gas)	17.71	£64.63
Bulk Gas Tank (Manx Gas)	19.32	£70.52

# Historic Prices of Domestic Fuels

## HOW TO INTERPRET THIS SECTION:

The graphs below show the unit cost of each heating fuel. The standing charges for Gas and Electricity has been incorporated in the overall cost.

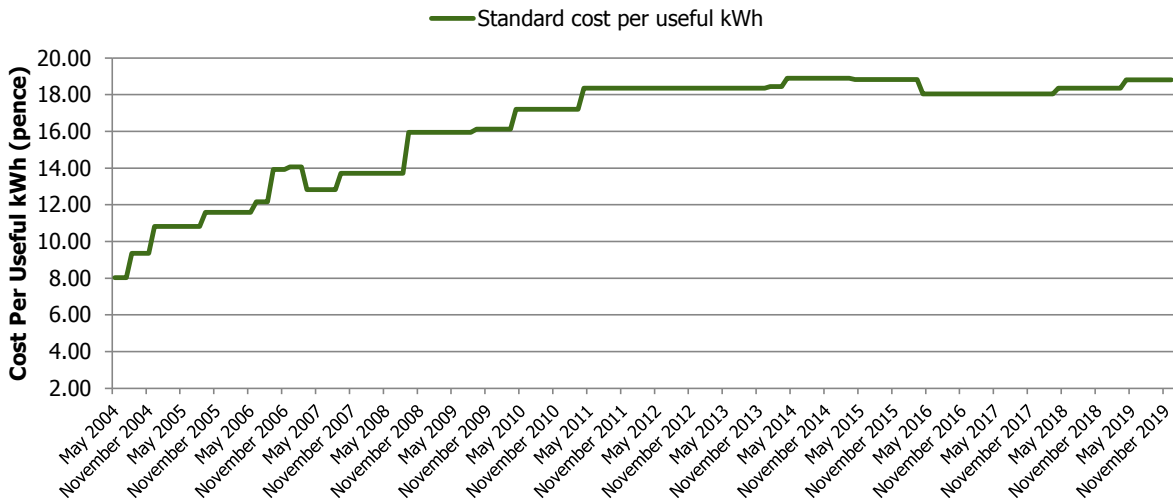
Whilst oil and solid fuels do not have standing charges to consider, payment may be required up front and storage facilities are required.

January 2013 saw the introduction of the All-Island Gas tariff. Therefore, from January 2013, the prices of "Star Saver" LPG and natural gas were unified.

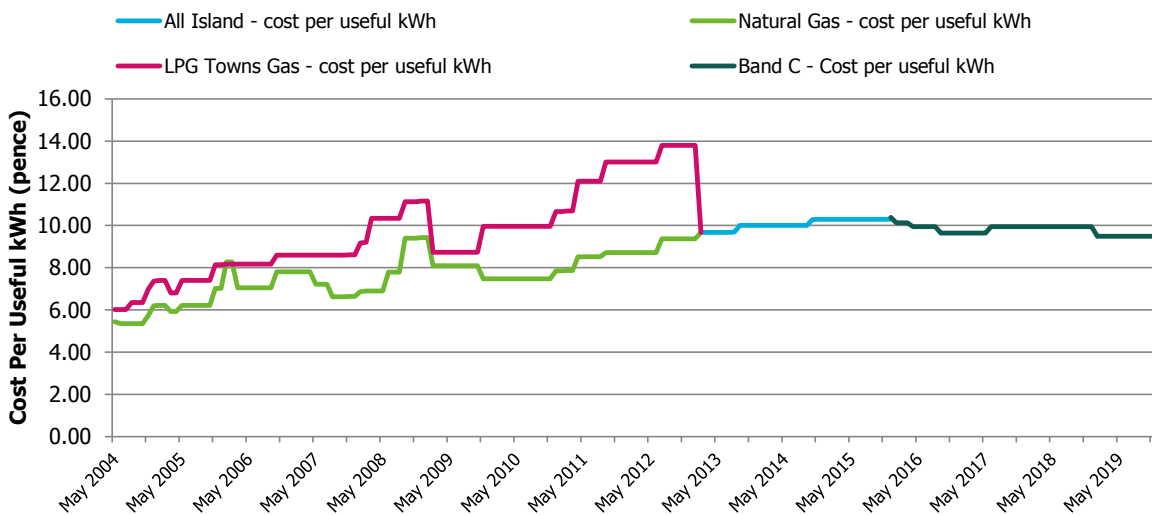
January 2016 saw the introduction of the Gas Banded Standing Charge tariff structure for Natural Gas customers. This means that standing charges are based upon levels of consumption. The gas chart shows the cost for Band C, which is approximately the level of the average consumer (10,000 kWh).

The cost per useful kWh are based on efficiency ratings and heat contents quoted on the previous page.

## Electricity Cost Per Useful kWh

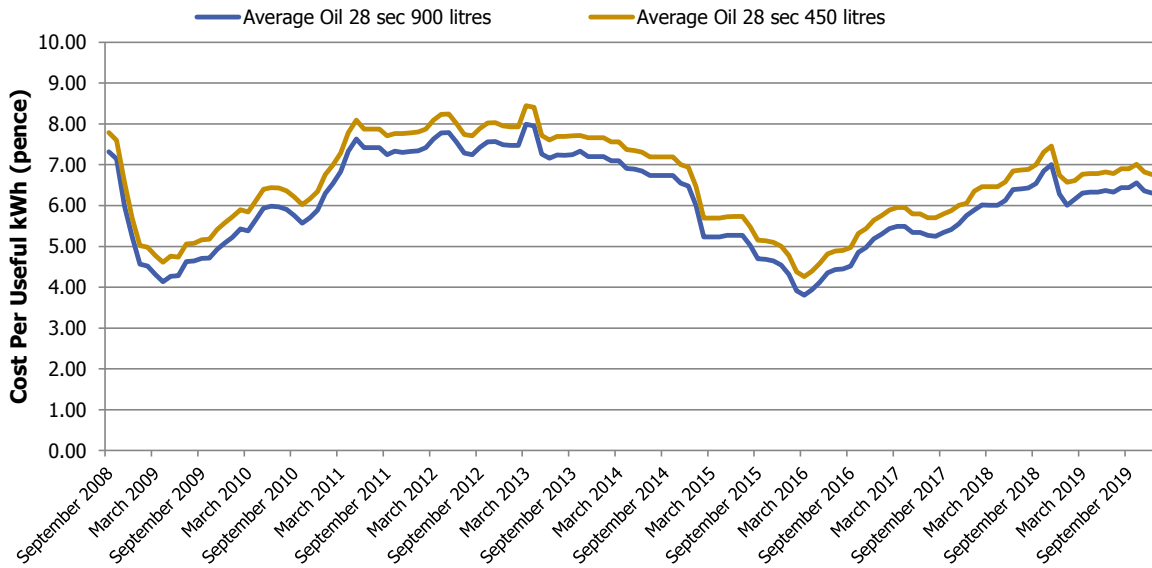


## Gas Cost Per Useful kWh

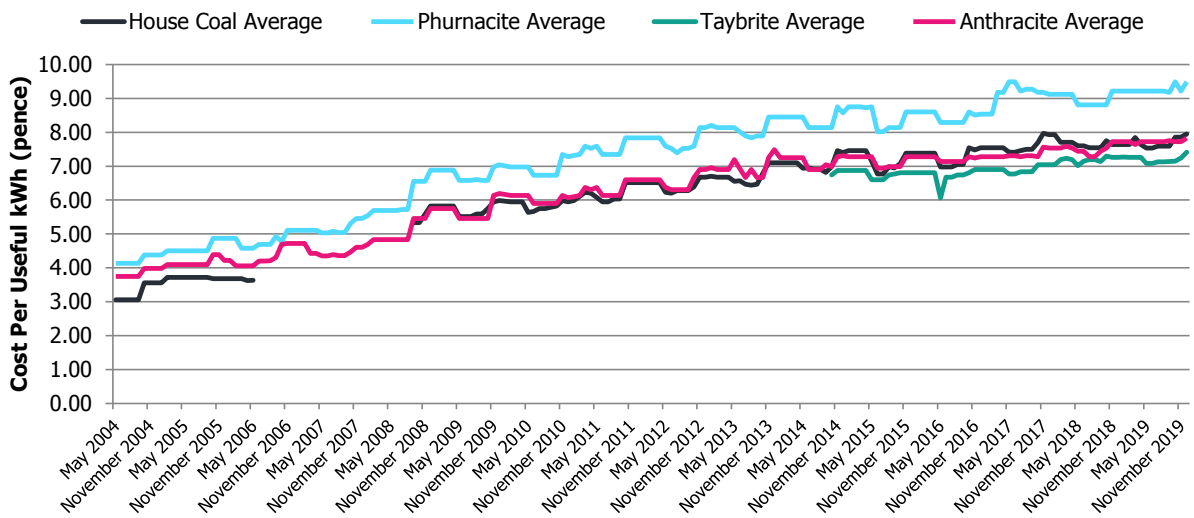


# Historic Prices of Domestic Fuels

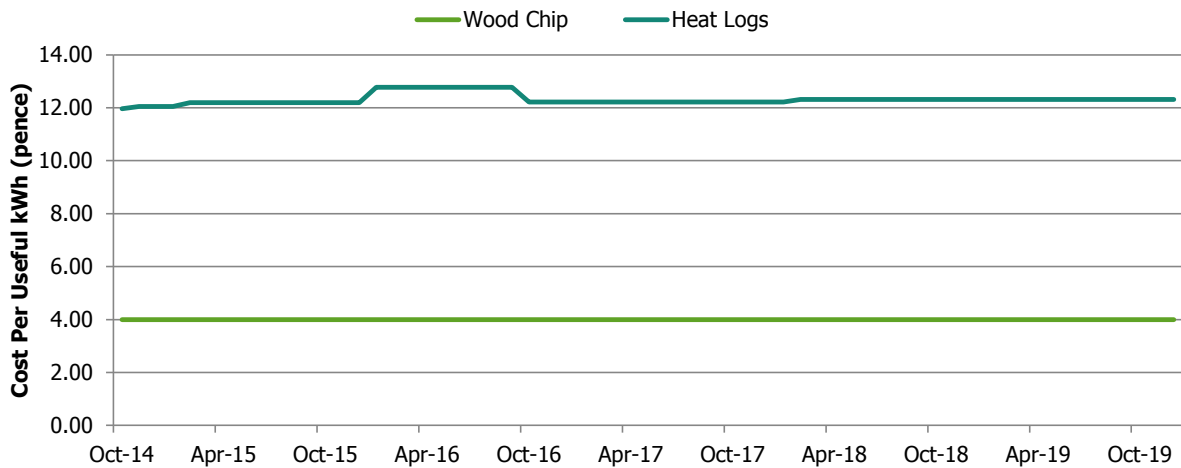
## Heating Oil Cost Per Useful kWh



## Coal Fuels Cost Per Useful kWh



## Wood Products Cost Per Useful kWh



## Annual Energy Bill According to Usage

### HOW TO INTERPRET THIS SECTION:

The prices shown below indicate the annual cost of domestic heating, according to the volume of usage. The prices below do not take into account the thermal efficiency of the appliances being used, since it relates to overall consumption (i.e. the total number of units purchased from suppliers) rather than useful heat extracted.

The average gas consumption per annum per central heating consumer in the Isle of Man is 10,000 kWh. It is difficult to estimate annual usage for oil, solid fuel and heat logs since consumers purchase from different suppliers over time. For the purposes of this document, it is assumed that consumers using oil, solid fuel or wood also consume 10,000 kWh per annum. This is a broad assumption to allow for comparison between annual prices and may not therefore, be reflective of actual consumption habits by consumers.

The average consumption of electricity per annum is assumed to be 3,800 kWh for those using standard electricity, used only partially or rarely for heating the home. This cost will therefore be in addition to other heating expenses such as gas, oil or solid fuel. Those using electricity for central heating should be on the comfy heat tariff, where consumption is assumed to be 6,000 kWh per annum, split 50:50 between peak and off-peak hours. The lower consumption reflects the fact that consumers tend to be housed in relatively small, newly built apartments which require less energy to heat. For further explanation, please see the UK Department of Energy and Climate Change's publication, for which a web link is contained on the final page.

The average energy consumption for running a heat pump is expected to be lower than other methods, due to the high thermal efficiency of heat pumps. Given a c.300% thermal efficiency, a heat pump would be able to provide c. 10,000 kWh of useful heat for between 3 - 4,000 kWh of input energy.

The annual bills stated below include standing charges for gas and electricity.

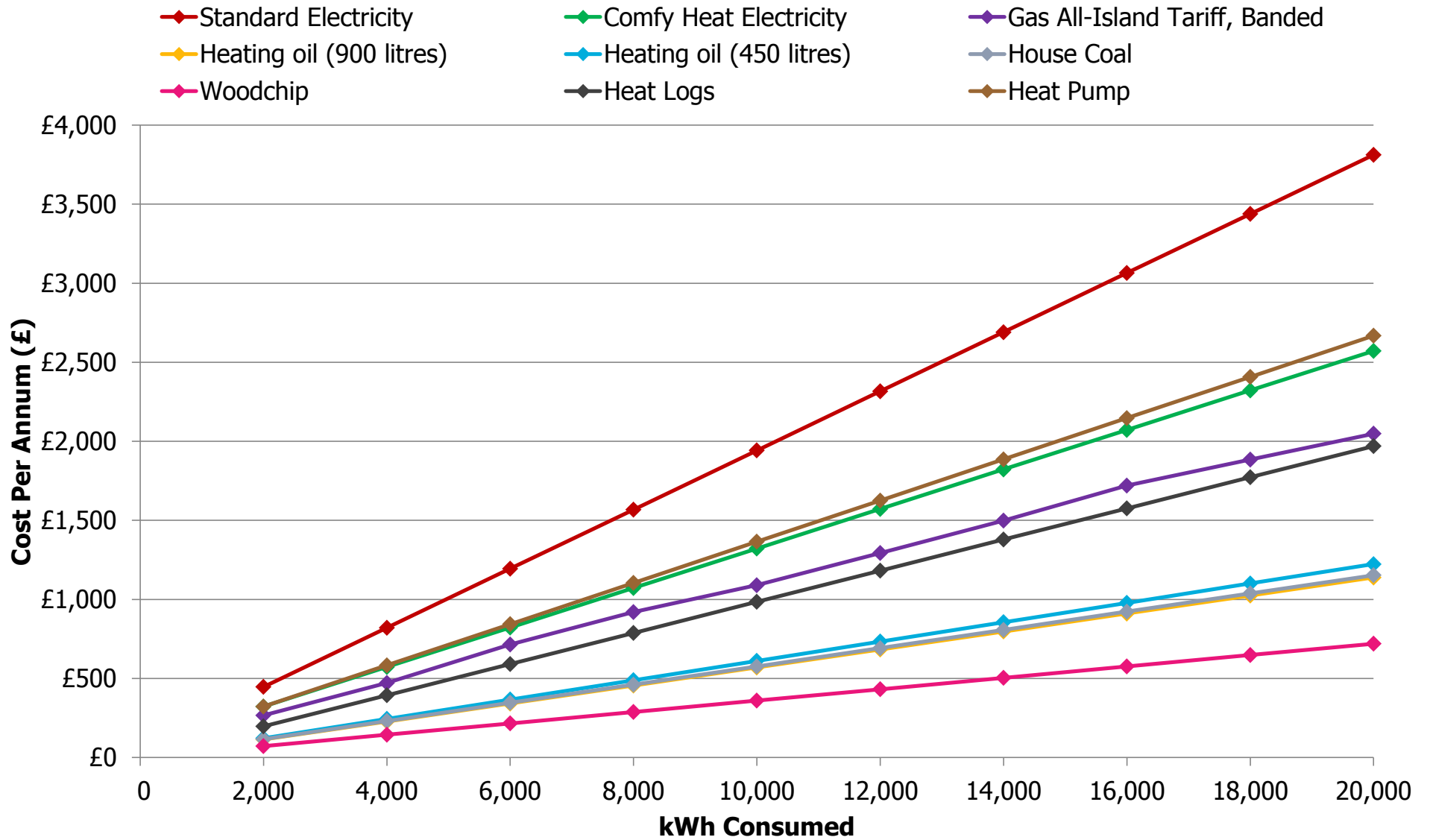
Consumed	Electricity			Gas	Heating Oil		Solid Fuel	Manufactured Wood	
	Standard or Prepayment	Comfy Heat	Heat Pump	All-Island Tariff, Banded	Ordered in volume of 900 litre	Ordered in volume of 450 litre	House Coal	Woodchip	Heat Logs
<b>2,000</b>	£447	£322	£322	£267	£114	£122	£115	£72	£197
<b>4,000</b>	£821	£572	£583	£471	£228	£245	£231	£144	£394
<b>6,000</b>	£1,195	£822	£844	£715	£342	£367	£346	£216	£591
<b>8,000</b>	£1,569	£1,072	£1,104	£920	£456	£489	£461	£288	£788
<b>10,000</b>	£1,942	£1,322	£1,365	£1,090	£569	£611	£577	£360	£985
<b>12,000</b>	£2,316	£1,572	£1,626	£1,293	£683	£734	£692	£432	£1,182
<b>14,000</b>	£2,690	£1,822	£1,886	£1,499	£797	£856	£807	£504	£1,379
<b>16,000</b>	£3,064	£2,072	£2,147	£1,720	£911	£978	£923	£576	£1,576
<b>18,000</b>	£3,438	£2,322	£2,407	£1,884	£1,025	£1,101	£1,038	£648	£1,773
<b>20,000</b>	£3,812	£2,572	£2,668	£2,048	£1,139	£1,223	£1,153	£720	£1,970

Assumed average annual volume of use per household

**Annual Cost = (Average Cost Over Year / Heat Content Per Unit Sold) x kWh Consumed**

# Annual Energy Bill According to Usage

## Annual Domestic Heating Price Comparison



## COMPARATIVE DOMESTIC HEATING COSTS VARYING BY APPLIANCE EFFICIENCY

### HOW TO INTERPRET THIS SECTION:

These figures illustrate how the thermal efficiency of an appliance can considerably impact on the cost per useful kWh. Whilst it is not possible to achieve 100% conversion efficiency (column highlighted grey), the column is included for reference purposes.

The average gas consumption by domestic central heating customers on the Isle of Man is 10,000 kWh. The assumed use of a 90% efficient boiler would result in an average annual requirement of 9,000 kWh of useful heat. For comparative purposes, it is therefore assumed that 9,000 kWh of useful heat are required for all fuels. Figures in the "average annual bill" table illustrate the annual cost required to extract 9,000 kWh of useful energy from each of the heating fuels listed, through a range of possible appliance efficiencies.

The prices below do not include standing charges in the total cost.

For the purposes of the final table shown, it is assumed that one 47kg gas cylinder contains 650 kWh and one litre of bulk gas contains 7 kWh.

AVERAGE COST PER USEFUL kWh CONSUMED (pence)												
	100%	95%	90%	85%	80%	75%	70%	60%	50%	40%	30%	20%
<b>Gas</b>	<i>Typical of a modern, fully condensing boiler</i>						<i>Typical of an older, less efficient boiler</i>					
All-Island Tariff Band C	8.54	8.99	9.49	10.05	10.68	11.39	12.20	14.24	17.08			
<b>Heating Oil</b>												
900 Litre Oil	5.69	5.99	6.33	6.70	7.12	7.59	8.13	9.49	11.39			
450 Litre Oil	6.11	6.44	6.79	7.19	7.64	8.15	8.74	10.19	12.23			
<b>Average Solid Fuel</b>	<i>Typical of a modern stove</i>						<i>Typical of an open fire</i>					
House Coal	5.77				7.21	7.69	8.24	9.61	11.53	14.42	19.22	28.83
Taybrite	5.76				7.20	7.68	8.23	9.60	11.52	14.40	19.20	28.81
Anthracite	5.80				7.24	7.73	8.28	9.66	11.59	14.49	19.32	28.98
Phurnacite	6.94				8.68	9.25	9.92	11.57	13.88	17.35	23.14	34.70
<b>Manufactured Wood</b>	<i>Typical of a modern wood chip boiler</i>											
Woodchip	3.60		4.00	4.24	4.50							
Heat Logs	9.85				12.31	13.13	14.07	16.41	19.70	24.62	32.83	49.24

$$\text{Cost Per Useful kWh} = (\text{Average Cost Per Unit Over Year} / \text{Heat Content Per Unit Sold}) / \text{Thermal Efficiency of Appliance}$$



## COMPARATIVE DOMESTIC HEATING COSTS VARYING BY APPLIANCE EFFICIENCY

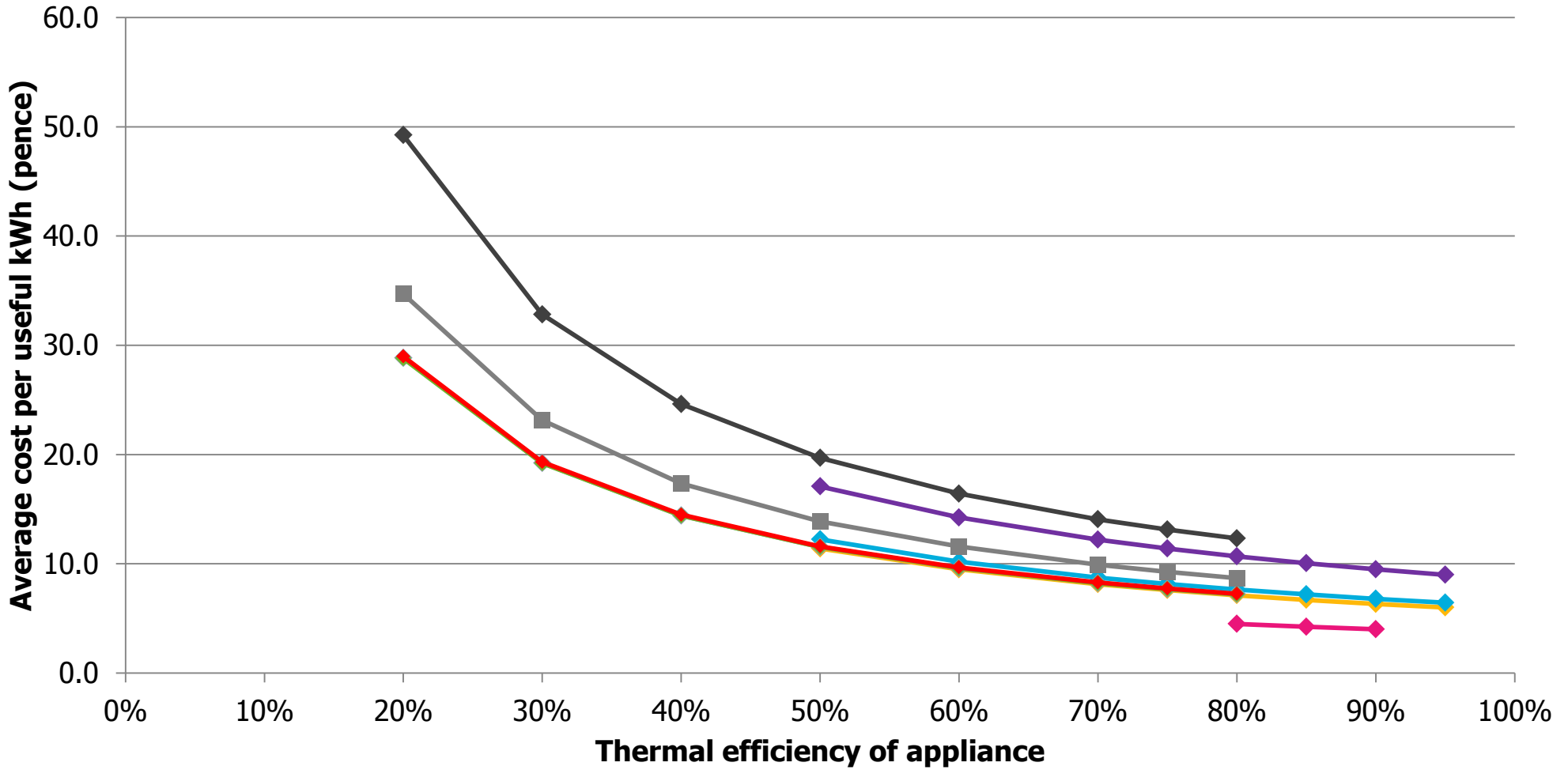
AVERAGE ANNUAL BILL EXTRACTING 9,000 kWh OF USEFUL HEAT (rounded to the nearest £)												
	100%	95%	90%	85%	80%	75%	70%	60%	50%	40%	30%	20%
<b>Gas</b>	<i>Typical of a modern, fully condensing boiler</i>						<i>Typical of an older, less efficient boiler</i>					
All-Island Tariff Band C	£769	£809	£854	£904	£961	£1,025	£1,098	£1,281	£1,537			
<b>Heating Oil</b>												
900 Litre Quantity	£512	£539	£569	£603	£641	£683	£732	£854	£1,025			
450 Litre Quantity	£550	£579	£611	£647	£688	£734	£786	£917	£1,101			
<b>Average Solid Fuel</b>	<i>Typical of a modern stove</i>						<i>Typical of an open fire</i>					
House Coal	£519				£649	£692	£741	£865	£1,038	£1,297	£1,730	£2,595
Taybrite	£519				£648	£691	£741	£864	£1,037	£1,296	£1,728	£2,593
Anthracite	£522				£652	£695	£745	£869	£1,043	£1,304	£1,739	£2,608
Phurnacite	£625				£781	£833	£892	£1,041	£1,249	£1,562	£2,082	£3,123
<b>Manufactured Wood</b>	<i>Typical of a modern wood chip boiler</i>											
Woodchip	£324		£360	£381	£405							
Heat Logs	£886				£1,108	£1,182	£1,266	£1,477	£1,773	£2,216	£2,955	£4,432

UNITS OF FUEL REQUIRED TO EXTRACT 9,000 kWh AS USEFUL HEAT												
	100%	95%	90%	85%	80%	75%	70%	60%	50%	40%	30%	20%
<b>Gas</b>	<i>Typical of a modern, fully condensing boiler</i>						<i>Typical of an older, less efficient boiler</i>					
All-Island Tariff Band C	9,000	9,474	10,000	10,588	11,250	12,000	12,857	15,000	18,000			
Cylinder Central Heating (Cylinders)	9,000	9,474	10,000	10,588	11,250	12,000	12,857	15,000	18,000			
Bulk Gas Tank (Litres)	9,000	9,474	10,000	10,588	11,250	12,000	12,857	15,000	18,000			
<b>Heating Oil</b>												
900 Litre Quantity (Litres)	884	931	982	1,040	1,105	1,179	1,263	1,473	1,768			
450 Litre Quantity (Litres)	884	931	982	1,040	1,105	1,179	1,263	1,473	1,768			
<b>Average Solid Fuel</b>	<i>Typical of a modern stove</i>						<i>Typical of an open fire</i>					
House Coal (50kg bags)	21				27	28	30	35	43	53	71	106
Taybrite (50kg bags)	20				24	26	28	33	39	49	65	98
Anthracite (50kg bags)	20				25	27	28	33	40	50	66	99
Phurnacite (50kg bags)	21				26	28	30	34	41	52	69	103
<b>Manufactured Wood</b>	<i>Typical of a modern wood chip boiler</i>											
Woodchip (tonnes)	2.6		2.9	3.0	3.2							
Heat Logs (10 kg bags)	164				205	218	234	273	327	409	545	818

COMPARATIVE DOMESTIC HEATING COSTS VARYING BY APPLIANCE EFFICIENCY

### Annual Domestic Heating Price Comparison

- Gas All-Island Tariff Band C
- Heating Oil 900 Litre Quantity
- Heating Oil 450 Litre Quantity
- House Coal
- Woodchip
- Heat Logs



**CONTACT DETAILS**

Data is obtained directly from suppliers on the date of publication. Please contact suppliers directly to obtain current prices. The following suppliers are thanked for providing information contained within this publication:

**Castletown Fuels**  
**CPL**  
**Department of Environment, Food & Agriculture (DEFA)**  
**Ellan Vannin Fuels**  
**Fairy Cottage**  
**Farmers' Combine**  
**Manx Gas**  
**Manx Petroleums**  
**Manx Utilities Authority**

*This list does not represent an exhaustive list of all local suppliers.*

**FURTHER INFORMATION CAN BE SOUGHT FROM THE FOLLOWING WEBSITES:**

OFT Debt Counselling / Money Management Service	<a href="http://www.gov.im/oft/money/">http://www.gov.im/oft/money/</a>
Home Energy Efficiency advice	<a href="https://www.gov.im/categories/home-and-neighbourhood/energy-efficiency-scheme/get-an-energy-check-up/">https://www.gov.im/categories/home-and-neighbourhood/energy-efficiency-scheme/get-an-energy-check-up/</a> <a href="https://www.manxutilities.im/our-environment/energy-efficiency/energy-saving-tips/">https://www.manxutilities.im/our-environment/energy-efficiency/energy-saving-tips/</a>
Advice Regarding Renewable Energy	<a href="http://www.energysavingtrust.org.uk/renewableselector/sta">http://www.energysavingtrust.org.uk/renewableselector/sta</a>
Interactive Advice on Building Control	<a href="http://www.myhouse.im/">http://www.myhouse.im/</a>
Advice Regarding Installation of Wood Burning Stoves	<a href="http://www.gov.im/categories/home-and-neighbourhood/emergency-services/fire-and-rescue-service/community-fire-safety/wood-burning-stoves/">http://www.gov.im/categories/home-and-neighbourhood/emergency-services/fire-and-rescue-service/community-fire-safety/wood-burning-stoves/</a>
UK Government Advice Regarding Burning Wood	<a href="https://www.forestresearch.gov.uk/documents/1958/FR_BE_C_Wood_as_Fuel_Technical_Supplement_2010.pdf">https://www.forestresearch.gov.uk/documents/1958/FR_BE_C_Wood_as_Fuel_Technical_Supplement_2010.pdf</a>
Identifying a Specific Boiler's Efficiency Rating	<a href="http://www.ncm-pcdb.org.uk/sap/pcdbsearch.jsp?pid=26">http://www.ncm-pcdb.org.uk/sap/pcdbsearch.jsp?pid=26</a>
UK Government Publication Regarding Average Domestic Heating Consumption June	<a href="https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/639098/Energy_Trends_June_2017.pdf">https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/639098/Energy_Trends_June_2017.pdf</a>

**Please Contact the Competition & Pricing Section of the Office of Fair Trading with any queries regarding this publication.**

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