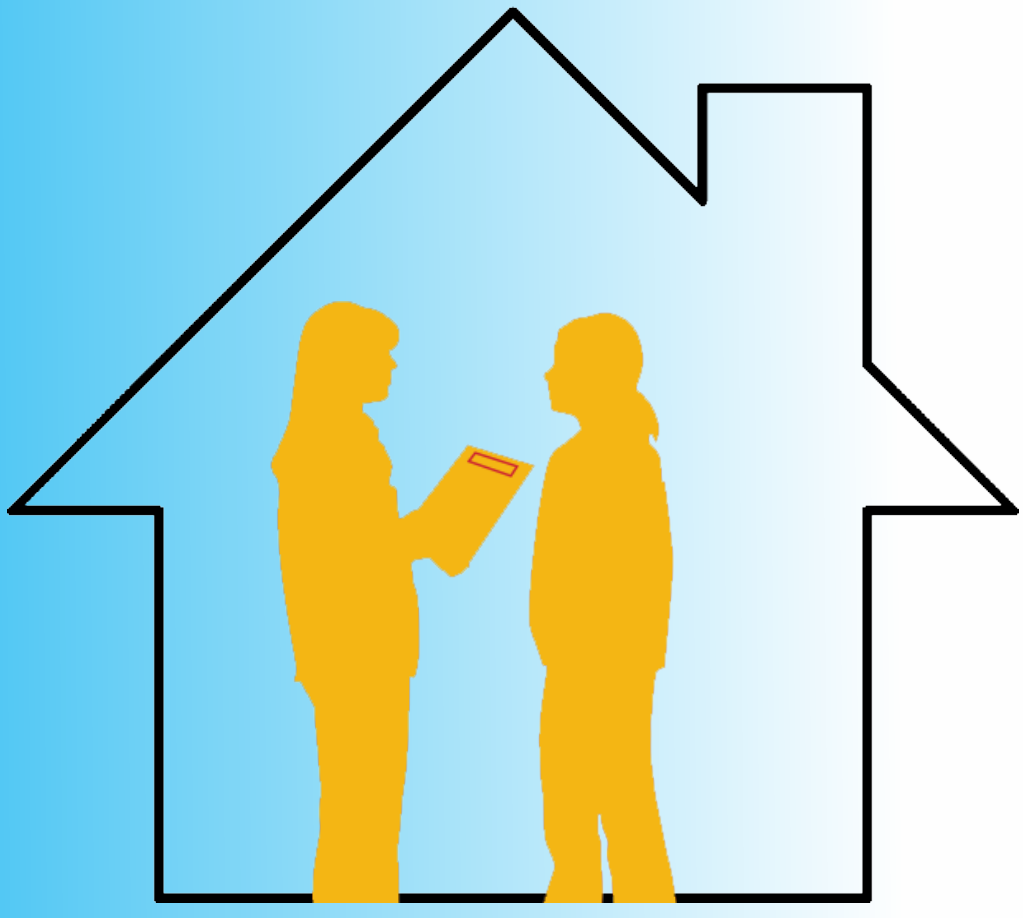
Edition 4 (Dec 2022)

Action for Warm Homes

NEA / CITY & GUILDS LEVEL 3 AWARD IN ENERGY AWARENESS 6281-01

E-LEARNING SUPPORT HANDOUTS



City & Guilds

ENERGY AWARENESS 6281-01 HANDOUTS

CONTENT LIST

The following handouts are intended to support the online course and are not a standalone resource.

Please login to the online course first and refer to the relevant handout when prompted to do so.

Please note that handout answers are in a separate document.

HANDOUT 1 - HEATING APPLIANCES EXERCISE

Identify the following appliances and answer the related questions.

APPLIANCE 1

a. What is the name of this appliance? *(Tick ONE of the four possible answers below)*	
☐	Electric Storage Heater
☐	Electric Fan Heater
☐	Electric Convector Heater
☐	Electric Halogen Heater

Identify two controls on this room heater:	
b.	
c.	

APPLIANCE 2

a. What is the name of this appliance? *(Tick ONE of the four possible answers below)*	
☐	Electric Fan Heater
☐	Electric Storage Heater
☐	Electric Oil Filled Radiator
☐	Electric Convector Heater

Identify two controls on this room heater:	
b.	
c.	

APPLIANCE 3

a. **What is the name of this appliance?** *(Tick ONE of the four possible answers below)*	
☐	Electric Storage Heater
☐	Electric Fan Heater
☐	Electric Oil Filled Radiator
☐	Electric Element Heater

APPLIANCE 4

a. **What is the name of this appliance?** *(Tick ONE of the four possible answers below)*	
☐	Electric Halogen Heater
☐	Fan Assisted Storage Heater
☐	Electric Oil Filled Radiator
☐	Water filled radiator

APPLIANCE 5

a. **What is the name of this appliance?** *(Tick ONE of the four possible answers below)*	
☐	Electric Convector Heater
☐	Electric Oil Filled Radiator
☐	Water Filled Radiator (part of a central heating system)
☐	Electric Storage Heater

APPLIANCE 6

a. **This is an electric element heater, how does heat move from this appliance?**	
☐	Radiation
☐	Conduction
☐	Convection

APPLIANCE 7

a. **What is the name of this appliance?** *(Tick ONE of the four possible answers below)*	
☐	Electric Convector Heater
☐	Electric Oil Filled Radiator
☐	Electric Infra-red Room Heater
☐	Electric Storage Heater

APPLIANCE 8

a. **What is the name of this appliance?** *(Tick ONE of the four possible answers below)*	
☐	Open Coal Fire
☐	Gas Fire
☐	Closed Solid Fuel Fire
☐	Gas Coal Effect Fire

APPLIANCE 9

a. **What is the name of this appliance?** *(Tick ONE of the four possible answers below)*	
☐	Closed Solid Fuel Fire
☐	Gas Coal Effect Fire
☐	Flue
☐	Gas Fire

APPLIANCE 10

a. **What is the name of this appliance?** *(Tick ONE of the four possible answers below)*	
☐	Gas Coal Effect Fire
☐	Gas Fire
☐	Gas Convector Heater
☐	Bottle Gas Heater

APPLIANCE 11

a. **This is a gas convector heater, how does heat move from this appliance?**	
☐	Radiation
☐	Conduction
☐	Convection

APPLIANCE 12

a. **What is the name of this appliance?** *(Tick ONE of the four possible answers below)*	
☐	Gas Coal Effect Fire
☐	Bottle Gas Heater
☐	Gas Convector Heater
☐	Open Gas Fire

HANDOUT 2 - TYPES OF BOILERS AND FLUES

BOILER TYPES

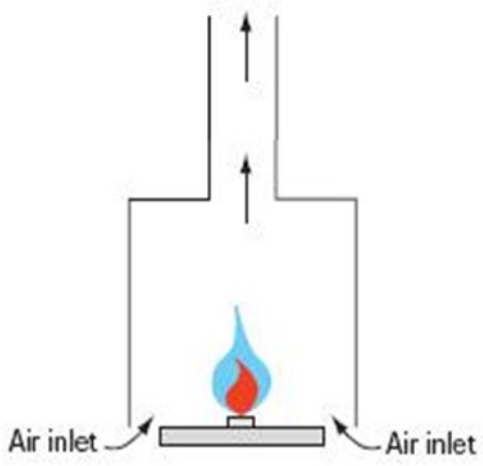
Complete the table below with the name of the boiler type being described.

1. Situated in a fireplace in order to use the existing chimney as a flue. Hot water heated by the burning solid fuel in the grate. Water is contained within a steel or cast-iron container behind the fire.	
BOILER TYPE	
2. Can be fuelled by natural gas, liquid petroleum gas (LPG) or oil. Heats water for the central heating system. Domestic hot water is heated instantaneously. Can be condensing or non-condensing.	
BOILER TYPE	
3. Situated in a fireplace in order to use the existing chimney as a flue. Water is in a metal container which is heated by burning gas. In front of the water tank can either be a gas or electric fire which provides space heating.	
BOILER TYPE	
4. Can be fuelled by natural gas, liquid petroleum gas (LPG) or oil. Heats the water for the central heating system and provides domestic hot water via a heat exchanger in a hot water cylinder. The domestic hot water is stored in the cylinder until it is required. Can be condensing or non-condensing.	
BOILER TYPE	
5. A high efficiency boiler due to the extra surface area of the heat exchanger and because it extracts heat from the flue gases that would otherwise be lost through the flue. Can be a regular boiler or a combination boiler.	
BOILER TYPE	
6. Heats hot water for the central heating system and for domestic hot water. The domestic hot water is heated via a heat exchanger in a cylinder. The boiler is fuelled using wood pellets.	
BOILER TYPE	

FLUE TYPES

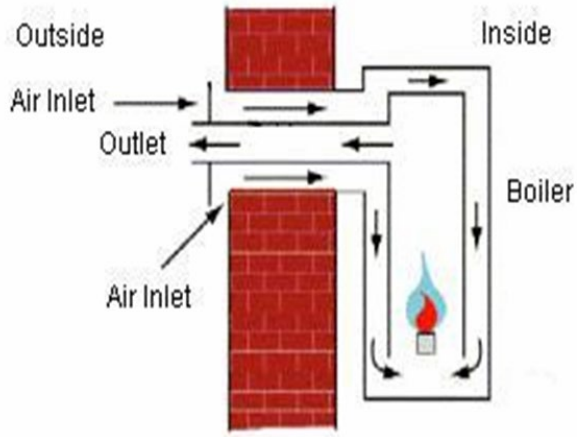
Complete the following to identify the flue type and where it takes air from.

Type 1



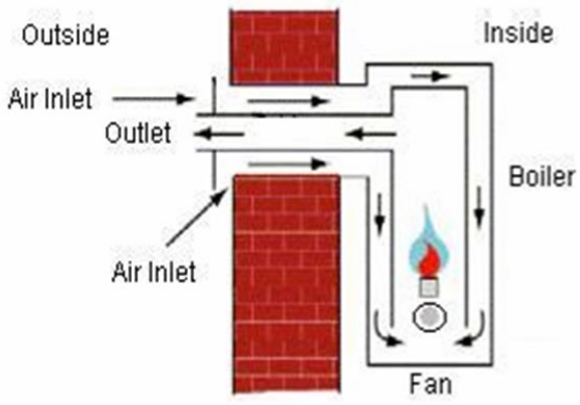
Flue type:
Takes air from:

Type 2



Flue type:
Takes air from:

Type 3



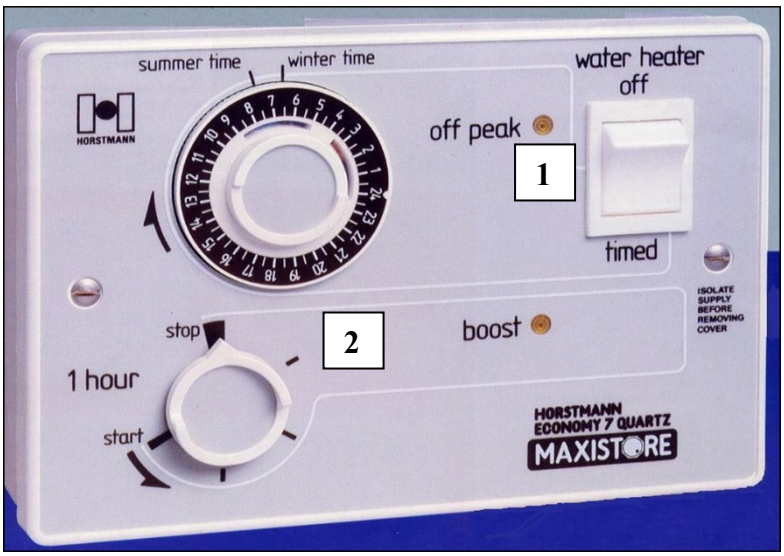
Flue type:
Takes air from:

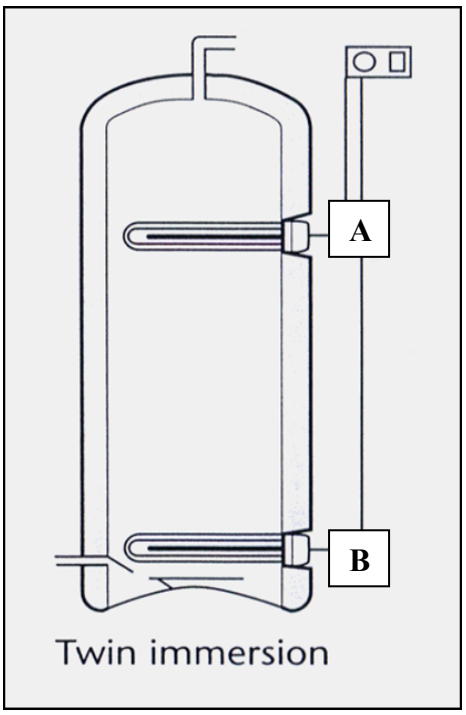
HANDOUT 3 – HOT WATER EXERCISE

Complete the table by naming the hot water system

Description of how water is heated	Water heating system
1. Water is heated instantaneously when any tap is turned on in a house. The water runs from the mains and passes over a heat exchanger which is heated by the hot gases produced by burning gas.	
2. Water is heated directly by an electric element in a cylinder and stored until it is needed.	
3. Water is heated instantaneously when it runs over an electric element, operated by a pressure switch when the tap is turned on.	
4. A hot water heating appliance located behind a solid fuel open fire.	
5. Water is heated under a glass covered plate normally installed on the external area of the roof, facing south.	
6. A gas central heating system that provides instantaneous hot water.	
7. The boiler heats water that passes through a heat exchanger in the hot water cylinder. The water in the cylinder does not come into contact with the water from the boiler.	

HANDOUT 4 – HOT WATER CONTROLS





a. Identify the hot water control above.
b. Which of the controls, 1 or 2, switches on element B in the cylinder?
c. Why would the householder activate element A?
d. Which control activates element A in the cylinder?

HANDOUT 5 – ELECTRICITY RUNNING COSTS

NOTE: If the power rating is already in kilowatts (kW) there is no need to divide by 1000. If time is already in hours there is no need to divide by 60**.**
Time and consumption figures have been rounded to 2 decimal places on the answer sheet (please the example below).

Appliance / Power Rating	Running Time	Watts to kW *(W ÷ 1000)*		X	Time in Hours *(mins ÷ 60)*		=	Consumption (kWh)		X	Cost per unit	=	Cost in pence *(answers to 1 decimal place)*
example													
Kettle 2400W	***5 minutes***	*(2400 ÷ 1000)* ***2.4***	***kW***	X	*(5 ÷ 60)* ***0.08***	***hr***	=	***0.19***	***kWh***	X	***30p***	=	***5.7 p***
Microwave 650W	15 minutes		kW	**X**		hr	=		kWh	**X**	30p	=	
Hairdryer 1200W	5 minutes		kW	**X**		hr	=		kWh	**X**	30p	=	
Tumble dryer 2500W	2 hours		kW	**X**		hr	=		kWh	**X**	30p	=	
Coffee maker 800W	20 minutes		kW	**X**		hr	=		kWh	**X**	30p	=	
Immersion heater 3kW	30 minutes		kW	**X**		hr	=		kWh	**X**	30p	=	
Dishwasher 2kW	55 minutes		kW	**X**		hr	=		kWh	**X**	30p	=	

HANDOUT 6 – GAS CONSUMPTION

STEP ONE – Calculating the number gas units used and then converting them into kilowatt hours (kWh)

	Current Reading	Previous Reading	No. of Units Used	X	Convert to m^3	X	Volume Conversion Factor	X	Calorific Value	Conversion to kWh: ÷ 3.6	Number of kWh used *(Answers to 2 decimal places)*
1	1409 ft^3	1016 ft^3		**X**	2.83	**X**	1.022640	**X**	40.5	÷ 3.6	
2	6343 ft^3	6202 ft^3		**X**	2.83	**X**	1.022640	**X**	40.5	÷ 3.6	
3	14067m^3	13621m^3				**X**	1.022640	**X**	40.5	÷ 3.6	
4	30001m^3	29809m^3				**X**	1.022640	**X**	40.5	÷ 3.6	

HANDOUT 7 – GAS COST

STEP TWO - Calculating the Cost of Gas

*Note: When multiplying the number of **kilowatt hours** by the **unit cost** (shown in pence) the answer will be in pence. To convert this into pounds and pence, divide your answer by 100.*

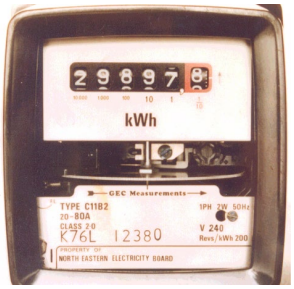
	Number of kWh ***(from handout 6 above)***		**Gas total unit charge (£)**		**Gas daily standing charge (£)**		**Total cost of gas (£)** ***excluding vat***
1		*kWh*	X 7.22p =		115 days at 27.0p per day =		
2		*kWh*	X 7.28p =		91 days at 28.0p per day =		
3		*kWh*	X 7.15p =		68 days at 27.5p per day =		
4		*kWh*	X 7.35p =		68 days at 28.5p per day =		

HANDOUT 8 – METERS AND DIAL METER READING

From the following list identify the meters / dial meters in the images below:

Electric LCD Meter
Electric Dial Meter
Electric Smart Meter
Electric Economy 7 Meter
Electric Prepayment Key Meter
Gas Digital Meter (Imperial)
Gas Prepayment Meter
Gas Digital Meter (Metric)

For example:



EXAMPLE ANSWER

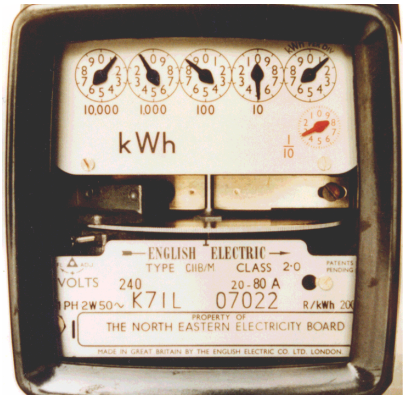
Electric Digital Meter

1 - ANSWER

2 - ANSWER

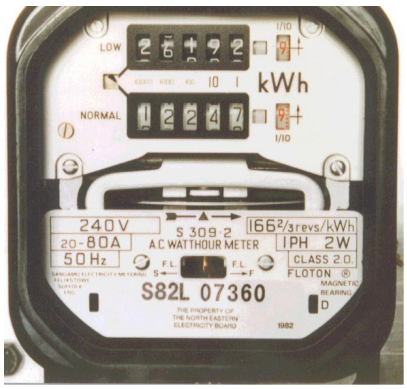
3 - ANSWER

4 - ANSWER

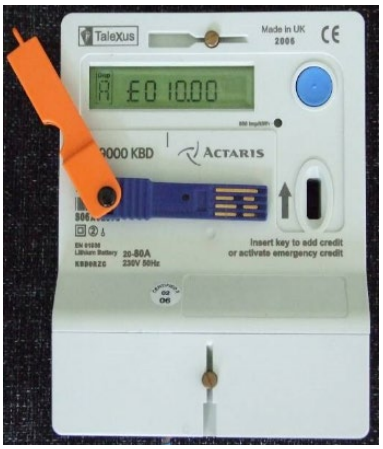


5 - ANSWER

6 - ANSWER



7 - ANSWER

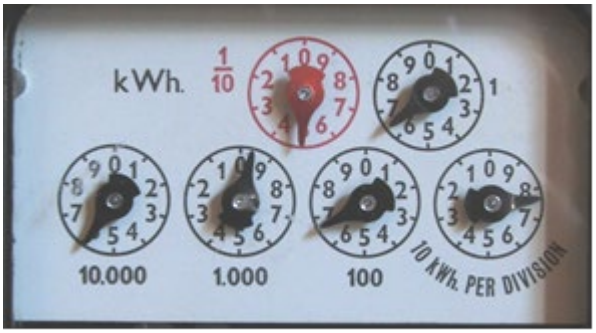


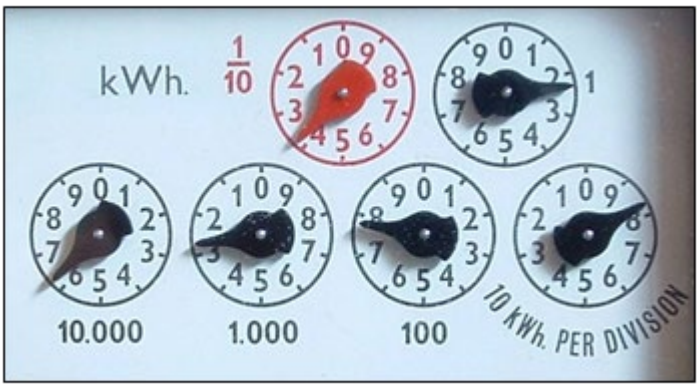
8 - ANSWER

DIAL METER READINGS

Read the bottom row of dials first (from 10,000 to 10 units) then read the dial on the right on the top row.

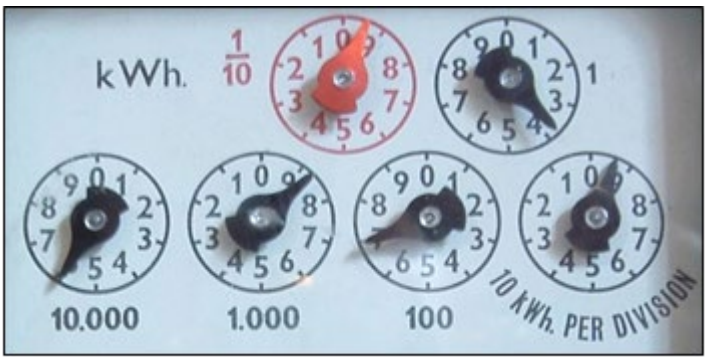
The meter reading is 59676





1

2



3

4

HANDOUT 9 - ON-PEAK AND OFF-PEAK EXERCISE

The following figures are taken from on-peak (normal) / off-peak (low) bills.

Using the present and the previous meter readings and the current prices for low and normal rates of the tariff calculate the cost of the electricity used.

	Present	**Previous**	**Units used**	**Price**	**Amount**
Off-peak	21400	21139		15.92p	£
On-peak	14987	14735		33.59p	£
Standing charge - 101 days at 44.25p per day					£
				Subtotal	**£**
Add VAT @ 5% *(formula: Subtotal ÷ 100 x 5 = VAT amount)*					£
				TOTAL	**£**

	Present	**Previous**	**Units used**	**Price**	**Amount**
Off-peak	14172	14091		15.92p	£
On-peak	12277	12061		33.59p	£
Standing charge - 90 days at 44.25p per day					£
				Subtotal	**£**
Add VAT @ 5% *(formula: Subtotal ÷ 100 x 5 = VAT amount)*					£
				Total	**£**

HANDOUT 10 - ON-PEAK AND OFF-PEAK STATEMENT EXERCISE

Using the information below, recalculate the estimated bill by completing the table that follows:

Electricity Statement – Your tariff is Economy 7

Your electricity use this period – ***estimated***

Meter serial number K85L12345

Meter readings

	Reading last time	Reading this time	kWh used
Day energy	11343 – our reading	12125 – estimated	782
Night energy	26080 – our reading	26188 – estimated	108

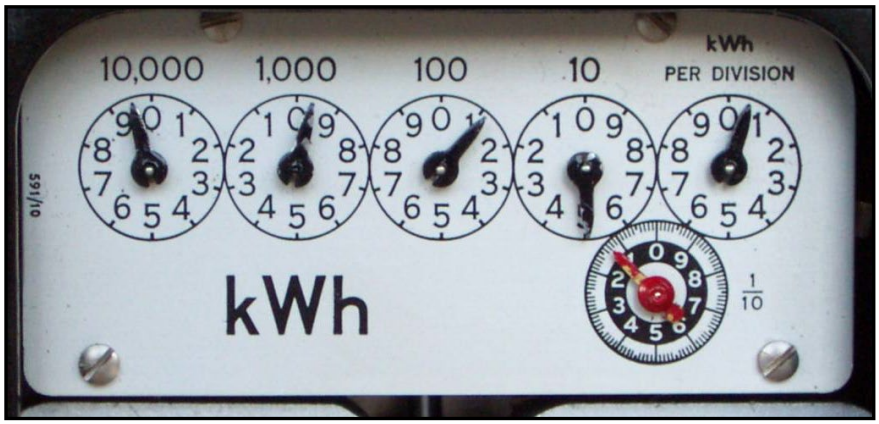
Charges for electricity used

Day energy	782 kWh at 35.725p per kWh	£279.37
Night energy	108 kWh at 16.39p per kWh	£17.70
Standing charge @ 47.00p per day for 90 days		£42.30
VAT@ 5.0%		£16.97
Amount Due		**£356.34**

a) Identify the meter.	Fuel:	
	Type:	
b) Take a meter reading.	Low:	
	Normal:	
c) Using the information in the bill calculate the correct number of low units and normal units used.	Low:	
	Normal:	
d) Using the information in the bill to help calculate the correct cost of the units used.	Low:	
	Normal:	
	Total:	
e) Calculate the correct total cost of the units used including the standing charge.		
f) Calculate the cost of the VAT.		
g) Calculate the total amount due.		

HANDOUT 11 - ELECTRICITY STATEMENT EXERCISE

Using the meter reading and billing information below calculate the cost of the electricity used by completing the table that follows:



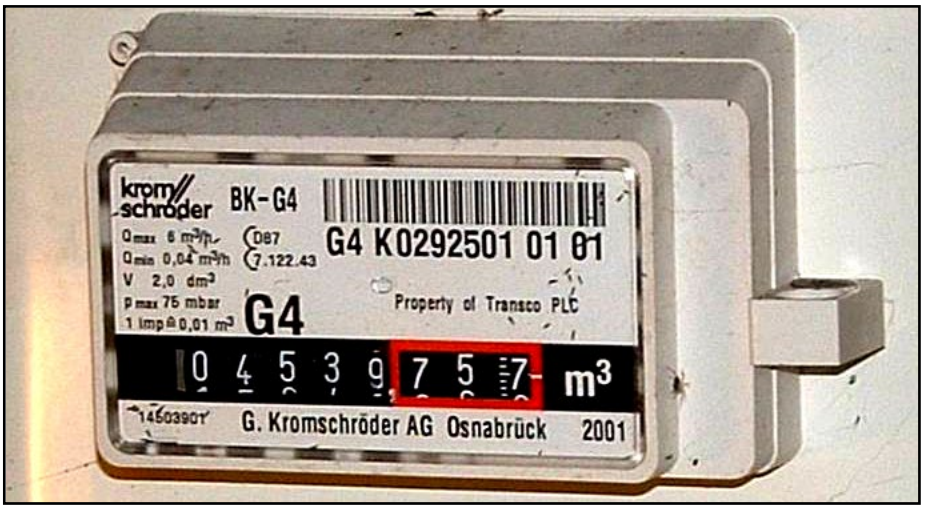
Your electricity statement
Tariff Type – Standard Monthly Direct Debit

Meter readings	
24 October 202X – Our reading	98502
22 January 202X – **Estimated meter reading**	99213
KWh used over 90 days	**711**
This cost:	
711 kWh at 27.45p per kWh	£195.17
Standing charge 90 days at 48.25p per day	£43.43
Subtotal	£238.60
VAT at 5.00% on £115.88	£11.93
Total cost to pay	**£250.53**

a) Identify the meter.	Fuel:	
	Type:	
b) Take a meter reading.		
c) From your meter reading calculate the correct number of units used since the previous reading.		
d) Calculate the cost of the units used.		
e) Calculate the cost of the electricity used including the standing charge.		
f) Calculate the amount of VAT to be paid.		
g) Calculate the total cost of the electricity used during the period of the bill.		

HANDOUT 12 - GAS STATEMENT EXERCISE

Using the meter and billing information calculate how much gas the customer has used since they received the bill shown below by completing the table that follows. It has been **91 days** since the last bill.



Meter readings	
17 Oct 202X – we read your meter	03620
26 Jan 202X – we read your meter	03958
Actual units used over 102 days	338
Gas units converted into kWh (Unit calorific value for this period 39.4)	**3782.97**

We convert your units to kilowatt hours in the following way:

*gas units used **x** calorific value (39.4) **x** volume conversion factor (1.022640) ÷ by kilowatt hour conversion factor (3.6) **=** kilowatt hours used*

Charges	
Cost of gas used	
3782.97 kWh at 7.326 pence per kWh	**£277.14**
Standing charge 102 days at 48.69 pence a day	**£49.66**
Total charges excluding VAT	**£326.80**
VAT 5.00% of £190.21	**£16.34**
Total charges	**£343.14**

Summary

a) Identify the meter.	Fuel:	
	Type:	
b) Take a meter reading.		
c) Calculate how many units of gas the customer has used since the reading in January.		
d) Calculate the number of kWh used.		
e) Calculate the cost of the kWh of gas used.		
f) Calculate the cost of the standing charge (91 days)		
g) Calculate the total charges excluding VAT.		
h) Taking into account VAT calculate the total charge for the gas used.		

HANDOUT 13 - GAS STATEMENT EXERCISE

Calculate the balance to be carried forward by completing the table that follows the statement:

Balance brought forward								**£140.00 debit**	
Gas you've used this period									
27 Nov XX – estimated meter reading 1289 25 Feb XX – estimated meter reading 1472 = 183 imperial units used over 90 days (estimated) Gas units converted = 5914.03 kWh used over 90 days									
5914.03 kWh of gas at 7.255 per kWh								£429.06	
Standing charge for 90 days at 28.45 p per day								£25.61	
Total cost excluding VAT								**£454.67**	
Total cost including VAT (at 5%)								**£477.40**	
Gas units converted to Kilowatt hours using the formula:									
Imperial units used	X	metric conversion factor	X	calorific value	X	volume correction	÷	To convert to kWh	= Gas used in kWh
183	X	2.83	X	40.2	X	1.022640	÷	3.6	= 5914.03 kWh
Total energy charges this period								**£477.40**	
Payments received 14 December £140.00 14 January £140.00 14 February £140.00									
Total received								**£420.00**	

a) What was the outstanding balance brought forward from the previous bill?	
b) What are the total payments received to date?	
c) What are the total energy charges for this period?	
d) Calculate the balance that will be carried forward to the next statement?	

HANDOUT 14 – HEAT COSTS TABLES

Use the Comparative Heating Costs tables on the following page to answer the following (alternatively you can CLICK HERE to open the heating cost tables in a new page):

1. What is the unit cost in pounds for 200kg of wood logs purchased from Scotland?

2. Name the space heating appliances you could use if you had an Economy Seven Domestic Tariff (Midlands Table)?

3. Looking at both tables, who are the three suppliers of natural gas?

4. A householder living in the Midlands, uses an oil fired condensing combination boiler for space heating and hot water. They live in a 4 bedroom house and would like to know how much they could save annually by installing an oil fired condensing boiler.

5. What is the annual cost of heating a 3 bedroom house in Scotland on an electricity single tier tariff?

6. What is the difference in efficiency between a condensing gas fired boiler and a condensing combination gas fired boiler for domestic hot water heating (use either the Midlands or Scottish table)?

7. What is the cost per useful kilowatt hour in pence for an LPG fired condensing boiler in Scotland?

8. What is the SAP default efficiency of an immersion water heater (use either the Midlands or Scottish table)?

9. What is the capacity of the storage tank used for LPG (use either the Midlands or Scottish table)?

10. In the Midlands, what is the difference in cost per useful kilowatt hour in pence between using an immersion water heater on the Economy Seven Tariff during the day and using the immersion water heater at night?

COMPARATIVE HEATING COSTS - THE MIDLANDS - APRIL 2021
SPACE AND WATER HEATING FOR HOUSES
BUILT TO COMPLY WITH 1980S BUILDING REGULATIONS & SAP STANDARDS, UPGRADED

FUEL sold in units of		Unit cost in pence (Inc VAT)	Type of heating system	Build. Regs. Min 2020 Replacement / SAP default efficiencies (%) * space	dhw	Cost per useful kWh pence (4)	Annual standing charges (Inc VAT) £	Cost of service & running circulating pump £	Fuel Supplier Discount £ or %	Annual cost of space & water heating for average size houses 2 Bed (1)	3 Bed (2)	4 Bed (3)
SOLID FUEL												
Wood Pellets		30289.46	Pellet Boiler	75	-	8.59						
1 Tonne (inc delivery charge)			Radiators & DHW cylinder	-	55	11.72		35.0		1116	1488	2170
Wood Logs (Kiln Dried Hardwood)		8961.72	Independent log boiler	75	-	11.95						
200kg (inc delivery charge)			Radiators & DHW cylinder	-	55	16.29	-	35.0		1538	2055	3003
Wood Pellets		30289.46	Room heater with boiler	75	-	8.59						
1 Tonne (inc delivery charge)			Radiators & DHW cylinder	-	55	11.72	-	35.0		1116	1488	2170
Wood Logs (Kiln Dried Hardwood)		8961.72	Room heater with boiler	67	-	13.38						
200kg (inc delivery charge)			Radiators & DHW cylinder	-	55	16.29	-	35.0		1678	2248	3299
ELECTRICITY												
Representative Supplier (E.on Energy)												
Single Tier Tariff	a)	18.24	Electric radiators	100.00	-	18.24	100.89	-				
			Immersion water htr	-	70	26.06			35	2384	3180	4633
(paying cash/cheque on Receipt of Bill)									(8)			
			Ground Source Heat Pump					50.00				
			Underfloor	220.0	-	8.29				1050	1463	2110
				-	200	9.12						
			Radiators	175	-	10.42				1325	1751	2552
				-	200	9.12						
			Air Source Heat Pump					50.00				
			Underfloor	220.0	-	8.29				1115	1463	2110
				-	200	9.12						
			Radiators	175	-	10.42				1325	1751	2552
				-	200	9.12						
Economy Seven Domestic Tariff												
(paying by Direct Debit)			Storage htrs, living rooms	90.0	-	11.71						
Single Tier Tariff	a)	19.96	Electric rads, bedrooms	100.0	-	19.96						
			Immersion water htr, night	-	70	15.05						
Night Units	b)	10.54	Immersion water htr, day	-	70	28.51	85.0	-	0	1663	2187	3177
Night Use =90%									(9)			
NATURAL GAS												
British Gas		3.02	Gas fired condensing	90	-	3.36	95.8	55	0	562	705	968
Single tier, Direct Debit Tariff			combination boiler	-	75	4.03						
			Radiators									
		3.02	Gas fired condensing boiler	90	-	3.36	95.8	55	0	574	720	987
			Radiators & DHW cylinder	-	65	4.65			(9)			
Alternative Supplier												
		3.00	Gas fired condensing	90	-	3.33	99.8	55.00		543	685	947
E.on Energy			combination boiler	-	75	4.00			20			
Direct Debit Tariff			Radiators									
Single Tier												
		3.00	Gas fired condensing boiler	90	-	3.33	99.8	55.00		556	700	965
			Radiators & DHW cylinder	-	65	4.62			20			
									(10)			
LPG												
		47.25	LPG fired condensing	90	-	7.38						
Propane		(5)	combination boiler	-	75	8.86	59.2	55		1018	1332	1912
1 Litre			Radiators				(6)					
		47.25	LPG fired condensing boiler	90	-	7.38						
		(5)	Radiators & DHW cylinder	-	65	10.22	59.2	55		1046	1366	1952
OIL												
		39.37	Oil fired condensing	86	-	4.42						
Kerosene		(7)	combination boiler	-	73	5.21	-	55		595	782	1129
			Radiators									
1 Litre		39.37	Oil fired condensing boiler	88	-	4.32						
		(7)	Radiators and DHW cylinder	-	70	5.43	-	55		590	774	1115

Notes
(1) Terraced 2 bedroom house, 9850 kWh space heating & 2000 kWh DHW heating.
(2) Semi-detached 3 bedroom house, 13500 kWh space heating & 2500 kWh DHW heating.
(3) Detached 4 bedroom house, 20750 kWh space heating & 3000 kWh DHW heating.
(4) Cost/Useful kWh based on 3-bed house; 2-bed house figure will be higher; 4-bed house figure will be lower
(5) Fuel delivered to 1200 litre storage tank. Rental shown in standing charge column.
(6) Includes tank provision and renewal, plus annual safety inspection
(7) Fuel delivered in 1000 litre drop.
(8) Discount available to customers paying by direct debit. Additional discounts for paperless billing (£5) and Dual Fuel (£20) not included in final Annual Cost calculation
(9) Any direct debit discounts available already taken into account in unit cost
(10) Discount for Dual Fuel. Additional discounts for Paperless Billing (£10) not included in final Annual Cost calculation
* SAP default values used where SAP value greater than Building Regs. default value and/or where Building Regs. did/does not stipulate minimum values

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COMPARATIVE HEATING COSTS - SCOTLAND - APRIL 2021
SPACE AND WATER HEATING FOR HOUSES
BUILT TO COMPLY WITH 1980S BUILDING REGULATIONS & SAP STANDARDS, UPGRADED

FUEL sold in units of		Unit cost in pence (Inc VAT)	Type of heating system	Build. Regs. Min 2020 Replacement / SAP default efficiencies (%) * space	dhw	Cost per useful kWh in pence	Annual standing charge (Inc VAT) £	Cost of maintenance & running circulating pump £	Dual Fuel Supplier Discount £	Annual cost of space & water heating for average size houses 2 Bed (1)	3 Bed (2)	4 Bed (3)
SOLID FUEL												
Wood Pellets		30676.68	Pellet Boiler	75	-	8.70						
1 Tonne (inc delivery charge)			Radiators & DHW cylinder	-	55	11.87		35.0		1238	1654	2419
Wood Logs (Kiln Dried Hardwood)		8566.50	Independent log boiler	75	-	11.42						
200kg (inc delivery charge)			Radiators & DHW cylinder	-	55	15.58	-	35.0		1614	2161	3164
Wood Pellets		30676.68	Room heater with boiler	75	-	8.70						
1 Tonne (inc delivery charge)			Radiators & DHW cylinder	-	55	11.87	-	35.0		1238	1654	2419
Wood Logs (Kiln Dried Hardwood)		8566.50	Room heater with boiler	67	-	12.79						
200kg (inc delivery charge)			Radiators & DHW cylinder	-	55	15.58	-	35.0		1766	2368	3481
ELECTRICITY												
Scottish Power		18.42	Electric radiators, day	100.00	-	18.42						
Single Tier Tariff			Immersion water htr, day	-	70.00	26.31	104.94	-	0	2444	3251	4729
(paying cash/cheque on Receipt of Bill)									0			
			Ground Source Heat Pump					50.0	(8)			
			Underfloor	220.0	-	8.37				1168	1523	2182
				-	200.00	9.21						
			Radiators	175.0	-	10.53				1386	1820	2638
					200.00	9.21						
			Air Source Heat Pump					50.0				
			Underfloor	220.0	-	8.37				1168	1523	2182
				-	200.00	9.21						
			Radiators	175.0	-	10.53				1386	1820	2638
				-	200.00	9.21						
White Meter No.1												
Single Tier Tariff	a)	21.33	Storage htrs, living rooms	90.0	-	10.47						
(paying by Direct Debit)			Electric rads, bedrooms	100.0	-	21.33						
Night units	b)	9.42	Immersion water htr, night	-	70	13.46						
			Immersion water htr, day	-	70	30.48	88.8	-	0	1674	2224	3235
									0			
									(9)			
NATURAL GAS												
		3.11	Gas fired condensing	90	-	3.45	95.8	55.0	0	617	779	1079
British Gas			combination boiler	-	75	4.14						
Single tier, Direct Debit Tariff			Radiators									
		3.11	Gas fired condensing boiler	90	-	3.45	95.8	55.0	0	629	795	1098
			Radiators & DHW cylinder	-	65	4.78						
			Gas fired condensing	90	-	3.45						
Scottish Power		3.11	combination boiler	-	75	4.14	95.8	55.0	0	617	779	1079
Direct Debit Tariff			Radiators									
			Gas fired condensing boiler	90	-	3.45						
		3.11	Radiators & DHW cylinder	-	65	4.78	95.8	55.0	0	629	795	1098
									(10)			
LPG												
		47.25	LPG fired condensing	90	-	7.38						
Propane		(5)	combination boiler	-	75	8.86	59	55.0		1111	1458	2100
1 Litre			Radiators				(6)					
		47.25	LPG fired condensing boiler	90	-	7.38						
		(5)	Radiators & DHW cylinder	-	65	10.22	59.2	55.0		1138	1492	2141
							(6)					
OIL												
		40.07	Oil fired condensing	86	-	4.50						
Kerosene		(7)	combination boiler	-	73	5.30	-	55.0		661	872	1263
			Radiators									
1 Litre		40.07	Oil fired condensing boiler	88	-	4.40						
		(7)	Radiators and DHW cylinder	-	70	5.53	-	55.0		654	862	1246

Notes
(1) Terraced 2 bedroom house, 11100 kWh space heating & 2000 kWh DHW heating.
(2) Semi-detached 3 bedroom house, 15200 kWh space heating & 2500 kWh DHW heating.
(3) Detached 4 bedroom house, 23300 kWh space heating & 3000 kWh DHW heating.
(4) Cost/Useful kWh based on 3-bed house; 2-bed house figure will be higher; 4-bed house figure will be lower
(5) Fuel delivered to 1200 litre storage cylinder. Rental shown in standing charge column.
(6) Includes tank provision and renewal, plus annual safety inspection
(7) Fuel delivered to 2725 litre storage tank.
(8) Discount applied to unit cost for customers paying by direct debit
(9) Any direct debit discounts available already taken into account in unit cost
(10) Discount for Dual Fuel
* SAP default values used where SAP value greater than Building Regs. default value and/or where Building Regs. did/does not stipulate minimum values

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HANDOUT 15 - OFF-GAS CONSUMERS

Oil Buying Groups

Off-grid communities who use heating oil can save money on their fuel by joining or setting up heating oil buying groups. Buying groups purchase oil in bulk on behalf of members which enables them to negotiate the best price per litre. This is not a new idea, but it seems that the numbers have grown rapidly over the past few years.

In England the **ACRE** website has a list of the members of the Rural Community Action Network who are helping rural residents by bulk-buying central heating oil at much better prices than individuals can get for themselves. Members of the Network that do not run their own schemes may be able to get advice on how to set up a group, or find information about groups that exist in the consumer's area. The ACRE website provides a link which allows oil users to check if their local Rural Community Council (RCC) runs an oil scheme:

http://www.acre.org.uk/in-your-area/network-members/

ACRE, the Federation of Petroleum Suppliers (FPS) and Citizens Advice have produced 'Best Practice for Oil Buying Groups', which can be downloaded from the ACRE website. This helpful document explains how heating oil is traded, points to consider before setting up or becoming involved in an oil buying group and how to manage a group.

Buy Early Campaign

The Buy Early Campaign is a partnership between the Department of Business, Energy and Industrial Strategy, ACRE, Citizens Advice and the Federation of Petroleum Suppliers. It encourages customers to buy their heating oil before the onset of cold weather and increased prices.

The Federation of Petroleum Suppliers introduced a Code of Conduct in September 2013 which is mandatory for their members. ACRE recommends using oil suppliers who are FPS members and therefore must adhere to this code. A copy of the Code can be downloaded at:

http://www.fpsonline.co.uk/Code%20of%20Conduct.pdf

Price Comparison Sites

- Heating oil users – Boiler Juice.com

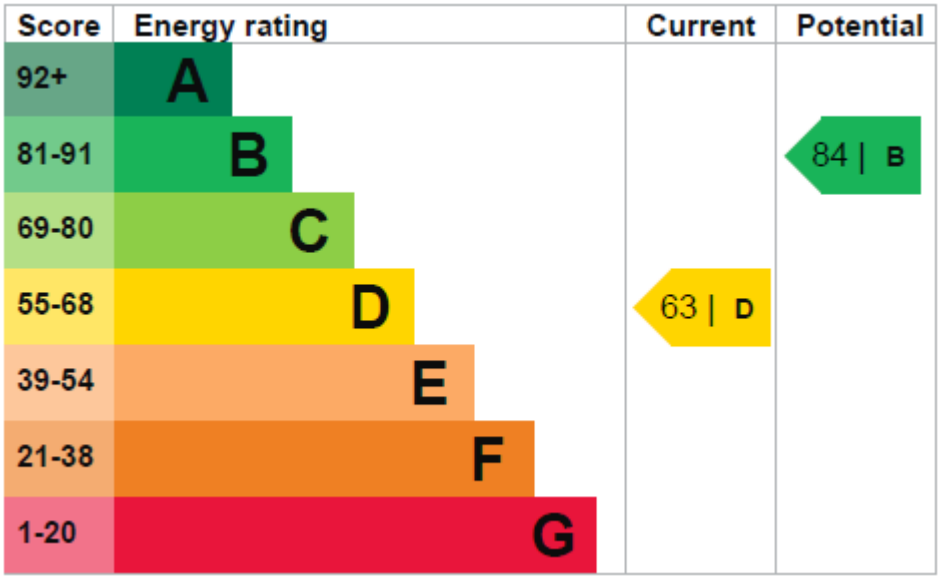
- LPG users – Switch My LPG – 0800 228 9165

HANDOUT 16 – ENERGY PERFORMANCE CERTIFICATES QUIZ

(ENGLAND AND WALES ONLY)

Look at the Energy Performance Certificate below then answer the following questions.

Energy Performance Certificate (summarised)



50, West Street
Stillington
STOCKTON-ON-TEES
TS21 1JY

How to improve this property's energy performance

Making any of the recommended changes will improve this property's energy efficiency. If you make all of the recommended changes, this will improve the property's energy rating and score from D (63) to B (84).

Recommendation 1: Increase loft insulation to 270 mm	69 | C
Recommendation 2: Floor insulation	71 | C
Recommendation 3: Heating controls (thermostatic radiator valves)	72 | C
Recommendation 4: Replace boiler with new condensing boiler	74 | C
Recommendation 5: Solar water heating	75 | C
Recommendation 6: Solar photovoltaic panels, 2.5 kWp	84 | B

Estimated energy use and potential savings
Estimated yearly energy cost for this property £985
Potential yearly saving £312

The estimated cost shows how much the average household would spend in this property for heating, lighting and hot water. It is not based on how energy is used by the people living at the property.
The estimated saving is based on making all of the recommendations in how to improve this property's energy performance.

Heating use in this property

Heating a property usually makes up the majority of energy costs.

Estimated energy used to heat this property

Space heating 12770.0 kWh per year
Water heating 2224.0 kWh per year

QUESTIONS

1. What is the potential energy rating band for the property?

2. What is the potential increase in SAP score for the property?

3. What is total estimated annual energy use for space and water heating?

kWh

4a. What is the estimated annual energy cost of the property if the recommendations have been met?

4b. Why might the actual annual energy costs be different?

HANDOUT 16 – ENERGY PERFORMANCE CERTIFICATES QUIZ (SCOTLAND ONLY)

Look at the Energy Performance certificate below then answer the questions that follow.

Energy Performance Certificate (EPC)

Dwellings

Scotland

, BONHILL, ALEXANDRIA, G8 9XX

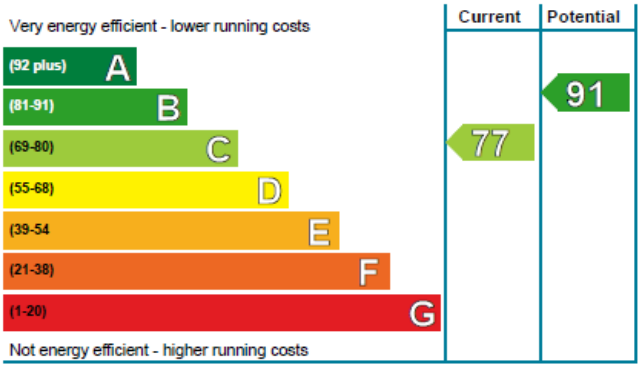
Dwelling type:	Mid-terrace house	**Reference number:**	3811-3220-0000[illegible]0-00006
Date of assessment:	30 October 2019	**Type of assessment:**	RdSAP, existing dwelling
Date of certificate:	30 October 2019	**Approved Organisation:**	Elmhurst
Total floor area:	79 m²	**Main heating and fuel:**	Boiler and radiators, mains gas
Primary Energy Indicator:	164 kWh/m²/year		

You can use this document to:

- **Compare current ratings of properties to see which are more energy efficient and environmentally friendly**
- **Find out how to save energy and money and also reduce CO_2 emissions by improving your home**

Estimated energy costs for your home for 3 years*	**£1,617**	See your recommendations report for more information
Over 3 years you could save*	**£219**	

* based upon the cost of energy for heating, hot water, lighting and ventilation, calculated using standard assumptions



Energy Efficiency Rating

This graph shows the current efficiency of your home, taking into account both energy efficiency and fuel costs. The higher this rating, the lower your fuel bills are likely to be.

Your current rating is **band C (77)**. The average rating for EPCs in Scotland is **band D (61).**

The potential rating shows the effect of undertaking all of the improvement measures listed within your recommendations report.

Top actions you can take to save money and make your home more efficient

Recommended measures	Indicative cost	Typical savings over 3 years
1 Floor insulation (suspended floor)	£800 - £1,200	£138.00
2 Solar water heating	£4,000 - £6,000	£81.00
3 Solar photovoltaic (PV) panels	£3,500 - £5,500	£858.00

A full list of recommended improvement measures for your home, together with more information on potential cost and savings and advice to help you carry out improvements can be found in your recommendations report.

These figures show how much the average household would spend in this property for heating, lighting and hot water. This excludes energy use for running appliances such as TVs, computers and cookers, and the benefits of any electricity generated by this home (for example, from photovoltaic panels). The potential savings in energy costs show the effect of undertaking all of the recommended measures listed below.

QUESTIONS

1. What is the potential energy rating band for the property?

2. What is the potential increase in SAP score for the property?

3. What is the average energy efficiency rating for a dwelling in Scotland?

4. Over what period of time are current heating and lighting costs and savings estimated?

5. What energy use is excluded from the calculation of the estimated energy costs for the home?

6. What version of SAP is used to produce the EPC?

HANDOUT 17 – HEAT LOSS IN A RANGE OF DWELLINGS

Please list the main areas of heat loss in the following types of property.

High rise flats

Main areas of heat loss:

Low rise flats

Main areas of heat loss:

Terraced house

Main areas of heat loss:

Town Flats

Main areas of heat loss:

Victorian House

Main areas of heat loss:

End Terraced House

Main areas of heat loss:

HANDOUT 18 – SIMPLE PAYBACK PERIODS

Simple Payback Periods

The payback period is the length of time it takes for a measure to pay for itself through fuel savings.

$$\text{Payback period (years)} = \frac{\text{Cost of measure}}{\text{Annual fuel savings}}$$

Insulation measure	**Typical Installation cost (£)**	**Typical Savings (£/ year)**
Hot water cylinder jacket	15	20
Draughtproofing	180 (professional installation)	25
Loft insulation (from 0 - 270mm)	300	130
Cavity wall	475	145
Double glazing (A++ efficiency) *	4,500	80
Internal solid wall insulation	8,500	245
External solid wall insulation	15,000	245

* Cost figures based on uPVC for eight windows (average cost for one window approximately £300-£400).

The figures in the table (with the exception of the installation costs for double glazing) come from the Energy Saving Trust (EST) website. EST savings figures are based on homes heated by gas, with an average boiler efficiency of 83%. The figures are based on fuel prices as of April 2018.

The model assumes that each home's living area is heated to 21°C and that the remaining areas are heated to 18°C. The model assumes that the home situated in the middle of Great Britain and is heated during 68 weekend days with 16 hours of heating and 170 weekdays with 9 hours of heating (2 hours in the morning and 7 hours in the evening) every year.

Using the information in the table above calculate the payback period for each of the following measures.

Cavity wall insulation

Payback period:

Loft insulation (from 0-270mm)

Payback period:

Internal solid wall insulation

Payback period:

External solid wall insulation

Payback period:

Handout 19 - Energy Company Obligation

The Energy Company Obligation (ECO)/ Affordable Warmth Obligation is in place until March 2026.

ECO assists households who are in fuel poverty, and those on lower incomes, who may be struggling to meet heating bills.

Qualifying criteria

There are three ways to qualify under the scheme:

1. Those that live in private housing (owner occupier and private rental) and are in receipt of one of the following benefits:

    - Child Benefit – subject to an income threshold
    - Child Tax Credit
    - Housing Benefit
    - Income Support
    - Income-based Jobseeker's Allowance (JSA)
    - Income-related Employment and Support Allowance (ESA)
    - Pension Credit Guarantee Credit
    - Pension Credit Savings Credit
    - Universal Credit
    - Working Tax Credit

2. Those living in **social housing** and their property has an EPC rating of E, F or G.

3. **Flexible eligibility/ 'ECO Flex'** – this is not mandatory, and some local authorities may not participate in the scheme.

    There will be four separate qualifying routes to identify low-income and vulnerable private tenure households for ECO support:

    1. Low household income – a household income cap of £31,000.
    2. A householder in EPC bands E, F or G and meeting any two of a list of specified qualifying criteria.
    3. NHS referrals – living with a health condition impacted by living in a cold home (respiratory, cardiovascular, limited mobility or immune suppressed conditions) – referrals must be made by either an NHS Foundation Trust, NHS Trust, NHS Health Board or a GP.
    4. Bespoke targeting – a supplier or local authority can submit a proposal explaining how they can identify households which must be approved by the Department for Business, Energy and Industrial Strategy.

Local authorities will publish a ‘Statement of Intent’ detailing the methodology and criteria they intend to use to identify eligible customers.

Measures

- Insulation (for example, cavity wall, loft, solid wall insulation – internal solid wall and external solid wall)
- Heating controls
- First time central heating
- Non-gas boilers
- Electric storage heaters
- Heat pumps

Visit the gov.uk website for more information:
https://www.gov.uk/energy-company-obligation

Contact the local authority to see if it is participating in the scheme through flexible eligibility (ECO Flex).

The energy company may offer to fit the improvement for free, or they may ask the householder to pay some of the cost. There is no need to pay for an assessment, and the householder can decide not to go ahead if the energy company asks them to pay more than they can afford, or more than they want to.

The reflect the Minimum Energy Efficiency Standard (MEES) regulations which apply to privately rented properties, the measures that can be installed under ECO depend on the Energy Performance Certificate (EPC) rating of the property.

HANDOUT 20 – NEST (WALES ONLY)

Nest is the Welsh Government's fuel poverty scheme. It aims to help reduce the number of households in fuel poverty and make homes warmer and more fuel-efficient places to live.

Anyone worried about the cost of heating their home, can call **0808 808 2244** free from a landline or a mobile phone. Advisors can give advice on:

- saving energy;
- money management;
- identifying the best fuel tariff; and
- entitlement to any benefits to maximise income.

Householders may also be eligible to receive home improvements at no cost, to help make the home warmer and reduce energy bills.

Nest support is available to everyone in Wales.

Eligibility

Who can get a whole house assessment?

A Nest whole house assessment is available to people who are in receipt of a means-tested benefit and living in the hardest-to-heat homes.

Householders may be eligible for home improvements under the scheme if:

- they own their home or privately rent and;
- they live in a dwelling that is not energy efficient (EPC bands E, F or G rated) and;
- they or someone who lives with them receives a means-tested benefit:
    - Child Tax Credit: where the household money coming in is below £16,105 a year
    - Council Tax Reduction Scheme (reductions and discounts do not qualify on their own)
    - Housing Benefit
    - Income-based Jobseeker's Allowance
    - Income-related Employment and Support Allowance
    - Income Support
    - Pension Credit – Savings and Guarantee
    - Universal Credit
    - Working Tax Credit: where the household money coming in is below £16,105 a year

Even if the home has an energy rating above an EPC band E the householder can get advice on money management and income maximisation. Help with home improvements at no cost or low cost may be available through other schemes.

Nest health criteria

Alongside the above criteria, the health criteria are:

Someone resident in the home must:

- Be living with a chronic respiratory, circulatory or mental health condition

  These include:
  - respiratory disease (respiratory infections, broncho-constriction in asthma, and chronic obstructive pulmonary disease)
  - circulatory disease (including cardio-vascular disease, strokes and heart attacks)
  - mental health issues (including depression, anxiety, psychosis and bipolar disorders, dementia, intellectual and development disorders)

- Be living on a low income – see below for the defined income thresholds

Evidence of a health condition

Applicants will be asked to confirm that they have evidence of their health condition such as a prescription, medication package, treatment plan or GP/ Hospital appointment or referral letter.

This evidence does not need to be provided in advance. If the householder is found to be eligible, the evidence will be checked by a Nest assessor when they visit the applicant's home.

Health eligibility income thresholds

The income thresholds for the majority of householders are outlined below. These are based on total household income after housing costs.

Household composition	Annual household income (after housing costs)	Monthly household income (after housing costs)
1 or more adults aged 18 and over	£16,105	£1,342
1or 2 adults and one or two dependants	£21,352	£1,779
1 or 2 adults and 3 dependants	£23,100	£1,930
1 or 2 adults and 4 or more dependants	£25,700	£2,140

Some people, who spend an above average time at home, are at a greater risk during the colder months, for example:

- Older people (aged 75 and over)
- Families with young children (aged five or younger)
- People with disabilities (defined as a person having a mental or physical impairment, which has a substantial and long-term adverse effect on the person's ability to carry out normal day to day activities)

For these householders who live with an eligible health condition, there is an increase of the income threshold to £21,352 after housing costs with savings of not more than £16,000 for older people aged 75 or over.

Evidence

In addition to the health condition evidence outlined above, a householder can demonstrate their eligibility for the additional income threshold through the provision of a discretionary/ disabled bus pass, blue badge or be registered with the local authority under section 18 of the Social Services and Well-being (Wales) Act 2014.

This evidence will be checked by the Nest assessors when they visit the applicant's home.

Privately rented housing

- Private tenants must have resided in the property for a minimum of 6 months prior to a Nest application.
- They must have a valid tenancy agreement with a minimum of 6 months left to run.
- Private sector tenants need to show a proof of residency/ address letter and a valid tenancy agreement to the whole house assessor.
- A private landlord can refer a maximum of 3 properties to Nest.
- Once a property has been referred, the landlord needs to submit a valid gas safety record to Nest.
- Sign declaration that rent must not be raised in lieu of Nest improvements for at least 12 months following installation of measures.

Applying

There are four steps involved:

Step One: Contact the NEST advisers

The first step is to phone, free of charge (from a mobile or landline), **0808 808 2244**, or use the 'contact us' section in the NEST website. The householder will be asked a series of quick questions to determine what support they are eligible for and provide advice and information on ways to reduce fuel bills and
save energy. They will also determine if the householder is eligible for home improvements at no cost or low cost.

Step Two: Assessing the Home

When applying to the Nest Programme the householder will be assigned a Personal Customer Manager (PCM) who will be the householder's main point of contact supporting them through the Nest journey.

Within two working days of making the application, the PCM will explain the application process. This is when they will arrange for a surveyor to visit the property, usually within the next five working days.

The surveyor will assess the property, explaining if the householder is eligible for the scheme and what changes they may be able to suggest that will help reduce energy bills.

If the householder does not qualify for any measures under the scheme, the surveyor will explain why. However, they will provide individually tailored energy efficiency advice which can help reduce energy consumption and lower fuel bills.

Step Three – The Installation

After the assessment, the PCM will contact the householder within two working days to help arrange a suitable date for the work to be carried out. It usually takes two days to install a heating system, whereas loft or cavity wall insulation can often be completed in one day.

After the work has been completed, the new products will be fully explained to so that the householder understands how to operate their new heating system. Jobs are normally completed within 45 days of the initial enquiry, but this may take longer where there is a need to make a long connection to the gas or electricity pipes and wires or where planning permission is required.

Step Four – The inspection and aftercare

A suitable date will be arranged for the work to be inspected and the householder will be advised on the outcome of that check. A quick call to check that the householder is satisfied with the completed work will then be followed by a customer satisfaction questionnaire, so they have the opportunity to provide feedback either on the phone or by post.

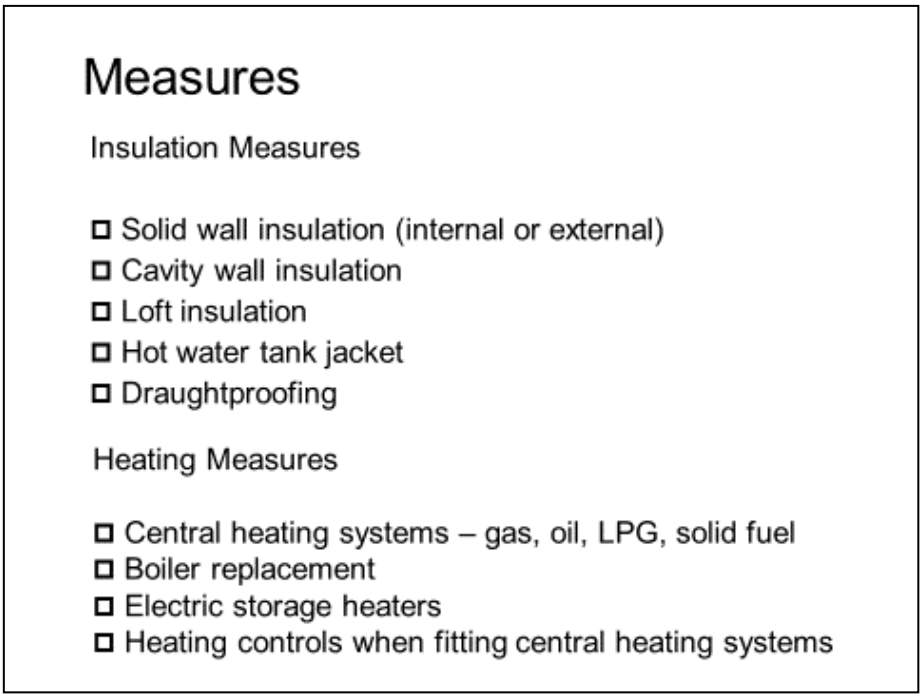
Cavity wall insulation comes with a 25-year guarantee. Central heating systems will be covered for one year after the date of the installation, which includes one annual service visit.

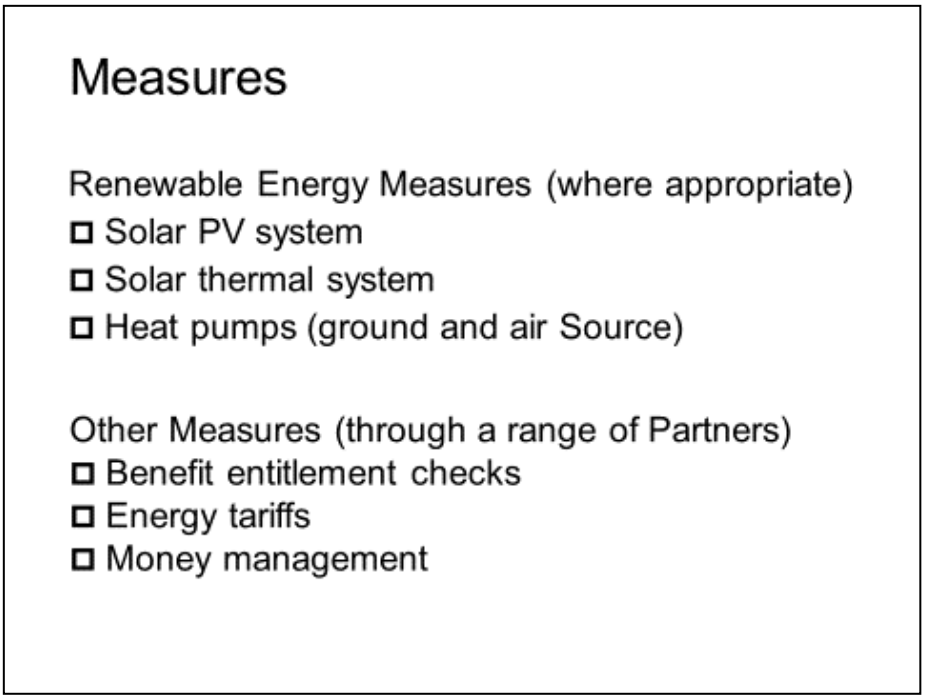
Whole house assessment

What help is available under the whole house assessment?

Nest can offer a full home energy assessment and a range of home improvements – at no cost to the householder if they meet the qualifying criteria.

Measures could include:





What is meant by a hard-to-heat home?

All homes are rated from A to G for energy efficiency. The most energy efficient homes have an A or B rating. The least energy efficient homes have E, F or G ratings. To qualify for home improvements at no cost through the Nest scheme the dwelling must have an E to G energy rating. Once measures have been installed the SAP rating should be 69 higher.

To find out if the householder lives in a hard-to-treat property they should call **0808 808 2244**. A Nest adviser will run through a series of questions to get an idea of how energy efficient the caller's home is and which band it falls into. A list of some of the questions asked can be downloaded from the NEST website.

A home with some or all of these characteristics might have an E to G energy rating:

- no central heating;
- a boiler that is at least 15 years old – though some newer boilers can also be inefficient;
- a hot water cylinder with no insulation;
- solid or cavity walls with no insulation, or walls built from non-traditional materials;
- no loft insulation or not enough insulation (less than 100mm thick);
- single-glazed windows; and
- no draught-proofing around doors and windows.

For more information about Nest visit;
nest.gov.wales

Rhan o raglen Cartrefi Clyd Llywodraeth Cymru
Part of the Welsh Government Warm Homes programme

Cartrefi Clyd
Llywodraeth Cymru
Welsh Government
Warm Homes

Llywodraeth Cymru
Welsh Government

HANDOUT 21 – SCOTTISH GOVERNMENT SUPPORTED GRANT SCHEMES AND OTHER ASSISTANCE (SCOTLAND ONLY)

WARMER HOMES SCOTLAND SCHEME

The Warmer Homes Scotland Scheme (WHS) is a Scottish Government funded fuel poverty scheme. The scheme is managed and delivered through Warmworks Scotland.

Assistance is available to homeowners and private sector tenants, who have lived in their property for at least twelve months, and who meet the qualifying criteria set out below.

Measures available

The measures offered will depend on a survey of the property. Householders who have already had assistance through a Government programme can still apply for Warmer Homes Scotland if they meet the criteria. The cost of installing the measures identified in the property survey will be covered by the Scottish Government, though a customer contribution may be required for more expensive measures. An interest-free loan may be available to meet the cost of customer contributions.

There are over 40 measures available, including:

- Wall insulation
- Loft insulation
- Draught-proofing
- Central heating (excluding electric wet and solid fuel systems)
- Boiler upgrade (for non-condensing boiler over 10 years old)
- Renewable technologies

Note: restrictions apply to the measures available under Warmer Homes Scotland to customers living in privately rented properties. Private Rented Sector properties covered by the statutory Repairing Standard will no longer receive measures that a landlord is legally obliged to provide. These customers will still be eligible for other measures available under the scheme if these are recommended for the property.

Eligibility criteria

The eligibility criteria are summarised below. If householders do not meet the criteria for Warmer Homes Scotland they may be eligible for assistance through the interest free loan scheme or one of the many area-based schemes. For a home to be considered, it must have a Standard Assessment Procedure (SAP) energy rating of 67 or lower and have a floor area of less than 230m².

One member of the household must meet **all** of the following criteria:

I. Be a homeowner or the tenant of a private-sector landlord
II. Live in the home as their main residence
III. Have lived there for at least 12 months (unless in receipt of a DS1500 or BASRiS form)
IV. Live in home with a poor energy rating – this will be assessed by a surveyor
V. Live in a home that meets the tolerable living standard set out in the Housing (Scotland) Act 2006 or, where the home does not meet the tolerable living standard, this will not impact on the effectiveness of the measures recommended for installation under the scheme
VI. Householders must not have received support for energy efficiency improvements through Warmer Homes Scotland funding in the last five years

And must also meet **one** of the following conditions:

- Be 75 or over and have no working heating system
- Be 16 or over (working age) and be in receipt of a passport benefit or income-related benefit

  The passport benefits are:

  - Personal Independence Payment (PIP)
  - Adult Disability Payment (ADP)
  - Disability Living Allowance (DLA)*
  - Child Disability Payment (CDP)*
  - Armed Forces Independence Payment / War Disablement Payment
  - Industrial Injuries Payment
  - Carer's Allowance
  - Attendance Allowance

  Income-related benefits:

  - Council Tax Benefit / Reduction Scheme (excluding 25% discount e.g. single person or student)
  - Universal Credit
  - Housing Benefit / Allowance
  - Income-based Employment and Support Allowance (ESA)
  - Income-based Job Seeker's Allowance (JSA)
  - Income Support
  - Pension Credit (guarantee element)
  - Working Tax Credit
  - Child Tax Credit

  *If the household receives low or medium rate DLA / CDP they need to also have an income-related benefit to be eligible.

Application process

Householders should call the **Home Energy Scotland** hotline on **0808 808 2282** for more information and to establish if they qualify for the scheme. The process will include a property survey as well as identifying accredited installers.

If the applicant does not meet the criteria for Warmer Homes Scotland they may be eligible for assistance through the interest free loan scheme or one of the area-based schemes.

Private sector tenants

For a private sector tenant the landlord will be made aware of the improvements that can be funded by the Scottish Government and which ones the landlord might be required to fund directly. The landlord's permission is required to be given prior to any improvements being installed.

Since 1 August 2017, restrictions have been applied to the improvements available under Warmer Homes Scotland to householders living in privately rented properties. Private Rented Sector properties covered by the statutory Repairing Standard will no longer receive improvements that a landlord is legally obliged to provide. These householders will still be eligible for other improvements available under the programme if they are recommended for their home.

HOME ENERGY EFFICIENCY PROGRAMMES FOR SCOTLAND: AREA-BASED SCHEMES

At the core of HEEPS are area-based schemes aimed at tackling fuel poverty. Area-based schemes are being delivered by local authorities. They will each develop and deliver their own programmes – mainly solid wall insulation – in areas of high fuel poverty.

Where a household does not qualify under the Energy Company Obligation then the Scottish Government programmes may provide support.

To find out what measures are available in a particular area, contact the local authority or call **Home Energy Scotland** on **0808 808 2282**.

HOME ENERGY SCOTLAND LOAN AND PRIVATE RENTED SECTOR LANDLORD LOAN

The Home Energy Scotland loan offers up to 40% cashback for some eligible energy efficiency measures and 75% for certain renewable heating systems (based on total costs and capped at a maximum value).

Cashback is subject to availability while funds last or until the end of the financial year – whichever is sooner. Funds are reserved for customers when their loan is offered.

The loan will support the installation of domestic renewable technologies.
The renewable technologies covered by the loan are:

- Wind or hydro turbines
- Solar photovoltaic (PV)
- Solar water heating systems
- Energy storage systems (heat or electric batteries)
- Hybrid PV-solar water heating systems
- Heat pumps (either air source to water, ground source to water, water source to water or hybrid air source to water)
- Biomass boilers or stoves (non-automated, non-pellet stoves or room heaters are not eligible)

The Private Rented Sector Landlord loan is open to registered private landlords, acting either as an individual or a business that owns privately rented properties.

To find out more call **Home Energy Scotland** on **0808 808 2282** (free from landlines and most mobiles).

LEARNER NOTES

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National Energy Action (NEA)
are the national fuel poverty charity, working to ensure that everyone in England, Wales and Northern Ireland is warm and safe at home.

With over 30 years experience as a training provider we offer a wide range of learning solutions to enhance the quality of energy advice services nationwide.

Our training and assessment services include:

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