sustainable solutions **under one roof**

HEATING / HOT WATER / VENTILATION

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QUANTEC HR/P ErP & COMBI/SA ErP

High Efficiency

USER'S INSTRUCTIONS

Quantec HR28C ErP	- G.C. No. 47-416-11
Quantec HR28CP ErP	- G.C. No. 47-416-14
Quantec 30C ErP	- G.C. No. 47-416-12
Quantec 30C-SA ErP	- G.C. No. 47-416-15
Quantec 24C ErP	- G.C. No. 47-416-13

These instructions are to be left with the User

ErP COMPLIANT

Johnson & Starley

WRAS APPROVED PRODUCT

bsi. FM 565200 UKAS MANAGEMENT SYSTEMS

CE

www.johnsonandstarley.co.uk

CONTENTS

THE MARK OF QUALITY FOR THE INSTALLATION, COMMISSIONING AND SERVICING OF DOMESTIC HEATING AND HOT WATER SYSTEMS

THESE INSTRUCTIONS SHOULD BE LEFT WITH THE USER AFTER INSTALLATION

The Benchmark Scheme

Johnson & Starley Ltd is a licensed member of the Benchmark Scheme which aims to improve the standards of installation and commissioning of domestic heating and hot water systems in the UK and to encourage regular servicing to optimise safety, efficiency and performance.

Benchmark is managed and promoted by the Heating and Hotwater Industry Council. For more information visit www.centralheating.co.uk

Please ensure that the installer has fully completed the Benchmark Checklist on the inside back pages of the installation instructions supplied with the product and that you have signed it to say that you have received a full and clear explanation of its operation. The installer is legally required to complete a commissioning checklist as a means of complying with the appropriate Building Regulations (England and Wales).

All installations must be notified to Local Area Building Control either directly or through a Competent Persons Scheme. A Building Regulations Compliance Certificate will then be issued to the customer who should, on receipt, write the Notification Number on the Benchmark Checklist.

This product should be serviced regularly to optimise its safety, efficiency and performance. The service engineer should complete the relevant Service Record on the Benchmark Checklist after each service.

The Benchmark Checklist will be required in the event of any warranty work and as supporting documentation relating to home improvements in the optional documents section of the Home Improvements.

In the interest of continuous development Johnson and Starley reserve the right to change specification without prior notice. Johnson and Starley prides itself on it's ability to supply spare parts quickly and efficiently.

1. GENERAL INFORMATION

WARNING: THIS APPLIANCE MUST BE EARTHED

STATUTE LAW DEFINES THAT ALL GAS APPLIANCES MUST BE INSTALLED BY COMPETENT PERSONS, i.e. GAS SAFE REGISTERED INSTALLERS.

GAS SAFE MEMBERSHIP ENQUIRIES TEL: 0800 408 5500 IN ACCORDANCE WITH THE GAS SAFETY (INSTALLATION AND USE) REGULATIONS (CURRENT EDITION).

FAILURE TO COMPLY WITH THESE REGULATIONS MAY LEAD TO PROSECUTION.

1.1 Part of the installation and commissioning of this appliance is related to instructions for use by the heating engineer to the user where specific requirements may occur.

1.2 The QuanTec is a wall mounted, room sealed, condensing combination boiler, featuring full sequence automatic spark ignition and fan assisted combustion. On the QuanTec HR a recuperator is fitted within the boiler and preheats the incoming cold DHW for additional energy savings. Due to the high efficiency of the boiler, condensate is produced from the flue gases and this is drained to a suitable disposal point through a plastic waste pipe at the base of the boiler. A condensate 'plume' will also be visible at the flue terminal. The QuanTec HR are combination boilers providing both central heating and instantaneous domestic hot water.

2. USER'S IMPORTANT INFORMATION

2.1 The user must read these users instructions and understand the functions of the boiler. If unsure ask the installer to explain.

2.2 YOUR GUARANTEE

To activate your guarantee return the guarantee card to Johnson & Starley Ltd. This will register the appliance and activate the guarantee.

2.3 Ensure the appliance is serviced annually as failure to do so will invalidate the guarantee.

2.4 On completion of service the Benchmark Checklist should be filled in as part of the guarantee conditions.

2.5 Keep all literature for the appliance in good condition and near to the boiler.

2.6 This appliance is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety.

2.7 Children should be supervised to ensure that they do not play with the appliance.

2.8 Keep the appliance accessible at all times. Do not store items around the boiler if it is situated within a cupboard.

3. SAFETY INFORMATION

GAS LEAKS

DO NOT OPERATE ANY ELECTRICAL SWITCHES
OR USE A NAKED FLAME
TURN OFF GAS SUPPLY AT THE METER
VENTILATE THE AREA BY OPENING THE DOORS & WINDOWS
EVACUATE THE HOUSE AND DO NOT RE-ENTER.

CALL THE NATIONAL GAS EMERGENCY SERVICES ON

TEL: 0800 111999

FOR LPG CALL THE SUPPLIER ON THE SIDE OF THE GAS TANK

3.1 If there is a water leak or fault with the appliance, switch off the boiler and contact your Gas Safe installer.

3.2 Under NO circumstances should the appliance be tampered with. This will invalidate your guarantee.

4. BOILER CONTROL PANEL

ITEM	DESCRIPTION
K1	CH - Central Heating +
K2	CH - Central Heating -
K3	Installer information
K4	Reset
K5	Summer/Winter mode
K6	DHW - Domestic Hot Water -
K7	DHW - Domestic Hot Water +

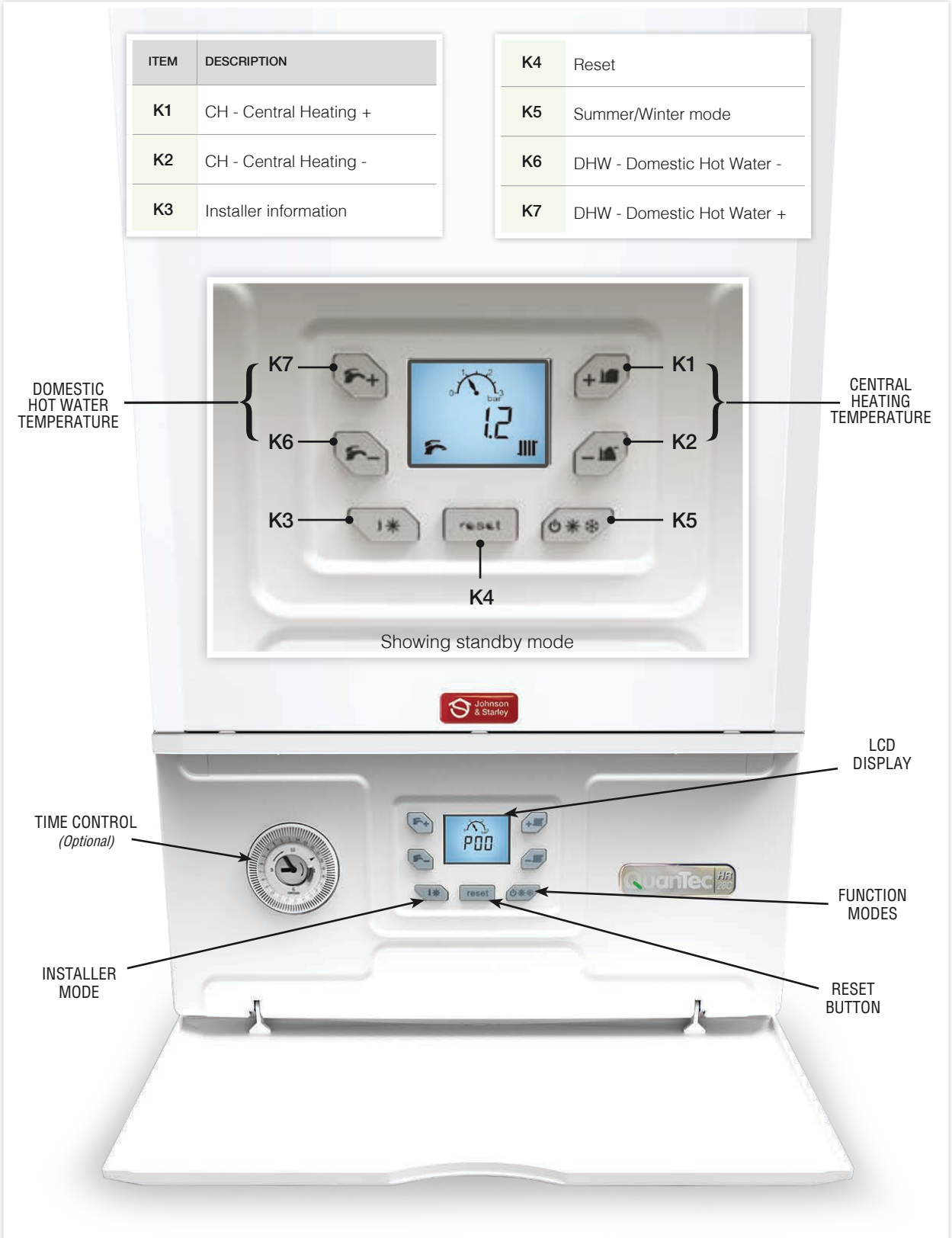

FIGURE 1. QUANTEC HR & COMBI USER CONTROL PANEL

5. TO LIGHT THE BOILER

5.1 Switch the mains power ON and the boiler LCD display will show “AP”. This puts the boiler into the Air Purge Mode. See Figure 2.

FIGURE 2

5.2 Press the reset button “K4” twice. The boiler will go onto standby. See Figure 3. This is the winter mode.

SETTING THE DHW WATER TEMPERATURE

5.3 To set the hot water temperature press and hold “K7”, this will flash until the °C temperature shows. By pressing the + and - buttons to set the desired temperature. The temperature flashes 5 times to set the temperature and then goes back onto standby.

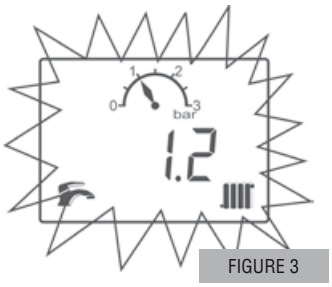

FIGURE 3

SETTING THE CH WATER TEMPERATURE

5.4 To set the central heating temperature press and hold “K1”, this will flash until the °C temperature shows. By pressing the + or - buttons to set the desired temperature. The temperature flashes 5 time to set the temperature and the display will go back to standby.

6. OPERATING FUNCTIONS

6.1 OPERATING THE DOMESTIC HOT WATER

When the hot water is called for by turning on the hot tap, the boiler will fire. The display will show the full flame symbol, water temperature and flashing tap symbol, until the hot tap is turned off and the display will return to standby or heating mode. See Figure 4.

Hot water has priority over central heating, so the central heating will stop while hot water is being supplied

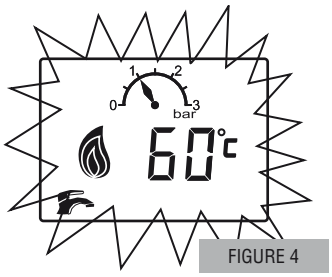

FIGURE 4

6.2 OPERATING THE CENTRAL HEATING

When there is a call for central heating the boiler will fire for 1 minute at low and then will increase the modulation to match the demand for heating. The display will show the flame symbol, water temperature and flashing radiator symbol, until the call for central heating stops and the display will return to the standby mode. See Figure 5.

Approximate flow temperatures for the boiler thermostat settings are:

TABLE. 2

Button Setting	CH Flow Temperature
Minimum	40°C
Maximum	60°C

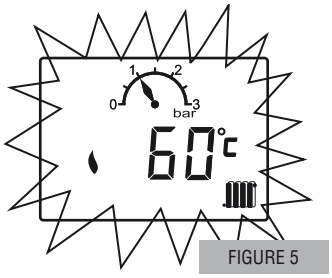

FIGURE 5

6.3 DISPLAY CODES

In normal operation the boiler LCD display will show:

1. Standby - no demand for heat. Figure 3.
2. CH being supplied. Figure 5.
3. DHW being supplied. Figure 4.
4. Boiler frost protection - boiler will fire if temperature is below 3°C.
5. During normal operation the burner on indicator will remain illuminated when the burner is lit.

Note: If the boiler fails to light after five attempts the fault code will be displayed. See trouble shooting.

6.4 TO SHUT DOWN THE BOILER

Set the mode to OFF by pressing K4.

To relight the boiler repeat the procedure detailed in ‘To light the boiler’.

6.5 FROST PROTECTION

If no system frost protection is provided and frost is likely during a short absence from home, leave the heating controls (if fitted) at a reduced temperature setting. For longer periods, the entire system should be drained.

If the system includes a frost thermostat then, during cold weather, the heating should be turned OFF at the time switch (if fitted) ONLY. The mains supply should be left switched ON, with the boiler set to heating ON and thermostat left in the normal running position.

6.6 LOSS OF SYSTEM WATER PRESSURE

The pressure gauge indicates the central heating system pressure. If the pressure is seen to fall below the original installation pressure of 1-2 bar over a period of time then a water leak may be indicated. In this event conduct the re-pressurising procedure. If unable to do so or if the pressure continues to drop a Gas Safe Registered Engineer or in IE a Registered Gas Installer (RGII) should be consulted.

6.6.1 HOW TO RE-PRESSURISE

The boiler will not operate if the pressure has reduced to less than 0.3 Bar under this condition.

1. Ensure filling loop isolation valves are closed.
2. Remove the two caps
3. Attach on the filling loop.
4. Turn the filling loop isolation valves to the open position. The system will now fill.
5. Wait for pressure gauge dial to reach 1 to 1.5 bar.
6. Close the filling loop isolation valves.
7. Disconnect the filling loop at left hand side and angle upwards.
8. Attach the two blanking caps.

6.7 CONDENSATE DRAIN

The condensate drain must not be modified or blocked.

Blockage of the condensate drain, caused by debris or freezing, can cause automatic shutdown of the boiler.

If freezing is suspected and the pipe run is accessible an attempt may be made to free the obstruction by pouring hot water over the exposed pipe and clearing any blockage from the end of the pipe. If this fails to remedy the problem the assistance of a Gas Safe Registered Engineer or in IE a Registered Gas Installer (RGII) should be sought.

7. RESET THE BOILER

Press the reset button “K4” twice.

8. SERVICING & MAINTENANCE

It is recommended that a full maintenance check be carried out annually on the appliance. It is also recommended to take out a further service agreement on the expiry of the guarantee period.

You can obtain further information on this from your gas supplier.

The appliance should be checked /serviced by a GAS SAFE registered installer.

If you require service on your appliance please contact your local installer or gas supplier.

On completion of the service the installer should fill in the service section at the rear of the BENCHMARK Checklist. All installers registered with GAS SAFE carry an identification card. This card will have an ID number which should be recorded in your logbook.

If you have any queries regarding your installer you can contact GAS SAFE by telephone on 0800 408 5500.

The appliance should be serviced at least once a year by a Gas Safe Registered Engineer or in IE a Registered Gas Installer (RGII).

benchmark
COLLECTIVE MARK
THE MARK OF QUALITY FOR THE INSTALLATION, COMMISSIONING AND SERVICING OF DOMESTIC HEATING AND HOT WATER SYSTEMS

9. CLEANING

For normal cleaning simply dust with a dry cloth.

To remove stubborn marks and stains, wipe with a damp cloth and finish off with a dry cloth.

DO NOT use abrasive cleaning materials.

10. ESCAPE OF GAS

Should a gas leak or fault be suspected contact the National Gas Emergency Service without delay. Telephone 0800 111 999 .

11. TROUBLE SHOOTING

ERROR CODES		
E01	Ignition lockout	Check other gas appliances work
		Reset boiler
		Contact installer
E02	False flame lockout	Contact installer
E03	Overheat lockout	Fill system to 1.0bar
		Bleed radiators
		Check radiator valves are open
		Reset boiler
		Contact installer
E05	Fan fault	Contact installer
E08	Flame circuit failure	Contact installer
E09	Valve feed back ERROR	Contact installer
E12	EEPROM lockout	Contact installer
E15	Sensor drift lockout	Fill system to 1.0bar
		Bleed radiators
		Check valves are open
		Reset boiler
		Contact installer
E16 **E17** **E18**	Sensor stuck lockout	Fill system to 1.0bar
		Bleed radiators
		Check valves are open
		Reset Boiler
		Contact installer
E21	ADC lockout	Contact installer
E33	Return thermistor fault	Contact Installer
E34	Low power supply lockout	Contact installer or Electrician
E35	Flow thermistor fault	Contact Installer

FAULT CODES		
F07	Exhaust sensor fault	Fill system to 1.0bar
		Bleed radiators
		Check radiator valves are open
		Reset boiler
		Contact installer
F13	Remote reset lockout	Turn power on and off
		Press Reset
		Contact installer
F37	Low water pressure	Fill system to 1.0bar
		Bleed radiators
		Check radiator valves are open
		Reset boiler
		Contact installer
F40	Water pressure too high	Check to see if the gauge is over 2.8bar
		Bleed radiators
		Reset boiler
		Contact installer
F47	Water pressure sensor not connected	Contact installer
F52	DHW sensor fault	Contact installer
F53	Flue temperature sensor lockout	Contact installer
F82 30C-SA ONLY	Sprayaway condensate level alarm	Contact installer
	Central heating not working	Press and hold K6 & K7 hot water buttons for 5 seconds until symbol disappears

12. ENERGY RATING ErP TECHNICAL DATA FICHE

Ecodesigns energy related products directive requires our appliance to be fully compliant with the ErP regulations. Our unit has a label which shows the level of efficiency for the boiler, CO_2 & NOx emissions and db noise emissions. This will help the householder understand the energy efficiency within the home and help reduce energy consumption.

This regulation covers all products used in the installation. Once an installation has been completed the installer will supply a final label incorporating all the items used in the install. It shows the details of the systems overall efficiency. For further information about the ErP Directive visit the Johnson and Starley Ltd website or email our helpline on erp@johnsonsandstarley.co.uk

EU Regulations No. 811/2013 and No. 812/2013 supplementing Directive 2010/30/EU.

TABLE 1. ErP TECHNICAL DATA		**HR28C**	**HR28CP**	**30C**	**30C-SA**	**24C**	
PRODUCT DATA	SYMBOL	VALUE	VALUE	VALUE	VALUE	VALUE	UNIT
Condensing boiler	-	Yes		Yes		Yes	-
Low temperature boiler	-	No		No		No	-
B11 Boiler	-	No		No		No	-
Cogeneration space heater	-	No		No		No	-
Combination Heater	-	Yes		Yes		Yes	-
Rated heat output	P_{rated}	21		23		16	kW
Seasonal space heating energy efficiency	η_s	94		94		94	%
Energy efficiency class	-	A					-
USEFUL HEAT OUTPUT							
At rated heat output and high temperature regime	P_4	21.4		23.4		16.3	kW
At 30% of rated heat output and low temperature regime	P_1	7.3		7.8		5.5	kW
USEFUL EFFICIENCY							
At rated heat output and high temperature regime	η_4	87.9		87.9		88.8	%
At 30% of rated heat output and low temperature regime	η_1	98.8		99.1		98.9	%
AUXILLARY ELECTRICITY CONSUMPTION							
At full load	el_{max}	0.068					kW
At part load	el_{min}	0.048					kW
In standby mode	P_{SB}	0.002					kW
OTHER ITEMS							
Standby heat loss	P_{SB}	0.099					kW
Ignition burner power consumption	P_{ign}	0					kW
Sound power level indoors	L_{WA}	45					dB
ADDITIONAL DATA FOR COMBINATION HEATERS							
Declared load profile		XL	M	XL		M	
Daily electricity consumption	Q_{elec}	0.112	0.069	0.109		0.114	kWh
Annual electricity consumption	AEC	24	15	24		25	kWh
Daily fuel consumption	Q_{fuel}	21.03	6.98	22.59		7.65	kWh
Annual fuel consumption	AFC	16.7	427	17.89		6.06	Gj
Water heating energy efficiency	η_{wk}	91.4	85	86.5		78	%
Water heating energy efficiency class	-	A					-

1. High temperature regime means 60°C return temperature at heater inlet and 80°C feed temperature at heater output.
2. Low temperature means for condensing boiler 30°C, for low temperature boilers 37°C and for other heaters 50°C return temperature (at heater).

13. KEEP YOURSELF SAFE

Throughout the year it's important to make sure that your gas appliances, such as a warm air heater, gas fire, cooker and boiler are working safely and correctly. Did you know Gas Safe Register is the only official list of engineers who are legally allowed to do work on gas and the gas appliances in your home? By law, all gas engineers must be on the Gas Safe Register. The Register is there to help protect you from unsafe gas work.

In the right hands, gas is safe, but badly fitted and poorly maintained appliances can cause gas leaks, fires, explosions and carbon monoxide poisoning. Carbon monoxide is a highly poisonous gas. You can't see it, taste it or smell it, but it can kill quickly with no warning but a carbon monoxide alarm would give you piece of mind but is no substitute for an annual service.

Make sure you get your gas appliances regularly serviced and safety checked every year, by a Gas Safe registered engineer. Annual maintenance not only helps keep your heating and hot water working properly; it helps keep you and your family safe. If you're a tenant, your landlord must arrange this every 12 months and provide you with a Landlord's Gas Safety Record.

You can set a free reminder at www.StayGasSafe.co.uk and Gas Safe Register will text or email you when your appliances are due their next check.

All Gas Safe registered engineers carry a Gas Safe Register ID card. Before any gas work is carried out always check the card and make sure the engineer is qualified for the work you need doing. You can find this on the back of the card.

YOUR 5 POINT CHECKLIST

For gas safety advice or to find and check an engineer visit the Gas Safe Register website at www.GasSafeRegister.co.uk or call the free helpline on 0800 408 5500.

14. HOW TO SAVE ENERGY

We all wish to make savings on our energy bills and at the same time be warm and cosy in our homes. As fuels costs rise, having an efficient and cost effective heating system is vital. You have made your first step in reducing your carbon dioxide emissions now look at other ways to help you make extra saving on those fuel bills. Here are a few ways which can help you make those savings.

HEATING SAVINGS

1. Fit thermostatic radiator valves to give you better control. Make your boiler provide heat where you need it.
2. Turn the room thermostat and radiator thermostat down by 1˚
3. Close curtains at night to cut down draughts from the windows and stop the heat escaping.
4. Insulation and draught-proofing on windows and doors.
5. Rooms which are not in use, turn off the radiator.
6. Do not cover or hang curtains in front of the radiators.

ELECTRICAL SAVINGS

1. Switch off appliances which are not in use.
2. Unplug chargers and adapters.
3. Don't leave TV's Stereo's etc. on stand-by.
4. Turn off lights in rooms not being used.
5. When cooking use a lid on the pan to hold in the heat and turn the temperature down.

WATER SAVINGS

1. Fit a water saving shower head to save energy.
2. Turn down the temperature on your washing machine and only do a full load.
3. Fill up the dishwashers.
4. Make sure taps are turned off and not dripping - can waste 5,500 litres of water a year.
5. Have a shower instead of a bath and take shorter showers.
6. Turn off the tap when cleaning your teeth.

sustainable solutions
under one roof

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