Heating Efficiency Packs

Heating controls can cut bills by **40%.** So why aren't they in **every home?**

- Heating efficiency packs are available in a choice of eight product combinations
- Packs contains six TRVs, matching lockshield and wheel head and a room thermostat
- Gives the homeowner a better control of room temperatures
- Energy saving

beama
Heating Controls | **BEAMA White Paper**

40%
reductions in energy bills can be made by installing a room thermostat and TRVs.

Heating Controls

can cut bills by 40%

Home heating accounts for 23% of UK energy demand and has increased by nearly a quarter since 1970[1], with over 95% of UK homes heated by a gas or oil boiler. If we are to meet our carbon targets it is essential that we do everything possible in the short to medium term to reduce wasted energy from these boilers, which we must remember are the biggest single energy consuming appliance within the home.

THE ISSUES

Heating systems are not being controlled to deliver both comfort and efficiency. Without proper control they waste energy.

- **Householders want a warm, comfortable home**
  Recent research[2] shows very clearly that everyone wants to be comfortable in their home and warmth delivered by their heating system is central to this. Money savings are welcomed only if comfort is not compromised.

- **Around 11 million UK homes don't have suitable heating controls**
  Research from 2008 showed that 70% of UK homes don't have the minimum level of controls defined within the Building Regulations for new systems[3]. Even allowing for heating improvements since the research took place it is likely that there remain 11 million homes with the potential for improved controls.

- **People tinker and play with their heating system to achieve comfort**
  Heating systems without suitable controls cannot achieve desirable comfort levels. Most people appear to be using their systems in ways that achieve 'acceptable' comfort, but their system will not be operating in the most efficient manner. Where money is tight this inefficiency leads to comfort being compromised.

- **Current policies fail to promote opportunities to improve controls in UK homes**
  The role of heating controls needs to be far more prominent within current policies to reduce energy use in UK homes, particularly to ensure that they are installed as a part of every retrofit.

THE SOLUTIONS

- **The installation of a room thermostat and TRVs can reduce energy bills by over 40%**
  Tests carried out at the University of Salford in their Energy House facility showed that the costs of running a heating system with a full set of temperature controls was 40% less that the same system operated with a timer only. The tests also showed that individual room temperature controls (TRVs) were necessary for the system to maintain balanced temperatures around the house.

- **Room thermostats and TRVs are readily available, familiar to installers and simple to install**
  Increasing the rate at which these controls are installed could be accelerated with changes to policy.
  Both room thermostats and TRVs are a cost effective upgrade to existing homes with a payback of 18 months or less[4]. They can be supplied by UK manufacturers and existing local installers.

- **Better control systems will deliver comfort with lower fuel bills**
  This message will be received more positively by householders, who research has shown can negatively interpret messages on reducing heating costs as a request to sacrifice comfort[5]. Also the savings will be permanent, unlike the short term saving from switching supplier.

- **Industry can promote the benefits of controls**
  Heating controls have spent too long 'under the radar' of consumers. Industry must communicate the benefits of controls to generate demand from consumers and we need to ensure that heating installers also act as advocates and deliverers of better controlled systems.

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1 DECC (2013).The Future of Heating: Meeting the challenge
2 Fell D., King G. (2012). Domestic energy use study: to understand why comparable households use different amounts of energy A report to DECC.
3 Research carried out by BEAMA with the Energy Saving Trust in 2008

4 Payback estimates shown in appendix 1.
5 Decc heating research
6 Fell D., King G. (2012). Domestic energy use study: to understand why comparable households use different amounts of energy A report to DECC.

CHANGING POLICY

Simple changes to existing policies could deliver saving to householders, whilst supporting carbon targets.

- **Building Regulations**
  The next revision of Part L Building Regulations must make the installation of TRVs mandatory with a boiler replacement while a system is drained down, something that takes place in over 1.5 million households per year. Whilst TRVs are only 'good practice' before then the industry must work to establish 'good practice' as the norm.

- **DECC Heat Strategy:**
  'The Future of Heating: Meeting the challenge', March 2013 should be strengthened to specifically target the improvement of controls in homes so that all homes have a minimum standard.

- **Standard Assessment Procedure (SAP)**
  Increase the saving value ascribed to TRVs in the SAP methodology in light of this new evidence from the Salford University tests.

Only when we have a properly controlled heating system in place can we help householders to avoid wasting energy and to actually achieve both comfort and low energy bills.

THE BENEFITS OF HEATING CONTROLS:
Improved comfort; increased efficiency

Over 50% of household energy is used for heating so significant benefits are possible:

- Householders can reduce their energy bills without compromising comfort.

- Those in fuel poverty or with fixed heating budgets can have more comfortable homes.

- Bringing all homes up to standards could save 5 MtCO2 by 2020 – 12% of the total target in the DECC Energy Efficiency Strategy.

- Supporting UK manufacturing and supply chains will help deliver economic growth

TEST RESULTS FROM THE UNIVERSITY OF SALFORD

The BEAMA Heating Controls Association represents UK manufacturers of and suppliers of electrical and electronic controls and switches used in appliances, heating systems and general purpose applications. BEAMA is dedicated to advancing heating controls for domestic installations to ensure a comfortable environment at the least cost.

The association commissioned the University of Salford to carry out some independent tests on the performance of heating controls in their Energy House facility. This facility consists of a full size house built within an environmental chamber, designed to assess the effectiveness of new and existing technologies in reducing energy use and waste.

Test results:

Tests carried out	24 hour heating cost [1]	Reduced cost from controls
1. No temperature control	£5.31	0%
2. Control by room thermostat only	£4.68	12%
3. Control by room thermostat + TRVs	£3.15	40.7%

[1] Based on British Gas Clear & Simple cash / card payment (4.274p per kWh gas, 12.797p per kWh electric) not including standing charge (24.439p per day gas, 15.979p per day electric)
Prices taken on 07/05/2013 from: http://www.britishgas.co.uk/products-and-services/gas-and-electricity/our-energy-tariffs/clear-and- simple/clear-and-simple-rates.html

HEATING EFFICIENCY PACKS

RTW and matching lockshield

Danfoss has launched a range of Heating Efficiency Packs, a handy new way to buy high efficiency home heating controls. Each pack contains 6 x TRVs, a lockshield and wheelhead pack and a choice of digital room thermostat - everything you need to give your customers much better control of room temperatures and energy use.
Heating Efficiency Packs are available in a choice of eight product combinations to suit different applications and budgets, when upgrading controls in an existing heating system.

Heating Efficiency Packs	Code No.
FOR UPDATING SYSTEMS	
1 x RET2000B, 6 x RTW, 1 x Lockshield and Wheel Head Pack	087N9520HW
1 x RET2000B RF with RX1-S, 6 x RTW, 1 x Lockshield and Wheel Head Pack	087N9520HX
1 x TPOne-B, 6 x RTW, 1 x Lockshield and Wheel Head Pack	087N9520HY
1 x TPOne-B RF with RX1-S, 6 x RTW, 1 x Lockshield and Wheel Head Pack	087N9520HZ
FOR NEW RADIATOR INSTALLATIONS	
1 x RET2000B, 6 x RTW with matching lockshields, 1 x Lockshield and Wheel Head Pack	087N9520JA
1 x RET2000B RF with RX1-S, 6 x RTW with matching lockshields, 1 x Lockshield and Wheel Head Pack	087N9520JB
1 x TPOne-B, 6 x RTW with matching lockshields, 1 x Lockshield and Wheel Head Pack	087N9520JC
1 x TPOne-B RF with RX1-S, 6 x RTW with matching lockshields, 1 x Lockshield and Wheel Head Pack	087N9520JD

RET2000B

TPOne

RX1-S

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