



Estimated Savings on Fuel Bills from Heating Control Upgrades

| Average price of gas 1 July to 30 September 2023 - 0.08p/kWh. (Source Ofgem) | | | | | | |
|--|---|-----------|-----------|-------------|---------------------------|-----------|
| | House type | Average | Flat | Mid-terrace | End-terrace/semi-detached | Detached |
| Baseline assumed - timeclock, Class I on/off room thermostat, manual radiator valves | Annual heating gas consumption (kWh) | 11,808 | 5,985 | 9,382 | 12,132 | 19,734 |
| | Gas cost (£/kWh) | £0.08 | £0.08 | £0.08 | £0.08 | £0.08 |
| | Annual heating cost (£) | £944.64 | £478.80 | £750.56 | £970.56 | £1,578.72 |
| Adding TRVs | Saving from tests | 18% | 18% | 18% | 18% | 18% |
| | Saving on heating (yr) | £170.04 | £86.18 | £135.10 | £174.70 | £284.17 |
| | Lifetime saving (15 yr) | £2,550.53 | £1,292.76 | £2,026.51 | £2,620.51 | £4,262.54 |
| Upgrade Class I room thermostat to Class IV load compensation | Saving from tests | 10% | 10% | 10% | 10% | 10% |
| | Saving on heating (yr) | £94.46 | £47.88 | £75.06 | £97.06 | £157.87 |
| | Lifetime saving (15 yr) | £1,416.96 | £718.20 | £1,125.84 | £1,455.84 | £2,368.08 |
| Upgrade Class I room thermostat to Class V/VI load/weather compensation | Saving from tests | 12% | 12% | 12% | 12% | 12% |
| | Saving on heating (yr) | £113.36 | £57.46 | £90.07 | £116.47 | £189.45 |
| | Lifetime saving (15 yr) | £1,700.35 | £861.84 | £1,351.01 | £1,747.01 | £2,841.70 |
| Upgrade programmer to one with smart control | Saving from tests | 6% | 6% | 6% | 6% | 6% |
| | Saving on heating (yr) | £56.68 | £28.73 | £45.03 | £58.23 | £94.72 |
| | Lifetime saving (15 yr) | £850.18 | £430.92 | £675.50 | £873.50 | £1,420.85 |
| Full upgrade 1 - TRVs + Class IV room thermostat + smart control | Saving from tests | 31% | 31% | 31% | 31% | 31% |
| | Saving on heating (yr) | £289.34 | £146.66 | £229.90 | £297.28 | £483.56 |
| | Lifetime saving (15 yr) | £4,340.15 | £2,199.85 | £3,448.45 | £4,459.24 | £7,253.43 |
| Full upgrade 2 - TRVs + Class V or VI room thermostat + smart control | Saving from tests | 32% | 32% | 32% | 32% | 32% |
| | Saving on heating (yr) | £303.89 | £154.03 | £241.46 | £312.23 | £507.87 |
| | Lifetime saving (15 yr) | £4,558.36 | £2,310.45 | £3,621.83 | £4,683.44 | £7,618.11 |

The table above provides estimates of the potential savings on energy bills through the application of a number of heating control upgrades in a range of house types.

The savings are based on the average price for gas of 8p per kWh under the period of 1 July to 30 September 2023. It is assumed that this price of gas provides a reasonable estimate for average gas price over the lifetime of these measures. The lifetime is assumed to be 15 years. (Source: Ofgem¹.)

The calculation of the annual gas used for heating can be found on the BEAMA website².

Potential energy savings for TRVs, load and weather compensation are based on tests, the details of which can be found on the BEAMA website³. Savings from smart control are based on a study by the Behavioural Insights Team⁴. A description of the reference temperature control classes (I, IV, V and VI) can be found on the BEAMA website⁵.

The total energy saving for 'full upgrade 1' and 'full upgrade 2' is based on each of the measures referenced for the upgrade being carried out in the order they are stated.

¹ <https://www.ofgem.gov.uk>

² <https://www.beama.org.uk/resourceLibrary/uk-homes---analysis-of-kwh-gas-consumption-for-heating.html>

³ <https://www.beama.org.uk/portfolios/heating-controls/energy-savings.html>

⁴ <https://www.bi.team/publications/evaluating-the-nest-learning-thermostat/>

⁵ <https://www.beama.org.uk/resourceLibrary/temperature-control-classes-from-eu-energy-labelling-regulation-for-space-heaters.html>