



3633 I. Street, Philadelphia, PA 19134  
PO Box 14818

tel: 215.535.8900  
fax: 215.535.9736

August 29, 2013 (via email)

Ms. Abigail Daken  
ENERGY STAR Product Development Team  
US Environmental Protection Agency  
1200 Pennsylvania Avenue NW (Postal Code 6202J)  
Washington DC 20460

Re: Version 3.0, Draft 2 Product Specification for Boilers

Dear Ms. Daken,

The attached article from the UK publication *This is Money* is being sent to EPA as an additional comment to those already provided by Yale Steingard regarding the Version 3.0 gas boiler specification earlier today. This article provides additional evidence that condensing boilers have a significantly shorter life expectancy than non-condensing boilers. It also supports our position that condensing boilers generally do not provide adequate fuel cost savings to justify their additional expense.

Sincerely,

Paul Sohler  
Director of Engineering



## Are condensing boilers a waste of money?

By **THIS IS MONEY**

Last updated at 4:44 PM on 5th January 2011

[Comments \(-\)](#) | [Share](#)

Five years ago, they were heralded as the modern, clean and green way to heat your house. As a result, today there are already eight million 'condensing boilers' in homes across Britain.

In fact, since 2005 it is illegal to fit any other kind.

At the time, the Government claimed they would massively reduce your carbon footprint and slash your fuel bills. As a result, every year some 1.2m old-style 'dirty' boilers are scrapped in Britain and replaced by this wondrous new variety.

However, the recent cold snap has revealed a major problem with them. Tens of thousands of people found themselves shivering as their shiny new boilers cut out without warning.

British Gas is understood to have had 60,000 call-outs in Yorkshire alone. And the cost to call out a plumber? It can be between £200 to £300 on a bank holiday. And don't forget about VAT.

'We've had double the number of call-outs as in the same period last year,' says Charlie Mullins, MD of Pimlico Plumbers in London, the country's largest independent plumbing company.

'It is a massive problem. Some customers were ready to move out because their condensing boilers broke. If I had a choice, I'd put in a non-condensing boiler every time.'

It's all the more infuriating because the problem causing these breakdowns is so simple. In cold weather, the pipe that takes waste water from the back of the condensing boiler — which isn't there in a normal boiler — freezes solid, shutting down the system and in many cases causing permanent damage.

Forums: ['My condensing boiler problem and the advice I was given'](#)

But this problem is just one of many that have plagued this boiler design since they became popular in the Nineties. Many plumbers consider them to be little more than a multi-billion pound con-trick.

In a regular boiler, the hot gases produced when the methane fuel is burned heat water for your radiators, dishwasher, taps and so on. But about 25% of the heat vents out of the exhaust pipe in the form of hot steam and CO2.

In a condensing boiler, a condenser claws back much of the lost heat because as steam condenses into water, it feeds heat back into



Con-dense: Modern boilers may not be as efficient as first thought.

Search

[All Articles](#)   [Share prices](#)

- [▶ Power Portfolio](#)   [▶ Forums \(beta\)](#)   [▶ Midas Extra](#)
- [▶ FTSE 100](#)   [▶ Blog](#)   [▶ FAQs](#)

### BILLS: SAVE MONEY NOW

- [▶ Utilities](#)   [▶ Loans](#)
- [▶ Mortgages](#)   [▶ Currency card](#)
- [▶ Broadband](#)   [▶ IVAs](#)
- [▶ Credit check](#)   [▶ PPI](#)
- [▶ Estate planning](#)   [▶ Warranties](#)
- [▶ Credit cards](#)

### DON'T MISS

[▶ What extra qualification would really boost my career earnings?](#)  
Our experts answer your questions



[▶ Money woes kill the gap year](#)  
Thousands of teenagers have scrapped plans to travel ahead of a crippling hike in university tuition fees



[▶ Sir James Dyson's Far East battle](#)

the system. This can increase overall efficiency from 75% to as much as 93%, and reduce CO2 emissions — and your bills — by a commensurate amount. That, anyway, is the theory boilermakers and politicians want you to believe.

In 2005, the then-deputy PM John Prescott drew up a masterplan to help Britain meet its CO2 emissions targets, as dictated by the 1997 Kyoto Protocol. This involved a new law ordering that all new and replacement boilers fitted to British homes — some 1.4m annually — must from that date be of the condensing type.

A 'boiler scrappage' scheme followed in 2008, which offered people £400 towards the cost of a new condensing boiler if they replaced their old one — even if it was in perfect working order. Boiler manufacturers and plumbing and installation firms could hardly believe their luck.

An estimated eight million homes in Britain made the switch, often encouraged by persistent salesmen who produced an impressive-looking audit offering a seductive assessment of how much money you could save by switching to a new, 'clean' boiler.

But even ignoring the freezing pipe problem, it is clear that in most cases it makes no economic sense to scrap an old boiler that is still functioning.

For an average home, replacing even a very inefficient old model with the best new boiler on the market will, at most, save a couple of hundred pounds a year in gas bills. That sounds good until you realise that at £2,000 for one of the better condensing models, a new one will take at least ten years to pay for itself.

And the problem is that these boilers simply do not last anything like ten years.

'You might get 20 years out of one of the old ones,' Charlie Mullins says, 'but it is more like three to six years out of one of these new ones. In fact, if it goes wrong after four years, you are better off replacing a condensing boiler altogether because of the horrendous cost of the parts.'

'On the basis of efficiency, they certainly do not pay for themselves. It makes no sense to take out a working old boiler and replace it with a condensing one.'

That's not something the enthusiastic salesmen will tell you. They also won't tell you that those touted increases in efficiency are theoretical, often not matched in reality. These boilers rarely operate at maximum efficiency anyway.

Explained simply, the water returning from your radiators back to the boiler has to be below 55c for the condenser to condense the steam in the boiler into water. For most homes using standard radiators, this will probably not be the case — the returning water might be as hot as 65c, especially when the radiators are turned up in cold weather.

One impractical 'fix' would be to fit oversized radiators, which can warm the room to the same degree despite being slightly cooler. Another solution would be to fit the latest radiant heating technologies, using pipes embedded in walls and floors.

But fitting these hi-tech systems, which are fairly common on the Continent but rare in Britain, would cost thousands of pounds for most homes.

The problems don't stop there either. The condensed water vapour produced in the new boilers is slightly acidic (as it contains dissolved nitrogen and sulphur oxides), which inevitably causes corrosion of the delicate boiler components and also leads to breakdowns.

So the message is clear: if you have an old boiler, provided it is working properly and is serviced regularly, you are almost certainly better off keeping it until it is beyond economic repair. Parts will be cheaper, it will be less likely to break down and there is no danger of it stalling on the coldest night of the year.

If you're worried about your carbon footprint, just remember that the touted efficiency savings are theoretical figures and might not reflect reality. In a well-designed, well-insulated new home that incorporates the latest heating technology, a condensing



Advice: Jo Thornhill explains how to protect your house from a harsh winter

## WHY THE BOILER FR

**1 A regular boiler vents out of the exhaust pipe about 25% of the heat in the form of steam and CO2.**

**2 A condensing boiler turns the hot exhaust gases into water in a heat exchanger. This reclaims 20% of the heat energy.**

**3 This water is taken out of the pipe through a plastic condensate pipe can be prone to freezing. The boiler the blockage and shuts down.**

**4 Using a wider, lagged pipe stops it freezing.**

How the inventor of the bagless vacuum cleaner is fighting to stop the Chinese copying his best ideas



▶ **Tenants' rights: How you are protected**

Increasing numbers of Britons are renting their home but they are not always given the rights they are due.



▶ **Summer holiday trip? That will be 43% more**

The average summer holiday costs a whopping £790 more, during the school break.



▶ **Here is the shopping forecast...**

How supermarkets use weather predictions to decide what to stock



▶ **Chart of the day: Should you gamble a lump sum on the stock market?**

Drip feeding vs outright punt



▶ **Is my garage duping me over VAT?**

I am arguing with my garage over a bill and want to find out if they are VAT registered. How do I do that?



▶ **Fined after parking for exactly 17 seconds**

Spy cameras hit innocent drivers as tickets soar fivefold



▶ **Investors plunge into 'funds of funds'**

High fees didn't stop investors ploughing a record £3.8bn into 'luxury' funds of funds in the first half of the year.



## LATEST REPORTS FROM BILLS

- ▶ The boiler engineers that bump up the cost of simple repairs
- ▶ Npower hikes prices by 12%, as BoE warns energy price rises will push inflation to 5%
- ▶ Energy bills: Is it really worth switching and which are the best deals?

### Ads by Google:

#### Pay Far Less for Power

Get Solar Power Today and Save On Electricity for Decades to Come!

[www.SolarCity.com/SolarP](http://www.SolarCity.com/SolarP)

#### Angie's List Local Rating

Read Local Ratings & Reviews. Find HVAC Techs in Your Area!

[www.AngiesList.com/HVAC](http://www.AngiesList.com/HVAC)

#### Gas Boiler Furnace Prices

Find Top Gas Furnace Contractors. Get Free Quotes from Local Experts.

[Gas.FurnaceQuotes.com](http://Gas.FurnaceQuotes.com)

#### 1 - Enter Your Zip Code

2 - Compare Local Plumbers 3 - Get Free Plumbing Estimates

[TheHomeFixers.com/Plumt](http://TheHomeFixers.com/Plumt)

#### Plumbers in Your Area

Licensed, Professional Plumbers Get Multiple Free Quotes Instantly!

[PlumbingNetworks.com](http://PlumbingNetworks.com)

#### New Jersey Solar Panels

40% off Solar Panel Projects. Request Info For Free On-Site Quote

[www.CoolerPlanet.com](http://www.CoolerPlanet.com)

#### Heating System Estimates

Find Top-Rated Heating Pros in Your Area. Get 4 Free Bids Today!

[www.ServiceMagic.com](http://www.ServiceMagic.com)

#### Better Heat Extra Savings

Get the facts before you buy any new heating system - find out more!

[www.energykinetics.com](http://www.energykinetics.com)

boiler might be more efficient.

But most of us do not live in such homes — we have poor insulation and ageing pipes and radiators. Remember, also, that manufacturing each new boiler has a 'carbon cost' in itself that must be 'paid back' by the new boiler.

There is no doubt that the great switch to condensing boilers was motivated by the best intentions. But that's small consolation if you find yourself shivering in a freezing house this winter, wondering when the plumber is going to arrive.

 [Print this article](#)

 [Read later](#)

 [Email to a friend](#)

### Share this article:

-  [Facebook](#)
-  [Twitter](#)
-  [Digg it](#)
-  [Newsvine](#)
-  [Delicious](#)
-  [MySpace](#)
-  [Nowpublic](#)
-  [Reddit](#)

### Ads by Google:

[Pay Far Less for Power](#)  
 Get Solar Power Today and Save On Electricity for Decades to Come!  
[www.SolarCity.com/SolarPowerQuote](http://www.SolarCity.com/SolarPowerQuote)

[Angie's List Local Rating](#)  
 Read Local Ratings & Reviews. Find HVAC Techs in Your Area!  
[www.Angieslist.com/HVAC](http://www.Angieslist.com/HVAC)

- ▶ EDF to refund £200,000 to 100,000 overcharged customers
- ▶ The green tax 'con' that is costing families £500 a year
- ▶ Social housing tenants to get solar panels and eco-friendly boilers thanks to £3m scheme
- ▶ Online shopping: Tesco took £450 from my bank ... for ONE TIN of baked beans
- ▶ EU outlaws 60 watt light bulbs in move towards efficient, money-saving alternatives
- ▶ British Gas folds under pressure and suspends doorstep selling
- ▶ Insurance myths: True or false?
- ▶ Mobile tariff jungle: Over 1.5million different phone deals confuse consumers
- ▶ Tesco, Sainsbury's and Asda fined for milk and cheese price fixing by the OFT
- ▶ Outrage at proposed Royal Mail cuts to lost post claims



We're sorry but reader comments are currently unavailable.

## BILLS: DON'T MISS

▶ [50 ways to save money...](#)  
 From clearing your credit card debt to cutting your fuel bills. We round up 50 nifty ways to save and make money.



▶ [Should you switch supplier?](#)  
 All the latest changes to gas and electricity prices. Read our advice on when and whether to switch to get the best deal



▶ [TV Licence: How to pay and claim discounts](#)  
 If you have a TV then you'll need a licence to watch it - if you don't pay then you could get caught out for a £1,000 bill



▶ [How to cut the cost of your food bill](#)  
 Do you feel like your grocery bill is getting bigger each week? That's because it probably is. We explain how to cut it.

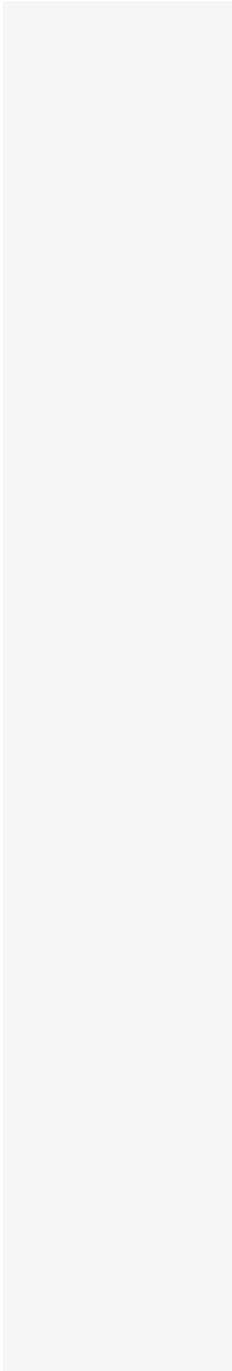


## BILLS: GUIDES

▶ [How to sell your old mobile phone](#)  
 Do you have an old mobile lying around? We explain how to make money from recycling your mobile phone



▶ [Beat the holiday mobile rip-off](#)



If you're using your mobile on holiday then you could be in for a large bill. We explain how to avoid it.



► [Loyalty cards](#)

Your wallet is probably stuffed full of loyalty cards, but how many do you actually use? We explain how get the more for your money



► [How to get a better deal on digital TV](#)

Are you spending a fortune on your TV subscription package? Follow our five steps to saving some money.



GET MORE FROM THIS IS MONEY

Sign up for our newsletter, newsflashes and latest deals

GO

Find us on:



FACEBOOK



TWITTER



YOU TUBE



RSS FEEDS



APPS

[Money Home](#) | [Markets](#) | [Saving](#) | [Investing](#) | [Bills](#) | [Cars](#) | [Holidays](#) | [Cards & loans](#) | [Pensions](#) | [Mortgages & home](#) | [Experts](#)



This is Money is part of the Daily Mail, The Mail on Sunday & Metro Media Group

© Associated Newspapers Limited 2011

[Terms](#) | [Privacy policy & cookies](#) | [Sitemap](#) | [Advertise with us](#) | [About us](#) | [Contact us](#)