



## Appearances Can Be *Deceptive*

Jane Howard goes behind the scenes with architect Tim Ball at *Wealden Times*' February featured house to perform a green audit...

By anyone's standards Rob and Mary Evans' house is a wonderful example of a "much loved and lived in" old country house. Built in 1840 it is full of interesting nooks and crannies, wonky doors and sash windows that rattle gaily in the wind. But while it exudes period charm – something many of us lust after – it certainly doesn't tick many boxes when it comes to energy efficiency.

Of course we all want to play our part in saving the planet, but the ever rising cost of heating our homes means it's now just as much about financial prudence as environmental conscience.

So *Wealden Times* invited architect Timothy Ball, whose practice work includes creating new energy efficient buildings and improving the rating on old ones, to visit Rob and Mary's house to see just what they could do to reduce their carbon footprint and lower their fuel bills.

We expected Tim to come up with all sorts of 21<sup>st</sup> century initiatives such as solar panels, air-source heat pumps and wind turbines – but he started from a very different perspective. He was very keen to stress that while all the new technologies are very worthwhile, and in many cases make financial sense, they must be considered as part two of any programme.

At the outset, and by far the best way to reduce your energy bills if you have an old draughty house, is to take a good look round, inside and out, and take a few easy steps to make sure that it is well insulated. Only then is it worthwhile moving on to the more innovative new technologies.

We started with the windows. In text-book fashion, the



This pic & below: Rattling sash windows and draughty floorboards in the TV room





This page: The large picture windows in the sitting room let out a lot of heat in the very cold weather. Whilst beautiful to look at the original fireplaces on the ground floor are not the most efficient means of heating the rooms. Gaps between the floor boards and the skirting boards should be filled



Evans' house provided us with examples of rattling sashes, paper thin panes of glass and even a rather impressive hole! Tim was passionate about the benefits of repairing rather than replacing. The most common problem is found where the sashes meet but by fitting plastic parting bead with a brush draught seal – the bit that goes between the two sashes so you don't see it – you can stop them rattling and make them draught proof ([www.mightonproducts.com/catalog/weatherstripping-mighton-weather-proofing-system-c-6\\_73.html](http://www.mightonproducts.com/catalog/weatherstripping-mighton-weather-proofing-system-c-6_73.html)). Using a carpenter to fit these and make any minor repairs should cost no more than £200 to £300 per window.

In the case of the frame with the large hole, the lower half of the window will need to be replaced. Tim stressed the desirability of using wood rather than PVC (an anathema anyway to most people with old homes). He says it is a myth that they are zero maintenance, has yet to find any that don't yellow in time and in most cases they reduce the value of any period home. ▶



This pic & below: The draughty front door



Above: The old gas-guzzling Aga

The large picture windows in the sitting room are very pretty and let in lots of light but as the glass is so thin they also let out a lot of heat in the very cold weather. As this is not a room that gets used much in the week, he recommended keeping the curtains – preferably lined and interlined - drawn all the time during the winter. And if the Evans ever do decide to replace them you can now purchase super slim double glazing units ([www.slimliteglass.co.uk](http://www.slimliteglass.co.uk)).

Then we moved to the front door – a wonderful old gem of a door. The Kelim curtain is certainly a good idea but Tim pointed out that if any exterior doors rattle then that is a sure indication that they don't fit! In many cases, with old doors such as this, the reason they don't fit is simply due to a buildup of tens of layers of paint. Next time the Evans decorate he suggested they strip back the door and the frame, add a new piece of wood above the top bolt, and it will probably fit again. He also recommended fitting a draught proof letter box tidy and an escutcheon over the keyhole – every little helps!

Moving on, next we looked at the TV room, the area where the family sit in the evenings. About ten years ago, Mary took up the old carpet and painted all the boards white, and while the aesthetics might work it's a definite no-no when it comes to warmth. Tim explained that under the floorboards is an air gap

that is there to prevent the wood getting damp and rotting. Air bricks on the exterior of the house feed directly into this void making it one of the coldest parts of the house.

If you're taking up the boards – maybe to re-wire or whatever, then it makes absolute sense to put down insulation between the joists, but if this is not on the cards then a good carpet will also do the job. However, even more effective at draught proofing the floor than the carpet is the underlay and Tim was very keen to point out how worthwhile it is to invest in top quality underlay even if you only use a standard carpet. You should also fill any gaps between the floorboards and the skirting boards – again a direct route to that cold void underneath the floorboards.

Many of the downstairs reception rooms in this 1840s home still have the original cast-iron fireplaces. While these are beautiful to look at they are not the most efficient means of heating the rooms. Wood-burning stoves are far more effective and should certainly be considered by anyone with access to cheap/free logs.

While it's important to keep TV rooms and other living areas cosy and snug, you are wasting money and fuel trying to keep all of your house at this temperature. Tim recommends splitting the house into three areas and using a different thermostat in each. The living areas need to be kept warmest, the kitchen can be at a lower temperature, much lower if you have an Aga or ▶



**This pic & below:** Air bricks on the exterior of the house feed directly into the void under floorboards making the downstairs one of the coldest parts of the house



**This pic** While it's important to keep TV rooms and other living areas cosy and snug, you are wasting money and fuel trying to keep all of your house at this temperature. The conservatory is a prime example of this



**Left:** A wireless electricity monitor helps to highlight household energy wastage **This pic:** Windows in need of repair

similar – and the first floor and above can also be cooler. Digital thermostats are far more accurate than dial ones – but again don't replace until you need to – and thermostatic radiator valves give you more control still.

Tim was perfectly happy that Mary wanted to pull up her threadbare stair carpet and paint the wood instead – no cold under void to worry about once you get above ground level. However, once on the first floor his attention quickly moved to the attic. He wanted to know how much insulation there was in the loft and wasn't surprised when Mary explained that although the spirit was willing, the idea of clearing it out prior to insulating between the joists was just too much to contemplate.

She is evidently not alone on this, but Tim stressed that even if it involved getting in a removal company, or a strapping student or two, to move all the kit into one room and then back, it would be worth it. It only costs about £300 to insulate a standard loft and lay chipboard back on top, and it is definitely one of the best investments you can make in terms of reducing your heating costs.

It is also very important to make sure you have a very well insulated hot water cylinder fitted with a thermostat and to replace your boiler with a modern energy efficiency model if yours is feeling its age.

Once you've insulated the ground floors and the loft you can also insulate the walls if you have cavity walls. Tim felt it highly unlikely that an 1840s house would have cavities – the earliest he has come across are about 1890 – but an easy way to tell is to look at the bricks on an outside wall. If all the brick lengths are

the same then you probably have a cavity, but if it is constructed of full length bricks and half length bricks (headers) then it is unlikely. Again this is a fairly low-cost and really worthwhile investment.

And finally we discussed the family appliances and the ways they actually clock up the gas and electricity bills. While big ticket items can only be replaced when old ones break down, it really is as important to make the energy rating – you want A – every bit as much of a priority as the many features it will offer.

Using low energy efficient light bulbs will also reduce your electricity bills – perhaps more so than you imagined. The drawback, however, is that many people – especially those with old houses – have light fittings that don't work with the new white tubey cubey jobs now on sale. Added to which we don't much care for the pale green light they throw out. However, if you shop on-line there is a far greater selection of lamps to meet the needs of all unusual fittings and dimmers etc. And they do warm yellow ones too.

For our next piece we've asked Tim to come back and talk us through stage two of the project - all the renewable energy options which will really make a difference to the Evans' fuel bills. And once the government has published its Renewable Heat Incentive – designed to provide financial support to encourage us all to switch from fossil fuel to renewable – they may also start generating cash into the bargain.

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