

# Solar combis & the Building Regs 2006

*According to Atmos the future is solar.*

We all know that Tony Blair has signed up the UK to the Kyoto agreement to reduce carbon dioxide emissions by 20% by the year 2010. So April 2005 here we come, out with the old 78% efficient boilers, and in with the 90% high efficiency condensing boilers. The statisticians at Whitehall have calculated how much all this will contribute to the great cause of reducing the CO<sub>2</sub> output. So when 2010 rolls up, and we haven't managed the 20% promise, at least Tony will be able to put on a brave face and say "Well I tried my best".

## BUILDING REGS 2006

This however, is not the end of the story, for more is yet to come. The 2006 Building Regulations is looming ahead, and according to the Part L consultation document recently issued, the importance of solar hot water heating (SHWH) is recognised. As there is no further room for improvement in boiler efficiency, SHWH is recognised as a next step, as a proven technology. It is capable of reducing the amount of fossil fuel consumed by domestic properties, and it will improve the energy rating of a new build property. It also is relevant to existing properties. Don't forget that the proposed Home Information Pack, which will soon become a legal requirement for the sale of any house, new or old, will include a house energy rating. This will

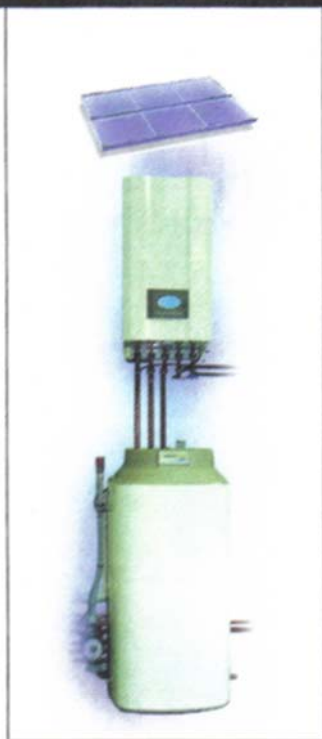
increase the pressure on homeowners to make energy efficient decisions on what to invest in their house.

## SOLAR HOT WATER PROVISION

There is a further twist to the tale. Recognising that house builders will squirm their way out of any additional expense to building a house, it has been suggested that the Regulations include provision to ensure that if SHWH is not installed at the build stage, means are provided to make it easy to install at a later stage. For example one suggestion is that combination boilers should be solar compatible, that is, they are able to accept pre-heated water from a solar pre-heat tank. After all, if the installation of a SHWH system requires a new combi boiler, it makes it more expensive and therefore less attractive. Here we come to the nub of the problem, that is very few combi boilers are solar compatible. With combi boilers now 50% of the boiler market, this is a serious matter, and so specifiers must now be carefully considering whether or not the combi boiler they are considering is solar compatible.

## WHAT MAKES A COMBI BOILER SOLAR COMPATIBLE?

Combi's are built on the assumption that the water coming in is cold (below 20°C), so that when the temperature is



*The Atmos MonoSolar SHWH system provides solar pre-heated mains pressure water from a 100 litre thermal store.*

raised through the standard 35°C, the water comes out at between 45 and 55°C. Most combi's are controlled by a flow switch, which simply tells the boiler that the cold water is flowing, so it needs heating up. A flow switch doesn't know if the incoming water is hot or cold, and so it heats the water irrespective of inlet temperature. So, if the water has been pre-heated to say 50°C, it will heat it up to 80 or 85°C, and "Ouch!" – we have problems. The boiler will lock out, or worse still, some of the older cheaper combi's could literally blow up, since they have neither temperature control or pressure relief valves. Many modern combi's have some form of hot water temperature control, which removes this danger, although that still does not make them solar compatible. The internal components such as the diverter valve may not be suitable for use at high temperatures.

compatibility, such as Holland which has the NZ label. A recent meeting held between the SBGI and the STA (Solar Trade Association) began the process of forming a standard for the UK, which is progressing, but as yet does not exist. The only way at the moment to find out is to ask the manufacturer when specifying a particular boiler.

## ATMOS HEATING SYSTEMS

Atmos has been selling Dutch condensing gas boilers in the UK for 4 years, and all combi boilers have the Dutch NZ solar compatibility label, making them future proof. In addition they are all SEDBUK A-rated, the highest possible energy rating. Alongside the boilers is the Atmos MonoSolar SHWH system, which provides solar pre-heated mains pressure water from a 100 litre thermal store, which can be fed into any solar compatible combi boilers. A thermal store is recognised as the safest method of producing pre-heated water, as it overcomes any risk of Legionella bacteria formation. A popular solution is the Atmos SolarCombi, which is a compact package of SHWH and a high efficiency condensing gas boiler. Instead of a plate heat exchanger, the Compact has a miniature 3 litre hot water tank, which is maintained at 60°C and provides instant hot water.

## CONCLUSION

SHWH is no longer a fancy extra, but is fast becoming a serious contributor to low energy housing, and the heating trade needs to get on board with it, as the future is solar!

## HOW DO YOU KNOW IF A COMBI IS SOLAR COMPATIBLE?

In Europe there are boiler standards for solar