



focus on doors, windows and glazing

RETROFIT SOLUTION

As window film is a retrofit product it can be applied to existing windows eliminating the need for a 'rip and replace' upgrade that requires old windows to be thrown away

Words: Ian Penfold, architectural manager, Solar Gard

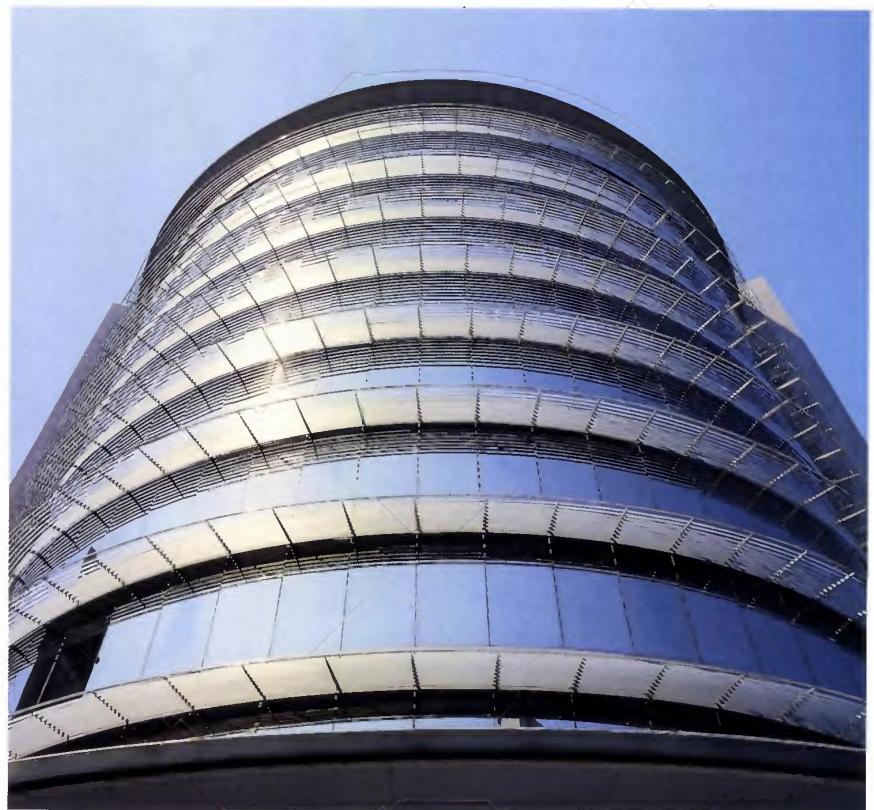
For many UK businesses, the ENDS Sustainable Business 2011 report makes for uncomfortable reading. Amid findings that carbon emissions, energy intensity and electricity have all increased over the last twelve months, the report concludes that UK business is 'nowhere near' its target of an 80% reduction in greenhouse gas emissions by 2050.

It was revealed earlier this year that businesses seem to be significantly underestimating the financial benefit of saving energy. This helps to explain why the Carbon Trust found UK businesses are still wasting an astonishing £1.6 billion a year on energy bills.

The energy consumed by UK businesses contributes around 38% of the country's total carbon emissions, and with better business practices a large chunk of this could be avoided. In a time of slow economic growth, these savings would be a major step towards businesses becoming more efficient, more productive and more profitable.

So why does energy efficiency remain such a low priority for so many organisations? In many cases, changing the attitudes and behaviour of staff is seen as too costly, too time consuming or too difficult. But the advice being given on the most appropriate and cost-efficient steps to take also needs to be called into question. At this time of year, most of that advice is on the topic of insulation.

With winter just around the corner, conserving heat should be high on the agenda for every UK business. But surprisingly, despite a wave of government-backed schemes including the Renewable Heat Initiative and the Green Deal, there remains no funding incentive for



The outside walls of an office often consist more of glass windows than they do anything else

companies looking to invest in insulation measures. Therefore any organisation that truly sets energy efficiency as a priority will have to bite the bullet and cover the costs themselves.

Furthermore, for most companies, cavity wall insulation is often regarded as the most sensible investment to make. Schemes such as the Carbon Emissions Reduction Target and Warm Front programme, which offer insulation grants to the homeowners market, are very vocal of the benefits and returns that it can provide. But for UK businesses that lack the grants to make multiple energy-saving upgrades, it may not be the change that provides the most enduring cost and carbon reduction benefits.

Whilst cavity wall insulation is a positive step to take, and helps to prevent heat loss to a certain extent, businesses appear to be ignoring

another surface that takes up a huge percentage of their wall space: windows. The outside walls of an office often consist more of glass windows than they do anything else. This fact becomes important when the relative U value of each surface is taken into account.

The U-value of a material defines the level of heat that can be transmitted through it. In simple terms, the higher the U-value, the more affected your building will be by changes in the weather. In most buildings, you only have to reach out and touch the surface of your windows to know that an untreated glass surface has a far higher U-value than an uninsulated wall. Therefore in terms of insulation, windows should be seen as the number one priority for energy-conscious companies this winter.

The most logical step, many believe, is to



Low-e window film is able to keep the office warm in the winter, and also cool in the summer

install low-emissivity (low-e) glazing. By absorbing a significant amount of energy created by heating systems inside the building, low-e glazing is extremely effective at preventing heat loss and keeping energy bills down as a result. However, low-e glazing requires a set of new windows to be installed.

Fortunately, it isn't the only option that facilities managers can choose from. A new product has emerged onto the market that gives existing windows a superior performance to low-e glazing, and at a fraction of the cost of replacement windows.

Window film is a retrofit product so can be applied to existing windows. This eliminates the need for a 'rip and replace' upgrade that requires old windows to be thrown away, which can contribute to landfill and affect the environment. It is not just an easier option; it is also around 80% cheaper and, by reflecting 63% of interior heat back into the room, there is no compromise on performance either.

Additionally with window film, the promise of energy saving extends beyond the winter months,

allowing for reduced consumption when the sun comes out, too.

The energy-saving focus is rightly pointed at insulation during these colder months. But it needs to be acknowledged that during summer, internal temperatures dramatically increase due to solar heat gain, and end up being remedied by the use of another costly and energy-hungry solution, air conditioning. Left unchecked, this represents a huge energy burden on businesses that totally negates the energy savings that insulation may provide.

Unlike most low-e glazing, low-e window film is able to keep the office warm in the winter, and also cool in the summer. By blocking a significant amount of solar heat from entering the building when temperatures are high, interiors remain at a stable temperature and the need for air conditioning is reduced.

Coupled with its insulation benefits, the result is year-round comfort, and a greatly reduced energy burden no matter what the weather is like outside. This can only be positive news for the efficiency targets of a business, and more

importantly, its bottom line. The ENDS Sustainable Business report states that, "It is theoretically possible that new technologies will appear that are efficient and cheap enough to radically alter the [energy] picture" – but does not propose any products that can yet provide the results that are needed. But with strong and immediate benefits available for a relatively low financial outlay, window film is clearly a step in the right direction.

For businesses that are jaded with the mainstream energy-saving options currently being made available to them, it's time to bring lesser-known alternatives out from the cold, and start turning our carbon emissions targets into a reality ■

CONTACT

Solar Gard
www.solargard.co.uk