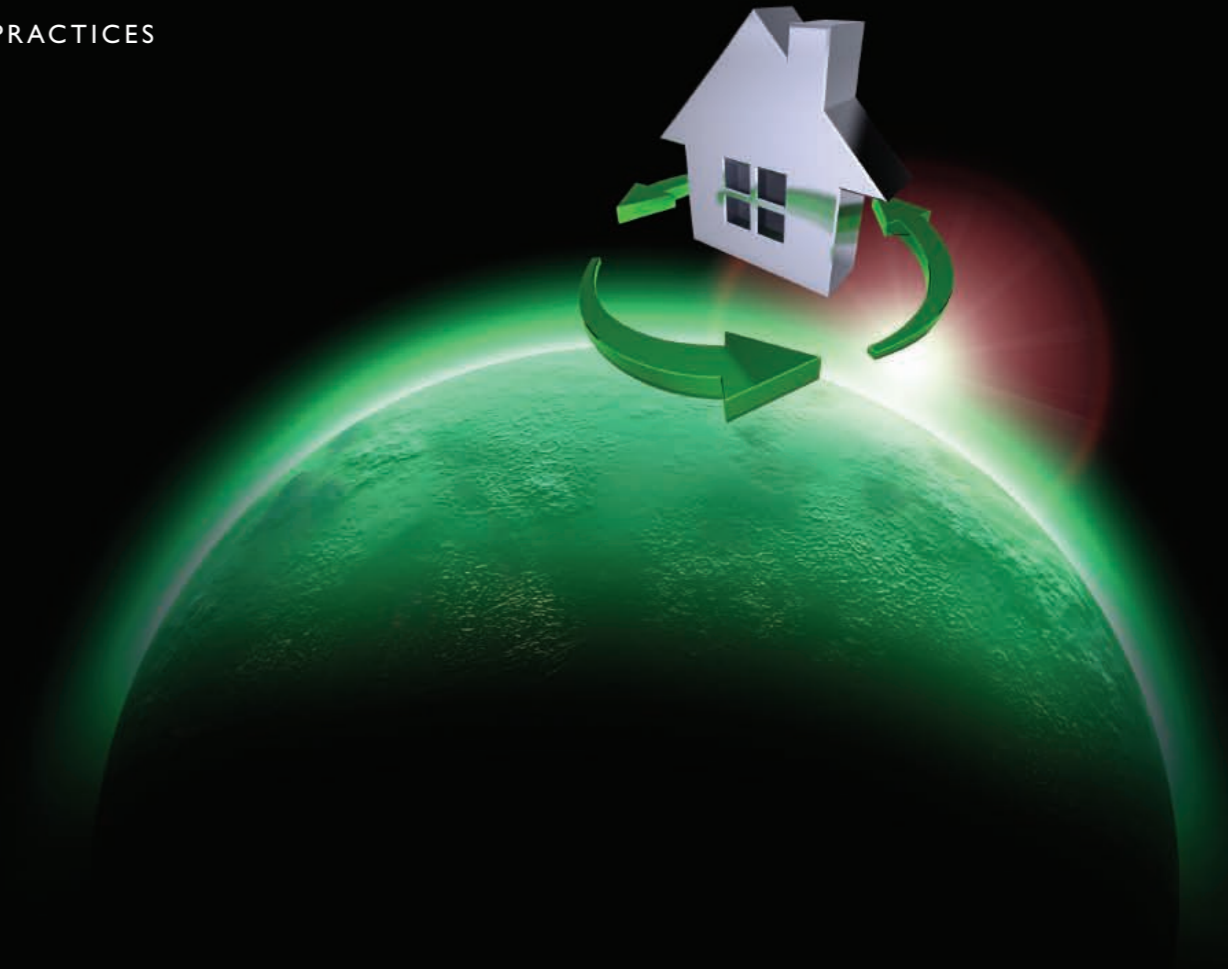




Glass and Glazing Federation

PROJECT GREEN GOOD GLAZING GUIDE

ENVIRONMENTALLY FRIENDLY WORKING PRACTICES
IN THE GLASS AND GLAZING INDUSTRY



Glass and Glazing Federation

Glass and Glazing Federation

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Glass and Glazing Federation



In this document we have collected all the relevant facts about Energy Efficient Windows, how they can contribute to the climate change debate and how they can provide added value to Members. We also summarise what the industry is already doing and what the future may hold.

The growing pressure on our industry to find solutions to help combat climate change is an opportunity for Members to reduce carbon emissions through increasing awareness and generating sales of Energy Efficient Windows. And by helping customers to understand the environmental and long-term cost benefits of installing Energy Efficient Windows, the knock-on effect is to increase sales of these higher end products.

There are two important tools to help Members sell Energy Efficient Windows to customers – the Window Energy Ratings scheme developed by the British Fenestration Ratings Council (BRFC- www.bfrc.org), that is similar to the white goods energy rating system, and the Energy Calculator which is available to Members on the GGF website, www.ggf.org.uk.

This document explains more about these tools and the benefits they can provide.

Although the focus is on Energy Efficient Windows, we also need to be conscious of the benefits of recycling and the impacts of waste and pollution in our industry – both from a cost and environmental point of view.



PROJECT GREEN GOOD GLAZING GUIDE

The environmental impact of carbon dioxide release, energy saving generally and environmentally friendly practices have moved well up the agenda for most individuals, businesses, Government and quasi Governmental agencies.

For the glazing industry, they have been high on the agenda for many years though perhaps we have not banged the drum about it as much as we should. Our product has had improved properties (domestic and commercial) in terms of their aesthetics, their performance and maintenance characteristics and their energy effectiveness for many years. Our industry has been in the forefront of recycling with glass, framing material,

reinforcing and hardware. PVCu and metals are particularly susceptible to effective recycling while timber has its own unique sustainability characteristics.

However environmentally friendly practice is a journey, not a destination. As an industry we have challenges now and in the future to do even better and to assist the property owner meet their environmental needs with more energy efficient product.

Therefore, I am delighted that my predecessor as President, Rick Wilberforce, with Nigel Rees and the GGF team have developed this Project Green Good Glazing Guide. This has the aim of assisting Members

in their "green" aspirations, helping them communicate their credentials and those of our industry to the consumer and demonstrating to Government and quasi Governmental environmental bodies what we are doing to help them meet their objectives.

I only hope that Government will recognise this and start to incentivise the consumer to install high energy efficiency glazing (for example windows with higher BFRC Window Energy ratings).

Robert Aitken
PRESIDENT
GLASS & GLAZING FEDERATION



CONTENTS

Introduction by Nigel Rees, Chief Executive of the GGF	3
The bigger environment picture	5
Getting down to specifics	8
The GGF Energy Calculator	10
Talking to consumers	11
Energy Efficient Windows – the facts (consumer pullout)	12
Recycling, pollution and waste – what's happening?	15
The future – gazing into the crystal ball	17
Quick glance glossary	19
Useful contacts	20
GGF contact details	21



INTRODUCTION BY NIGEL REES, CHIEF EXECUTIVE, GLASS AND GLAZING FEDERATION



Glass and Glazing Federation

Climate change has climbed dramatically up the political agenda and with energy use in buildings a constant part of the discussions, it's not surprising that we decided to develop 'Project Green'.

From a survey we conducted with GGF Members last year,¹ it was obvious that there was a desire to be more involved with environmental issues but, for a proportion of these Members, there was a lack of knowledge as to how to go about it.

Overall "green" issues were on the agenda, but Members sought greater knowledge of means of recycling and how to better promote the benefits of Energy Efficient

Windows. The latter also included how to encourage customers to trade up the Window Energy Ratings scale.

We consider the GGF to be the leading authority in the Industry and as such is ideally suited to assist the Industry to raise the profile of the environmental and commercial advantages of Energy Efficient Windows. We are also able to guide the Industry to the most appropriate methods to increase recycling and reduce the impacts of waste and pollution and other actions we can take to reduce costs and our environmental impact.

The introduction and growing awareness of the BFRC Window Energy Ratings scheme,



revisions to Building Regulations Part L1B and rising energy costs are all pressures transforming the window and glazing industry. While historically there has not been a major connection made with the environmental benefits of energy efficient glazing as such, the industry has been a major contributor for many years to energy conservation by installing considerable volumes of windows in the replacement sector at far above the then minimum legal standard for new build (until 2002 when Part L was introduced for replacements). Thereafter the industry has successfully ensured high standards of compliance with the energy standards in Building Regulations via its industry-run competent persons scheme. It has also encouraged installation

of higher than minimum Part L compliant windows through developing and promoting Window Energy Ratings via GGF subsidiary BFRC. However, we are not complacent and recognise the need for further improvements.

This document is just one element of the 'Project Green' initiative which is designed to raise the profile of environmental issues, specifically promoting the benefit of Energy Efficient Windows to both trade and consumer audiences, with the objective of growing the market and increasing sales.

We welcome your feedback on the challenges and environmental issues we face. We also welcome your comments about

this document and your suggestions about what else we should be doing to highlight the importance and understanding of environmental issues and the potential benefits to the industry.

Nigel Rees
CHIEF EXECUTIVE
GLASS & GLAZING FEDERATION

Please contact:
nrees@ggf.org.uk

¹ Project Green Report PowerPoint presentation of results of survey emailed to GGF Members 11 June 2007



THE BIGGER ENVIRONMENT PICTURE

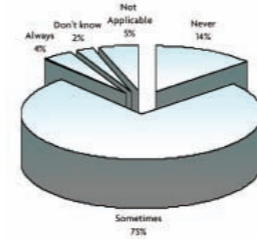
A glance at any media over the past few years provides clear evidence that corporate social responsibility, and specifically environmental issues, are in the top ten list of topics that concern most people. Big corporates are interested in reducing environmental impacts because they can reduce costs and smaller companies offer organic or natural ranges to entice consumers. They are all either creating or reading the headlines. Most noticeably, the big retailers like Tesco and M&S are devoting much of their marketing budget to tell their customers about their social and environmental activities.



There is an exponential pressure on consumers, businesses and Governments to be seen to be reducing their carbon emissions. For example, the UK Government is the first in the world to have a Climate Change Bill that currently aims to reduce greenhouse emissions by 60% by 2050. The Government has also said that the revised Building Regulations will mean

DO YOUR CUSTOMERS EVER ASK FOR ENERGY EFFICIENT WINDOWS?

75% of companies noted their customers sometimes requested energy efficient windows with fewer than 4% always requesting energy efficient windows and 14% never doing so.



that a new home built in 2007 will be 40% more energy efficient than one built in 2002 and that it proposes to make all new homes in England zero carbon by 2016.²

Globally, two major challenges – climate change and the planet's finite resources – may seem too overwhelming for our Members and their customers to do anything about them. However, if more people were to install Energy Efficient Windows, if we recycled more and produced less waste and pollution, it could make a significant difference to meeting both challenges within the UK.

There is much we can do to increase consumers' awareness of Energy Efficient Windows. Our research indicates that 75% of Members who responded to the GGF survey said that consumers 'sometimes' request EEWs, with 4% saying that they always ask for them and 14% who never request them.

The marketing of the double-glazing industry would suggest that there is an awareness of the link between energy saving and these windows, but there is less knowledge about Energy Efficient Windows and how they provide solar gain as well as preventing solar loss.

As a nation we love glass – it makes our living and working environments lighter, brighter and more airy.

Glass can be more cost-effective, helping us save money on heating bills. In architectural and construction terms, the glazing industry has been very visible and you can pick from a library of impressive glass constructed buildings. Kevin McCloud's Grand Designs on Channel 4 almost always features architect-designed glazed houses and there are also publicly acclaimed buildings such as the British Museum, City Hall in London and the famous Gherkin.

These new non-residential properties often feature air-conditioning and if solar control glass was installed in all new and existing air-conditioned buildings, over 1 million tonnes of CO₂ a year could be saved. If the use of air-conditioning grows to the same level of penetration that we see in the USA, putting solar control glass in all new and existing air-conditioned buildings would save 6.9 million tonnes of CO₂ each year by 2020.³



Other comparable industries manufacturing domestic appliances and construction materials are known for marketing green advice and information within their industries and to end users. Even though the BFRG has introduced an energy efficiency rating scheme similar to that applied to white goods, the BFRG version is less well known but becoming more familiar to consumers all the time.

In its Policy Brief on the Domestic Glazing Sector on Energy Efficient Windows, The Market Transformation Programme (MTP) which supports the UK Government's policy on sustainable products, cites as its number one critical issue: 'Although there is general support amongst industry bodies, this remains fragile and needs reinforcing'.⁴ The GGF and other relevant organisations have taken this message on board, hence the launch of the Project Green programme.

The MTP sees energy efficiency as a key design and specification factor and says that 'designer windows will become the future – a future where the window is not simply a glass carrier but an integral part of the energy efficient house'. This points the way to selling Energy Efficient Windows on their design merits as well as for their practical benefits.

Crucially there are commercial and financial as well as environmental advantages to manufacturing and installing Energy Efficient Windows. The BFRG's Window Energy

Ratings scheme is a clear, comprehensive and credible system that makes it easier for buyers and sellers to understand the benefits of these products.

Product developers will create designs to improve Energy Efficient Windows which are more attractive to customers and they can more easily compare the performance of their products against those of their competitors. Suppliers can use the WER scheme to identify new technologies which will improve the ratings of their windows. Manufacturers can select the most cost effective improvements to improve the rating and the higher the rating, the greater appeal to consumers. Both manufacturers and installers can use the energy rating as an opportunity for sales staff to add value to products. In the long term, consumers will save money.⁵



² UK Energy Efficiency Action Plan July 2007, Summary of measure for the household sector

³ RW Killer Facts

⁴ Downloaded from www.mtprog.com on 07.08.07. Policy brief >Building products > Domestic glazing sector: Windows

⁵ BFRG Guidance Note – The benefits of BFRG Rating – everyone is a winner? March 2007



CASE STUDY 1

Photo: courtesy of Lister Trade Frames
“Lister Trade Frames customer Sean McGaan of Sterling Windows outside what is believed to be the first UK installation of a BFRC 'A' rated domestic window”)



CASE STUDY 2

Photo: courtesy of Masterframe
‘Replacement PVC-U sash windows approved and installed into an Article 4 directive house within a conservation area’”)



“The BFRC Window Energy Ratings scheme is the best thing to happen to our industry for years,” says managing director Mark Warren. “It gives us the opportunity to show the positive environmental impact that a double glazed window can have. It demonstrates the fuel savings and carbon savings that can be made by choosing an energy rated product.

Consumers are already aware of the environmental issues of carbon and global warming. They are already aware of the energy crisis driving up fuel bills. They are already accustomed to A rated products being dearer than C, D and E. This is a long term purchase that under current fuel cost forecasts is going to save them more and more money each year.”

Masterframe has a total of ten listed "C" BFRC rated or better Energy Savings Trust recommended PVC-U sash windows, comprising four "C", two "B" and four "A" rated product designs. The company will be registering another four "C" rated products shortly. All products, however, are variants on the sash window theme, and the changes are predominantly different types of glass which achieve the different WER's.

“Masterframe has taken the decision to make the "C" rated product the standard specification for all our Bygone product range sales which should see approximately 4000 BFRC rated sash windows being sold per year,” comments

Ray Rabett, Technical Director. “The task for the industry in the next two years, whilst Document 'L' is being reviewed, is to make sure that these BFRC energy ratings are the primary method of measuring thermal performance”.

Rabett added: “We are committed to ensuring that we contribute heavily to this process. Both our Managing Director Alan Burgess, who is chair of the GGF Home Improvement Executive, and myself (vice chair of the technical committee) are keen to make sure that the industry is seen to be positively contributing to the Government's objectives to reduce CO² output”.

GETTING DOWN TO SPECIFICS



Some of the readers of this document will know all there is to know about the technical details of Energy Efficient Windows and others will be less knowledgeable. The next few pages give the basics that will be of interest to customers. At the end of the document there are contact details and websites where you can find out much more detailed information.

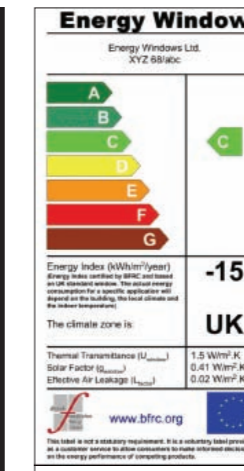


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In the 1980s a standard semi detached house lost around 38% of its heat through single-glazed windows.⁶ As the decades have passed, regulations, increased energy costs, development of new technology and the efforts of the industry have improved the energy efficiency of windows.

U-Values

Conventional assessment of the energy efficiency of windows has been based on the U-value and this system has been used throughout the world. This comprises the heat losses and gains from conduction, convection and radiation arising from all the window components. A window with a lower U-value loses less energy through



heat loss.⁷ However, U-values do not take solar gain or air leakage into consideration.

WERs

The Window Energy Ratings were developed in the UK by the British Fenestration Ratings Council and launched in 2004.⁸ The benefit of this system is that it is easy to understand and allows all users, but particularly consumers, to compare the energy efficiency of different products with ease.

Similar to the domestic appliance rating system, there is the familiar A to E scale on the basis of total energy efficiency, where an A band rated window is more

efficient than an E band rated window. To demonstrate the potential of this type of banding scheme, in 1996 there were no A-rated white goods on the market, whereas in 2006 they accounted for over 70% of sales.⁹

The rating assesses the energy performance of the whole window including the frame material, the frame design, the glass type and all other components. Ultimately this means that the ratings are based on the net energy flow through a window and takes into account both the heat loss (U-value and air leakage) and heat gains, including solar heat gain. This gives a truer picture than just the U-value.

⁶ Market Transformation Programme policy brief

⁷ Market Transformation Programme BNDG3 – Background to energy efficient windows

⁸ Market Transformation Programme policy brief, page 1

⁹ Market Transformation Programme BNDG3 – as above



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Making savings

The recent Energy Review stated that UK homes are emitting 3.5 million tonnes of CO₂ and wasting £370 million every year through low and poorly insulated windows.¹⁰

In 2004 carbon emissions from UK dwellings were 39.5 million tonnes. If energy efficient windows were fitted, 10% of emissions would be saved.¹¹

Consumers can make significant savings if they replace their poorly insulated windows. Installing Energy Efficient Windows in a single-glazed dwelling would save £156.60 per year on energy bills (up to £266 in an electrically heated house) and in a double-glazed dwelling would save £79.80 a year.¹²

The Glazing Strategy Group (GSG) of the Energy Efficiency Partnership for Homes (EEPH) currently sees its focus of making the WER band C the industry norm, but as Government, climate change, financial and competitive pressures grow, it is anticipated that the challenge will be to move up the band ratings.

As at April 2008, the BFRC had registered 143 windows at band A, 187 at band B, 294 at band C, 52 at band D and 45 at band E.¹³

Though there are not yet large numbers of these windows being installed, the BFRC is working with the industry to grow the market.

Where we are today

The latest Building Regulations stipulate that replacement windows must comply with Approved Documents Parts L1B. In England and Wales the minimum U-value is 2.0 W/m²K for PVC-U metal and timber windows used in window replacements and 1.8 W/m²K in new housing. The equivalent in Window Energy Rating is the band D rating (minus 20 to minus 30) for extensions and band E (minus 30 to minus 50) for replacement windows.¹⁴

The GSG of the EEPH believes that if all replacement windows installed in the UK were BFRC band C, this could generate savings of 285M kWh per year¹⁵ over the building regulations minimum, equivalent to about 13% of all the wind power generated in the UK.¹⁶



THE GGF ENERGY CALCULATOR

The second important tool to help Members sell Energy Efficient Windows to consumers and to help encourage them trade up the BFRC Window Energy Ratings, is the GGF Energy Calculator. This is a powerful software programme for exclusive use by Members and is new for 2008.

Members input details about a customer's property and its existing windows, dwelling type, fuel used and unit cost and the type of Energy Efficient Windows to be fitted. The Energy Calculator will then assess the energy and money that the customer will save. Giving a homeowner an individual cost saving is far more interesting than an 'average' saving which may or may not

have any relevance to his or her own situation. This makes it a simple but effective way to encourage customers to upgrade the windows they are planning to buy.

Importantly, the Energy Calculator will be updated to reflect any changes in fuel costs so that it is always accurate.

¹⁰ Draft MP letter on GGF website re EDM 1268 – VAT Rates on Double Glazed Windows

¹¹ RW killer facts

¹² RW killer facts

¹³ As supplied by BFRC March 2008

¹⁴ www.mtprog.com BNDG3: Background to energy efficient windows, page 6

¹⁵ Glazing Strategy Plan 2006/012

¹⁶ UK Wind Energy Database as at 5.10.07



TALKING TO CONSUMERS

As part of the Glass and Glazing Federation's Project Green initiative, a campaign has been devised to make customers more aware of the cost saving and environmental benefits of Energy Efficient Windows. Increasing awareness will lead to increased sales that will grow the market.

A national and regional editorial campaign will run throughout 2008 communicating the benefits of Energy Efficient Windows to relevant journalists and explaining how the BFRC's energy rating scheme works. It will also include details of the Energy Calculator and relate individual case studies. Work will also be undertaken with the relevant exhibitors at Grand Designs, The Ideal Home Show, Daily Telegraph House & Garden Show and others.

Consumer related information will also be available on the Glass and Glazing Federation, BFRC and FENSA websites.

For your consumers

Pages 8 and 9 are designed for Members to give to consumers as a simple quick glance guide to help to explain why they should be thinking of buying Energy Efficient Windows when they need to replace their existing windows.



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ENERGY EFFICIENT WINDOWS – THE FACTS

This section of the document can be used as a generic sales tool. The information provided can be used to answer any consumer questions about Energy Efficient Windows, provided directly to Member's customers or used within Member's own sales literature.

Contrary to popular belief, 'double-glazed' windows (fitted before 2002) are no longer the most energy efficient.

Before you invest your money in fitting new windows, check out the facts. You will save more on your fuel bills and reduce your carbon emissions if you buy Energy Efficient Windows.

At first glance Energy Efficient Windows may seem a bit more expensive. Even though they cost slightly more to begin with, it's worth considering all the benefits before you make a decision to buy less efficient and possibly cheaper windows.



Photos: courtesy of Masterframe

Saving money on your fuel bills

Cost is always high up on the list of considerations when you're investing in your home. Energy Efficient Windows can noticeably reduce fuel bills as up to 20% of the heat lost from a home is through windows.¹⁷ If you have single-glazed windows, you could save £156 every year on your energy bills if you install Energy Efficient Windows. This could increase to £266 if your house is heated by electricity.¹⁸ And the cost of fuel is rising all the time.

Climate change

Climate change is one of the biggest, if not the biggest, environmental concerns of this century. Being an individual or householder, it seems almost impossible to think of each one of us making a difference. But if we all took steps to use energy more efficiently – think of the power of millions of people.

Homes are responsible for 28% of all UK CO₂ emissions and yet we tend to be more conscious of the negative impact of the airline industry which contributes just 5.5% of UK CO₂ emissions.

Comfort

Energy Efficient Windows can result in warmer interior surfaces during the winter and cooler interior surfaces during the summer.¹⁹ This makes for a more comfortable home environment at all times of the year.



¹⁷ GGF environmental credentials press release June 2007

¹⁸ RW killer facts

¹⁹ www.buildcentral.com/windows/about2.asp



Reduction of noise from outside

With their double-glazed insulation and much improved seals, Energy Efficient Windows will help to reduce any noise pollution from outside your property.

So what should I buy?

These benefits are all very well, but what is an Energy Efficient Window, how do I know which one to buy? How do I know which is the most cost effective? How can I measure the initial cost against future savings, comfort, impact on the environment and the rest?

It's impossible to provide absolute statistics for all the above but there are at least two simple ways to inform your decision. The first is a scheme launched by the British Fenestration Ratings Council (an independent body) called the Window Energy Ratings scheme and the second is an Energy Calculator which has been made available to Glass and Glazing Federation trade Members.

Remember:

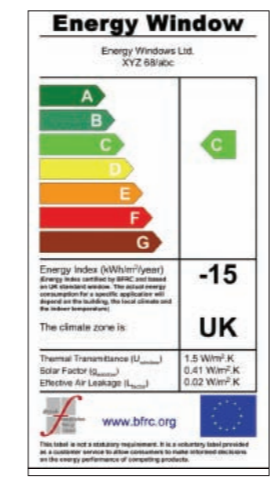
Average yearly energy bill savings made from installing Energy Efficient Windows in a typical house:

- **Single-glazed house - £156.60 (up to £266 if electrically heated)**
- **Double-glazed house - £79.80**

Energy Efficient Windows would reduce the carbon footprint of a typical single-glazed dwelling by 18% - or 7% for a typical double-glazed dwelling

Converting all domestic windows to Energy Efficient Windows would save the country each year:

- **Single-glazed**
£1,471 million
2,958,770 tonnes of CO²
- **Double-glazed**
£750 million
2,322,230 tonnes of CO²



Many people are unaware that windows are rated in the same way as fridges and dishwashers and other 'white' goods. So, for example, it is likely that you know that an 'A' rated washing machine is going to use less energy and cost less to run than a 'D' rated machine.

In the same way, there is an A-E rating scheme for windows (Window Energy Ratings) where the 'A' rated windows are the most efficient. This rating scheme is good for consumers for several reasons:

- It assesses the total energy performance of a complete window (not just the glass)
- Previous systems only measured energy loss, the new system also measures heat gain from the sun
- The scheme allows accurate comparison of the performance of windows under identical conditions.

It's a scheme that gives you the confidence to know what you are buying.

Ask your supplier for more details on their windows that are included in the Window Energy Ratings scheme.



WINDOW ENERGY RATINGS

The Energy Calculator

If your installer is a Member of the Glass and Glazing Federation, he or she can input data into the Energy Calculator software on the details of your house, your existing windows, the fuel you use and the unit cost and finally, the Energy Efficient Windows you are thinking of buying. From this information, your installer will be able to tell you the amount of money you can save on your energy bills and also the amount of energy you are saving. From this Calculator you will be able to see the savings from different rated Energy Efficient Windows.

Other useful information

If you are replacing your windows, you need to know the latest relevant Building Regulations. Currently those affecting domestic windows (Part L1B) state that all replacement windows must meet standards equivalent to Band E in the Window Energy Rating scheme but it is anticipated that in future revised Building Regulations, the minimum standard will rise.



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RECYCLING, POLLUTION AND WASTE – WHAT’S HAPPENING?

Energy efficiency is only part of the environmental story and the GGF has already conducted research on recycling, pollution and waste to inform its position and to plan how it can improve the industry’s performance in these areas.

Recycling

About 6.8 million windows worth more than £1.8 billion are replaced each year in the UK. More than 190,000 tonnes of waste material are produced from windows that are removed, including 90,000 tonnes of glass.²⁰

Glass can be recycled infinitely and requires less heat to melt it down in comparison to

other recyclable materials. As landfill taxes increase from £21 to £35 per tonne in the future, this fact along with its recycling potential means that there is no excuse not to recycle glass. Embarrassingly, the UK glass industry’s record at recycling glass stands at around 30% whereas our European colleagues achieve rates of between 60% and 80%. The European Commission is understood to be considering proposals for a 75% target for all Member states.

To find out more about the recycling activities of our Members, we conducted a survey earlier in the year.

The Members who responded recycled just under 100,000 tonnes of materials (98,385



tonnes). Of this figure, the vast majority was glass (67% or 66,690 tonnes) and PVCu (29.5% or 29,086 tonnes). Together, aluminium, timber, hardware, steel and other materials accounted for just 3.5%.

As a result, these Members saved a total of just over 80,000 tonnes of CO² a year. The majority of savings came from the recycling of PVCu – 48,450 tonnes (60%) was attributable to PVCu. Information on PVCu recycling is available at www.recovinyl.com. The Recovinyl scheme provides incentives for bodies to recycle post consumer PVCu waste. Its Sorting Guide provides extensive information and is particularly relevant as PVCu window frames with film and sealing is considered to be grade A (the top grade).²¹



Unfortunately many Members were unable to fully complete the questionnaire because they didn’t know their recycling figures or they used recycling contractors or off-site plants.

There is a huge potential to not only increase the industry’s recycling habits but initially, to measure the amount of materials recycled more accurately.

Reducing waste and pollution

Glass manufacturing is an energy intensive process but there are opportunities to reduce the energy consumed. To achieve both cost and energy savings, glass manufacturers should be aware of the energy they are consuming so that measured improvements can be made. The majority of GGF Members are not manufacturers but the concept of energy saving and waste minimisation is important to achieve environmental goals.

The British Plastics Federation is lobbying Government to increase the Energy from Waste capacity and it welcomes the target of EFW to account from 25% of municipal waste by 2020 as this will significantly reduce landfill.

The Market Transformation Programme which supports the UK Government policy on sustainable products, is also working on window waste.

It cites three main areas for future progress: policies and practices to reduce resource use and improve window waste recovery, assessing the effect of the Hazardous Waste Directive on the recycling of timber windows and considering the feasibility of setting up a recycling scheme for timber windows.²²

²⁰ Nigel Rees Project Green presentation, script version

²¹ www.recovinyl.com/docs/english/sortingguide.pdf

²² [www.mtprog.com Policy Brief> Building Products> Window Waste](http://www.mtprog.com/Policy%20Brief%20Building%20Products%20Window%20Waste)

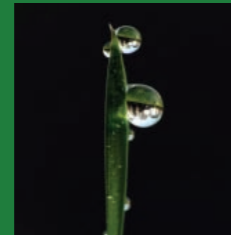




THE FUTURE – GAZING INTO THE CRYSTAL BALL

It's clear that climate change will have the biggest impact on the industry in the foreseeable future, particularly with the up and coming pressures of the Part L changes and the proposed Code for Sustainable Homes.

The new Part L regulations will affect most of the GGF Members as it is expected to dramatically change requirements for replacement windows. Currently the Government has published a 'blue sky' document that calls for considerable improvements to thermal performance. This publication precedes the normal consultation document and although we are questioning some of the possible outcomes, it is highly likely that by 2013 there will be massive changes in how we manufacture and install windows. We anticipate that we will have to use new technology – moving from hard coated to soft coated windows will have consequences including incorporating new warm edge and gas filled technology.



In 2010 we expect that the Part L regulations will require Window Energy Rating C as a minimum and that the bar will be further raised for the 2013 version.

We are also keeping an eye on the Code for Sustainable Homes although this only relates to new build and does not have such a direct impact on window installations as the code level is decided on overall energy performance. However, it gives us an overall picture of where the Government thinking is and we must be part of making new homes zero carbon by 2016.

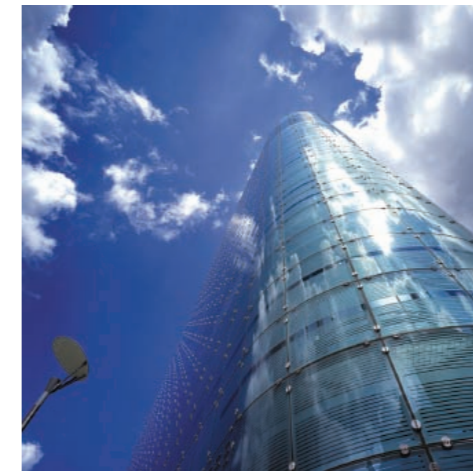
The environmental agenda has presented other opportunities. The GGF has recently set up a separate solar section to exploit renewable energy demands in both commercial and domestic applications. There will more emphasis on solar in the future.

ENERGY EFFICIENT WINDOWS – THE FACTS

The challenges

It won't have escaped our Members' notice that the economic downturn has significantly affected trading patterns. Consumers no longer replace their windows because they want to change the look of their house. It's more likely that they will wait until their windows are in extremely poor repair before they decide to invest in replacement windows. And even then, they may be reluctant to trade up to the more efficient and ultimately more cost effective windows. Therefore we have to be better at communicating and marketing the benefits, including using the Energy Calculator.

It would help if we could assist customers with cash incentives and with that in mind, we have been working constantly with the Government to encourage officials to provide fiscal incentives – either cash backs on stamp duty or reducing the VAT rate to 5% on professionally installed Energy Efficient Windows. Much of the Project



Green work has armed us with the ££s and CO² emission saving facts and figures to convince Government of the need for a change. We will continue our dialogue until we achieve a positive outcome.

Evidence of the success of Project Green would be the acceptance by Government of a 5% reduced VAT rate on professionally installed windows which we believe would improve sales in this difficult market, and increased awareness of the benefits of Energy Efficient Windows to the industry and customers.

We have focused mainly on Energy Efficient Windows, added value and climate change benefits, but reducing waste and increasing recycling is also an important part of our future. We've already proved that every single element of a window can be recycled and our focus will now be to reach a simple and cost effective solution to encourage smaller companies, in particular, to recycle more. Surging landfill costs as well as environmental pressures will continue to move our improvements in the right direction.

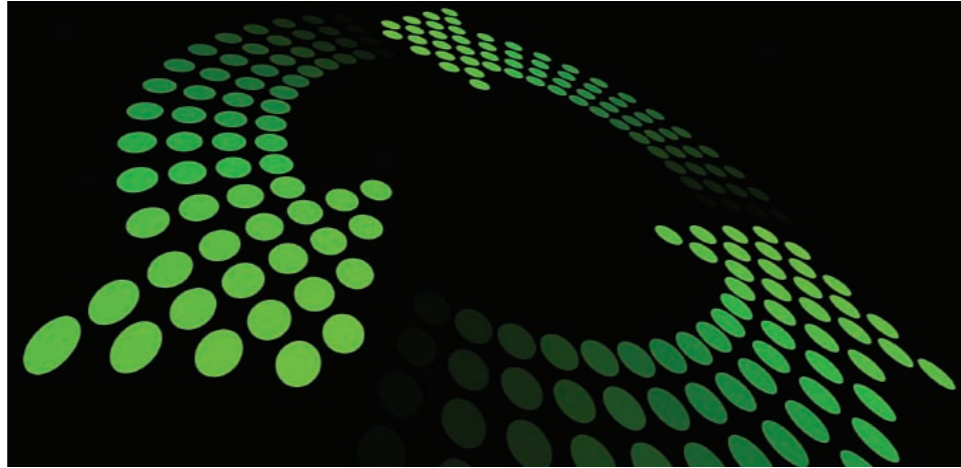
The GGF is confident that the Members are progressively exploiting the benefits of the green agenda and keeping up with and meeting the increasing regulatory requirements.

Overall the future is bright!





Glass and Glazing Federation



QUICK GLANCE GLOSSARY OF ACRONYMS

GGF – Glass and Glazing Federation – leading authority in the glass and glazing industry

BFRC – the British Fenestration Ratings Council which launched the Window Energy Ratings scheme in 2004.

FENSA – Fenestration Self Assessment scheme – enables companies that install replacement windows and doors to self certify compliance within relevant Building Regulations

EST – Energy Saving Trust – established by the UK Government to reduce CO₂ emissions

CERT – Carbon Emissions Reduction Target - electricity and gas suppliers are required to achieve targets for the promotion of improvements in domestic energy efficiency

BRE - Building Research Establishment – a leading research consultancy, training, testing and certification organisation delivering sustainability and innovation across the built environment

EPC – Energy Performance Certificate – most houses being sold require an EPC as part of the Home Information Pack

WER – Window Energy Ratings scheme devised by the BFRC

ESR – Energy Saving Recommended – products endorsed by the Energy Saving Trust

EEPH – Energy Efficiency Partnership for Homes – the GSG or Glazing Sector Group comprises representatives of the glazing industry, including the GGF



Glass and Glazing Federation

Useful contacts:

GGF
BFRC
FENSA
The Carbon Trust
National Home Improvement Council
Envirowise
Energy Saving Trust
British Woodworking Federation
British Plastics Federation
Market Transformation Programme
Energy Efficiency Partnership for Homes
British Research Establishment
Recovynl
Council for Aluminium in Building
Steel Window Association

www.ggf.org.uk
www.bfrc.org
www.fensa.org.uk
www.carbontrust.co.uk
www.nhic.org.uk
www.envirowise.gov.uk
www.energysavingtrust.org.uk
www.bwf.org.uk
www.bpf.com
www.mtprog.com
www.eeph.org.uk
www.bre.co.uk
www.recovynl.com
www.c-a-b.org.uk
www.steel-window-association.co.uk