

innovation

Issue 06

IN ACTION

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Welcome...

...to the latest issue of Innovation in Action

With the Government's 2016 target for all new homes to be zero carbon fast approaching, much attention is being paid to how the construction industry will deliver this standard on a mass scale.

The Zero Carbon Hub's Carbon Compliance report sets out key recommendations that are a substantial step forward for the industry. The huge investment in the Renewable Heat Incentive (p3) confirms the Government's commitment to a greener future. But, although performance and standards have risen dramatically over recent years, there is still much to be done to overcome the many challenges remaining (p14).

Adopting Passive House principles will help us on the road to zero carbon and leading architect Roland Matzig believes that it is only a question of time before we are all building to this standard globally (p10). For the architects of tomorrow, sustainable design is already becoming second nature, demonstrated by the entries to Isover's student architecture competition to design a Passive House skyscraper (p9).

Implementing a fabric first approach for new build and refurbishment projects is essential if we are to future-proof our buildings. At this year's Ecobuild, Saint-Gobain showcased a wide range of cost effective, sustainable products and systems. Live application and installation demonstrations were held to give an insight into the skills required (p6) and it is these specialist skills we hope to promote and develop via our sponsorship of WorldSkills 2011 and the expansion of our Technical Academies.

Saint-Gobain and its UK businesses are at the forefront of providing highly efficient solutions to the challenges facing society today in terms of energy, housing and the environment and we are committed to helping the industry to develop the skills and expertise required to achieve a low carbon future.

Saint-Gobain UK & Ireland

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NEWS

Renewable incentive first of its kind

The Government's recently launched Renewable Heat Incentive (RHI) is the first financial subsidy of its kind and is set to revolutionise the way heat is generated in the UK. By providing long-term support for renewable heat technologies, the scheme will help drive an estimated seven fold increase in renewable heat generation over the coming decade and reduce dependence on fossil fuel heating and emissions.

Currently, around half of the UK's carbon emissions come from the energy used to produce heat. The RHI will reduce these by 44 million tonnes of carbon by 2020, equivalent to the annual carbon emitted by 20 typical new gas power stations. The £860 million Government scheme is expected to increase green capital investment by £4.5 billion up to 2020, stimulating a new market in renewable heat.

The RHI is to be introduced in two phases. Large non-domestic heat users, which are responsible for 38 per cent of the UK's carbon

emissions, will be targeted first. Households will then follow, with the transition timed to align with the Green Deal which should be introduced in October 2012.



Brian Andreas, Sustainability Leader for Saint-Gobain comments: "Cost-effective, low carbon alternatives are essential if we are to break free from our dependence on fossil fuels. We welcome the incentive in principle. Not only will it benefit the environment, it will create jobs, encourage innovation and confirm the UK's position as a sustainability leader."

"However, we must ensure that the Government promotes a fabric first approach to reduce basic energy demands and the scheme must be structured in such a way as to avoid upward pressure on timber supply and prices."

Further information on the scheme can be found at www.decc.gov.uk

Saint-Gobain Glass campaigns on carbon

Saint-Gobain Glass's television advertising campaign to promote the benefits of sgg PLANITHERM in domestic replacement windows is now on air. sgg PLANITHERM is the most energy efficient low-E glass available, providing improved thermal insulation and passive heat gain, and reducing the need for active heating.

Scheduled to last until 2013, the campaign is aimed at the general public and is funded through CERT (Carbon Emissions Reduction Target), a Government mechanism for improving the energy efficiency of the existing housing stock. CERT is a legal obligation on the six largest energy suppliers to achieve carbon dioxide emissions reductions from domestic buildings in England, Scotland and Wales.



NEWS IN BRIEF

Isover has launched its new website containing an overview of all products and solutions, as well as literature downloads. The easy to navigate site also features up-to-date information on Building Regulations.
www.isover.co.uk

Saint-Gobain PAM UK has joined forces with Burdens Ltd to win a major contract for its ductile iron access covers and gratings from main contractor VolkerFitzpatrick for the £62.5 million East Kent Access Route project.
www.saint-gobain-pam.co.uk

Jon Cornforth, EHS Advisor for Solaglas Installation has been appointed Chairman of the Glass and Glazing Federation's (GGF) Health and Safety Committee. The GGF is the UK trade association that represents companies that make, supply or fit, glass and glass related products.
www.solaglas.sggs.com

Industry first for Isover



Isover, the leading developer of sustainable insulation solutions, has launched an industry first with its Robust Detail accredited dry-finish acoustic wall construction – providing a thermal bypass solution to meet Part L 2010.

Incorporating 100mm Isover RD Party Wall Roll, E-WM-20 meets the full-fill requirements for a zero U-value and is the only system of its kind to offer four credits towards the Code for Sustainable Homes.

The system eliminates the need for pre-completion testing, does not require plaster or parge coating prior to drylining and is supplied in roll format in order to minimise vertical joints, enabling faster

installation and accurate costing. Already installed in over 3,000 plots, RD Party Wall Roll provides a tried and tested solution to meet thermal bypass and acoustic performance requirements.

“the only system of its kind to offer four credits towards the Code for Sustainable Homes”

Stacey Davis, Marketing Director for Saint-Gobain Isover, comments: “Significant heat loss occurs between party walls, with cavities creating a chimney effect. Isover is the only manufacturer to offer a

full-fill dry-finish thermal bypass solution, providing customers with a time and cost saving solution to meet their needs.”

Manufactured in accordance with EN ISO 19001: 2008 Isover RD Party Wall Roll has a BRE Green Guide A+ Summary Rating and a Euroclass A1 fire rating.

British Gypsum and QUANTUM GLASS™ showcase stunning ranges at Surface Design Show

British Gypsum showcased its stunning range of acoustic ceiling solutions at this year's Surface Design Show. The stand focused on British Gypsum's Beautiful Acoustic product range, which combines high performance with stunning style. The company also unveiled several new range extensions.

Experts were on hand to provide advice on all three ranges – Gyptex, Gyptone and Rigitone – which offer superior durability, technical performance and environmental benefits. British Gypsum ceiling systems achieve performance levels up to Class B sound absorption, meeting the demands of BB93, Building Regulations Approved Document E and HTM 08-01.

Wayne Kensett, Senior Product Manager said: “Our Beautiful Acoustic range combines the best of acoustic performance, stylish design and sustainability, offering solutions to suit any building.”

Saint-Gobain company QUANTUM GLASS™ made one of its first exhibition appearances in the UK at the show, displaying its range of pioneering active glass. The company unveiled its innovative LEDinGLASS, an active glass system where the material's entire surface lights up. By evenly diffusing multi-hued light, LEDinGLASS can generate infinite colours and special effects.



QUANTUM GLASS™ demonstrates its innovative LEDinGlass system.

Rewarding innovation

Saint-Gobain has awarded prizes totalling €45,000 to three start up companies in Saint-Gobain's third Global Innovation competition, which rewards start-up companies offering the most innovative solutions in the fields of habitat, energy and the environment.

Nine finalists attempted to win over the panel of judges, chaired by Pierre-André de Chalendar, Chairman and Chief Executive Officer of Saint-Gobain and senior Saint-Gobain experts in the habitat, energy and environment fields. The jury singled out the three winners based on the quality and originality of their project.

The overall winner, Trovotech GmbH, received a prize of €25,000 and two runners-up, crystalsol GmbH and SOLEIS Technologie, each picked up a prize of €10,000.

The winners will work with the NOVA External Venturing team, the Saint-Gobain department dedicated to establishing strategic partnerships between the Group and start-ups, in order to explore partnership opportunities with Saint-Gobain.

Carbon plan countdown for commercial buildings

As part of the Government's Carbon Plan, the use of Display Energy Certificates (DECs) for commercial buildings is to become mandatory by October 2012.

Currently Energy Performance Certificates (EPCs), which are estimated based on a building's design, must be produced when a building is sold or let. DECs will actually measure the building's performance, giving a far more accurate assessment. The changes are part of a wider set of green measures outlined in the Government's Carbon Plan.

The A to G ratings will also have to be displayed for viewing in a commercial building's entrance or lobby. Currently, this is only mandatory for public buildings. The DEC is expected to encourage better management of buildings and improve energy performance.

Energy Efficiency Rating		
	Current	Potential
Very energy efficient - lower running costs		
(92-100) A		
(81-91) B		
(69-80) C		73
(55-68) D		
(39-54) E		
(21-38) F	37	
(1-20) G		
Not energy efficient - higher running costs		
England & Wales		EU Directive 2002/91/EC

Green Deal gives apprentice go ahead



As part of plans to insulate the UK's homes and businesses against rising energy prices and reduce carbon emissions, at least 1,000 apprentices could receive Government funding towards their training to become skilled installers of cavity and solid wall insulation, energy-efficient heating systems and emerging green technologies.

The financial support is part of a package of Government measures to create a skilled workforce for its flagship Green Deal programme, introduced to revolutionise the energy efficiency of British properties. The Green Deal is expected to support 100,000 jobs by 2015 and up to 250,000 at its peak.

NEWS IN BRIEF

The RIBA Building Futures think-tank has said architects must radically adapt if the profession is to survive the coming 15 years. Small 'design-led' practices must become more business savvy if they are to compete with the multidisciplinary giants that are expected to dominate the future marketplace. www.riba.co.uk

Pasquill has teamed up with Barratt Homes to offer Safe-Span, an innovative room-in-the-roof system. Following a series of successful trials, Barratt Homes will now be considering Safe-Span, for sites nationwide. www.pasquill.co.uk

Saint-Gobain Weber has won the National Insulation Association's (NIA) 'Best Hard to Treat Project' award for its involvement in the 'Changing Streets' scheme in Goole, Yorkshire. East Riding of Yorkshire Council renovated more than 2,000 solid wall 'hard to treat' homes using the unique BBA certified weber.therm XP EW1 solution. www.netweber.co.uk

As part of British Gypsum's commitment to ongoing product leadership, improvements have been made to Gyproc ProMix LITE. The lightweight, ready-mixed jointing material for the filler and finishing stages of tape and jointing is now easier to sand and has improved manual handling on site. April also marked one year since British Gypsum achieved zero plaster and plasterboard waste to landfill. www.britishgypsum.co.uk

International Timber has supplied Western Red Cedar cladding for an innovatively designed new leisure complex in Scunthorpe, North Lincolnshire. Due for completion in May 2011, the new facility has attracted particular attention for its unusual domed grid shell, designed by London based S and P Architects for North Lincolnshire Council. www.internationaltimber.com

Biggest and best EcoBuild

Saint-Gobain enjoyed a record year at EcoBuild 2011 with involvement in a number of leading attractions.

The exhibition, which attracted over 60,000 people across three days, provided visitors with an insight into Saint-Gobain's offer. A wide range of solutions from the company's UK businesses were showcased on its 225m² stand, which focused on three core areas – new build, refurbishment and non-residential.

Saint-Gobain companies Saint-Gobain Abrasives, Saint-Gobain Glass, British Gypsum, Ecophon, Isover, Saint-Gobain PAM, Pasquill, QUANTUM GLASS™, Solaglas, Saint-Gobain Solar and Weber all

exhibited on the Saint-Gobain stand, which had thousands of visitors including the Rt Hon Gregory Barker MP, Minister of State for Energy and Climate Change.

Solutions on display included internal, separating and external wall systems for timber, masonry and steel new build and refurbishment construction, room-in-the-roof and ceiling solutions, as well as glazing and pipe products for both residential and commercial applications, highlighting how technologies can be used alongside each other to create more energy efficient buildings.

New build solutions

- A zero carbon timber frame external wall solution from Isover which achieves Code for Sustainable Homes Level 6.
- GypWall RAPID dB Plus internal partition from British Gypsum, which achieves the Rw 40dB Building Regulations Approved Document E requirement for internal partitions.
- A masonry cavity external wall system from Weber which meets Code for Sustainable Homes Level 4 and Building Regulation requirements for energy efficiency until 2013.
- A Robust Detail E-WM-20 masonry separating wall solution, incorporating Isover RD Party Wall Roll 100mm, which achieves four credits within the Health and Wellbeing category of the Code for Sustainable Homes.
- Pasquill's X-Rafter, a pre-insulated panelised roof cassette system which produces a flexible room-in-the-roof solution.

Refurbishment systems

- Isover Optima high performance lining systems for the thermal and acoustic upgrade of internal solid walls.
- A conservatory incorporating sgg ClimaControl aqua and sgg ClimaControl vertical glazing solutions to maximise comfort and energy efficiency. The floor incorporates Weber Leca insulation fill, weber.floor flex levelling screed finished with weber.set rapid SPF.
- A range of high performance glazing solutions from Saint-Gobain Glass including sgg Climaplus® Solar Xtreme and Climaplus® Solar units.

Non-residential solutions

- A steel frame new construction incorporating weber.therm XP External Wall Insulation system and high performance British Gypsum Rigidur internally.
- British Gypsum Shaftwall, a lightweight, fire-resistant structure designed to protect elements in confined spaces wherever access is limited to one side only, such as service risers, lift shafts and stairwells.
- A range of Isover HVAC products, for schools, hospitals, factories, offices or homes, including Isover foil faced pipe sections, Isover high performance duct wrap, Isover high performance duct slab and Isover CLIMAVER.

Lisa Benbow, Head of Communications for Saint-Gobain UK, Ireland and South Africa, comments: "Saint-Gobain and its UK businesses are at the forefront of providing highly efficient solutions to the challenges facing society today in terms of energy, housing and the environment. We are also committed to ensuring the construction industry is equipped with the skills and knowledge required to deliver more sustainable solutions and our presence at EcoBuild demonstrated how we can provide the products, capabilities and expertise required to achieve a low carbon future."

“Our presence at EcoBuild demonstrated how we can provide the products, capabilities and expertise required to achieve a low carbon future”

The Renew area

Saint-Gobain's UK companies demonstrated a wide range of sustainable solutions to show how a fabric first approach, using commercially available products and systems, offers the most cost effective way of improving the energy efficiency of existing buildings.

The Renew area proved popular with visitors seeking to improve their knowledge of sustainable solutions, with crowds gathering to watch each live demonstration. The series of daily demonstrations included a three part flooring system and two External Wall Insulation solutions from Weber, commercial and residential glazing solutions from Solaglas, and insulation and drywall systems from Isover and British Gypsum.

Mark Weaver, Refurbishment Sector Director for Saint-Gobain UK and Ireland, comments: "The figures relating to the scale of the refurbishment challenge facing the UK are sobering; we have some of the oldest building stock in Europe with around eight million hard to treat, solid wall properties. In order to achieve the 2050 target of an 80 per cent reduction in CO₂ emissions from 1990 levels, as set out in the Climate Change Act (2008), more than 13,000 homes a week will need to be refurbished. The renovation of our existing building stock is therefore one of the most important challenges facing our society today.

"The fabric first solutions being shown in the Renew area offer an effective initial step towards improving the energy efficiency and comfort of existing buildings before additional measures such as renewable energy supplies are introduced. In addition, they are on the market today and offer an affordable and practical solution for construction industry professionals."





GOING TO THE EXTREME!

Pasquill, a leading manufacturer and supplier of engineered timber solutions, showcased its expertise at Ecobuild's Extreme Timber zone this year, building a stunning Glulam structure to highlight the design possibilities of engineered timber.

The 'Extreme Timber' structure, featured a form of hyperbolic paraboloid, with two curved Glulam beams opposite each other with one inverted to create an undulating roof form.

Stuart McKill, Managing Director of Pasquill, said: "The Extreme Timber feature clearly demonstrated the strength, durability and aesthetic properties of Glulam as well as the expertise that Pasquill can bring to any engineered timber project."

With numerous practical and aesthetic benefits, Glulam offers a viable alternative

to steel beams. Made from layers of parallel timber laminates, its tensile characteristics are well suited to long span, load-bearing structures, while its finish is ideal for applications where visual appearance is important.

Glulam also offers better insulation properties than many other forms of building material and predictable resistance to fire compared to steel. Glulam is sourced from well managed forests and certified to PEFC, with FSC product available to order.

For more information, please visit www.pasquill.co.uk or call 01257 264851.



“Glulam offers a viable alternative to steel beams”

Designs on Multi-Comfort

Isover enjoyed a major presence at Ecobuild with its own Multi-Comfort House area. Showcasing the designs of eight university teams shortlisted for the UK final of Isover's international Multi-Comfort House competition, the area also illustrated how energy use can be minimised in the built environment to enable us to live more energy efficiently.

Students were required to design a high-rise tower for the Greenwich South district of Lower Manhattan, New York which met Isover Multi-Comfort House and Passive House performance levels.

On day two of Ecobuild, hundreds of visitors gathered for the award ceremony where members of the prestigious judging panel, including founder of the Passive House Institute Professor Wolfgang

Feist, announced the three UK competition winners. Hundreds more people watched the ceremony live as it was streamed onto the Architect's Journal website.

All three teams were awarded cash prizes and a place in the seventh international Multi-Comfort House Competition final in Prague, which takes place from 18 – 21 May 2011 and features a top prize of €1,500.



Suruchi Modi, Ankur Modi and Chuyu Qui with their entry, The Green Canyons.

And the winners are...

First place

The Green Canyons, designed by Ankur Modi, Suruchi Modi and Chuyu Qui from the University of Nottingham. The Green Canyons was designed to reconnect the city of Manhattan and achieve a cohesive identity to counter the depleting quality of life in vertical urban sprawl. Connecting and creating communities, the design redefines quality of life at height. The judges were impressed by the level of thought, detailing and research that had been put into the project to ensure it would work in reality, in a city context.

Second Place

The University of Nottingham's Yeuk Hei Wong, Xu Xu and Jianhui Chen for the Social Tower Experiment which breaks through the social isolation of typical skyscrapers and proposes a new, vertical street lifestyle to foster vibrant communities and social interaction at height.

Third Place

The Green Ramp, designed by Ranjit Shekhar, Venu Madhav Chippa and Avinash Davidson from the University of Nottingham. The Green Ramp aims to integrate Lower Manhattan's green spaces into the city fabric with a building which forms a ramp from Battery Park to the Greenwich South site, culminating in a Passive House skyscraper.



Isover's Multi-Comfort House competition stand at Ecobuild.

For more information about the Multi-Comfort House concept, please visit www.multicomforthouse.co.uk. For updates on students' progress as they prepare for the international competition follow @IsoverUK on Twitter or join the Isover UK group on Facebook.

Getting active on passive construction



We spoke to leading architect and Passive House champion Roland Matzig, founder of r-m-p architects, about the future of Passive House construction.

What are the key benefits of moving towards Passive House construction methods and what are the barriers to its uptake?

There are several key factors which make it necessary for us to increase the amount of buildings we construct according to Passive House standards in the future. First of all there is the tremendous responsibility towards the protection of the climate. The Kyoto Protocol requires the international community of states to act promptly and sustainable construction is one way we can lower emissions.

Relating to our buildings, this means energy-efficient new buildings and restoration of existing structures at the highest reasonable level possible.

The most exciting fact about this is that, taking the development of energy prices into consideration, the Passive House standard “pays off” sooner too, so it is a smart calculation from an economic point of view.

As regards the cosiness, the comfort and the hygiene, the Passive House standard offers the best possible conditions. The great challenge is the quality of the construction. The Passive House standard can only be reached with optimum construction quality, which is not always easy to find in the market and experienced planners and a very good construction team are essential to the success of a Passive House building.

What are the main misconceptions people have about Passive Houses?

This question makes me chuckle somewhat because I have been asked about it so frequently. By far, the most persistent rumour is that one is not allowed to open the windows of a Passive House so that one is totally dependent on the ventilation system. Then, there is the absurd picture of living in a plastic bag because the walls cannot “breathe”.

This is all wrong. From my own experiences – and I have been living in a Passive House for over 12 years – I can tell you, you can live in such a house and use it in the same way you would



Located in Neckargemünd, Germany, this residential building consists of a ground floor concrete construction with a two storey timber living space encompassing the Passive House envelope. r-m-p architects designed the house to bridge the sloping ground between the front and rear elevations.

“The Passive House standard can only be reached with optimum construction quality, which is not always easy to find in the market, and experienced planners and a very good construction team are essential to the success of a Passive House building”

a “normal” house. The only difference is that you always breathe fresh and hygienically flawless air in a Passive House, and that pleasant temperatures are a given.

What do you see as the most important drivers in Passive House construction?

Other Passive Houses! After many years of pioneering work, the Passive House has begun its triumphant march around the globe. There is almost no country or climatic zone without Passive Houses. As more buildings are developed the faster they spread, because they all present a good example and are copied rapidly.

It is only a question of time until we build to Passive House standard all around the world.

How have Passive House principles evolved since its creation?

The principles are still the same as were proven by the dissertation by Dr Wolfgang Feist – founder of the Passive House concept and the Passivhaus Institut in Germany. What has changed extensively is the multitude and the price of the components offered. While 20 years ago the windows for the first Passive House were expensive, specially designed products, there are more than 120 certified systems today. This makes selection easier for the planner and has influenced the price tremendously. Also better insulation products, as well as ventilation systems with a strongly enhanced efficiency level, are constantly entering the market.

What are the most important issues surrounding Passive House at the moment?

For me really only one question remains: when will the countries fix their energy standards at Passive House level and will this be in time to stop global warming?

How do you see the future of Passive House construction developing in the UK? How does this compare to Europe?

Development in the UK in recent times was explosive. Two to three years ago almost nobody knew what a Passive

House was and today there are even renovations being done at Passive House standard. Passive House provides

a practical and realistic solution to minimising the carbon emissions from UK buildings.

It is not a problem to construct a Passive House in the UK. If you want a carbon neutral building, the rest can be easily achieved with different renewable forms of energy. As there are many Passive House examples in Germany and Austria, copies can be constructed in a very short space of time in all European countries, as well as in the UK. Everything is happening very quickly now.

What do you think is needed to increase the uptake of Passive House on a global scale?

Just a bit more time! Hopefully not too long!

“After many years of pioneering work, the Passive House has begun its triumphant march around the globe”



Covering four storeys, this two-dwelling building was designed by r-m-p architects, which has built a number of Passive House constructions in the local area of Schriesheim, Germany. Because of the sloped plot the basement is built out of concrete with external insulation. The other three storeys are constructed from timber and use internal insulation.

The future is in our stars: Saint-Gobain supports skills excellence

Supporting WorldSkills

Saint-Gobain is pleased to announce its sponsorship of the WorldSkills London 2011 competition, highlighting its ongoing commitment to industry training and development. WorldSkills London is organised by WorldSkills UK, part of the Skills Funding Agency and a champion of high standards of training and development through the running of awards and competitions.



WorldSkills London – which takes place from 5-8 October 2011 – is dedicated to raising the status and standards of vocational education and training worldwide and is the largest international skills competition in the world. More than 1,000 competitors from 50 nations worldwide compete to be the best in the world in their chosen discipline in 45 different skill areas.

Categories include a broad range of construction skills, alongside information and communication technology, manufacturing, personal and social services, transportation and logistics.

Saint-Gobain's sponsorship of the 2011 competition sees several of its UK companies providing support for construction related skills contests. Plaster and plasterboard solutions manufacturer British Gypsum, Presenting Sponsor of the Plastering & Drywall Systems competition, has stepped in to support the two drylining and plastering competitors in Squad UK following the withdrawal of funding for this category and is investing over £50,000 in training for the team. In addition Weber, manufacturer of facades, construction mortars, flooring systems and tile fixings, is an official supplier to the Wall & Floor Tiling contest and International

WorldSkills London is dedicated to raising the status and standards of vocational education and training worldwide

Timber, the UK's largest distributor of timber, is an official supplier to the Joinery, Carpentry and Cabinetmaking competitions.

Supporting Squad UK

Comprehensive training will be provided for UK-squad hopefuls at British Gypsum's Drywall Academies in Kirkby Thore and East Leake. Two competitors, Jamie Fineran, an apprentice from British Gypsum's Drywall Academy at Kirkby Thore and employee of GT contracts Newcastle, along with Ben Billows, an apprentice from New College Nottingham and employee of Rapide Drylining Ltd. successfully made it through squad selection in November 2010. Both will receive training from British Gypsum in conjunction with the UK Skills programme to ensure they meet WorldSkills standards before the final team is selected in June 2011.

In March the competitors held live demonstrations in the Renew area at Ecobuild, showcasing the skills and experience they have gained. The two team members will receive another five weeks' training before competing at WorldSkills London 2011 in October. British Gypsum is also providing materials and resources to UK team candidates.

Simon Bartley, CEO, UK Skills said: "We're delighted that British Gypsum has agreed to provide high quality training at its Drywall Academies – without its intervention, the UK would have not been represented in the drylining and plastering category, and the skills of young UK plasterers would not receive the recognition they deserve."

Dave Hall, British Gypsum's Regional Technical Support Manager at the Drywall Academy in Kirkby Thore added: "British Gypsum is committed to raising standards within the construction industry. We chose to partner with UK Skills to ensure the UK was represented in this category, providing competitors with access to the highest quality specialist training at our Drywall Academy locations throughout the UK."

"Since the start of the 2011 competition, the drywall and plastering category has been upgraded from a demonstration to a full skill event, with 11 countries including France, Japan and Ireland set to compete in the London final."

Training the nation

In addition to supporting WorldSkills London 2011, Saint-Gobain is also preparing to launch the first of a national network of Technical Academies that will showcase its capability to provide cross-brand solutions focusing on a range of construction types and needs. When up and running, the facilities will provide customers around the country with convenient access to training and expertise.

The launch of the Technical Academies further reinforces Saint-Gobain's commitment to addressing the skills shortage in the UK. It builds upon its existing offer which includes a number of company-specific training facilities across the UK, a purpose-built Technical Academy in Ireland covering the Gyproc, Isover, Weber, Saint-Gobain PAM and Ecophon brands and a Greenworks Training Academy in Birmingham dedicated to showcasing the sustainable product solutions and renewable technologies available from Saint-Gobain's building distribution brands.

The Greenworks Academy – a £400,000 investment for Saint-Gobain Building Distribution – opened its doors in February this year and aims to help plug the skills gap in the installation of renewable energy and sustainable products. The Birmingham based academy is set to train up to 300 students a week. It boasts 15,000 ft² training facilities, offering classroom based training alongside hands-on skills.



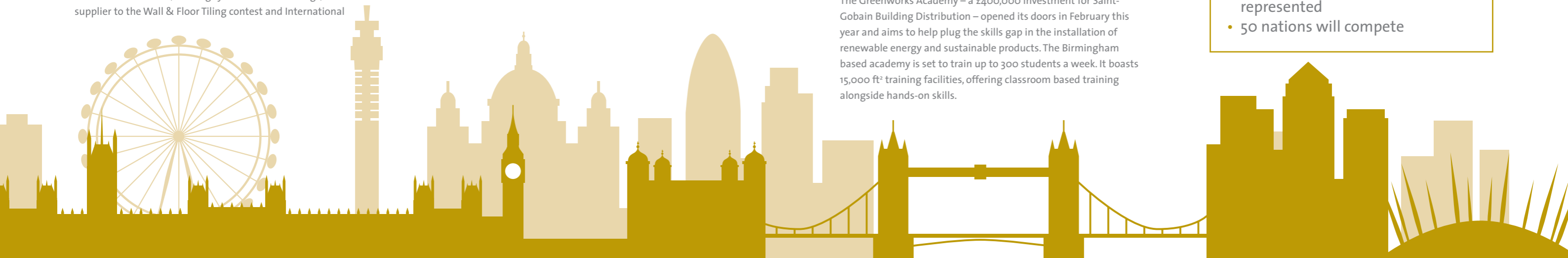
Students learning about drywalling at British Gypsum's Drywall Academy in East Leake



British Gypsum Drywall Academy apprentice and WorldSkills competitor, Jamie Fineran demonstrates his skills during Ecobuild 2011

WorldSkills

- WorldSkills was first developed in Spain in 1950
- 2011's competition is the 41st, and the third to be held in the UK
- 150,000 visitors are expected over the four days of competition
- More than 1,000 competitors will take part
- 45 different skills areas will be represented
- 50 nations will compete



The road to zero carbon

With the target date for zero carbon homes just five years away, there are still many challenges to overcome. Here Brian Andreas, Saint-Gobain's Sustainability Leader gives his view on the key issues and the journey the sector will have to make to meet this deadline.



"In the last five years, the industry has come much closer to understanding zero carbon construction. Performance and build standards have risen dramatically, driven by innovation in products, systems and building design and the sheer determination of the industry.

"The Government's roadmap for achieving zero carbon construction is also becoming clearer, although the Government's 'Growth Review' in March added a further twist, with the unexpected move to exclude the so-called unregulated emissions generated from cooking, electrical appliances etc.

"At first sight this looks a huge change but it appears only to impact the extent of off-site or allowable solutions and it does not significantly change what is incorporated into the design of the dwelling itself. In particular, the Zero Carbon Hub's position is that the work done to date on Fabric Energy Efficiency Standards and Carbon Compliance is still totally relevant. So the construction industry still has significant barriers to overcome before it can deliver 'Zero Carbon' on a mass market scale.

"The draft definition set out in the Zero Carbon Hub's 'Carbon Compliance' report (February 2011) gives greater clarity to the builder and defines a three-stage journey towards the achievement of zero carbon in 2016:

- energy efficiency
- on-site low/zero carbon energy solutions
- 'allowable solutions'

"Carbon compliance will be achieved via improvements in these areas, by building to the new Fabric Energy Efficiency Standard (FEES), as well as by the availability onsite of low/zero carbon energy and heat. Allowable solutions, which are a range of permitted options to mitigate the residual emissions from unregulated energy usage, will secure carbon savings

away from site. Such options might include low and zero carbon community heat infrastructure.

"Encouragingly, it is widely accepted that a fabric first approach and the need to focus on air-tightness will be key to achieving the new standards. Saint-Gobain is uniquely positioned to provide the fabric first solutions needed to meet future legislative requirements and accomplish low and zero carbon construction on a wide scale.

"Investments in areas such as electrical appliances, bio-fuels, photovoltaics, wind power and off-site allowable solutions is crucial, but each will require a certain degree of householder understanding and maintenance. New technologies can also be seen as overcomplicated by homeowners who may be reluctant to learn how to use them effectively.

"In contrast, improvements in the building fabric do not require any action by the occupants and generally do not need ongoing specialist maintenance.

"Fabric first solutions are also cost effective for the builder and play to their building expertise. There are many examples across Europe of buildings which have been built to the Isover Multi-Comfort House standard – building on the Passive House principles of delivering the highest thermal comfort while reducing energy use and CO₂ emissions and taking into account acoustic and safety features, indoor air quality and energy saving measures.

"Solutions within British Gypsum, Weber, Solaglas and Saint-Gobain Isover are already delivering on-site performance levels in excess of the standards. Isover's E-WM-20 incorporating Isover RD Party Wall Roll is the industry's first Robust Detail accredited dry-finish acoustic wall construction, providing a full fill thermal bypass solution to meet Part L 2010 and four credits towards the Code for Sustainable Homes.

"It is widely accepted that a fabric first approach and the need to focus on air-tightness will be key to achieving the new standards"

"Innovation has already reduced the cost of zero carbon homes from an estimated £30,000 per unit a few years ago, to less than £10,000 now"

"Solaglas' EcoClear+ is the most technically superior range of glazing solutions available today and its thermally insulating glass technology achieves the highest possible Window Energy Ratings (WERs). Combined with Weber's range of External Wall Insulation systems and British Gypsum's market leading internal plasterboard solutions, Saint-Gobain can already offer complete fabric first solutions.

"Cost is another key area to be addressed – the industry needs to find a way of delivering affordable zero carbon buildings. For this to become a reality, all elements of the supply chain need to work closely together. Innovation has already reduced the cost of zero carbon homes from an estimated £30,000 per unit a few years ago, to less than £10,000 now. Saint-Gobain alone is investing £350 million per annum in R&D within this sector.

"Customer engagement is also a priority: currently, there is virtually no understanding of the term 'zero carbon' amongst consumers and we need to communicate what this means and promote the benefits of having a low energy or zero carbon home. We need to develop ways of measuring the performance of homes in a way that means something real to them, highlighting cost savings and the comfort of the home – not bombarding them with complex u-values.

"There is also a strong desire for 'localism', which brings concerns that the existence of hundreds of different regional specifications would be impractical and costly at best. Critics claim that there are already 200 versions of the Code for Sustainable Homes.

"Perhaps the best solution, proposed by Ray Morgan, Chief Executive of Woking Borough Council, is to give local authorities a list of options which they can use to tailor the approach. For example, coastal communities could specify the use of wind power.

"There is much to be done – ranging from cost reduction to consumer engagement to the clarification of regulation. I'm confident, however, that the construction industry will continue to rise to the challenge and that in the next five years huge advances will have been made, enabling us to build the homes required."

"And that leads me to my final point: working together. Ultimately if we are to achieve zero carbon construction by 2016, it will be essential for all elements of the supply chain, Government and local communities to work together to develop solutions that will not just hit the 2016 target but which will leave a legacy of sustainable, comfortable living environments for future generations."

Zero Carbon Hub: Carbon Compliance Report

The Zero Carbon Hub, the Government's leading facilitator for the delivery of zero carbon, recently released its Carbon Compliance Report which outlines recommendations on how to make the next steps in achieving zero carbon as effective as possible whilst being compatible with delivery of the full range of housing required.

Brian comments: "The publication of this latest report marks a substantial step forward. We welcome all the key recommendations, especially the more straightforward criteria of absolute levels of carbon emissions; recognition that there are unalterable differences between the basic types of buildings, and the need to take local circumstances into account, while setting standards at a national level to foster the development of the best solutions at optimum cost."

QUANTUM GLASS™ comes to the UK

A pioneer in its field, QUANTUM GLASS™ offers a portfolio of six advanced active glass technologies, supported by an international network of approved designers and installers.

Products in the QUANTUM GLASS™ range comprise PLANILUM, a light-emitting glass panel; ELECTROCHROME, a transparent glazing solution in which the colour, from clear tinted to dark, is electronically-controlled so users can adjust the amount of light and heat directed towards the interior of a room automatically; THERMOVIT Elegance, a thermo-regulated heated panel made of transparent, mirrored or customised glass which diffuses an enveloping heat similar to that emitted by the rays of the sun; E-GLAS, a double or triple glazing solution which emits electronically controlled radiant heat; LEDINGLASS, a glass that comes alive with an interplay of light and colour, and PRIVA-LITE, a laminated glass with a liquid crystal film that changes from a transparent to translucent finish at the flick of a switch.

Alex Thibault of QUANTUM GLASS™ UK comments: "Tomorrow's architecture will be made out of active, dynamic and intelligent materials. Active glass provides architects and specifiers with a myriad of design opportunities while satisfying technological and environmental requirements. It is our aim to facilitate the creation of cutting-edge architectural projects that push the boundaries of creativity while delivering high levels of environmental performance."

For more information visit www.quantumglass.com

Saint-Gobain company, QUANTUM GLASS™, has expanded into the UK. QUANTUM GLASS™ focuses entirely on providing designers, architects and project developers with the high technology solutions they need to complete the most creative and demanding projects.



As easy as BBC

Overlooking The Lowry and Imperial War Museum on the banks of the Manchester Ship Canal, the BBC's landmark Media City is Europe's biggest dedicated media centre and is to become the new home for the BBC in the north.

Acoustic demands

The facility houses TV and radio studios, a five storey office building and a mix of commercial and residential areas. Several Saint-Gobain companies supplied materials for the state-of-the-art media centre, providing solutions to meet the BBC's high acoustic standards.

Because of broadcasting requirements, the acoustic standards on site were extremely demanding, particularly in buildings housing TV and radio facilities, where studios had to be completely isolated from the main building structure.

With even residential areas specified as a minimum of 3dB above Building Regulations requirements, the challenge was set to deliver products and systems that met the Corporation's stringent specification.

Groundbreaking solutions

Saint-Gobain PAM supplied its Ensign above ground drainage system. Used throughout the complex, it consists of lightweight cast-iron socketless pipes and fittings in 50 to 600mm diameters, connected by a unique, two-piece ductile-iron coupling. The system was chosen as it is the quietest above ground drainage system available on the market today, and the only cast iron drainage system to be Kitemark approved to BS EN877.

Sounding out

Isover provided Acoustic Partition Roll 1200, a non-combustible glass mineral wool roll used for sound insulation in partitions, walls and floors. Providing a strong, resilient and flexible insulating mat which is easy to cut, handle and install, the Acoustic Partition Roll offered the ideal solution to insulate sound sensitive areas such as the studios within the BBC building.

Performing across the board

British Gypsum worked with main contractor, Bovis Lend Lease to produce a full specification pack of engineered solutions based on the company's standard metal systems and boards. Three studios were constructed using a 'brick-in-a-box' design, based on a structural steel frame infilled with a Gypframe framework lined with three layers of 15mm Gyproc SoundBloc. The 'lids' of each box are constructed from the company's ShaftWall system on Gypframe Acoustic hangers, again lined with three layers of Gyproc SoundBloc.

"the challenge was set to deliver products and systems that met the Corporation's stringent specification"



The structural steel framework of the main studio building is encased with a 15mm Gyproc SoundBloc inner and 15mm Gyproc DuraLine outer layer to provide impact resistance and 60 minutes fire protection. Control rooms and other acoustically sensitive areas use Gyplyner IWL on 70mm studs with two or three layers of 15mm Gyproc SoundBloc and Isover insulation to give the most effective performance to wall thickness ratio.

The external walls of the residential towers use an internal lining of Gyplyner IWL, while internal 40Rw dB partitions are based on GypWall CLASSIC, both systems being lined with a single layer of 12.5mm Gyproc SoundBloc to maximise floor space. The majority of separating walls are based on the GypWall QUIET system with an inner layer of 15mm Gyproc FireLine and an outer layer of 15mm Gyproc DuraLine to achieve the required DnTw+Ctr 48dB sound performance and 120 minutes fire resistance. Some concrete separating walls are also lined with Gyplyner IWL to achieve the required fire performance.

Achieving results

The solutions specified achieved all the acoustic, fire and structural requirements of the project. The most demanding acoustic demands in the studio and control room were accomplished using just two board types and the residential towers attained the required DnTw+Ctr 48dB sound performance.

We spoke to Stacey Davis, Saint-Gobain's Sector Director for New Build Residential

Target zero

What does this role involve?

As Sector Director, it's my responsibility within Saint-Gobain to drive strategy and growth in the new-build residential sector.

This means engaging positively with industry lobbying groups and other influential organisations such as the Zero Carbon Hub, plus forming good relationships with other key decision makers in order to help Saint-Gobain to better understand and influence the future landscape in the new-build residential sector.

Saint-Gobain genuinely has the capability to provide holistic future-proofed solutions for a better way of home building.

By designing and implementing a clear marketing strategy we can use our expertise to offer comprehensive building solutions for housebuilders – helping them to achieve the Government's goal of building zero carbon homes by 2016.

What were you doing before this role?

I've worked within the Saint-Gobain Group since 2002 when I joined British Gypsum as Gyproc Brand Manager, progressing to Residential Market Manager to help the business introduce new solutions for the step-change in acoustic regulations. In 2006, I became Marketing Director for Artex and then in January 2009 I became the Marketing Director for Isover Insulation.

Appointed as Sector Director last year, my experience of regulation change and solution development ensures I am well placed to raise awareness of our future new-residential zero carbon related technologies solutions and our unrivalled ability to support the new build sector with its future requirements to meet ever increasing legislative and performance standards.

What are your predictions for the future of this sector?

There's undisputable evidence to show that for the last two years, housebuilders have focused on completing 'work in progress' sites and selling completed units to assist cashflow. However, following the original Barker Review,

the previous Government estimated a need for 240,000 new homes to be built per year in order to meet demand.

The recovery and future growth of this sector depends not only on consumer and mortgage lending confidence, but also the ability of businesses such as ours to provide a portfolio of solutions to help the sector deliver more sustainable, energy-efficient solutions that help drive homebuyers to want dwellings that provide them with the ultimate in thermal efficiency and improved living comfort.

From a legislative perspective the ambition should be met, but the reality of what is built in 2016 is likely to be behind this, due to the time lag between applying for building regulations approval and completing the build on site.

So, why should Saint-Gobain be the housebuilders' partner of choice?

With Saint-Gobain's fabric first proposition, the Group is in a unique position to support both the goals of the Zero Carbon Hub and the practical challenges faced by housebuilders.

Our engineered timber, high resistance thermal insulation, air-tightness solutions, low-emissivity glass, thermally insulating renders, mortars and tile-fixing systems; plus internal walls, floors and ceilings are all tried, tested and well respected.

The two key issues facing housebuilders today are thermal efficiency and living comfort. As a Group we can already deliver solutions that excel in these areas, now we need to raise awareness of our ability to produce all encompassing, smart whole-house solutions. Our considerable expertise in this sector, coupled with our extensive range of 'through the roof' and 'through the wall' solutions provides a winning combination.

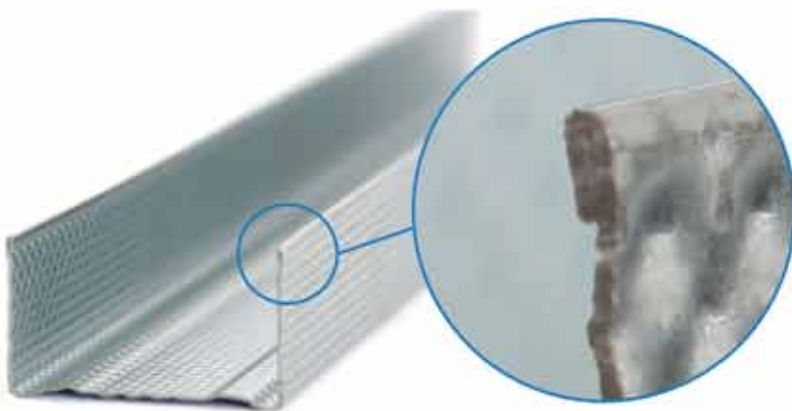
“The recovery and future growth of this sector depends not only on consumer and mortgage lending confidence, but also the ability of businesses such as ours to provide a solution to help make the zero carbon target truly achievable”

“Following the original Barker Review, the previous Government estimated a need for 240,000 new homes to be built per year in order to meet demand”





Welcoming the new products to the family fold



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Working in conjunction with our customers, we're bringing that development to the entire market to ensure easier manual handling of our products and to contribute to on-site health and safety.

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