



The **Wood Window** Alliance

Windows on the World report

The rise of Natural Wellness



“Today’s wood window frames can last a lifetime - and longer...”

Tony Pell
Chairman



A word from our Chairman

With long working hours, a lack of access to open spaces for our growing urban populations, increasing home leisure vs outdoor play, and technology enabling the creation of a myriad of natural and unnatural products, it is perhaps no surprise that we’re becoming increasingly disconnected from the natural world.

As an organisation working with one of the most beautiful of all natural products - timber, we’ve seen a host of home design and development changes and challenges over the years - including a huge number of myths and misconceptions about the durability, ease of maintenance, health and aesthetic benefits of wood vs plastic in the home.

To set the record straight, today’s wood window frames can last a lifetime - and longer. 60 years’ average lifespan vs 30 for PVC-u. Typically, a 30-year guarantee vs an average of 10 for PVC-u. Painted any colour of your choice with just a lick of paint every eight years to keep them as good as new (or repaint a new colour every year to match your own home décor changes if you like!) - vs one colour for life with PVC-u.

And if that’s not a good enough story, timber sourced from sustainable forests not only means that more trees get planted than chopped down, so protecting the natural health of the planet, but timber window frames have a negative global warming potential (GWP), meaning that over their 60+ years’ service life they reduce the amount of CO₂ in the atmosphere.

Against this background of myths and misconceptions, we’ve most recently witnessed a new and growing desire among homeowners to take a bigger view of the world. It’s a desire which has no doubt been born from increased environmental awareness.

Being more environmentally aware, recycling as the norm, looking for sustainable and eco-friendly products, understanding the impact of our purchasing actions, all has become part and parcel of our very nature. This is of course a good thing, motivating the consumer desire to do the right thing and take responsibility.

We also want consumers to recognise that cheap and disposable has consequences, and to play their part in ensuring that future generations get a chance to enjoy the beauty of our world before we destroy it, or simply forget its beauty, as well as reconnect with nature and explore the potential to bring more natural products into our homes, and so improve our wellbeing, happiness and even health.

So, while PVC-u windows - originally hailed as ‘the future’ for durability and ease and a new, cheaper option - were installed in their thousands in the 70s, 80s and 90s, today we’re seeing new questions arising. A growing recognition among environmentally aware millennials that wood really is good. That ‘whole life value’ and ‘life cost’ are important. An increasing demand for honesty from suppliers, so that choices can be made based on reality not on marketing spin. The ‘back story’ of leading brands has become the ‘lead story’ for the most successful.

Our Windows on the World report looks at the key concerns of home-owners and identifies some very clear trends, desires and dreams likely to shape the future of our homes and our planet.

We hope you enjoy it.

Tony Pell
Chairman, the Wood Window Alliance

Naturally better

The emergence of the Natural Wellness home



There is no doubt that recent years have seen a significant increase in the understanding and recognition of the environmental and health impact of everyday decisions and actions. There is acceptance that 'green' isn't all sandals and hair shirts, that recycling is a must-do, not a nice-to-do, that responsibility for our own health and that of our planet rests with each and every one of us.

But despite this, hours in the office, endless commutes in polluted atmospheres, home-based technology and entertainment making adventures outdoors less and less frequent, and manufacturing advances creating a host of 'fake natural' products which may fool our eyes but do nothing for the health and wellbeing of ourselves and our planet, it appears that many of us have also been losing touch with the natural world.

Happily, things are changing. 2016 saw a growing movement to go back to basics. From living a 'raw' lifestyle, to the growth of urban gardens and chemical-free products, it is clear that there is a growing desire to reconnect with nature and restore some balance to our lives - a fact perfectly reflected by Pantone naming 'greenery' as the colour of the year for 2017, and the fast-growing interest in biophilic design.

But what does this changing mood of the nation mean for our homes, what we put in them and how we want to live in them?

We commissioned research group Canvas8 to help us find out. Surveying 1,000 British homeowners about the relationship between natural materials in their home and their sense of wellbeing, we then cross-referenced this with their extensive library of consumer attitudes and behaviours, as well as seeking comment from Oliver Heath, a leading proponent of biophilic design and founder of sustainable architecture and interior design practice Oliver Heath Design. The result is a fascinating snapshot into some of the key trends impacting our relationship with our homes today.

Key findings

Homely Wellness

Put simply, 'naturally happy' is not just a matter of individual psychology and attitude. **49%** of home-owners state that having natural materials in their homes makes them feel discernibly happier than when surrounded by artificial materials, with **one in three** planning to bring more natural materials, and **27%** planning to increase the amount of natural fibres, into their homes this year in a bid to improve their quality of life.

Nurture through nature - Bringing the outside in

Only **10%** of Britain's children play in nature compared to **40%** in 1985. Increasingly, because of the way we live (urban environments, lack of outdoor space, technology keeping us chained to screens etc.), it is not only children who are becoming disconnected from nature, adults are also increasingly spending most of their time indoors, with a host of academic research revealing debilitating effects on wellbeing and health both for humans and their living environments. When it comes to going green indoors, **46%** are planning to increase the amount of plants and flowers in their homes this year in a bid to improve their connection with nature.

Plastic purging and wood for good

It seems that the desire to stem the tide of plastic in our lives (and in our oceans) has spread beyond the bag, with **one in four** homeowners actively planning to decrease the amount of plastics in their home this year, while **46%** state they are conscious of the impact of synthetic materials on the natural environment and **one in three** conscious of the impact of synthetic materials in general on their wellbeing. When it comes to the most desirable, timber is cited by **67%** of homeowners as the material they would like to have more of in their homes.



Trend #1 Homely Wellness

As our everyday lives feel more stressful, our homes are taking on an ever-increasing importance to our wellbeing - with **85%** of British homeowners stating that their home is their go-to place to escape the stress of the outside world and **84%** saying it is their place of retreat for reflection and relaxation.

With such expectations, everything from interior design to accessorising, materials selected to colours chosen, have a crucial role to play in how effective our homes are in achieving the holy grail of 'Homely Wellness'. This enables us to retreat not just in comfort, but safe in the knowledge that our homes are actively supporting rather than negatively impacting our health.

And health is not just physical but psychological too. Brits are increasingly recognising the important effect the materials they choose have on their feeling of wellbeing and happiness, with **almost half** stating that natural materials in their home make them feel happier than artificial alternatives, with 'aesthetics', 'comfort' and 'warmth' all cited as key reasons.

Why is this happening?

As our lives get ever faster, the need to unwind becomes greater. Where once relaxation meant a visit to the pub, or out for dinner with friends, today our homes take pole position when it comes to the best place to relax, reboot and chill out with friends. According to YPulse



2016, **72%** of GenYers would rather stay in at the weekend than go out. Pinterest confirms it: dinner party ideas are the most searched topic among millennials, while searches for 'girls night in' are up **35%** year on year.

"2017 is being hailed as the year of 'lagom'..."

Interestingly, this need to unwind, reboot and recharge has brought with it a growing consciousness and concern about how we live and what we need. So after 2016 and its 'year of Hygge' (cosy togetherness), 2017 is being hailed as the year of '**lagom**' - a Swedish way of living that revolves around only taking what you need. Over the last six months of 2016, Google saw a steady increase in the number of UK searches for the term, and in the last three months of 2016 it was tweeted over 13,500 times.

Tapping into the rise of the 'zero wasters' movement and treasuring items over buying more products, Brits' interest in *lagom* reflects a desire to live more sustainable lives without giving up the feeling of a premium lifestyle. A truly Scandinavian approach to living well, the *lagom* lifestyle brings with it an increased desire for long-lasting, natural products that

have inherent quality and fitness-for-purpose as opposed to artificial or throw away items. So, we're seeing greater focus on need vs desire, absolute value/real cost vs price and natural vs synthetic. In short, we have become more conscious consumers who think before we buy, who research and consider before taking things at face value.

As we embrace the *lagom* lifestyle it's not just thinking about what we need to create our havens of calm and relaxation - we want to make it healthy.



As we learn more about the impact of synthetic materials on our health and well-being, increasing numbers of us are turning to natural materials to deck out our homes, to consume and to build with. Many everyday products and building materials contain chemicals that can pose risks to our health. Volatile organic compounds (VOCs) are chemicals that are released as gasses from materials like paints, waxes, varnishes, cleaning products, aerosol sprays, fuels, furnishings, personal care products and more. Most of us are not aware that even our kitchen cabinets, carpet and vinyl flooring could be a few of the culprits increasing VOCs in the home.

As our obsession with Google search means that we are all researching, sharing and learning from one another more than ever before, we as consumers are becoming more informed

and educated with the result being we are increasingly thinking twice about what we buy and the impact it will have upon our lives and our planet.

What this means for the home...

Our most basic and simple desire to retire to a comfortable space is not a surprise. What is notable perhaps is that in this 'always on' age we are now seeking some part of our home which can also be turned off. So alongside comfortable spaces to lounge and relax, which are increasingly more important than formal spaces to show off, we're seeing a move to introduce 'off grid' snugs and nooks - spaces where we can get away from the world and escape technology with TVs, iPads and laptops nowhere to be seen!



As we seek to unwind in places that give us a chance to reboot and make us feel happy and healthy, so the desire for natural materials increases. From simple but beautiful cushions and throws made from natural fabrics, to 'statement' wood walls and cork floors, right through to bamboo bed linen, towels and accessories, our passion for all things natural means our homes are being purged of synthetics in favour of materials that deliver perceived psychological, emotional and health benefits.

"When it comes to home build, wood remains our preference. Wonderfully tactile and warm, wood's hygroscopic qualities mean it is not only great to touch..."

Tactile, warming, welcoming and intrinsically calming, wood furniture, real stone floors and natural wool carpets are continually cited as the 'most desirable', with bamboo and cork both surging in popularity. Like wood, which sucks in CO₂ and releases O₂ as it grows and has natural hygroscopic qualities, bamboo also possesses a natural antibacterial action,

so keeping bugs and bacteria at bay, making it perfect for healthy but luxurious bed linen. After all, as we continue to seek healthy alternatives to the synthetics that surround us, we still want a touch of luxury.

When it comes to home build, wood remains our preference. Wood's hygroscopic qualities mean it is not only great to touch, but can improve indoor air quality by regulating humidity. Combine these with the environmental benefits and it's easy to see why wood perfectly responds to our growing desire to balance home and health comfort with planetary care.

With our focus on improving our state of Homely Wellness, research also reveals that the pull of nature is strong - a fact which is seeing an increasing determination among home owners to bring the outside in...





Trend #2 Nurture through nature - bringing the outdoors in

Not only has the Pantone Colour Institute announced 'Greenery' as its colour of the year for 2017, but **46%** of homeowners have stated a clear intention to increase the number of plants and flowers in their home this year. This desire for nature is also driven by our sense of responsibility when it comes to our choice of materials. **Almost half** of Brits are trying to be more environmentally-friendly in their purchasing decisions, with **46%** conscious of the effects of synthetic materials on the environment.

Why is this happening?

After millennia spent living in the outdoors, people now spend roughly **90%** of their time indoors and are desperately seeking a way to reconnect with nature. According to the RSPB only **10%** of English children play in nature, compared to **40%** in 1985.

"With research showing that 82% of people feel that being surrounded by greenery makes them feel happier..."

This lifestyle has long been associated with negative effects on health and well-being, and with **two-thirds** of the world's population set to live in cities by 2050, the growth in Biophilia is perhaps unsurprising. Defined as the inherent human inclination to affiliate with nature, the driving principle behind biophilia is that we cannot flourish as individuals or as a species without a compassionate and considerate relationship with the world beyond ourselves - of which we are obviously a part. Thus, biophilic design is also on the increase. An extension of biophilia, biophilic design incorporates natural materials, natural light, vegetation, views of nature and other experiences of the natural world into the modern built environment. Broadly, we are happier when we are in greater contact with nature and natural things.

What this means for our home...

So, what does this mean for homeowners? Whilst most of us are not able to knock down our home and start again, we are increasingly attempting to restore our connection with nature through home designs that 'nurture through nature'. Think 'window walls' that bring the outside in, 'living walls', 'nature based art', the surge in all things botanical (from prints to plants), and a rise in the use of natural materials for building products and interior design - all enabling the forging of new connections with nature throughout our homes.

With research showing that **82%** of people feel that being surrounded by greenery makes them feel happier (Royal Horticultural Society 2014), it's also not surprising that we are looking to bring more plants and flowers indoors. Indoor plants help improve the quality of air by reducing levels of carbon dioxide, increasing humidity levels, reducing the level of certain pollutants such as nitrogen dioxide and benzene in the air and reducing air-borne dust levels. So, more plants indoors equal improved home health.

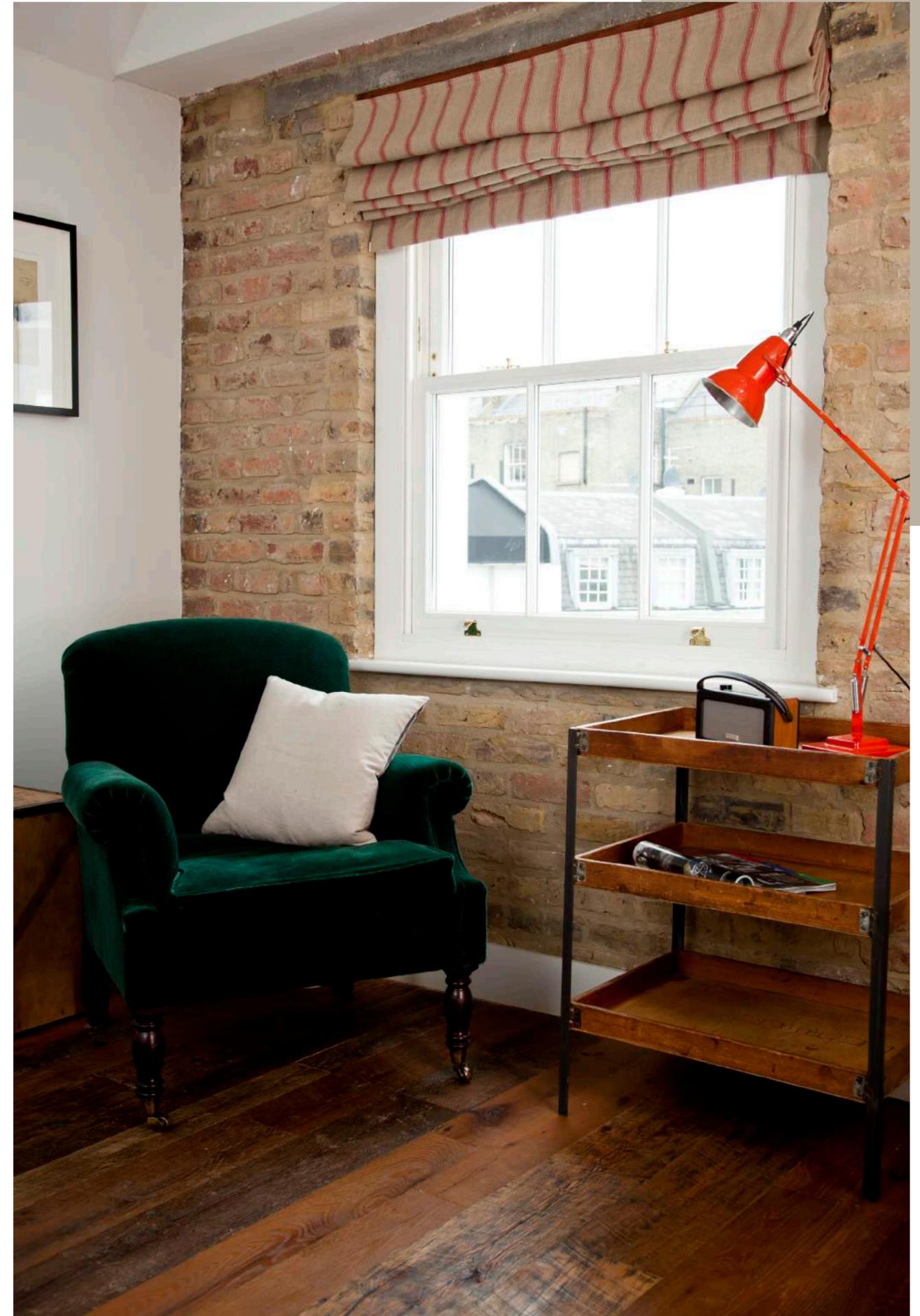


Greening our homes and bringing the outside in may not sound like a revolution – after all indoor plants are hardly a new phenomenon. What is new is the way we are engaging with nature indoors and how we are developing our interiors to make this happen. ‘Botanical wall art’ is on the rise – with ‘foraged’ tree and fern leaves being framed and hung in pride of place in our homes as things of real beauty, while new-style terrariums created from everything from old fish bowls, mason jars, wine glasses or even old light bulbs are enabling plants to be ‘grown and shown’ as works of art.

Interestingly, just as ‘Greenery’ is the paint colour of the year, so botanical prints and inclusion of ‘natural environment’ colours are on the rise as we seek to harmonise our interior worlds with the nature that lies beyond. Where once a kitchen sink and window or a

small conservatory would suffice, now we are witnessing demand for fully glazed walls that can be fully opened to the outside world. As the desire for outdoor living continues, so will the demand for external accessories that flow seamlessly into the garden. No longer will a plastic garden chair suffice. In fact, timber garden furniture is on the rise. And the garden-friendly plastic pitcher may also be on the wane – not least because of our desire to move away from synthetics, but quite simply because our design aesthetic requires our outdoor space to reflect our desire for naturally better options.

And as we focus on designing our homes to reflect the natural world, so we are increasingly questioning the use of synthetic materials in our homes – and their impact on the world...



Trend #3 Plastic Purging



Britain is moving into the post-plastic age. We've already bought into the use of the reusable plastic bag and there are major campaigns underway against disposable plastic bottles and plasticized coffee cups. Now it seems we're taking it to the next stage, with **one in four** home owners planning to decrease the amount of plastics in their home this year. This is part of a wider aversion to synthetic materials, as **one in three** are conscious of the effects of synthetic materials on their wellbeing.

Against the plastic backlash, wood retains top spot in desirability terms, with timber windows perceived as the most environmentally friendly **44%**, most aesthetically pleasing **44%**, the nicest to live with **33%** and providing the most character **56%**.

Despite these accolades, **75%** of UK homes have PVC-u windows (installed in the past 30 years with the promise of 'maintenance free', long life and low cost). As we enter our post-plastic age, seek the holy grail of Homely Wellness, attempt to nurture through nature and bring the outside in, questions are being raised about whether the PVC-u decisions we have made were the right ones or whether 'confusion marketing' has been at large.

Why is this happening?

Against the backdrop of 'fake news' and a growing cynicism or wariness about believing what we are told, the old 'acceptance' of information is long gone. Today's home-owners research, investigate, weigh-up and challenge information - relying increasingly on the experience and insight of others, as well as credible independent organisations, before making their final decisions.

What does this mean for our homes - and specifically our windows?

When it comes to weighing-up the environmental impact of wood vs PVC-u, while PVC-u may be cheaper, the long-term cost to the planet and our health remains high. Not to mention the fact that PVC-u window frames have almost half the life expectancy of modern engineered wood window frames.

An evaluation of the available studies shows that there remain considerable concerns about the impact on the environment of PVC-u windows. Key among the concerns is the fact that PVC is made from Vinyl Chloride Monomer (VCM) - a Class 1 human carcinogen. To make matters more complicated, VCM is made from chlorine, the production of which is energy and emissions intensive - with 8.06 million tonnes of chlorine used to manufacture PVC in Europe in 2015. PVC is also a major user of fossil fuels with plastics production accounting for 4% of global oil production.

Significant positive efforts have been made in recent years to increase recycling rates for PVC-u, with an estimated 15% of old PVC-u windows recycled in 2013. Paradoxically, recyclates are one of the main pathways for the presence of toxic legacy chemicals harmful to people and planet, such as cadmium and lead-based stabilisers into new PVC-u products. There is currently an EU derogation in place allowing for cadmium levels of 0.1% in rigid PVC products containing recovered PVC, due to be reviewed at the end of 2017. These concerns have led many organisations to ban PVC or place it on a precautionary list (these include: The Cradle-to-Cradle Product Innovation Institute; the US Green Building Council; several US cities, including New York City; Google; Apple; Nike; Volvo; and Perkins+Will Architects).

By contrast, wood from certified sustainable sources is naturally renewable. From a growing resource, wood is bio-degradable, can be recycled or burned for energy, and is a proven

way of reducing carbon dioxide in the atmosphere (as wood products are carbon stores and growing forests are carbon sinks).

Impacted by these stark facts and with our increased desire to reconsider the effect of our individual actions and decisions on both personal and planetary health and wellness, alongside the drive for a less 'throw-away' lifestyle, it seems likely that wood windows will make a happy resurgence in homes in the future, given their environmental benefits, longevity (60 years average life span vs 30 for PVC-u) beauty and interior design flexibility. Even the old chestnut of wood frames being 'high maintenance' is now a thing of the past. Developments in design, defect-free engineered wood and micro-porous coatings applied in factory-controlled conditions, mean that modern, high performance windows need minimal maintenance. Indeed, factory-finished wood windows are unlikely to need a fresh coat of paint within eight to ten years (and many carry a 30 year warranty on the frame, too).

And as an added bonus you can paint any wood window any colour to match individual room colour schemes - a design flexibility which is simply unattainable with PVC-u.



We asked an expert **Oliver Heath**



“Our homes are becoming less healthy because they are more filled up and filled with chemicals. So, the more we can introduce natural materials, the less we are likely to be inviting in toxins”

Having canvassed opinion, reviewed the research and noted the views, we wanted to get one last view - from an expert.

We chose to speak to leading biophilic designer Oliver Heath who is passionate about the importance of our homes to our health and wellbeing. We asked his view on the topics raised in this report:

On the subject of our homes as a retreat and source of life support:

Our homes are absolutely critical to our mental and physical wellbeing. They are the backdrops to our lives; we spend two thirds of our lives at home and 90% of our lives indoors. So, the spaces that we surround ourselves with inevitably have an important impact on the way that we feel... not just our physical wellbeing but also our mental wellbeing, as well as our ability to improve our cognitive focus. Our homes invigorate us for the day to come, they relax us for the day just gone by. They connect us with families, friends and the things that we love.

“We spend two thirds of our lives at home and 90% of our lives indoors.”

In lots of ways our homes are essential when we are considering our health and wellbeing. When we think about that, it's much more than going to the gym once a week, it's about surrounding yourself in spaces, and elements within that space that make you feel good. Making sure our homes are calming, restful and restorative is essential for improving our interpersonal relationships, improving our

ability to work and focus. Plus, longer term health and wellbeing issues like obesity, diabetes and depression are all impacted by our homes. I think we overlook just how important our homes are for creating a space to unwind, relax and recuperate our mental and physical energy.

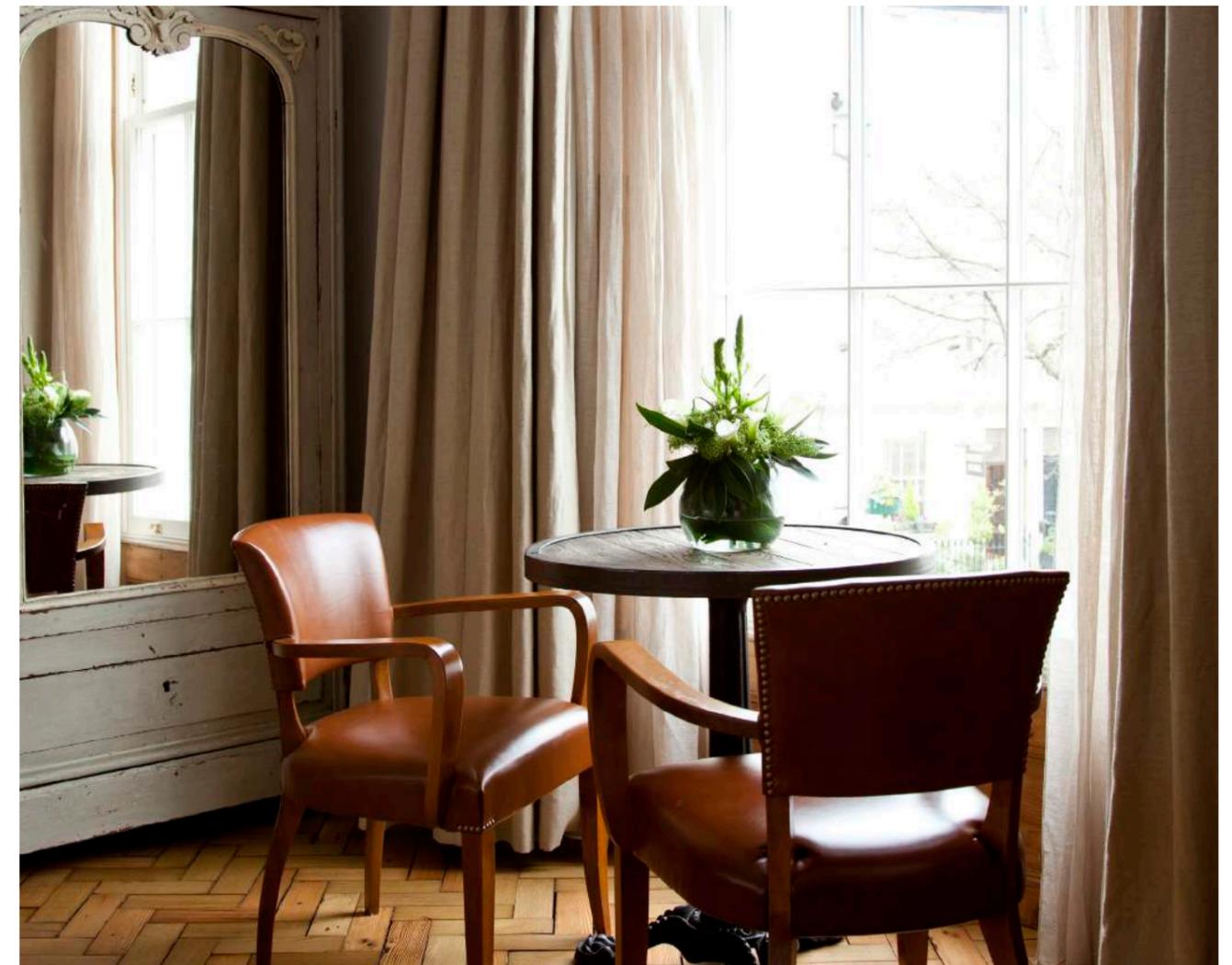
On the subject of material selection and its impact on our health and wellbeing:

Our homes have become significantly less healthy over the last 20 years due to a build-up of chemicals in materials, fixtures and fittings but also as they have become increasingly sealed up. So, the more we can introduce natural materials, the less we are likely to be inviting in toxins. If we use materials like solid

wood and use natural or water-based finishes, we can do a lot to reduce toxins in the home. When you add natural materials, I believe it adds a more sensory quality to the space.

There was an interesting study by Rethink Wood back in 2014, that showed how the hygroscopic nature of timber actually moderates humidity and improves air quality within a space. It states that the colour and texture of timber have been demonstrated to evoke feelings of warmth, comfort and relaxation. So, thus, it can reduce heart rate and blood pressure levels, and so by reducing stress and anxiety it can improve your psychological state.

Other studies from the Joanneum Institute of Health Technology show that sleeping in a real timber bed can reduce heart rates by 3500 beats per day. And when we sleep better, it means we are more relaxed in our environment.



"...sleeping in a real timber bed can reduce heart rates by 3500 beats per day."



Getting a better night's sleep can improve your quality of life, improving your relationships, your ability to focus, your ability to work, and your physical health in all sorts of ways.

On the subject of nurture through nature:

We are starting to see a rise in the science of biophilic design, which is what happens when we improve the human connection to nature. People understand that nature is fundamental to our psychological and physical wellbeing, and that introducing elements of nature is good. That can be a direct form of nature - so how do we introduce plants or greenery and improve contact with natural light? But it might also be about the indirect elements - how do we introduce natural materials, colours, textures and patterns that can in some way invoke a sense of nature? I find this really interesting, the idea that we can create a sense of nature in a space by using natural materials. One of which may be solid wood surfaces or natural materials that mimic that sense of nature.

What the research tells us is that when we improve that sense of nature, directly or indirectly, then it can create a more calming, restful, restorative and energising space.

On the topic of synthetic vs natural materials:

I think, through greater education and understanding of the beauty of materials, people are moving back away from those artificial plastics towards natural materials that enhance the quality of space. Through a greater understanding of design, through television programmes and through the media, we are becoming more attuned to the fact that the quality of the space that you surround yourself in directly affects your mental and physical wellbeing - a recognition which in turn has led to a greater appreciation of natural materials. Added to that people are increasingly connecting artificial materials with our throw away consumer culture; being cheap to buy, cheap to use and cheap to replace is becoming an increasingly negative approach for many.

We are striving towards longer term sustainable thinking which aspires towards quality materials with greater provenance, longevity and eventual reuse. It's clear to me as a designer that this use of better quality material infuses spaces with a greater sense of calm, care and wellbeing.

This movement towards considering the whole lifecycle of materials will increasingly influence our design choices in the years to come; applying the circular economy principles and ensuring that materials stay in a loop of usefulness rather than a hole in the ground, is essential for a considered sustainable approach to the built environment.

There's that immediate level, there's the global, environmental level, and I think growing awareness towards what's called the circular economy. Understanding that materials like plastics are maybe used once and then are likely to be thrown into a hole in the ground. There isn't a large enough understanding at the moment of the circular economy and the need to keep materials in a suitable loop. I think that's important, and a subject that will grow over the next five to ten years.

Oliver's top tips for happy homes:



Maximise natural light

Natural light is fundamental to our levels of energy and our ability to sleep. It may be about making sure you position furniture next to windows, so that you can sit on the furniture and have a higher level of natural light and greater opportunity to look out onto an external space. Make sure you look out onto a space that has greenery. Greenery and nature have been proven to be very good at helping you to restore your mental and physical cognitive energy very quickly.

Understand the importance of sleep

Understanding the importance of sleep to well-being is fundamental. Make sure that you create spaces that are calming and restorative and allow you to go to sleep well. Put down mobile phones and technology that can stimulate the brain. Making sure you can turn the lights down and don't watch television for an hour before you go to bed. Nice, calm, warm spaces with soft materials. Really valuing how important sleep is.

Introduce natural materials to your home

The introduction of sensory contrasts and natural materials is fundamental to creating more mindful spaces. They keep you there in the moment and can help to calm and relax you in a very sensory way. These materials could be timber (for windows, doors and floor), stone for your walls as well as sheepskin, wool rugs and possibly cork for the floor.

About the Wood Window Alliance



The Wood Window Alliance (WWA) is an organisation that promotes and champions the beauty, efficiency and durability of wood window frames. We are made up of over 20 members manufacturing many different kinds of doors and windows and all meet our demanding quality, performance and sustainability standards.

We believe windows are one of the most important design features of a building and they make a significant contribution to the efficiency and beauty of a home. Many people don't realise that modern wood windows, whether traditional or contemporary in style, are double or triple glazed for exceptional energy-efficiency.

The quality and engineering of wood windows in the UK has undergone a revolution in recent years, with huge developments in technology leading to an improvement in their performance and durability - making them some of the highest quality and best value windows and doors available. The WWA's mission is to let homeowners know that wood windows and doors are the modern, sustainable, cost-effective and beautiful choice.

Founded and managed by its members, the WWA is the benchmark for the industry, providing the reassurance of high quality, performance and sustainability standards. People who haven't experienced modern high performance wood windows before will be amazed at the difference they make to the warmth of a home and our website has been created to help them find a supplier they can trust.





The **Wood Window** Alliance

The Building Centre
26 Store Street
London
WC1E 7BT

Tel: 020 3861 6220

 @Woodwindowall

www.woodwindowalliance.com