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The Guide to Sustainable Homes

"WE SHAPE OUR DWELLINGS, AND AFTERWARDS, OUR DWELLINGS SHAPE US." FORMER BRITISH PRIME MINISTER SIR WINSTON CHURCHILL



OCTOBER 2013



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here is a big difference between a house and a home. A house is the fundamentals of the building: the roof, the walls, doors and windows, and the possessions you accumulate while you live there. A house is a place you where you sleep, eat and live. Houses may be made of straw, wood or bricks and mortar (with different levels of security

against the big bad wolf), but a home is made of something else entirely. Something intangible. A home is more of an idea or a philosophy; a place to escape, to relax and to enjoy life with family and friends.

All homes are houses (or palaces, mansions, bungalows, flats, huts or caves); not all houses et al are homes.

But in the 21st century, it's no longer simply about creating a home that is comfortable and safe. It's about creating one that is efficient, cheap to run and sustainable environmentally and socially in the long-term.

Turning your home into a beacon of sustainability can help you recreate the levels of comfort from your childhood (remember the feeling you got when your parents 'shut the world out' on a cold winter's evening?), but it can also help lower your energy bills and lessen your impact on the planet.

Blue & Green Tomorrow's Guide to Sustainable Homes 2013 is on hand to guide you through the process.

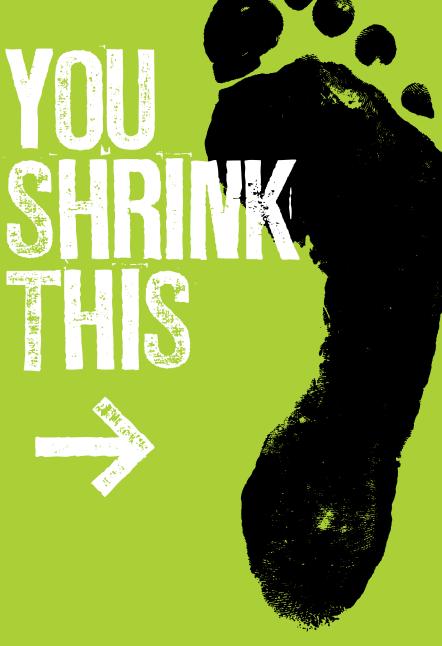
Exploring such issues as low-carbon homes, the green deal, self-build, different ownership models, empty homes and the overall sustainability of the housing market, it's one of our most comprehensive guides to date.

With contributions from and interviews with some of the sustainable building industry's leading names, and testimonials from homeowners who have been there, done that and got the T-shirt, we hope that after reading, you'll do what's necessary for you, your home, your community and your environment. Our generation's big bad wolf is not a ferocious wild animal, but instead, the threat that is climate change. Even more basically, it's the dual threat of pollution and waste.

A sustainable home is better security for you and your family than any other kind of home, regardless of whether it's made from straw, wood or brick.

Alex Black

EDITOR, BLUE & GREEN TOMORROW



Of course you'd like your home to make less of an impact on the environment. And you'd like your energy bills to make less of an impact on your pocket.

But right now it's harder than ever to find the money to make environmental improvements. So here's what we'll do.

Move to our C-Change Retrofit mortgage and we'll discount our Standard Variable Rate by 0.25% for every grade improvement on your home's energy performance rating.

On the whole of your loan – for the lifetime of the mortgage.



C-Change Retrofit

The Ecology Building Society mortgage that shrinks with your carbon footprint.

Call 0845 674 5566 or go to www.ecology.co.uk/shrinkthis

YOUR HOME MAY BE REPOSSESSED IF YOU DO NOT KEEP UP REPAYMENTS ON YOUR MORTGAGE.

Our current Standard Variable Rate is 4.90%. The overall cost for comparison is 4.9% APR, where the minimum discount of 0.25% is achieved. Rates correct at date of going to press (1 October 2013). An early repayment charge may be payable if you repay all or part of your mortgage within the first two years.

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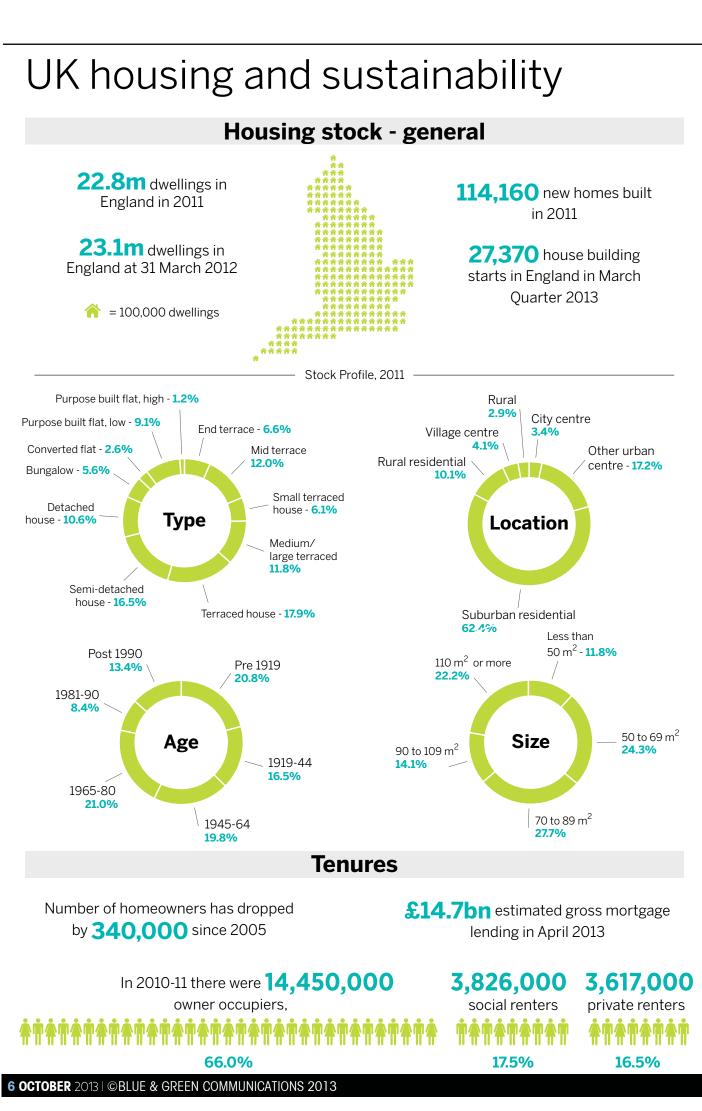
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THE GUIDE TO SUSTAINABLE HOMES

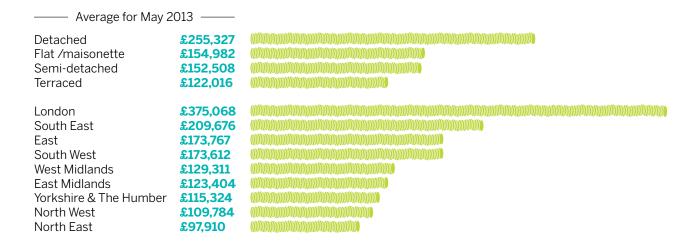




Affordability and occupancy

£182,000 peak average house price in 2007

£161,989 average house price in May 2013



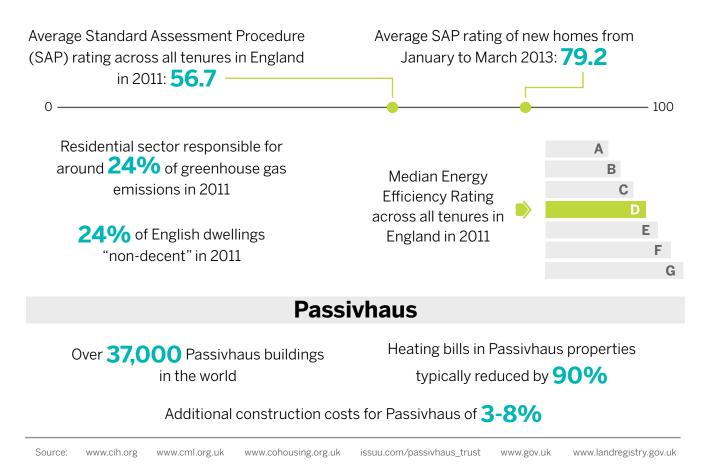
Govt pledged **170,000** affordable homes between 2011 and 2015

£215m government spending to bring empty homes back into use announced in 2012

655,000 overcrowded households in 2010-11

719,999 empty homes in 2011

Sustainability and quality



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HE GUIDE TO SUSTAINABLE HOMES

SUSTAINABLE HOMES: MORE ATTRACTIVE, COMFORTABLE AND EFFICIENT

BY FRANCESCA BAKER

AS A CHILD, COME THE EVENING WHEN EVERYONE WAS BACK FROM THEIR RESPECTIVE JOBS, SCHOOLS AND SOCIAL ENGAGEMENTS, MY FATHER WOULD LOCK THE DOOR OF OUR HOUSE AND 'SHUT THE WORLD OUT' – A SAYING THAT HAS STAYED WITH ME AND AS A RESULT, THOSE I HAVE LIVED WITH, EVER SINCE.

> owever by locking the door, neither we nor our homes cease to interact with the society and the environment inhabited. Around 27% of the carbon emissions in the UK come from our homes, according to the Centre for Sustainable Emissions.

Whilst there are actions we can take to reduce this (such as turn down the heating, not run the tap whilst brushing teeth etc) there is a growing realisation that larger, more structural change is needed. For a home to care for those living within it, it doesn't have to be taking from the world around it.

This is where the concept of sustainable housing comes in. Housing development has direct and indirect impacts on the environment. Through its design, construction, and operation, housing represents a significant level of consumption of natural materials, water and energy.

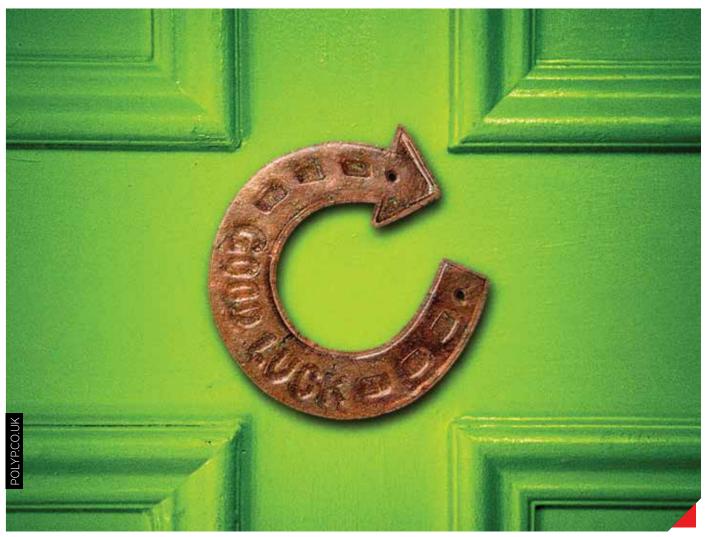
Green or sustainable development is that which allows people to build structures that fulfil their purpose whilst minimising the impact upon the environment, in all the above ways, for both current users and future generations.

Whilst the UK government has set a tar-

get for all new build housing to be zerocarbon by 2016, it is not clear whether this means that the building is zerocarbon until the point of its construction, or for life. This is the only true indication that a building is sustainable – that it continues to be efficient and enables the environment in which it is in to thrive. Ultimately, a home is there to look after its inhabitants, and so the most truly environmentally sustainable houses are those that allow the owner to live in a warm and healthy place without having a devastating environmental impact. No matter how sustainable a building may have been in its design and construction, it can only remain so if it is operated responsibly and maintained properly. Currently, £23 billion is spent annually on home renovation, maintenance and repair. Sustainable housing is more fuel efficient. Around 4.5 million people in the UK live in fuel poverty, according to the latest figures from Department for Energy and Climate Change - the largest number in Europe. If homes did not need so much energy to operate, this would not be a problem.

New developments are being built that not only use fewer resources in their





construction, but consider how the property can be maintained in a more energy efficient way. Southerly facing windows let in more light – both aesthetically pleasing and reducing the need to switch on electric lights. Insulated walls are warming and reduce heating bills, as well as preventing the need for a huge metal radiator.

In an effort to reduce energy usage, designers look to cut out air leakage and may smartly position windows and walls and place awnings to offer shade during the summer while maximising solar gain in the winter. All of these things demonstrate that for a home to be environmentally friendly, it does not have to be uncomfortable and unappealing. There are also some more systemised structures that can help to reduce energy usage. Solar power has become a more ingrained and acceptable form of environmental efficiency, via panels and heating, and waste-water may be minimised by utilising water conserving fixtures such as ultra-low flush toilets and low-flow shower heads. 'Grey water' such as that

from the washing machine can be used to flush said toilets.

Starting at environmental impact from this level is a smart choice, as it appears to infringe less. People don't have to make the decision to live sustainably; they just do.

Sustainable building development must therefore reduce energy consumption for both the transportation and building costs, as well as the living costs, enabling people to efficiently use energy, water and other resources in their day to day life. The common objective is that building should reduce the overall impact of the built environment on human health and the natural environment.

The most criticised issue about constructing environmentally friendly buildings is the price. Solar panels don't come cheap, and modern technologies tend to cost more money.

However studies have shown that most green buildings cost a premium of less than 2%, but yield 10 times as much over the entire life of the building. As usual, it is an offset between knowledge of upfront cost and the unknown lifecycle cost. A study in the US has shown that over a 20-year life period, some green buildings have yielded \$53 to \$71 per square foot back on investment. Environmentally sound and economically viable? Now you're talking.

FRANCESCA BAKER

is a freelance journalist, event organiser, and minor marketing whizz. She writes about music, literature, life, travel, art, London, and other general musings, and organises events that contain at least one of the above. You can find out more at www. andsoshethinks.co.uk.

THE HOUSING MARKET: UNSUSTAINABLE ASSET BUBBLE OR LADDER TO PROSPERITY?

BY FRAN BOAIT, CAMPAIGN MANAGER AT POSITIVE MONEY

EVERY TIME I ATTEND TO A LECTURE ON HOUSE PRICES, THERE IS ALWAYS A **QUESTION IN THE Q&A FROM** A CONTINENTAL EUROPEAN (USUALLY GERMAN OR DUTCH). THEY ASK, "WHAT IS THE OBSESSION THAT BRITISH PEOPLE HAVE WITH BUYING HOUSES? WE DON'T HAVE THAT IN OUR COUNTRY. WE ARE HAPPY TO RENT." AFTER MUMBLINGS FROM THE AUDIENCE THE HOST WILL USUALLY SAY SOMETHING LIKE, "YES, WE DON'T REALLY KNOW EITHER."

the question whether you should rent or buy, forces another question: what is a house for after all? Is it a home to live in, something everyone needs? Or is it really an asset that everyone should aspire to own? You could say it can be both – but is that even possible?

One consequence of everyone scrambling to get on the housing ladder has been that house prices have been rising much faster than wages, which means that houses become less and less affordable. Anyone who didn't already own a house before the bubble started growing ends up giving up more and more of their salary simply to pay for a place to live. And it's not just house buyers who are affected; pretty soon rents go up, too, including in social housing. This increase in prices led to a massive





increase in the amount of money that first time buyers spent on mortgage repayments. For example, while in 1996 the amount of take home salary that a first time buyer on an average salary buying an average house would spend on their mortgage was 17.5%, by 2008 this had risen to 49.3%. In London the figures are even more shocking, rising from 22.2% of take home pay spent on their mortgage in 1997 to 66.6% in 2008.

High house prices also act as a mechanism for transferring wealth from the young to the old, from the poor to the rich, and from those that don't own their own home to those that do. Even those with housing don't benefit massively from higher house prices; after all, we all need somewhere to live, and anyone selling their home will find that on average other house prices will have risen by the same amount, leaving them no better off.

In reality, only the banks and those with many properties benefit from high house prices. High prices mean that people will have to take out larger mortgages for longer periods of time, which means more money in interest payments for the banks.

SO WHY ARE HOUSE PRICES SO HIGH?

Many of us were told that house prices are so high because there are too many people and not enough houses. The reality is that house prices were massively pushed up by the hundreds of billions of pounds of new money that banks created in the years before the financial crisis. Limited housing stock may have caused some shortage in areas, and there are many other complications too. But a fundamental driver that caused a 300% house price increase in the 10 years up to the start of the financial crisis was mortgage lending. During the period in question the amount of money banks created through mortgage lending was collectively £417 billion (that's £417,000,000,000).

So you might ask, where on Earth did that \pounds 417 billion come from in order to inflate these house prices out of reach from ordinary people? Well, when a new mortgage loan is made, the bank doesn't borrow money from savers banks actually create new money with every loan they make. Those numbers in your account don't represent a pile of money in the bank; they're just numbers; accounting entries in the computer system of your bank. Paul Sheard, the head of global economics and research at Standard and Poors Financial Sevices Company wrote, "Banks lend by simultaneously creating a loan asset and a deposit liability on their balance sheet. That is why it is called credit 'creation' credit is created literally out of thin air (or with the stroke of a keyboard)." As the loan is repaid, the money disappears, whilst the banks keep the interest as profit. And since a loan on a house is secured by the house itself. and a substantial profit can be made on the interest on the loan, it is a win-win situation for the bank. But is it a win-win situation for anyone else? Who benefitted from the banks creating £417 billion to lend to mortgages? The banks yes, and people that decided to become landlords of multiple homes, yes. But in reality all that debt into a non productive asset bubble really just laid the foundations for the 2007 financial crises. What would have happened if instead that £417 billion was used for something more useful, like green electricity, building sustainable homes, or retrofitting our housing stock to make them more energy efficient? House prices would have stayed lower. Yes, less people would own multiple homes, and yes, less people would own homes at all. But we would all have more disposable income because rent and mortgage repayments would be lower, there would be lower household debt, and we would be all be better off.

SO WHY ARE THE GOVERN-MENT TRYING TO HELP PEOPLE BUY THEIR HOUSES AGAIN?

The government has launched a scheme, Help to Buy, offering financial support to help people buy homes. The scheme has meant that first time buyers, who otherwise would not have been able to, have been able to get on the housing ladder. The appeal of living in a home you own is very understandable. But do the short-term benefits of more home owners outweigh the problems caused by avoiding a long term strategy to create a sustainable economy? We don't think so. For the reasons outlined above, we think it is not a good idea to direct government spending into mortgages, and we are not alone.

On September 18, Adair Turner, the former chair of the now-defunct Financial Services Authority spoke about the scheme on Newsnight. He stated, "I certainly have worries about the Help to Buy scheme... I think we may be overdoing the stimulus to the housing market and we may come to regret that. I feel that we have a whacking great hangover after a debt-fuelled housing boom and our policy seems to focus on a bit of the hair-of-the-dog that bit us." He is not the only commentator warning. Ann Pettifor is an economist who predicted the crisis in 2006 in her book, The Coming First World Debt Crisis. She spoke about this subject on Radio 4 on August 15, warning that the government's Help to Buy scheme will create another 'bubble'. "We are making people think they can buy another property and taking out mortgages which they simply can't afford in the long term. Those prices will fall at some point", she said

"I think it's artificial and can't be sustained. People's incomes are falling in real terms, and have done so for five years. Now there's been this sudden, go on let's just go made because everyone says its recovery.

"At a fundamental level it's quite dangerous because household debt is still 153% of GDP.

"There's nothing seriously underpinning this recovery, and that's why it's Alice in Wongaland, the confidence fairy is out there."

AN ALTERNATIVE

Can an economy run on the feeling of being wealthy, the so-called 'wealth effect', that arises when houses price are increasing? Clearly, it is not sustainable in the long run. We need wages to catch up with rent and mortgage repayments, and the only way to achieve that is to get money to create jobs rather than to inflate house prices.

But will banks ever want to direct their lending activities into productive industries such as sustainable housing and green infrastructure, rather than asset bubbles? We don't think so. We don't think we can rely on banks with short-term profit motives that clearly don't fulfil the wider needs of the economy. Therefore we need to change the rules of the game. If we have people that want to work and jobs that need doing, why can't we create a system that achieves these things?

Positive Money is advocating that the Bank of England create new money that can enter the economy via the government. This could be done in three ways: increase government spending; cut taxes; or make direct payments to citizens. Although each of the options has its own appeal, we think that because the UK needs to reduce unemployment, the biggest benefit to society would be to increase government spending to create new jobs.

Opportunities to create jobs and build a more sustainable economy lie in green energy infrastructure, building sustainable and affordable housing, and developing better public transport. It's not that we can't afford these things; it's that we haven't got an economy that works. We believe that it's time to radically rethink how the system works and we have a blueprint for an alternative.

FRAN BOAIT joined Positive Money as campaigns and operations manager in November 2012. Prior to that, she was an Earth scientist researching carbon dioxide storage. www.positivemoney.org

PositiveMoney





OUR SUSTAINABLE HOME: SIMON & DIANA

WHAT TO YOU MAKES A HOME 'SUSTAINABLE'?

One that is comfortable to live in and does not require huge effort to minimise carbon generation. Proximity to local facilities and employment, low running cost and ease of operation are all important.

WHAT INSPIRED YOU TO BUILD A SUSTAINABLE HOME?

The urgency of climate change and the general lack of awareness of what is achievable to minimise your carbon footprint.

HOW LONG DID YOUR BUILD TAKE TO COMPLETE AND WHAT WAS THE BIGGEST CHALLENGE YOU FACED?

We had an existing house which we extended – the initial extension work took one year but it took around a further 10 years to add additional energy saving features, including solar PV, taking out the remaining old windows and replacing them with energy efficient glazing and installing a wood burning space heater.

WHAT'S YOUR FAVOURITE SUS-TAINABLE FEATURE AND WHY?

Solar thermal, because it gives you a reliable hot water supply and because in the summer it means our gas boiler is hardly ever on.

WHAT WOULD YOUR ADVICE BE TO SOMEONE LOOKING TO MAKE THEIR OWN HOME MORE SUS-TAINABLE?

Check out real life examples from people in your area and talk with them about the pitfalls, the good points, what works, what doesn't, suppliers, equipment, installers... and everything else!

COHOUSING: A FUNCTION OF THE UK COHOUSING NETWORK

ohousing is a way of living which brings individuals and families together in neighbourly groups to share common aims and activities while also enjoying their own self-contained accommodation and personal space.

The concept was born in Denmark out of a desire to create pedestrian oriented, community designed collaborative housing, with amenities for all residents of all ages.

One of the first new-build schemes in the UK was Springhill Cohousing, comprising of 34 homes near the centre of Stroud in Gloucestershire, and completed in 2005. This project was recognised by the Deputy Prime Minister's Award for making an "outstanding contribution" to sustainable communities and continues to make a positive impact within the community. This year has seen the completion of two further new communities: the first, Lancaster Cohousing, created 41 homes in Forge Bank Lancashire, and the second was Low Impact Living Affordable Community (LILAC), creating 20 homes around a common house in Leeds. Both these schemes have homes ranging from three bedroom houses to one bedroom flats, inhabited by couples, families, single people some younger and others retired.

The LILAC abbreviation, Low Impact Living Affordable Community, captures the headings that Cohousing aspires to be: Low Impact living: The vision of offering inspiring solutions for sustainable living. Groups have high ambitions investing in the future of their families. When given the opportunity to create your own space, people will push boundaries through learning. There are opportunities to look at construction techniques and technologies that offer some value in your home and future. The Lancaster Cohousing project is one of the largest Passivhaus schemes completed within the UK and was the winner for Social/ Group Housing Award at this year's UK Passivhaus Awards.

Affordable: All Cohousing groups are run as not-for-profit organisations. The overall site and shared facilities are owned and managed by the residents. The site freehold is held in common ownership with its members, with any social landlord being a shareholder. LILAC is the first Cohousing group to form as a Mutual Home Ownership Society which ensures homes remain permanently affordable. LILAC's further offer of "loan-stock" provides a simple way for members of the public to take part in an ethical lending opportunity with which





SUCCESSFUL COHOUSING SCHEMES ARE AS A RESULT OF THE COMMITMENT OF DEDICATED INDIVIDUALS WHO SEE ENHANCEMENTS TO THE WAY TO LIVE AND TAKE IT UPON THEMSELVES TO CONSTRUCT A COMMUNITY OF FAMILIES AND INDIVIDUALS AROUND THEM

to support the project.

Community: Cohousing groups are member-led, focused, supportive, kind and respectful. Not only do these groups learn through their experiences but they are able to help others create their own communities by sharing lessons learned. This sharing of wisdom does not stop within the UK. Cohousing groups all over Europe and the US offer opportunities for visiting to share experiences and strengthen community relationships



beyond any neighbourhood. In conclusion, successful cohousing schemes are as a result of the commitment of dedicated individuals who see enhancements to the way to live and take it upon themselves to construct a community of families and individuals around them. The UK now has 17 built Cohousing Communities and 45 groups in development stages. Check out www. cohousing.org.uk for more information and to find a group near you.

Neil Stephens is director of the UK Cohousing Network and associate at ECD Architects. www.cohousing.org.uk

> UK**Cohousing** NETWORK

THE BENEFITS OF OWNING A HOME

BY COLETTE BEST, MORTGAGE POLICY ADVISER AT THE BUILDING SOCIETIES ASSOCIATION (BSA)

HOME OWNERSHIP IS STILL AN ASPIRATION BECAUSE OF THE NEED FOR STABILITY AND OUR DESIRE TO PERSONALISE OUR LIVING SPACES



W

e have something of a motto at the BSA, which is, "The right home, at the right

time and the right tenure", meaning that the home which is right for someone in their 20s will probably look very different from where they will live in their 40s. Properties in the private rented sector will be suitable for some people whereas others will be better off in the social rented sector and others could benefit from home ownership. Government housing policy tends to be tenure-neutral and carefully written not to exclude those who are unable to buy a house. But despite all these carefully crafted political messages and the headlines proclaiming that the private rented sector is becoming tenure of choice, we are still at our hearts a nation of homeowners. Is this just a strange cultural guirk or are there valid reasons for wanting to own your home? As part of a recent consumer survey, the BSA asked whether and why people wanted to own their own home. Interestingly, only 5% of respondents thought that people shouldn't aspire to own their home, confirming the ingrained belief that home ownership is





financial and psychological benefits of being in control of when you decide to move house shouldn't be underestimated and this is a fundamental advantage of home ownership.

Being able to make home improvements is another big advantage for homeowners. Yes, you are responsible for the boiler when it goes wrong, but you can choose what improvements and alterations you want to make to your home. Homeowners can renovate a run-down property and reap the financial benefits, they can redecorate as they see fit, and they have the option of extending their home to fit an expanding family. Various compa-

> nies have tapped into this desire

home your own with adverts

to make your



HOMEOWNERS CAN RENOVATE A RUN-DOWN PROPERTY AND REAP THE FINANCIAL BENEFITS

still desirable.

The top four reasons that respondents gave for their home ownership aspirations were that "they are more likely to take pride in their property"; "they can make a place their own"; "it is more stable and secure"; and "it increases their wealth over time". Other reasons also deemed slightly less important were "they don't have to pay rent" and "it helps to build communities and develop a more cohesive society".

I think there are two fundamental and very human reasons why home ownership is still an aspiration: the need for stability and our desire to personalise our living spaces.

In general, owner occupation carries more stability than renting privately. The Assured Shorthold Tenancy (AST) agreement which is typically used for privately rented properties has either been praised for offering flexibility or criticised for a lack of stability depending on which organisation is commenting. Home ownership does come with the benefit that you and your family can remain there as long as you choose. The nesting, not investing" and "home is the most important place in the world". Ever since the first caveman created his first drawing on the walls of his cave, we have sought to improve, decorate and modify our living space and this is unlikely to change anytime soon. I believe that home ownership will continue to be an aspiration in the UK for many years to come. Making the desire become a reality is one of the drivers for building societies and other mutual lenders.

Colette Best is a mortgage policy adviser at the Building Societies Association. www.bsa.org.uk

Building Societies
Association

rable. four reasons that respondents their home ownership aspirare that "they are more likely to

SUSTAINABLE SUSTAINABLE NORTGAGES 101 BY ANNA LAYCOCK, COMMUNICATIONS AND RESEARCH MANAGER AT ECOLOGY BUILDING SOCIETY

ortgages aren't everyone's first choice of specialist subject. Most people see them as an important but uninspiring means to an end: owning a home. But what if they were more than that? What if mortgages were a force for good in the world? What if they actually helped build a more sustainable future? The concept of sustainable mortgages isn't as new as you might think. At Ecology, we've been doing them since 1981, and we're not the only ones to claim to offer a 'green mortgage'. But like any type of ethical investment, some claims stand up to examination better than others.

Let's look at some green mortgage offers, past and present. Ecology aside, there are broadly three claims to sustainability, which I'll present in reverse order of credibility.

1. Your statements are printed on recycled paper

Moving swiftly on...

2. We plant some trees on your behalf

We love trees at Ecology; the more the merrier. But given that each of our homes generate 3.2 tonnes of carbon each year, before we even consider the global carbon impact of the financial industry, even a forest of mortgage-backed pines isn't going to do the job. Perhaps it's better to save the carbon in the first place?

3. You can use it to do green stuff Now we're talking. In the wake of rising energy prices and the launch of the green deal, we've seen some lenders begin to offer





SUSTAINABLE MORTGAGES ARE DESIGNED AS IF PEOPLE AND THE PLANET MATTER MORE THAN PROFIT

additional borrowing facilities for energy efficiency improvements. The money has to be used to install measures from a predefined list, usually ranging from insulation to small-scale renewables. Given that green deal rates are around the 7% mark, this could be a simpler and cheaper way to save energy at home. But what we're really looking at here is a greenish add-on to a mortgage, rather than a mortgage that's genuinely sustainable.

The dire state of our housing stock and the threat of irreversible climate change demand a better response than this. So what does a genuinely green mortgage look like?

For a start, it's about sustainability in the fullest sense of the word, embracing people and their homes, communities and their environments. That's why we're called Ecology: the term is derived from two Greek words: oikos, meaning home, and logos, meaning science or knowledge. So the word implies understanding of our home.

Sustainable mortgages apply this concept to lending decisions, supporting properties that respect their environment and enable communities to flourish. That's why you'll see Ecology supporting housing co-operatives and affordable housing projects as well as pioneering eco-builds. The hallmark of a sustainable mortgage is how the lending decision is made. Mainstream lenders look at potential borrowers from a purely financial perspective: what's the risk and what's the reward? Customers are sources of profit – anything that doesn't relate to this is largely irrelevant. Ecology sees things differently. Our members are agents for change. We need to consider the financial risk of a project to ensure that we're protecting our members' deposits, but what we're really interested in is ecological risk and reward. Our lending decisions are based

on whether the project has an environmental and social benefit, whether minimising its negative impact or creating a net positive.

You could argue this makes us a niche lender, because it means we'll only lend to projects where we can see the sustainability benefit. But in reality it means we'll often lend on projects that other lenders won't consider, because they see them as innovative or unfamiliar. For us, the ecological consideration overrides that - and after 32 years of lending, there's not much we haven't seen before. So we lend for self-builds, conversions, restoration of derelict properties (including empties), alternative tenures like cohousing and properties built with unusual materials, such as straw bales, timber or cob. We can consider projects that are out of the norm because our decisions are made by human beings. This may not sound radical, but in the world of financial services, it really is. Rather than the computer-says-no approach, our team treats each application individually and weighs up the ecological and financial benefits and risks. By doing this, we help to spur the development of new ecological building approaches and pave the way for other institutions – our groundbreaking lending



THE DIRE STATE OF OUR HOUSING STOCK AND THE THREAT OF IRREVERSIBLE CLIMATE CHANGE DEMAND A BETTER RESPONSE FROM MORTGAGE PROVIDERS



for self-build catalysed the development of the UK's self-build mortgage market. If you've got a mortgage, the chances are the interest rate is pretty important to you – and it's the same with a sustainable mortgage. The difference is that for a genuinely sustainable mortgage, the price (the interest rate) is aligned to ecological impact. How much you pay for borrowing money should reflect the sustainability credentials of your project. So Ecology C-Change discount scheme adjusts the price of our mortgages to reflect a property's climate impact.

There are three versions of the discount: C-Change energy efficiency is based on the energy efficiency measures or renewables installed, C-Change sustainable homes is based on achieving a recognised energy efficiency standard, and C-Change retrofit is based on improvements in a home's energy efficiency. We introduced the latter to extend our offer to the 26m leaky, inefficient homes in the UK, recognising that we needed to drastically improve the efficiency of our existing housing stock if we are to meet our emissions reduction targets.

The challenge shouldn't be underestimated: our homes currently contribute over 27% of our carbon footprint. If your home is draughty and cold, you're part of the problem. But it's not just about trying to ensure our atmosphere can still sustain us – it's also about a much more immediate problem. Energy bills have risen on average £300 over the past three years and today 2.4 million people live in fuel poverty. A home that wastes energy just isn't economically sustainable. That's why we want to see other mortgage lenders follow our approach: because it's in the interests of their borrowers as well as the wider environment.

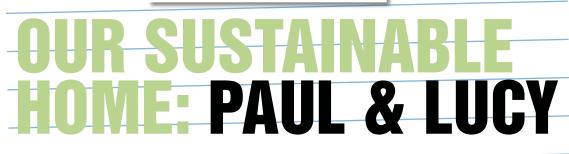
While we're on the subject of money: have you ever thought where your mortgage comes from? Who provides the money? That's an important part of a sustainable mortgage, too. Ecology's mortgages are funded by our savers, a community of people who want their money to build a better future. We don't borrow money on the wholesale markets – we simply connect savers and borrowers who share the same values. Likewise, the profit that we make belongs to our members and is retained to fund future lending. The interest you pay on your mortgage will be contributing to your bank's profits. What are they doing with it?

Sustainable mortgages aren't about add-ons and they aren't about gimmicks. They're mortgages designed as if people and the planet matter more than profit. They're a form of money that knows its place: a means to a (sustainable) end. We lend sustainably because our mission is to build a greener future. We couldn't do anything else.

But why would you want a sustainable mortgage? Perhaps you're already investing ethically, and you realise that how and why you borrow has just as many ethical implications. Perhaps you want the way you live and the place you live in to reflect your concern for the wellbeing of your household, your community and your environment. Perhaps you just want a home that's comfortable to live in and doesn't cost the Earth in energy bills. They're all good places to start. So if you're curious, ask your mortgage provider what their approach is to sustainable lending. See if they mention recycled paper.

Anna Laycock is communications and research manager at Ecology Building Society. www.ecology.co.uk





Why did you choose this plot for your sustainable build?

Despite living in Chesterfield for 15 years, we didn't know the Hardwick Wood part of Chesterfield existed when we saw the plot advertised. It's situated in approximately 450 acres of woodland just 15 minutes from the centre of Chesterfield. When we first drove up the half mile lane and saw the plot, we just knew that we had to live here, despite the obvious issues with planning that we knew we would face. There is a magical feel to the place and it is beautifully peaceful.

What inspired you to build your own sustainable home?

We never thought about doing a self-build and didn't think about that when we bought the plot! Once we completed on the purchase we realised that we had no choice but to do a self-build – it was a steep learning curve. Having minimal impact on our natural surroundings was important to us, so building sustainably was essential.

What were the most challenging aspects of the build?

There were several. The ground is very heavy clay and working on it during one of the wettest summers on record (2012) proved very difficult – there were additional problems and costs involved in dealing with the drainage. The original house was small and thus getting a design agreed which satisfied the planners requirements that the new build could only be the size of the original footprint plus 40% and didn't cause 'visual harm' proved lengthy (three years) and expensive (£20,000).

Due to the location, we had to have several eco/environmental surveys which were not cheap. Once the final plans were agreed and passed, getting funding postcredit crunch proved difficult. There were limited lenders who would lend on a self-build and no one except Ecology Building Society would lend on a wooden ecological build.

What are your favourite features of your sustainable home?

blue&gre

The interior is a beautiful living environment where the colour of the wood changes and enhances the living space; there are verandas at the front and rear so we can sit out in all weathers and enjoy the outdoor environment; we have left most of the garden to nature and planted wild flowers so the setting attracts an abundance of wildlife; it is cheap to run due to the wood burning stove and cooker and bio-mass boiler; and it is warm in winter and cool in summer.

What do the neighbours make of your sustainable new home?

Our neighbours seemed really interested with the uniqueness of the design and the speed of completion (59 working days). There were lots of neighbours walking their dogs past the house during the build phase! We often have people knocking on the door wanting to look around.

FINANCIAL Incentives for Renewable Energy Installations

BY TASHA KOSVINER, FREELANCE WRITER AND CORRESPONDENT FOR YOUGEN.CO.UK

WHEN YOU'RE SITTING IN A DRAUGHTY OLD HOUSE, WATCHING THE HEAT HAEMORRHAGE OUT THROUGH DOORS, WINDOWS AND WALLS, INSTALLING ENERGY SAVING AND RENEWABLE EN-ERGY MEASURES PROBABLY SEEMS LIKE A GREAT IDEA.

> hen as you wade your way through the myriad of options available – roof mounted wind turbines, anyone? – your enthusiasm might start to wane. By the time you've reached the bottom line, you'd be forgiven for simply shrugging on your fourth jumper and getting into bed.

> However, the government currently offers four financial incentives that make the task of financing energy efficiency, renewable energy or renewable heat measures in your home more appealing.

FEED-IN TARIFFS

If you install an electricity generating technology from a renewable or lowcarbon source, such as solar PV (solar panels designed to generate electricity as opposed to heat), wind turbines or micro hydro schemes, you could qualify for money back from your energy supplier via the feed-in tariff (FIT). The FIT is a true incentive, designed to support the shift to low-carbon energy and offering a financial reward for investment in renewable energy.

The FIT provides its incentive via three elements – a payment from your electricity supplier for every kilowatt hour (kWh) your system generates; a guaranteed price for any surplus electricity you do not use on site that is then fed back into the national grid; and a saving on your energy bill because you are drawing less (or no) power from the grid.

The rate is indexed to the retail price index for the life of the tariff. It is taxfree for domestic installations which generate electricity mainly for their own use. A list of the current tariffs can be found at www.yougen.co.uk/ feed-in-tariff.

FIT has been devised to give a 5-8% return on investment for 'well-sited installations'. Small solar installations are designed to give 4.5%. Of course, you will only get this good a return





if your system performs well, so it is important to measure the wind speed, or solar potential, of your site before going ahead.

RENEWABLE HEAT INCENTIVE

The renewable heat incentive (RHI) aims to help Britain meet its renewable energy and carbon reduction targets by encouraging the uptake of renewable heat technologies, such as heat pumps, biomass boilers and solar thermal panels. In July 2013, the government announced the details of the domestic RHI scheme which it predicts will be open for applications in spring 2014. The scheme, to be administered by Ofgem, is intended as a boiler replacement programme targeted at, but not limited to, off gas grid households. Covering England, Wales and Scotland, the scheme is open to everyone who has installed an eligible heat system since July 15 2009. The tariffs are 7.3p/kWh of heat for air source heat pumps, 12.2p/kWh for biomass boilers and biomass pellet stoves with a back burner, 18.8p/kWh for ground and

water source heat pumps and 19.2p/kWh for solar thermal technologies. If you opt for a metering and monitoring package, you will receive an additional payment of £230 per heat for heat pumps and £200 per year for biomass. Payments will be made quarterly to householders over seven years for each kWh of heat produced for the expected lifetime of the technology and based on deemed heat usage.

RENEWABLE HEAT PREMIUM PAYMENTS

Until the RHI launches, there is still cash available for installing renewable heat technologies, through the renewable heat premium payments (RHPP) scheme. The RHPP offers upfront grants for the instalment of renewable heat technologies and is scheduled to be available up until March 31 2014. Grants currently available are £600 for a solar thermal unit, £1,300 for an air source heat pump, £2,000 for a biomass boiler and £2,300 for a ground source heat pump. The Energy Saving Trust is handling applications.

You will receive the payment following

your installation – providing your installation meets certain standards – and the payment will be deducted from your RHI when the scheme finally begins.

GREEN DEAL

The last financial incentive is the green deal, a finance mechanism designed to enable people to make improvements to the energy efficiency of their homes without having to bear the upfront cost of installing them. The idea is that people take out a loan to finance their improvements, and then repay the loan through their electricity bill. Measures that qualify for green deal finance are extensive and include heat and energy generating technologies such as heat pumps, biomass boilers, solar PV and wind turbines, plus all sorts of energy saving measures including draught proofing, wall insulation, replacement glazing and loft insulation. At the heart of the green deal is the 'golden rule': the idea that the expected financial savings through lower energy bills will be equal to, or greater than, the cost of the energy efficiency measures installed. Thus participants



can take out a loan and enjoy warmer, more efficient housing while still paying no more than they would have been paying out in bills anyway. The green deal process begins with a green deal assessment carried out by an approved energy assessor. The assessor will produce a green deal assessment report which, in conjunction with an up-to-date energy performance certificate (such as is produced when you buy a house) and an occupancy assessment which looks at how your specific household uses energy, will advise you on which measures are most appropriate. You then take this report to a green deal provider, who will organise your loan if required, and provide you with an installer to carry out the work. If the cost of the recommended measures are likely to exceed the golden rule, you can use the green deal to provide finance up to the level of the estimated savings, and pay for the rest upfront yourself. Much of the green deal finance is provided through the green deal finance

company (TGDFC), a consortium of providers and financial organisations set up to access funding for the scheme. TGDFC's initial interest rate has been set at 6.96% per year making it a relatively expensive loan. The loans are unsecured and at a fixed interest rate and are available to 80% of the population. making it an attractive option for those on lower incomes who cannot access finance elsewhere. If however you have access to private funds, or can release equity in your house, you'll almost certainly be better off funding your improvements through other means. One other unusual feature of a green deal loan is that it stays with the property – if you were to sell before the loan was paid off, the debt would be transferred to the new owners, the idea being that they would then be the ones to benefit from the improvements. To encourage the take up of the green deal, the government has launched a \pounds 125m green deal cashback scheme where you can claim cashback on,

among other measures, insulation, double or secondary glazing, boilers and draught proofing. To claim the cashback, you must get and agree quotes from a green deal provider and then apply for a cashback voucher at www.gdcashback. decc.gov.uk. Once you have completed the works, you then redeem the voucher. The energy company obligation (ECO) is another pot of cash into which a canny home improver may be able to dip. ECO is designed to provide heat and insulation improvements for lowincome and vulnerable households, but also includes anyone in receipt of a state pension. Part of ECO includes funding to insulation solid walled and hard to treat cavity walls. Your green deal assessment report should inform you whether any of the measures recommended for your property qualify for extra help under ECO. It remains to be seen whether, even with ECO and the cashback, using a green deal provider is the most cost effective way of getting the work done. If you don't need green deal finance, it might be worth comparing the costs with other local suppliers first.

Even if you don't end up going with a green deal provider, it is important to note the green deal now serves another function. In order to qualify for the RHI or the RHPP, you still need to prove that your property meets minimum energy efficiency standards. Therefore, as part of the application process you will be required to have a green deal assessment and to produce and energy performance certificate for your property.

Tasha Kosviner is a freelance writer and correspondent for YouGen. co.uk, the award-winning renewable energy and energy efficiency website. www.YouGen.co.uk



Write for us....

Whether anonymously, under a pseudonym, or with your name published loud and clear.

Journalism is changing rapidly through a digital and social media revolution. It is no longer the preserve of press barons and elite groups; journalism is now democratic and everyone has a voice.

And though that means there's a lot of noise and rubbish out there, there's a lot of great stuff, too.

The role of media has changed. We still write stories every day about the amazing people and organisations that make a positive difference to the world in which we live, but we also promote and publish the most relevant blogs, tweets and articles from our readers.

We want to report on the diverse voices of our audience and beyond—regular people writing as travellers, investors and consumers.

So, if you blog, tweet or write about sustainability we want to hear from you. You don't need to be an experienced or aspiring writer or worry about article length, spelling or grammar—we'll tidy that up for you.

We can't publish everything, but if it's likely to resonate with our readers or challenge them in some way, you'll fly to the top of our list.

Join us today by emailing editor@blueandgreentomorrow.com with your thoughts and contributions.



SECOND HOMES ARE UNSUSTAINABLE

BY PAUL ELLIS, CHIEF EXECUTIVE OF ECOLOGY BUILDING SOCIETY

IF SUSTAINABILITY IS ABOUT ANYTHING, IT'S ABOUT FUTURE VIABILITY OF COMMUNITIES, WITHIN AN ENVIRONMENT WHERE RESOURCES ARE LIMITED. THAT'S WHY WE HAVE TO HAVE A PRESUMPTION AGAINST LENDING FOR SECOND HOMES

cology Building Society's rationale for existence is clear. We're not about making huge profits; we're about supporting projects and properties that respect the environment and encourage sustainable living. We take a positive approach to lending, looking for the environmental benefit in any project. We prefer to talk about what we will lend for – often, innovative projects that other institutions won't consider – but sometimes we have to mention those things we won't normally fund. Second homes fall under that category. This isn't to say that we've never lent on a second home and never will, but there are some negative impacts of second homes which would need to be outweighed by a very strong benefit. The 2011 census showed that 1.6m people in England and Wales had a second home in the country. At the same time, in England more than 75,000 households had nowhere to live. Over 1.7m households are currently waiting for social housing, while thousands of families renting privately experience overcrowded and





poor quality accommodation. On a basic distributional level, this seems wrong. For communities to survive, local people need to be able to afford to live there. And they need local services, like shops, post offices and pubs. Too many second homes can endanger both of these basic needs.

The growth of second home ownership, particularly in rural areas, has caused a simple problem of supply and demand. A high level of second home purchases can create a local housing bubble: in Cornwall, where almost 5% of homes are second homes, average house prices have reached more than eight times the local income.

For every 1% of the housing stock in second home-ownership, research shows that prices are 1.4% higher per house. As populations age and younger generations are priced out of home ownership, economically active residents move to cheaper areas and the future life of the community is threatened.

Second home owners behave differently,

too. Homes are left vacant for much of the year, meaning that local services are underused and become unviable. Holiday lets can bring seasonal business, but too often the low usage of schools, public transport and businesses in villages dominated by second homes means that facilities disappear for good. A recent UK-wide survey reported that one in three villages saw a local pub or shop close in 2012. The impact on the people remaining in these communities can be severe. It's not just about opportunities to socialise – although these are vital to wellbeing - it's also about the simple ability to get what you need to survive, especially for people with limited mobility.

If sustainability is about anything, it's about future viability of communities, within an environment where resources are limited. That's why we have to have a presumption against lending for second homes: because they can threaten the future of communities. But that presumption can also be overcome – we could, for example, make the case for the construction of eco-friendly holiday homes in a depopulated area with poor employment prospects. Every community and every project is different, and that's why it's so important that we take an individual, flexible approach, considering each project on its own merits. Above all, we keep our ecological mission at the fore in our assessments of projects. And this means considering the impact on local communities as an integral part of our decision making.

Paul Ellis is chief executive of Ecology Building Society. www.ecology.co.uk



FEEL DEFENSIVE ABOUT MY SECOND HOME – BUT MY GUILT IS LARGELY UNNECESSARY

BY IAN JACK. THE GUARDIAN

nly after my father won the football pools did I begin to take an interest in property. I was 18 or 19 at the time. My dad didn't win much. But after he disclosed we were $\pounds 3.000$ better off. it occurred to me that we might live in a bought house rather than a rented one. Not because I believed that owneroccupation was an inherently superior form of shelter, but because a particular house in our village had come up for sale and its strangeness was attractive to us. It perched at the edge of the sea and had a stone front that protruded in a semioctagon, completing its besieged appearance with a battlemented parapet, pointy windows and a tower that had ornamental arrow slits.

A small house with grand pretensions: years later, when I read Great Expectations, I recognised it as Mr Wemmick's house, which is a cottage doing its level best to look like a castle. "The smallest house I ever saw", thinks Pip, wondering at the painted gun emplacements, the drawbridge and "the queerest gothic windows (by far the greater part of them sham) and a gothic door almost too small to get in at". Both houses, the fictional and the real, dated from the early 19th century, but while the first was south of the Thames, the second lay north of the Forth.

A firm of solicitors with a name like

Macbeth, Macduff & Duncan had advertised it in the local paper, in the days when ads for houses included neither a picture nor a price and were placed discreetly among other used items for sale such as prams and garden sheds. This was the case in Scotland, anyway, where in the 1960s about two in three households, including ours, lived in homes built by and rented from the local authority. No country west of Poland had a higher proportion of public housing, it was said, which meant private property and how one went about acquiring it was never a conversational topic among the people we knew. Looking back, and counting on my fingers. I reckon I had seen the inside of no more than four or five owner-occupied houses, including the dentist's, by the time I left school.

The first thing, obviously, was to get in touch with Banquo, Macduff & Macbeth, so I went to the call box at the end of the street and inserted my four pennies when the operator asked. The disdaining female voice at the solicitors clearly felt insulted that the majesty of house purchase was being approached with so little decorum, but she told me the price (somewhere about \pounds 1,000) before announcing carelessly that she believed the house had been sold. And so it had, to a glamorous woman we knew who kept the cafe on the ferryboat pier. My parents took the news well, listing all the things

that would have made them unhappy had they bought the house (mornings spent wrapped in sea mist, the probability of damp) and consoling themselves with the thought that their $\pounds 3,000$ was still intact. By the time it was spent on voyages to Egypt and the Soviet Union, countries that for different reasons my father was keen to see, the brief flirtation with the prospect of home ownership had been forgotten. The rent to the county council went on being paid. None of us felt that a life-enhancing chance had been missed. The passion for home ownership that has developed in the half-century since must rank among the biggest changes in Britain's social and economic history. On a national scale, the effects include an unprecedented boom and bust in house prices, world-beating figures for household debt, and the diversion of capital from more useful purposes such as industry. At a more personal level, it means some of us own not one house but two, a luxury that 50 years ago would have seemed limited (though it probably wasn't so, in fact) to a few plutocrats with townhouses in Mayfair and shooting estates in Inverness.

According to a report in the Guardian, 2.3 million people in England and Wales can now lay claim to second homes, which is both strictly true and rather misleading. The 2.3 million is the number of people who, according to new data published





by the Office for National Statistics, have a second address they use for more than 30 days a year. Most of them are students or the children of separated parents; the number of people in England and Wales who have second homes in the sense we usually understand the term – as holiday homes – is 165,000, which is less than 1% of the 23.4 million households in the two countries.

Rich people, then, whose appetite for holiday homes has driven up prices, particularly in Cornwall and parts of Wales where young people who work there find they can no longer afford to live; Aran Jones, the leader of pressure group Cymuned, quoted in the Guardian report, spoke of "societal breakdown". As we have a second home, I of course feel defensive and can produce my little defensive lists. Why do we have it? Because neither my wife nor I has a decent pension beyond the state's, and 10 years ago property looked like a good way to protect our savings. Because we had children and it was beside the sea. Because it was cheap. Because a friend said that its situation under a wooded cliff reminded her of Shimla. Because we thought we might move there for good. Because it connected me to my childhood in ways I

thought meaningful.

But the guilt is largely unnecessary. The island of Bute, where the house is, has the opposite problems to Cornwall. Nobody is flocking there now, though they did throughout most of the 19th century and well into the 20th. Its Victorian economy was partly founded on second homes; our house was built in a bigger house's back garden in the 1870s as summer overspill accommodation, so the tenants we displace aren't fishermen or care workers but the ghosts of visitors like ourselves. If anything, there aren't enough of us parttimers. House prices go down and newly converted flats stay unsold, while every month another shop or B&B closes. We do our best. We take the local buses when they run and taxis when they don't, use local tradesmen, shop at the greengrocer, fishmongers, butchers, bakery and hardware store. To the permanent population we may seem sentimental, stupid in our opposition to the growing tide of islanders who take the car ferry to the mainland for their fortnightly shop at Scotland's largest Tesco. (There is more than one way to achieve "societal breakdown".) Still, I like our house, despite the fact its suggestion of an Indian hill station is

invisible to most other eyes, and despite the damp in the cellar. I don't think our ownership of it has disadvantaged anyone other than possibly ourselves, depending on whether and how much it declines in value. When we decide to sell it, as we inevitably shall, I shall think of the moment when Dad won the pools and it occurred to me that interesting houses needn't always belong to someone else: that people like us could buy them if we had the money – or could borrow it. That notion changed everything, not always for the better.

Ian Jack writes a weekly column for the Guardian and contributes to other sections of the paper. This article originally appeared in the Guardian (bit.ly/1b1waA0) www.theguardian.com



BUILDING NEW PE FROM **PTY HOMES** BY DAVID IRELAND. CHIEF EXECUTIVE OF EMPTY HOMES

A RELATIVELY SMALL AMOUNT OF MONEY COULD BRING THOUSANDS OF HOMES **BACK INTO USE**

ur country's population is growing faster than our housing stock. The human consequences of this are profound. With greater demand on each house, prices have gone up, meaning many people have to settle for smaller homes than they would like and an increasing number of people on lower incomes have been priced out altogether. Added to this there is increasing pressure to zone more open land for development. The maddening truth is that whilst all of this is going on, there are over 700,000 homes in England standing empty. Many are dilapidated and derelict, but the majority are actually in reasonable condition. A new bathroom suite, new kitchen units or fixing a few bits of disrepair might be all that is needed to get another house onto the market. Recent surveys have shown that the average empty house only needs about £10,000 spending on it to make it habitable. That doesn't sound like a lot of money to create an additional home, but unfortunately for many owners it's money







THERE ARE OVER 700,000 HOMES IN ENGLAND STANDING EMPTY. MANY ARE DILAPIDATED AND DERELICT, BUT THE MAJORITY ARE ACTUALLY IN REASONABLE CONDITION

that's currently hard to find. Most empty home owners are ordinary people who may have inherited the house or bought it in the past as an investment. They don't have thousands of pounds lying around in cash and borrowing the money they need from high street lenders has become increasingly difficult.

That's why I felt it was so important to create a specific empty homes loans fund that filled the gap. A relatively small amount of money could bring thousands of homes back into use. Repayments would go back into the fund creating a revolving loan fund that can go on lending for years.

George Clarke the TV presenter architect and campaigner agreed and he made it a major part of his Great British Property Scandal campaign that was broadcast on Channel 4 in 2011 and 2012.

The campaign was successful and last year the government agreed to provide the lending capital to set up the National Empty Homes Loans Fund in England. I'm delighted that the governments in Scotland and Wales have also set up their own empty homes loan funds and I have recently been in Northern Ireland helping them develop one there too. Lending money to get empty homes into use is not bad business. In fact, it helps owners create the rental income that repays the loan. But it does require an individualised approach that understands each case. That's why I believe my charity Empty Homes' expertise, along with the ethos and track record of such partners as Ecology Building Society, can make these loans available to people and help bring otherwise wasted homes back into use.

David Ireland is chief executive of the charity Empty Homes. www.emptyhomes.com





OUR SUSTAINABLE HOME: RICHARD & SOPHIE

What to you makes a home 'sustainable'?

1) That the building used resources intelligently and responsibly when it was built. For example, using waste streams to build it rather than creating waste streams. 2) That the building encourages local trade and craft through its choice and use of materials. 3) That the building be designed with a fabric first approach to reduce resource consumption. 4) That the building be a joyful and inspiring place to live and thrive. 5) That the building does not create a financial burden for the occupants. A small mortgage means that our lifestyle can be sustained healthily.

Why did you decide to build and live sustainably?

Our own ethical values led us along this path. We find it increasingly satisfying to enhance every facet of our lifestyles to be more sustainable; so many aspects of modern culture are underpinned by unsustainable behaviour.

How long did the project take and what was one of the biggest challenges?

It took nine months to get the design ready for the planning application, 11 weeks to get planning, six further months of research and planning, then one year to build. The biggest challenge was to create what is now the largest spanning timbrel vaulted arch in the world!

What's your favourite sustainable feature and why?

It would have to be the arch. It is conceptually conceived as us having 'peeled' the land up to nestle our 'viewing hide' beneath. The arch is built by hand using handmade tiles formed using clay found near our local village. The money spent on materials has gone straight back into our local economy. Upon the eggshell thin structure is over 100 tonnes of sub-soil derived from the site which supports a wildflower meadow created from seeds from a nature reserve less than a mile away. It is now a flourishing habitat and home for mice, weasels, lizards as well as many other insects, flora and fauna. In every aspect of its creation the arch is an inspiring testament to sustainable design.

What would your advice be to someone looking to make their own home more sustainable?

Try to reduce the amount of energy something needs before trying to 'plug' any tech into the house. Fabric first.

Look at ways of using low embodied energy materials, even waste materials, to reduce the impact of the works on resource consumption. Cradle to Cradle. Don't be afraid to work with people to try and move ideas/ techniques or technology forward. It can be very rewarding.

"WE SHAPE OUR BUILDINGS, AND AFTERWARDS, OUR BUILDINGS SHAPE US"

- FORMER BRITISH PRIME MINISTER SIR WINSTON CHURCHILL

"SUSTAINABILITY TAKES FOREVER. AND THAT'S THE POINT" - ARCHITECT WILLIAM MCDONOUGH

"What works good is better than what looks good. Because what works good lasts" - designer Ray Eames

"ALWAYS DESIGN A THING BY CONSIDERING IT IN ITS NEXT LARGER CONTEXT – A CHAIR IN A ROOM, A ROOM IN A HOUSE, A HOUSE IN AN ENVIRONMENT, AN ENVIRONMENT IN A CITY PLAN" – ARCHITECT ELIEL SAARINEN



"A HOUSE IS NO HOME UNLESS IT CONTAINS FOOD AND FIRE FOR THE MIND, AS WELL AS FOR THE BODY" – 19TH CENTURY WRITER MARGARET FULLER

CO-OPERATIVE HOUSING AND RADICAL SOCIAL CHANGE

RADICAL ROUTES IS A SECONDARY CO-OPERATIVE, PROVIDING SUPPORT AND GUIDANCE TO SMALL HOUSING AND WORKER CO-OPERATIVES ACROSS THE UK.

> t grew from a group of people looking to create a free university in Birmingham, and was born in the 80s as a way of setting up housing co-operatives. Starting out with small groups informally lending money between themselves, Radical Routes evolved into what it is today: a network of co-ops and individuals working for radical social change.

Blue & Green Tomorrow caught up with Al Jack, who works for the organisation.

WHY DOES RADICAL Routes exist?

It exists to support co-ops that are committed to some sort of radical social change. We run a load of schemes where we can make loans to housing and other co-ops.

If you're buying a property, you can normally secure 70-80% as a mortgage from a mainstream bank, but obviously you need to find the 20-30% as a deposit. Radical Routes tends to lend all or part of that, and the difference is made up of loan stock from friends and family supporters. The finance team at Radical Routes has got a lot of experience and has developed a model business plan for housing co-ops. Both Triodos Bank and Ecology Building Society are some of the main mortgage lenders, and now like to see housing co-op business plans put in the Radical Routes model spreadsheet because they know it works.

If you go to a bank and your business plan doesn't stack up, they throw it back at you; if you come to Radical Routes and your business plan doesn't stack up, we work with you to try and make it work. Obviously, if it's completely unviable we're not going to lend, but quite often you can sit down with people, change a few things and make it work.

WHAT IS A CO-OPERATIVE?

It's a form of tenant controlled housing. Within the Radical Routes rules, the cooperatives have to be fully mutual, which means they're common ownership organisations. There are other models where it's a co-operative but with equity holdings. Co-operation can take many forms, and we work on one specific one because of our ideology that homes are a right and not something to be traded and made money out of. But there are co-ops out



WE EXIST TO SUPPORT CO-OPS THAT ARE COMMITTED TO SOME SORT OF RADICAL SOCIAL CHANGE

there where people buy an equity share and day-to-day are very similar, but their legal underpinning is a bit different.

WHY IS IT ATTRACTIVE FOR SOMEONE TO JOIN A CO-OPERATIVE?

There are two sides: one is co-operative living – that actually sharing a lot of your life with a group of people lets you do a lot of things you wouldn't be able to do by yourself.

I'm living on a 28-acre smallholding. I'd be selling my soul to a job and working 40-plus hours a week if I did it on my own. Whereas by doing it co-operatively, I can work two or three days a week, and spend two or three days working on the farm. It enables me to both actually live in a place like this but enjoy living in it.

TELL US MORE ABOUT THE ROOTSTOCK ETHICAL INVEST-MENT INITIATIVE.

Rootstock was set up to provide the money that Radical Routes uses to lend to co-ops. Quite a lot of that goes to help set up new co-ops, although increasingly existing co-ops are taking out second loans to refurbish homes or invest in renewable technologies.

What Rootstock does is it uses the withdrawable share model. Societies that registered under the old Industrial and Provident Societies Act, which is now becoming the Co-operatives and Community Benefit Societies Act, are able to issue a form of share capital which is withdrawable. This means that it doesn't increase in value in the same way that a share in a company would. So if you invest £10, it's always worth $\pounds 10$ – unless it goes wrong. We pay interest on it annually but it is withdrawable, so you can get back from society unlike normal shares which you have to sell on if you want your money back.

There's a lot of interest in this at the moment, and there's been a lot of community projects looking to use money. It's a way of raising money from your members and supporters.

The principle has been enshrined in legislation and this is the current form of it. What Rootstock does is it enables people who want to support co-ops to invest, and buy shares in Rootstock. We then pass that money onto Radical Routes, which uses it to lend out and make loans to co-ops.

Al Jack works for Radical Routes. www.radicalroutes.org.uk www.rootstock.co.uk

CREATING A LOW-CARBON HONE OF YOUR OWNERS DE RICHARD GRIFFITHS, BUSINESS DEVELOPMENT MANAGER AT PARITY PROJECTS



MANY PEOPLE GET CARRIED AWAY WITH EXCITING TECHNOLOGIES SUCH AS SOLAR PANELS AND HEAT PUMPS, WHEN IN FACT THEY ONLY MAKE (FINANCIAL) SENSE FOR A RELATIVELY SMALL PROPORTION OF HOMES Tith energy prices on a seemingly never-ending upward spiral, more and more people are

taking energy efficiency seriously. The fact is that the UK has some of the oldest, coldest and leakiest houses in Europe. and fixing the problem will have benefits for everyone in the form of lower bills, reduced carbon emissions, greater energy security, jobs and growth and, of course, warmer, more comfortable homes. Unfortunately, 'retrofit' (as energy efficiency improvements are often called) isn't always the easiest thing for a householder to get their head around. There are so many different measures to choose from, with each manufacturer making claims about how their product is the most essential. And if you visit information websites, they are usually packed with generic facts and figures that apply to a mythical 'typical' house or the 'average' family. But who exactly is this average family and where is their typical house? We've certainly never come across them. At Parity Projects, we believe that every house unique. Some differences are obvious, other less so. Even neighbouring properties, built by the same people at the same time, that look the same from the outside, may have had different changes made over the years - from new windows to extensions and loft conversions. Then there are the people inside. The most appropriate energy efficiency





EVERY RETROFIT PROJECT SHOULD IDEALLY START WITH AN IN-DEPTH ASSESSMENT THAT COMPARES THE DIFFERENT OPTIONS AVAILABLE AND ANALYSES WHICH ARE THE MOST APPROPRIATE FOR THAT PARTICULAR HOUSE AND ITS OCCUPANTS

measures for a professional couple tend to be very different to those needed by a large family. Each household is also likely to have its own aspirations, budget and timescales, all of which will affect the best way to improving their home's performance.

That's why every retrofit project should ideally start with an in-depth assessment that compares the different options available and analyses which are the most appropriate for that particular house and its occupants. It's something that the government has recognised in its development of the national green deal scheme, which requires customers to start the process with a basic assessment. And it's why we developed our awardwinning Home Energy Masterplan service. We look in great detail at the physical characteristics of property and its occupants – their lifestyle, aspirations and budget - and analyse which of the multitude of options available will best meet their specific needs. And after many hundreds of assessments we're often still surprised by the results.

A good assessment can save a great deal of unnecessary expense and disappointment. It's easy, for example, to assume that installing double-glazed windows will solve your energy problems, but it may be that you can make bigger savings at much lower cost with a bit of draft-proofing and some additional insulation in your loft loft. Likewise many people get carried away with exciting technologies such as solar panels and heat pumps, when in fact they only make (financial) sense for a relatively small proportion of homes. It's also important to account for your wider plans. If you're thinking about re-decorating, installing a new kitchen, or building an extension, seek advice from an expert on what energy efficiency measures you can install at the same time. When undertaken at the same time as other home improvements, the additional cost of retrofit can be much. much lower than if it is undertaken as a stand-alone project.

At the same time, it is important to consider whether you plan to move in the near future, or start a family and so on. These things all make a difference to what you should do, and how you should go about it.

If all that sounds complicated, don't worry. In recent years the retrofit sector has grown significantly and there are now an every-increasing number of companies out there that can help you with expert advice and support – from up-front planning to project management services. With a little bit of careful planning, there is no reason why your house can't be an 'eco' house, and in most cases it should be achievable at a very reasonable cost. And if you do it right, you'll never have to dread a cold winter ever again.

Richard Griffiths is business development manager at Parity Projects. www.parityprojects.com



PASSIVHAUS: MAXIMISING COMFORT WHILE MINIMISING ENERGY

IN THE LATE 80S, TWO BUILDING RESEARCHERS – BO ADAMSON OF LUND UNIVERSITY, SWEDEN AND WOLFGANG FEIST OF INSTITUTE FOR HOUSING AND THE ENVIRONMENT, GERMANY – CAME UP WITH AN IDEA TO MAXIMISE THE COMFORT OF HOMES WHILE DRAMATICALLY REDUCING THEIR ENERGY USAGE. THE RESULT WAS THE PASSIVHAUS STANDARD, BY WHICH OVER 25,000 PROPERTIES AROUND THE WORLD ARE NOW CERTIFIED.

> n the UK, the Passivhaus standard has been promoted and protected by the Passivhaus Trust since 2010. It's a very new concept, with around 200 complete and certified passive houses currently. But with over 500 Passivhaus-certified buildings in the pipeline, within two years there is set to be over 1,000 homes with the accreditation.

The Passivhaus Trust's chief executive Jon Bootland tells Blue & Green Tomorrow more.

WHY DO WE NEED THE PASSIVHAUS STANDARD?

There are consistent problems in the performance of new homes around their energy use, ventilation and potential overheating risks, and therefore the wellbeing of the occupants. Passivhaus, as a lowenergy and comfort standard, gives you a software tool and a standard to come up with a solution that addresses all of those things and resolves them all for you. The Passivhaus Trust promotes the standard in the UK, ensures its integrity, and makes sure that when Passivhaus buildings are built to that standard, they do what they say. It's a very high quality standard that has a lot of rigour in its approach.

WHAT IS A PASSIVHAUS?

It's a very low-energy building that provides optimal occupant comfort conditions, adjusted for the local environment. More specifically, it's a building that can meet all of its heating energy requirements, simply by heating small amounts of ventilation air coming into the building. You need very little heating.

IS THE DEFINITION OF A SUSTAINABLE HOME DIFFERENT?

Passivhaus is an energy and comfort standard only. That's all it does. It does that very well, and very few other people can do that at the minute.

A sustainable home must address lots of other things as well, such as the kind of materials that you use in the home, or whether you've got green space nearby, or whether you're sited near public transport links or local amenities. Passivhaus doesn't address any of those; it just sorts out very well the energy and comfort parts.





G PASSIVHAUS IS A VERY HIGH QUALITY STANDARD THAT HAS A LOT OF RIGOUR IN ITS APPROACH



IS THE PASSIVHAUS STANDARD FOR NEW HOMES ONLY?

No, there is a Passivhaus standard for retrofit as well. It's a very exacting standard, so it's not something to be undertaken lightly. And it is slightly less demanding than the new-build standard, because it needs to take into account things that you can't change, like the orientation of the building, which affects how much sunlight you'll gain during winter months for example. You can't change that when your house is already built, so we have to make an allowance for that on existing homes. It's also very difficult to insulate underneath the floor in an existing building, so the standard is relaxed slightly for a refurbishment project, but it is still very demanding.

CAN THE PASSIVHAUS STANDARD BECOME MAINSTREAM?

I'm not sure it's going to be a product for the mass market house builders for a few years. That's because the main benefit is in the running costs, which benefit the occupier, not the builder! Heating bills might be $\pounds 100 \pounds 200$ per year for a Passivhaus, compared to $\pounds 1,200 \pounds 1,500$ a year for a typical home. That's an enormous difference. If you're a private buyer and this is going to be your house for life, and you're going to be retiring into this house and owning it for 20 years, saving $\pounds 1,500$ a year on your heating bill makes a lot of sense. You'll have a much higher quality home, it should retain its value better and it should be easier to maintain, so it's worth paying a little bit extra in order to have that saving. But if you're a major house builder and you're just going to sell the houses and then leave, the savings will accrue to the person who buys the house and lives there – not the person who built it.

WHAT DO YOU SEE OF THE FUTURE OF SUSTAINABLE HOMES?

The government is very keen to water down and relax standards at the minute. The Housing Standards Review is underway at the minute and it seems likely that the Code for Sustainable Homes might be axed, for example. So in broad sustainability terms, I think the immediate future looks a little bit bleak.

But for low-energy homes, I think it's a different matter. The government is still committed to improving the standards of new homes towards the Passivhaus level and Passivhaus is still above what current regulations require.

Buyers and homeowners are also starting to get switched onto it. There was some

research last year that showed people expect an energy efficient home to hold its value better and to be worth more in the long-term, so I think homeowners will start to recognise the value of having a very lowenergy and energy efficient home. I think that will start to drive the market on the energy efficiency front.

In addition, as well as being a good investment for individual, high-end homeowners, I think that Passivhaus also makes a lot of sense for housing associations whose tenants are in fuel poverty to have very low fuel bills. So the future for Passivhaus could be bright indeed.

Jon Bootland is chief executive of the Passivhaus Trust. www.passivhaustrust.org.uk



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MY SUSTAINABLE HOME: KIM

What to you makes a home 'sustainable'?

Dunbalen is a simple, natural home, sustainable due to its low environmental impact on the immediate and wider environment, the materials and methods used in its construction and its low carbon footprint to run and maintain. It sits in harmony with the natural surroundings and is built using low embodied and carbon neutral materials, as well as renewable, reused and reclaimed fixtures and fitments. Materials were sourced locally as much as possible and we used local labour. Very little energy is required to run and maintain the house due to the high insulation (straw bale and sheep's wool) and airtightness of the design.

What inspired you to build a sustainable home?

We were inspired to build a

sustainable home because we wanted to live a low impact life. Living in a sustainable home fills us with contentment in the knowledge that we are actively doing what we can to support our natural environment.

How long did your build take to complete and what was the biggest challenge you faced?

From start to finish of the actual build, took just over two years. Albeit from buying the site to getting a completion certificate it took four years! The biggest challenge we faced was caused by our architect; a personable chap, but the lack of working drawings and clear communication caused a huge amount of stress for us. Our very patient and understanding eco-builders really helped us through!

What's your favourite sustainable feature and why?

It's impossible to choose just one favourite sustainable feature! My top three are:

1) The straw bale, airtight design and build because the house is constantly warm and needs almost no heating.

2) The reclaimed 100-year-old, solid pine kitchen from Duncraig Castle in Plockton which adds a unique character and charm to the heart of the home.3) The larch cladding on the outside because we can see the hill where the trees grew from our window!

What would your advice be to someone looking to make their own home more sustainable?

Keep it simple, keep it real, take it one step at a time and have fun in the process!

Finaly, a mortgage built for se f-dui c

Because no two self-build projects are the same, neither is our approach to lending. That's why our mortgages include staged draw-downs, tailored payments, a maximum loan to value of up to 90% and application fees of just £300. We specialise in lending for eco-friendly projects and our discounts reward sustainability and energy efficiency.

Finance built around you. At Ecology we've built our reputation on it.

0845 674 5566 www.ecology.co.uk



YOUR HOME MAY BE REPOSSESSED IF YOU DO NOT KEEP UP REPAYMENTS ON YOUR MORTGAGE. Our current Standard Variable Rate is 4.90%. The overall cost for comparison is 5.1% APR. Rates correct at date of going to print (1 October 2013). An early repayment charge may be payable if you repay all or part of your mortgage within the first two years. Authorised by the Prudential Regulation Authority and regulated by the Financial Conduct Authority and the Prudential Regulation Authority. Financial Services Register No. 162090.

Ecology Building Society, 7 Belton Road, Silsden, Keighley, West Yorkshire BD20 0EE

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NUMBER OF INITIATIVES, ARE HELPING TO SUPPORT THIS DEMAND.



he practice of self-building gives individuals the opportunity to create their dream home and tailor it to fit their requirements. It also allows people to utilise advances in house building and technology, including eco-features, which may take years to filter through commercial housing developments. However, it also presents additional challenges and obstacles. Ted Stevens, chair of the National Self Build Association (NaSBA), commented

on the growing popularity of self-build. "We believe there is a huge appetite in Britain, especially from young families on modest incomes, to build a truly affordable home for themselves", he said. "A recent survey commissioned by the NaSBA found that one in eight Brits expect to research how to build a home for themselves in the next 12 months, and around one in 50 expect to buy a building plot, obtain detailed planning consent or start construction on their self-build home during the coming year or so." Stevens described the findings as "extremely encouraging", adding that if the findings were applied to the nation as a whole it would suggest that 6 million people were currently looking into the feasibility of undertaking a selfbuild project.

He continued, "The fact that 1 million people have already moved to the next stage – and are either actively hunting for a building plot, have already acquired one or are now building their home shows there is a growing army of self builders tooling up for the future. "These findings suggest that there is a huge appetite to build a home in the UK and that there will be many more self build homes completed in years to come. This presents a massive economic opportunity for the country, including significant opportunities for suppliers,





local builders, and lenders."

The main impediments to the UK self-build market are a shortage in the building plots available, the high cost of land and a restrictive planning regime. NaSBA was formed in 2008 in order to put pressure on relevant bodies to remedy the situation.

Despite these improvements, the recession has affected the market. Three years ago, former housing minister Grant Shapps declared that he would push through a "revolution" in self-builds, resulting in new builds constructed in this way soaring from 10% to 25%. However, a report from Homebuilding & Renovating magazine shows that in the year to September 2012, the number of self-build homes completed across the UK was 11,870, representing around 9% of the total volume of new homes. The fall was linked to the number of mortgages available to self-builders. "The self-build mortgage market hasn't recovered in the same way as the mainstream – it has actually gotten worse", Calum Kerr, a self-build specialist at mortgage broker SPF, told the Home Owners Alliance at the time.

The government has attempted to boost the number of self-builds recently with a number of incentives. A proposed exemption from Community Infrastructure Levy charges for self-builders could boost the market. The potential savings, up to 10% to 15% of build costs, could encourage more individuals to take the plunge. In addition, the provision of a $\pounds 17m$ government fund, which can be accessed by community-led self-build projects, and the launch of the first National Self Build Week earlier this year will continue to raise the profile of the industry and highlight the different options to the public. NaSBA recently acknowledged that there appears to be new opportunities on the horizon but noted that a good number of the projects will not get on site until 2014 or later. As a result, it will take some time for any positive impact to filter into the statistics.

As incentives encourage people considering self-building to progress to the planning stage, the future of the self-build industry should become more robust. Sustainability will also continue to be a key factor in custom-built houses. Consumers desire cheaper running costs, and sustainable and environmentally friendly technology can often aid this. Well-insulated housing with renewable energy sources, such as solar panels or ground-source heat generators, can keep future costs low and as a result are an attractive prospect for many self-builders. Government regulations will also impact on self-builders as minimum standards become more stringent and the Code for Sustainable Homes (CSH) level gradually moves up the scale.

The CSH is a set of criteria against which a building's eco credentials can be measured. The CSH is measured on a scale of one to six, with six indicating the highest performance. The level three energy standard is now incorporated in the building regulations. It is anticipated that the building regulations as well as the minimum mandatory CSH level will continue to improve until the 2016 'zero-carbon' target.

All in all, increasing demand from individuals and evolving supply from the industry itself mean the future is very bright indeed for self-build projects, which could well central to future UK housing developments.

ENVRONMENT Conscious Building

ANDREW SIMMONDS, CHIEF EXECUTIVE OF THE ASSOCIATION FOR ENVIRONMENT CONSCIOUS BUILDING (AECB), TELLS BLUE & GREEN TOMORROW HOW THE ORGANISATION'S 1,400 INDIVIDUAL AND ORGANISATIONAL MEMBERS ARE ATTEMPTING TO SHIFT THE UK ONTO A PATH OF SUSTAINABLE DESIGN AND CONSTRUCTION.



SUSTAINABILITY IS A WORKING CONCEPT. IT'S A HOLY GRAIL

WHAT IS ENVIRONMENT CONSCIOUS BUILDING?

It is when we build with a clear awareness of our place in the biosphere – the human ecological niche. The more we understand about the impact of materials sourcing and building practices – as well as the impact of buildings in use – the more environment conscious we become. This obviously requires multidisciplinary thinking – and this was one of the key aims of the original group who set up the AECB and underpins AECB activity to this day.

WHAT IS THE AECB'S DEFINITION OF A SUSTAINABLE HOME?

Sustainability is a working concept. It's a holy grail - to live in balance with the natural world.

You could argue that spending an awful lot of money at a particular point in history in order to make something that is as low impact as possible, is not sustainable, because only wealthy people can do it. However many such projects do offer valuable insights into strategies and techniques, materials and products that might offer more sustainable ways of building. The AECB tries to facilitate clear discussion of the issues, draw out what worked and what didn't and always encourages honest sharing of experiences, emphasising the need for real world data on building performance.

There is no clear definition of what a sustainable home is, but the AECB is trying to make sense of it by concentrating on principles of robustness, integrated strategic thinking, reporting via clear performance metrics and use of ambitious and clearly defined energy and comfort standard targets.

No man is an island, so for a single isolated building to be super energy efficient and generating all its own heat, power and water (i.e. the autonomous house model) is not necessarily a sustainable solution – at scale – although it might be seen as a very green approach for that building. It's about developing low impact new-build and refurbishment solutions that work appropriately at building, street, estate, village, town and city scale.

IS THERE A TYPICAL PERSON WHO LOOKS TO MAKE THEIR HOME LESS DAMAGING TO THE ENVIRONMENT?

Probably not. AECB members represent a cross-section of people from across the industry and professions – as well as students, self-builders, tenants and owner occupiers.

People seem to start at different places. It may be a concern for the environment, their children or grandchildren; it may



SENSIBLE, EFFECTIVE, INTEGRATED, DEMOCRATIC AND HOPEFUL GOVERNMENT POLICIES WOULD GIVE US ALL A REAL SENSE OF PROGRESS

be their health; their need for improved comfort levels and lower bills; it may be because they love tinkering around with or exploring new technologies or materials; sometimes their own business case may lead them to adopt an environment conscious approach.

Wherever people start from, we do say quite clearly to people that the priorities are to reduce your energy demand (be as 'lean' as you can), and make sure you do that in a way that is healthy, safe and robust – we are very aware of unintended consequences particularly from energy efficient retrofitting of existing buildings. We do have a social conscience at the AECB. We're very aware of the political side of construction and particularly sustainable construction – and the social aspects to energy, climate change and built environment policy.

WHAT DOES THE FUTURE OF THE HOUSING MARKET LOOK LIKE IN TERMS OF SUSTAINABILITY?

Currently, it's obviously abysmal. That goes without saying. I think a lot depends on the 2015 general election result. For the green building movement we have a very unsympathetic administration at the moment – and although a good clearout of green building codes or standards that may not be working might be attractive, the question needs to be asked, what will replace them?

The principle of enshrining green building practices in the building regulations offers a nice moment of simplicity and clarity – but they need to be more ambitious. Speaking hypothetically and with complete modesty, if the AECB was tasked with developing the next government's sustainable built environment policy, you would see something sensible, effective and with huge economic and environmental benefit.

Currently the things we'd like to see happen are not really finding fertile ground.

That probably goes for most environmentalists or climate change scientists; it's a pretty depressing time for us at the moment. After 2015, we don't really know what might happen, but either way I think we're going to be going through some very rocky times for a long period. Having said that, sensible, effective, integrated, democratic and hopeful policies would give us all a real sense of progress. All political parties need to get to grips with integrated energy and buildings policy – and to shake loose from corporate lobbying that is twisting thinking about this hugely important area and preventing development of an effective buildings, energy and climate change strategy. Meanwhile, I think there will be a slow but constant increase in numbers of people wanting to install energy efficiency measures – led by the wealthier, by those downsizing and those retiring or retired people hunkering down for an energy expensive old age.

Properly built or refurbished sustainable homes, with a real focus on build quality, attention to detail, energy efficiency and air quality, for example as exemplified by the Passivhaus approach, produce excellent results, and this is becoming more and more evident.

The homes produced using the Passivhaus methodology are very comfortable. They do what they say on the tin and there is usually no significant performance gap – certainly not if fully certified. This, for the first time in the UK, represents a building methodology that delivers good, consistent results – and as such it should be invested in.

Andrew Simmonds is chief executive of the Association for Environment Conscious Building. www.aecb.net





MYTHBUSTING ON SUSTAINABLE HOMES

BY ISABEL ALLEN & SIMON MCWHIRTER, HAB HOUSING

ab Housing was established by Kevin McCloud (Channel 4's Grand Designs) to tackle the shortage of environmentally-friendly and beautifully-designed housing at the affordable end of the market. Hab, which stands for Happiness Architecture Beauty, is currently in the process of raising crowd-sourced investment to fund its mission to bridge the gap between custom-build and the volume housing market.

Isabel Allen and Simon McWhirter explore some of the myths that surround custombuild and explain why it has a key role to play in tackling the UK's housing crisis.

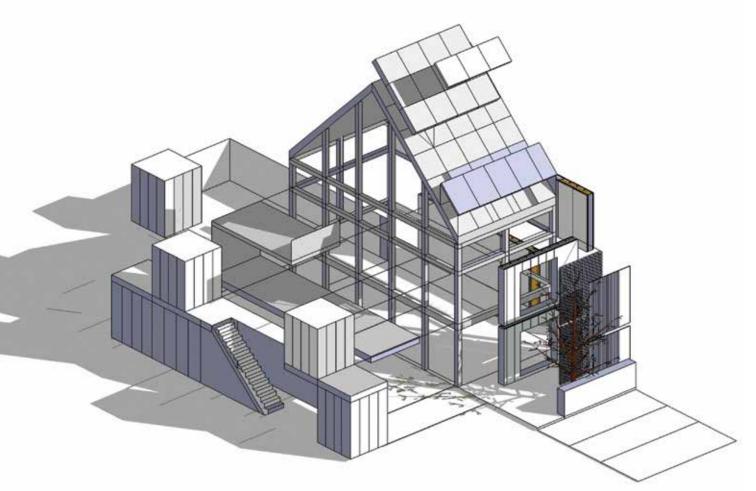
MYTH ONE: CUSTOM-BUILD IS EXPENSIVE

It doesn't have to be. We are very mindful that the British public has been bombarded with tales of grands projets - expensive dreams that cost the Earth. But it doesn't have to be this way.

On the continent, custom-build is seen not as a self-indulgent hobby, but as a means of bringing the cost of home ownership down. Yes, a one-off folly surrounded by extensive grounds is always going to be expensive. But we're not talking about that. We're talking about ordinary, modest, housing – often in terraces.

But rather than showing the customer a finished house and saying, "Lump it or leave it", we want to establish what it is they really want to buy. In some instances they may want to buy a bare shell with a view to 'camping out' until they have raised





more money to build in, say, an upper floor. In others, they may have the skills – or the contacts – to carry out much of the work themselves.

MYTH TWO: CUSTOM-BUILD HOUSES ARE WACKY AND ECCENTRIC

Great! We're all for eccentricity. That said, our primary aim is to offer our customers the chance to own their own home for as low a price as possible. In practice, this means rational, economic houses; whilst we have spent a lot of time working on the best possible designs, the starting points for them are - for the main part - essentially very simple rectangular forms. Bearing that in mind though, we'd be disappointed if customers didn't make their mark on their homes. One of the things that makes volume house-building projects so stultifying is the sense of sameness – the fact that they lack the variety of settlements that have grown organically over time.

MYTH THREE: IT'S RISKY

Building projects are notoriously risky, especially those with an amateur at

the helm. They ride roughshod over programme and budget, causing an awful lot of grief to all concerned. Our mission is to make the whole process less risky and to iron out the kinks. We've designed, tested and – crucially – costed a range of potential house types and so can give an accurate idea as to what any given project is likely to cost. Oh, and all of our plots are set within a carefully thought through masterplan with really high-quality public realm, doing away with the very real risk that you end up with a house that you love in surroundings you hate.

MYTH FOUR: CUSTOM-BUILD PROJECTS TAKE FOREVER TO GET OFF THE GROUND

They can, and they do. But ours won't. Why? Because we take care of the stuff that makes projects get stuck at the starting gate.

We'll get outline planning consent for our schemes before we market individual plots so that buyers can rest secure in the knowledge that they're investing in a realisable dream. And we'll make sure that all our sites have the services (like water, electricity, etc) they need.

MYTH FIVE: YOU CAN'T GET A MORTGAGE TO BUILD YOUR OWN HOUSE

Availability of finance is a real problem for British self-builders and custombuilders. But things are changing fast, and our strategy of de-risking custom build will make the process infinitely more attractive to lenders.

Our plan is to work with mortgage companies to smooth the process of accessing suitable finance for your project and will assist our customers with the range of options available.

> Isabel Allen and Simon McWhirter are directors at Hab Housing. www.habhousing.co.uk

Architecture Beauty

SUPERHOMES FOR A SUPER FUTURE

SOMETIMES. WHAT'S NEEDED WHEN MAKING A CHANGE IN YOUR LIFE IS A TESTIMONIAL FROM SOMEONE ELSE WHO'S ALREADY MADE SIMILAR CHANGES. AND WHEN IT COMES TO TRANSFORMING YOUR HOME INTO A BEACON OF SUSTAINABILITY, IT'S NO DIFFERENT.



PEOPLE **DON'T WANT THEIR HOUSES TURNED** INTO A TARDIS. WE SHOW THEM THAT THIS DOESN'T HAPPEN

perated by charity the Sustainable Energy Academy, the aptly-named Superhomes initiative displays low-energy properties to the public – in September and March – coinciding with events led by Heritage Open Days and London Open House.

Its aim is to really champion these buildings, whose owners have put so much time and effort into creating a home that is efficient, sustainable and infinitely more comfortable.

John Doggart, chairman of the Sustainable Energy Academy, explains why

Superhomes is an essential piece of the sustainable homes jigsaw.

WHAT IS SUPERHOMES?

Superhomes is a network of retrofitted houses throughout the country which save an enormous amount of energy and at least 60% of their carbon. These are old houses - very often Victorian or Edwardian – and people can make changes without spoiling the looks.

They open to the public so people can see, touch and feel for themselves what it's like. Too often, people who make these policies don't realise that these are the kind of houses people know and love. People don't want their houses turned into a Tardis.

We show them that this doesn't happen; it's just like their own home, except now they're more comfortable and use much less energy.

WHERE DID THE IDEA COME FROM?

I started Superhomes about six years ago. If you imagine that someone was trying to sell you a mobile phone and you said, "Well, what does it do?" and they reply, "I can't tell you." So you ask, "What does it look like?" and they reply, "I can't really tell you." So you ask, "How much does it cost?" and they reply, "I can't really tell you but you've got to buy one." You would say, "Bugger off!" But then that's just what is happening when it comes to buying these energy

I DON'T QUITE KNOW WHY WE'RE ALL SO EMBARRASSED ABOUT TALKING ABOUT SAVING THE PLANET, BUT OUT THERE, PEOPLE ARE DOING THESE THINGS BECAUSE THEY WANT TO MAKE A CHANGE

efficiency features. Superhomes is a no-brainer when you look at it that way. We're trying to give examples of what people are being asked to do. We then go and visit people who want to show off their homes; we measure the house very carefully and then stick the details into a very accurate computer programme. That works out how much it would cost to run it with an average family. We then degrade it in the computer down to what it was like before they started to find out what the fuel bills would be then. The difference between the two is the saving that has been made.

WHAT IS PEOPLE'S MOTIVATION?

Most of the people are concerned about global warming, but they also want to save money. If I had to narrow it down to one answer, I'd say it's pretty equal between the two.

The people who come to see the buildings are about the same as well. Most people want to save the planet and the wallet.

I don't quite know why we're all so embarrassed about talking about saving the planet, but out there, people are doing these things because they want to make a change. It may just be the early adopters who are doing it – that's quite possible – but it's a strong motivating cause.

Increasingly, though, the third reason that is coming up is comfort. Doing these things turns a house from a one-star comfort into a five-star comfort. It makes it a lovely place to live in.

WHAT MAKES UP A SUSTAINABLE HOME?

I could say what features we tend



to find as basics: solid walls, wall insulation, double glazing, insulated flooring, low-energy lighting, draught stripping and a good boiler. Those are the basic bits of it all.

In my own house, I've got those things, but what's interesting is that there's no solar panels on my roof because it's overshaded, but I still save 70% of the carbon I would emit.

Things that you will see increasingly are solar panels, photovoltaics, biomass boilers, heat pumps and some sort of ventilation strategy.

WHAT WOULD YOU SAY TO PEOPLE WHO THINK IT'S TOO DIFFICULT TO MAKE THEIR HOME SUSTAIN-ABLE?

Go and have a look at a house. Talk to the homeowner, who is just like you, and find out that it wasn't so difficult after all, and that in fact, your comfort will be vastly increased. John Doggart is chairman of the Sustainable Energy Academy, the charity that initiated SuperHomes. Superhomes estimates that 90% of the population are within 40 minutes of one of its 170 properties. To find one near you, visit www. superhomes.org.uk.



TRANSITION TOWNS IS THE ONLY ETHICALLY DEFENSIBLE THING TO DO

AMERICAN ANTHROPOLOGIST MARGARET MEAD'S FAMOUS QUOTE ABOUT A "SMALL GROUP OF THOUGHTFUL, COMMITTED PEOPLE" BEING THE ONLY THING THAT HAS EVER CHANGED THE WORLD COULD HAVE BEEN SAID ABOUT THE TRANSITION TOWNS MOVEMENT.

RESILIENCE IS THE VITAL MISSING PART FROM DISCUSSIONS ABOUT SUSTAINABILITY

aunched in 2005 in Totnes, Devon, in response to environmental and economic pressures, offshoot initiatives initially spread elsewhere in the UK. Now, there are Transition Towns in communities across the US, Canada, Australia, South Africa, New Zealand, Brazil and more. The man behind it all is Rob Hopkins, and he spoke to Blue & Green Tomorrow about his project's meteoric success.

WHAT IS THE TRANSITION NETWORK?

It's really an approach which is about what a community-led response to climate change, the end of the age of cheap energy and the economic crisis looks like. It's founded on the idea of community resilience, making the places that we live in more resilient to shock and change, and seeing that as a historic opportunity for entrepreneurship, freshthinking and creativity.

WHERE DID THE IDEA COME FROM?

It started in Totnes, and we started an exploration into what a community-led approach would look like, and then it just took off – much to our surprise. We started getting people around the UK picking it up, and then further afield, and there's now not a week that goes by we don't say, "Look what they're doing in South Africa!" or wherever. The original idea was to see how we could create some kind of self-organising approach. It wasn't designed to be like a Coca-Cola franchise; it was designed to be something that people anywhere in the world would pick up. There was enough shape to it that it felt like it was a recognisable, distinct thing, but at the same time there was enough freedom and flexibility for them to make it their own. For example, the Transition movement is just on fire in Brazil, and it doesn't feel like a UK import; it feels like a Brazilian thing. They've developed their own way

of teaching it, communicating it and presenting it, and that's a testament of how we designed it at the beginning.

DO YOU HAVE A CLEAR IDEA OF WHAT A LOW-CARBON ECONOMY LOOKS LIKE?

It's becoming much clearer. When we started, we always framed Transition as being an experiment – and something that we'd only figure out if enough people in enough different places have a go at it, and we could pool that learning and that knowledge. But I think now, we have a sense that it's in part about shifting the focus from inward investment to internal investment, and getting communities to invest in themselves.

We're looking at a model that is going to be focused on localisation, and the things that make sense to do. It's going to be based on resilience and looking at how the things that we do and the businesses that are put in place contribute to that. They're going to be low-carbon and they're going to recognise that we live in a world of limits; not of infinite resource possibilities. They're going to be about bringing resources to community ownership. And often, they're going to be enterprises that serve a wider social purpose – rather than just for profit. Those models are really exciting.



THE WORLD IS ON THE VERGE OF GIVING UP THE IDEA THAT WE CAN ACTUALLY DO ANYTHING ABOUT CLIMATE CHANGE, AND THAT'S WHAT DRIVES ME

HOW DOES RESILIENCE RE-LATE TO SUSTAINABILITY?

Resilience is the vital missing part from discussions about sustainability. Sustainability is generally always a good thing, whereas you can have a very resilient place that is not necessarily good in other ways. But what sustainability doesn't design in is the ability to withstand and adapt to shock.

Sustainability tends to imply a kind of steady state; that you reach a place everything can kind of chug along on a sustainable level. Whether it's because of climate change, our continued dependence on undependable energy sources or the financial crisis, we seem to be entering a time where the possibilities of shocks are increasing.

WHAT ARE YOUR PERSONAL MOTIVATIONS FOR DOING WHAT YOU DO?

Because I can't see any other ethically defensible thing to be doing at this moment in history. I have four sons, and I feel committed to being able to look them in the eyes in 20 years' time and tell them that I did all I could during the time when there was still things that could be done. I was talking recently to a colleague in the US who works for an organisation that funds a lot of climate work. She said that the people she meets at the UN and the US government are giving it 18 more months, and then all the funding that is currently going into mitigation will be moved into adaptation and defence. That's the point that we're at. The world is on the verge of giving up the idea that we can actually do anything about climate change, and that's what drives me. This little window of opportunity will never happen again, and we need to be doing whatever we can to be trying to do something about that.

ARE YOU OPTIMISTIC?

It looks pretty much certain now that we're going to go past 2C of warming. I can't see much of a way that that's not going to happen because we're so nearly there and emissions are increasing if anything. I suppose it's really about whether we can avoid more warming in a very complex system where there are lots of uncertainties.

I always go back to what Paul Hawken said when he was asked whether he was an optimist or a pessimist. He said if you read the climate science and you're not a pessimist, you haven't read it properly, and if you've looked at what people around the world are doing in response to climate change and you're not an optimist, you haven't got a heart. There are no guarantees with any of this. I don't know whether we can make it or not. But it certainly feels like we have to do whatever we can.

Rob Hopkins is founder of the Transition Towns movement. His latest book, The Power of Just Doing Stuff, is available to buy online now: www. transitionnetwork.org/ power-just-doing-stuff.



WHAT TO YOU MAKES A HOME 'SUSTAINABLE'?

WE ASKED SOME OF THE UK'S LEADING ORGANISATIONS INVOLVED IN SUSTAINABLE HOMES WHAT, TO THEM, MAKES A HOME 'SUSTAINABLE'. THESE ARE SOME OF THE BEST ANSWERS.

THERE ARE LOTS OF ASPECTS THAT MAKE A HOUSE MORE SUSTAINABLE, BUT IT IS PEOPLE'S LIFESTYLE THAT MAKES THE STRONGEST DIFFERENCE. USING ENERGY FROM RENEWABLE SOURCES AND ETHICAL PROVIDERS, GOOD ISOLATION, ENERGY EFFICIENT DOMESTIC APPLIANCES, AND WHATEVER THAT MAKES RECYCLING WASTE EASIER ARE ESSENTIAL. HOWEVER, "SUSTAINABILITY" IS ALSO ABOUT REDUCING ENERGY CONSUMPTION AND WASTE, AND ABOUT BEING AWARE OF OUR IMPACT ON THE ENVIRONMENT. THAT'S BEING OPEN TO LEARN HOW TO BE GREENER WHILE MAINTAINING A GOOD STANDARD OF LIVING.

A PROPERTY WHOSE CONSUMPTION OF UTILITIES AND EXPULSION OF CARBON IS MINIMISED AND CONTROLLED TO MITIGATE CLIMATE CHANGE.



GREATER THAN 60% CO2 REDUCTION FOR A TRADITIONAL HOME. COSY, WARM AND ENERGY EFFICIENT

Use of correct materials; efficiency of power use; self-generating power as much as possible; recycling.

Passivhaus principles based on a well-researched and tested 'fabric first' approach – not eco-bling!

A high level of energy efficiency first and foremost. Then green energy. Inside the house, the household should seek to buy and use sustainable products, and food.

Low environmental impact through use of local, renewable, reused and low embodied energy materials in the build; minimum and renewable energy sources to heat and run; maximise use of space to provide for own needs whilst making minimum impact on the environment (grow own food, space to work from home, keeping life simple and natural).



What to you makes a home 'sustainable'?

Γ

Sustainable is word that means different things to different people. Our aim is to create a home that is as energy efficient as possible and to use forms of energy that are renewable, rather than relying on fossil fuels. Being a barn conversion, we have tried to maximise the use of buildings that were already here and to re-use materials where possible. The design of the house makes use of solar gain and we have incorporated very high levels of insulation.

What inspired you to create a sustainable home?

We wanted to create a home that would be less expensive to run than a conventional building (a definite advantage of building sustainably) and to minimise our impact on the environment. We are both interested in design, so it was important to us that the design was attractive.

What do you think is the biggest challenge in creating a sustainable home?

One of the biggest challenges is getting the planners to 'think outside the box'. In our area, they want barn conversions to look like all previous conversions. These are often of poor design that makes them look like a house, rather than a barn. We have yet to gain permission for a sunspace on our main door on the south-east corner, which would draw solar gain into the house and create a buffer zone between inside and out. We want a small area formed from green oak and glass with a stone slate roof. It would greatly improve our energy efficiency but all the planners see is a 'conservatory' which they will not allow on a barn conversion.

What's your favourite sustainable feature in your home and why?

Our favourite feature at present is

the Ecocent system that heats our hot water. This is a small air source heat pump over a water tank that uses warm moist air in the house to heat the hot water. It is very efficient, gives us plenty of hot water and reduces moisture in the house; it's a good alternative to a whole house ventilation system, which we couldn't install because of the difficulty of making an old building air tight.

blue&gree

If we get permission for a sunspace, that will probably become our favourite feature!

What would your advice be to someone looking to make their own home more sustainable?

Improve levels of insulation and cut down on draughts to improve the energy efficiency of the home. Find ways to reduce the amount of energy you need before looking for more efficient ways of providing that energy.

WHAT WOULD YOUR ADVICE BE TO SOMEONE LOOKING TO MAKE THEIR OWN HOME MORE SUSTAINABLE?

WE ASKED SOME OF THE UK'S LEADING ORGANISATIONS INVOLVED IN SUSTAINABLE HOMES WHAT THEIR ADVICE WOULD BE TO SOMEONE LOOKING TO MAKE THEIR HOME MORE SUSTAINABLE. THESE ARE SOME OF THE BEST ANSWERS.

GET SOME GOOD ADVICE FIRST AS IT'S EASY TO PICK THE WRONG OPTIONS. EVERY HOME IS DIFFERENT, AND SO ARE THE SOLUTIONS.

GET TO UNDERSTAND PASSIVHAUS PRINCIPLES.

Insulation elements and reducing the usage of electricity. Assess all the options and work out a proper plan.

DO YOUR RESEARCH AND CONSIDER INVESTING IN AN ENERGY SURVEY TO GET ADVICE TAILORED FOR YOUR HOME.

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Concentrate on maximising the performance of the fabric of the building, using renewable materials wherever possible (e.g. timber).

INVEST IN RENEWABLE TECHNOLOGIES AND ENERGY SAVING MEASURES.

Look for advice. There are loads of websites, magazines (like Blue & Green Tomorrow) and resources out there, plus specialist advisors. Read, ask and act.

KEEP IT SIMPLE, MAXIMISE INSULATION, REDUCE DRAFTS.

USE WHAT IS AVAILABLE LOCALLY.

GOT AND KEEP IT REA

MAKE THE MOST OF WHAT

WHAT SINGLE THING COULD NATIONAL, DEVOLVED AND LOCAL GOVERNMENT DO TO SUBSTANTIALLY INCREASE THE DEVELOPMENT OF SUSTAINABLE HOUSING STOCK?

WE ASKED SOME OF THE UK'S LEADING ORGANISATIONS INVOLVED IN SUSTAINABLE HOMES NATIONAL, DEVOLVED AND LOCAL GOVERNMENT COULD DO TO SUBSTANTIALLY INCREASE THE DEVELOPMENT OF SUSTAINABLE HOUSING STOCK. THESE ARE SOME OF THE BEST ANSWERS.

INTRODUCE MINIMUM ENERGY STANDARDS (WHICH IT INTENDS TO DO FOR THE RENTED SECTOR). CHARGE DIFFERENTIAL RATES OF TAX FOR EFFICIENT HOMES (I.E. STAMP DUTY OR COUNCIL TAX).

MAKE PASSIVHAUS THE STANDARD FOR NEW BUILD. FREE GRANTS FOR IMPROVEMENTS.

Support the market for improved homes by lowering stamp duty or council tax.

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Provide a system to encourage and support people and organisations (who support people) to take care of their own housing needs by making if far more affordable and achievable to build simple and natural. Give us back our land (to few own too much) lower cost of land and ensure planning and building regulations (modify national policies) encourage and enable highly, sustainable building.

Subsidies in some subsidies in some subsidies better to an intervention of the sector of the sector to an intervention of the sector of the sector

Encourage and invest in a national district heating scheme for ground source heat pumps borehole ground arrays have a 100 year design life, no impact on the aesthetics of our landscape, and reduce pressure on the national grid due to the GSHP's efficiency – all whilst contributing to lower energy bills and carbon outputs.

WHAT DO I DO

Having read through the Guide to Sustainable Homes 2013, which we hope gave you some fantastic ideas on how to make your own home more efficient, comfortable and attractive, you might be wondering how else you can make a difference in your life.

We encourage you to read our other in-depth reports, from both this year and last, on topics as varied as investment, tourism, energy and the media. www.blueandgreentomorrow.com/reports But above all, we encourage you to act upon what you've read.



SPEAK TO ONE OF THE MANY SUSTAINABLE HOMES SPECIALISTS

Whether you're after a green mortgage, information on building a house or a company that specialises in renewable energy installations, our directory includes some of the UK's leaders in sustainability. Give one of them a call to set the ball rolling in your property's transformational journey.

FIND A SPECIALIST ETHICAL FINANCIAL ADVISER NEAR YOU

Sustainable investment is what we write about day in, day out. Contrary to the early-90s Des'ree hit 'Crazy Maze', which begins, "Money don't make my world go round", money is what governs almost every decision we as consumers and businesses make.

It's important, therefore, that we use it as a force for good. All the financial advisers listed are specialists in ethical investment and will help you choose the best possible financial solutions that match your values.



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Company: Association of Environment Conscious Building (AECB) Sector: Sustainable building Website: www.aecb.net Telephone: 0845 456 9773 Email: Sally Hall: sally@aecb.net More info: A network of individuals and companies with a common aim of promoting sustainable building, bringing together builders, architects, designers, manufacturers, housing associations and local authorities, to develop, share and promote best practice in environmen- tally sustainable building.	Company: Building Societies Association (BSA) Sector: Building societies Website: www.bsa.org.uk Telephone: 020 7520 5900 Email: Simon Rex: simon.rex@bsa.org.uk More info: A trade association, representing mutual lenders and deposit takers in the UK including all 45 UK building societies.	Company: Down to Earth Solutions Sector: Sustainable building / Simple and natural self-building Website: www.downtoearthsolutions.org Telephone: 07786 225 639 Email: Kim Siu: downtoearth.kim@gmail.com More info: Supporting simple and natural self-build as an affordable housing option in rural Scotland.
Company: Ecology Building Society Sector: Finance / Mortgages Website: www.ecology.co.uk Telephone: 0845 674 5566 Email: info@ecology.co.uk More info: Ecology offers sustainable mortgages for properties and projects that respect the en- vironment, funded through its range of simple, transparent savings accounts.	Company: Empty Homes Sector: Sustainable building Website: www.emptyhomes.com Telephone: 020 3135 0674 Email: info@emptyhomes.co.uk More info: Empty Homes offers practical advice and assistance, so people and communities can create new homes by bringing empty properties back to life.	Company: The Energy Saving Co-operative Sector: Renewable energy and energy efficiency Website: www.energysaving.coop Telephone: 0121 633 5533 Email: Claire Spencer: claire.spencer@ener- gysaving.coop More info: Connects homeowners, communities and local businesses that have energy saving op- portunities, with whole-building energy saving expertise and sources of fair finance.
Company: Ethical Consumer Sector: Media and publishing Website: www.ethicalconsumer.org Telephone: 0161 226 2929 Email: enquiries@ethicalconsumer.org More info: Ethical Consumer produces detailed buyers' guides looking at the ethical performance of companies supplying you with everything from mortgages to solar panels.	Company: Good Energy Sector: Electricity and gas Website: www.goodenergy.co.uk Telephone: 01249 765 578 Email: thalia.dilaveri@goodenergy.co.uk More info: An award-winning green energy supplier that sources all its electricity from UK renewable sources and usually costs less than the big six's standard dual fuel tariffs. (Quote 'Blue & Green Tomorrow' to get £25 off your first bill).	Company: Green Building Store Sector: Sustainable building / windows and doors insulation Website: www.greenbuildingstore.co.uk Telephone: 01484 461 705 Email: info@greenbuildingstore.co.uk More info: Helping people achieve low-energy homes and buildings.
Company: Greenfibres Sector: Home decor and interiors Website: www.greenfibres.com Telephone: 01803 868 001 Email: William Lana: william@greenfibres.com More info: Greenfibres makes the world a better place by offering beautiful organic and natural bedding and clothing products to discerning ethical consumers.	Company: Greensteps Ltd Sector: Triple glazed windows and doors Website: www.greensteps.co.uk Telephone: 01621 740 591 Email: support@greensteps.co.uk More info: Supplier of high quality triple glazed timber windows and doors for high perfor- mance buildings.	Company: HAB Housing Sector: Sustainable building Website: www.habhousing.co.uk Telephone: 01243 816 611 Email: Sahra Gott: sahra@habhousing.co.uk More info: HAB builds houses that make people happy; that keep people warm in winter and cool in summer and generally comfortable and cheerful all year round.
Company: Insure Green Sector: Insurance Website: www.insuregreen.co.uk Telephone: 0130 322 1188 Email: Ray Johnson: ray@independentinsur- anceservices.co.uk More info: Insurance broker with specialist schemes to place self-build, commercial and home risks, with special discounts and an offsetting programme.	Company: Kensa Engineering Sector: Renewable energy and energy efficiency Website: www.kensaengineering.com Telephone: 01872 862 140 Email: info@kensaengineering.com More info: Kensa is the UK's number one manu- facturer and supplier of MCS accredited ground source heat pumps for domestic and commercial new build and retrofit installations.	Company: Little Bamboo Pet Shop Sector: Pets Website: www.littlebamboopetshop.co.uk Telephone: 07986 654 347 Email: info@littlebamboopetshop.co.uk More info: A niche online family business sell- ing environmentally friendly and natural pet products for the dogs, cats and small pets in your life.

Company: MAKAR Sector: Sustainable building Website: www.makar.co.uk Telephone: 01463 709 993 Email: info@makar.co.uk More info: MAKAR is an integrated design, manufacture and delivery organisation con- cerned with delivering healthy buildings and places to its customers.	Company: National Self Build Association (NaSBA) Sector: Sustainable building Website: www.nasba.org.uk Telephone: 07557 129229 Email: Sinfo@nasba.org.uk More info: NaSBA was set up by network of com- panies and individuals with the common aim of promoting self build and custom build as a form of housing delivery that can make a significant contribution to home building in the UK.	Company: Parity Projects Sector: Renewable energy and energy efficiency Website: www.parityprojects.com Telephone: 0208 874 6433 Email: info@parityprojects.com More info: Parity Projects offers award- winning services to those who wish to make their homes more energy efficient, cheaper to run and sustainable.
Company: Passivhaus Trust Sector: Sustainable building Website: www.passivhaustrust.org.uk Telephone: 020 7704 3502 Email: info@passivhaustrust.org.uk More info: An independent, non-profit organisation that will provide leadership in the UK for the adoption of the Passivhaus standard and methodology.	Company: The Phone Co-op Sector: Telecommunications (home phone and broadband, and mobile services) Website: www.thephone.coop Telephone: 0845 458 9000 Email: Isabel Benitez: isabel.benitez@ thephone.coop More info: The Phone Co-op is the UK's only telecoms provider that is owned and run by its customers, promoting the wellbeing of people and communities and minimising its impact on the environment.	Company: Radical Routes Sector: Housing co-operatives Website: www.radicalroutes.org.uk Telephone: 0845 330 4510 Email: N/A More info: A network of radical co-ops whose members are committed to working for positive social change.
Company: SheepWool Insulation Sector: Insulation Website: www.sheepwoolinsulation.com Telephone: 0871 218 5218 Email: Aisling MacDonald: aisling@sheepwool- insulation.com More info: SheepWool Insulation supplies a range of 100% Pure SheepWool Insulation and Acoustic Underlay products to the market.	Company: Superhomes Sector: Sustainable building Website: www.superhomes.org.uk Telephone: 01908 256 918 (mornings) 01908 256 922 (afternoons) Email: Gordon Glass: Gordon@super- homes.org.uk More info: A rapidly expanding network of 170 energy aware households, whose pioneering homeowners are redefining green living.	Company: Transition Towns Sector: Community Website: www.transitionnetwork.org Telephone: 05601 531882 Email: N/A More info: A charitable organisation whose role is to inspire, encourage, connect, support and train communities as they self-organise around the Transition model, creating initiatives that rebuild resilience and reduce CO2 emissions.
Company: UK Cohousing Network Sector: Sustainable building Website: www.cohousing.org.uk Telephone: 0757 215 5172 Email: office@cohousing.org.uk More info: The UK's umbrella organisation for established and forming cohousing groups.	Company: Vintage Roots Sector: Wine and drinks Website: www.vintageroots.co.uk Telephone: 0118 932 6566 Email: info@vintageroots.co.uk More info: Ethical wine and drinks merchants that sources, supplies and distributes via mail order and to the trade 100% organic and biody- namic wines, beers, ciders and spirits.	Company: YouGen Sector: Renewable energy and energy efficiency Website: www.yougen.co.uk Telephone: 0845 450 9418 Email: info@yougen.co.uk More info: YouGen.co.uk is a must visit award winning website for anyone with an interest in renewables or energy efficiency.

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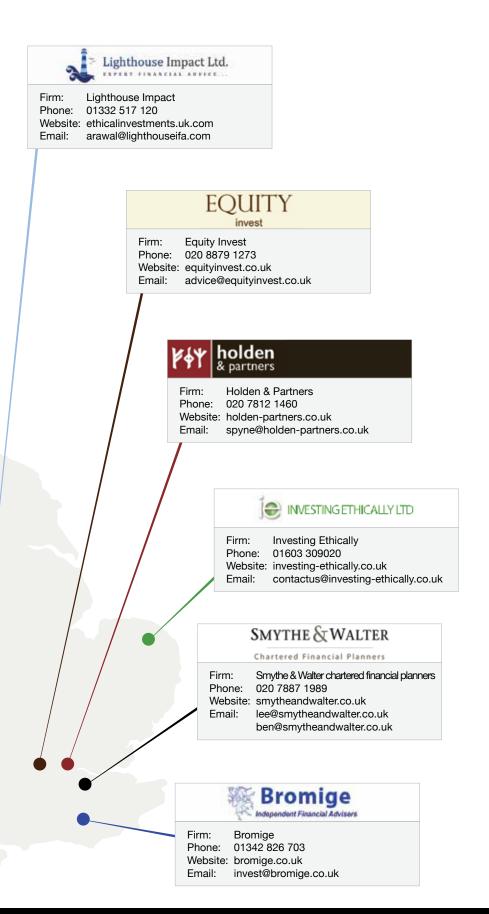
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