Laying the foundations for MMC

Expanding the role of Modern Methods of Construction
One potential solution to the UK housing crisis

Building Societies Association

What we do

The Building Societies Association (BSA) represents all 44 UK building societies and two credit unions. Building societies have total assets of over £359 billion and, together with their subsidiaries, hold residential mortgages of over £277 billion, 21% of the total outstanding in the UK.

They hold over £255 billion of retail deposits, accounting for 18% of all such deposits in the UK. Building societies account for about 32% of all cash ISA balances.

It is estimated that more than a third of the UK population has a financial service relationship with a building society.

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Contents

Foreword

The UK faces a housing crisis because the supply of housing does not rise to meet demand.

Richard Bacon MP
Chairman, All Party Parliamentary Group on Self-Build, Custom and Community Housebuilding and Placemaking

We should be building around 200,000 homes each year just to keep up with existing demand; and nearer to 300,000 if we want to reduce the deficit in supply, which has been pushing prices up. Government targets have been missed for decades – as if governments built houses anyway, which – mostly – they don't. If we are to produce enough homes, we need big changes.

Local Authorities nationwide lost 1.9 million social homes in the 1980s under the Right to Buy scheme. Funding freezes have reduced local authority housebuilding for some time, and while some innovators are now offering finance for affordable housing without grant: there is still much to do. Meanwhile, private landlords face higher Stamp Duty charges which may impact rent levels. For buyers, affordability can be a real barrier. Although there are numerous Government schemes to help First-Time Buyers buy their first property, we have not cracked the problem.

In order to cut the housing deficit and make homes available to everyone, a joined-up effort is needed from Government, housebuilders and lenders. Most important of all – in common with those areas of the economy that function properly – we should ensure that the customer is at the centre, rather than an often neglected afterthought. We should start building houses as if customers mattered.

The introduction of offsite construction using the latest technology – known as Modern Methods of Construction (MMC) – will make a big difference. This area has seen huge changes in recent years. Bespoke houses which cost almost nothing to heat and that are made-to-measure for each customer, configured on a laptop and then delivered within weeks – erected on serviced plots with the broadband, water, electricity and gas already in place – are a reality now, but not yet at scale. The days of uninspiring 'prefab' builds are long gone; most of today's MMC offerings are architecturally interesting and structurally solid, achieving almost unimaginable improvements in performance compared with earlier generations.

Tenuous efforts to get to critical mass have not worked, but strong support for mainstream MMC is part of the solution to building more affordable homes, faster. Making MMC into a conventional choice needs more lenders to adapt their lending criteria, more builders to use MMC, more valuers to understand the methodology, and the government and local councils to support and encourage the development of MMC properties. Buyer demand is already growing and will grow further as MMC becomes a conventional choice, providing an effective additional measure to tackle the housing crisis.

This report is the result of work carried out by numerous industry experts. It will help to strengthen the case for the changes we need in UK housing to make sure that we produce enough housing for all our people.

"The future of mass housebuilding in the UK relies on a combination of creative design with advanced and innovative building technologies. The house building industry is still stuck in the dark ages compared with other industries such as the automotive industry, the aviation industry and telecommunications.

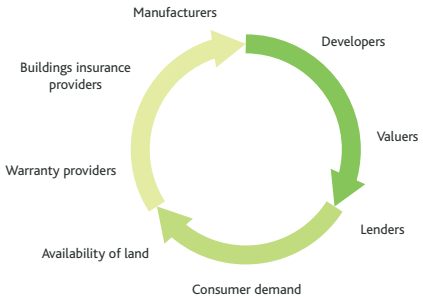
Offsite Home Manufacturing (OSHM) is the only way we are going to build the number of homes we need, that are affordable and of a quality that is acceptable for future generations.

We need to create amazing homes that young people find inspiring, exciting and that they truly want to live in. There needs to a revolution in the industry to make that happen and I'm very proud to be at the forefront of it"

George Clarke,
Architect, builder, creative director of George Clarke & Partners and TV presenter including Channel 4's George Clarke's Amazing Spaces

Introduction

We've become accustomed to politicians sporting a hard hat and hi-vis jacket whilst enthusiastically waving a clay brick as they aim to symbolise their support to get Britain building again.



To many in the housing industry this only serves to symbolise a part of the problem and demonstrates how slow the UK has been to embrace change and innovation in housebuilding. Whilst it may be difficult to wave around a flat panel, particularly if it's made from concrete or steel (see page 15 for definition), and certainly no one is suggesting that traditional methods are not part of the solution, how has a country as developed as the UK allowed its housebuilding methods to fall so far behind Europe and the rest of the world? It is time to move this vision on, for horizons to be broadened and the picture to be updated to something more symbolic of the innovative, efficient, world class housebuilding industry that we want.

When we wanted to deliver a high quality product in high volumes in any other industry the UK has modernised, embraced change and bravely led the way – but in housebuilding, although we have seen signs of change, we have been far more resistant to change and opportunity.

Maybe it is because the stakes are so high; our homes are our castles, after all. To literally challenge the very foundations upon which we build our homes is at the very least uncomfortable and is certainly a more complex issue than it may appear on the surface.

We can attribute part of the problem to a housing industry which incorporates many sectors and involves multiple moving parts. We need a coherent long term housing strategy, to make a marked change and be in with any real chance of delivering sufficient volumes to make a difference to housing in the UK. There needs to be a single body to orchestrate all of these moving parts and lead a long term strategy.

Some would argue that the way in which we build houses in the UK just isn't fit for purpose and it is extremely difficult to disagree, but changing hearts and minds on an issue as important as this is a formidable task.

BSA: the story so far

The BSA has had a range of discussions with its members and other stakeholders representing different parts of the housing industry. This included several private round tables, all of which have contributed to the content of this report.

We recognise the broader housing challenges, such as land availability and planning, many of which are set out in the BSA's 2015 paper *Housing at the heart of Government: A Manifesto for Change*[1]. However, these issues are outside the scope of this report which focuses on the current landscape and how the use of Modern Methods of Construction in housebuilding can play a role in alleviating the housing shortage, supporting the provision of suitable homes for those who need them. It will also consider challenges faced by lenders in accepting MMC properties as adequate security for mortgage lending, what steps have been taken so far to overcome those challenges and what more can be done, including specific recommendations for Government and the housing industry.

1 https://www.bsa.org.uk/document-library/press-and-public-affairs/public-affairs/bsa-housing-manifesto.pdf

Building societies have been the means by which generations of Britons have achieved their dream of becoming homeowners and as a sector we are very proud to continue supporting UK consumers' aspirations of home ownership. We welcome the focus and support for MMC and are committed to working together with other sectors to better understand and support the opportunity they present.

The challenge

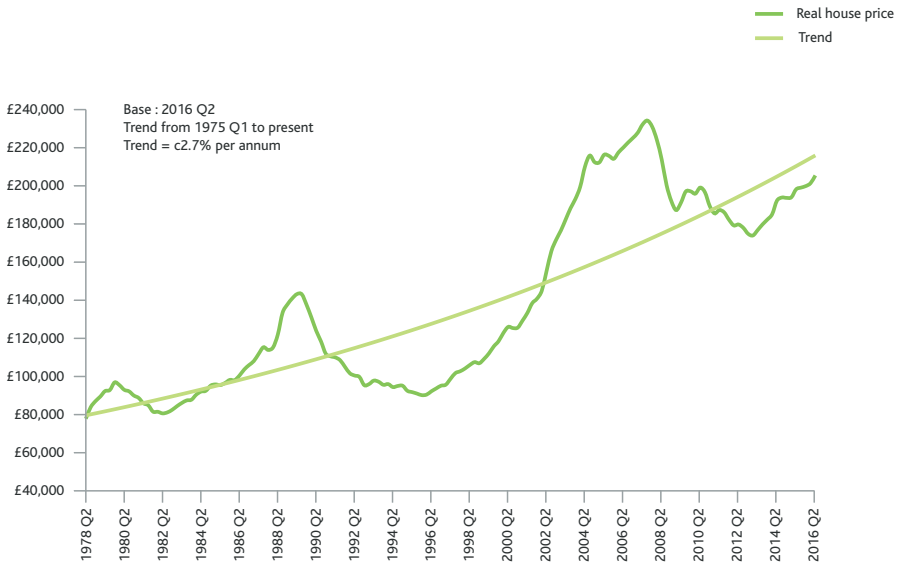
Affordability

With the affordability of housing becoming increasingly stretched across all tenures, it is a key issue facing both political leaders and individual consumers alike. Many people misguidedly believe that the affordability challenge started with the credit crisis in 2007/8. The fact is that it was becoming an issue for many well before this, primarily as a function of a mismatch between supply and demand.

Change in the mix of tenures

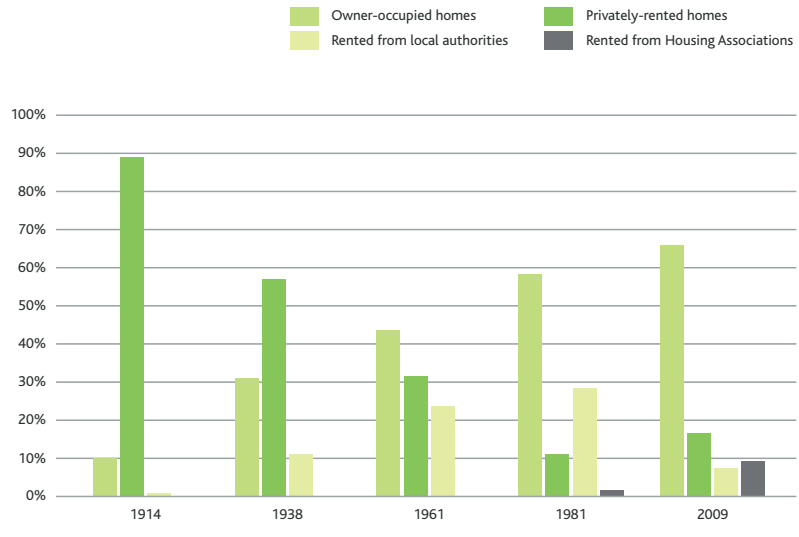
- Home ownership peaked at 72% in 2003 and has been in fairly steady decline since, despite numerous Government initiatives to reverse the trend. Today owner occupation is around 64%.
- There have also been huge changes in the shape of the rented sector. In the mid-1990s around 90% of households lived in either owner occupied homes or in social housing. Today, the private rented sector accounts for almost 20% of households, with around a third of these properties financed through buy-to-let mortgages.

Real house prices



Source: Nationwide Building Society

Trends in Tenure



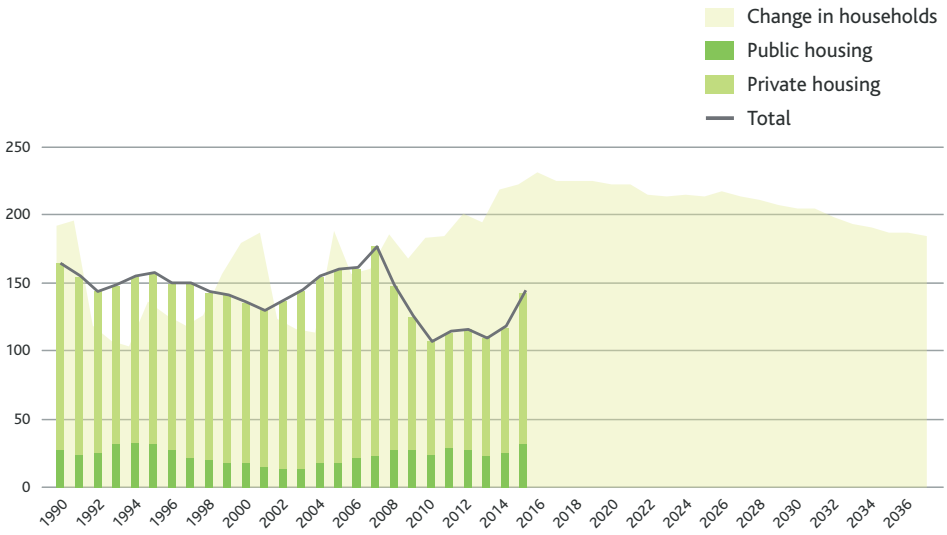
Source: English Housing Survey DCLG

We face the challenge of housing a growing and changing population

- Between 2007 and 2014 the UK population rose from just over 61 million to over 64 million. Population demographics continue to change rapidly, with the population projected to increase by 9.7 million over the next 25 years. Net migration is expected to account for 51% of this increase.
- In addition, we have an aging population. By mid-2039 more than one in 12 of the population are projected to be aged 80 or over.
- Household composition is also changing, with average household sizes declining over the last fifty years, the number of households are increasing more rapidly than the number of people.
- In 2011, two-person households in the UK accounted for the largest number of households, followed by one-person households. One-person households are projected to increase by 72,000 per year, 34% of the total increase up to 2037.

With the problem set to be exacerbated in the coming years we have to tackle the problem head on and consider solutions to address the chronic shortage of housing in the UK.

Housebuilding vs increase in households (thousands) ONS projections



Source: ONS data

The first time buyer

Source: ONS data

Britain's housing stock – Quality

Britain's housing stock is varied, comprising many architecturally beautiful homes. Period homes, such as Tudor, Georgian and Edwardian properties, boast character and history, whereas modern-day homes are perceived to have lost some of this charm with individuality typically reserved for the likes of the affluent 'grand-designers'. Reports suggest that newer homes are smaller and less aesthetically pleasing.

Whilst there is some truth in these perceptions (as reported in the RIBA report the 'Case for Space'[2]), perhaps our views of traditionally built homes are more than a little rose-tinted. Let's look at the facts:

- Over 10 million British families live in a home with a leaking roof, damp walls or rotting windows.
- Britain's damp, leaky homes are among Europe's most costly to heat due to poor insulation and maintenance.[3]
- The UK has the oldest houses in the EU, with over half built before 1960 and just over 10% built since 1991. Older UK homes require at least double the energy to stay warm compared with many countries, even those with colder climates such as Sweden.[4]
- Around 40% of UK homes don't meet the Living Home Standard. This standard defines what the public believes an acceptable home should provide; affordability, decent conditions, space, stability, neighbourhood.

Housing charity Shelter's recent report 'The Living Home Standard' found that "adequate space was felt to be crucial for wellbeing, especially mental and social wellbeing. Not having enough space was thought to have a negative impact on relationships and cause stress."[5]

Although traditionally built homes have stood the test of time there is certainly room for improvement. We must consider what we want for the future of new British homes. Whilst we may be proud of our housing heritage we don't have a well-functioning housing industry that we can be proud of. It is currently failing to deliver the housing we so desperately need. We all have a role to play in addressing this.

The UK's innovation and technology in housebuilding lags behind many other European countries, and indeed the rest of the world. The potential is out there, yet we have been slow to embrace it.

2 RIBA report The Case for space the size of England's new homes https://www.architecture.com/Files/RIBAHoldings/PolicyAndInternationalRelations/HomeWise/CaseforSpace.pdf

3 figures, compiled by the Association for the Conservation of Energy from official EU data, compares the UK with other EU states with similar climates and income levels The UK ranks bottom of the 12 for fuel poverty, 11th for the proportion of income spent on energy bills and 9th for homes in a poor state of repair.

4 Data from the Buildings Performance Institute Europe, Europe's buildings under the microscope A country-by-country review of the energy performance of buildings https://europeanclimate.org/documents/LR_%20CbC_study.pdf

5 Shelter report the living home standard http://www.shelter.org.uk/livinghomestandard?_ga=1.40656996.73453200.1477656154

Can we build?

We have achieved challenging housebuilding targets in the past, but the last time this happened we had a Housing Minister who was in a full Cabinet position.

At the moment we have a fragmented housing market, with land use and planning, construction, skills and jobs all considered independently.

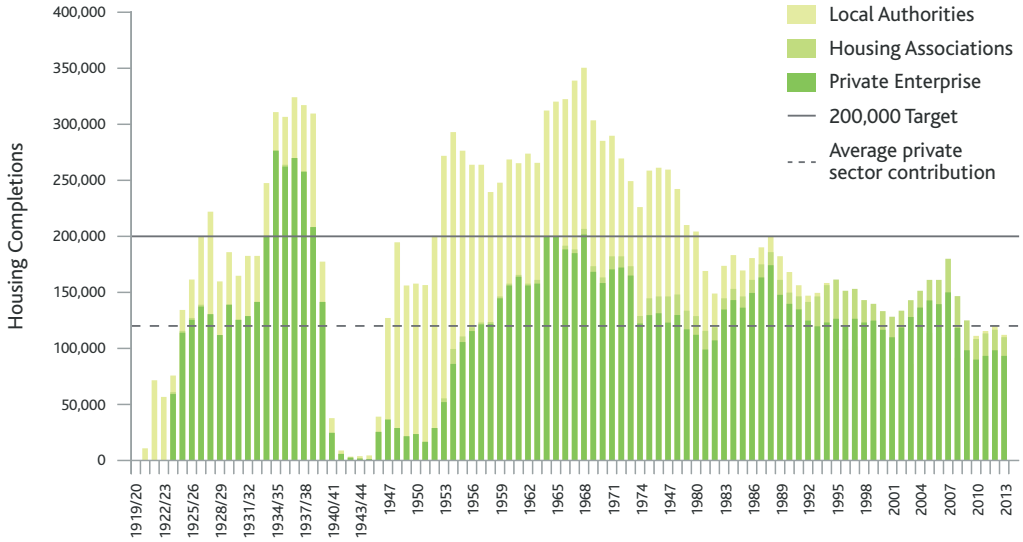
Housebuilding

- In 1980 57% of the 251,820 properties built were provided by private developers, 35% by Local Authorities and 7% by Housing Associations.
- By 2015 77% of the 152,380 properties built were provided by private developers, 21% by Housing Associations and just 2% by Local Authorities.
- Today we rely on private developers to provide the bulk of UK homes, and to build the circa 300,000 properties we need to build each year to satisfy the UK's expected growth in population. Yet the last time private developers built more than 200,000 homes in one year was 1968. The large developers have said that they do not have capacity to provide all of this volume, which leaves an unrealistic gap to be filled by others such as smaller developers and self-builders.

The graph below shows a private sector contribution of 122,000 on average from 1946-2015 which hasn't fluctuated significantly in recent decades. This trend could indicate that the private sector as it currently stands only has a working capacity around this level, emphasising the desperate need for the introduction of another supply chain.

- The overall level of housebuilding in the UK has declined since 1980, with 152,380 houses built in the financial year ending 2015 representing a reduction of nearly 40% from those built in the financial year ending 1980. Since then the closest that the UK has come to building the 250,000 homes a year required was in 2006/7 when 219,000 new homes were built in total. It is vital that we understand the increasingly diverse housing requirements of the UK population in order to be able to deliver the appropriate housing solutions.

We've built enough properties in the past



Source: DCLG

A brief history of British housing

1920s

At the end of the first world war, Britain was a nation in which almost 80% of people rented their homes, almost all from private landlords. Concern about the poor standards of the housing stock led the Prime Minister, David Lloyd George, to promise a "land fit for heroes" for the homecoming Tommies. The 1919 Housing Act provided subsidies for Local Authorities to build council houses.

1930s

Housebuilding peaked at 350,000 a year in the mid-1930s as a prolonged period of cheap money prompted a private-sector building boom. With land and labour plentiful, and official interest rates pegged at 2%, this was the era of the three-bedroom semi and the expansion of cities out into the suburbs. New industries – car plants, aerospace companies, engineering firms – accompanied the ribbon development along the major arterial roads.

1940s

The second world war caused a double whammy: German bombing inflicted widespread damage to urban areas while housebuilding came to a halt. The Beveridge report identified "squalor" as one of the five "giants" blocking the road to progress, but with money tight and construction materials in short supply, the pick-up in activity was slow. Aneurin Bevan, jointly Health and Housing Minister, insisted council homes be built to high standards.

1950s

Council-housebuilding peaked under the Conservative government of the 1950s, when the end of rationing and a growing economy meant that 250,000 new local authority homes a year were being put up. Much of the expansion was in the new towns designated by the Attlee government in land beyond the newly created green belt surrounding London – towns such as Hemel Hempstead, Harlow and Crawley.

1990s

The bust that followed the Lawson boom was long and painful. Interest rates were raised to circa 15% and left there for a year to control inflation. Unemployment doubled to hit 3 million for the second time in a decade and many of those who had taken out big mortgages could no longer afford the repayments. Record numbers of people had their homes repossessed as house prices fell for four successive years. It was not until the end of the 1990s that the market started to recover.

2000s

A rising population. More than a decade and a half of steady economic growth. Ample supplies of cheap credit. A sharp fall in the number of homes being built. These were the ingredients that contributed to Britain's third big housing bubble of the post-war period. The average house price more than doubled from £100,000 in 2000 to just under £225,000 in 2007, before the financial crash brought the boom to an end. Housebuilding fell during the recession to its lowest peacetime level since the early 1930s.

Timeline is taken from The Guardian article - A brief history of British housing, 2014[6]

1980s

Offering council tenants the right to buy their own homes was suggested to Jim Callaghan at the end of the 1970s. He rejected the idea but it was pounced upon by Margaret Thatcher, who made it the centrepiece of her political pitch to the aspirational working classes. Those who took advantage of the offer quickly saw the value of their assets surge in Britain's second big housing bubble – the Lawson boom. House prices rose by 16% in 1987 and a further 25% in 1988.

1970s

Britain had its first experience of a housing bubble during the so-called Barber boom of 1973. An easing of credit conditions by the Bank of England coupled with the go-for-growth strategy of the Conservative Chancellor, Tony Barber, resulted in house-price inflation peaking at 36%. The average price of a home, which had risen from £2,000 to £5,000 between 1950 and 1970, doubled in the next three years. The boom ended when the Yom Kippur war and the Opec oil embargo ushered in the stagflation of the mid-1970s.

1960s

House price boom-busts were still a thing of the future in the 1960s, the decade that saw combined private and council housebuilding hit a post war peak of just over 400,000 a year. This was the era of the tower block, with quantity coming at the expense of quality. One block, Ronan Point in east London, collapsed in 1968 following a gas explosion. By the end of the 1960s, Britain had as many owner-occupiers as renters.

6 https://www.theguardian.com/business/2014/may/24/history-british-housing-decade

Over the decades, from the appearance of properties it is reasonably easy to identify homes throughout the different eras. Fundamentally housebuilding has barely changed. We still use much the same materials and methods to construct our homes today.

What next?

It certainly feels like we could be on the brink of a revolution in housebuilding, we desperately need more high quality homes to be delivered, more quickly. The way we build at the moment hasn't been able to address an ever increasing shortage in housing and faces challenges such as skills shortages (lack of bricklayers) and materials shortages (lack of bricks).

How can we reasonably expect this industry to suddenly be capable of meeting the 200,000 a year needed to keep up with existing demand; and nearer to 300,000 if we want to reduce the deficit in supply?

"Without doubt the speed of construction has improved over the last couple of decades, but traditional brick and block still relies heavily on traditional trade skills and materials – and there are simply not enough of these to meet the need going forward"

Legal and General Surveying Services perspective magazine issue five.

It is time to look at additionality and diversity in housebuilding.

Modern Methods of Construction (MMC)

A not-so-modern term?

Although the term 'Modern Methods of Construction' (MMC) is slowly making it into the UK's vernacular when talking about housebuilding, it certainly isn't a new concept. In 2005 the Office of the Deputy Prime Minister and the Housing Corporation asked the National Audit Office to investigate the scope for building homes more quickly and efficiently using MMC[7].

"The Government is committed to promoting the use of Modern Methods of Construction in home building.

"Modern Methods of Construction make it possible to build up to four times as much using the same onsite labour"

More recently the Government renewed its commitment to build more homes;

Sajid Javid Secretary of State for Communities and Local Government, said:

"We want to ensure everyone has a safe and secure place to live and that means we've got to build more homes.

"It is only by building more houses that we will alleviate the financial burden on those who are struggling to manage."[8]

Mark Hodgkinson Homes and Communities Agency CEO, said:

"We're determined to speed up delivery and promote new approaches to housebuilding. The new Home Building Fund offers the industry flexible development and infrastructure finance and we're open for business right away."[9]

The BSA welcomes the recent launch of the £3 billion Home Building Fund to 'provide loans for small and medium enterprise builders, custom builders, offsite construction and essential infrastructure, creating thousands of new jobs in the process.'

BUT we believe that there is more that can be done as MMC techniques haven't yet made it into mainstream building methods. Unless it does so many of the potential economies of scale offered won't be realised.

There is an opportunity for the Government to lead the way and use sites such as Northstowe in Cambridge, and other directly commissioned sites to truly represent the housing stock of the future. Northstowe is a pilot programme located on a government-owned former RAF base, which will see the Homes and Communities Agency leading the development of 10,000 homes. This will be the first time in a generation that the Government has owned land, led a development on it at this scale, and commissioned homes directly for sale. We believe that sites like this should set the example. Government should ensure a diverse mix of construction types such as offsite construction, both panelised and modular, are built here. This would give a clear message to consumers, lenders and the MMC industry itself.

7 National Audit office study 2005 MMC https://www.nao.org.uk/wp-content/uploads/2005/11/mmc.pdf

8 Sajiid Javid: Speech to Conservative Party Conference 2016

9 https://www.gov.uk/government/news/sajid-javid-and-philip-hammond-lets-get-britain-building

The MMC mystery

Is it possible to define Modern Method of Construction?

'Modern Methods of Construction' is a collective term used to describe a number of different construction methods. There is debate even within the industry itself about what constitutes MMC and as a result there is no universally agreed definition.

Anything that differs significantly from what is perceived as 'traditional' construction methods such as brick and block is likely to fall within the scope of this definition.

Some refer to MMC as being about better products and processes, which aim to improve business efficiency, quality, customer satisfaction, environmental performance, sustainability and the predictability of timescales.

From a risk perspective a loose definition like this is not overly helpful. It makes it extremely difficult for a lender to fully assess risk and answer the generic question "will you lend on MMC?" The term is not fully defined and encompasses many technologies, techniques and materials.

To complicate matters further we inter-changeably use many other terms to describe MMC such as; Innovative construction, Offsite assembly, system building and non-traditional construction to name but a few.

Under the umbrella of MMC there has been a particular focus on offsite construction, which itself has numerous terms associated to it – modular living, volumetric, pods, offsite manufacture – again, the list goes on.

The 'Offsite Housing Review' (Construction Industry Council, Feb 2013) defined offsite construction as:

"An approach to process in which the construction value added on-site is less than 40% of the final construction value at completion"

Potential benefits of offsite construction

Offsite construction has the potential to produce high quality housing, quickly and at a reduced cost. There are many benefits to constructing new homes in a factory environment as opposed to directly on-site:

- Costs can be more carefully controlled.
- Waste is reduced and efficiency is improved as technology can be more precise.
- Work is unaffected by unpredictable weather.
- Addresses shortages of skilled labour e.g. bricklayers.
- Addresses materials shortages.
- Has less impact on the surrounding area.

A study carried out by the Steel Construction Institute (SCI) estimated that the total amount of site labour could be reduced by as much as 75% through the use of offsite construction[10]

As well as being far more efficient this is also of benefit to local residents who will experience far less disruption during construction.

10 http://www.designforhomes.org/wp-content/uploads/2012/03/ModularSteel.pdf

"We recognise that the issues of supply affecting the residential housing market require some innovative solutions and so consequently, as a lender, we are very supportive of the principle of offsite construction as a route to increasing the capacity and quality of housing in the UK. We are comfortable lending on such properties provided they meet some basic requirements in terms of an acceptable/appropriate warranty, construction life and marketability/demand. Recognising that each of these could present some challenge, in some forms of offsite construction."

Nationwide Building Society

Issue	Improvement over conventional construction (estimated)	Benefit to society	Benefit to housebuilder
Social			
Reduce accidents & incidents (H&S)	Up to 80%	Large	Large
Improved working conditions and job security	Significant	Significant	Small
Environmental			
Reduced road traffic movements (Congestion & pollution benefits)	Up to 70% (est. 40%)	Significant	Small
Reduced energy used on site	Up to 80% (est. 50%)	Small	Small
Reduced waste	Up to 90%	Significant	Significant
Reduced energy-in-use	20% (typical)	Significant	Small (unless housebuilder is also the property owner)
Economic			
Faster construction	Up to 80% time compression onsite	Significant	Large (reduced construction financing costs)
Alternative business model	Payment on completion	Small	Large (reduced working capital requirement)
Fewer defects	Up to 80%	Small	Significant

(Offsite housing review February 2013)[11]

11 cic.org.uk/download.php?f=offsite-housing-review-feb-2013-for-web.pdf

Types of offsite construction

Offsite construction itself is a very broad term. Within the offsite sector there are many types, techniques and variations. A number of examples follow. In reality there are endless variations and combinations with more being added to the list as the sector grows and evolves.

Volumetric (also referred to as modular construction)

Three dimensional units produced in a factory that are transported to site and bolted together. The frames will normally be steel, timber or concrete and can be supplied with all external and internal finishes (including services such as electric and plumbing)

Pods (another type of volumetric, sometimes referred to as semi-volumetric)

Factory produced three dimensional elements that are incorporated into the superstructure of a building. Ready-made rooms e.g. a kitchen or bathroom. Pod are usually non-structural and are normally used within a loadbearing structure.

Panelised

Factory produced flat panel units transported to site for assembly – typically these can form the exterior walls of the building, made of timber, light gauge steel and/or concrete. Many different types of panel (open, closed, concrete, composite, structural insulated panels(SIPS), infill, curtain walling)

Structural Insulated Panel (SIP) Building Systems

Sub-assemblies and components

Larger components incorporated into new homes – e.g. roof and floor cassette, dormers and I-beams

Recent UK developments

The contribution to overall housing supply of offsite-manufactured homes seen in other parts of the world, notably Scandinavia and Japan, has not been replicated in the UK yet, although there has been a significant shift in sentiment. Recently we have seen the strongest signs yet that appetite will increase sooner rather than later with major players entering the market; this could certainly be a game-changer for the offsite-construction industry in the UK.

- Legal & General invested £55m in an offsite- construction factory which will be capable of supplying 3,000 houses a year. It is also believed to have approval to build further offsite plants.

L&G Modular Homes, Cross Laminated Timber.

- Laing O'Rourke offsite-factory – the Government granted Laing O'Rourke £22m to accelerate the use of modular systems in housebuilding. The funds were used as part of a £104m project which involved building a dedicated modular housing assembly factory.
- Recent media coverage suggests that the Government is considering further substantial investment in modular homes and is even considering a fund to support SME's and developers in delivering volume.
- According to the NHBC foundation's recent report the majority of housebuilders and housing associations are using or have considered using at least one MMC approach in their recent build programmes.

NHBC Foundation Report

NHBC Foundation research found that one of the key attractions to MMC is the perceived ability to build more quickly and there is some evidence that MMC can lead to a reduction in costs.

The NHBC Foundation report 'Modern Methods of Construction: views from the industry'[12] surveys 135 housebuilders and housing associations and explores attitudes towards MMC. The research captures the degree to which different methods and systems have been adopted and assesses the appetite for more extensive application of specific approaches.

Key findings include:

- Of the large and medium-sized housebuilders and housing associations surveyed, only two said they had not used or considered at least one form of MMC in the last three years.
- The most used methods are sub-assemblies and components, installed by about three-quarters of the housebuilders and just under half of the housing associations in 2015. Panelised systems, such as timber and steel frame are the next most used MMC type.
- Few have used full volumetric construction or pods. However, many organisations are considering them for future use.
- The majority of organisations surveyed consider themselves to be 'late adopters' or 'followers' of volumetric construction, pod and panelised forms of MMC – rather than 'market leaders'.
- One of the key attractions driving the use of MMC is the perceived ability to build more quickly, potentially at lower cost.

Despite reservations expressed by some, and a lack of enthusiasm in the bulk of the hosuing industry for the more radical and far reaching manifestations of MMC, housebuilders have still been making extensive use of a variety of innovative approaches. Most of those surveyed expect the role of MMC to grow (45%) or remain static (51%) over the next three years.

The natural progression for the industry appears to be more mainstream use of panelised systems followed by modular construction.

However, unless these properties are accepted as suitable security for mortgage purposes then the potential solutions that the Government and industry believes MMC can deliver cannot be realised.

In addition, it is essential that homebuyers are encouraged to recognise the value of emerging technologies and be willing to engage with them. This is a shared responsibility for all the industries involved in housebuilding and housing policy.

12 https://www.nhbcfoundation.org/publication/modern-methods-of-construction-views-from-the-industry/

How do we compare?

Expectations in housing markets around the world appear quite different to those in the UK.

Particularly in countries where the use of Modern Methods of Construction such as offsite are most prevalent. None of these markets have an expectation that a property will last for a hundred years plus, as we do in the UK. This cultural difference could explain why the UK has been slower to embrace new technologies.

In addition, elsewhere in Europe offsite appears to have a much better image, associated with higher quality, more efficient homes.

Japan – circa 14% offsite

A 2007 report into Japanese housebuilding found[15] that the offsite manufacturing sector produced around 160,000 properties per year which equates to around 14% of the total 1.6 million built every year.

"The Japanese model presumes that the physical house will be replaced every generation, with the mortgage mechanism concentrated on site value. This is being realistic about the longevity and flexibility of offsite constructions, but of course it is also culturally appropriate. The British prefer to constantly repair and remodel, valuing patina and historic character." (Richard Saxon CBE, 2007.)

Germany – circa 20% offsite

"Offsite construction is most commonly used in the construction of new detached housing, much of which is 'self-procured', i.e. purchased by the owner of a serviced plot of land.

"Offsite housing in Germany has a good image, being associated with a high quality of construction. However, this was not the case in the 1980s; the industry regained its position through the development of quality standards and certification schemes and consistent promotion of the merits of offsite construction."[16]

Offsite suppliers serve a wide range of markets, from 'starter' homes to luxury housing.

HUF-HAUS has pioneered modern timber framed buildings with the highest aesthetic standards.

15 http://discovery.ucl.ac.uk/5082/1/5082.pdf Lessons from Japan: A comparative study of the market drivers for

prefabrication in Japanese and UK private housing development William Johnson BA (Hons

16 http://www3.imperial.ac.uk/pls/portallive/docs/1/40872.PDF

Department of trade and industry Modern Methods of Construction in Germany – playing the offsite rule

Can we lend?

MMC – An unknown quantity?

Building societies have supported non-standard construction for many years, mostly in the form of self-build properties. The building society sector dominates this type of lending, with approximately 22 out of the 24 self-build mortgage providers being building societies. Although some of the self-build lending in the sector is on non-standard construction, this doesn't necessarily mean that this is MMC as we have come to consider it today.

Historically, self-build has not been delivered in high volumes. The process works on a small scale allowing lenders to individually assess a property, use local knowledge of the area, speak to the developer where necessary and monitor the project as it progresses.

> "As long as we can be certain that a property we lend against is structurally sound, is in a desirable location, with a new build warranty in place and a valuation report supports the purchase price then we will consider a property type suitable for mortgage purposes."
>
> Lender

Building societies are generally receptive when it comes to accepting MMC as suitable security for mortgage purposes, particularly those that lend in the self-build market as they are more experienced in assessing the potential risks of non-standard construction types. However, this doesn't mean that MMC are universally accepted within lending policies.

Each lender will have their own interpretation of standard construction. The types of property they will lend against will depend on the individual lender, with many contributory factors at play. As with any business the decision to enter a different market or increase a product range will be based on a range of factors including risk appetite, understanding of the risks, the potential return on investment and business model. (see Appendix A example lending policies).

> "Properties that are currently built under modern construction methods are considered on a case-by-case basis, however, we do have some overall limitations with certain construction types i.e. timber & steel frames."
>
> Lender

Within the sector there is a home for the majority of the main types of MMC, albeit this is on a small scale. Given that demand for mortgages on MMC properties is still small scale this is hardly surprising.

In the majority of cases where lenders will consider MMC properties it will be by 'exception', in practice this tends to flag the case as requiring a more in-depth analysis before being either accepted or declined. We have seen lenders visit sites to gain a deeper understanding of a project and to talk directly with developers. A lender may subsequently be willing to lend on all properties within the development visited, up to certain concentration limits.

The decision to lend on a property that is of non-standard construction will not be made in isolation. As well as the property construction type lenders will consider amongst other things whether it is in a desirable location, how many other properties of a similar type are in the area (or indeed around the country), what their risk exposure is on the whole development (there may be a concentration risk limitation), if the infrastructure of the local area is adequate.

Therefore, it could be the case that a lender will lend on MMC in one area and not another. **Marketability is key, a property has to be suitable for its location.**

The construction type, particularly one that is less familiar, could be viewed as an additional layer of risk for a lender to consider when assessing suitability to lend.

A lender may also take the approach to approve a certain construction system, this could be following a factory visit and/or detailed analysis of this system.

The challenges for lenders

Key question – If the supply of these types of home increases significantly, as the Government hopes, can mortgage lending expand at the same speed to support this?

The building society sector is working hard to overcome potential barriers to ensure that future demand can be met. As a sector we believe that we have a responsibility to understand and embrace innovation in housebuilding but we also have a responsibility to building societies members to do this in a way which ensures we aren't exposed to unnecessary or unquantifiable risk.

It is difficult to scale up a 'by exception' process, as visiting a factory or site every time is inevitably a slow and costly process. There are huge variations in MMC products, and without some standardisation by the MMC industry that is developing these products it is a big ask for lenders to fully assess and accept each and every variation of MMC. The Build offsite property assurance scheme (BOPAS) in conjunction with a new build warranty was designed to address this issue. Detailed later in the report is the extent to which this has been successful so far and an explanation of the scheme.

Recommendation – Developers access to lenders/lender access to developers.

If standard terminology and a recognised high quality standard for MMC products are introduced this is likely to encourage more lenders into this space, increasing capacity and reducing individual lender risk – at this point it is reasonable to expect that there will be mortgage capacity to meet increased demand.

Recommendation – Standardisation – One 'Meccano™' set and standard terminology.

The challenges for lenders

There are a lot of unknown quantities for lenders at the moment, it is ultimately the lender and the homeowner who take the long term risk. The lender for the life of the mortgage and the homeowner up until the point they have sold the property.

One of the challenges is that as some of these construction methods are so new there can be little or no historical data demonstrating how they will weather and the likely lifespan they will have. This is clearly a challenge when mortgage terms are 25 years plus and getting longer.

Conversely bricks have been used in construction for thousands of years and are proven to have stood the test of time. Both consumers and lenders have confidence in this method of construction. It is familiar and has a track record of retaining value and being durable over the long term.

Historical data relating to house prices and comparable evidence demonstrating long term valuation trends makes it reasonably straightforward for valuers to confidently and accurately value.

The introduction of new materials and multiple innovative construction techniques creates uncertainty about the risks posed and the performance and desirability of these buildings in the longer term.

Recommendation – MMC Information hub.

Xella, pre-cast concrete.

Valuations

The valuation community are the lenders' eyes and ears on the ground; lenders rely on valuers' expertise and knowledge of the different types of construction to be able to provide an accurate property risk assessment, which is a crucial factor in any decision to lend. Therefore, the valuation community should be heavily involved from the outset if MMC is to successfully expand to mainstream acceptance.

Using comparable evidence to support a valuation is a key element of a property valuation, this information is very rarely obtainable for MMC properties at the moment.

"It is essential that as a matter of some priority, the industry refines what has been described as 'modern methods' and to segment for the sake of accuracy and clarity ie prefabrication/off site component construction v custom/self-build. As a volume lender we are better able to deal with, and could more readily embrace systems which have been subjected to some form of widely accepted accreditation (eg BOPAS), than one off proposals. We would also be more cautious of pepper potted components being introduced into a part traditional part fabricated structure simply because it's difficult to understand what is warranted and what has been incorporated."

Nationwide Building Society

We strongly recommend a review of the RICS UK secured lending section of the Red Book to include valuation guidance relating specifically to MMC properties. Appendix 10 currently specifies the standard approach that valuers should take when providing a valuation to a lender for mortgage purposes. This review should offer guidance that would support valuers in their assessment of MMC and clarify the method of assessment if comparable evidence isn't readily available.

It is not always easy for a valuer to identify precisely what a property is constructed from, or how, particularly when assessing, for example, an MMC new build property that may have been designed specifically to fit in with the local area – appearances can be deceptive. If a property is clad in brick you could be forgiven for assuming that it is a traditionally constructed property, as from the outside it will look almost identical. It will only be upon further inspection that the exact construction type can be determined and even then without the relevant expertise it can be easy to miss. It would therefore be helpful for this information to be available before a valuation.

Recommendation – Property information for valuers.

In addition to prepare for a growth in MMC volumes the capacity of valuers who are experienced and competent to value MMC properties should be tracked and monitored to give the industry an opportunity to increase valuer capacity to meet the demand.

Recommendation – Advice on MMC for valuers.

Citu Development, Kelham Island, Sheffield.

AMVIC BUILDING SOLUTIONS, insulated concrete

Return on investment

Lenders need to invest significant time and resource to fully understand and mitigate risks. To be able to justify this, lenders need confidence that the market is sustainable over the long term. With new build numbers generally relatively small and MMC making up an even smaller proportion of this, this type of lending currently accounts for a very small percentage of lending overall.

Recommendation – Capturing property information will build data trends.

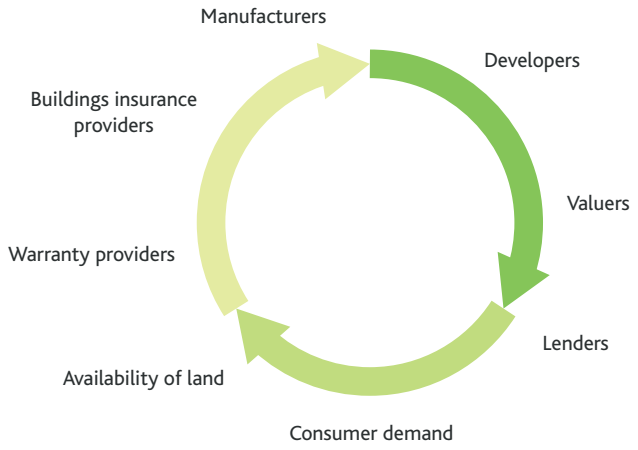
There is an elevated risk if there are few lenders operating in a market

Some lenders who are more risk averse or take a cautious approach to lending will wait until a point where there are sufficient number of lenders to offer this type of lending.

Access to reliable, clear, unbiased information

If a lender is considering lending on MMC properties – whether that is to enable them to lend against a single property, a whole development or embed a new construction type fully into its lending criteria- accessing reliable, unbiased and clear information regarding MMCs can be difficult. BOPAS and NHBC are examples of where lenders can access some of the information needed, the extent to which these provide a solution is considered under mitigants to risk on page 22*.

Recommendation – MMC Information hub.



Fragmentation and engagement

One of the findings of the Evaluation of UK Futures Programme final report on Productivity was that "greater collaboration is needed between professions in offsite construction (OSC), professionals in OSC need skills that enable them to operate and collaborate across disciplines, for instance, design, construction, manufacturing and engineering."

Further to this, the recently published Farmer Review of the UK Construction Labour Model cited a lack of collaboration in the construction industry.

The report also backs the Construction Leadership Council's (CLC) innovation work stream and says an innovation programme should be drawn up to look at areas including 'factory sharing' to spread the risk for SMEs looking to use offsite solutions.

A lack of collaboration in the MMC industry itself may be one reason why lenders have had a mixed experience of engaging with the MMC industry. With so many developers and manufacturers it is difficult for lenders to discuss – particularly at industry level – any concerns or barriers to lending on MMC they may have. These discussions could be the key to resolving some of the risks lenders face when they consider lending on MMC properties.

It is not only lenders that would benefit from better engagement with the MMC sector at industry level, for example a closer relationship with residential building insurance providers would likely lead to more insurance providers being able to provide cover on MMC properties.

There is a real need for all parts of the housing industry to be brought together to address some of the issues that could act as a barrier to increasing volumes of MMC built properties in the UK. Not only will this be helpful to overcome barriers, but this kind of cross-industry collaboration would have the potential to drive a more collaborative and innovative housing market.

Recommendation – Government drives cross industry collaboration.

Standardisation One 'Meccano™' set – standard terminology and a known standard

It would be reassuring to see the MMC industry collaborate to standardise systems. This will make it far easier for other sectors, including lenders, to quickly understand and underwrite the risk. It would also seem logical that where possible systems should be compatible with each other.

Whilst we don't want to stifle innovation in the MMC sector, categorising the emerging technologies in a standardised way would help lenders better engage with new MMC products. In addition, there are numerous different terms used to describe the different types of MMC. Standard terminology should be agreed upon and used across all industries, to reduce confusion and increase understanding.

Recommendation – Standardisation – One 'Meccano™' set and standard terminology.

Regulation

Whilst we wouldn't expect a change to regulatory requirements as MMC increases in volume and moves to become mainstream lending, as a robust assessment of security is already required, it is never the less still important that regulators are included in the conversation to ensure that they are fully briefed about the emerging technologies.

"If a mortgage fails to perform, a society ultimately relies upon realising its security to safeguard its interests and avoid losses, so the saleability of the security at a sufficiently high price to repay the loan (plus accrued interest) is essential. In respect of security types, the relevant factors include title/tenure, construction type, state of repair and insurability."[13] PRA Supervisory Statement

13 PRA's CP 12/16, revising Supervisory Statement SS 20/15

Existing mitigants to risk/solutions

To accept a new build property as suitable security, regardless of whether this is MMC or standard construction, a lender will require a new build warranty to be in place.

A new homes warranty is a ten year insurance policy which protects buyers of new homes from structural defects. There are many such warranty providers in the market and a lender will decide which of them meets the required standards and are acceptable under their lending criteria.

Recommendation – Warranties must be continually reviewed to ensure that they remain fit for purpose.

NHBC is the largest home warranty provider in the UK, currently insuring over 1.6m homes, with a market share of approximately 80%. The NHBC warranty will provide protection for ten years. In the first two years the builder is responsible for putting right any damage caused by their failure to build to the NHBC Standards. During years three to ten, insurance is provided to cover the cost of putting right any physical damage to the home caused by the builder failing to comply with the NHBC requirements, this includes foundations, walls, external cladding, and curtain walling. Policy details can be found in Appendix B.

In addition, as a condition of the mortgage offer, buildings insurance is required to be arranged by the borrower. The level of cover should be at least equal to the rebuild cost of the property.

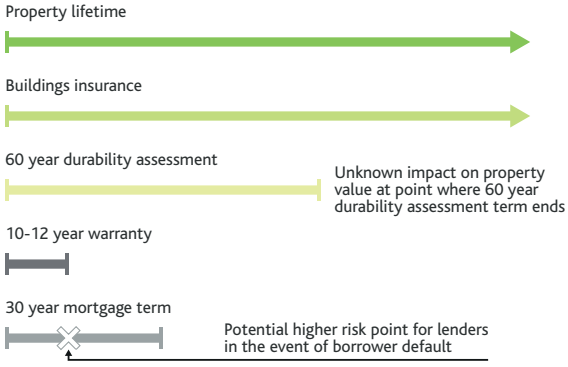
For some lenders a combination of a new home warranty plus building insurance will adequately address the risk of lending on MMC properties, particularly if they are lending in small numbers on this construction type.

However, if the numbers are larger or the MMC type is more unusual this could increase the risk for a lender. A specific risk to consider will come at the end of the warranty period. It is likely that most structural problems with a specific property or build type will have come to light in the first ten years, however there is an element of the unknown as few MMC properties have reached the ten year mark yet. Therefore, when a lender considers the longer term risk, in ten years' time a property will be without a warranty and a borrower is likely to have the majority of their mortgage loan outstanding.

It is not yet clear how MMC properties will perform over the longer term, how desirable they will be, what maintenance costs they will have and if they will be as durable as traditionally built properties.

The Build Offsite Property Assurance scheme (BOPAS) was developed to address the concern of durability.

Lender's risk points



The Build Offsite Property Assurance Scheme (BOPAS)[14]

BOPAS was designed "to provide assurance to the lending community that innovatively constructed properties against which they may be lending, will deliver a consistent performance of a determined durability of 60 years".

BOPAS was jointly developed by Buildoffsite, The Royal Institution of Chartered Surveyors (RICS), Lloyd's Register and Building LifePlans Ltd (BLP), in consultation with the Council of Mortgage Lenders (CML) and the Building Societies Association (BSA).

The Assurance Scheme comprises:

- A durability and maintenance assessment.
- A process accreditation.
- A web-enabled database comprising details of assessed building methodologies, registered sites and registered/warranted properties.

The BSA remains supportive of this scheme. The accreditation process will reassure lenders that new MMC construction types have been thoroughly tested and approved by an independent and credible body. It also provides technical information on various MMC types which is useful for lenders, valuers and potential homeowners. The search facility is a particularly useful tool.

Limitations

There are some limitations to the reassurance this scheme provides – it is not a guarantee. If something goes wrong it is the warranty that protects the security.

BOPAS cannot address the concern regarding future saleability of a property. In the event of a systemic fault with a product/construction type that only becomes apparent outside the warranty period it offers no protection.

The 60-year durability assessment would appear adequate, equating to roughly two mortgage terms. However, we don't yet know what this means for a property's value over the long term.

Is there any impact on value as a property approaches the end of this 60-year period?

This is an unknown quantity at the moment. If we compare this to the situation with leasehold properties, which will reduce in value as the property nears the end of its lease, lenders therefore require a certain remaining lease term to allow for this, for example the mortgage term plus 50 years.

A lease can be renewed, although this can be expensive. The durability assessment of course cannot be renewed or extended. It may be the case that the durability assessment is the catalyst for moving MMC properties to mainstream and in 60 years, when the durability period has ended, the MMC will no longer be considered MMC but a mainstream form of construction.

It is still relatively early days and we do not have a complete picture of its effectiveness, particularly because the number of systems approved are still comparatively small so cannot be widely used.

In our discussions with lenders we found that BOPAS was not routinely relied upon for lending decisions and some were still unaware of the scheme. There is work to be done in raising the awareness of BOPAS if it is to be effective and we are to see the full benefits of the scheme.

14 http://www.bopas.org/

Buildings insurance

Currently the approach to MMC is varied across home insurance providers. There is evidence that some firms decline all non-standard construction types and others perceive them as higher risk and will increase premiums accordingly.

We recommend that a review is undertaken to ensure access to approriate home insurance for MMC home buyers. Opposite is an example from a price comparison website for home insurance and some screen shots from individual insurance providers.

Recommendation – Property log book for consumers.

Recommendation – Home insurance review.

Home insurance broker site

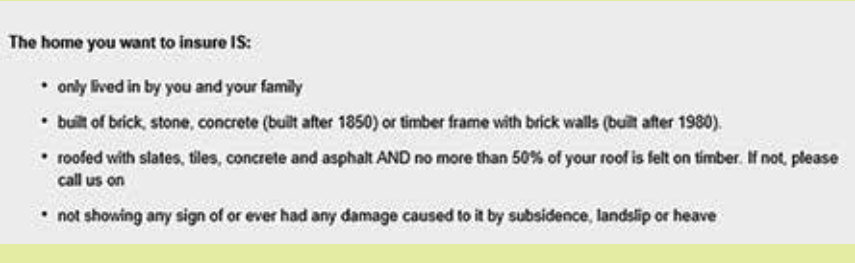
Guidance for consumers

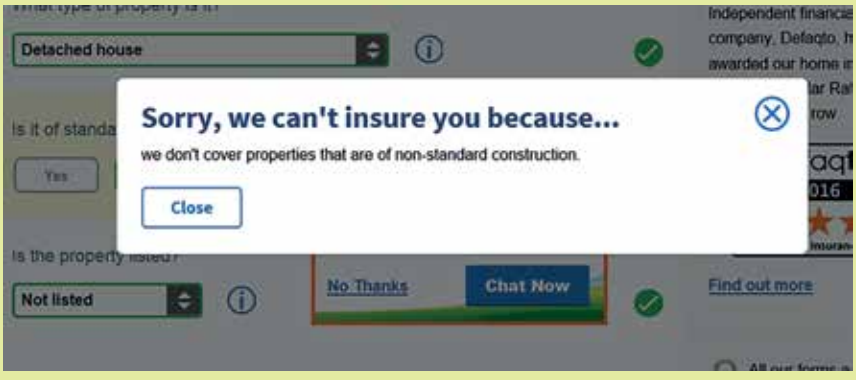
If the roof of the property is made of any of the following – asbestos, corrugated iron, felt on timber, fibreglass, glass, metal, plastic, shingle, stramit, thatch reed, thatch fibre, timber or woodwork construction.

A standard policy also won't cover you if the roof has been turnerised. If you're unsure whether your roof will be covered, it's always best to check directly with your insurer.

If the exterior walls of the property are made of the following – brick/timber frame, timber, timber frame, timber/plastic, asbestos, cob construction, corrugated iron, Essex construction, fibreglass construction, flint, glass, metal or plastic.

You also won't be covered if they're made from prefabricated building combustible materials or non-combustible materials, stramit construction, wattle and daub construction, woodwall or woodwork construction.





Summary of recommendations

1.

Opportunity for Government to lead the way.

Sites such as Northstowe and other directly commissioned sites should represent the housing stock of the future. To give both lenders and consumers confidence in lending against these properties the Government should ensure a diverse mix of construction types such as offsite construction, (for example both panelised and modular) should be built here.

In addition, we would like to see a commitment from the Government to explore the challenges across the sectors and to assess whether the provision of a Government guarantee would give the support and confidence needed to lenders, consumers and developers to kick start MMC and move it into the mainstream.

With so many different sectors vital to the success of MMC, when further developing policy we would like to see the Government taking an inclusive and collaborative approach. It is key that Government acts as facilitator and nurtures this growing industry.

2.

Valuations

A review should be undertaken of the RICS UK secured lending section of the Red Book (Appendix 10) to include valuing MMC properties. Appendix 10 currently specifies the standard approach that valuers should take when providing a valuation to a lender for mortgage purposes. This review should offer guidance to support valuers in their assessment of MMC and clarify the method of assessment if comparable evidence isn't readily available.

The topic of MMC and innovation in property construction should be included in the Terms of reference at the Cross Industry Residential Valuation Forum (CIRVF).

The capacity of valuers who are experienced and competent to value MMC properties should be tracked and monitored, should demand therefore increase significantly in the future it will give the industry an opportunity to increase capacity to meet the demand.

3.

Modern Methods of Construction Information Hub

A single point of reliable, independent and factual information should be developed and made accessible to lenders. This could be in the format of a portal that could search smartly for information about construction types, and would benefit from being Government approved on a gov.uk page.

This would be an invaluable resource giving lenders the confidence that information is accurate and can be relied upon when reviewing lending policy or in making individual lending decisions.

4.

Property Log Book – for consumers

Just like the majority of items in a home, the home itself should come with its own log book or user guide. The information should predominately be for the homeowner to assist with arranging a mortgage, home insurance and for future maintenance of the property. This could be passed along with the property in the same way as a log book is used for cars.

This could be an expansion of the NHBC Home User Guide (HUG)which has the capacity to record property type/construction method data.

5.

Property information – for lenders and valuers

Information regarding a property's construction type should be readily available prior to carrying out a valuation. This would ensure only those who are competent in MMC valuations carry out the assessment which is likely to reduce MMC declines and ensure accurate assessments can be carried out.

A natural fit for registering the construction details/type of properties could be at Land Registry. We recommend that that this is considered as part of the BEIS review into the home buying process.

Alternatively, the scope of the NHBC Home User Guide (HUG) has the capacity to capture the construction details/type, if this was routinely captured for all new homes it would then be a simple process of giving valuers, lenders and conveyancers access to this. As the use of HUG is currently voluntary for builders this would need to become mandatory to be effective. This is only for those builders using NHBC, so consideration should be given as to how this could be implemented across the industry.

This information could also be used by insurance companies to enable accurate underwriting and pricing.

At the moment there is a lack of certainty with regards to future volumes of MMC, however by capturing this data trends will begin to emerge which will be useful in monitoring the growth of this sector more accurately.

6.

Developers access to lenders/lender access to developers

A site visit by a lender will alleviate some concerns regarding build quality. If the lender is satisfied it will assure a developer that there will be mortgage availability upon completion of the development.

This is a slow process, and wouldn't be adequate on a larger scale. A website where lenders and valuers could direct specific questions would facilitate an increase in lending.

7.

Standardisation – one 'Meccano™' set and standard terminology

The offsite industry should be looking at where it can collaborate to standardise systems. This will make it far easier for other sectors, including lenders to quickly understand and underwrite the risk.

Where possible systems should be compatible with each other.

Standard terminology should be agreed upon and used across all industries, to reduce confusion and increase understanding and clarity.

8.

Warranties

A new build warranty is required by all lenders before accepting a new build property as suitable security for mortgage purposes. Therefore, should we see a significant increase in MMC volumes, warranty providers will need the capacity to meet this rising demand.

We recommend that the capacity of warranty providers is monitored to ensure policies remain robust enough and readily available without compromising on quality.

As the MMC sector develops warranties must be continually reviewed to ensure that they remain fit for purpose.

9.

Home insurance review

Borrowers must ensure that a buildings insurance policy is in place, therefore easy access to buildings insurance is essential. Currently the approach to MMC varies across home insurance providers, there is evidence that some firms decline all non- standard construction types and others perceive MMC as higher, risk and will price premiums accordingly.

We recommend that a review is undertaken to ensure access to appropriate home insurance for MMC home buyers.

10.

Improve the image of Modern Methods of Construction

The image of Modern Methods of Construction needs to reflect the innovative, high quality housing that methods such as offsite construction can deliver – for example the term 'prefab' should not be used as this term is generally associated with the poor quality emergency housing of the past.

A new venture spearheaded by Elon Musk will create house roofs made entirely of solar panels

Conclusion

We have an opportunity to positively shape the future of housing in the UK and change the story from a UK housing market in crisis to a well-functioning market giving people access to homes that make a real difference to them and their family's quality of life. Where people have the space they need, in an area they want to live, in a high quality and energy efficient home.

The housing industry has a shared responsibility to support new techniques in housebuilding moving into mainstream so that everyone can share in the benefits. Good quality design is essential in delivering sustainable homes that genuinely meet today's challenging performance standards and the complex needs of communities – Modern Methods of Construction can contribute to this.

The building society sector is committed to supporting MMC in housebuilding and will continue to work with Government, parliamentarians, housebuilders, buyers, lenders and valuers, championing a cross sector collaborative approach to enable MMC to realise its full potential, providing homes that we can be proud of for generations to come.

Diversity in business model or manufacturing process in any sector generally improves competition, resilience to external events and enhanced choice for consumers. This was never more true than when the wholesale funding markets dried up in 2008, meaning that those institutions that were funded by retail deposits could continue to lend to homebuyers.

Diversity in housing supply and business model in the housebuilding industry will certainly help it progress to a better functioning market, with many consumer benefits that will enhance the market that we have today.

Appendix A

Example lending policies

Lender 1 example

Modern Methods of Construction (MMC)

- Many different types of construction now being designed and developed usually employing offsite manufacture. These are frequently of timber frame or light gauge steel construction with a variety of claddings.
- May be acceptable subject to a satisfactory report from valuer confirming saleability and demand.
- Ideally, the property should be approved under (BOPAS) Buildoffsite Property Assurance Scheme which means that it has passed a 60-year durability assessment and has a 12-year structural warranty.
- Acceptability will be reviewed by the Group's valuers based upon:
- Planning / Building Regulation compliance
- Acceptable New Build Warranty or Professional Consultants Certificate in standard CML format
- Eligibility for buildings insurance cover on normal terms
- Acceptability to other mainstream lenders
- 60 year minimum design life assessment tested by a British accredited body (i.e. BBA or BRE)
- Satisfactory construction standards, site and valuation.

Lender 2 example

1. Construction Types

2. Traditional Construction

The following are regarded as traditional construction and normal lending terms apply:

Walls

- Cavity outer walls of brick/ reconstituted stone with inner walls of brick or block.
- Cavity outer walls of brick/ reconstituted stone/blocks rendered with inner walls of brick or block
- Timber framed property with outer walls of brick/reconstituted stone, built 1970 or after
- Timber framed property with rendered outer walls of brick/ reconstituted stone/block, built 1970 or after
- Solid Stone

Roof

- Tile (concrete)
- Slate
- Thatch (reed or straw)
- Felt, asphalt
- Copper, lead

3. Non Traditional Construction

Many properties have been built using a variety of other construction methods. Lending terms vary depending on construction types and if a repair scheme, where appropriate, has been used. Where a property is of non-traditional construction please contact your usual Service Centre with the following details for further advice:

- The name of the type of construction
- Year built (if known)
- Flat/terrace/semi or detached Details of any repair scheme if appropriate and if the scheme applies to the whole block (e.g. the whole terrace/both semi's)

The exact construction name is important as lending terms may differ between different types and year built. For example our lending terms differ between Gregory, Gregory Drury System 3 and Gregory Housing. All three have different lending terms and it is important to ensure you give us the full and accurate name to avoid us giving inappropriate advice.

Lender 3 example

Steel Frame Construction

We do not generally accept steel frame dwellings unless a structural engineer's report (of the steel frame) is obtained and all recommended work within that report is carried out and the mortgage valuer confirms that the property is suitable for mortgage purposes. (A structural engineer's report is essential as a valuer is not able to ascertain the condition of the steel framework merely by carrying out a mortgage valuation)

The above criteria does not apply to newly built blocks of flats. Please refer to the full Residential Criteria for more information.

Timber Frame dwellings

Timber frame dwellings built prior to 1965 are unacceptable with the exception of listed Tudor buildings.

Large Panel Systems (LPS)

We do not lend on properties of this type of construction.

Space4 System

Space4 is a designated Modern Method of Construction (MMC). The system is effectively a development of modern timber frame. The structural timber frame is bonded to a cementitious particle board (instead of a wooden board in timber frame) and phenolic insulation is inserted between the timber studs to provide the necessary thermal insulation to the wall element. Suitable breather barriers are also used to control the passage of moisture through the wall element. This structural element is separated from the outer face of the wall (non-load bearing, purely cosmetic and usually either brick or rendered block) by a cavity.

Space 4 is generally acceptable and in each case suitability for lending purposes dependant on valuers comments.

Flat roof

The Society will not normally consider lending on properties with 100% flat roofs, but cases may be acceptable subject to underwriter assessment and the valuer's comments.

Single Skin Construction

The Society will only allow a small portion of the property to be constructed of single skin which must only be one storey in height and subject to satisfactory comments from the valuer.

Modern Modular Steel Frame with Brick Extension

The Society may be willing to lend subject to valuer's comments.

Lender 4 example

Timber-framed

Period timber frame properties will be considered on individual merit, subject to the valuer's comments and at the lower LTV ratio of 80%.

Timber-framed properties constructed between 1920 and 1965 are considered unacceptable for mortgage purposes due to inferior building regulations in relation to vapour barriers.

All timber

Due to the unusual nature of the construction, properties made entirely from timber are usually considered restricted. We will be guided by the valuer's comments on marketability. If acceptable, they will be subject to a maximum LTV of 80%

Wimpey No Fines and Laing Easiform

Properties dated from 1945 onwards are acceptable, subject to the valuer's comments, at the lower LTV ratio of 80%.

Bear in mind that Wimpey No-Fines properties are currently being monitored in the north of England where some deterioration has been noted. If this construction type is subsequently defined as 'defective', this could have a significant impact on the value and saleability of the property.

Steel frame

Water penetration and condensation can cause corrosion of the steel frame causing instability of the property. These properties are acceptable subject to a satisfactory structural engineer's report, at the lower LTV ratio of 80%.

Livett Cartwright steel frames and Hawthorn Leslie steel frames with boarded finish are unacceptable for mortgage purposes.

Kit-built

The following 'kit-built' type of constructions with special architectural merit or proven long-term durability are considered restricted with a maximum LTV of 80%, subject to usual warranty provision if less than 10 years old:

- Huf Haus
- Potton
- Skandia-Hus
- Border Oak (and other bulk timber kit forms)
- Colt/Guildway (these types are subject to an entirely satisfactory valuer statement of condition and saleability, which could be enhanced by location if they are found on larger rural or semi-rural plots)

Lender 5 example

It must be habitable, readily saleable, structurally sound and be able to have buildings insurance arranged upon it.

Unacceptable construction types

- Timber or metal-framed buildings where the cavity, between frame & cladding- has been retrospectively filled with an insulation material
- Houseboats and mobile homes/park homes are not acceptable
- Concrete walls as built in Cornwall or Devon before 1950 (1960 for postcodes PL12, 13, 14, 15, 17, 18, 22 & 23) where valuer has recommended a Mundic report and test of the concrete has classified the concrete in either class B or C
- Unrepaired, designated defective properties under the Housing Defect Act or not
- Flats or maisonettes of large panel system type unless acceptable structural appraisal on the whole block
- Load bearing panels of asbestos or gypsum plaster construction
- Properties which are structurally unsound & properties which are uninsurable

Appendix B

Warranty Provider Example

During the first 2 years – builder warranty and NHBC Guarantee

The builder is responsible for putting right any damage caused by their failure to build to the NHBC Standards.

What is the builder liable for?

- The builder should put right, within a reasonable time and at their own expense, any damage caused to your home which is notified to them during the relevant notification period.
- If you have to move out of your home so that work can be done, the builder, by prior arrangement, should meet any reasonable costs you incur for removal, storage and appropriate alternative accommodation.
- If the builder has been notified of damage during this period of cover, then they remain liable to put it right even after this period has expired.

Less – What is the builder not liable for?

Below are some things the builder is not liable for. Please refer to your Buildmark policy document for the full list.

- Wear and tear, neglect and failure to do the appropriate maintenance
- Damp, condensation and shrinkage not resulting from the builder's failure to comply with the NHBC Standards
- Storms and severe weather conditions, flooding and changes in the water-table level
- Fire and smoke
- Anything specifically excluded on your Buildmark insurance certificate
- Anything done to your home or your land after the completion date, except for the work done by your builder or NHBC to fulfil responsibilities under Buildmark
- If you are not the first owner, anything which you knew about when you acquired the home and which resulted in a reduction in the purchase price you paid or which was taken into account in any other arrangement.

During years 3 to 10 – insurance after the builder warranty

We provide insurance to cover the cost of putting right any physical damage to the home caused by the builder failing to comply with the NHBC requirements.

What parts of the home are covered?

These parts of the home are covered:

- Foundations, walls, external cladding, curtain walling, external render and external vertical tile hanging, roofs, ceilings, balconies, load-bearing parts of the floors, flues, chimneys and access steps, to the main structure.
- Staircases, floor decking and screeds, to the inside of the main structure, if they fail to support normal loads.
- Retaining walls, if they are necessary for the structural stability of the main structure.
- Double- or triple-glazing panes to outside windows and outside doors, to the main structure, if newly installed at the completion date.
- Below-ground drainage for which you are responsible.

You are also covered for alternative accommodation costs if you need to move out of your home while repair work is being done.

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