

Modern Methods of Construction

EXECUTIVE SUMMARY of FINAL REPORT



AN EXAMINATION OF THE BARRIERS TO THE GREATER USE OF MODERN METHODS OF CONSTRUCTION IN THE PROVISION OF NEW HOUSING AND THE MECHANISMS TO OVERCOME THEM

Barker 33 Cross-Industry Group

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Foreword

I am delighted to present the Executive Summary of the Final report of the Barker 33 Cross-Industry Group examining the barriers to greater use of Modern Methods of Construction and mechanisms for overcoming these. The full report is being completed and will be published in the near future. This Executive Summary contains the major recommendations of the Group and offers routes to improving both understanding and take-up of Modern Methods of Construction in housebuilding.

The work of the Group has taken some 15 months of intensive effort and I am particularly grateful to all those who have contributed to this work. In particular I would like to thank the Chairmen of the Working Groups for their leadership of, and reporting on, the work of their groups and those amongst our membership who have drawn our work together to produce both this Summary and the Final Report.

A.G.C. Lane

Dr Ashley Lane
February 2006

Introduction



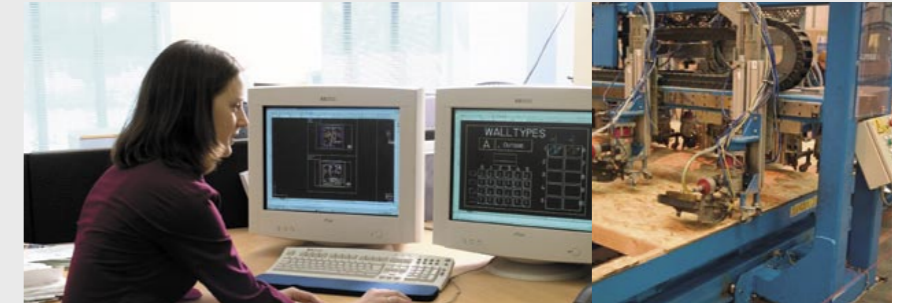
Recommendation 33 of the Barker Review of Housing Supply stated that:

“The House Builders Federation, in conjunction with NHBC, Construction Skills and other interested parties, should develop a strategy to address barriers to Modern Methods of Construction (MMC). This strategy should be developed to fit alongside existing initiatives, working closely with Government to identify further measures that can be taken. A range of approaches should be explored, in particular actions by industry plus changes to policy / practice, as well as representations to Government on areas such as changes to Building Regulations.”

It quickly became clear that “other interested parties” were extensive and wide ranging in interest and representation. As a consequence the stakeholder discussions of the Barker 33 Cross-Industry Group summarised in this report have involved over 50 separate organisations.

Therefore, the ground covered by this report’s recommendations is more extensive in its range than that originally envisaged by the Barker Review and its recommendations should be seen in the longer rather than shorter term.

Background to the work



The Barker 33 Cross-Industry Group was established in October 2004 and this report summarises the work undertaken since then.

Initially the Group’s work concentrated on issues concerned with:

- Communications and the Customer
- Education/Training
- Certification and Warranty
- Design and Build
- Whole Project Costing

From discussions within the Group on these issues the major issues taken forward to the final phase of the work included:

- The need to improve understanding of MMC
- Definition of MMC as wider than product innovation
- Recognition that MMC was often a process-pull not product-push mechanism for innovation
- The heightened process discipline required by MMC
- The need to develop skills and professional training in the context of MMC
- The enabling of MMC by matching the regulatory environment to the business environment
- Improvements in the understanding of MMC costs and benefits
- Recognition that cultural issues within the industry, its suppliers and regulators alike can significantly affect the climate for decisions on MMC

It was agreed that this concluding phase of the work would be the detailed examination of six potential breakthrough initiatives addressing the key areas identified above to the adoption of new, innovative and business beneficial ways of working

- Communication, education and training
- Culture change
- The formation of a Cross-Industry Forum (the Central Forum) to take forward the work of the Cross-Industry Group
- Whole project costing (drawing on current work by the National Audit Office)
- Regulation
- Warranty and certification

The recommended actions and breakthrough solutions for each of these reviews follow.

The Cross-Industry Group has recommended actions and breakthrough solutions to be pursued without identifying the precise means. Instead, it has recommended that a legacy body (the Central Forum) be formed to take these forward by providing a mechanism for the wide range of interests involved to come together to discuss and develop relevant matters and pursue the solutions.

Definition of MMC



The Group has taken a deliberately wide view of the definition seeking to embrace innovation in process, people and product/component issues as well as systems.

Therefore, the Cross-Industry Group defines MMC as follows:

- *Modern Methods of Construction are about better products and processes. They aim to improve business efficiency, quality, customer satisfaction, environmental performance, sustainability and the predictability of delivery timescales. Modern Methods of Construction are, therefore, more broadly based than a particular focus on product. They engage people to seek improvement, through better processes, in the delivery and performance of construction.*

This definition is relevant to the whole of the construction industry, but in the context of this report is confined only to residential development.

The business context and philosophy of this report

The recommendations in this final report have been informed by an understanding of the business context within which residential development operates for both open market and affordable homes.

Innovation in housebuilding has occurred over the years. On occasions it has been product-led (adoption of trussed rafters for example), on others it has been led by regulation (e.g. increasing thermal insulation requirements) and has often been an incremental process. Today a number of residential developers and Registered Social Landlords are embracing product-driven MMC. These existing examples of innovation are testimony to the fact that where it has been seen as viable to invest in innovation companies have done so. So the key question the Cross-Industry Group has had to consider is what factors and issues may have weakened or undermined the business case for MMC and helped

prevent innovation and process improvement that might otherwise have been viable. MMC must be seen not as an end in itself, but as a means to achieving:

- Greater business efficiency
- Enhanced design and quality
- Improved customer satisfaction
- Enhanced building performance
- Increased housing supply meeting the aspirations of the market as a whole (open market, social and affordable)
- Enhanced environmental performance with reduced impact

These are the ultimate objectives of the Group's work and its recommendations are designed to further the achievement of these objectives.

Barriers to MMC

In pursuing its work the Cross-Industry Group has spent much time and effort in identifying barriers to adoption of MMC.

Current business models require the flexibility to cope with the wide range of conditions at the project level. They cope well with the differences and vagaries of site conditions, demand patterns, construction approval processes and design requirements. That present models work so well is because they have been optimised for current conditions. But it is these very vagaries that can create a barrier to the adoption of the new processes that MMC demands. In particular approval delays, regulatory complexity and change, together with inadequate certification can create barriers to improvement. The training needs (of site and

professional staff) that MMC entails adds a further layer of complexity.

If the business case for particular applications of MMC is to be seen in its best light, all sectors of the industry will need a better overall business climate. This needs to address the training and education challenges and consider appropriate new perspectives through culture change as well as improvements in product and process. The Cross-Industry Group outlines these new perspectives through the reports of the six Working Groups in the Final Report.

Importance of the regulatory climate

While the supply side of the housing industry has made and continues to make great strides in improving the way in which it operates, opportunities, as outlined in our definition of MMC, exist for further improvement to the benefit of the ultimate product and the commercial case for its construction.

In particular, improving product and process can lead to the goals we have already outlined. However, this cannot be achieved by the supply side alone. In an industry dominated by regulation of both product and the land on which that product is constructed, the regulatory climate and its local application have significant influence. Therefore, suppliers and regulators have to match improvement in order to maximise the benefits from MMC.

The wider recommendations of the Barker Review propose many measures for ensuring the planning system functions in a more efficient, market responsive and market informed way. It is recognised that addressing the issues raised by Barker on the planning regime is vital if housing supply is to be improved in line with requirements. This work has a major bearing on the context within which the Barker 33 Group's own recommendations must be viewed.

The implications of current planning and approval delays, uncertainties (including differences between local policies) and the supply of land with planning permission necessarily affect the climate for development. They adversely affect both the risks

associated with investment in innovation and the ease with which economies of scale for product-based methods of construction can be achieved.

There are similar issues associated with the operation of Building Regulations. Frequent changes to different sections of the Building Regulations, tensions between the objectives of different parts of the regulations and sometimes prescriptive rather than performance-based regulatory approaches can all affect the business case for investing in innovation. Again the ultimate issue is one of the additional business risks that can arise and the ability to achieve economies of scale necessary to support new processes and products.

The current discussions on the Code for Sustainable Buildings potentially present an opportunity to make improvements to the longer-term regulatory climate affecting innovation in respect of some of the key business performance goals summarised above. It is important therefore that the Code adopt a philosophy and approach that is aligned with the Barker 33 Group's recommendations if the business climate for MMC and innovation is to be optimised.

Recommendations



Within the context of our discussions and research, the Barker 33 Cross-Industry Group makes the following recommendations to break down the barriers and encourage the uptake of Modern Methods of Construction:

Communication, education and training:

- Establish an industry-wide understanding of MMC
- Encourage the professional institutions to recognise and promote understanding of MMC through an appropriate syllabus
- Identify and establish training for specific site skills required for full implementation of MMC
- Certification bodies etc. to provide best practice guidance to support education and training
- HBF to facilitate and support stakeholders in the provision of education and training for innovation and new technologies

Culture change:

- Create more favourable climate in the City for development of MMC through exemplifying benefits and showing willingness to address key City concerns
- Develop a more pro-active strategy towards regulatory environment emphasising the partnership between regulators and suppliers necessary to release best value from MMC
- Strengthen supply chains through developing partnerships with appropriately skilled suppliers
- Initiate objective assessment of the business case for MMC relevant to housebuilders
- Engage media more actively
- Invest in training and education of professional and traditional craft operatives

Whole project costing:

- Recognise that MMC can be cost competitive (See National Audit Office report – *Using modern*

methods of construction to build homes more quickly and efficiently November 2005)

- Understand that savings in process efficiency can put MMC costs on a par with traditional construction approaches
- Appreciate that process and product improvement are the core mechanisms for cost reduction

Regulation:

- Encourage stronger discipline and structure in the regulatory processes
- Establish structured process for regulatory decision making
- Ensure dialogue between regulators and regulated
- Develop increased flexibility of design within structured process
- Seek consistency through planning guidance to structure the local planning process

Warranty and certification:

- Develop appropriate standards and accompanying certification schemes that command stakeholder and industry confidence addressing the issues of resilience, reparability, adaptability, whole life costs and on-site quality
- Establish mechanisms to assess and quantify risks
- Develop the use of quality assurance and audit schemes to minimise the risk of MMC failure due to poor design specification and/or poor practices on site
- Influence Government to ensure that Home Information Packs (HIPs) contain information about property construction types as well as details on any relevant accreditation/certification.

Breakthrough solutions



Having made the recommendations above, the Barker 33 Group sees these embodied in the following set of Breakthrough Solutions to be implemented by the industry at large with guidance and direction from the Central Forum:

Communication, education and training:

Guidance and training should be prepared to increase awareness of the potential benefits and advantages of adopting MMC and the skills needed to implement MMC solutions within the context of developing industry-wide understanding. (Key players: CITB, HBF)

Culture change:

To improve the business/investment climate the benefits (both of process and product) of MMC needs developing, testing and promoting as best practice. From this an objective assessment of the business case should arise. (Key player: Central Forum)

Whole project costing:

Establish a mechanism for whole project costing which provides a basis for cost and performance benchmarking across the range of construction methodologies to expose the best in class for housebuilding. (Key players: Central Forum, BCIS)

Regulation:

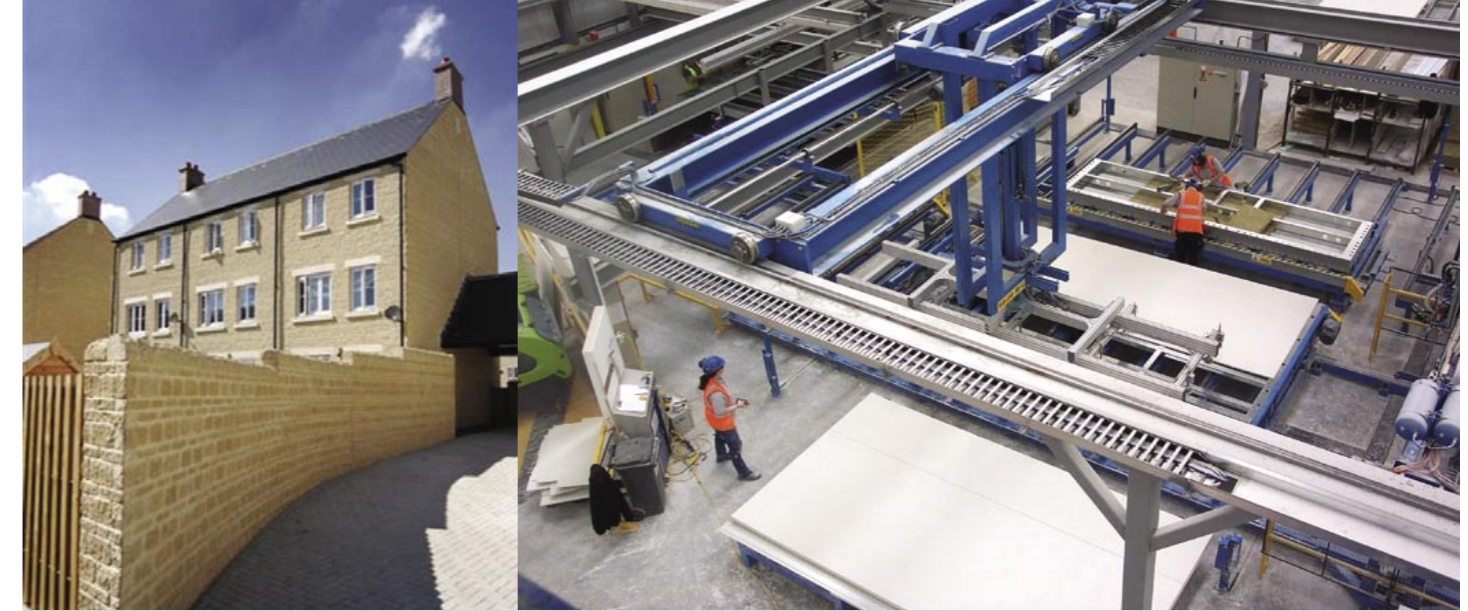
Acceptable structured processes, within which the regulatory system operates, need to be established through dialogue and collaboration of all parties. Guidance on the implementation and administration of these processes is also required. (Key players: Government, Professional Institutions, HBF, NHF)

Warranty and certification:

Establish mechanisms to assess and quantify risks; develop appropriate standards with accompanying certification and strengthen quality assurance and audit schemes. (Key players: ABI, CML, Certification Bodies)

[Note: Within the overall framework of the Central Forum, key players will need to develop and implement action plans to deliver quick wins]

Implementation



Throughout its work, the Barker 33 Cross-Industry Group has sought to improve the climate for, and confidence in, MMC. It sees this implemented through three goals:

1. Improve regulatory discipline
2. Inspire product and process confidence through relevant and appropriate certification
3. Exemplify benefits through practical (best practice) examples.

We have provided details in the full report on how all stakeholders should address these goals. The areas we feel need emphasis in this summary, the 'Breakthrough Solutions', are mainly the short-term actions required to make a measurable difference within a three-year period. These are the ones we wish to emphasise to build momentum from the current position. However, it is possible that longer-term issues will also demand solutions that will need a deeper understanding. Here collaboration between all parties will be necessary to achieve success.

In order to deliver these change processes and build this momentum we need to manage a concerted set of activities. This requires the establishment of a Central Forum to take forward the recommendations contained in the Barker 33 Report.

To do this it is essential that the Central Forum:

- Includes the key organisations responsible for delivering private and public sector housing. (goals 1,2,3)
- Involves representatives from appropriate Government departments to help co-ordinate Government activities either as promoters of scheme initiatives or as regulators. (goals 1,3)
- Includes key stakeholders such as NHBC, CML and ABI who control the acceptance of innovative products into the housing sector. (goal 2)
- Develops a set of firm targets, a timetable for action and reports progress.

Membership of the Barker 33 Cross-Industry Group

Review Group Chairman

Dr Ashley Lane*, Westbury Partnerships

Group Facilitator

Mr Ian Hornby, HBF (until April 2005)

Mr John Slaughter*, HBF (from April 2005)

Phase 3 Working Group Chairmen

Mr David Lowther, Bovis Homes
(Communication, Education and Training)

Mr Keith Ross, BRE Ltd. (Culture)

Ms Judith Harrison, Constructing Excellence
(Cross-Industry Forum)

Mr Joe Martin, RICS Building Cost Information Service
(Whole Project Costing)

Prof John Hobson, Salford University
(Regulations)

Mr Andrew Heywood, Council of Mortgage Lenders
(Certification)

Additional Members

Dr Barry Blackwell, DTI

Dr Stuart Carmichael, Salford University

Mr Stuart Delgarno, Stuart Milne Timber Systems

Mr Paul Overall ODPM (until February 2005)

Ms Ann Hemming, ODPM (from February 2005)

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Mr John Johnson-Allen, RICS

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*Denotes membership of Executive Summary Editorial Group

The Barker 33 Cross-Industry Group would like to thank Stuart Milne Timber Systems, Advanced Housing and Persimmon for the provision of photography used in this report.