SHAP BRIEFING 15.1.19

WHO ARE WE?

SHAP is a membership network which acts a centre of excellence for sustainable housing. We carry out a range of activities and our areas of work are guided by our membership. All our work is freely available (www.shap.uk.com/resources).

The SHAP vision is that ‘all domestic dwellings will be energy efficient, resilient to extreme weather, affordable and comfortable to live in, and that this will provide a structure for sustainable communities, attractive places to live and support jobs and skills within a low carbon economy’. www.shap-uk.com.

Our mission is to make sure the 1 million new homes needed in the UK are truly future proofed against climate and demographic change. Our work focusses on supporting scaling up of successful pilots for improving housing, managing energy use and influencing the decisionmaking of everyone in the community on lifestyle choices that improve energy use.

SHAP membership is drawn from across the housing sector and includes local authorities and other public bodies, social housing providers and contractors, consultants, suppliers and manufacturers offering services to the housing sector. SHAP was originally set up by Sustainability West Midlands as a Regional Development Agency project but now provides services across England and is recruiting new Scottish Members.

WHAT DO WE DO?

We focus on improving policy and practice in order to address issues including:

- speeding up the delivery of the 1 million new homes required nationally within the context of achieving the best long term value from the investment made
- continuing to put the tools in place for the energy efficiency refurbishment of the existing UK housing stock.

PRIORITY ISSUES FOR SHAP ARE:

- Supporting Local Authorities in discussions with housing developers to achieve the very best outcomes available in terms of housing fit for the future from the finance invested
- Creation of a sustainable housing stock that is comfortable and healthy to live in and affordable to run, mindful of climate change impacts, the national energy market and constraints and opportunities in the construction sector
- Demonstrating that sustainable housing construction, retrofit and maintenance offers local economic development opportunities for individuals and businesses
- Understanding the risks and opportunities around new approaches to infrastructure investment, new technologies, resource management, data management, partnership working, new methods of construction, new financial/funding models and new approaches to procurement
• Support for sustainable communities through delivery of a sustainable housing stock that contributes to the health and wellbeing of individuals
• Tackling fuel poverty by ensuring housing is fit for purpose and promoting the use of data and digital connectivity to provide targeted support
• Tackling health and vulnerability issues by working towards data sets that can be interrogated to allow targeted support and investing in ‘smart homes’
• Ensuring that rural issues are addressed equally with those of denser urban areas

SHAP OUTREACH AND OUR OFFER

SHAP Members own over 250,000 homes and the wider network is responsible for over 500,000 homes. Local Authority Members also have regulatory powers and duty of care for many more home owners and tenants. In addition, selected Members provide domiciliary care to many tens of thousands of individuals.

Historically, SHAP has worked with almost all West Midlands Local Authorities and continues to maintain strong relationships with key changemakers. More recently we have extended our network and now have Members beyond the West Midlands from Cornwall to Scotland and are seeking to build on key relationships across the UK. We can offer connections to innovators and leaders across our network and facilitation of collaborative projects to organisations in GBSLEP as part of our ERDF Technical Assistance role.

SHAP RESEARCH 2017/2018 - TOPICS

In 2017/2018, SHAP members and their partners participated in 3 Task and Finish Groups that scoped research requirements on three critical housing issues: quality, finance and best value. The discussions and outputs provide an evidence base which SHAP is currently drawing on to help shape policy and practice in the housing sector.

The three linked pieces of research are intended to assist West Midlands Local Authorities, social housing providers and their key strategic partners to improve long term outcomes from investment in housing:

1. Development of a SHAP new build healthy homes standard for the financing and delivery of high quality and energy efficient affordable homes.
2. Development of a SHAP Smart Sustainable procurement model to improve value for money and long term outcomes from investment for Local Authorities and their partners.
3. Development of a SHAP Finance Model for financing the refurbishment of existing homes to address fuel poverty and energy efficiency targets.

The research criteria specified that the research should:
• include consideration of all housing tenures
• be relevant to the public and private sector
• should draw in existing information and not reinvent the wheel
• be easily updateable
SHAP RESEARCH 2017/2018 – RECOMMENDATIONS

Five technical reports were produced which can be found at [www.shap.uk.com/research](http://www.shap.uk.com/research). They investigated:

2. The current costings for enhancing the energy performance of new build housing at 3 levels above Building Regulations
3. Finance options for deep retrofit of the existing housing stock
4. Key considerations to ensure retrofit investment is suitable for the building and is acceptable to and used appropriately by occupants
5. Smart and sustainable procurement that supports value for money and feeds back into future projects and programmes

NECESSARY CONDITIONS SUPPORTING BETTER OUTCOMES FROM INVESTMENT IN HOUSING

The SHAP research identified a number of necessary conditions that are required to underpin better future housing outcomes:

An Capable Client role must be developed => leadership, oversight and responsibility for driving high value long term outcomes

The Capable Client role must drive and be informed by a robust process and feedback loop including: Monitoring + Evaluation + Feedback

Opportunities should be taken to create a flexible approach to housing investment e.g. add hooks into Planning Policy reviews that will allow outcomes to be planned for and required as contexts change

KEY RECOMMENDATIONS FROM THE 3 WORKSTREAMS

HIGH LEVEL RECOMMENDATIONS

1. There are opportunities for the housing sector to address current barriers to housing numbers and the quality of the housing stock BUT taking advantage of them requires systemic change. Standards, business models and procurement are key.

2. Always invest in ventilation and in monitoring and reporting.
3. Develop and test examples of the benefits and value of taking different approaches. EnergieSprong is an example of how finance, quality, building performance standards and procurement approaches have all been brought together to create a new market for affordable, high quality, energy efficient, healthy housing. The model can be applied to new build and to retrofit. Although the EnergieSprong model is not yet mature in the UK, the trajectory of falling costs and high quality outcomes by creating a commitment to a pipeline of thousands of homes can be seen in the Netherlands. Other similar approaches to changing business as usual are being developed in the UK.

4. Take advantage of new opportunities such as the changes in the UK energy system and development of affordable domestic energy storage systems; real time tariff opportunities eg shifting energy demand from peak times that require smart domestic technologies; investment in telecare and communications, electric vehicles etc which require new domestic design solutions.

5. Apply a ‘total cost of occupation model’ which provides the financial and business case for investing more (if necessary) at construction save in order to achieve low running and planned maintenance costs.

EXTRACTS FROM THE SEPARATE WORKSTREAM RECOMMENDATIONS

**Smart and Sustainable Procurement**

The best value for money and long term outcomes start with a robust procurement process, led by a ‘capable client’ who can define the investment objectives, demands feedback and then applies learning to future investment decisions.

The supply chain have a significant offer to make through an early market engagement procurement approach where technical advances and cost effective but high value options and solutions can be showcased.

Awareness raising and training is required for those involved in procurement: identifying opportunities through the current national procurement regulatory framework to manage risk, improve value for money and secure long term impact.

**New Build Healthy Homes Standard and Costings**

The 1 million homes to be delivered in the near future need to be fit for purpose for conditions in 2050 and to be resilient to and able to be affordably adapted to longer duration and more extreme weather events; carbon emissions reductions targets; demographic change; transition of the UK energy system and rise of artificial intelligence, electric vehicles and communications developments such as smart homes.

New build costs and housing performance data are difficult to get from housing developers and more information is needed to create accurate costings against the proposed SHAP new build healthy homes standards.

Variations between local authority areas and clients exist on issues such as space standards and lifetime homes requirements which make it difficult for offsite manufacturing companies to fix on a single modular design. More work is needed in this area.

**Retrofit Finance and Delivering Good Outcomes for Occupants**

Finance is just one required element of a successful national retrofit programme. Other building blocks need to be put into place so that the market can build slowly, learn from good practice and address mistakes before scaling up.
Finance is available for all tenures. Pension and other funds are looking for long term guaranteed returns and can offer low cost finance.

Growing the retrofit market will see some costs fall but a common area of failure in previous schemes has been the drive to lowest cost which results in lack of investment in survey, design, inspection and overall quality control.

The most cost effective approach to retrofit is a ‘deep retrofit’ involving a substantial investment in the building ‘fabric’ plus any required changes to energy systems. If this is not affordable as a one off cost, the house should have a retrofit plan produced which details what needs to be done in which order. For example, gutters and pointing should be done first.

Investment in housing retrofit is not just about bills, it is also about health and wellbeing and for many in fuel poverty ‘not having to get dressed under the duvet’.

Investment should be designed around people and focus on the building itself with technologies selected that reduce the risks of occupants’ lifestyles and operation of technology resulting in adverse outcomes.

**USING THE RESEARCH**

Following finalisation of the individual consultancy research reports in July 2018, the outputs have been used as follows:

1. input to the Langley SPD for a 6000 home urban extension in Sutton Coldfield and to the Commonwealth Games Athlete’s Village planning consultation process
2. input to the Birmingham City Council Health Impact Assessment toolkit which is one of the Validation Requirements for Planning Applications, 2018.
3. input to the WM Health and Planning Group discussions on healthy homes
4. input to the WMCA Environment Board discussions on creating healthy, low carbon places
5. input to the WMCA healthy homes standard
6. input to the WMCA working group on offsite construction of new homes
7. presentation to the Black Country Consortium land delivery board and Garden City working group
8. supporting ERDF applications for innovative low carbon housing
9. underpinning the reconvening of the SHAP WM fuel poverty working group resulting in SHAP being named as the WM lead by Andy Street in November 2018 and in a proposal for a £250m fuel poverty programme for the WM to be confirmed by April 2019

**MODULAR HOMES SUPPLY CHAIN DEVELOPMENT**

The WMCA is investigating opportunities for meeting the target of 215,000 new homes by 2031 by a range of construction methods with an aspiration for a high percentage to come from modular homes.

Terminology being used in discussions about modular homes includes:

- MMC – modern methods of construction
AMC – advanced methods of construction
DfMA – design for manufacture and assembly
OSM – offsite manufacture

Modular homes have a number of common characteristics:

- Most of the construction of the housing unit being done in factory conditions
- Factory production lines producing homes based on standard panel sizes
- Different sized homes can be built using repeated modules
- Potential to contribute to the emerging circular economy driver

Modular homes can be:

- panellised – panels made offsite and erected on site
- volumetric – the whole house is constructed offsite and can be fully fitted out prior to delivery to site
- built around timber, steel or concrete frames

Modular construction is commonly used for hotels, student accommodation etc but it is proving more difficult to launch into the housing market. This is partly due to variation in client demand eg adopted space standards, partly due to the disconnection between manufacturers and groundworks contractors and partly due legacy concerns of mortgageability, insurances, public acceptance.

SHAP is recommending that the supply chain design for manufacture of a home fit for 2050 with a particular focus on the longevity of components such as seals and the easy and planned cyclical repairs including replacement of windows, kitchens and bathrooms. Where the supply chain and clients feel costs for a 2050 home are a potential issue, the design should allow for cost effective retrofit of enhanced building components at the appropriate time e.g. retrofit of renewable energy generation technologies.

To support informed decisionmaking, SHAP is planning a series of factory visits. The first took place in late 2018.

SHAP is part of 3 working groups looking at what a new build healthy home is and is feeding in the SHAP standard:

1. WMCA healthy housing standard
2. WMCA Advanced Manufacturing standard
3. WM Health and Planning group

NEXT STEPS

There are big changes happening at a national and regional level that are impacting on housing programmes and project delivery. The SHAP research findings and evidence are being shared
widely with partners and initiatives across the West Midlands to help inform current strategy, policy and project development.

1. SHAP Members and their strategic partners are invited to attend the next SHAP conference

   **New Housing Development - Planning, Procurement and Viability – 2019 (date to be confirmed)**

   *The SHAP workshop and conference programme is free for Members (including WM Local Authorities and social housing organisations) and can be found at [www.shap.uk.com/events](http://www.shap.uk.com/events).*

2. SHAP Members and their strategic partners are invited to keep the evidence base updated by providing information and case studies – See Appendix 1

3. SHAP Members and their strategic partners are invited to test the SHAP research findings and report back

**CONTACT DETAILS**

We know that there is interest in developing collaborative projects: for example sharing costs of securing legal advice; commissioning feasibility studies; sharing management costs for capital projects etc.

Please have a look at our website [www.shap.uk.com](http://www.shap.uk.com) and get in touch if you are interested in anything we do or if you have an idea or potential project you would like to discuss.

**CONTACT DETAILS**

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