

Scrutiny Review: Modern Methods of Construction.

Review from the Task Group from Overview
and Scrutiny Management Board and
Improving Places Select Commission

November 2018

CONTENTS

	Page No.
Background	3
Legal and Policy Drivers Findings	3
Scope of the Review	9
Method	10
Findings	11
Conclusion	17
Recommendations	18
Bibliography	19

Background

Following the general election of 2016, a survey among younger people and young families concluded that a major cause of their inability to find suitable accommodation was the lack smaller properties coupled with the punitive spare room subsidy, the so called 'Bedroom Tax'.

This was the catalyst for this piece of work, which prompted a discussion to take place at the Council meeting on 28th February 2018 into the Council's annual budget for 2018/2019

An amendment to the budget proposals was put forward by the Opposition Party United Kingdom Independent Party, to ring fence £4m out of £55m unallocated funds, of the Housing Revenue Account, specifically for a project to develop modular one and two bedroomed homes and **where possible** the criteria for each home is to;

- Provide accommodation at a lower cost than traditional on site construction
- Fund as many homes as practicable on Council owned sites
- Delivery homes with an expected asset life span of 25 years or more
- Consider payback periods for the investment, aiming for the project to be revenue generating as soon as practicable
- Where possible, promote and utilise micro renewable and eco technologies so each home has very low running costs for the occupier
- Utilise local innovation where possible (e.g. graphene battery technology to support solar panels and solar spray if available).
- Consider delivering homes which can be picked up and moved to another site if necessary
- Design properties to meet the needs of homeless people, young and or older persons to assist them make a start on the housing ladder or down size to a more affordable home.

The amendment was not carried as it was a proposal that could not be considered at the meeting. (CM157)

However the interest highlighted during the discussions resulted in a cross party review group being formed, with Councillor Cowles as Chair and Councillor Sansome as Vice Chair.

Legal and Policy Drivers

Homelessness Reduction Act 2017 is the biggest change in homelessness legislation for many years and came into force on April 3rd 2018. It aims to prevent homelessness, and not only find accommodation, but continue to support people to ensure they do not become homeless in the future. A new duty placed on local authorities is to prevent homelessness of all people regardless of priority need, who are eligible for assistance who are threatened with homelessness. The additional duty of identified public authorities to refer will mean that most referrals will result in a homeless application being submitted.

It is anticipated that homeless applications will rise by at least 50% or possibly double as a result of this.

Welfare Reform/Universal Credit

Councils have raised concerns about the design and implementation of the Universal Credit (UC) Full Service to date. Feedback from councils shows that the initial payment waiting period for claimants is resulting in a marked increase in debt and rent arrears. This is damaging for households and councils' ability to invest in social housing.

Welfare reform has coincided with rising housing costs and lower incomes. This has led to an increase in the 'affordability gap' (household incomes v housing costs). A symptom of this is the marked increases in homelessness acceptances in recent years.

Rising private sector rents and changes to the Local Housing Allowance (LHA) rate, without a corresponding increase in housing benefit support, have contributed to an increase in the number of households that turn to the Council for support.

Some claimants migrating from existing welfare programmes will not receive transitional protection. Only those who move on to UC as part of the 'managed migration' in 2019 will receive protection. Councils are already reporting confusion and stress about the potential financial impacts for claimants who will move on to UC after a break in claim.

One of the key features of UC is its emphasis on making work pay and supporting in-work progression. DWP has produced very little information on support for in-work progression. The Local Government Association would like to see the Government take up the recommendations in the 'Work Local' report which would enable councils to provide more support to low-income working households. This is particularly important as recent research shows evidence of increasing levels of in-work poverty.

The reforms to housing-related benefits are a major contributor to the gap between living costs and affordability. Recent studies have shown that tenants in the private rented sector are facing among the largest real losses in income as a result of welfare changes. This is driven in particular by the freezing of the LHA rate, alongside the rise in private rents. It is estimated that private rents in 2020 will be 5 per cent higher than in 2016.

Many local authorities have recognised that the freeze to the LHA rate is exacerbating the pressures facing many recipients of UC. Councils' ability to support homeless households is already severely stretched. The combined impact of these changes risk undermining the objectives of the Government's welfare reform programme.

National Housing Context

The housing market in Britain is broken which is the starting point for a recent white paper "Fixing our broken housing market" and this is because simply:-

- Not enough local authorities are able to deliver the social houses they need

- House building that is too slow
- A construction industry too reliant on a small number of big companies.

The law of supply and demand means that since 1998 the ratio of average house prices to average earnings has more than doubled. The issue for society is that less people are able to afford one of the basic needs – a home.

The Council of Mortgage Lenders predicts that by 2020 only one quarter of all 30 year olds will own their own homes. This is in contrast to the generation currently approaching retirement, half of whom owned a property by the age of 30.

A national housing charity Shelter has recently conducted an analysis of government data culminating in the report, “In work, but out of a home” which concluded that:-

- The proportion of working families who are homeless has been growing steadily across the last five years.
- The absolute number of working families has risen dramatically, from over **19,000** households in 2013 to over **33,000** in 2017.
- A sharp increase in the total number of homeless families - **43,750** in 2013 to **60,520** in 2017

The rates of change indicate that there is a problem specific to working families. Between 2013 and 2017 the number of working families in temporary accommodation rose by 73%, in comparison to the total population of families which grew by 38%.

Underpinning this trend is the chronic lack of affordable housing.

- There are currently 1.2 million households on council waiting lists for a new social home
- There are four households in need for each home that becomes available each year
- Housing benefit is now inadequate across most of the country
- Our research shows that by 2020, four fifths (83%) of England will be unaffordable to private tenants claiming housing benefit
- Working families are turning to the Council for emergency help because they have few other options
- The lack of stability in the privately rented sector is also likely to play a role in this trend – a privately rented home is rarely a home for life
- The loss of a private tenancy was the single biggest cause of homelessness in the country in the last year – accounting for 27% of all households accepted as homeless

These findings show that moving more people into work would not be sufficient to end or address homelessness.

By 2020 it is predicted that only a quarter of 30 year olds will own their own home, which is in contrast to more than half the generation approaching homeowners by their 30th birthday. It is much harder for young people to get a foot on the housing

ladder than their parents/grandparents. Home ownership amongst 34 year olds has fallen from 59 per cent over a decade ago to just 37 per cent today.

A New Deal for Social Housing

The recent Government Green Paper sets out a new vision for social housing and the following five principals which will underpin a fairer deal for social housing residents:

- A safe and decent home which is fundamental to a sense of security and our ability to get on in life.
- Improving and speeding up how complaints are resolved.
- Empowering residents and ensuring their voices are heard so that landlords are held to account.
- Tackling stigma and celebrating thriving communities, challenging the stereotypes that exist about residents and their communities
- Building the social homes that we need and ensuring that those homes can act as a springboard to home ownership

Rotherham Social Housing Provision

The table below shows the breakdown by type of property of housing stock at Rotherham Metropolitan Council as at September 2017. The total number of properties was 20,393.

	0	1 bed	2 bed	3 bed	4 bed	5 bed	6 bed	Grand
BEDSIT	72							72
BUNGALOW	1	2783	1921	49				4754
FLAT	3	2122	2609	264	6	2		5006
HOUSE		4	1938	8136	258	2	1	10339
MAISONETTE		2	185	34	1			222
Grand Total	76	4911	6653	8483	265	4	1	20393

A point to note relates to tenants' "Right to buy". In 2017/2018 the total properties sold under this initiative was 202 reducing the overall number of housing stock held by the Council.

The below table is from the housing register at 31st March 2018, splitting applicants into number of bedrooms required. This clearly shows that the vast majority (71%) of applicants to Rotherham's housing register need a one bed roomed property.

Bedrooms required	No. of applicants
1	4,763
2	922
3	866
4+	123
TOTAL	6,674

The Housing Register

There are currently 6,628 applicants on the Housing Register. Applicants who join the Housing Register are assessed and placed into one of the following bands:

Band 1 - There are 268 applicants with immediate housing need

Band 2 - There are 1,446 applicants with very urgent housing needs

Band 3 - There are 1,817 applicants with urgent housing need

Band 4 - There are 1,860

Transfer Band – There are 1,237 Council or Housing association tenants with no housing need

Total 6,628

There were 1,446 registered in Band 2 for a variety of reasons, for example due to medical requirements. The households detailed below have approached the authority due to homelessness issues and have been placed in Band 2 on the Housing Register:

- 148 households not ready to leave supported accommodation
- 99 households subject to domestic abuse
- 65 households ready to leave supported accommodation
- 37 households who have been assessed as statutory homeless

The temporary accommodation units of 41 (crash pads) are fully occupied 90% of the time.

Homelessness

The review identified the level of need both in number and type of accommodation for homeless households. With regard to need, during the autumn of 2018 there were 132 open homeless cases undergoing assessment. The outcome of these cases could be potential prevention cases or potential acceptances.

The number of Homelessness acceptances: 2017/2018 = 122

As of 12th October 2018 the case load increased from 132 in April 2018 to 354

- 54 in intervention stage
- 149 prevention stage
- 143 relief stage
- 8 Main Duty stage.

The number of homelessness preventions

- 2017/18 = 714
- April 2017 to 2nd February 2018 = 451

Two rough sleepers were identified on the Rough Sleepers Count in November 2017. This count in November 2018 was 4 – an increase of 100%

The main reasons why people become homeless are:

- Loss of an Assured Shorthold (private rented) tenancy
- Relatives or friends no longer willing or able to accommodate
- Parents no longer willing or able to accommodate
- Required to leave accommodation provided by the Home Office
- Relationship breakdown

During the same period, the top five priority need categories were:

- Applicants with dependent children
- Pregnancy
- Vulnerable due to a physical disability
- Vulnerable due to a mental illness
- Fleeing home because of domestic abuse or threat of violence

Sheffield Rough Sleepers. The link below shows an example of how partnership working is providing some comfort for rough sleepers.

<https://www.thestar.co.uk/news/sheffield-rough-sleeper-partnership-hailed-a-success-1-9084195>

Housing performance indicators

Performance indicators 2017/18 the target for the number of new homes to be built in the Borough was 641 units, the number achieved was 479 units, a shortfall of 162 units.

Although the task of increasing the supply of new homes is difficult to achieve the Council is still continuing to work really hard to stimulate growth. The Council's efforts however are sometimes fettered by external influences, for example the bids it made to secure additional funding through the Government's Housing Infrastructure Fund that would help deliver new homes in key sites in the Borough. Despite the setback the Council is continuing to work with representatives from Homes England, the body responsible for administering these funds to identify how future bids should be made.

Gaps in Housing Provision

Night shelter/hostel/assessment bed – provision is needed for people who are not classed as priority need but until benefits claims are completed and income is available the accommodation options are very limited.

- Inadequate numbers of bedsit accommodation – both in the public and private sector
- Complex needs – there is a group of people who are stuck in a cycle of repeat offending and homelessness, whose previous behaviours prevent future access to property provided by Rotherham's partner organisations. Housing First ¹is appropriate in this situation, but more units need to be provided

¹ **Housing First** England is a new project to create and support a national movement of **Housing First** services, improving the lives of, and support for, some of society's most excluded people.

- Accommodation for single people who may not meet the criteria of complex needs, but need a degree of support due to their vulnerability, and inability to get a tenancy (eg offending history/previous anti-social behaviour)
- Rent in advance/bond scheme. No current scheme in operation and discretionary housing payment (DHP) cannot be utilised unless there is an active claim. More work needs to be done with landlords to encourage them to accept certain client groups
- Need to increase number of temporary accommodation units for people with a priority need in accordance with homelessness legislation – currently being reviewed

The Housing First model and vulnerable adults' pathway will provide much needed supported accommodation for single people who have complex needs and become homeless on more than one occasion. However, the number of units may need to be increased dependent on funding. The pilot will be reviewed and further consideration will be given then on the future of this approach.

Population Trends

Rotherham has an aging population with 50,500 (19.3%) aged 65+ in 2016, projected to increase to 58,500 (21.7%) by 2026 and 68,300 (24.8%) by 2036. There are no local statistics on divorce trends. However, divorce has been one factor leading to more people living alone, alongside older people who have been widowed.

The number of single person households in 2014 was 32,000 (29.1% of all households) and this is projected to increase to 38,000 (31.1%) by 2039. The demand for one bedroom housing is more likely to come from young people starting out or older people downsizing.

Scope of the Review

The basis of this review came from the inability of young people and others in receipt of housing benefit/UC, to find suitable smaller accommodation. This finding was the driver for exploring solutions.

As the Group's knowledge of the modular market increased so did the scope of the project. Consideration was given to the provision of a range of larger and higher value MMC properties to make this housing option available to larger households. Thus the report reflects this wider brief:

- Original scope to meet the needs of younger single people reaching adult hood needing somewhere to live and older people who wish to downsize, and
- What is available and should modular housing be used to meet broader housing needs?

Initially, members' thoughts reflected their recollections of historic, modular housing such as post war 'prefabs' and there was a tendency to contrast and compare conventional housing with modular. As the study progressed and knowledge of the new modular housing offer grew, thinking changed to ask, why not modular housing rather than traditional build?

Agreed Scope

The scope for the review is to look into the viability of providing affordable housing for young single individuals and larger families via MMC and, wherever possible, incorporating suitable technology to reduce running costs as well as with the ability to move the buildings where they are most needed.

Method

The initial meeting of the Review Group on 12th April 2018 agreed the scope for the review along with other areas of research.

Councillor Cowles and Councillor Sansome explored the options of various modular buildings with visits to nearby manufacturers, REACH Homes in Sheffield, and Premier Modular and Ilke Homes in East Yorkshire

Councillor Napper and Councillor Walsh looked at technology to provide energy sources for heating and lighting the modular home; Councillor Walsh attended an Energy Source Conference, in Liverpool on 14th June 2018.

Councillor McNeely and Councillor Julie Turner worked with the Homelessness Team to identify the scale of homelessness in Rotherham.

The view of the Chair was that a key element of this review was to seek the views of the young people who could potentially become tenants/owners of modular homes. To achieve this, the Review involved Christian Palfrey, House Project, Leaving Care Service.

The officers who provided their knowledge and expertise included

- **Judith Badger** – Strategic Director, Finance and
- **Miles Crompton** - Performance, Intelligence & Improvement
- **Sharon Crook** - Scrutiny Support Officer.
- **Jane Davies** - Head of Housing Strategic Development
- **Paul Elliott** - Business and Commercial Programme Manager
- **Andrew Farmer** - Senior Quantity Surveyor
- **Wendy Foster** – Strategic Housing Coordinator
- **Liz Hunt** - Affordable Housing Officer
- **Jill Jones** - Housing Solutions Manager
- **Christine Lamont** - Business Development Manager, Premier Housing.
- **Andy Lumb** - Partnership Manager
- **Paul Maplethorpe** - Domestic Energy Officer
- **Mark Nearney** - Head of Contracts, Investment and Compliance
- **Christian Palfrey** – House Project, Leaving Care Service
- **Craig Rutherford** – Supported Housing Assistant
- **Billy Wilson** - Technical Officer

Findings

For clarity, the definition of “Affordable Housing” for the sake of this report is **housing** units that are **affordable** by that section of society whose income is below the median household income.

Modern Methods of Construction. (MMC)

Rather than using traditional methods of construction of bricks and mortar to build a property, the modern way is that the property is built in a factory. The finished products are transported to their new locations, where they are assembled by a builder. A property built using modern methods of construction (MMC) is not a mobile home. These homes are often called factory-built, system-built or homes built off-site. The term “prefabricated homes” conjures up visions of homes erected post 1945 for speed and ease of providing accommodation after the war. Current MMC properties are spectacular, versatile and adaptable units where sustainability, the environment, waste management, thermal efficiency and recycling issues are taken into account in the making of properties.

Suppliers visited by Members of the Scrutiny Group manufactured homes in a number of stages. The units were craned from stage to stage inside a large warehouse, similar to a production line in the automobile industry. Producing homes in this way offers far greater control of the manufacturing/build process than traditional build:

- Panel insulation - each panel is individually inspected during the process to ensure it is fully insulated and hence the overall thermal efficiency of the completed unit can be guaranteed within defined parameters
- The size of walls and window openings are machined to exact dimensions ensuring that they fit together exactly and there are no gaps allowing for cold bridges or drafts
- Interior fixtures and fittings slot exactly into the space provided and the doors and skirting boards fit without gaps that need filling.

Put simply, the process provides end to end quality control throughout the build process. This also applies to suppliers of components who as well as their own internal quality control checks receive visits and component inspections from the MMC manufacturer. This overall quality regime and management of the build process ensures that each unit can be guaranteed to meet strict production and performance parameters and avoids the 'Friday Afternoon House' where things are not quite as they should be. **Further information can be provided on request**

Types of Modular Home

The Group was provided with an outline of the various types of modular homes currently available on the market. Two different types of homes were identified as being the most relevant type to meet the criteria set by the Scrutiny Group; Container/modular homes and panelised homes.

Container Homes

Container homes are used widely in Northern Europe as student accommodation and, have more recently been used in Brighton to house homeless applicants whilst their claim is being assessed. The lifespan of a container home is 20+ years is well maintained. Other examples in the UK include:

- Container City opposite the O2 Arena in London Docklands
- Box Park in Croyden, and
- Raynes Court in Stoke Newington.

Reach Homes (Sheffield.) www.reachhomes.org

Reach Homes is a not-for-profit business which aims to change the market by converting shipping containers into viable eco-friendly homes. Each unit costs around £37,000 - 90% less than a traditional build home and uses up to 60% recycled local materials.

For around £37,000 the container home could include solar PV and battery storage system so that the excess electricity produced during the day can be stored for use at night. The owner of the business, who lives in this house, stated his utility bills were in the region of £100 p.a. making this type of accommodation a very attractive offering for our original target market.

The owner also stated that he is looking for assistance in locating a production development site; this may be something in which the Council may be interested. Contact has been made with officers from Rotherham Industrial Development Office to assist with this enquiry.

Panelised

In order to gain a better understanding of modular homes, a group from RMBC staff, including technical officers, visited the factory of Premier Modular and Ilke Homes – in East Yorkshire.

The panels are manufactured to exact measurements and are usually supported by a timber or galvanised metal frame.

The units were constructed in the factory and then transported and placed in situ by lorry and crane.

The delegates who visited the various modular homes were very impressed by what they saw from the perspective of speed of build/erection, to the quality of the workmanship and less snagging issues.

Points to consider when comparing MMC properties versus traditional build

- The buildings often sit on a concrete raft, so there is no need for extensive ground works

- Once the concrete raft is in place the building is delivered on a lorry and installed using a crane to place the main sections that are then fixed together – this minimised disruption to neighbours, traffic and the environment, sites can easily be returned to green space with the removal of the unit
- The build timeframe is greatly reduced as ground works can be carried out alongside the manufacture of the unit unlike the linear nature of traditional build homes.
- MMC units are still subject to building regulations and planning permission
- Modular home designs vary in style/size, can be customised and more easily extended than traditional build
- Modular homes are permanent structures — “real property”
- The Buildoffsite Property Assurance Scheme (BOPAS) is a structural warranty insurance scheme which covers a period of 10 years after completion; it is the equivalent of NHBC (National Housing Builder Council) for traditional build
- Mortgages for most MMC homes are the same as traditional built homes, (although financial institutions have been slow to recognise the longevity of MMC, this is rapidly changing as they recognise the potential of this market)
- Building/contents insurance is required
- Because MMC homes are so flexible, they can be fully accessible and designed to comfortably house individuals throughout the changing requirements of their lives
- MMC is ideal for smaller, constrained sites (of which RMBC has 300+) as long as the access is adequate for the crane to position the units – some manufacturers, such as [HUSK](#), specialise in redeveloping old garage sites
- For small units, MMC is approximately 10%-20% more expensive than traditional build but significant savings can be made when delivering a substantial number of units
- Modular homes usually have better sound proofing than traditional builds due to construction methods
- Containers can be stripped down and melted down to be reused/recycled

Maintenance Costs

In order to undertake a financial appraisal of the whole life costs of the scheme information will be required around the ongoing maintenance of the units. As the units are of non-standard construction, they may not be included in existing contract agreements with maintenance partners. Further investigations into the likely costs of maintaining the units as well as the arrangements for procuring this service will need to be undertaken to understand the whole life costs of the units and this will form part of the financial appraisal of any scheme.

The Council will re-procurement the repairs and maintenance contract in the New Year and maintenance of MMC units will be written into the contract.

Strategic Housing and Development Service are delivering two MMC pilot schemes; 12, two bedroomed bungalows and 10 single person modular pods. The bidders who have submitted tenders to carry out this work have stated that repairs and maintenance costs are similar to traditional built homes.

The workforce needed to maintain this type of housing may require different skill sets from those need to maintain traditional built properties. The pilot scheme will allow

assessment of this requirement and if necessary allow the workforce to up-skill to provide support and maintenance to a larger development in the future.

Views of Young People

Three young people (Leaving Care) took part in the review and viewed both modular and container homes.

The visit to REACH Homes elicited these comments

- JS said “I would be up for living in one”, he said he had enjoyed the visit.
- KG said “the containers are better than the other modular housing we saw”, “would be nice if it could be made even more affordable for care leavers”, and finally he said “I want one, I’ll move in now.”
- CPa said “Rite good, mint idea, would live in one if had money, but it’s a bit Bullseye – here’s what u could have won” CPa felt that £35,000 was out of reach for most care leavers.

In summary, the views of the young people were wholly positive, the style, size, ease of up keep/maintenance, low energy bills and the variable locations for the units appealed to them. They preferred the one person container units over the larger houses. Communal/or shared living was not an option that the young people would chose, each preferred their own space to make it home.

External Funding Programmes

If the scheme progresses the Council may wish to submit a bid to Homes England to secure grant funding to support MMC development. The amount of grant funding will vary according to the total scheme cost and will only pay for a proportion of the costs, not the whole scheme. There has been a recent announcement on future funding programmes. They are to cover the period 2016-21 (current programme), 2018- 2022 and 2022 -2026. The terms of the grant funding will be explored if any additional finance is required.

Legal and Financial considerations

Different specifications, contracts and payment terms may need to be adopted if the Council wishes to deliver significant numbers of MMC housing. For modular build, in particular, the bulk of supplier costs are incurred upfront as the unit is manufactured in a factory and the staged payment terms used with traditional built properties do not fit.

RMBC Finance

Councillor Cowles put forward a suggestion that in addition to any new MMC units being subject to the standard financial viability appraisal, they should to be individually monitored for performance, repairs and maintenance. This should provide a full and clear cost and revenue breakdown for the property. This information may help the Council better understand asset life/depreciation cycle.

Land Assets.

It is proposed that the units will be delivered on Council owned land. Suitable small sites can be identified by the Council's Asset Management Team. A review of Housing Revenue Account (HRA) land assets is underway. Officers have visited all of the HRA sites and inspected them to determine possible future use. The review includes garage sites (with fixed garages) and garage plot sites (where plots are offered to tenants to provide their own building).

Tenancy Options

Although this topic was not explored in depth as part of the review, careful consideration needs to be given to the ownership of the properties as this will determine the types of tenancy which can be issued. Further details are provided in <https://www.rotherhamkeychoices.org.uk/content/Information/PolicyDocuments>

Energy Options

The energy supply market for domestic customers offers a number of options, each with their own advantages and disadvantages. In the long term, the decisions the Council takes may not reflect future technology gains or future Government policy.

Decisions around energy efficiency measures will be taken with consideration to price, increase of supply and the offset of capital costs (the price of the technology used) against payback period. High-end energy efficiency technologies tend to bring additional cost to the Council but the benefits of the technology is realised by the tenant only.

Value for money may have to be compromised if some of the options are adopted but the Council must limit the risk of tenants being exposed to fuel poverty. It must be understood that a change in behaviour is needed to get the most of many new technologies; this is often very difficult to establish.

Depending on the site, it may be possible to deliver off-grid pods with self-sufficient solar power. This would be of significant benefit to the tenant of that property in terms of fuel costs.

Tenants of in-grid properties with solar photovoltaics (solar PV) would benefit from selling excess energy back to the grid; the sums received would depend on the weather and the tenant's behaviour.

Battery storage was considered as part of the original solar power idea. It turned out that battery storage could offer advantages in its own right in grid-connected pods without solar arrays. Lithium ion batteries were the only technology likely to be useful on the envisaged scale of individual pods or groups of perhaps up to a dozen at this time.

One option is to simply store the electricity till it's needed and the best option is at the source of use in the tenant's home. By charging a battery at off peak times the price of energy can be less. The exact times vary, but the off-peak period will begin between 10pm and 12pm, and last for 8 hours. This stored electricity can then be

used during the day offsetting the peak cost of electricity. The cost of the battery and its installation would have to be borne by the consumer or third party and this may mean the resident is tied into one supplier contract which would not be practical or possible under current legislation or tenant landlord agreements/legislation. Although the battery could be supplied as part of such a tariff, this would require a long term commitment which might not be compatible with tenancy agreements. Therefore this option would require the battery to form part of the capital investment in the pod, unless the cost of the metre can be removed from the capital investment and offered separately.

If a group of pods were to be located some distance from existing power supplies, a communal battery for peak-opping could reduce the required capacity of the mains connection. Depending on the length of the connection, it could be cheaper to install a battery and a low-rated power line than to install a high-rated line. This could become relevant if there was an intention to locate pods in rural parts of the Borough.

Another consideration is the life span of the batteries. This depends on how often the batteries are charged and discharged and the conditions in which they are charged and discharged. The lifespan of a battery will depend on how it is used but it is not unusual for a battery to last 15 years. Alternatively, a large battery could have the capacity to serve a small group homes. The council could enter into An Energy Service Company (ESCo)², buy a storage battery and buy energy at off peak times to sell to the estate. Capital outlay would be expensive and may not be possible with the Council acting alone.

Complications with this system include:

- Possible security of supply should the battery fail
- Reputationally, the Council may not wish to disconnect non-paying tenants
- Battery storage (behind the meter³ or not) should not be considered as the only option

Conclusion

Evidence shows that the housing market is broken due to insufficient homes being built at a rate quick enough to meet the demand of the changing demographics at a local and national level.

Overall the construction industry is reliant on a few large companies who dominate the industry. Insufficient affordable homes are being built and fewer people are able to buy their own homes as the ratio of average house prices to averages earnings

² An Energy Service Company (ESCo) is a commercial structure created specifically to produce, supply and manage the local delivery of decentralised energy to a 'whole site' development. For example, an ESCo can be formed to support a regeneration area, a large residential development, a single commercial initiative such as an office or manufacturing plant, or a hospital or multi-unit development of commercial offices or retail outlets. High initial capital costs can be seen as an obstacle to the provision of decentralised energy.

³ "behind-the-meter" means the energy storage system is installed on the customer's property and on the customer's side of the utility meter. The use of a BTM energy storage system, therefore, can reduce the customer utility bill.

has more than doubled since 1998. The proportion of working families who are homeless has grown in the last five years. It is anticipated that homeless applications will rise by at least 50% as a result of this and the introduction of the Homelessness Reduction Act 2017.

The introduction of Government initiatives such as Welfare Reform and Universal Credit has had an impact as the initial waiting period between submitting a claim and receiving money can be six weeks. This often leads to an increase in the claimant's individual debt and rent arrears.

The number of applicants on the Council's housing register is 6,628 against a housing stock of 20,393 properties.

The tenant's "Right to buy" continues to reduce the number of social house.

The need for single person accommodation is set to rise in the coming years.

One of the ways identified in the Green Paper – A New Deal for Social Housing to assist the growth of the housing market is by building social homes to act as a springboard to home ownership.

There are renewable energy options available to the Council to introduce in to MMC properties, however further consideration needs to be given to the preferred option. Points for consideration include the efficiency of type of energy used, the capital cost of installing new technology/equipment, to prevent possibility of tenants falling into "fuel poverty" and finally and the most difficult is to change behaviours surrounding the use of renewable energy options.

It has been suggested by the Government that a radical rethink is required to reshape the housing market, by:

- Encouraging Councils to plan for the right homes in the right places based on evidence of need
- Building homes faster to make the planning system open and accessible to prevent unnecessary delays in the process
- Diversify the housing market by opening the market to smaller builders and to those who embrace innovative and modern efficient methods
- Supporting housing associations and encouraging local authorities to build again
- Encouraging investment in the private rented sector
- Promoting modular and factory built homes.
- Making it easier for individuals to build their own homes

Summary

A positive outlook from this review is that options have been discussed that if carried out would assist in repairing the broken housing market locally. One solution is to provide new affordable container and modular homes, with renewable, cheaper energy sources, for young people and small families.

The idea of container homes received positive comments from young people who wanted to move in straight away.

There are currently two small MMC pilot projects underway in the Borough which in time will offer learning to support future MMC developments. As with all expenditure made on behalf of the council, value for money needs to be delivered. It is estimated that the cost of one container home is around £37,000. This would be reduced should the Council seek deliver greater numbers of units or if there was to be a guaranteed pipeline of properties.

A quote for consideration.....

“Normal ways of doing things are there to be challenged. If we're going to make life better, we need to try new things”. (Citu Team)

Recommendations

1. That consideration of any learning points identified as part of the RMBC's MMC pilot schemes be used to inform any future MMC housing projects
2. That Housing develops a pilot project of up to 10 pods at various locations throughout the Borough
3. A pilot project of 5 MMC homes for families be developed
4. Develop the option of various energy packages in the MMC properties e.g. solar power and high energy efficiency measures for residents of the Borough whether in social or private rented accommodation
5. That each individual MMC property is monitored to demonstrate capital cost and repairs/maintenance costs over a set period of time to allow practical comparison with traditional built homes.

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