

Welsh Zero Carbon Housing Performance Hub

Annex C – Interviews & Workshop

August 2021

Introduction

The majority of stakeholder opinions during this scoping study were captured by the web-based survey (See Annex A for more details). In an attempt to better understand the more nuanced opinions of key sectors the project team also conducted a total of 15 'one-to-one' virtual interviews and ran a Social Housing Provider focus group attended by 9 organisations.

During earlier stages of the project, it was proposed that a balanced scorecard could be used to represent the various perceptions of risk. However, during the interviews it became apparent that whilst the range of issues was essentially consistent across all people, ranking them requires a far more complex and cross sectoral investigation. It is therefore proposed that such an investigation should be one of the first exercises undertaken by the Technical Forums once they are created.

For the purpose of this Annex it is possible to provisionally summarise the risks highlighted, in no prioritised order, as follows: -

- Local Councils, Housing Associations and RSLs often lack sufficient in-house expertise to fully manage the period of rapid innovation that is expected of them between now and 2025;
- Seeing mainstream delivery of zero carbon homes as a purely technical challenge misses the critical elements of change management which include; cultural incentivisation, supply chain scale-up (including practical construction skills) and consumer understanding;
- To reduce the risk of siloed policy development Welsh government needs to engage more regularly with both the social and private housing sector. It also needs to increase the speed at which best practice lessons from activities such as the Innovative Housing Programme are disseminated;
- Current energy modelling tools (like SAP & EPCs) do not provide sufficient confidence to the financial or social housing sectors to support new approaches to rent and mortgage lending that reflect a property's energy performance;
- Similarly, there is an increasing need for high quality, publicly available data sets providing details of flood risk and ideally actual energy performance at an individual property level. This is critical to help reduce the risk that new technologies are adopted at scale to then subsequently become a liability in terms of under-performance or increased maintenance burden.

This annex presents a summary of the opinions expressed during the interviews and the workshop. They are attributed by organisational type only, rather than specific individuals or companies, to encourage a more open sharing of opinions.

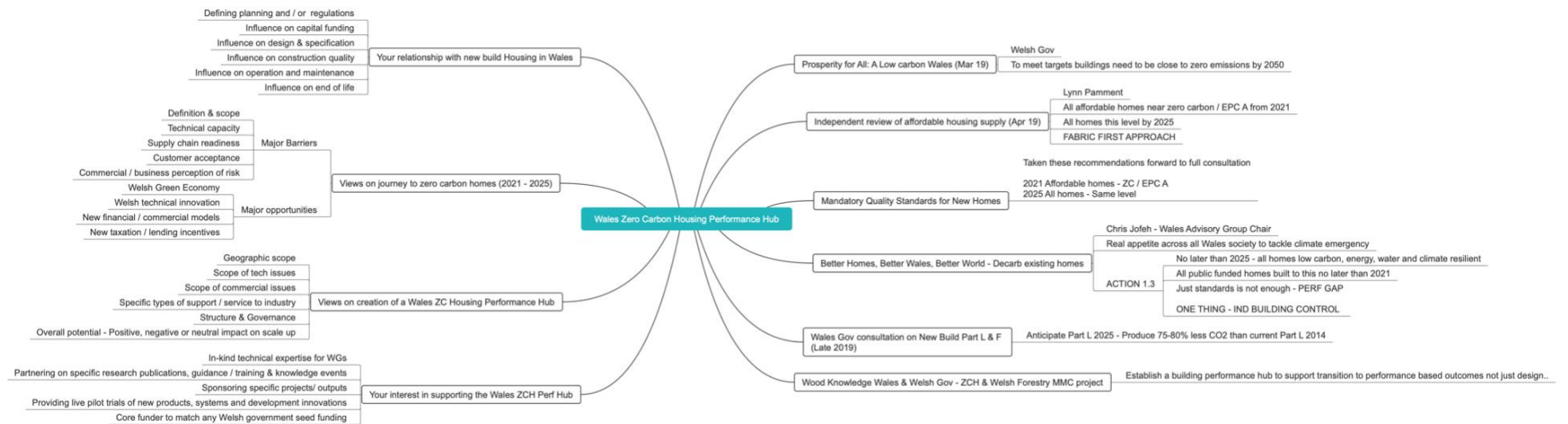
Interview structure

Each interview lasted approximately 30 minutes using a basic structure in an attempt to balance a free-flowing discussion and the need to consistently cover key issues. The mind map and interview prompt table on the following pages provide an insight as to how this was achieved.

Table 1 - Interview prompts used by research team

Relationship with new build housing in Wales	Views on Welsh journey to zero carbon homes (2021 – 2025)	Views on creation of a new hub	Interest in supporting a new hub
Defining planning and / or regulations	Definition & scope	Geographic scope	In-kind technical expertise for WGs
Influence on capital funding	Technical capacity	Scope of tech issues	Partnering on specific research publications, guidance / training & knowledge events
Influence on design & specification	Supply chain readiness	Scope of commercial issues	Sponsoring specific projects/ outputs
Influence on construction quality	Customer acceptance	Specific types of support / service to industry	Providing live pilot trials of new products, systems and development innovations
Influence on operation and maintenance	Commercial / business perception of risk	Structure & Governance	Core funder to match any Welsh government seed funding
Influence on end of life	Welsh Green Economy	Overall potential of such a Hub - Positive, negative or neutral impact on scale up	
	Welsh technical innovation		
	New financial / commercial models		
	New taxation / lending incentives		

Figure 1 - Mind map to support interviewers explaining the scoping study aims



Interview summaries

This section presents summaries of the individual interviews used to inform the recommendations in the main report.

Interview 01

Organisation / Sector type	Wales based social housing developer – New build & retrofit. Focussing on combination of innovative delivery processes, tools and more intelligent use of low carbon energy generation, storage and smart controls / demand control
Interaction with Welsh policy / R&D support	Works closely with Welsh Government on Innovative Housing and Optimised Retrofit Programmes (IHP and ORP). Keen to see clear roadmap to 2050 which makes best use of smart grid balancing, demand control, load shifting, plus expansion to include embodied carbon
Activities & challenges	Lack of clear guidance during early years of IHP on exact Building Performance Evaluation monitoring requirements. Led to confusion and lack of consistency across projects. EPC & SAP methodology / reflection of real-world energy consumption needs to be addressed
Perception of risks	EPC / SAP current approach may be incentivising work on properties (especially retrofit) that is not strategically optimal. Smart grid is not being fully considered in current 2050 strategies. Supply chain scale up is critical
Valuable activities / functions from a new hub	Critical it does not create more confusion as Wales already has the IHP and ORP programmes. The Decarbonisation Implementation Group (DIG) is very knowledgeable and should be central to any new hub's activities / strategy. Not sure of any immediate value a new hub would bring
Ways to interact / support a hub	In-kind. Always happy to provide case study examples and suitably anonymised monitoring data. The IHP dataset currently being organised by Active Buildings Centre could be a very quick head start. Keen to take part in Industry Stakeholder and Working Groups if established

Interview 02

Organisation / Sector type	Expert strategic / technical consultant
Interaction with Welsh policy / R&D support	High profile national strategy studies. Active involvement with both Optimised Retrofit & Decarbonisation Implementation Group (DIG)
Activities & challenges	Reviewing existing Welsh zero carbon technical and supply chain capacity. Developing strategic policy and funding plans
Perception of risks	Approaching net zero carbon housing from a purely technological sense will not be successful. It is critical to consider the challenge in terms of capability (physical, knowledge, skills), opportunity (physical and social) and motivation (reflective and automatic)
Valuable activities / functions from a new hub	To be successful the Hub must start with a system mapping exercise to understand where the key levers for change occur and how best to strategically activate these. Not immediately sure of the value any new hub might bring
Ways to interact / support a hub	In-kind. Happy to support if it was created. Keen to make sure there is a strong link with existing activities and organisations leading work in this area

Interview 03

Organisation / Sector type	UK wide major new housing developer
Interaction with Welsh policy / R&D support	Active in Wales but this is a comparatively small portion of their market. No interaction with the IHP
Activities & challenges	Deregulation of technical standards means that national house type designs have to be modified for Wales which causes problems with supply chains and economies of scale. Perception common across major housebuilders that the Welsh Government is not keen to support them. Many don't bid for projects on publicly owned land as historically very low success rate. Affordable Housing Cost / Value Framework makes it very difficult to find local Housing Associations to work with
Perception of risks	Welsh technical regulations are developed with minimal active industry engagement. There is no clear way to engage with government to discuss challenges and find solutions. Perception there is no clear dissemination of the lessons being learned from the IHP support projects in Wales. Immediate concerns relate to electrification of heat, ASHP, grid reinforcement costs, consumer acceptance of new technologies, future maintenance burdens etc
Valuable activities / functions from a new hub	There is a real need for a central place that national housebuilders can meet and openly discuss the path to net zero with government and local planners
Ways to interact / support a hub	In-kind. Very keen to support, either individually or via their existing local HBF groups, especially for working groups and feedback to government consultations

Interview 04

Organisation / Sector type	Specialist Welsh Construction Procurement Collaborations & Management
Interaction with Welsh policy / R&D support	Mainly via their strong links to Welsh Social Housing Providers. Can see wide support for net zero reports such as 'Better Homes'. Linked to several groups of HAs doing higher performance timber frame projects. But not directly linked to the IHP or ORP yet
Activities & challenges	Creating Dynamic Procurement Systems in North and South Wales. Mainly retrofit to date but moving to more new build. How to pool build programmes to achieve economies of scale
Perception of risks	Housing Associations want to innovate but have limited in-house technical expertise so need impartial support. Traditional 'framework' approach to procurement does not help new innovations or keep the emphasis on performance improvement and quality
Valuable activities / functions from a new hub	Providing a clear route to Welsh Government so organisations can demonstrate the role procurement can play in net zero, especially social housing sector. Welcome any guidance or insight as to how post-Brexit trade will develop
Ways to interact / support a hub	In-kind. Keen to be involved. Can provide links to their regional activities and wider Wales based SME contacts. Happy to take part in working groups

Interview 05

Organisation / Sector type	Finance provider
Interaction with Welsh policy / R&D support	Close links with innovative Welsh builders and developers. Via these direct experience of the IHP
Activities & challenges	Capital lender to mainly SME house builders (50% in Wales). Balancing the risk of innovative products / systems and the need to build higher performance homes. Recent mainstream negative press around new homes and summer overheating etc (Panorama programme?). Consistency between valuation and warranty of MMC systems
Perception of risks	Social housing sector is used to trial and scale up innovation. They see this as the 'bleeding edge' to help inform risk profiles for mainstream projects in 2 to 3 years. Major concern is legacy risk of funding a portfolio that has new technologies. Particularly ASHP, batteries, MVHR, timber SIP systems etc. In last 12 to 24 months Private Rented Sector pressures to report climate change risks. Increases motivation to do more in this area
Valuable activities / functions from a new hub	Independent viewpoint on future risks associated with innovative construction systems, grid reinforcement costs, financial flow differences during MMC projects as opposed to more traditional site construction. Data to help them inform how to manage this period of change
Ways to interact / support a hub	In-kind. Keen to support working groups. Most likely via existing industry groups like UK Finance Association and / or Building Societies Association

Interview 06

Organisation / Sector type	Welsh Government – Optimised Retrofit Team
Interaction with Welsh policy / R&D support	Core team member managing projects and guiding strategic developments
Activities & challenges	Working closely with expert consultants, academics and industry to maximise impacts and benefits of ORP funding. One area of particular challenge in wider dissemination of project findings and best practice across the wider Welsh supply chain
Perception of risks	Finding a balance between regulation to improve building fabric / systems to reduce demand vs preparing for wide scale grid decarbonisation. What are the most cost-effective site-based measures including low / zero carbon heat sources
Valuable activities / functions from a new hub	Providing a very active linkage for government, social housing providers, local councils and industry to collaborate, increase sector knowledge and grow Welsh based supply chain capacity
Ways to interact / support a hub	In-kind - via the IHP and ORP government teams

Interview 07

Organisation / Sector type	Specialist zero carbon construction skills education
Interaction with Welsh policy / R&D support	Major involvement with reviewing and upgrading existing training across Welsh HE & FE sector. Advising government whether courses are fit for the future and if not developing educational material for local providers to trial and iteratively improve. Perception that IHP and ORP programmes are not always coordinated and that skills lessons are not disseminated as quickly as necessary
Activities & challenges	Priorities are setting consistent national construction training standards (specific to WG on innovative housing / MMC), plus mapping this knowledge profile onto existing trades and workforce to increase quality control and technical capability. Work very closely with CITB developing projects for MMC, Innovation, BIM, new working at height / scaffolding solutions
Perception of risks	Major risk is the perception by some that de-skilling the site work force will answer all problems. Great need for national based competency qualifications
Valuable activities / functions from a new hub	A central forum to capture supply chain demands, identify gaps and demonstrate what new technologies (like augmented reality, BIM etc) can bring to practical training and site operations.
Ways to interact / support a hub	In-kind – taking part in working groups, bringing case study examples, linking to companies that need new training and willing to pilot new delivery approaches / course models

Interview 08

Organisation / Sector type	Finance provider
Interaction with Welsh policy / R&D support	Some links to the IHP, especially helping Wales based timber frame manufacturers and social enterprises
Activities & challenges	One of their core objectives has always been to promote a more holistic, sustainable perspective to lending to both individuals (self-build) and community benefit commercial customers (community housing, community land trusts, local SME developers)
Perception of risks	Recent requirement / trend for financiers to start declaring the carbon impact of their lending portfolio could have an unintended consequence for some owners. Effectively lower performing homes being less attractive / treated as higher risk (similar to flood profiles already?). How would the new Welsh hub fit in with existing organisations like the main Construction Innovation Hub and recently announced MHCLG MMC task force to be based in Wolverhampton?
Valuable activities / functions from a new hub	Need any new hub to have a clear relationship with the existing IHP and ORP. Must bring additional benefits, making life easier and communications more efficient between government, industry and housing providers
Ways to interact / support a hub	In kind – supporting at Industry Stakeholder level to inform strategic direction

Interview 09

Organisation / Sector type	Finance provider
Interaction with Welsh policy / R&D support	Familiar with work of Woodknowledge Wales and Welsh government support for local timber but nothing more specifically
Activities & challenges	Emphasise support for more innovative and environmentally designed housing. Long track record of being willing to lend on more innovative designs and systems, close relationship with self-build and Passive House community. Active in the Wales because of this profile but keen to do more
Perception of risks	Insurance and lenders are concerned about future climate related risks, especially flooding and extreme weather-related water ingress. Also, EPC / SAP not a sufficiently accurate way of understanding the actual energy and carbon impact of their portfolio of lending stock. This is becoming a more mainstream concern too in the finance sector
Valuable activities / functions from a new hub	Would support a new body that can help provide better access to real monitored performance data. They want to help create a community of innovative lenders
Ways to interact / support a hub	In-kind plus potentially interested in supporting trial / innovative live construction projects to understanding different finance approaches need to support MMC and other new solutions

Interview 10

Organisation / Sector type	Finance provider
Interaction with Welsh policy / R&D support	Main market, and therefore focus, has been England. There they see a comparatively clear path for the Future Homes Standard and uplifts for Private Rented Sector from 2025/ 2028
Activities & challenges	See retrofit is the bigger challenge for residential sector. One of the biggest challenges is getting reliable energy consumption data at a level their risk teams can use to understand the future impacts
Perception of risks	Transition to net zero is a clear risk to their lending portfolio, in terms of future technical issues and potential valuation impacts for lower performing properties. Challenges of improving the existing stock (technical viability and occupant motivation / trust) mean we must do more on the energy infrastructure side too. Flooding is seen as the most immediate risk, but energy in-use and overheating risks are under review
Valuable activities / functions from a new hub	Willing to support any move to glue together the current disparate mixture of policies, government schemes and messaging to industry. Especially if it can unlock more detailed and reliable energy performance data
Ways to interact / support a hub	In-kind – regularly attend industry / government roundtables and keen to be involved more in Wales. Supporting webinars, working groups etc. Very happy to engage

Interview 11

Organisation / Sector type	Council Developer
Interaction with Welsh policy / R&D support	Based in North Wales. Constant need to understand government policy for both social housing new developments and approach to rental limits / rules. Taken part in IHP on 2 live developments. Also, part of the Council Housing Development Forum Wales
Activities & challenges	Freedom gained with the Housing Act 2014, allowing them more freedom in how they fund new build and lend capital, has meant they are much more active on new housing. Working with local procurement network to build low carbon low rise apartments and houses using locally manufacturer timber frame system with GSHP and PVs. Challenge is sharing learning quickly enough between IHP projects. Seems we are all having to learn lessons individually rather than being able to avoid them thanks to advice from other projects
Perception of risks	Understand where 'risk' sits at different times during projects when using innovative designs, products and build systems. Finance is critical – rent is currently fixed whatever the energy performance / bills of the home. Is this fair? Really strong need to understand the real performance these new homes are delivering. Occupants are key to this being a real success. Are we designing and trialling solutions for the correct property mix? Huge demands for low-cost single person apartments (less than 4 storeys) and also sheltered communities / flats for the elderly that also have modern access standards / lifts
Valuable activities / functions from a new hub	New hub would need to bring a much quicker way of sharing lessons from both the IHP and ORP
Ways to interact / support a hub	In-kind – happy to be involved as with other similar initiatives

Interview 12

Organisation / Sector type	Finance provider
Interaction with Welsh policy / R&D support	Relatively limited direct contact with Welsh government. Tend to work with well-informed / connected social housing providers and companies via collaborative projects. This gives them an insight to IHP and others
Activities & challenges	Major activity in this area has been a pilot development where they are looking at the different needs for valuations and lending relates to 'Affordability Calculations' which take into account energy bills. Also have an objective to provide finance for small scale, locally needed, developments. For really innovative technologies and MMC systems they use expert external consultants to advise on risk and valuation issues
Perception of risks	Currently available energy data (EPCs etc) is not good enough to understand the future risks. Similarly flood and erosion data that is open source is not high quality enough
Valuable activities / functions from a new hub	Would need to create a partnership, especially around real performance data, collating it, providing a clear voice to government for the smaller regional Welsh lenders as they do not have the same access to policy makers as larger lenders. Local lenders can give a much more current and nuanced perspective on what communities and local industry needs
Ways to interact / support a hub	In-kind – to date has tended to be taking part in panels or working groups. But internal discussions underway to see if secondments might be a good way to quickly upskill their team and bring in new perspectives to the organisation

Interview 13

Organisation / Sector type	Construction Industry Organisation
Interaction with Welsh policy / R&D support	Work very closely with government meeting ministers and leading civil servants monthly as part of the Ministerial Construction Forum. Have created their own working groups to mirror (Housing, Infrastructure, Planning etc)
Activities & challenges	Work with private and social construction industry. Regional best practice clubs have in the past focused on Passive House. Working with Active Buildings Centre on use of monitoring data. Organisation was funded by government for circa 18 years but has moved to a membership subscription basis in the last 3 years.
Perception of risks	Skills base to deliver the new generation of zero carbon buildings will not be in place, especially new technologies. There is a real appetite for this change but still a sense of fear
Valuable activities / functions from a new hub	Would need to help solve the existing challenge that lots of good activity in Wales, but it is often siloed and piece meal. Key is organisation and coordination to share. Must promote collaboration and partnership. Need to actively identify best practice, areas where gaps need support, encourage sector to talk about challenges and share solutions, present clear message of what industry asks of government
Ways to interact / support a hub	Very willing to collaborate on activities to improve; foundational economy, MMC / DfMA housing. Keen to be part of the strategic partners

Interview 14

Organisation / Sector type	Private equity / finance provider
Interaction with Welsh policy / R&D support	An expanding number of developments in Wales
Activities & challenges	They seek to provide affordable housing for keyworkers caught in the 'no-man's-land' between low-income social housing and the private mortgaged sector. Focus is primarily on high property value urban centres but have been seeking to work in Cardiff etc. Found it very difficult to access land in Wales.
Perception of risks	Their investors need to be confident that the building portfolio being created is future proofed for climate change impacts, this includes actual energy performance plus occupant satisfaction / well-being. So, they are very interested in high performance MMC etc. How to find a balance between 'presumed planning consent' and ensuring properties are of good design and quality. Their business model, which works in England, is about maximising build speed and releasing investment return. But developers in Wales have tended to be more focused on profit margin than speed of return
Valuable activities / functions from a new hub	Would need to create forums where the finance community, developers and local planners can share viewpoints and work on new approaches to solve current challenges to more new build market activity in Wales. Support is especially needed to help SMEs and financiers meet around real development opportunities (e.g., Joint Ventures)
Ways to interact / support a hub	In-kind – specially to support forums and round table sessions

Interview 15

Organisation / Sector type	Housing delivery agent
Interaction with Welsh policy / R&D support	Their board is in the process of using practical pilot demonstration projects to inform and influence the zero-carbon agenda in Wales
Activities & challenges	Supporting Local Authorities to build and market social housing in Wales. This includes helping to write capital funding bids. Developing client brief linked to the implementation of MMC and the Future Homes Standard
Perception of risks	Zero carbon policy needs greater clarity and standardisation to help Local Government. The interviewee's organisation has dedicated climate change experts to help the sector but generally knowledge is insufficient within Local Authorities. Wales has an advantage over most of England as it has a fledgling supply chain but this is small. MMC companies are often new and financially fragile which means warranties may be at risk. Customer acceptance and affordability is a real concern
Valuable activities / functions from a new hub	This is a positive and necessary idea. Source of technical solutions, advice and best practice, benchmarking, process maps. Should consider its potential role as a verification/certification body. Should work with existing training skills Communication, best practice, applied technical expertise and solutions, sharing knowledge, disseminating, freely accessible, free service, leading edge technical solutions right across the public sector. Consider potential for fiscal levers such as an enterprise zone tax incentive for MMC (e.g. Advanced Manufacturing Park in Sheffield)
Ways to interact / support a hub	Partnering on specific research and projects. WG. Would very much like to see some of their pilot demonstrator projects as part of the hub work. Keen to see the hub as part of an academic institution (e.g. Institute of Place Management at Manchester Met)

Virtual workshop

An online workshop was organised with the support of ClwydAlyn to get first-hand feedback from 9 social housing providers in the North Wales region. The scoping study was introduced, and a series of questions posed for discussion as shown below.

The slide is titled "What we would really like your thoughts on" and is divided into two main sections: "Themes to discuss" and "Starting points".

Themes to discuss:

- NZC housing activities to date
- Views on WG policy and programmes
- Concept of a new 'hub' and its activities
- Ways you might engage and support

Starting points:

- Any live or completed projects?
- Technical strategy – fabric and services?
- Challenges & lessons learned?
- Interaction with the Innovative Housing Programme?
- Council Housing Development Forum TF pilot designs?
- Wider policy definition & links to Optimised Retrofit Programme?
- Would it be useful in making Zero Carbon homes mainstream?
- What would you want to see it focus on?
- Are there any immediate problems you need help with?
- How do you typically get involved with such groups?
- Do you ever provide financial support at a project / programme level?

Logos for Good Homes Alliance and bpn are present. A yellow box on the right states "Max 10 mins per theme".

A number of common themes emerged as the attendees discussed these prompts:

- **Zero carbon new build activities to date**
 - There was some experience, mainly via the IHP, of higher performance homes. Most seem to be timber frame based. Several people reported difficulties getting clarity from the IHP team on exactly what and how to do the Building Performance Evaluation side of projects. Concerns that the homes need to be understood by occupants so they can be operated correctly. There is not enough knowledge being disseminated to them from the IHP projects.
- **Interaction with the most recent Council Housing Development Forum project**
 - Many seem to have been involved to a greater or lesser extent. Economies of scale area considered critical. Again, some confusion as to the exact monitoring requirements and equipment to be used.
- **Aggregating procurement**
 - Work happening between some attendees as part of IHP Round 4, but still finding their way. The insurance and warranty providers seem willing to help with innovative systems (like the timber frame concept from Council Housing Development Forum and Cartefi Conwy work with Beattie Passive).
- **Increased build costs and financial viability**
 - Real concerns from some that social housing providers are being expected to deliver higher performance homes, that cost more to build, and this might result in a reduced number of homes being delivered to balance the finances. One option for future could be linking rent levels to property energy performance. Complexity around payback of 30% IHP loan and associated impact on average rent levels
- **What would a new hub need to provide to be of value?**
 - Some real concerns about extra care schemes using CHP. Residents not understanding. Hoping for a Lego style kit of solutions “do this, do that”, a more standardised model of solutions with evidence to support capital costs and future savings.