



The Team:

The Active Building Centre Research Programme at Swansea University

Overarching aims:

To build a fundamental understanding of the ways that different people and communities will use and interact with the new technologies and energy systems embedded within low carbon homes.

Examine wellbeing outcomes of low carbon homes (financial, health & social wellbeing benefits).

Analysis of communication methods, material & policy. WG Optimised Retrofit Programme.

Wider stakeholders were also interviewed to understand the challenges faced in context with resident feedback.

Methodology:

Multimodal survey methods. Including: evaluation through occupant surveys, interviews, diaries.





Resident research – 'Retrofit'

Survey 1 Pre-retrofit

Interview 2
Shortly (3 months) after retrofit

Survey 3 12 + months after retrofit

Survey Tool

- Health
- Social
- Financial

Interview Tool

- Diary of daily practices
- Behaviours
- Attitudes
- Interactions

Survey Tool

- Health
- Social
- Financial



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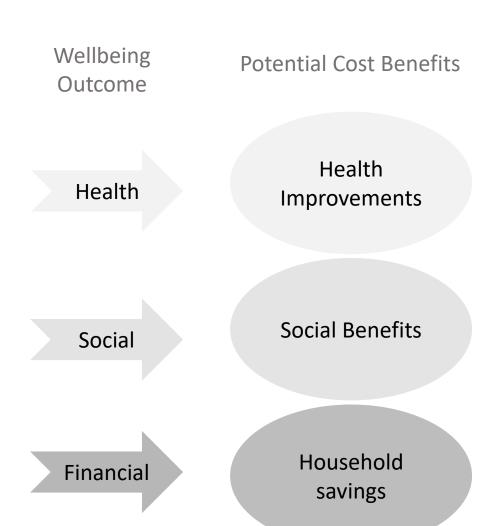
Wellbeing Framework – Retrofit



Measures & exploration via online survey & qualitative interviews

- Self assessed & objective measures inc. mental health
- Health issues effected by built environment
- No. of GP & hospital visits
- Short Warwick-Edinburgh mental health scale

- Social networks, social participation, loneliness
- · Inclusion, use, belonging, neighbourhood
- % accessed natural env at least once in the last year.
- % agreed that they belong to the neighbourhood.
- Household income
- Household expenditure on energy
- Essential spending
- · Discretionary spending





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Research Sample

ORP Project	No. of houses complete*	Residents completed research	Professional Interviews	Comms materials for analysis provided
LA 1 Fabric, PV, Battery	55	7	1	Provided
LA 2 Hybrid heating system	24 out of 44	6	1	Provided
LA 3 Hybrid heating system	39 out of 57	4	1	Provided
LA 4 Mixed	7 (all voids)	n/a	1	Provided
Pathfinder consortium Varies	Varies	0	8	10 out of 26 provided

^{*}At the time of the interviews



Findings - Resident feedback



Residents have commented that they did not have a choice to Opt out. Some Residents have turned off their heat pumps once they saw how much energy they were using. Residents have commented that they don't understand what an IES/sensor is for. Residents have commented that they didn't realise the extent to what they had agreed to (measures & monitoring). Sensors & systems in homes are bulky and positioning is poorly thought out, residents no longer feel a sense of pride in their homes. Residents have said there is no one to talk to when something goes wrong. Some residents have said it was a bad experience but is now worth it (warmer home). Neighbours have a lot of influence e.g. some have waited to see what their neighbour has first. Saving money on fuel bills was the main motivator for residents Private houses in the same block would have been prepared to pay for the retrofit.





Resident feedback - Process

 Those that described a more positive experience tended to be more satisfied with the level of communication and information and responsiveness to any queries or issues:

"project manager from <retrofit organisation> and she seemed to be managing the project, and she was very good. She was always on the end of the phone whenever you needed her" Tenant B1015

- Greater clarity about the retrofit process was wanted by the majority.
- Time frames, details, when/who/anything tenants could or should do in preparation.
- Concerned with who would be their key contact in the event of questions or problems.





Resident feedback - Process

- Residents and Professionals commented on disruption, and intrusiveness of Process
- Surprised at the size of some of the new technologies (particularly heat pumps), and the space required to site new batteries or pipework for instance, more disruption than anticipated.
- One tenant commented that they would have gone away for a couple of weeks.
- While another tenant interviewed mentioned that among neighbours:

"Everybody's moaning about it they just all say the same thing really. The battery pack's noisy. Some of them have lost space altogether under the stairs and stuff. Some of them have had issues about where it was going". (Tenant B1012)





Resident feedback - Process

Dependent on the type of retrofit and work to be done there may be some guidance
that people could be given regarding preparation they could do themselves. For
example, if the roof was coming off – would they need to move protect anything stored
there.

"I just wish we'd have known a bit more and like you say, we could have done a bit more preparation on our side of things. That's some advice I'd give to somebody if they were getting it done, you know prepare yourself. [...] Just like upstairs, for arguments sake, there was a terrible mess, the attic was basically destroyed. It took me a long time to get it sorted." (Tenant B1013)





Resident feedback - Systems

A resident, firstly said "I'd advise everybody not to have it done" as the process had been such a bad experience for them but then on reflection said:

"I'd have it done, yes we would have it done because obviously it's made the property warmer and we're saving electric, do you know what I mean? But not the way they've done it or they've gone about it. You know, finish one property at a time, don't, you know. Do one house and finish it!".(Tenant B008)

"I think perhaps, like with all technology, the first time the battery pack could do with being a bit smaller and a bit less noisy. But of course, as we've learnt with the mobile phone, these things will shrink as the years go on. Otherwise it's fabulous, yes. It's been a really good improvement. [...]

I would encourage people to take part, yes, with the improvements. Yes, through time it's only going to get better and the technology's going to get better". (Tenant B1015)





Resident feedback - Systems

It was apparent that there was some uncertainty as to how to operate the different technologies

with several commenting on the lack of written or verbal information provided to them.

Some commented that they were learning as they were going along.

"If that's one complaint I had to have, would be communication was poor. ...] We've had to wing it between us, me and my wife really. We're learning as we're going along because we haven't been given a handbook, or we haven't been given a little chat by somebody or anything. We've sort of got on with it, you know." (Tenant B1013)

Some residents were using the thermostat and not the app:

"RES2: We've got an app for the heating we can use. -Well yes but to be honest it's easier just doing it the old way.[...] Me personally I just go upstairs and turn it up but there is an app on cparticipant's> phone that she uses sometimes. [...] They programmed it for you didn't they? (husband talking to wife)." (Tenant B1011)





Resident feedback – Energy Usage

Most respondents were aware of energy saving measures (not leaving tv on standby, turning off lights, always doing a full load of washing etc). So, the extent to which behaviour can and willchange among social housing tenants is yet to be determined. As indicated in the quote below, having access to 'free' energy may have the opposite effect with people using devices within the home, in a less frugal way.

"Well I'm not scared to use my washing machine now. I put that on, yes, because when I was using it before, I used to wait until I had a big load. But now, I'll just put it on because I know I'm not using as much. [I can use the drier more, whereas if it's been raining, I've had to put it up on the radiators around the house. But now, no, I'll just shove it in the dryer. My solar panels are paying for it." (Tenant B1012)





RSL/LA Professional Feedback

Information and communication both within the organisation, and between RSLs was perceived as lacking causing uncertainty within the process.

communication between RSLs tended to focus only on the 'good news' stories, this contrasted with what was happening on the ground.

Lack of consistent messaging among contractors and tenants with different engineers giving conflicting messages, which has implications for tenants and how they use the technology.

The lack of accurate information or training also fed down into interactions with tenants, with potentially negative consequences in term of operation of the systems.



ACTIVE BUILDING CENTRE RESEARCH PROGRAMME

RSL/LA Professional Feedback

One of the key issues highlighted by professionals, was that even when tenants contact someone from the RSL, the current lack of training being filtered down throughout the organisation can mean the wrong information is being given to tenants, as illustrated below:

"It goes to the call centre; you know they need the knowledge on it. It's like an example yesterday, when I had the old lady who doesn't know how to use the machine, or first of all she went through to the call centre, "I haven't got any heating". Then the call centre hasn't got any knowledge what kind of system's there... there's so many people that has to be involved from it, the knowledge to the call centres as well. So it's just not about fixing the air source there, a lot of people need the knowledge." (Professional PRF0004)





Engagement materials analysis - method

- Engagement materials (letters, emails, newsletters 14 RSLs & LA's)
- Communication (frequency, method, is there a plan or ADHOC)
- Reading age & ease
- How the data is presented is it clearly laid out- written/diagrams.
- Does it explain the process of retrofit
- Opt in /opt out
- Content analysis



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Engagement materials analysis - Results

Majority of the 14 materials analysed were at graduate reading level.

Materials were positioned around climate change targets and framed as 'this is something that Government says we must do', not saving money.

Not all had a clear opt in/opt out message.

Only two RSL had material written in an accessible way at an appropriate reading level.
These were Cadwyn and Newydd Housing, both with a reading ease score of 70.

Results were reflected in the narratives of the professionals.

One social landlord said that they were only giving tenants aged 60+ years 'the big picture'.





Engagement materials analysis - Results

Engagement approaches are varied

Different approaches & messages across LAs and RSLs.

Leading to some confusion & residents not wanting to participate.

Could lead to problems down the line...

- Residents not realising what they signed up for.
- Asking to have it removed or not using the systems as intended.
- Even more resource needed from RSLs for ongoing issues.



Lesson/Challenge	Recommendation	Next Steps
Current material is aimed at graduate level readers & residents are not fully aware of what they are agreeing to.	Tenant Engagement materials need to be written in an accessible way, and readable for a wide range of reading levels. Reading ease. Reading age.	Recruiting tenants' groups to help draft the material.
Limited consideration from the tenants' perspectives and their desires and expected outcomes of retrofit.	Involve tenants in the process from the start, engagement days, Q&A's.	
Anxiety and uncertainty of residents contending with new equipment with new user interface requirements, leads to residents not using systems correctly.	Behavioural interventions – e.g. tailored information and support Additional training and support must be ongoing to allow tenants to adjust their own heating as and when they need. Supporting digital inclusion for all age groups – reducing potential for widening inequalities.	Improve the relationship between user and technological system -working with tenants to identify their needs.
Tenants and professionals were surprised at the intrusion, disruption and size of systems.	Walking tenants through the process, to discuss where technologies will be fitted, is important and should be good practice. If this is not practicable - then a demonstrator house or video could be used to show tenants what will done to their home.	Show homes/video content.

Lesson/Challenge	Recommendation	Next Steps
Lessons and best practice are often lost.	Forums to share good and bad stories, materials and processes.	ORP 2 Forums.
Values in engagement materials were for WG or UK Gov.	Tenant engagement materials need to reflect tenants' priorities and values. Needs assessment approach.	Positioning retrofit as energy saving, cost efficient, warmer home.
Difficulty in recruiting residents to research due to covid & delays.	Face to face engagement days and easier sharing of online survey.	ABC-RP to engage with RSLs and share online survey.
Social Return On Investment has not been completed due to timescales and delays. +1 years.	Continue to collect Wellbeing framework data to quantify the social impact. Longitudinal research is needed to assess health impact.	ABC-RP continue with Survey 2
Lack of knowledge & training at organisational level, not just team on the ground.	Extend training to other members of staff at organisation, e.g. call centre, complaints, comms.	Training should be ongoing, refresher.
No one to talk to about complaints/concerns.	Ensure there is a contact or team responsible for responding to tenant complaints, queries and concerns. Residents should be provided opportunities to be listened to and supported prior, during, and after the installation.	Ensure that the issues are picked up and lessons are learnt and incorporated into next stages of the retrofit process and this reassurance is passed onto tenants. Acknowledging that issues raised are important to tenants and require a response is critical to greater acceptance of the process.
Monitoring and Data Protection ambiguity.	It should be made clear to tenants and RSL staff what is being monitored, by whom, and where that data goes.	The process of data monitoring needs to be clear and transparent.



Good Practice Engagement Examples

Be honest, go on the journey together.
Updates!

Don't be too technical.

Look at other RSL messaging material for appropriate reading age e.g. Cadwyn and Newydd Housing

Resident testimonials (a balanced view), videos, show homes.

Citizens assembly – Bottom up Training – Carbon Literacy

Clear messaging & guidance across Wales from WG

Bigger Picture followed by more detail

Have a complaints process





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