



Parc Eirin Residents: Pre-move perceptions and post-occupancy experiences


Living Well in Low Carbon Homes, WP9: Insight Document

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Contents

1.	LIVING WELL IN LOW CARBON HOMES.....	3
2.	PARC EIRIN: KEY CHARACTERISTICS.....	5
3.	THE RESEARCH PLAN	6
4.	EMERGING INSIGHTS.....	8
	4.1 Motivations.....	8
	4.2 House Design and Layout	9
	4.3 Innovation – Heating and Hot Water	10
	4.4 Energy Use and Costs.....	12
	4.5 Environmental Awareness.....	14
	4.6 Aspirations.....	15
	4.7 Community	16
5.	SUMMARY.....	17



1. Living Well in Low Carbon Homes

Living Well in Low Carbon Homes is a research strand of the Active Building Centre research, Work Package 9 taken forward by Cardiff University. The Active Building Centre's vision is to transform the UK construction and energy sectors through the deployment of Active Buildings contributing to more efficient energy use and decarbonisation. The Active Building Centre aims to demonstrate innovative Active Buildings, which are more sustainable, perform better, and could significantly contribute to UK decarbonisation.

Being more sustainable, energy efficient and digitally intelligent, Active Buildings are envisaged as making a significant contribution to UK decarbonisation. Traditionally considered as places of energy demand and consumption, the role of buildings within the energy system is changing. Increasingly, homes are also places of energy production with potential to be places of energy flexibility, through energy storage capacity as well as intelligent energy import and export to national grids (Thomas et al. 2020). As many pathways towards decarbonisation in the UK predict significant electrification across buildings, transport and energy sectors, new patterns of electricity demand will form, and existing patterns may be enhanced (CCC 2019; Ofgem 2020; Regen 2020). In addition, the integration of renewables presents challenges for national energy grids and energy regulators for balancing energy production with consumer energy demand. Without management, such decarbonisation pathways could mean existing grid capacities are exceeded. The integration of active homes into the UK energy infrastructure offers a potential means for addressing this issue.

While holding an important role in UK decarbonisation, active homes are more than a material building, or an extension of energy infrastructure, they are also homes. This means they are laden with subjective intrinsic meaning and value, representing to some, security or safe haven; privacy; control; reflection of values (Roberts & Henwood 2019); relationships and emotional experience (Després 1991). Active homes will likely alter these meanings, through changing existing materialities, by making public existing private space and through altering communication and contestations. In addition, the way people live in their homes is related to where they are in their life course and the lives linked to the household at different points in time (Groves et al. 2016; Shirani et al. 2017; Hargreaves & Middlemiss 2020). These personal contexts and linkages within a household also interplay with linked lives or relationships with others outside of the household (Hargreaves & Middlemiss 2020; Shirani et al. 2020), as well as place-specific contexts and energy geographies (Golubchikov & O'Sullivan 2020; Roberts 2020), which are also changeable through time. Together, these multiple links shape how and why people live in certain ways within their home, including how tangible energy and other daily practices fulfil multiple other intangible and somewhat invisible psychosocial functions (Henwood et al. 2016). It is anticipated that active homes will likely alter daily life, but to understand how this will occur or what form such change will take, it is essential that how home as a place in space and time is both understood and lived in by occupants is elucidated.

Our Living Well in Low Carbon Homes research is producing insights into the lived experience of active homes, elucidating the interplay between people, homes, and energy as the anticipated new dynamic role of buildings in energy infrastructure is realised. Using a combination of interviews and multimodal activities we are exploring the impact of living within these homes on residents' everyday lives and anticipated futures at different points in time (including prior to occupation), as well as how these contexts impact upon individual households' direct and indirect energy practices and internal



relationships, in addition to their wider community relationships. To gain a nuanced and contextual understanding, we also explore developer motivations and ethos behind the home development and design. This, along with multi-scalar and interconnected social and political contexts, influences the development materiality and technical specifications. In addition, emergent changes in regulatory regimes and decarbonisation of whole energy systems in the medium and longer term are observed as they may differently alter the role of buildings and homes within the energy system over time.

We have selected five case sites across South Wales, each varying in their specific locations, compositions of stakeholders, and their primary ambitions. Consequently, each varies in their built design (fabrics, layout, aesthetics), their impact on existing environments and communities and combination of energy sources and technologies. Parc Eirin is the first of our five case sites, see Section 2 for a brief overview of Parc Eirin.

Concentrating our research activities on Phase 1 of the site, we commenced our first stage of data collection (household pre-occupation) of a 3-stage design during Summer-Autumn 2020. Second interviews took place during summer 2021. This data collection is complemented by our stakeholder interviews, which will continue throughout the research project. Focusing on themes emerging from our interviews in Stage 1 and 2, this report aims to offer initial insights into their expectations of Parc Erin, as well as their early experiences of living there. Further interviews will be conducted with participants after one year of occupancy, following which we will produce an additional feedback report. We are also planning to contact prospective residents of Phase 2 of the development and if further participants are recruited to the study we will include insights from these interviews in future reports.



2. Parc Eirin: Key Characteristics

Developer(s)	Sero Group & Pobl Living
Other Stakeholders	Morganstone Construction; Tirion (phases 3-6); Welsh Government
Location	Tonyrefail, Rhondda Cynon Taf
Rural-Urban Classification	Rural Town and Fringe
Welsh Places Category	Category 2
Construction start	November 2019
Earliest occupation	October 2020
Property Type	4 bedroom house; 3 bedroom house; 2 bedroom house; 2 bedroom apartment
Number of properties	46 houses (Phase 1), (inc. 3 show homes) 225 houses total (Phases 1-6)
Research Classification	<ol style="list-style-type: none"> 1. System Change 2. Energy Sufficiency
Defining Characteristics	<p>3 phase power supply</p> <p>Grid flexibility</p> <p>Energy aggregation</p> <p>Energy service (Sero Life Platform)</p>



3. The Research Plan

The data collection follows the outline below, with variation due to difference in individual moving dates:

Data Collection	Date	Method	Completion
Stage 1	June 2020-February 2021	Activity Pack 1	Complete
	August 2020-February 2021	Pre-occupancy interview (I1)	Complete
Stage 2	March-August 2021	Post-occupancy interview (I2)	Complete
Stage 3	January-February 2022	Activity Pack 2	
	April-May 2022		
	February-June 2022	Final interview (I3)	
Stakeholder Perceptions	June 2020-January 2022 (throughout research programme)	Interviews with industry experts	Ongoing

Participant Recruitment - Participants were recruited via the Pobl Living sales team who in facilitating the sales of the homes met and interacted with the new Parc Eirin residents frequently and had opportunities to brief the new residents about our research (informally). Covid 19 meant that our formal recruitment activities were restricted to remote/online only, as such the sales team issued emails explaining the research, introducing the researchers with electronic versions of our explanatory research leaflets and expression of interest forms attached. Three emails were sent in total; an initial email, followed by two reminder emails. To maintain household confidentiality, households were encouraged to contact the researchers directly if they were interested in the research. In addition, researchers were not included in the emails sent from the sales team to the households. The sales team was aware that one household did not have any email facilities, in this instance hard copies of the recruitment email, professionally printed research leaflet and expression of interest form were posted to their current address.

The response rate from potential residents was not as high as we had hoped, which could potentially be due to lack of time to participate when organising for a house move, particularly in light of Covid 19 constraints. Therefore, further efforts were made to contact residents with information about the research via post once they moved in, which resulted in additional participants being recruited to the study.

Participants Overview: Eight households purchasing a house at Parc Eirin Phase 1 have participated in the research to date. Four participants engaged with the pre-interview activities, one participant



completed Activities 2, 3 and 4 only, and another completed Activity 4 after the interview had taken place. The participants are aged between their 20s and 60s. Six are employed full-time and two are retired. The compositions of the participants' households vary between single occupancy, married couples, and family groups. Participants have purchased a range of Parc Eirin properties, with all types except the Reade apartment covered in our research. All the participants were familiar with the area in some way, some having past histories of living in the area, some living in the area currently and others not knowing the area well, but being aware of it through visits to adjacent places (such as Llantrisant). All previously lived within 10 miles of the development. To protect the participants' identities and maintain their confidentiality we have attributed a pseudonym to each participant.



4. Emerging Insights

This report is not intended to be representative of all new Parc Eirin residents, but details a number of issues that were raised by our participants that are likely to be pertinent to other members of the wider community. The primary aim of this report is to elucidate residents’ expectations of moving to Parc Eirin and their experiences of the first few months of residing there.

4.1 Motivations

Pre-move	3 months post-occupancy
<p>All the participants had pre-existing plans to move out of their current home. However, for most, the low carbon elements of Parc Eirin contributed to their decision to buy a home there.</p> <p>Another strong influence was the newness of the homes which, coupled with the perception that the low carbon elements of the homes would reduce energy bills, meant living there would be low maintenance and low cost now and into the future.</p> <p>Other influences included its location relative to personal social networks and employment. The shared equity purchasing option was also an important factor for one participant.</p> <p>All participants were currently living within 10 miles of Parc Eirin and thus had some awareness of Tonyrefail. All participants felt that a personal vehicle was essential to living in Parc Eirin due to proximity from general services, amenities and employment.</p>	<p>As participants were already familiar with the location, they were satisfied with the development from this perspective. Those who had expressed some uncertainty about the location had been pleasantly surprised by their experience of living there. Travel routines continued to be disrupted by changes to working patterns due to the ongoing Covid-19 pandemic.</p> <p>Most people had experienced delays to their move-in dates and expressed happiness and relief when they were eventually able to move in. Most expressed positive first impressions of their homes, including rooms being more spacious than expected.</p> <p>Some participants commented on what they felt was poor workmanship or lower than expected standards to the finish of the properties (such as cracked tiles or damaged work surfaces). While major issues (such as leaks) were dealt with quickly, minor snagging took time to resolve. These issues were generally seen as related to the contractors and participants were largely positive about Pobl and Sero.</p>

“It’s not really like any other house I’ve lived in. It’s... even though it is a new house it’s done so much nicer than any other new house I’ve lived in. It’s got, like, quite high ceilings which you don’t really tend to get and the rooms do feel spacious.” (Sophie)

“And the house is... it’s lovely, it’s a fantastic place.” (Dylan)



4.2 House Design and Layout

Pre-move	3 months post-occupancy
<p>Participants were positive about the design of the properties and the external appearance. The unusual shape of some properties was seen as making them quirky or interesting.</p> <p>Some participants felt that the layout of the properties precluded certain things e.g. there was no space for a tumble dryer. This raised questions about how they would dry washing, given the properties also had no radiators downstairs and residents had been advised against using radiators to dry washing.</p> <p>Some participants wanted to make changes to the internal appearance of the property e.g. through installing a fireplace, to make it feel more homely, or echo features they had valued in previous properties.</p> <div data-bbox="233 1079 802 1696" style="border: 1px solid #92D050; border-radius: 20px; padding: 10px; margin-top: 20px;"> <p>“the good thing about this estate is lots of things you take for granted in a house they've kind of included already like spotlights, and in the garden like outdoor electrical points. Garden lights, obviously the car electrical points. The last house I had, that was a new build but there was like a charge for extras. So like if you wanted a garden tap you had to pay extra. If you wanted a garden light you had to pay extra. Whereas in Parc Eirin to be fair they've got lots of stuff that's already included which is great.” (Ben)</p> </div>	<p>Participants were largely positive about the external appearance and layout of the properties, which were features that had attracted them to the development in the first place. The Parc Eirin properties were seen as relatively spacious for new builds, particularly the kitchen/dining spaces. Some participants felt that there was a lack of storage space as the energy technology (such as heat pump and water tank) required space in storage cupboards and meant that these spaces could not always be used as participants had originally anticipated.</p> <p>Participants were positive about the insulation in the properties meaning they retained heat and felt that they were well sound-proofed, with no noise from adjoining neighbours audible.</p> <p>Most participants spoke about decorating their homes, but some had also made changes to the interior – such as installing an electric fireplace – to create a sense of homeliness or comfort. This largely seemed to be about aesthetics rather than requiring a fireplace for additional warmth.</p> <p>Whilst some participants were enthusiastic about their gardens, several expressed disappointment that their gardens were boggy, which precluded them being able to use them as anticipated.</p> <p>One participant raised concerns about the location of garages away from the properties and without suitable lighting, which was seen as a security concern. Another participant also reflected on the lack of electricity connection to the garages and how this impacted on the usability of the space.</p>



4.3 Innovation – Heating and Hot Water

Pre-move	3 months post-occupancy
<p>All the participants were excited and enthusiastic about moving to Parc Eirin. There was a sense of pride in being a part of a housing development perceived as paving the way for future house builds.</p> <p>Some concerns were voiced around moving to all-electric appliances and assistance with the new energy technologies should something go wrong.</p> <p>Some participants were clear about the technologies installed in the homes and how they worked differently to the traditional gas central heating that they were used to. Others were less knowledgeable, which could hold unintended consequences when they take up residence in the homes. Most participants appeared unconcerned about the prospect of getting to grips with new technology.</p>	<p>Despite some pre-occupancy concerns about moving from gas to electric cooking, post-occupancy, participants were overwhelmingly positive about the electric cookers being responsive, safe and easy to clean and maintain, and were very satisfied with this aspect of their properties.</p> <p>Moving to Ground Source Heat Pumps and underfloor heating was the biggest change for most participants. Participants described the houses as warm, feeling that they were well-insulated and retained the heat well. Some participants were positive about the underfloor heating providing a reasonable level of comfort, with the absence of radiators described as beneficial from an aesthetic perspective. Others were less satisfied and felt that while the house was largely a comfortable temperature, cold spots (such as floor tiles) had an impact on their overall comfort.</p> <p>Moving from properties with gas central heating, some participants found the heating systems at Parc Eirin slow to respond and felt that this would take some time to get used to. Others expressed surprise at how quickly the house warmed up once the heating was on. Most participants recounted challenges regarding trying to find a comfortable temperature when they first moved in, with some very warm periods where windows had to be open during the winter. This was largely resolved as participants became used to the system and were able to establish a heating routine that suited their household. However, some described bedrooms being overly warm overnight, which was attributed to surplus energy being diverted to towel rails. Two participants mentioned issues with radiators not working properly, which they had been unable to get resolved. Some participants mentioned noise from the Ground Source Heat Pump, but this was largely something residents felt that they had acclimatised to.</p>



Participants expressed mixed views about the app control for their heating. While it was generally seen as easy to use when it was working, participants often found that it didn't work properly, reporting that it regularly logged users out, or only one household member was able to use it. Some described the app as being unresponsive, which made it difficult to make adjustments to their heating routines and could lead to a sense of frustration about lack of control over the heating system. These challenges with the app led to several households resorting to using the thermostatic controls in the property or opening windows and doors to adjust their room-temperatures or turn the heating on and off, meaning they bypassed the app.

Some participants mentioned issues with the hot water – either not having as much as they had anticipated, or the water temperature not being as hot as they would have liked, which resulted in changes to their routines (e.g. having showers rather than baths). However most seemed satisfied with the hot water supply.

“It’s lovely. Like it’s nice first thing in the morning when you’re feeling chilly and you come downstairs and you feel nice and toasty under your feet. That’s quite nice ... I’ve had no issues with anything like that... So, it all seems to be working really well... I can’t feel any draughts coming in through windows or doors. Nothing. So, I think everything is like really secure and tightly fitted.” (Ben)

“[w]e haven’t used the app for a long time now. We use the dials, the physical dials, but I don’t know, they may have done something because we’ve noticed in the past couple of months... we don’t touch the heating, so I don’t know if it is because of the times are working now, we don’t find that we need to touch it so I don’t know if it is an automated thing they’re doing. I think the only issue we had was we just didn’t have control. I think at one time it was hot and we just couldn’t turn it down properly and that was annoying and I felt like they were controlling more than we were. I’d like to just have full control over it and turn it on and off whenever we wanted. That was the only issue, I think (Josh)



4.4 Energy Use and Costs

Pre-move	3 months post-occupancy
<p>Participants expected that they would have lower energy bills from living in a home that generated and stored electricity, and this was an important consideration in deciding to move to Parc Eirin. All had signed up to the Sero energy service with the expectation that this would help them manage their energy use most efficiently. The assurance that they could change providers if they were not satisfied was an important influence on their decision to sign up.</p>	<p>Several participants described having subsidised or estimated bills over the first few months of occupancy, so felt it would require a longer period of bills that accurately reflected their energy use to comment on the costs. However, some participants described their bills as significantly lower. Participants were optimistic that they would see savings on their energy bills over the longer-term due to the solar PV and battery storage.</p> <p>In some households the batteries were in a prominent position in hallways, with residents suggesting that this looked unsightly and felt they could have been positioned less obtrusively. In other households the battery was hidden behind a door and therefore made less of an aesthetic impact. Whilst most residents felt that they had become used to the batteries and had stopped noticing their presence, the batteries could act as a visual reminder to think about energy use. Several participants suggested that they would like more information about how the batteries worked and the level of charge they held so that they could adjust their patterns of energy use to maximise efficiency (e.g. using their washing machine when the battery was full). Participants had noticed the battery showing different colours but were unsure what these meant.</p> <p>Connected to understanding more about the battery, some participants spoke of wanting to align their daily routines to their new energy system as a whole, being able to know when was best to use energy (for example when solar PV was producing energy) in addition to aligning with battery charging.</p> <p>Aside from the batteries, participants felt that they had been offered a comprehensive level of information about the properties and related technologies, including a tutorial (which some participants had</p>



declined). However, some participants found it hard to take in all this information at the point of moving in, when they were preoccupied, and valued having information to refer to at a later stage. Several participants mentioned Kris at Sero as someone who they could contact with any issues and who would respond to them and get things resolved quickly. This kind of personal contact was highly valued by residents and led to a generally positive view of Sero.

“It’s just one less thing for me to worry about because I know lots of people get hung up on checking to make sure they’re always on the best deal. Well, I’ve just never been that person. I haven’t got time for it. I wish I was. so yeah, that doesn’t faze me. carry on; you do what you need to do. keep my bills low.” (Natalie)

“I’d like to work out now... for example, when I use the washing machine I want to try and work out when my washing machine’s on how much does it draw down? Because I try to use it now in a day, stop using it at night. So theoretically I shouldn’t really use much more now than what I’m getting from my solar ... I think it would have been better for them to say because it’s not off sun, it’s just off light, you know that, okay, in the days if you use your washing machine technically you should be using free energy. Likewise, if you’re going to do batch cooking you do it on a Saturday or a Sunday afternoon as opposed to night-time. No, they haven’t, which is a bit of a shame really, but then it doesn’t take Einstein to work out if you’ve got solar panels, they run off light, you do your stuff in the day.” (Sally)



4.5 Environmental Awareness

Pre-move	3 months post-occupancy
<p>All the participants expressed varying degrees of environmental awareness, from local recycling initiatives to wider concerns about global warming, climate change and environmental policy. All were aware of current discussions in the media about climate change – for example climate change protests and more frequent flooding events.</p> <p>Some participants were already taking steps within their own lives to reduce their environmental impacts, through recycling, managing food purchases to limit CO₂ impact (eating no or less meat) and food waste, or switching off appliances when not in use. Some participants saw the purchase of a house at PE as taking personal action to address climate change.</p> <p>Some participants acknowledged that there were aspects of their lifestyles that were non-environmentally friendly, such as using carbon-heavy vehicles or tumble dryers. However, participants generally did not imagine these elements of their routine changing when they moved to Parc Eirin. This was largely due to financial lock in, locational dependence (i.e. need for personal transport) or to maintain their current routines and fulfil comfort needs.</p>	<p>Participants did not express particular changes to their environmental awareness or energy consciousness once they had moved to Parc Eirin, other than those already outlined.</p> <p>Post-occupancy, some participants expressed surprise at their ability to dry washing quickly inside the house due to the general warmth of the properties. Others had found it harder to adjust their domestic routines to avoid drying washing on radiators (something they had done in previous houses but had been advised not to do at Parc Eirin). Whilst one participant suggested washing could potentially be dried via the underfloor heating in winter, others had purchased or were planning to purchase tumble dryers for the winter period.</p>

“I’ve been drying my clothes on airers at the moment. I intend getting a tumble drier I think for the winter, cos at the moment it’s ... I’m not, well I’m not drying them, it’s like you, that is where you do miss the radiators.... That’s what I did when I was home, I’d have a, I’d have a long radiator in the hall and I, I put a load of washing on the long radiator, you know ... So yeah, and washing’s not too good at the moment but I think I need to invest in a tumble dryer.” (Andrea)



4.6 Aspirations

Pre-move	3 months post-occupancy
<p>Two of the participants envisaged living in their new homes for the rest of their lives, while others saw their first purchase here as a stepping stone to a larger home within Parc Eirin in the future. For older participants, the low-maintenance of a new-build coupled with low running costs for the lifetime of the homes meant they could be more financially secure and able to maintain the same level of comfort when they retired as they were able to currently.</p> <p>All the households hoped to further decarbonise their lifestyles through purchasing electric vehicles and smart appliances. However, this aspiration was seen as a future goal due to the current cost of purchasing these items. Participants were not aware of any plans to establish an EV sharing scheme on site (an idea that had been suggested in some expert interviews).</p>	<p>During post-occupancy interviews, the possibility of an EV leasing scheme on-site was discussed. Several participants expressed enthusiasm for renting an EV via Sero or Pobl that would be for their own private use. However, most residents were less enthusiastic about the prospect of a shared car scheme, feeling that they valued the security and flexibility of having their own car and would be concerned about fair usage of a shared vehicle. In addition, the ongoing Covid-19 pandemic had made some participants more concerned about using shared resources.</p> <p>Since moving to Parc Eirin one participant had opted get an electric car, whilst others had chosen to have hybrids and planned to move to fully EV in future. These decisions were partly influenced by having the infrastructure to support EV charging readily available at Parc Eirin. Buying a house at Parc Eirin was seen by some as an initial step to decarbonising their lifestyle, with a move to use of an EV a further action they could take.</p> <p>In contrast, some participants took up what could be regarded as less sustainable practices – such as purchasing a hot tub – which was seen as unproblematic because it was run on renewable energy.</p>

“I feel like it’s, kind of, a massive step in the right direction and I’m... like, I’ve just [got] an electric car as well ... So I think it’s, like, I’m definitely going in the right direction ... like, I’ve nailed the big things now with the house and the car. But I feel like the little things I need to, like, work on. I feel like... almost like I’m, kind of, like, under more pressure to, like, do better because I have this house ... now I’ve got an electric car ... the eco house, I feel like I need to put more effort in.” (Sophie)



4.7 Community

Pre-move	3 months post-occupancy
<p>All viewed the green communal spaces at the site favourably and felt this would be an important space for meeting other people living at Parc Eirin, although there were mixed expectations as to how much it would be utilised by each household.</p> <p>Some participants had existing local social networks, which they viewed as a positive and a way of helping them settle into the area. All felt that the newness and novelty of the development would mean that all other Parc Eirin residents would be in similar positions of learning to live in a new place, this could be a point of bonding for them in forming a sense of community. One participant felt that the design of the site (as with other new build sites), which had fences between gardens acted as a barrier to socialising.</p>	<p>Participants were positive about the sense of community on-site and felt that people were friendly to one another, with most people having good relationships with their neighbours. The communal spaces – particularly the crescent – were still under development and it was expected that once completed these spaces would help to further foster community relationships. Parc Eirin was described as a friendly and safe environment.</p> <p>All participants were aware of virtual community connections (such as via Facebook and WhatsApp). Knowing that other people were having similar (positive or negative) experiences was reassuring to some. In addition, some liked being able to offer advice to their neighbours via the groups on trouble-shooting simple technical issues. However, several people expressed concerns that these groups could be negative and focused on complaints or issues with the site, which was seen as unhelpful, so some participants had chosen not to be part of, or to ‘mute’ these groups.</p> <p>Many participants had pre-existing social connections with other residents on the site, which was seen as contributing to the sense of community. However, some who lacked these pre-existing connections felt this may make it harder for them to integrate.</p>

“I think you've got to be similar like-minded people I think to move there, I guess, hopefully. So yeah, not too worried. It's very nice community there. and it seems quite community or community orientated how they set it up.” (Natalie)

“So, it does seem quite nice feel here... Everyone seems quite welcoming so far, which is nice ... because of the crescent your house feels like a, in a bubble. It feels quite close to everybody else ... But, yeah, definitely. I think it is quite a friendly ... it does seem quite young as well. Seems to be a lot of young couples or young people living here who seem really friendly and sociable.” (Ben)



5. Summary

Main points:

- Participants expressed satisfaction with the appearance, layout and quality of their homes
- Most people had found it challenging getting used to a new heating system, but found the houses warm and comfortable
- Issues with the app not working properly or being unresponsive led several people to avoid using it and rely on thermostatic controls instead
- Having someone to contact with queries and who could get issues resolved quickly was important
- Participants would like more information about how the batteries work so they could try and plan their appliance use to maximise use of renewable energy
- Participants were positive about the sense of community and felt that the design of the site had helped to facilitate this

Our initial interviews showed participants' enthusiasm for their move to Parc Eirin, with a sense of pride in being a part of a housing development perceived as paving the way for future house builds. The low carbon elements of Parc Eirin were of varying significance to participants in their decision to move and there was a difference in participants' understanding of the technologies involved in the homes. The first stage of research at Parc Eirin illuminated some important findings for us to take forward into stage two. In second interviews we explored in detail participants' early experiences of life at Parc Eirin, including adjusting to new heating systems and technologies within the home as well as life in a new community. There were some aspects that participants felt it was too early to comment on – such as energy bills – which we will explore in more detail in third interviews.

Drawing on initial insights from across our case sites, we highlight some insights and recommendations:

- Provide information to residents about the appliances and technology within their homes that they can refer back to. Without this information, residents may make erroneous assumptions.
- Explain how residents may need to do things differently in their new home e.g. if they cannot dry washing on their radiators, how should they dry it?
- Lack of engagement with smart control systems does not mean residents are disengaged from their energy use, it may indicate issues with the usability of the technology.
- While there are challenges to communal EV leasing schemes, there was some enthusiasm for individual EV leasing. Moving to a low carbon home had provided an impetus for some participants to make other lifestyle changes so could present an opportune time for considering other low carbon technologies.
- Communal spaces were viewed as important for establishing a community but were often seen as a low priority for developers to complete.
- Residents should be fully informed about monitoring of their properties, how this data will be utilised, and asked for their consent.



Next steps:

Stage 3 of the research will involve further interviews after 12 months occupation to provide a longer-term perspective, enabling participants to reflect on life in the home across different seasons, as well as taking into account any personal life changes that may take place. Prior to third interviews we will be sending participants an activity pack in the post, which will include a range of optional activities (including drawing, annotating and writing tasks) to encourage reflection on their new home in different ways.

Parc Eirin data collection should be completed by early 2022, after which we will have a more complete analysis of household perceptions and experiences through time. As this is the first of our five case sites, producing an integrated analysis to share insights across the developments will be a longer process.



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