



Report of the Head of Housing and Public Health

Economy, Environment & Infrastructure Policy Development Committee
18 March 2021

More Homes Strategy and Decarbonisation of Existing Housing Stock

Purpose:	To outline the More Homes Strategy and the emerging development programme for new council homes funded by the Housing Revenue Account (HRA). The report outlines current progress and future aspirations for the Council's development programme. The report also outlines progress in achieving Welsh Housing Quality Standard, the approach to decarbonise the existing Council Housing stock, and to highlight the pilot schemes being designed to test principles and inform the future strategy.
Policy Framework:	More Homes Strategy, Local Housing Strategy, HRA Business Plan
Consultation:	Access to Services, Finance, Legal.
Recommendation(s):	That the PDC note the contents of the report and confirm that the current policy context continues to be appropriate as the council develops its decarbonisation strategy of its housing stock
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1. Introduction

- 1.1 As well as investing just under £500m in improving its existing housing stock to ensure that homes meet the Welsh Housing Quality Standard (WHQS), the Council also has a clear ambition to deliver more affordable

housing in Swansea. Welsh Government (WG) set a target to deliver 20000 affordable homes in Wales, as well as a commitment to decarbonise the existing housing stock by 2030. This report sets out journey and challenges of delivering programmes to increase the supply of new affordable housing, and improve the energy efficiency of the Council's existing stock of over 13000 homes.

2. Background to More Homes Strategy

- 2.1 Since Council agreed the More Homes Strategy in 2016, the Council has been building capacity to maximise the number of new affordable homes that can be delivered to help meet the growing shortage across the city. The initial More Homes Development Plan, which was agreed by Cabinet in February 2019, set out short term plans to build 142 new council houses up to 2023.
- 2.2 Following the removal of the Housing Revenue Account (HRA) borrowing cap in 2020, Cabinet subsequently approved a report which recommended that additional borrowing of up to £180m was utilised to increase the Council housing stock by an additional 1000 properties in the 10 years from April 2021. This would make a significant contribution to the overall ambition to deliver 5000 new affordable homes.

3. More Homes Specification – The Swansea Standard

- 3.1 The first More Homes scheme was completed in 2018 at Colliers Way. This first pilot scheme was an 18 unit development of pasivhaus homes. Following this scheme, the Council then developed its own Swansea Standard for new build housing. The Swansea Standard is a Fabric First approach, which uses key principles of passivhaus design, in maximizing solar gain through orientation, incorporating high performance triple glazed windows, high levels of mass insulation, no thermal bridging, and extremely high levels of airtightness with a target of 4 air changes per minute.
- 3.2 This Swansea Standard can be combined with innovative and renewable technologies. The Council has been very successful in the Welsh Government's Innovative Housing Programme (IHP), and has secured funding in all four rounds to date. This funding is being used to include renewables on top of the Swansea Standard, to Homes as Power Stations (HAPS) specification. These homes will have Ground Source Heat Pumps (GSHPs), PV solar roofs, battery storage and Mechanical Ventilation Heat Recovery (MVHR) Systems, and will be able to store and use their own energy. By the end of 2022, the Council will have built 75 HAPS through the IHP funding scheme.

4. Completed schemes and current activity

- 4.1 The current and planned schemes for the More Homes programme is outlined below.

Scheme Name	Total number of homes	Progress
Colliers Way Phase 1	18	Completed
Parc Yr Helyg	16	Completed
Colliers Way Phase 2	18	Completion April 21
Acacia Road Acquisition and Works	2	Completed
Hillview and Beaconsview	25	On site
The Circle	6	Scheme commencement April 21
Creswell Road	10	Scheme commencement Oct 21
Bryn House	8	On site – completion Sept 21
Ffordd y Brain Conversion	3	Scheme commencement May 21
Heol Dynys	20	Jan 22
Acquisitions 18/19	3	Completed 18/19
Acquisitions 19/20	8	Completed 19/20
Acquisitions 20/21	28	Completed by March 31 st 2021
Total new units of accommodation		165

5. Future schemes and Planned Activity

- 5.1 The HRA is currently developing a framework to develop larger sites for mixed tenure development including market sale and shared ownership. The project is split into 2 distinct phases –the valuation and viability work on the sites, and the procurement of a partner to develop the agreed programme. This work is ongoing. This project also includes the potential for the HRA to acquire sites from the General Fund. A Cabinet report in the first half of 2021 will set out the details of the sites to be acquired, the valuations and the appropriation timescales. It is hoped that the framework will be launched in October and that the first sites or batch of sites can be marketed shortly after this.
- 5.2 A 10 year programme is also being developed for the direct development route with Building Services. This will ensure that there is a supply of schemes which will enable the Council to ensure that the appropriate level

of resources can be planned for. This will include developing skills of existing workforce and new training and apprentice opportunities. This programme will also include general fund sites that can be appropriated to the HRA.

- 5.3 A corporate group has been set up to support the Council's development programmes with the aim of shortening the overall process to speed up delivery. The group has achieved a number of quick wins, and has already achieved a one council approach to ensure that teams work together and understand each other's roles and responsibilities. This work is continuing at pace and aims to have a supply of shovel ready schemes that can be brought forward when required. This will also allow the Council to be better prepared to bid for WG funding opportunities at short notice.
- 5.4 WG have also produced a draft HRA Guidance Manual which sets out the tenures of housing products that can be delivered through the HRA. Further to further clarification and final publication, it suggests that the HRA can directly develop homes for market sale and shared ownership, without the need for a partner. This will be something that will need to be clarified and explored in greater detail following publication of the final HRA Guidance Manual
- 5.5 The Council has also commissioned a masterplan for the regeneration of Heol Emrys and Tudno Place. This will also likely include an element of new build housing. There are also plans to explore options to deliver new housing on vacant land following the refurbishment of the Griffith John Street area. Both these schemes, along with other infill areas will be considered for development to contribute to the overall target and increase supply.
- 5.6 Partnerships and collaboration will also be a factor in WG determining grant awards. It is likely that the HRA may be able to deliver larger sites on public or private land by working in partnership with regionally zoned Registered Social Landlords. All such opportunities will be explored to ensure full contribution to the development plan.
- 5.7 Monitoring and Evaluation of schemes, especially renewable technology is a key element of funding requirement and learning lessons. The Welsh School of Architecture (WSA) are monitoring all the schemes build by the Council so far. The results will tell us how the comfortable the homes are, how energy efficient they are, and how the technologies work. This will help us work with residents to ensure that they can maximise the potential savings they can make. We are also working with WSA to ensure that our new build standards are as near zero carbon as possible, and what we can do to improve this on a scheme by scheme basis.

6. Background to Welsh Housing Quality Standard (WHQS) and Decarbonisation

- 6.1 The council has been undertaking energy efficiency improvements to its existing social housing stock for almost 20 years to meet the requirements of the existing Welsh Housing Quality Standard (WHQS).
- 6.2 Central government has introduced a far reaching national policy agenda to reduce greenhouse gases to make the UK carbon net zero by 2050. This will require the council to invest in further energy efficiency programmes to achieve new decarbonisation targets.
- 6.3 Improvement of residential housing will make a significant contribution to meeting National & Welsh Government policy objectives, by making existing buildings more energy efficient using a combination of building fabric improvements and incorporating renewable technologies to provide low carbon power and heating solutions.
- 6.4 The decarbonisation agenda has and will continue to provide exciting opportunities for the Council, its residents and the local economy as a whole to improve homes, quality of life of residents, provide job opportunities and increase prosperity for the region. It will also contribute to the Council's Climate Change ambitions.

7. Past Energy Efficiency Delivery

- 7.1 WHQS guidance was introduced in 2002 and comprises of seven key elements to meet compliance. One of its component requirements is to ensure properties are adequately heated, fuel efficient and well insulated.
- 7.2 A strategy was developed to meet those objectives by using a range of the following measures:
- Installation of high performance combi boilers
 - Improved insulation of retained heating systems
 - Upgrading insulation in attic spaces
 - Installation of double glazed windows and security doors
 - Application of insulated render to external walls
- 7.3 The following chart shows the number of properties where energy efficiency measures capital resource has been allocated.

Work Element	Properties (nr.)	Approx. Average Cost (£)	Approx. Investment (£m)
Combi Boilers	13,040	2,200	28.688
Attic Insulation	7,000	400	2.800
Double Glazed Windows	7,500	3,200	24.000
Security Doors	11,937	600	7.162
Insulated Render	5,959	8,000	47.672
Total (£m)			£110.322

- 7.4 A combination of the above measures has seen the typical SAP rating, which measures the energy efficiency of a property, significantly improve. At the start of the WHQS programme, the average rating was SAP 40, EPC Band E. This increased to SAP 67 Band D in 2020.
- 7.5 Energy efficiency measures undertaken represents approximately one-fifth of the overall WHQS programme expenditure to achieve overall Standard compliance. The main energy efficiency target of average SAP 65, EPC Band D has been achieved across the housing stock.
- 7.6 As the result of the financial investment, tenants have seen the benefit of reduced heat loss and energy bills and homes that are more comfortable to live in. The investment has created economic benefits, providing job and training opportunities and the increased supply chain in the region
- 7.7 The council has a strong record in delivering large scale improvements over the past 20 years in its social housing and this experience will be key in the delivery of the future decarbonisation at scale and pace in the future.

8. Future Decarbonisation Programme - National Policy Development

- 8.1 The UK Committee on Climate Change set out its national policy agenda in May 2019 to reduce greenhouse gases (GHG) emissions net zero by 2050. Welsh Government under its devolved powers is required to reduce its GHG emissions by 95% in the same period.
- 8.2 A report, Better Homes, Better Wales, Better World (BHBWBW), by the Independent Housing Decarbonisation Advisory Group for Wales was published on 18th July 2019, which set out key policy recommendations to WG:
- By 2050 the existing housing stock cross tenure be retrofitted to SAP 92 EPC Band A rating
 - Urgently commence a 10 year programme to prioritise the retrofit decarbonisation of all homes in social ownership in Wales.
- 8.3 The Housing Minister accepted the findings of the report. The Welsh School of Architecture (WSA) were commissioned to carry out a three stage study to challenge the assumptions of BHBWBW, undertake statistical modelling of social housing and develop a toolkit for practitioners to undertake retrofit decarbonisation programmes. The WSA of study was published in August 2020.

9. Welsh Govt. Draft Decarbonisation Policy Proposals

- 9.1 At a Decarbonisation Work Group meeting in September, Welsh Govt announced the following programme timescales and draft policy priorities:

Programme Timescales & Status

- Decarbonisation programme will form part of a proposed revised Welsh Housing Quality Standard (WHQS) introduced on 1st January 2022.
- Draft guidance will be circulated to social housing providers in July/August 2021 for the purposes of consultation and feedback prior to implementation.
- Decarbonisation of social housing in Wales will be a **statutory duty**.
- The deadline to comply with the statutory duty will be 31/12/2030.

Decarbonisation Targets

- The energy efficiency of properties will improve to exceed current Building Regulation requirements. Standard Assessment Procedures (SAP) measures the energy efficiency of a property and the amount of energy it will consume to meet a level of thermal comfort. Under current WHQS requirements the target is SAP 65, Energy Performance Certificate (EPC) Band D. Revised targets will be SAP 92, EPC Band A, which is the highest level of performance.
- The Environmental Impact Rating (EIR) is a measure of the amount of carbon dioxide emitted from a property and is assessed as part of the EPC process. Carbon emissions are not measured under current WHQS, but post 2021, there will be an EIR target rating of 96, which is the highest level of performance to make properties low carbon in use.
- Revised SAP/EIR targets will only be achieved with combination of complete structure fabric upgrades to improve thermal insulation of all elements and use of renewable technologies, at significant capital investment cost
- The revised target will be referred to as **SAP 92/ EIR 96** and the definition of the approach as follows: **Delivering affordable warmth and decarbonisation, by the best balance between fabric measures, technology and grid decarbonisation.**

Intelligent Energy Systems

- Intelligent Energy Systems (IES) are capable of measuring and monitoring a properties temperature, humidity, room use, carbon emissions, electrical load going into space heating, hot water and domestic electrical usage.
- WG see this data as essential to understanding energy use in homes, to evidence the true reduction in levels of carbon emissions.

- WG intend making it mandatory for social landlords to install intelligent energy systems (IES) in to all their homes by the end of 2022/3

Property Passports

- Landlords will be required to develop ‘passports’ for each individual property which will contain a schedule of repairs maintenance and improvements (RMI) to maintain WHQS and work required to achieve decarbonisation targets, including anticipated budget costs.
- Landlords required to model the contribution of each planned improvement to demonstrate that achieves SAP 92/ EIR 96.
- Welsh Govt. have set a target be complete inspections and enter property data for all 13,500 properties by the end of 2022/3 while delivering the decarbonisation programme.

Programme Accreditation

- All future decarbonisation work will require accreditation. PAS 2035 is nationally recognised method of ensure all work is carried out to a consistent high standard. It describes roles and activities required in energy efficiency retrofit programmes, from assessment and modelling, scheme design, co-ordination, through to delivery and evaluation.
- There’s an expectation the Programme Coordinator (project manager of pre and post construction duties) and Installer (contractor) will all be suitably trained and accredited to participate in the programme.

10. Transitional Period – Decarbonisation Pilot Schemes

- 10.1 Since the UK Committee announced in 2019 its zero carbon policy ambition by 2050, officers have collaborated with the Wales School of Architecture to develop pathfinder pilot schemes to help inform and develop a future decarbonisation policy.
- 10.2 Pilot schemes based on the principles the City Deal ‘Houses as Power Stations’ (HAPS) have been researched, designed and delivered to properties in Lon y Felin, Garnswllt and Ffordd Ellen in Craig Cefn Parc (CCP).
- 10.3 The schemes have adopted a whole house retrofit approach which includes complete enhancement of the external fabric and incorporated renewable technologies to achieve the future decarbonisation policy objectives set out in section 9 above.
- 10.4 A summary of the thermal improvements and integrated renewables are as follows:
- Insulated external render

- Increased insulation in attic
- High performance double glazed windows & doors
- PV solar roof panels
- Batteries to store energy generated by PV panels
- Ground or air source heat pumps
- New boiler, hot water storage and radiators
- Heat recovery ventilation system

10.5 Outcomes of the whole house retrofit decarbonisation schemes include:

- SAP12 EPC Band G to SAP 95 EPC Band A
- Energy bills previously £1,300/year, reduced to £410/year
- ASPE award for decarbonisation work to bungalows in CCP

10.6 The experience gained on the pilot schemes will be used on further pathfinder pilots proposed for Garnswllt, Craig Cefn Parc and Felindre in 2021/2.

11. Proposed Future Decarbonisation Strategy

11.1 The current strategy adopted for the retrofit decarbonisation programme is as follows:

- Continue to concentrate resources on the upgrading of building fabric between 2021 – 2025
- Introduce the use of PV solar panels and battery storage to each property for low carbon electricity generation, as part of the fabric improvement programme
- Delay the introduction of main low carbon heating systems until post 2025, to allow sufficient time to allow technology to develop and identify the most appropriate solutions.
- Review the emerging technological solutions by using strongest systems on select low scale pilot schemes to assess and monitor systems in use.
- Ensure decarbonisation measures achieve comfort levels in council homes which are affordable for tenants on low incomes.

12. Future Opportunities, Challenges & Risks for Council

12.1 Opportunities

- Develop the in-house skills, training and resources that council will require to have a seamless transition from existing WHQS compliance to decarbonisation programme.
- Adopt the principles of quality assurance by integrating PAS 2035 into a fully accredited future programme.
- Increase the social benefits delivered under Beyond Bricks and Mortar to provide training opportunities to young people and long term unemployed living in our social housing estates.
- Increase SME contractor capacity in the region to deliver at scale and pace.

- Size of stock holding can provide critical mass required to achieve economies of scale and drive down work costs.
- Develop a whole house approach to decarbonisation where possible to achieve maximum cost savings and least disruption to tenants.
- Work on a regional basis to help develop manufacturing supply chain to create diverse jobs and training in renewable technologies.
- Make use of off-site modern methods of construction to help accelerate programmes
- Research suggests thermal improvements to building fabric reduces energy demand by 63% and reduces carbon emissions by 66%
- Reduce residents fuel bills and fuel poverty
- Make homes more attractive to potential tenants and more comfortable to live in
- Improve residents wellbeing and health by making homes warmer and cheaper to heat and ventilate

12.2 Challenges

- Competing demands and priorities for HRA capital finance in the context of limited borrowing capacity
- Scale of programme that may be more than £350m in a 10 year period
- Staff resources and future in-house training requirements and costs
- Supply chain issues relating to availability of suitably trained workforce and supply of renewable technology could increase costs in an overheated market
- Need to create long term framework contracts to ensure long term delivery plan
- Ensuring staff and resident engagement and buy in to aims and outcomes of the programme delivery
- Renewable technology still emerging and developing so appropriate product selection will be difficult.
- Largest social housing stockholder in Wales so scale of design, procurement and delivery programmes greatest.
- Developing design, procurement and delivery processes to drive down costs to make programme affordable.
- Rolling out programmes to install Intelligent Energy Systems and introduction of Property Passports in less than 18 months in addition to delivering the overall decarbonisation programme

12.3 Risks

- Insufficient budget to deliver a statutory duty by deadline
- Access to future Major Repairs Allowance (MRA) finance from Welsh Govt. likely to linked to programme delivery rather than size of stock
- Cost to deliver decarbonisation programme greater than anticipated by Welsh Govt.
- Overheated market increases costs due to a surge in demand for expertise, materials and technologies.

12.4 There is a clear need and ambition to support the decarbonisation of the existing housing stock whilst also increasing the supply of new affordable homes. The links between these investment programmes and the post pandemic economic recovery are clear to see. There is also a need to recognise the significant costs involved and the potential for competing investment priorities within the HRA business plan. As part of the Council's response to the WG Decarbonisation consultation, strong representations will be made to highlight this issue and request clarity on a WG funding strategy to assist the Council in maximising the potential benefits, but also in meeting the financial challenges these programmes present.

13. Legal Implications

13.1 Any procurement activity necessary to deliver the works, supplies or services necessary to facilitate the schemes referred to in this report must comply with the Council's Contract Procedure Rules and relevant procurement legislation.

14. Financial Implications

14.1 Expenditure is ring fenced to the HRA and will be fully funded by MRA grant from Welsh Government, revenue contributions from the Housing Revenue Account and HRA borrowing and any Welsh Government Funding. There are no financial implications for the Council General Fund.

14.2 The HRA 4 year capital programme was approved by Council on 4 March 2021.

15. Equality and Engagement Implications

15.1 The Council is subject to the Public Sector Equality Duty (Wales) and must, in the exercise of their functions, have due regard to the need to:

- Eliminate unlawful discrimination, harassment and victimisation and other conduct prohibited by the Act.
- Advance equality of opportunity between people who share a protected characteristic and those who do not.
- Foster good relations between people who share a protected characteristic and those who do not.

15.2 Our Equality Impact Assessment process ensures that we have paid due regard to the above. An EIA Screening Form has been completed for each strand of the More Homes, WHQS and HRA Capital programme as part of the decision making and reporting process via Cabinet and Council.

15.3 Delivery of affordable homes, and improving existing homes is a good example of the 5 Ways of Working promoted by the Wellbeing of Future

Generations (Wales) Act 2015 and will make a significant contribution to the 7 well-being goals. It is an example of collaborative working between the public and private sector in a sustainable way resulting in a long term partnership with the objectives of developing homes within the city for the benefit of future generations.

- 15.4 Increasing the supply of affordable housing, and increasing energy efficiency of the Council's existing housing stock will assist in the regeneration of areas, and stimulating economic growth, addressing issues such as poverty, inequality, jobs and skills which directly contributes to the council's obligations to act in a sustainable way pursuant to the WFGA.
- 15.5 These projects will also support local SMEs and the circular economy priorities.
- 15.6 In response to Swansea Council declaring a climate emergency in June 2019, a council wide policy review was undertaken. The key contributors to carbon reduction, including Housing, were chosen to drive a climate change strategy delivery programme board. Both new build and decarbonisation of existing stock will play key roles in achieving both net zero carbon for the council by 2030, and the county wide target of net zero carbon by 2050.

