A feasibility study to investigate the potential for setting up a retrofit co-operative as a way of stimulating the retrofit market in Newtown

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August 2021

Proposal Summary:

This proposal is to test the feasibility of setting up a business in Newtown to purchase existing houses in the town of a variety of ages and types, to carry out an energy-retrofit to make them fit for 2050 and to rent them to tenants on the understanding that they form part of a "living demonstration of retrofit best practice".

The need for this project is that most housing in Newtown (and elsewhere) is not energy efficiency and few people are investing in improving the energy efficiency of their homes. This is an attempt to demonstrate what can be done and encourage more house owners to invest in their own homes.

The business could be set up a social enterprise, for instance as a co-operative. This would create a natural route via members to promote the importance of retrofit to the wider community and could also provide access to low cost patient capital e.g. community shares.

Note, this is very different from a traditional housing co-operative. Almost all existing housing cooperatives exist to provide housing for the members of the co-operative. In our example, the members would be investing in order to promote retrofit, and the actual tenants of the properties would not necessarily be members of the co-operative.

Justification

Domestic housing contributes about 14% to the UKs GHG emissions[1], and it is recognised that net GHG emissions must reduce to zero by 2050, meaning that the contribution from domestic housing must fall drastically. Improving existing housing is a big priority because by 2050, new housing (i.e. housing built from now onwards) will only be a small fraction of the UKs housing stock and the majority of the housing that will exist in 2050 already exist now.

Some progress is being made in the improvement of institutional rented housing (local authority and housing association) and these organisations are putting in place programmes of retrofit. In Newtown, Powys County Council have added external wall insulation to the houses they own on the Trehafren and Maesyrhandir estates, improving the energy of these buildings considerably.

However, private owned and private rented buildings are not undergoing the same rate of improvement. On the Maesyrhandir estate in Newtown where the local authority has been installing external wall insulation, a small proportion are now in private ownership (either owner occupied or private rented). Very few of these privately owned houses have taken up the offer to have the insulation installed at the same time, despite an offer having been made by the local authority to all these owners.

[1] In a new report 'UK housing: Fit for the future?' the CCC [Climate Change Committee] warns that the UK's legally-binding climate change targets will not be met without the near-complete elimination of greenhouse gas emissions from UK buildings. The report finds that emissions reductions from the UK's 29 million homes have stalled, while energy use in homes – which accounts for 14% of total UK emissions – increased between 2016 and 2017.
https://www.theccc.org.uk/2019/02/21/uk-homes-unfit-for-the-challenges-of-climate-change-ccc-says/

What are the reasons for the private sector to be slow to take up this offer? One of the reasons is that money spent on eco-retrofit does not translate into a higher valuation. Advice was sought from a professional surveyor, who suggested that if you take a standard estate house in Newtown worth about £100k, and spent £20,000 on energy improvements, it would perhaps raise the value of the house to £110k, but certainly not enough to recoup the money spent. Many property owners do not anticipate living in their present home many years, so the value of the property is more important than a saving on fuel costs.

Another reason is access to finance. The most effective measures are expensive, and may need in excess of £20,000 to achieve anything worth doing. This is an amount of money that many people would not be able to find without borrowing, which would incur another liability even if a lender can be found. To make the repayments affordable would require a very long loan term, which may outlive the time the person intends to live at the property. If a householder did have access to finance, it is often more attractive to spend it on something that as a more direct impact on their enjoyment of the home (e.g. new kitchen or extension) rather than energy efficiency measures.

A third reason is that an eco-refit is disruptive, and can be hard to do and to schedule while the home is being lived in or if children or elderly people are living in the home. The best time to do these works is between occupancies when the building is not occupied.

The present proposal seeks to address these barriers in the following ways:

House valuation:

The gap between increased house value and amount spend on improvements makes any model based on buying, refurbishing and reselling properties non-viable. However, the rental market is more flexible, with the link between realisable rent and property cost not strictly proportionate, meaning that it may be possible to buy, eco-refit and rent viably even when it is not possible to buy, eco-refit and sell.

Finance:

The long payback times of retrofit require patient capital, which traditional finance (e.g. mortgage) struggle to provide. This proposal investigates the option of more patient capital such as community shares.

Disruption:

A major barrier to deep retrofit is the disruption that it would cause to a family living in the property during the retrofit. This proposal addresses this by carrying out the retrofit during the window between one occupant leaving the property and the next occupant moving in. This of course creates a challenge if this window is too long as it creates a gap in income while the retrofit is carried out.

Implementation

The intention would be to purchase several properties on the open market that represent a cross section of the domestic housing stock in Newtown. Overheads would be an important consideration for a project like this which would mean that a small portfolio would expensive to manage. The ambition would have to be for this to grow into a substantial portfolio of properties.

There is a wide variety of house types in Newtown ranging from historic solid wall properties, Victorian terraces through to volume-built estate houses dating from the 1970s and 1980s.

The aim would be to purchase properties that, once the eco-refit is complete, would result in an ordinary, comfortable and easily lettable family home that could be typical of many others in the town.

The housing market in Newtown

Typical 3 bed family homes such as basic Victorian terraces or houses on the late C20 estates in Newtown tend to sell for a figure in the region of £90,000 to £120,000. Rents are in the region of £5,000 to £6,000 per year (£420 - £500 pcm). This does potentially make a traditional buy-to-let model work on the basis of the relative values of purchase price and rental price.

Eco-renovation

Each house would undergo a value for money energy efficiency upgrade before re-letting. The measures could include:

- External or internal wall insulation
- Improvement to air tightness
- Floor insulation
- Upgrade to roof insulation
- Heating upgrade (heat pump and upsized radiators)
- Heating controls
- Solar PV and/or hot water panels
- Full LED lighting
- Energy efficiency appliances

Note: to ensure that the energy efficiency of the house is not compromised by items of equipment brought in by the tenant, the letting may have to be on the basis of being semi furnished (i.e. inclusive of cooker, fridge, freezer, washing machine and other significant energy using appliances).

To estimate the cost of these measures, we refer to the recent document "Homes Fit for the Future: The Retrofit Challenge"[2] published by the Welfare of Future Generations office on the finance requirement for retrofit in Wales. They estimate that the spending required on average to raise all housing in Wales to an EPC band A is £24,000 per property and to a band C is £4,535. Since we are looking to create exemplar retrofit homes, we will take the former figure in our financial modelling.

Why a cooperative?

Some of the capital could be raised through a community share offer and the project could be run as a co-operative or a community benefit society.

The reasons for this are as follows:

- It would provide some private capital to match the amount to be raised from a mortgage, which would make it easier to raise such a mortgage
- It would engage a group of residents of the town to have a long-term active engagement with the project
- It would share and distribute decision making among a wider group
- It would be a channel for the messages that the project wanted to promote, to help these messages to feed into the community at a grassroot level.

[2] Homes Fit for the Future: The Retrofit Challenge, https://www.futuregenerations.wales/wp-content/uploads/2021/07/ENG-Exec-Summary-Financing-the-decarbonisation-of-housing-in-Wales.pdf

An alternative would be to do the same thing as a private enterprise if private capital could be obtained. This could potentially be a cheaper and more flexible option to experiment with a small initial portfolio.

Financial model

We have carried out financial modelling to assess the viability of this scheme. The following assumptions have been made.

Capital purchase of the property	£105,000
Legal costs	£2,000
Retrofit costs as per WFG report	£24,000
Setup costs (project management)	£5,000
Building insurance p.a.	£150
Building maintenance p.a.	£400
Administration p.a.	£2,000
Assumed general inflation	2.5%
Assumed inflation on houses	2.5%
Cost of installing new tenant	£2,000
Frequency of new tenant (years)	3

With these basic assumptions, we have modelled two scenarios.

Scenario 1: The first assumes all the capital comes from a commercial loan (mortgage) repaid over 20 years at 5% interest.

Scenario 2: The second scenario assumes half comes from a mortgage, and the other half comes from community shares. These shares would be paid 4% interest, but would only be withdrawable if other shares can be issued to replace the withdrawn amounts, i.e. new shareholder would have to be found to replace retiring shareholders. All shareholder funds could only be return if the property were ultimately sold, but this could actually be part of the business model if for instance the tenant were to eventually be offered the property for sale.

The model can be adjusted by altering the monthly rent to see what value makes the model viable.

The full financial model is included in Appendix A. The key information to come from this model is as follows:

1) The model does not work if funded entirely by a 20 year mortgage type loan. The capital repayments on the loan cannot be financed on any reasonable income (rent) from the property.
2) The model can be made to work if more patient capital can be incorporated (either an interest only loan, or community shares). Capital cannot easily be taken out of the business because it is tied up in the bricks and mortar, however capital could be recycled i.e. fresh input of capital could allow older capital to be withdrawn.
3) For the 50:50 loan:shares model, the model is viable if a rent of £620 pcm is charged to the tenant. This is high by Newtown rent standards, and the model would have to be refined to reduce this, especially if the aim is to provide “affordable” accommodation. This could be reduced for instance by: obtaining grant assistance, efficient management such that the admin cost is less than £2,000 per property, lower interest on capital.
4) Under this model, the balance sheet of the business would be negative until year 12 of the project. This is because there are setup costs, and the cost of doing the retrofit that is not reflected in the property value,

that cause a large initial loss on the balance sheet. This is not recouped from the annual profit until year 12, however, by year 20 the balance sheet has risen to a positive £35,000 (i.e the value of the property is £35,000 more than the value of the shares issued)

5) This model assumes a £2000 administrative cost per property. In reality the administration will not be linear, the cost of managing a portfolio of just one property would be much in excess of £2,000, but the cost of administering 10 properties may be less than £20,000. For a project of this type, the challenge of managing overhead costs such as this during the time that the portfolio remains small would be a major challenge.

Risks

The key project risks are:

Housing market crash	Although the housing market has tended to rise over time, there have been price crashes in the past (1988, 2008) so it is possible that house prices could fall which could mean that share capital could be at risk.
Excessive costs of tenant damage	The element of using the houses as eco show houses means that there will need to be some form of selection procedure, and an ongoing automatic form of monitoring that should ensure that this risk is reduced. Buy to let owners do report instances of tenants who have not respected the property and that cause significant damage.
Excessive turnover of tenants / voids	This is a recognised risk, and an allowance has been included for the cost of tenancy change. This is included as one change per two years, and each one incurring a cost of £2000 from either loss of rent or repairs.
Excessive unforeseen maintenance costs	This would be the same risk that any house buyer incurs in buying a property. The services of an experienced surveyor would be used to minimise this risk.
Excessive overhead costs	If the portfolio is small, overhead costs, such as accounting, would be disproportionately large.

Outreach

This project would be used to promote and accelerate the rate of energy retrofit work in Newtown by delivering on the following:

- Regular Eco home events at which a selection of homes that have undergone an eco-refit are open to the public and the tenant would show round interested homeowners.
- A website listing all the energy efficiency measures that the buildings incorporate, together with detailed costings and detailed installation details and materials.
- Full energy monitoring of the houses, and occupancy energy usage (temperature logging of space heating, hot water consumption, sub metering of appliances e.g. cooker, fridge, freezer

Selecting tenants and the tenancy contract:

The choice of tenant would be carefully controlled because it would be essential to have a tenant that was willing for their home to be used as a “show home” and friendly and able to explain about the building to visitors.

The tenancy would however be attractive to the right person because they would be renting a very energy efficient property, the rent would be affordable, and there would be a right to buy after a fixed minimum period e.g. 5 years.

The tenant contract that would include the following:

- For a five-year period, the tenant must be willing for the house to be open as an "open home" on at least 8 of a possible 12 pre-determined dates each year (to align with dates that other open homes are open)
- The tenant must be willing to explain to visitors the works carried out in the building.
- The tenant must be willing for certain data to be measured and published on the website, for instance, energy consumption in aggregate and broken down into different uses, room temperature logging, water consumption. This can be explored more to ensure that the data is a balance between informative but not invasive of privacy.

Is there a beneficial link to Housing Associations?

There could be a beneficial link to a housing association. This link could be that a housing association could be contracted to carry out the tenant administration work for the co-operative, e.g. rent collection, maintenance. The cooperative would probably prefer to retain the task of identifying suitable tenants. If possible, the rent could be tied to that for the equivalent HA house i.e. meet affordable housing costs. This link needs to be explored.

Can this be linked to construction skills training?

There could be benefit in using the properties to enhance local skills in energy efficiency retrofit works. This could apply to various skills, but particularly external and internal insulation and air tightness.

Conclusion

A property retrofit business could be viable under the right conditions in Newtown, and could act as a leader to encourage other property owners to follow suite. However, financial viability is narrow, caused by the fact that energy efficiency improvements are not (yet) reflected in property valuations or rent valuations. There are inherent risks associated with this scheme that potential investors would have to weigh up, such as the risk of a property crash.

Given the pioneering nature of this project, it would reduce some of this investment risk if public grant funds could be obtained to cover some of the cost of the retrofit, which could make the project more investable.

The scheme has many benefits and it is recommended that more effort is made to take this forward, in particular:

- To seek investors that would be willing to invest in a project
- To investigate potentially suitable properties on the market

Appendix A: detailed financial models

Scenario 1: Capital from loans and shares.

	1		year	1	2	4	6	8	10	12	14	16	18	20		
Scenario: loan and shares			**2022**	**2023**	**2024**	**2026**	**2028**	**2030**	**2032**	**2034**	**2036**	**2038**	**2040**	**2042**	yrs 6-10	yrs 11-20
Cashflow																
starting cash			0	2,000	2,532	3,384	3,971	4,315	4,442	4,376	4,144	3,775	3,297	2,742		
capital purchase			-105,000													
legal			-2,000													
retrofit			-24,000													
management			-5,000													
Eco refit grant			0													
mortgage			69,000	-2,087	-2,191	-2,416	-2,663	-2,936	-3,237	-3,569	-3,935	-4,338	-4,783	-5,273	-14,716	-42,753
Investor shares	£4,500		69,000	4,500	4,500	4,500	4,500	4,500	4,500	4,500	4,500	4,500	4,500	4,500	22,500	45,000
Tenant rent	£620			7,626	7,817	8,212	8,628	9,065	9,524	10,006	10,513	11,045	11,604	12,191	45,352	109,367
Tenant shares	£0			0	0	0	0	0	0	0	0	0	0	0	0	0
Agent fees	0.0%			0	0	0	0	0	0	0	0	0	0	0	0	0
Insurance	£150			-154	-158	-166	-174	-183	-192	-202	-212	-223	-234	-246	-914	-2,205
Maintenance	£400			-410	-420	-442	-464	-487	-512	-538	-565	-594	-624	-655	-2,438	-5,880
Cost of changing tenant	£667			-683	-700	-736	-773	-812	-853	-897	-942	-990	-1,040	-1,092		
Administration	£2,000			-2,050	-2,101	-2,208	-2,319	-2,437	-2,560	-2,690	-2,826	-2,969	-3,119	-3,277	-12,191	-29,400
Share interest	4.0%			-2,760	-2,940	-3,300	-3,660	-4,020	-4,380	-4,740	-5,100	-5,460	-5,820	-6,180	-20,100	-53,700
Loan interest	5.0%			-3,450	-3,346	-3,121	-2,873	-2,600	-2,300	-1,968	-1,602	-1,199	-754	-264	-12,967	-12,614
Ending cash			2,000	2,532	2,993	3,709	4,172	4,404	4,431	4,279	3,975	3,548	3,027	2,446	4,431	2,446
assumed future rate of RPI	2.5%		1.00	1.03	1.05	1.10	1.16	1.22	1.28	1.34	1.41	1.48	1.56	1.64		
Balance sheet																
Value of portfolio	2.50%	see note 1	117,000	119,925	122,923	129,146	135,684	142,553	149,770	157,352	165,318	173,687	182,480	191,718	149,770	191,718
Tenant shares			0	0	0	0	0	0	0	0	0	0	0	0	0	0
Investor shares			-69,000	-73,500	-78,000	-87,000	-96,000	-105,000	-114,000	-123,000	-132,000	-141,000	-150,000	-159,000	-114,000	-159,000
Mortgage capital			-69,000	-66,913	-64,722	-60,006	-54,806	-49,074	-42,753	-35,785	-28,103	-19,633	-10,295	-0	-42,753	-0
cash in bank			2,000	2,532	2,993	3,709	4,172	4,404	4,431	4,279	3,975	3,548	3,027	2,446	4,431	2,446
Society value in excess of share value			-19,000	-17,956	-16,806	-14,151	-10,951	-7,116	-2,552	2,846	9,190	16,602	25,212	35,164	-2,552	35,164
Profit / Loss																
Income																
rent			0	7,626	7,817	8,212	8,628	9,065	9,524	10,006	10,513	11,045	11,604	12,191	45,352	109,367
Expense																
Appreciation of portfolio		see note 2	0	2,925	2,998	3,150	3,309	3,477	3,653	3,838	4,032	4,236	4,451	4,676	17,395	41,948
Setup costs			-19,000													
Agent fees				0	0	0	0	0	0	0	0	0	0	0	0	0
Insurance				-154	-158	-166	-174	-183	-192	-202	-212	-223	-234	-246	-914	-2,205
Maintenance				-410	-420	-442	-464	-487	-512	-538	-565	-594	-624	-655	-2,438	-5,880
Cost of changing tenant				-683	-700	-736	-773	-812	-853	-897	-942	-990	-1,040	-1,092	-4,064	-9,800
Administration				-2,050	-2,101	-2,208	-2,319	-2,437	-2,560	-2,690	-2,826	-2,969	-3,119	-3,277	-12,191	-29,400
Share interest				-2,760	-2,940	-3,300	-3,660	-4,020	-4,380	-4,740	-5,100	-5,460	-5,820	-6,180	-20,100	-53,700
Loan interest				-3,450	-3,346	-3,121	-2,873	-2,600	-2,300	-1,968	-1,602	-1,199	-754	-264	-12,967	-12,614
Profit			-19,000	1,044	1,150	1,391	1,674	2,002	2,380	2,810	3,298	3,847	4,464	5,153	10,072	37,716
cumulative profit				-17,956	-16,806	-14,151	-10,951	-7,116	-2,552	2,846	9,190	16,602	25,212	35,164		
Notes																
1		This is the assumption on how this property will increase in value over time. It has been assumed that if £x is spend on eco-refurbishment work, this increases the value of the property by £x/2														
2		This is the amount the property increases in value each year														

Scenario 2: Capital from loans only.

	2		year	1	2	4	6	8	10	12	14	16	18	20		
Scenario: loan only			**2022**	**2023**	**2024**	**2026**	**2028**	**2030**	**2032**	**2034**	**2036**	**2038**	**2040**	**2042**	yrs 6-10	yrs 11-20
Cashflow																
starting cash			0	1,000	-5,910	-19,422	-32,505	-45,137	-57,296	-68,957	-80,095	-90,684	-100,696	-110,102		
capital purchase			-105,000													
legal			-2,000													
retrofit			-24,000													
management			-5,000													
Eco refit grant			0													
mortgage			137,000	-4,143	-4,350	-4,796	-5,288	-5,830	-6,428	-7,086	-7,813	-8,613	-9,496	-10,470	-29,219	-84,887
Investor shares	£0		0	0	0	0	0	0	0	0	0	0	0	0	0	0
Tenant rent	£600			7,380	7,565	7,947	8,350	8,773	9,217	9,683	10,173	10,688	11,230	11,798	43,889	105,839
Tenant shares	£0			0	0	0	0	0	0	0	0	0	0	0	0	0
Agent fees	0.0%			0	0	0	0	0	0	0	0	0	0	0	0	0
Insurance	£150			-154	-158	-166	-174	-183	-192	-202	-212	-223	-234	-246	-914	-2,205
Maintenance	£400			-410	-420	-442	-464	-487	-512	-538	-565	-594	-624	-655	-2,438	-5,880
Cost of changing tenant	£667			-683	-700	-736	-773	-812	-853	-897	-942	-990	-1,040	-1,092		
Administration	£2,000			-2,050	-2,101	-2,208	-2,319	-2,437	-2,560	-2,690	-2,826	-2,969	-3,119	-3,277	-12,191	-29,400
Share interest	4.0%			0	0	0	0	0	0	0	0	0	0	0	0	0
Loan interest	5.0%			-6,850	-6,643	-6,197	-5,705	-5,163	-4,566	-3,907	-3,181	-2,380	-1,497	-523	-25,747	-25,046
Ending cash			1,000	-5,910	-12,719	-26,019	-38,879	-51,277	-63,190	-74,593	-85,460	-95,764	-105,477	-114,568	-63,190	-114,568
assumed future rate of RPI	2.5%		1.00	1.03	1.05	1.10	1.16	1.22	1.28	1.34	1.41	1.48	1.56	1.64		
Balance sheet																
Value of portfolio	2.50%	see note 1	117,000	119,925	122,923	129,146	135,684	142,553	149,770	157,352	165,318	173,687	182,480	191,718	149,770	191,718
Tenant shares			0	0	0	0	0	0	0	0	0	0	0	0	0	0
Investor shares			0	0	0	0	0	0	0	0	0	0	0	0	0	0
Mortgage capital			-137,000	-132,857	-128,506	-119,142	-108,818	-97,436	-84,887	-71,052	-55,798	-38,981	-20,441	-0	-84,887	-0
cash in bank			1,000	-5,910	-12,719	-26,019	-38,879	-51,277	-63,190	-74,593	-85,460	-95,764	-105,477	-114,568	-63,190	-114,568
Society value in excess of share value			-19,000	-18,842	-18,302	-16,015	-12,013	-6,160	1,693	11,708	24,060	38,942	56,563	77,150	1,693	77,150
Profit / Loss																
Income																
rent			0	7,380	7,565	7,947	8,350	8,773	9,217	9,683	10,173	10,688	11,230	11,798	43,889	105,839
Expense																
Appreciation of portfolio		see note 2	0	2,925	2,998	3,150	3,309	3,477	3,653	3,838	4,032	4,236	4,451	4,676	17,395	41,948
Setup costs			-19,000													
Agent fees				0	0	0	0	0	0	0	0	0	0	0	0	0
Insurance				-154	-158	-166	-174	-183	-192	-202	-212	-223	-234	-246	-914	-2,205
Maintenance				-410	-420	-442	-464	-487	-512	-538	-565	-594	-624	-655	-2,438	-5,880
Cost of changing tenant				-683	-700	-736	-773	-812	-853	-897	-942	-990	-1,040	-1,092	-4,064	-9,800
Administration				-2,050	-2,101	-2,208	-2,319	-2,437	-2,560	-2,690	-2,826	-2,969	-3,119	-3,277	-12,191	-29,400
Share interest				0	0	0	0	0	0	0	0	0	0	0	0	0
Loan interest				-6,850	-6,643	-6,197	-5,705	-5,163	-4,566	-3,907	-3,181	-2,380	-1,497	-523	-25,747	-25,046
Profit			-19,000	158	540	1,350	2,224	3,167	4,186	5,288	6,480	7,770	9,167	10,680	15,929	75,457
cumulative profit				-18,842	-18,302	-16,015	-12,013	-6,160	1,693	11,708	24,060	38,942	56,563	77,150		
Notes																
1		This is the assumption on how this property will increase in value over time. It has been assumed that if £x is spend on eco-refurbishment work, this increases the value of the property by £x/2														
2		This is the amount the property increases in value each year														