

Headlines for Housing Plus Academy Workshop:

Reconciling Safety and Energy: Double cost, double whammy

8th-9th December, Trafford Hall

Social landlords are facing two huge challenges: they need to act on the recommendations in the Hackitt Review of Building Regulations and the Grenfell Inquiry's first report to ensure their homes are safe; they must invest in the energy efficiency of their existing stock to meet ambitious carbon reductions. These two challenges present significant financial, organisational, and resource implications for social landlords. The headline findings from the Think Tank are presented below.

- 1. Safety in buildings:** The Grenfell disaster was caused by neglect of safety, poor regulations, lack of enforcement, a reduction in standards, suppliers "bending rules", and lack of long-term oversight of existing estates and blocks of flats. The Hackitt Review concluded that the current system is "not fit for purpose" and proposed a number of changes to improve building standards. The Grenfell Public Inquiry highlighted serious failings and recommended changes in how social landlords can ensure the safety of their buildings. Many social landlords own buildings with unsafe flammable cladding, breached compartmentation which acts as a fire break between homes, broken fire doors, faulty air vents and many other problems.
- 2. The climate change crisis:** Urgent action is needed to improve the energy performance of our housing stock. Currently, energy use in running our housing contributes 18% of the UK's annual carbon emissions. As 80% of existing buildings will still be standing in 2050, in order to reduce our energy use to close to zero to we must retrofit our existing homes.
- 3. Combining energy-saving and safety:** Energy saving measures can be built into all safety works. For example, when flammable cladding is removed from a building, it must be replaced with non-flammable cladding with high insulation value. Windows can be fitted to improve airtightness while scaffolding is in place for cladding work. Replacing faulty fire doors can also improve the thermal efficiency of the building. Conversely, safety measures are central to all retrofitting projects. Tackling these two issues together reduces costs to landlords, and disruption to residents. There are some innovative examples of where energy and safety have been tackled together. For example:
 - Leeds City Council has completely transformed its approach to safety and energy saving. the way they think about the two issues. Now, if a building needs the outside rendering repaired, they take the opportunity of scaffolding being up to insulate the building and replace, repair the roof and windows if needed. If a building needs re-wiring, the council will add or upgrade the fire sprinkler systems. This is a much more cost-effective way to carry out the work that needs doing.
 - The T-Cosy retrofit project in Great Yarmouth added a continuous structure, like a tea cosy, over the top of a block of flats, reaching down to the building's foundations on both sides. Fireproof plastic brackets were fitted to the outside of the building, with an airtight insulating layer and an aluminium frame. This was then covered by external cladding. This method of retrofitting ensures there is no thermal bridging at any point in the building. In addition, water sprinklers into the void space within the cladding can be turned on by the fire brigade in the unlikely event of a fire within the cladding.

4. **Skills and training for safety and energy saving:** Both safety and energy efficiency improvements require the right skills in every field: fire safety; procurement; installation; site supervision; specification and maintenance. Training is essential, both within housing associations and for new recruits. Training schemes can help to attract young workers and make “green jobs” appealing. Bolton at Home has set up the Greenworks Academy, which will help social landlords and other local organisations and private companies in using low carbon technology such as solar voltaic panels, ground and air source heat pumps and blue roofs for water storage. Bolton at Home is offering carbon literacy training to staff at all levels of the organisation, beginning with the Chief Executive and Management team. L&Q have also have set up a skills academy to help train apprentices in energy-efficient building techniques.

5. **On-site management:** All multi-storey buildings need on-site management and a clerk of works in order to deliver a retrofit project efficiently and safely. Once a retrofit project has been completed, it is important to monitor the project and gather residents’ feedback, to check whether the building is performing as it is meant to, and to learn lessons for future projects. It is also important to ensure that residents have a proper understanding of how their refurbished homes work, as new technology is often added which can help residents save energy and money if used correctly.

6. **Resident engagement in safety and energy-saving projects:** Residents often have a better knowledge of how buildings work and what their homes need. They have usually been around a lot longer than the staff. Residents need to be involved from the start of the project before the decisions are made. To make informed decisions, residents must have a clear idea about why the work is being carried out, how the process will work, and what the benefits will be. It is important to offer information in accessible formats that suit the different needs of residents, for example making it large print and available in a range of languages. Some residents will be happy just reading a leaflet, but many prefer a face-to-face conversation with the chance to ask questions. During the pandemic, L&Q ran online webinars, which led to a much higher level of engagement, particularly from people that would not normally get involved, such as leaseholders, which led to the formation of a leaseholders' forum.

For retrofit and safety upgrading to work smoothly it is crucial to have a dedicated and trusted resident liaison officer who can build up a trusting relationship with residents and deal with problems as they arise. This person must be open and honest with residents. For example, it may not be possible to include suggestions that will cause a significant delay.

Real-life case studies can be a useful way to help residents understand the benefits of energy efficiency work. Peer to peer exchange can help reassure residents and communicate information and experience in a way that is accessible.

Residents may not support all aspects of a project. The landlord must consider all views and try to find a solution that works for everyone. For example, at Wilmcote House, Portsmouth, many of the residents were happy to have the balconies enclosed as they had concerns about their children’s safety and wanted the extra internal space, while some were resistant as they would lose outdoor space to dry washing and to smoke. The landlord decided to create an internal sunroom, which could be shut off from the main living room and could be ventilated. This created a space for those that wanted to smoke and to dry washing but was also safe and improved the energy efficiency of the building.

7. **Better standards for both energy efficiency and safety:** Social landlords need to aim for the highest build standards, both for safety and energy efficiency. Multi-storey buildings are particularly complex and at risk. To achieve higher standards we need a respected accreditation system, enforcement and training, both high level training for those directly involved in retrofit, as well as basic training for energy-saving and safety. This should involve all staff, including contractors. Adequate standards must apply to the government, suppliers, installers, managers, maintenance and caretakers. This will help avoid mistakes.
8. **Passivhaus and Enerphit:** It is possible to reduce the carbon impact of a building by 80-90% by adopting a whole-house fabric first approach using every possible measure to achieve net-zero carbon emissions. High levels of insulation and airtightness, coupled with mechanical ventilation deliver high levels of comfort. A Passivhaus building runs on 5% of average energy use. EnerPhit standard is the equivalent retrofit standard, reducing energy use to 20% of average energy use. We know from live examples such as Wilmcote House in Portsmouth, that retrofitting to the EnerPhit standard is successful in reducing residents' energy consumption, reducing bills, and improving quality of life. In addition, the highest standard retrofit cost is half the estimated cost of demolition and rebuild.
9. **The advantages of retrofit over demolition and rebuilding:** Demolition of existing homes causes significant environmental damage; each new-build home contains four times the embodied carbon of a retrofit project. Demolition is extremely disruptive to residents' lives and invariably leads to the loss of much needed social homes. It is impossible to demolish and rebuild homes as a way of solving the housing crisis. There is powerful evidence that retrofitting an estate can improve the popularity of previously unattractive estates and multi-storey blocks.

On average, demolition and rebuilding require at least 50% of the new homes to be sold to fund the new build costs. Retrofitting and refurbishment are generally cheaper. An assessment of regeneration options at St Raphael's Estate in Brent, London, calculated that demolishing and rebuilding the estate would have cost three times the amount of refurbishing the estate to high energy efficiency standards. Retrofit work can be partly funded by infill properties created on the estate, which can add density and expand the supply. At St Raphael's, the refurbishment plan offers an opportunity to increase biodiversity on the estate through planting projects and adding sustainable drainage, as well as creating new community facilities and more homes.

10. **Wider benefits of retrofit for residents:** Retrofitting homes not only improves energy efficiency but can improve residents' quality of life, by reducing energy bills, thus helping to reduce rent arrears and increase disposable income. It also helps improve residents' health by giving them a warm home to live in and reducing damp and mould. If a retrofit is carried out to a high standard, it will also reduce the need for repairs. Landlords and residents should count the additional benefits when considering retrofit options.
11. **A database of successful retrofit projects:** A database of retrofit projects, providing basic details or work done, cost and outcomes would avoid reinventing the wheel and help speed up the design and delivery of successful retrofit projects. It would give residents confidence in the proposals for work to be carried out. Case studies and live examples are easier to understand than technical presentations and architect drawings.

For projects to succeed, careful planning is needed at every stage, including time scales, key actors, project management, and consultation. While we must move with ambition to meet safety and carbon requirements, retrofit programmes work if properly planned to avoid mistakes. Landlords have to plan holistically for their stock, the work that needs doing, and cyclical works such as replacing windows which will contribute to thermal efficiency. Social landlords are now planning to invest beyond existing regulations to ensure their homes are futureproofed.

12. Funding the required investment: There are grant funding opportunities, but the timescales for application and delivery are often very short, which creates barriers to organisations accessing them:

- There is little general publicity about funding options, which creates a 'who you know' situation for finding out about funding opportunities.
- Government grants often require match funding and funding for other pieces of work related to the project that social landlords have to find the money for.
- Applying for funding is very time-consuming and there is often too little time to dedicate to securing grants.
- A funding barrier is the 5% VAT charge on retrofit works. There is no logical justification for this charge and its removal would make it easier for social landlords to deliver these projects.

There are some creative funding options available:

- The Energiesprong model guarantees a high level of thermal comfort to the resident with lower energy bills than they were paying before. Residents pay a set amount for heat and energy, lower than previous bills, and a portion of this payment is then recouped by the landlord who can then use the money to back-fund the work.
- Infill and airspace housing (housing added to existing blocks) can be provided during refurbishment and then sold or rented privately to help fund the works.

Messages to Government

At the end of the Think Tank, participants contributed ideas on what they needed the government to do to support social landlords to reduce their carbon emissions and ensure all homes are safe. These are the main issues raised:

- High-quality apprenticeships and training opportunities for green skills to support the supply chain;
- Funding to tackle safety and energy together.
- Zero VAT on all retrofit and upgrading works.
- Clear guidance on how to meet ambitious climate change targets.
- Higher building standards for new build and refurbishment
- Clear enforcement of recommended standards for safety and energy.