Futureproofing the UK's Community Sector:
An Analysis of Community Buildings' EPC Recommendations

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Executive Summary

- SIB is working to build knowledge of energy efficiency in the community sector. This research builds on our existing papers by estimating the costs of upgrading the sector to better energy efficiency standards [1],[2] .
- The Government has announced it will raise minimum energy efficiency standards for domestic buildings to an EPC rating of C by 2030. These will likely be extended to non-domestic buildings.
- 50% of England and Wales's community buildings currently fail to meet this standard and will need to be upgraded in the next few years.
- The next 5 years represent an opportunity for the sector to lead the decarbonisation transition and make a head-start on the road to Net Zero.
- We estimate the minimum cost of making all the recommended upgrades for community buildings as £429 million, or £31,000 per building.
- Investment will also bring significant co-benefits, including cutting CO2 emissions equivalent to taking 73,000 cars of the road.

1 New research shows community buildings falling behind in energy efficiency race - Social Investment Business
2 Energy-Efficiency-of-Community-Buildings.pdf

Introduction: A Regulatory Challenge for the Community Sector

The Energy Secretary, Ed Miliband, recently announced that the Government intends to raise the minimum Energy Performance Certificate (EPC) standard of rented domestic buildings to C by 2030[3].

The last set of Minimum Energy Efficiency Standards (MEES) of EPC E was set for both domestic and non-domestic buildings. It is likely that this time around, the limit will also be set for both non-domestic and domestic buildings as EPC C by 2030, or a similar target.

This paper explores how the community sector can reach this standard by making the improvements recommended by experts, thereby creating a more resilient and greener community sector.

Over 50% of community buildings in England currently fall below EPC C. In the most deprived areas this figure is even higher, meaning this regulation risks worsening regional inequalities[4]. The current rate of improvement is very slow, and without significant acceleration, community groups could lose access to buildings, services could close, and charities could find themselves unable to generate revenue.

This investment is not only important for regulatory reasons. Previous SIB research has shown community buildings are in a worse condition than other non-domestic buildings. A poor EPC is indicative of lower quality buildings and higher emissions. Investment will revitalise the community sector and protect it from new regulations.

This research paper outlines why making this investment is so crucial and estimates the cost of making the improvements needed.

3 Plans are subject to confirmation by the Government Energy efficiency: New targets announced by Labour | NRLA
4 Energy-Efficiency-of-Community-Buildings.pdf (sibgroup.org.uk)

Results and Analysis

Community Sector Off Track to Meet New Regulations

Proportion of Community Buildings Below EPC C, historic and projected

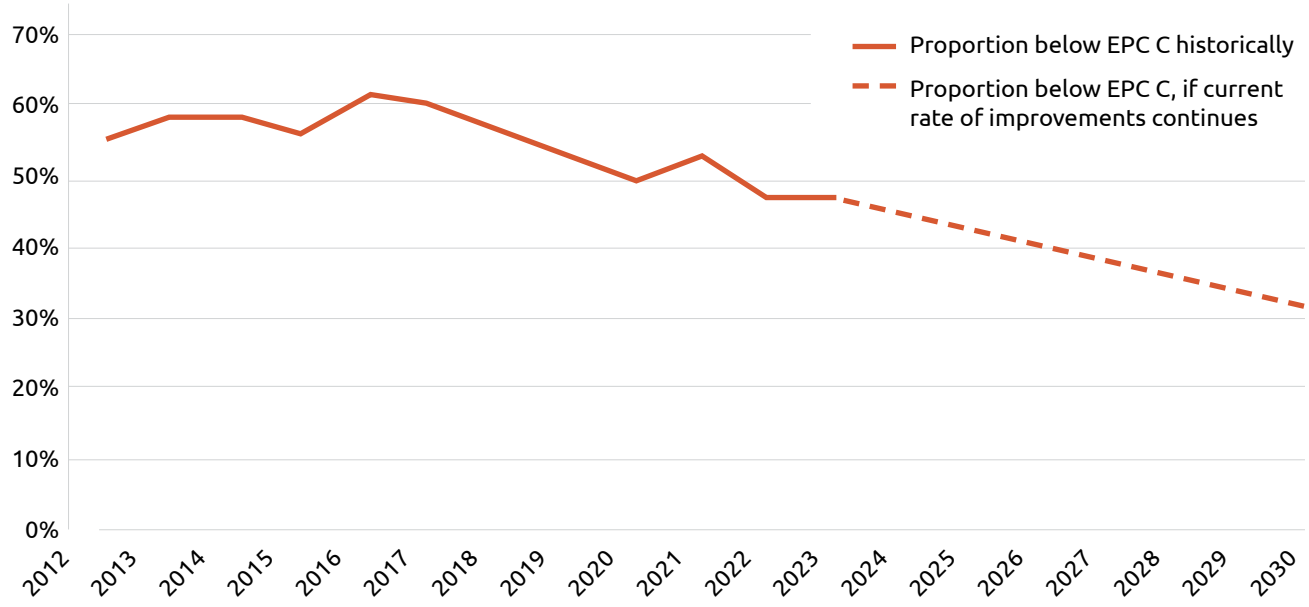

Figure 1: The rate of change in the number of community buildings rated EPC D or below. The graph shows that progress needs to significantly accelerate.

Figure 1 shows the percentage of community buildings in England with an EPC below C. Between 2016 and 2023, the proportion only dropped from 60% to 50%. This sluggish decline means half of all community buildings in the country are at risk of sanctions when the new EPC C standard comes into place.

And if improvement continues at current pace, 30% of community buildings would still be below an EPC C by 2030. A significant input of investment, support, and expertise is needed over the next 5 years to avoid hundreds of community groups running into problems. The community sector does not have the resources to make this shift alone.

Without investment, these standards risk worsening regional inequalities. 34% of community buildings in London fall below EPC C, but in the rest of England this number rises to 49%. And previous research by SIB has also highlighted that Northern regions of the UK have a greater proportion of community buildings that are at risk[5]. The Government and funders must direct support to areas of higher deprivation to ensure they don't lose crucial community centres.

5 New research highlights energy efficiency problem for vital community buildings - Social Investment Business (sibgroup.org.uk)

Most common upgrades

EPC Recommendation	Proportion of Community Buildings With Recommendation	Average Cost Per Installation
Add energy efficient LEDs	75%	£572
Add weather controls to heating system	67%	£644
Add start-stop controls to heating system	64%	£644
High frequency ballasts for fluorescent tubes(Upgrade fluorescent lights)	63%	£572
Install secondary glazing	61%	£2,145

Figure 2: The 5 most common EPC recommendations, and an average estimated cost of each measure

Figure 2 lists the 5 measures most frequently recommended within EPC reports for community buildings. EPC assessors recommend low-cost measures such as retrofitting lamps and adding controls for 60%-70% of buildings. These 'low hanging fruit' measures can help get properties into safe regulatory bands at lower costs, and show that there are easy improvements which still need to be made.

However, they won't greatly cut the carbon footprint of a building, and must go alongside more substantial carbon-cutting tech such as air source heat pumps, district heat networks, and solar panels.

Cost of Upgrades

We calculated the cost of making all recommended improvements to community buildings with an EPC below C. We estimate the cost of making all the recommended upgrades to be £429 million, or around £90 million per year for the next five years. The average cost per building is £31,000.

Cost broken down by recommendations

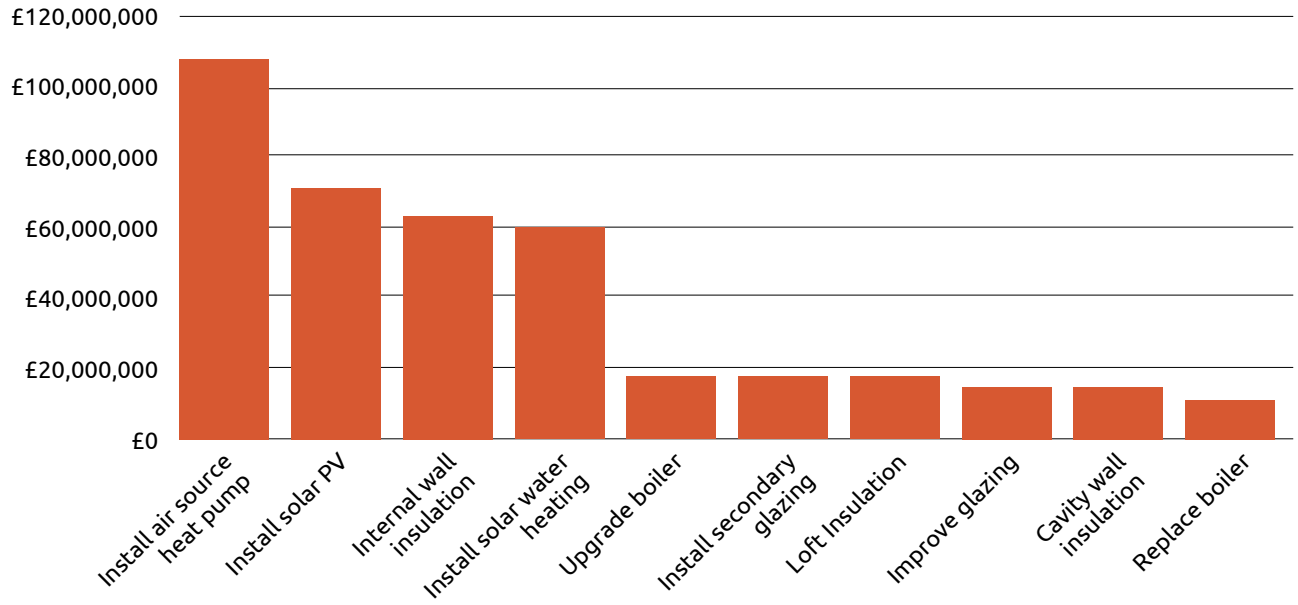

Figure 3: The cost of upgrading the UK's community buildings, broken down by individual recommendations.

Figure 3 breaks down this cost by individual recommendations. Most of the expense comes from 3 key renewable technologies: air source heat pumps, solar PV panels and solar thermal heating panels. Wall insulation is also a significant expense. Investment should therefore be geared towards funding the installation and running of these key technologies.

Alongside upfront installation costs, there will be a need to support the running of these technologies. This includes policies like energy price rebalancing to ensure heat pumps are economic to run, and extensions of incentive payment policies like the Renewable Heat Incentive and the Feed-in-Tariff . These ensure that clean energy technologies are cost-effective to run, preventing community groups from being punished for going green.

Heating represents around 80% of an average building's emissions. The Government plans to ban the sale of new gas boilers past 2035. Accordingly, it is important that a focus on low-carbon heating, such as heat pumps and district heat networks is focused on.

Ownership

We estimate 1/3rd of community buildings are owned by the organisation, with 2/3rd's rented[7]. Rented buildings are crucial to upgrade, as leases could end and rents could rise for community groups, if buildings fall under the limit of new regulations. It is therefore crucial that new regulation goes hand-in-hand with new funding.

Community groups and the social sector often take on ownership of the most run-down buildings in the UK, and this is even actively encouraged by governments[8]. Given this, they need additional funding and support to upgrade.

Co-benefits and emissions cuts

This investment will bring significant co-benefits beyond reducing regulatory risk and improving energy efficiency, such as by boosting the sector to reach Net Zero. Our estimate for the total emissions saved from installing all recommendations changes is 144,000,000 kg/CO2 per year. This is equivalent of taking 73,000 cars off the road annually[9].

Energy efficiency upgrades allow community groups to heat buildings comfortably and use buildings at more times of the year. They can also save money from energy bills. All these benefits can improve the offering of community groups and allow them to generate more income, boosting their resilience.

By taking a holistic, whole-building approach, energy efficiency upgrades can be done alongside maintenance work, securing the future of buildings. This can help boost resilience. And other benefits can be achieved such as improving air quality.

7 https://www.sibgroup.org.uk/news-insights/how-important-is-owning-assets-in-the-charity-sector/

8 'Right to Regenerate' to turn derelict buildings into homes and community assets - GOV.UK

9 Assuming average UK car emits 165 grams of CO_2/km and drives 11,909 km/year (What is the average annual car mileage in the UK? (britanniacarleasing.co.uk); UK: travel carbon footprint by transport mode 2024 | Statista)

Conclusion

To cut emissions, improve buildings, and ensure regulatory safety, it is important that as many community buildings as possible reach EPC C by 2030. If the new limit for non-domestic buildings does go into place, up to 50% of England's community buildings will be under EPC limits, representing over 13,000 crucial assets. Community groups with the current rate of improvement is far too slow to meet the challenge, and a significant input of investment is needed.

There are more buildings in deprived areas in this at-risk group. Without investment, new regulations risk worsening regional inequality and harming the community sector. According to our analysis, an investment of at least £429 million is needed between now and 2030.

This paper has outlined an estimate of the cost of making the bare minimum improvements needed for the sector to comply with potential new regulations. However, to reach Net Zero and secure buildings for the long term much more will need to be done. SIB is committed to taking a holistic and long-term approach to energy efficiency, going beyond regulation and looking at the most meaningful cost-effective changes possible. We want to strive for the best funding and support for organisations so they can be ambitious in their aims, boosting their resilience and sustainability.

There will be significant co-benefits from any investment in community buildings' energy efficiency. Energy efficiency upgrades often make buildings safer and more comfortable to be in, allowing them to offer better services to communities. We also estimate that the carbon saved from making all upgrades will be equivalent to taking 73,000 cars off the road each year.

Cutting the UK's emissions requires action for all areas of the economy, including the community sector. With the right funding and support, we are confident that the community sector can emerge from the green transition bigger, more resilient, and better able to serve communities.

Methodology

To assess past trends and estimate the cost of making the changes needed, we used the Government's EPC database[10]. EPCs are a measure of a building's energy efficiency, made by qualified assessors who then give recommendations for upgrading the building to a higher energy standard.

We calculated the cost of making all recommended upgrades for community buildings with an EPC rating below the new minimum of C. To estimate the cost of making each individual recommendation (e.g. installing double glazing or fitting solar panels), we used the standard costs from EPC reports and applied an inflation adjustment of 43%[11]. We also assume the costs given are for raw materials, not installation, so our total figure is a lower bound.

Our dataset comprises all community buildings with an EPC in England and Wales. We estimate that around 60% of UK community buildings have an EPC, as is the case with domestic buildings[12] . So we increased our figure accordingly to represent all community buildings.

We also excluded all recommendations to install building mounted wind turbines. These are treated as an outlier in our data as the estimated cost per installation is very high (over £37,000 per building), skewing the data greatly. Wind turbines are also considered by many experts a risky and uneconomic installation, and so are unlikely to be installed to the extent recommended[13,14,15].

2% of community buildings also have multiple EPCs. These duplicates have been deleted so that only the most up to date recommendations for each building have been included.

Applying all EPC recommendations will have varying impacts on each building. For some, even having all changes made will not allow them to reach EPC C. This is because a building may be too old, or it is too expensive to make changes. Others will be able to reach higher EPCs of A+, A and B. However, those which don't reach EPC C will still likely be safe from regulation, as previously there has been an exemption for buildings which spend over a certain limit.

We also estimated the annual emissions cuts from making these improvements. Our assumption of the magnitude of cuts was that making all recommended upgrades for a building would allow them to reach, on average, the emissions requirements of a new non-domestic building (around EPC B).

To reach an estimate, we worked out the difference between the annual equivalent CO2 emissions from a building, and the CO2 emissions it would have if it were upgraded to a new build standard. This was adjusted by floor area to reflect the size of buildings.

Although lots of literature exists about errors with EPCs, we still think this is the best pool of available evidence of the state of play for the sector. In particular, EPCs are helpful at assessing nationwide trends of community buildings. When applied to individual buildings a more detailed energy audit is far superior. However, assessing trends in EPC data is a useful tool to assess the current direction of travel for upgrading community buildings.

10 Energy Performance of Buildings Data England and Wales (opendatacommunities.org)

11 EPC costs have not been upgraded since 2011; since then prices have increased by 43%: Inflation calculator | Bank of England

12 Energy Performance of Buildings Certificates Statistical Release: January to March 2024 England and Wales - GOV.UK (www.gov.uk)

13 Wind power - Centre for Alternative Technology (cat.org.uk)

14 Domestic Wind Turbines | Changeworks

15 Building mounted wind turbines and their suitability for the urban scale—A review of methods of estimating urban wind resource - ScienceDirect


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