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# TOUCHING THE VOIDS

The impact of energy  
efficiency on social landlord  
income and business plans

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National Energy Action (NEA) is an independent charity working to protect low income and vulnerable households from fuel poverty. NEA works to increase strategic action through its policy, research and campaigning functions. NEA also provides accredited frontline training and works to develop strategic partnerships with energy efficiency installers, manufacturers, utility companies, local authorities, housing associations, gas and electricity network operators, health agencies, community groups and other voluntary sector agencies to deliver practical solutions to UK households – improving access to energy advice, energy efficiency products and other related services for vulnerable consumers. For more information visit [www.nea.org.uk](http://www.nea.org.uk).



# TOUCHING THE VOIDS

## Foreword

The last 18 months have been a tumultuous time for social landlords: rent reductions, changes to grants, as well as the extension of Right to Buy.

At the same time the transition to Universal Credit, with residents becoming more responsible for their finances, means some are likely to face difficulties in keeping up with rent. As organisations with a social purpose – meeting a need for high quality, affordable housing – this presents a real challenge for social landlords. How to maintain the commitment in the face of these pressures on budgets, combined with reduced funding on the table for improvements to stock?

Arrears are a big problem for the sector; an analysis by the National Housing Federation found that 1 in 10 social landlords have more than £1 million in rents outstanding. And contrary to the picture sometimes painted in the national media, there are areas of the country where properties lying empty, or void, are much more of an issue than an excess of demand. As well as blighting neighbourhoods this is a root cause of anti-social behaviour and other issues that are an extra cost for social landlords to deal with.

We know that residents really value high quality homes that are affordable to run, and above all, comfortable to live in. If we can show that by investing in better, more energy efficient homes we can have a

material impact on lowering fuel bills, reducing rent arrears, addressing voids and improving the bottom line for social landlords it would present a 'win-win' – good for residents and good for landlords.

This is the task begun in this report – in it Sustainable Homes convincingly shows a link between energy efficient housing and reduced rent arrears and voids. The results are compelling and need to be considered by everyone with an interest in the issues. The finance, planning, development, sustainability and asset management teams of social landlords can all benefit by coming together around a shared approach. This can be helped by central and local government support.

Sustainability, which speaks to the wider need for everyone to reduce their environmental impacts, is still a pressing need as it ever was. More warm, comfortable homes, where residents are able to afford the rent as well as the energy bills makes economic sense as well as reducing environmental impacts and improving people's quality of life. All the more reason why truly sustainable homes should be the default for Government, local authorities, regulators and social housing providers.



A handwritten signature in black ink, appearing to read 'Matthew Taylor'.

Lord Matthew Taylor

June 2016

## Executive summary

This study sets out to investigate whether energy efficiency improvements to homes that reduce energy bills provide any reduction in voids, rent arrears and other costs faced by landlords. It was inspired by examples from different social landlords that rent arrears and void periods reduce when properties are made more energy efficient through investments in insulation, new boilers or other improvements.

There is profound interest in the housing sector on the link between energy costs, voids and rent arrears. It is a significant link – by reducing voids social landlords can make better use of assets, save money and invest in more ambitious business plans while improving the quality of life for residents and meeting up to our shared environmental challenge.

Twenty-five social landlords managing over 500,000 homes in England and Wales supported this research. They provided data on the energy efficiency of their homes as measured by the Energy Performance Certificate (EPC) along with rent arrears and voids data.



“Improving rental income makes us more viable. Reducing rent arrears and voids is a key part of that. Reducing those costs enables us to build more homes”

Anne McLoughlin, Operations Director  
Hastoe Group

**The study found that:**

- There is a correlation between the energy efficiency of the homes and the number of void days. As homes become more energy efficient they are void for a shorter length of time - on average band B properties remained void for 31% less time than those in bands E and F.
- Administration costs are considerable for voids. Landlords with more energy efficient stock are spending less on refurbishing void homes, less on repairs and less on staff time to manage voids.
- The levels of rent arrears experienced by landlords ranged between 3.5% and 28%, with an average of 14%. There is a correlation between length of time in arrears and energy efficiency of homes.
- Colder homes, especially those in band F, have on average two weeks more rent arrears than the rest of the bands each year. The highest performing band A properties spent 30% less time in arrears compared with the worst performing homes.
- An analysis of further costs incurred shows that time spent seeking overdue rent payments, legal costs and court costs decline by around 35% for more energy efficient homes.

Overall, there is a strong correlation between lower rent arrears, lower void rates and more energy efficient properties. This shows that improving the energy efficiency of properties can bring financial benefits to landlords, as well as for residents and the environment.

A key finding of the research is that the wider costs of tackling rent arrears and voids are both significant and can be reduced. The time and effort spent chasing payments and on repairing and refurbishing vacant homes is significant. Reducing this would allow landlords to achieve a boost of millions to their bottom line each year.

We already know that warm, efficient homes with low running costs bring improvements in residents' health and well being, lower responsive repairs and maintenance costs, reduce levels of anti-social behaviour and help meet environmental targets.

To this range of benefits we can now add a significant reduction in rent arrears, voids and all the associated costs. We urge all social landlords to consider this link and look forward to the debate over what can best be done to reduce energy costs and make best use of existing dwellings to provide quality homes for the nation.



### Scenario – how Good Homes Housing Group increased energy efficiency, reduced voids and rent arrears and saved £24m

Spurred by the findings of this report Good Homes (a fictional landlord) has improved the energy efficiency of its 10,000 homes by increasing the average SAP rating from 65 to 75. On the basis of this research Good Homes is likely to experience:

- reduced re-let times for void properties – generating an extra £40,000 in rental income each year;
- reduced operating costs – saving £2 million each year from lower void management costs, re-lets and fewer repairs;
- increased income – rising by £90,000 each year due to lower rent arrears;
- reduced operational costs – lowered by £300,000 each year as staff spend less time chasing rent arrears and legal costs are reduced.

Taking into account the reduction in voids, rent arrears and associated administration costs, a 10,000-home landlord that improves its housing stock from an average SAP 65 to 75 could potentially achieve a boost of almost £2.43 million to their bottom line each year.\*

Over a ten year period Good Homes will be £24m better off.

The Good Homes finance team are off to celebrate.

\*Estimations from CROHM data analysis suggest that a retrofit programme on this scale would require an investment for this fictional landlord between £20 to 40 million.



“We are constantly looking at ways to improve value for money across the business and by reducing rent arrears and voids we can make better use of our assets, improve income flows and build more homes.”

Niki Stockton, Director of Asset Strategy,  
Your Housing Group

## Why was this study undertaken?

Local authorities and social landlords manage over 4 million homes in the UK – almost a fifth of the total housing stock. Managing high value assets such as properties is a complex business, especially for larger landlords.

It is sometimes hard to know what the inputs and outputs will be – how investing or cutting costs in one part of the business could have negative, unintended consequences elsewhere.

When any business, including a landlord, is able to use its assets more efficiently this can make their business plans stronger and more resilient. We wanted to explore the impacts that, unbeknownst to landlords, higher quality and energy efficient properties might have on landlords' bottom lines income. Anecdotal evidence suggested there may be a link. Analysis by Hastoe Group, for example, revealed that properties retrofitted to a high energy efficiency standard had, on average, half the rent arrears of others.<sup>1</sup> Other studies have pointed to a reduction in mortgage defaults by people that own energy efficient homes.<sup>2</sup>

This report examines the claims that there is a link between energy efficiency, lost income and costs associated with managing properties in three key areas:

**VOIDS:** If properties are empty they still are a cost to maintain – and they are not generating income. This is a significant issue. More than 200,000 homes across all tenures in England remained empty for more than six months in 2014.<sup>3</sup> Assuming an average monthly rent of £400 this figure represents a loss of over £500 million in rental income.

**RENT ARREARS:** A sizeable problem for social landlords in the UK. Around 85% of evictions in England in 2014-2015 were attributable to tenants being in rent arrears.<sup>4</sup> The average total amount of outstanding arrears in organisations is £1 million. Ten percent of housing associations are dealing with rent arrears of £2 million or more.<sup>5</sup>

**ADMINISTRATION AND OTHER COSTS:** The loss of income from voids and rent arrears is only one part of the story. Staff time, legal fees, refurbishing void homes, and other costs all add up – as do other costs such as reactive repairs that are often more common in lower quality stock.

As well as being disruptive and undesirable, other issues such as anti-social behaviour can be an indirect cost to landlords for similar reasons.

<sup>1</sup> Hastoe Housing Association (2016). Greening Hastoe infographic.


<sup>2</sup> UNC Center for Community Capital and Institute for Market Transformation (2013). Home Energy Efficiency and Mortgage Risks.

<sup>3</sup> Empty Homes (2015). Empty Homes in England.

<sup>4</sup> DCLG (2016). Local authority housing statistics: year ending March 2015, England.

<sup>5</sup> Ipsos MORI Social Research Institute (2014). The impact of welfare reforms on housing associations.





## EPCs and SAP



An Energy Performance Certificate (EPC) is a home rating required by law whenever a home is sold or let. It takes into account the age and construction of a home, and includes factors that affect its energy use, for example its size, the level of insulation, type of glazing and heating systems. It is intended as a comparison of energy efficiency between homes to inform the purchaser (or new tenant).

A rating from G to A is given based on Standard Assessment Procedure (SAP) scores on a scale of 1 to 100, where 100 is zero-carbon. The number of occupants is calculated using a formula based on total floor area and an estimate of a typical annual energy spend is given, which may be used as a comparison.

New homes have a full assessment using SAP, but in an existing building much of the detailed information can be difficult to obtain. In these cases a reduced-data SAP (RdSAP) is used.



## What do we mean by rent arrears and voids?



Rent arrears occur when people fall behind with the rent payments. For this report we counted a household as in arrears when the outstanding debt exceeded one month of rent. Another common definition used elsewhere considers that tenants are in arrears is when their debt is over £1,000.

Voids are periods of non-occupancy in a property. They could be due to tenants moving out or during major repairs. A lower void figure means properties are empty for less time, resulting in more rental income and lower expenses for landlords such as council tax.



A study by the University of North Carolina found that people in energy efficient homes are 32% less likely to default on their mortgages<sup>2</sup>. The study, undertaken in 2013, reviewed the loan data for 71,000 mortgages. It found that the more energy efficient a home was, the lower default risks were. Additionally, borrowers in energy efficient homes are 25% less likely to prepay their mortgage.

In the UK the Mortgage Market Review requires UK mortgage lenders to consider what repayments a customer can afford considering both their income and major expenditures.

Work by the UK Green Building Council and UCL Energy Institute considers the extent to which mortgage lenders could estimate energy costs using data that is already readily available to them, including properties' EPC rating.

The analysis shows that these estimates could significantly improve upon those currently used in mortgage affordability calculations, potentially allowing banks to better manage the risks associated with their lending, while also helping prospective purchasers to better understand the real running costs of the property they are about to purchase.<sup>6</sup>

<sup>6</sup> UK-GBC & UCL Energy Institute (2015). The role of energy bill modelling in mortgage affordability calculations.

## What did we do?

Data were collected from 25 social landlords managing over half a million homes in England and Wales. The landlords ranged in size from 2,000 to 50,000 homes.

### Location of participant landlords (main offices)

The study took place over six months from October 2015, assembling anonymised data from a range of indicators including the energy efficiency of properties, rent charges and rent collected from tenants and housing benefit, void periods and further costs for dealing with these issues.

For the voids analysis, data was collected from June 2013 to June 2015, capturing the number of re-lets and void days during the study period as well as the SAP rating of properties. For rent arrears, we collected data for the period of November 2014 to February 2015. To ensure accuracy only properties with a confirmed SAP rating and which were fully occupied during the period were studied. To ascertain costs

associated with processing voids and rent arrears, participants provided additional information.

Data from over 200,000 homes were received, compiled and checked against the criteria, with in excess of 2 million data points received to model and analyse the correlation of energy efficiency in homes with voids and rent arrears.

This dataset was then aggregated and analysed in parallel with the information provided by participants on the costs of administering the two indicators. Oversight was provided by data scientist Dr Wolfgang Garn, Programme Director of Business Analytics at the University of Surrey.

**“The total cost of our voids is £1 million every year. Reducing these costs will transform our business plan. It will make us far more resilient.”**

Noel Brosnan, Property Services Director, Octavia Housing



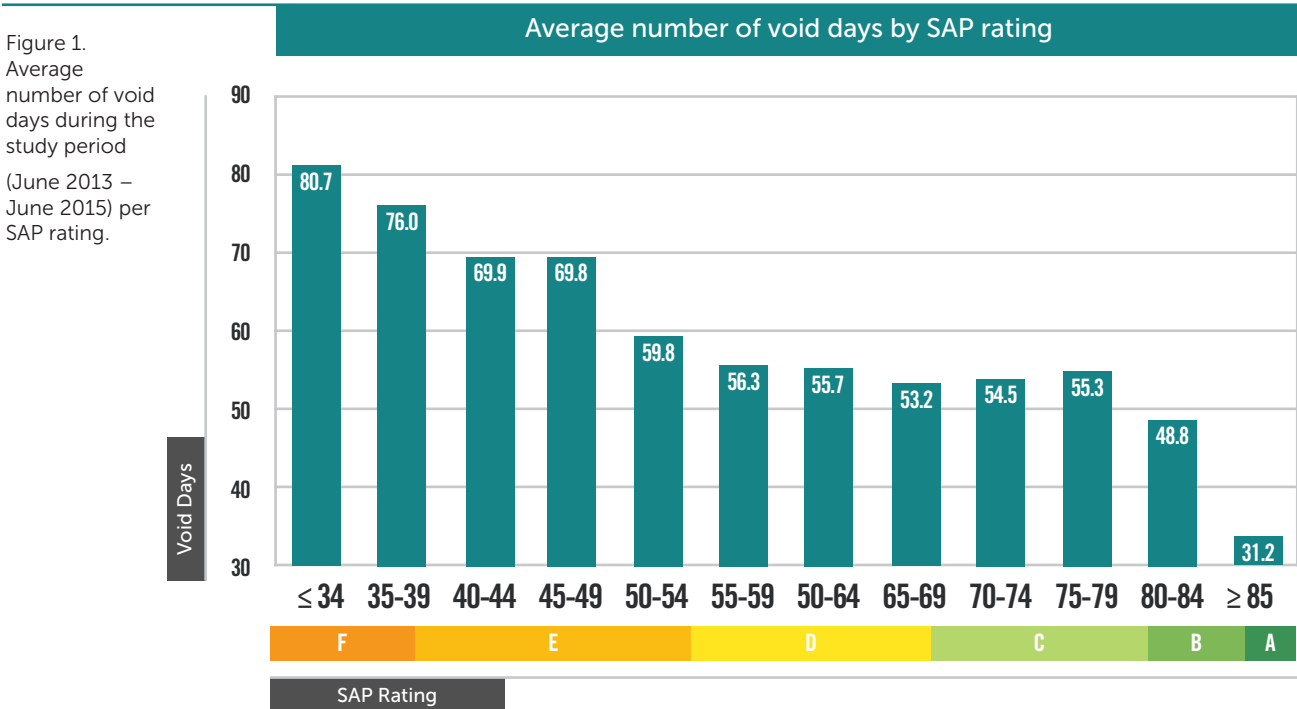


# What did we find?

## Void rates

More than 30,000 properties that were void at any point during June 2013 to June 2015 were used for the analysis. Figure 1 shows the average number of void days during the period by SAP rating.

At the lowest end of the spectrum, properties in the E and F bands were empty for an average of up to 70 and 80 days respectively over the two years – more than one tenth of the days available over the period. This is in contrast to those at the other end of the scale: energy efficient properties, such as those with a SAP rating over 80 were void for 48.8 days (40% less), meaning less rental income was lost.



Looking at the findings in more detail, the analysis shows that the total number of void days are, on average, up to 18% larger for band F and E properties compared to those in band D and 31% larger than those in band B. The variation within the band C and D properties was less marked, serving to underline the transformative impact that more

ambitious programmes of retrofit and new build can have for both residents and landlords.

### Was this profile of lower voids in more energy efficient homes found throughout the study?

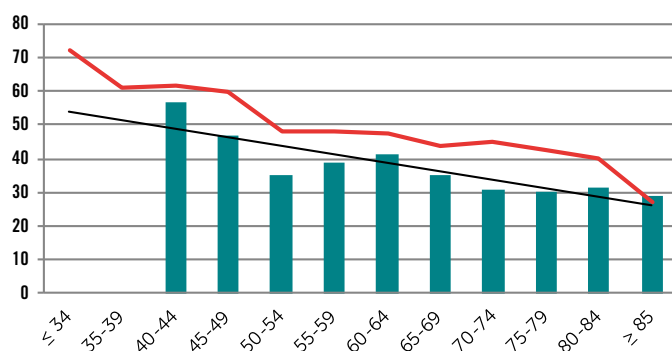
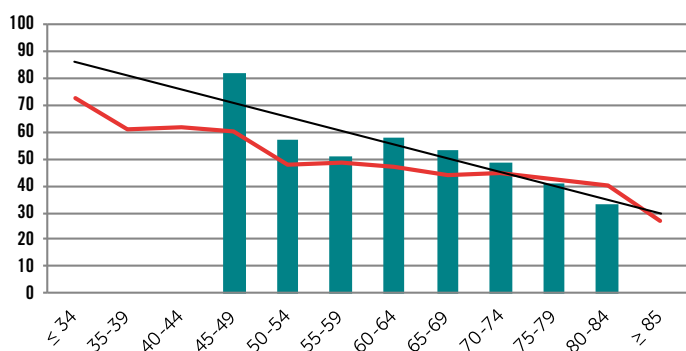
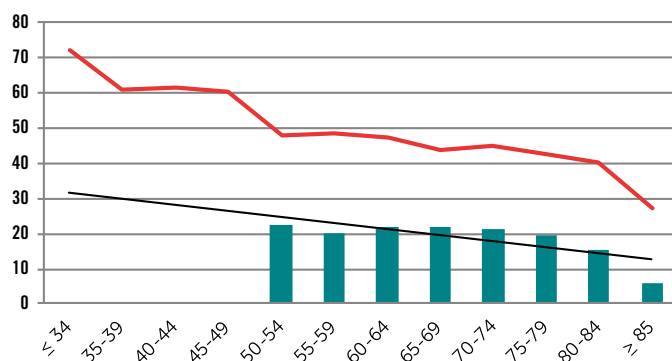
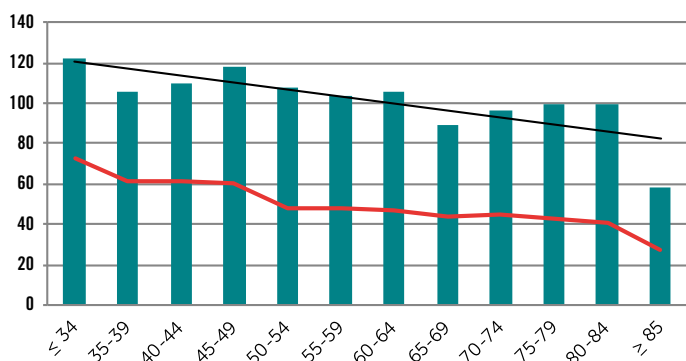
Yes. In 90% of the landlords involved in this research a clear trend was found, showing that energy efficient homes presented

fewer void days during the period of study, with a relationship that was broadly consistent, and especially strong at each extreme. Figure 2 shows the findings for some of the landlords involved.

Average number of void days per SAP rating – anonymous landlords

Figure 2. Average number of void days during the study period per SAP rating of four anonymous landlords.

■ Void days during the study period    ■ Average void days of the study



Good Homes Housing Group increases rental income from voids

For this purpose let's consider Good Homes, a landlord with 10,000 properties all at SAP 65 that are then improved to SAP 75.

Taking into account a sector average of 7.5% of properties becoming void, after improvements this landlord could see, based on the analysis above, around 3,000 fewer void days or £40,000 in extra income each year (based on a rental payment of £400 per month).

What this means for landlords

All landlords are different and have a wide variety of homes with a range of SAP ratings.

But what if we focused on the worst performing homes? In the F and E bands we could potentially have a reduction of 6 days per void period when retrofitting up to band C and save up to £90 per void property. These are often described as 'hard to treat' properties – they may be old, meaning planning consent can be an issue, or measures which are easily applicable elsewhere are not possible.

Voids operational costs

The direct loss of income associated with voids is only one part of the story. The study also investigated the indirect costs of managing voids.

Landlords reported the following costs resulting from voids:

- staff time spent administering the re-let of the property;

- refurbishments needed in order to market the home to new potential residents;
- repairs to homes that are sometimes necessary due to lack of occupation;
- depreciation in the value of the property that sometimes results due to lack of occupation.



“Voids cost us £4.8 million a year. Reducing these costs will make better use of our assets and improve income flows. It can help make the organisations far more resilient and able to achieve more.”

Mark Rodda, External Investment Manager  
Metropolitan

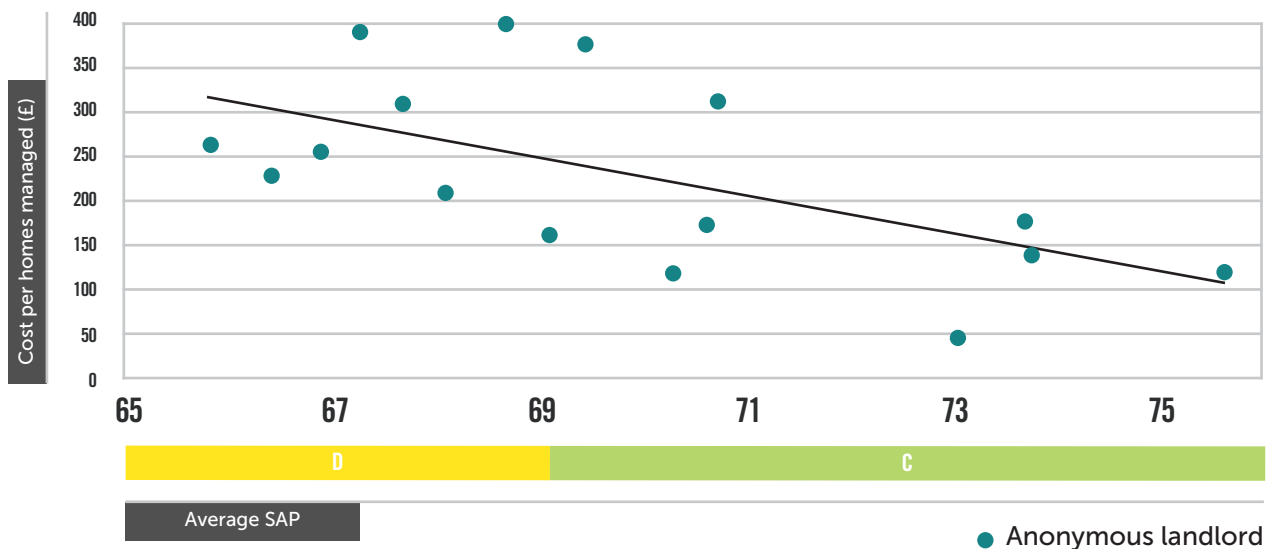
Analysis of participant landlords data showed that more energy efficient homes tended to have lower void operational costs. As shown in Figure 3, landlords whose housing stock had an average SAP of 66 to 68 tended to have a void

operational cost of £200 to £400 per home managed. This compares to landlords with an average SAP of 73 to 75 with costs of £50 to £150 per home managed, a 60% difference.

This is significant. If having more energy efficiency stock reduces operational costs, it could be a mechanism for landlords to reduce costs and deliver better value for money for their residents and stakeholders.

Figure 3. Landlord’s average SAP of housing stock versus operational costs of voids (excluding loss of rent).

Landlords’ average SAP vs. operational costs of voids



What would this mean for our fictitious landlord?



The board of Good Homes Housing Group had a major drive to improve the energy efficiency of their homes. They manage, through a great deal of insulation, boilers, solar panels and other works to improve the average SAP of their 10,000 homes from 65 to 75. What does the above tell us about the likely impact for their operational costs?

Based on the above findings, Good Homes will see a reduction in administration, refurbishment and other operational costs that could reap savings of up to £2 million per year. Repairs and refurbishments are the most significant costs reported and go some way to explaining why the potential savings are so high.



## Rent arrears

There are many reasons people fall into arrears for a short period of time such as one-off household expenses or issues with benefits. In order to consistently compare the diverse sample of properties across the UK, the number of months in arrears was used rather

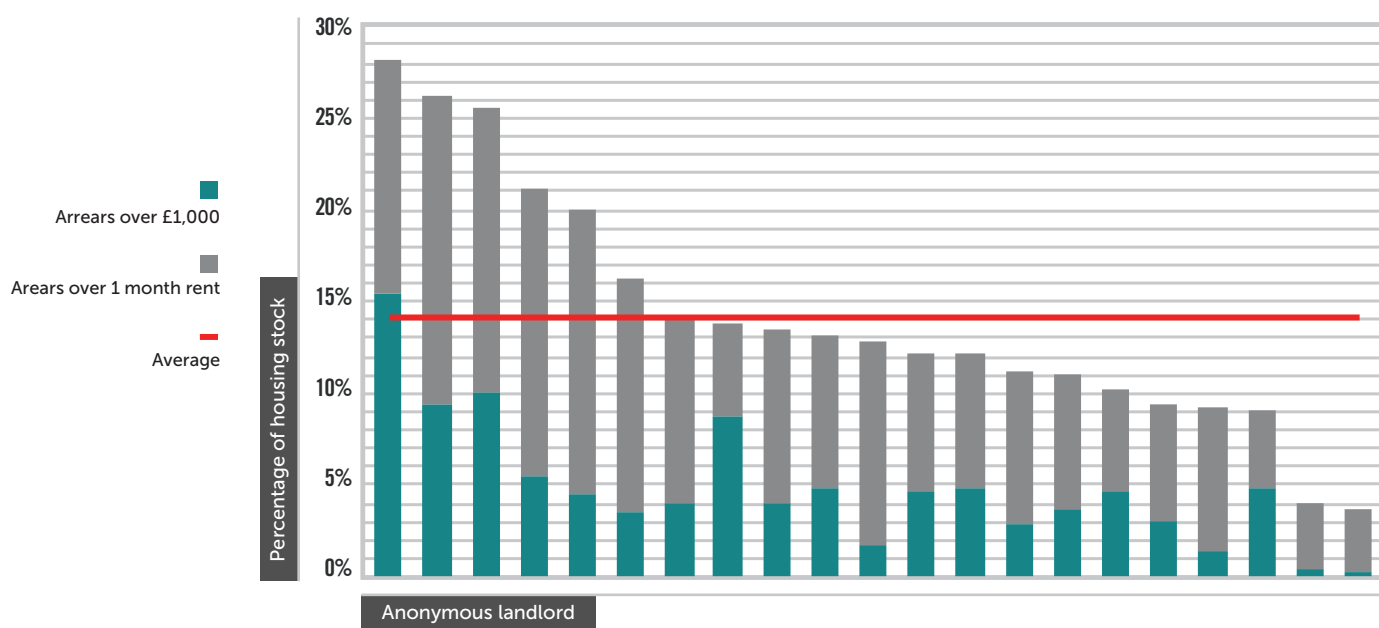
than the total outstanding balance. This aimed to capture 'problem properties' that were in arrears for successive months and thus more likely to pose issues inherent to the home itself.

The proportion of properties in arrears, with at least one month of rent outstanding, ranged markedly from as little as 3.5% to as much as

28%. The average across the organisations studied was 14%, a figure compounded by the fact that a third of those in arrears had balances in excess of £1,000 outstanding. This underlines the size of the challenge facing the sector.

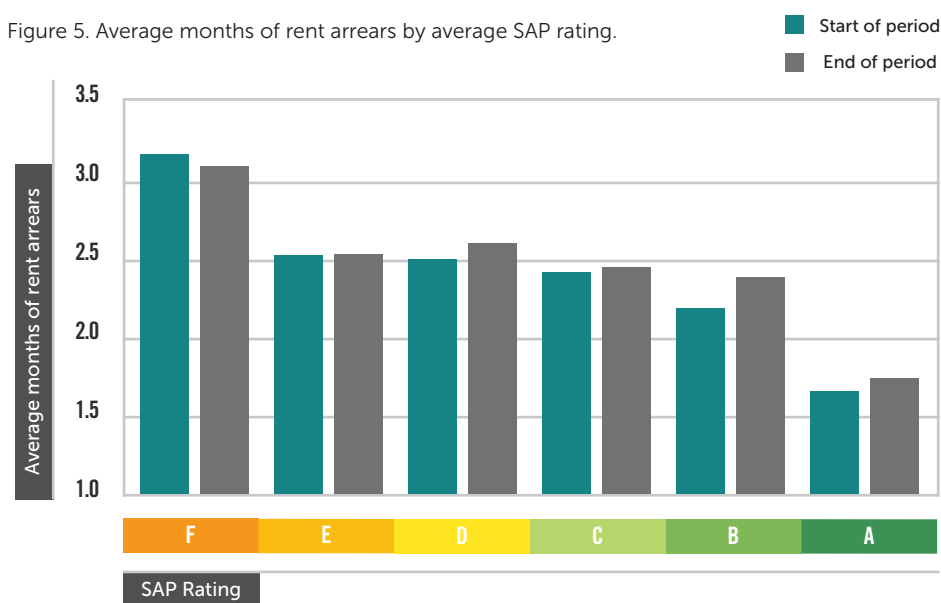
Figure 4. Percentage of housing stock in rent arrears.

### Percentage of housing stock in rent arrears per landlord



### Rent arrears by average SAP rating

Figure 5. Average months of rent arrears by average SAP rating.



Further analysis of rent arrears was carried out to determine whether improvements in energy efficiency lead to fewer properties in rent arrears. Figure 5 shows the average months of tenant rent arrears per average SAP band of properties.

Poor-performing band F properties tend to be in arrears for an average of two weeks more than higher bands (see Figure 5). While there is no major change between bands E and C, those homes in band A were in arrears for up to three weeks less during the period of the study.

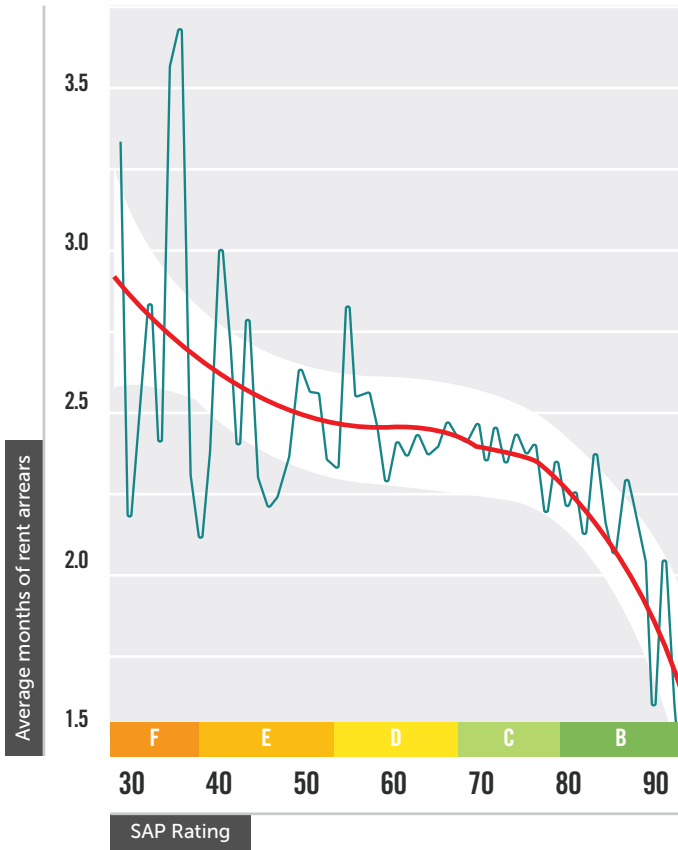


Figure 6. Months of tenant rent arrears per SAP rating of properties by end-February 2015.

**Average rent arrears by months / SAP rating**

Figure 6 reveals more detail about the extent of arrears for landlords based on individual property information using local linear regression analysis – a statistical technique to plot a representative line through variables. It confirms that,

although a variation exists in the data points either side of the line, there is a clear relationship. Furthermore the drop off in arrears for upper band C properties and within B properties is particularly marked.

**What this means for landlords**



**Less rent arrears for Good Homes Housing Group**

Good Homes, our fictional landlord, were keen to know what the advantage of improved homes is for them. How much more rent are they likely to be collecting?

Based on Good Homes improving their 10,000 homes from an average of SAP 65 to SAP 75, the data illustrates that up to £90,000 extra per year could be generated from reduced rent arrears.



“Since we moved to this energy efficient home in 2011, we are now spending less in energy bills and therefore we are financially better off to keep up with the rest of the expenses.”

Mr Martin, Resident from Wimbish Passivhaus from Hastoe Group.



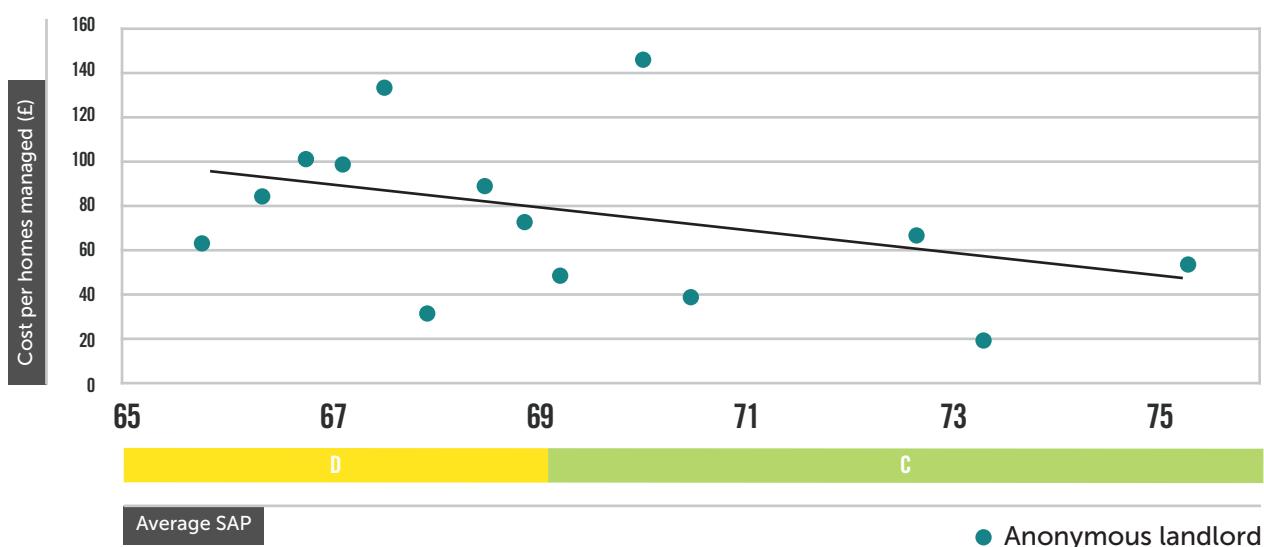
## Rent arrears administration costs

As part of this study, costs associated with dealing with rent arrears were investigated. Participating landlords reported costs including staff time, legal and court costs, amongst others.

Figure 7 presents the operational costs associated with rent arrears against the average SAP of the landlords' stock. As with voids, landlords with more energy efficient housing stock reported lower administration costs of dealing with rent arrears.

Figure 7. Landlords' average SAP against operational costs of dealing with rent arrears.

Landlords' average SAP vs. operational costs of rent arrears



### Will Good Homes be better off by improving its housing stock?

Our fictional 10,000 home landlord improving its average SAP from 65 to 75 could achieve a reduction in costs of around 35%, or more than £300,000 per year by lower costs of staff dealing with rent arrears, court and legal fees, amongst others.

Adding together the additional rental income (£90,000) and the reduced administration costs, Good Homes could achieve an improvement of £390,000 in its bottom line each year.

### Is there a link with Housing Benefit?

Housing Benefit is undergoing major reforms. We analysed the data to take into account the percentage of rent collected from Housing Benefit and it did not show an association with a decrease/increase of the levels of rent arrears.

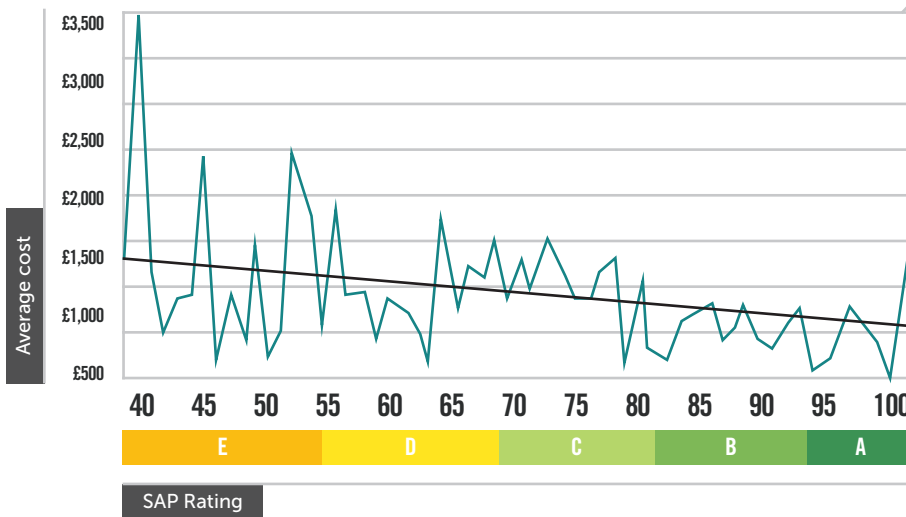
That is not to say that changes to such as Universal Credit or Pay to Stay are not having an effect; there have been reports that switching to Universal Credit is having an adverse effect on rent arrears.<sup>7/8</sup>

A number of landlords and stakeholders have suggested that it would be of real benefit to re-run this research into rent arrears next year, when the introduction of Universal Credit may have had a more significant impact on rent arrears.



## SAP rating vs. cost of responsive repairs

Figure 8. Average cost per responsive repairs against SAP rating of stock (data volunteered by one landlord).



## Responsive repairs

A participant landlord volunteered to share data from a research in a related topic – the responsive repair costs relative to the energy efficiency of homes, as shown in Figure 9.

The trend shows that for every 10 SAP point improvement there is a reduction in the average cost per repair of £90. Additional analysis may be undertaken to consider the implications of these figures.

With over £3 billion spent last year on responsive repairs by social landlords in the UK,<sup>9</sup> this topic could warrant further research.

## Additional impacts not covered by this report

The impacts of improvements to energy efficiency can sometimes be felt in unexpected places. More than 50 years after responsibility for housing was divorced from health, policy makers are again focusing on the link between the two.

Not only are cold, poorly ventilated or draughty homes bad news for the people who live in them: the issues they give rise to are a drain on the NHS budget. In fact, Age UK has estimated the annual cost to the NHS in England due to cold homes is £1.36 billion; and that for every 1°C drop in temperatures below 5°C, GP admissions increase by 19%.<sup>10</sup>



### Can the NHS make savings when we invest in energy efficiency?

The Warm Homes Oldham programme, a partnership between local housing providers, Oldham Council and the Clinical Commissioning Group (CCG) Oldham confirmed a correlation between warmer homes and the health of population, and estimated the savings.

They found a direct link with excess winter deaths, as well as worsened health conditions which cost the NHS significant amounts to treat. This translated to a cost-benefit ratio of 1.5:1, brought about by a reduction in demand on the health and social care sectors, or £245 per person lifted out of fuel poverty per year. Applying these modest savings, if each vulnerable resident of Oldham were lifted out of fuel poverty, the total estimated healthcare cost savings would be approximately £6.1 million per annum.<sup>11</sup>

Other studies, such as that by SHIFT landlord Nottingham City Homes, looked at the impact of their Decent Homes programme, starting from the startling fact that the average life expectancy of those living in the most deprived neighbourhoods in Nottingham was ten years shorter than the wealthiest. It found that the cost savings to the NHS from addressing serious hazards in the home, improving respiratory health, and relieving depression from damp and mould, excess cold and fuel poverty totalled £700,000 per year.<sup>12</sup>



**£5 million in estimated savings to NHS for improving 28,000 homes in Nottingham**

<sup>7</sup> Inside Housing (2015). 'Nine in 10 Universal Credit tenants in arrears'.

<sup>8</sup> Inside Housing (2016). Landlord reveals findings of direct payment 'pilot'.

<sup>9</sup> Scottish Housing News (2016). UK social landlords spend £3bn a year on responsive repairs.

<sup>10</sup> Age UK (2009). The cost of cold.

<sup>11</sup> Dr Ian Wilkinson (2015). The Impacts of Poor Housing on Health: Lessons from Oldham.

<sup>12</sup> Nottingham City Homes & Nottingham Trent University (2012). Decent Homes Impact Study: The effects of Secure Warm Modern Homes in Nottingham.

## What this study means

As social landlords' budgets are squeezed by rent reductions and increasing competition for funding, they are looking to cut costs and get more done for less. As custodians for homes over generations, sometimes housing vulnerable people, they know that managing their assets well is not only good for tenants but for business too.

This study set out to analyse whether the income of landlords was impacted by the energy efficiency of properties. It did this by analysing a very large dataset from 25 landlords managing more than 500,000 homes.



### Can savings on energy bills unlock more investment for homes?

At present, all of the savings on energy bills deriving from energy efficiency improvements go to residents – no bad thing, of course. People who see their overall cost of living sharply decrease through lower bills make no contribution to enable more improvements in other homes. This depresses investment that might otherwise take place, even without funding from external sources. There is a strong case for the benefits of energy efficiency to be spread more equitably within social landlords.

Consider two homes, the same size and location, one with poor energy efficiency and the other highly energy efficient. Under current rules rent is calculated regardless of energy efficiency. The cold home may have fuel bills of £1,500 per year, whereas the warm home may be as low as £400 per year. Thus the resident in the warm home is better off by £1,100 a year.

Sustainable Homes has been calling for landlords to be able to recoup a proportion of expected savings (for instance 25%), potentially through increased rents, to enable more investment. The overall cost (rent plus energy bills) of running a home will still go down, but the proceeds from a moderate increase in rents can be ring-fenced to help pay for new works in neighbouring properties. The resident will still recoup 75% of the savings.



“Rent arrears have a big impact on our financial viability. Finding ways to improve income by better management our rent arrears is of real benefit to our organisation”.

Paul Ciniglio, Sustainability and Asset Strategist, First Wessex

We have seen that properties with lower SAP ratings had longer void periods than more energy efficient properties. Analysis of individual landlords supported this finding, with more than 90% of the landlords showing a clear trend.

Voids are a significant issue. It means forgone income but also costs such as repairs and maintenance, needed when a home is empty.

Rent arrears are a problem for almost all social landlords. This study found a link between energy efficiency of homes and the number of months properties are in arrears. While the potential boost to income from the reduced arrears itself is not huge, it is real.

However, the administrative costs of managing both void properties and rent arrears are high, and it is in this area that the real potential savings were uncovered. Upgrading from average SAP 65 to 75 for our hypothetical 10,000 home landlord would entail a substantial investment – the study found that a combination of higher income from reducing rent arrears and voids and reduced costs from managing them could generate almost £2.43 million towards the bottom line each year.

Rent arrears may be caused by a host of factors too complex to capture in a study including thousands of homes. Additionally as research such as the National Energy Study has shown, SAP itself may not be a perfect guide to energy performance.<sup>13</sup> During a workshop about the results staff at some of the landlords also urged caution about ensuring the quality of the retrofit works.

The size of the sample that was interrogated in this study is useful though. It can be said with confidence that the link between energy efficiency and arrears is not the product of other 'background' factors.

Nevertheless it is vital that those commissioning work, as well as the supply chain, understand potential issues that can lead to poor results. This is true not just in terms of underperformance (for example thermal bridging, where heat is lost when insulation is poorly designed and installed) but also problems such as inadequate ventilation which can cause health problems. Is the range of technologies being deployed understood fully? How will residents engage with it? Is the interplay between insulation, ventilation and air quality appreciated? It is only when measures are well commissioned, designed and installed that the benefits of retrofitting programmes can be fully realised.

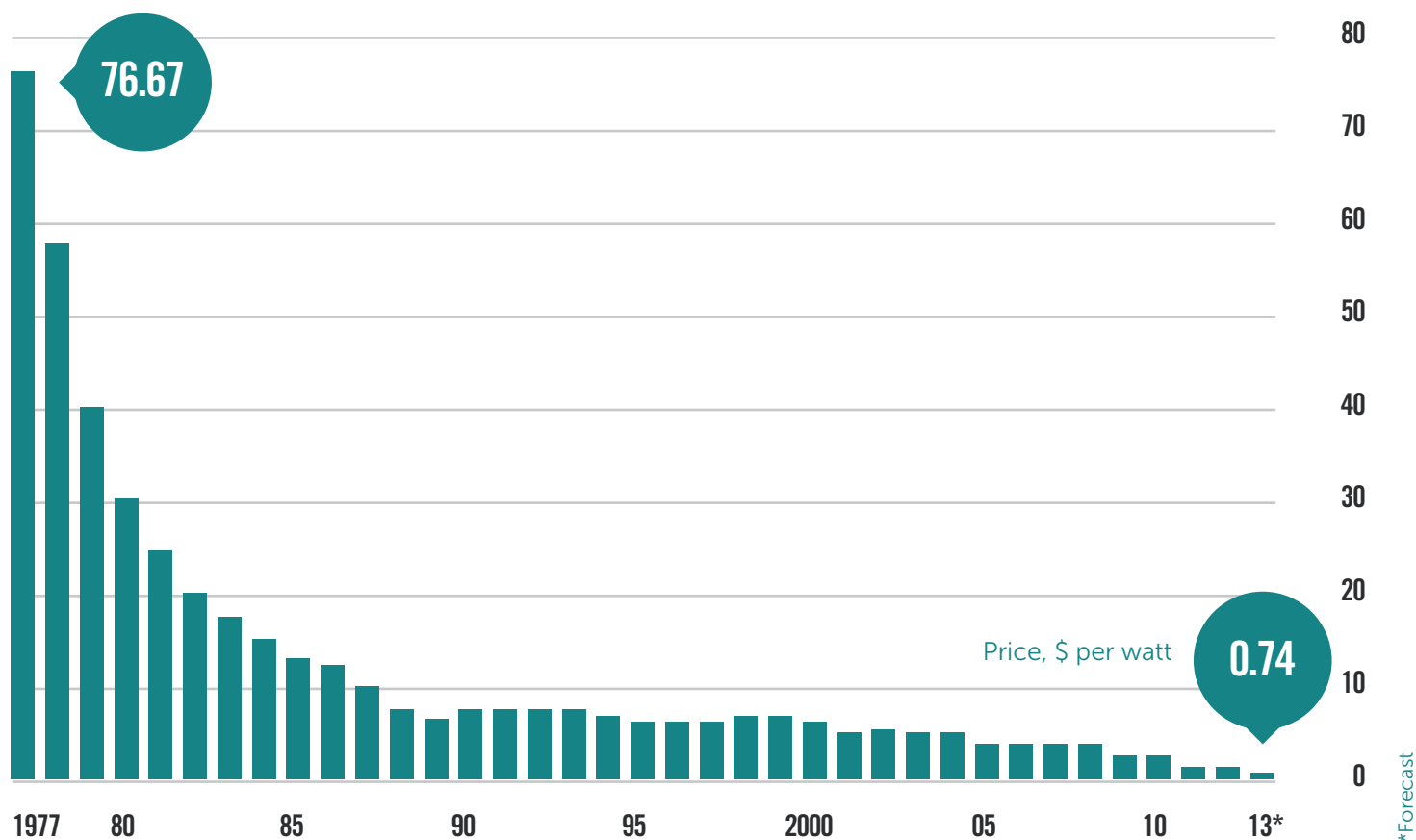


<sup>13</sup> Sustainable Homes (2015). National Energy Study 2. SAP in the real world: how people use energy in the home.



The Swanson effect in price of photovoltaic cells, \$ per watt. Source: The Economist

Figure 9. Energy efficiency works undertaken at scale can result in a reduction of costs similar to solar photovoltaic panels (PV).



As with many activities undertaken by social landlords, warmer, more comfortable homes can be seen as a 'social good' that have wider benefits for society at large. Teasing out these benefits, whether they be from less crime and anti-social behaviour or reduced hospital admissions,<sup>11 12</sup> enables us to quantify their impact and build a more hard headed business case for why energy efficiency makes sense.

Such an approach has never been more vital. With disappointing results from the now-defunct Green Deal, there is now a chasm between the levels of ambition towards carbon-reduction commitments on display at the 2015 UN agreement in Paris and the actual measures in place to achieve them. Social landlords, and large-scale private landlords, are in a position to kick start a market transformation. Between them they have a large pipeline of projects ready to go, extensive experience of undertaking works to homes and, most importantly, can operate at scale.

*"I'm saving about £50 a month and it also helped with my health. I have various conditions that are affected by the cold, and since I've been in this place they've been much better."*

Resident from Wigan and Leigh Homes following a retrofit

There is no reason why the costs of energy efficiency works cannot follow a similar downward trajectory as that which has been seen for solar PV, where Swanson's law (see Figure 9) showed the price of solar PV dropping for every doubling of cumulative sales. Retrofitting is more challenging, requiring more oversight, but it is starting to follow this precedent: The Dutch Energiesprong model, currently being piloted by some social landlords in the UK, aims to refurbish a whole street of homes to the highest standard in just ten days and at significantly lower cost than conventional systems.

But this huge potential, with landlords leading the charge to create a mass market for energy efficiency, drive down costs and push forward innovation, will not happen by itself. The sector needs to act together to reap the benefits – benefits that could be felt by the wider housing sector, the Government and society at large.

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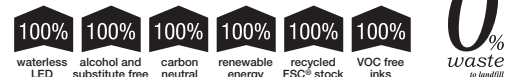
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