Catalyst Housing

SHIFT Sustainability Report

2021

SHIFT

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Welcome to your 2021 sustainability report

This report is a gap analysis between your current environmental impacts and safe levels of impact. The safe levels are science-based targets that have been derived by government institutions and reflect limits that, if attained, will have positive benefits for long term human wellbeing.

There is still a fair way to go before we have a truly sustainable social housing stock in the UK. A lot has happened in the sector since SHIFT 2020 and it is all looking positive:

- Banks now requiring environmental performance metrics for loans (ESG)
- Many landlords in scope of Streamlined Energy and Carbon Reporting (SECR) regulations
- The Social Housing White Paper indicates the way for enhanced environmental reporting in the next version of Decent Homes
- Future Homes Standard looking ever closer
- Energy White Paper signalling direction of travel on housing
- New technologies emerging to help with the agenda
- Changes to Approved Documents for new builds targeting overheating and EV charging

As ever, the best way to deal with these drivers is to take a strategic approach and embed sustainability into an organisation. Having an experienced third party review the impacts each year helps ensure that the strategy is being adhered to so that the benefits can be realised.

SHIFT's unique environmental scoring system provides a standard to attain. It can serve two purposes:

1. Provide an organisation-wide target to aim for that unites all directorates
2. Demonstrates to external stakeholders your success and enables you to encourage them to improve

As well as detailing your organisations' environmental performance, this report also shows you compare against peers and science-based targets. It also gives you recommendations on how you can improve.

As always, we look forward to supporting you on your journey to sustainability.

SHIFT Team

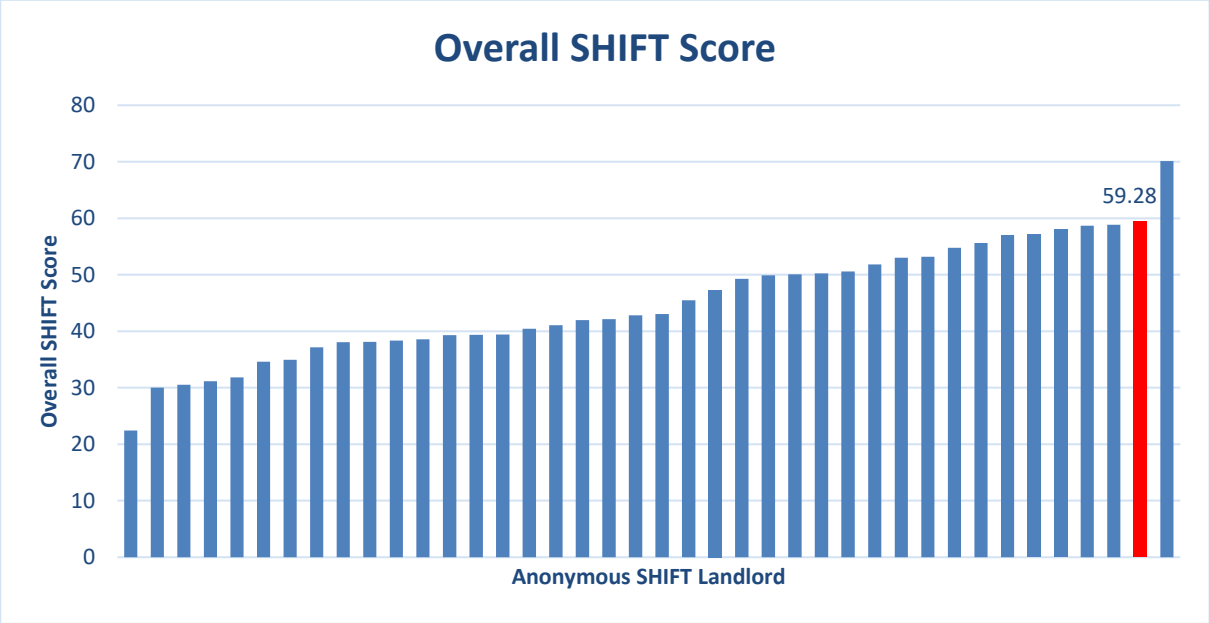
Contents

Executive summary

This report presents the sustainability performance of Catalyst Housing from 1st April 2020 – 31st March 2021 (or the nearest year period available) across strategy and leadership, existing homes and offices, supply chains and operations and new builds. It spans energy and resource use, transport and travel, resident engagement, climate risk, biodiversity and responsible sourcing, thereby providing a comprehensive overview of your organisation's environmental footprint. As no data from the reporting period was provided, this assessment is based on data from the previous 12-month period.

Catalyst is a large housing organisation based mainly in West London and the Home Counties and has almost 1000 employees responsible for managing more than 22,000 homes. The results of this assessment will show, as best as the data allows, the gaps between Catalyst's current environmental performance and environmentally safe levels of impact.

Catalyst has achieved the SHIFT Gold standard with a score of 59.28. It ranks 2nd out of the 40 most recent SHIFT assessments, with the organisation's score having increased by 0.6 in this year's assessment. In the next sections, you will see the breakdown of the score and recommendations.



Throughout the report, you will see your organisation's sustainability performance across key areas of your business and how it compares to that of other SHIFT landlords. Our main findings from this report show:

- Average SAP has remained 72.01 due to no updated data from SHIFT 2020 to SHIFT 2021.
- Importantly, the data from 2019-20 indicated the percentage of existing homes achieving EPC C to be 76%. However, on further investigation, the provided data showed this percentage to in fact be 72.84%. Despite this, Catalyst remains in the top half of SHIFT landlords for both average SAP and percentage of homes rated EPC C or above.
- Similarly, recalculations of the data showed a change in the proportion of new builds achieving at least a low EPC B rating. Whilst the percentage of low EPC B rated new homes reduced from 75.62% to 72.11%, and those rated EPC A reduced from 0.86% to 0.77%, new builds in the high EPC B band increased from 20.81% to 25.42%. Overall, this has boosted the percentage of Catalyst's new builds achieving a low EPC B rating from 97.29% last year to 98.3% this year.
- Catalyst is advised to investigate both these discrepancies further, through updated SAP assessments.

SHIFT drives sustainability performance improvement through reporting and benchmarking. This report offers recommendations on how these improvements can be made. If you need any further help on the recommendations, please contact your SHIFT assessor.

Overall performance

Environmental issue	Absolute[1] (Current overall impact)	Intensity[2] (Current impact intensity, per meaningful unit)	Long term intensity target (by 2050 unless otherwise stated)	Intensity target for SHIFT platinum 2021[3]
CO_2 – individually heated homes, regulated emissions (scope 3)	59,831.51 tonnes CO_2	SAP 72.01	SAP 85[4]	SAP 73.33 ✗
CO_2 – communal heating systems – metered data (scope 1)	2,455 tonnes CO_2	8,514 kWh / home managed	3,600 kWh yr / home managed	5,430 kWh yr / home managed ✗
CO_2 – communal areas (scope 2 for electricity, scope 1 for gas)	n/a	n/a	0 $kgCO_2$ / home managed	565 $kgCO_2$ / home managed
CO_2 – offices (gas, scope 1, electricity, scope 2)	413.1 tonnes CO_2	47.9 kg/m^2	0 $kgCO_2$ / home managed	55.9 kg/m^2 ✓
CO_2 – business mileage (scope 3)	155.4 tonnes CO_2	6.84 kg CO_2 / home managed	0 $kgCO_2$ / home managed	9.85 kg CO_2 / per home managed ✓
CO_2 – maintenance activities (DLO scope 1 for fuels used, scope 3 for supply chain)	882.8 tonnes CO_2	38.87 kg CO_2 / home managed	0 $kgCO_2$ / home managed	35.19 kg CO_2 / per home managed ✗
Water – homes	2.5 million m^3	133.6 lpd	130 lpd by 2030	140.8 lpd ✓
Water – offices	7,640 m^3	7.11 m^3/employee/yr	3m^3/employee/yr by 2030	8.43 m^3 / employee/yr ✓
Waste generated – homes	10,532 tonnes	17% increase in resident recycling above current local authority rates	45% increase in recycling above current local authority rates	5.99% increase in resident recycling above current local authority rates ✓
Waste generated – offices	26.5 tonnes	100% of waste diverted from landfill	100% diverted from landfill	71.03% waste diverted from landfill ✓
Responsible materials – maintenance & capital works	40.54%	40.54%	100% responsibly sourced	45.82% responsibly sourced ✗
Responsible materials - offices	24.81%	24.81%	100% responsibly sourced	57.90% responsibly sourced ✗

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Adaptation to climate change – homes protected from flooding	19,145 homes	84.3% of homes protected from flooding	100% protected from flooding	83.33% protected from flooding ✓
Adaptation to climate change – homes protected from overheating	19,190 homes	84.5% of homes protected from overheating	100% protected from overheating	78% protected from overheating ✓
Biodiversity value	4,090.8 tonnes biomass above ground	15.3 tonnes biomass per hectare	11.9 tonnes biomass per hectare by 2043	10.3 tonnes biomass per hectare ✓

1 – in line with best practice environmental reporting, the absolute environmental impact is given here – this gives an overall assessment of impact.

2 – again, in line with best practice environmental reporting, the intensity is given. Intensity is the environmental impact per meaningful unit. E.g. per home managed or per m^2 of office space. Intensity allows organisations to monitor progress towards long term aims, even if they change in size e.g. gain more homes or office space. Intensity is used for SHIFT scoring and benchmarking.

3 – When '✓' is displayed, you are achieving or exceeding the platinum intensity target for the year stated. When '✗' is displayed, the platinum intensity target has not been met.

4 – our target of an average SAP 85 has been updated for SHIFT 2021 in line with the net zero carbon roadmap for social landlords we produced alongside the National Housing Federation. For more information on how this was calculated, please contact your SHIFT assessor. We suggest this as a reasonable and achievable target, with the view that remaining emissions will be offset or reduced by the switch to electric heating and the decarbonisation of the electricity grid.

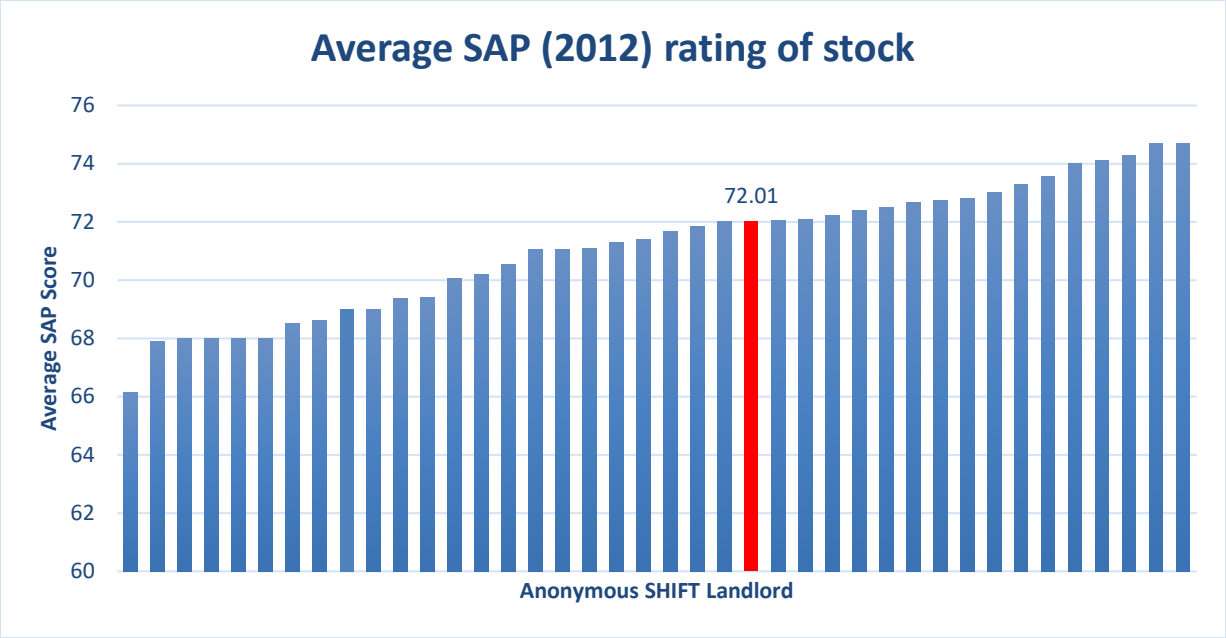
Existing Homes

Most of the homes that exist now will still be in use in 2050. Therefore, it is essential to ensure that existing homes have safe levels of environmental impact. Your performance in each of these areas is presented below.

Energy and average SAP

Average SAP is a standard way of assessing energy efficiency in homes. Even though it is not a direct assessment of CO_2 it is a very good surrogate. For information, the SAP rating refers to the cost per m^2 of heating, hot water, lighting, pumps and fans. These are called regulated emissions. Unregulated emissions are appliances such as cookers, fridges and TVs. SHIFT research indicates that an average SAP of 85 represents a 'net zero housing stock' and has been derived through a combination of achieving EPC C for all properties, shifting to electric heating (with corresponding changes to SAP methodology) and expected energy efficiency standards for new build up to 2050. Until there is an updated target for housing specifically, SHIFT recommends this as a long-term target. Please contact your SHIFT Assessor for a full explanation of how this target has been produced.

No updated data was provided this year, but the SAP distribution data of Catalyst's homes at the end of the last reporting year, in March 2020, showed an average SAP of 72.01. In this year's assessment, 72.84% of Catalyst's stock had EPC C rating or above, compared to 76% in the previous assessment due to a recalculation of the data provided in the previous year.



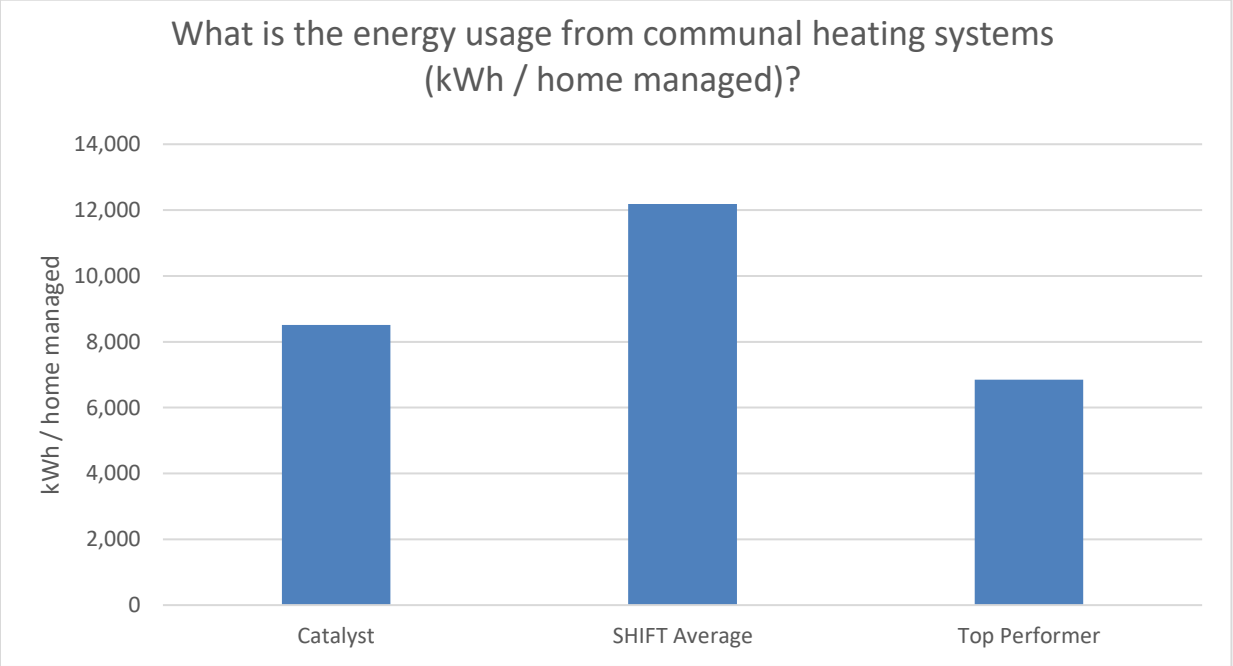
Recommended improvements:

- Provide most up-to-date data on SAP scores to improve the accuracy of future SHIFT assessments.
- As CROHM has SAP ratings recorded for all managed properties, Catalyst should consider implementing an overarching property ID / UPRN system as it has been difficult to cross-reference databases from other areas of the organisation
- Stock analysis and establishing address-level plans is a detailed exercise but there are consultancies and other resources that can help
- Ensure plans to achieve SAP 85 average (not minimum) by 2050 – these should include fabric improvements as a priority, followed by solar PV. New build colleagues should also be liaising with the asset management team to ensure that high SAP homes are built that won't require further retrofit before 2050 to meet energy efficiency requirements. Consider regeneration (or as a last resort, disposal) of homes where energy efficiency improvements are particularly costly and still result in a low SAP rating. Alternatively, look to build higher energy-efficient new builds to "offset" the inefficiency of low Sap homes.
- Explore and experiment with new technologies and finance mechanisms to see how they can help with improvements.
- Find further guidance in our Housing 2050 report which gives suggested annual activities - https://shiftenvironment.co.uk/publications/

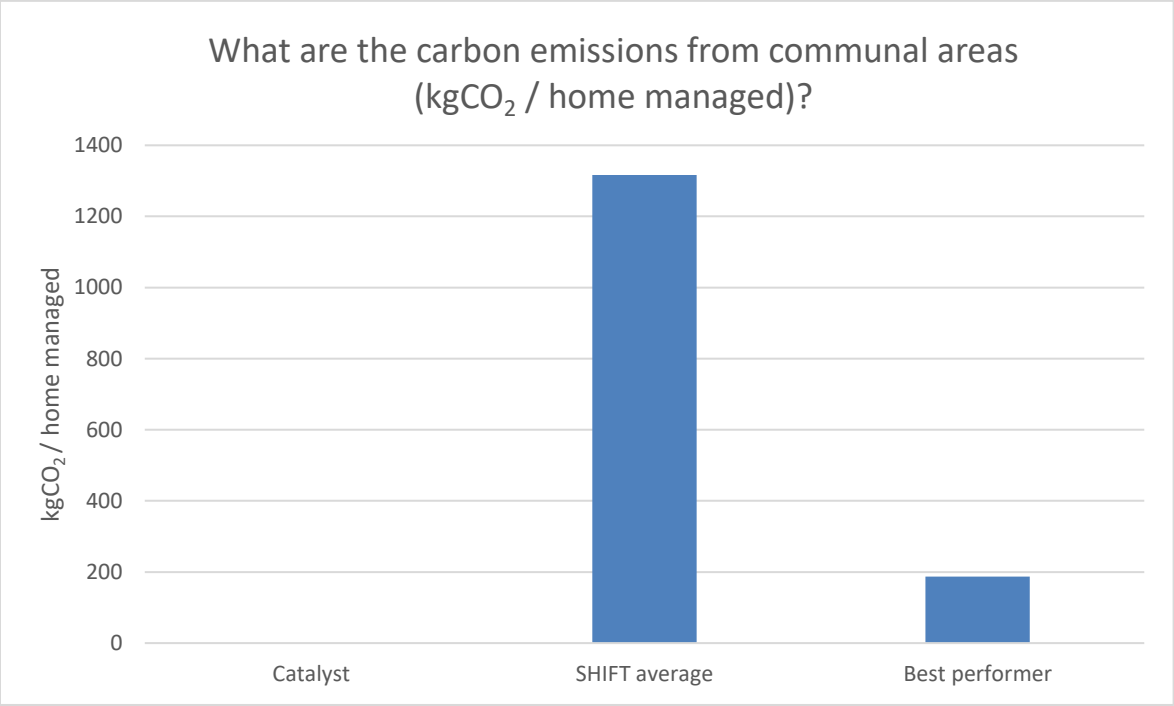
District and communal heating

Energy for communal and district systems is a huge cost to landlords and is highly visible. The heating systems are known to be very inefficient and are not adequately reflected in the SAP rating. They are also regulated under the Heat Metering regulations which may require retrofitting heat meters at some point in the near future. SHIFT research indicates that an efficient communal heating system, comparable with a SAP 85 property, would require only 3,600 kWh of heating and hot water energy per home.

Catalyst provided data for 1,568 properties (revised from the previous year's number of 1,475) that are communally heated. 8,514 kWh per home managed was reported and the table below shows the average kWh values per communally heated home from other SHIFT landlords.



Catalyst was not able to separate schemes with communal supply from energy data held for other buildings so no assessment could be made for this report.



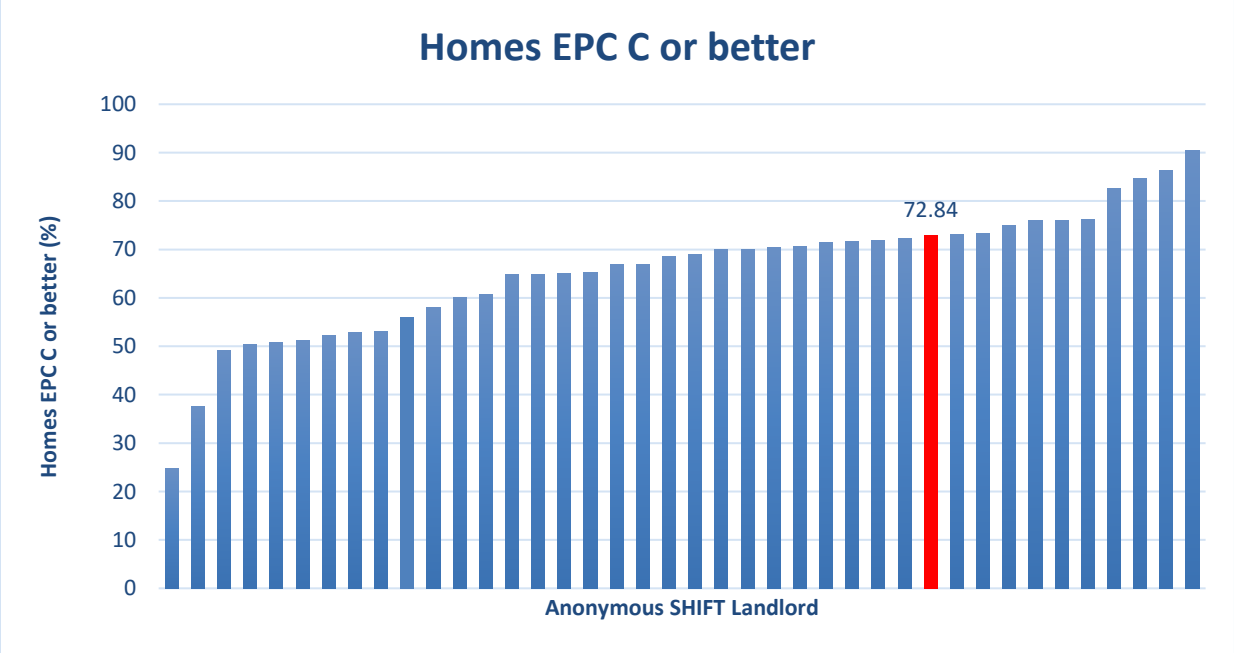
Recommended improvements:

- Conduct a review of all communal systems in your stock. The review should include control settings and boilers and pumps and by-pass valves
- Consider installing submetering in landlord supply properties in order to gauge efficiency and energy use.
- Ensure that replacement systems are not oversized – this can lead to excess maintenance, poor use of space and overheating in flats.
- As a landlord, tracking energy use in your communal heating systems will highlight inefficiencies and offer cost and carbon savings for your organisation
- Ensure that new build colleagues specify systems correctly – try to get input into new schemes at an early stage and ensure that all heat networks at new builds are sub metered to improve the data quality and align with updates to the Heat Network Regulations.

Fuel poverty

Homes with the lowest SAP scores are those most difficult to heat, so to minimise the risk of fuel poverty it is particularly important to tackle these least efficient homes. This SHIFT question aligns with the Government's fuel poverty strategy. In essence, the strategy aims for all homes to be EPC C (equivalent to SAP 69) or better by 2030.

72.84% (revised down from 76%) of Catalyst's homes are EPC C or better. In order to meet Government Fuel Poverty targets, 100% EPC C or better by 2030 needs to be achieved. SHIFT research has also identified that Catalyst's housing stock needs to average SAP 85 in order to achieve net-zero carbon emissions by 2050.



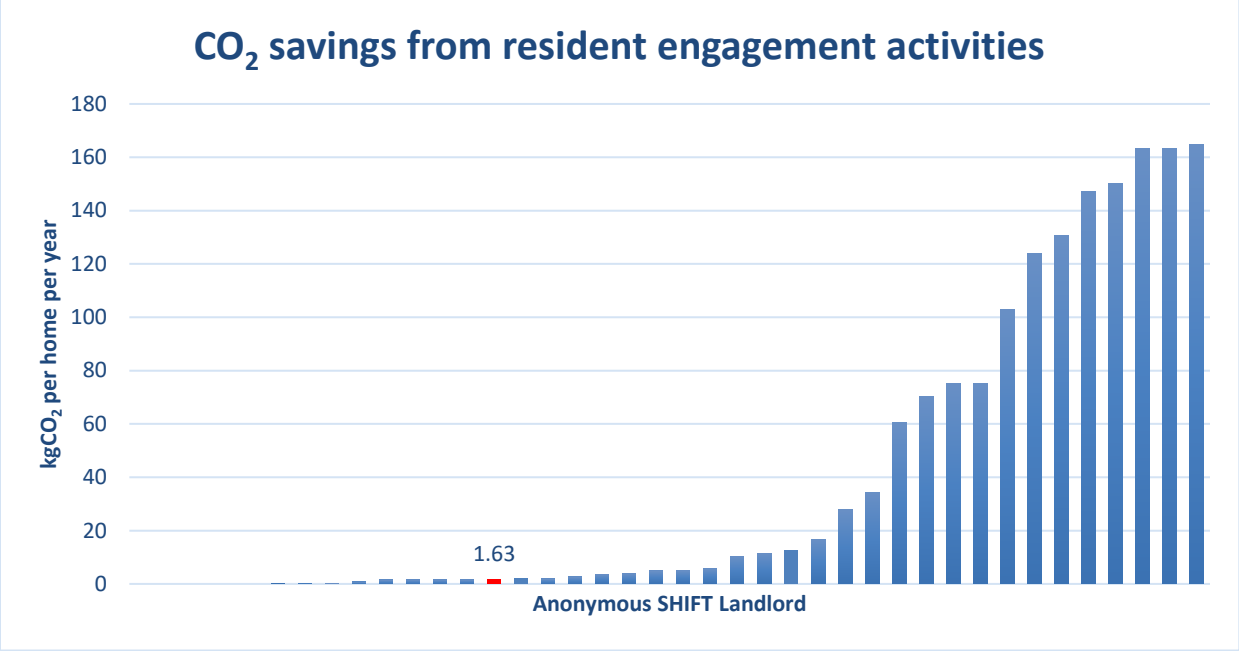
Recommended improvements:

- Provide most up-to-date data on SAP scores.
- It is good to see that the majority of homes are EPC C or better. Catalyst will need to create plans similar to those identified to improve the average SAP to 85, except the target here is to achieve a minimum of EPC C (SAP 69) for homes in fuel poverty by 2030, and all others below EPC C by 2035.
- Beware, rent-a-roof PV schemes improve EPC but do not necessarily lead to big cost savings for residents as the scheme often sells the generated energy at normal prices to recoup their investment.

Resident engagement

Resident engagement is an important way of informing residents about how they can make a difference and empowering them to save both energy and money.

As with all sections in this report, no updated data was provided this year. However, for the previous assessment, Catalyst provided engagement numbers for both passive and active engagement activities with residents. 56 tenants were actively engaged by Catalyst's Sustainability Team and their sub-contracted agencies through a mixture of telephone consultations and home visits aimed at helping tenants reduce their energy consumption. All of Catalyst's residents can access passive engagement information on Catalyst's website which ranges from energy saving tips to organising 'Green Doctor' appointments where homes are assessed and free energy efficiency measures are provided. With 0.2% of resident's actively engaged and 100% passively on energy efficiency, a figure of 1.63 kg CO_2 saved per home managed was recorded.



Recommended improvements:

- Include energy advice in all contact with residents – gas safety checks, refurbishments, heating upgrades, rent arrears activities, new sign-ups.
- Encourage residents to consider having a smart meter installed – many energy companies are installing these at no cost to the customer.

- Some landlords are switching void properties to green energy tariffs/suppliers and making it easy for new tenants to continue being supplied by them.

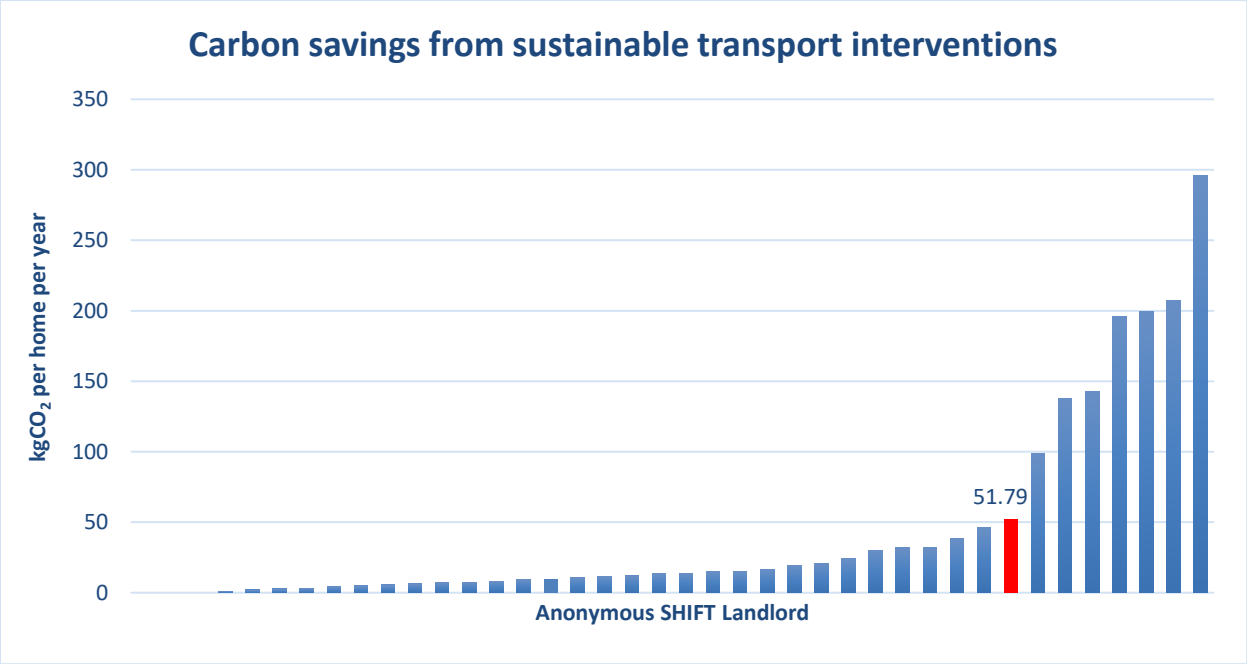
- Consider having a dedicated programme of engagement and homes visits – sometimes this helps identify other issues in the home. Catalyst already do this through their 'Green Doctor' visits but uptake has been limited so look to targeted engagement with tenants with the lowest SAP ratings. During a visit, consider undertaking small works such as installing radiator reflectors, hot water saving devices and draught proofing.
- When a new heating system is installed, Catalyst should also provide a full tutorial for the tenant as complaints can often be raised about bills going up after a new system goes in. Potentially, Catalyst could introduce an option where tenants with new heating systems can report energy use for a number of months to Catalyst and if bills seem significantly higher than Catalyst's expectations this could trigger a request to visit and discuss heating use.

Sustainable transport

Transport facilities and initiatives for residents can help to encourage sustainable travel choices which reduce carbon emissions and improve local air quality. This metric is based on the provision of cycle storage facilities as well as transport advice, from travel maps and timetables to cycling and eco-driving training.

From last year's assessment, SHIFT assumed 77% of Catalyst's homes built between 2008 and 2016 had cycle storage installed due to the Code for Sustainable Homes requirement. This was supplemented by responses to previous SHIFT questionnaires indicating 95% of homes handed over between 2017 and 2020 having cycle storage. Overall, this equates to 38.8% of Catalyst's stock.

2.4% of Catalyst's stock benefit from electric vehicle charging infrastructure installed within their schemes. 4.9% of Catalyst's home also received address specific sustainable transport advice within their new tenancy welcome packs or through scheme-specific travel initiatives such as cycle training or car clubs. These measures are estimated to save around 51.79 kg CO_2 per home.



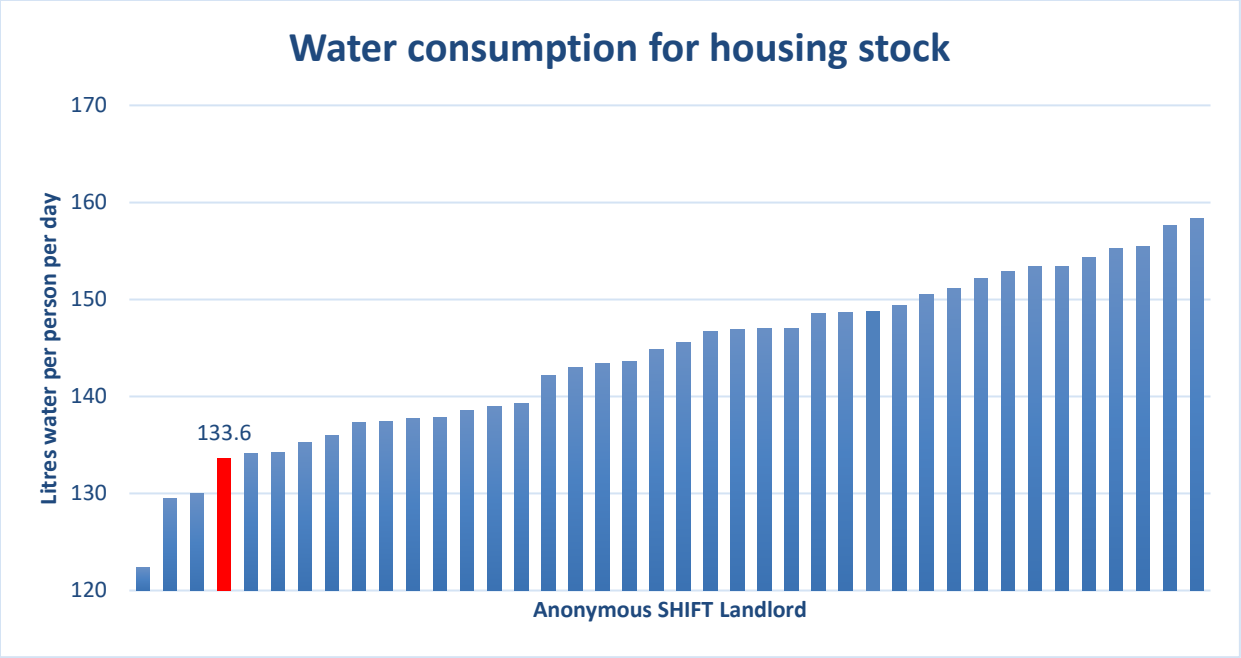
Recommended improvements:

- Providing electric vehicle charging infrastructure will be crucial for ensuring a timely transition away from fossil fuel reliant travel. It is encouraging to see that Catalyst have installed 71 charge points across 9 different schemes, but Catalyst should consider whether the amount of EV chargers installed will adequately address current and future demand.
- Consider whether local travel maps, cycle routes and other useful sustainable transport information could be included in home manual packs provided by Catalyst to ALL new tenancies not just for new developments
- Cycle storage data has been estimated by Catalyst but for a more complete picture, Catalyst could include cycle storage within stock condition surveys completed which could then be supplemented with data from new developments and future surveys.

Water

Environment Agency research suggests that UK domestic water efficiency should be 130 litres per person per day by 2030 to adapt to forthcoming climate change. Water efficiency saves residents money too if they are on meters and if hot water is used efficiently.

As with most landlords, no complete assessment has been made of water efficiency in Catalyst's stock. Therefore, the SHIFT water efficiency estimator tool has been used, as with last year due to no additional data being provided. The tool predominantly uses build age data to identify likely water efficiency measures, but last year, Catalyst also provided some additional information held for bathroom replacements. Assuming all homes built since 2010 have achieved Code Level 3 standards and including 213 bathroom replacements, 32.8% of Catalyst's homes are estimated to have low flow taps, low flow showers and baths smaller than 180l installed. A further 54.3% of homes are believed to have dual flush toilets since they became a standard component in properties in 2001. 75% of Catalyst's properties have water butts or are flats which do not use water for external purposes so have been included in this section. Catalyst's build dates showed that since 1989, 98% of homes have been built so a water meter is believed to be installed. All residents have access to Catalyst's website which contains water saving advice including advice on sourcing free water saving devices. This gave a result of 133.6 litres per person per day (lpd) using the SHIFT water efficiency calculator tool.



Recommended improvements:

- Bathroom and kitchen specification information and refurbishment data can be used to identify properties that have older build years, but water efficient devices installed through general refurbishment and maintenance. It is good to see that Catalyst are tracking bathroom replacements, but it has been assumed that these homes have had water efficient components installed as no specification document was available. Catalyst should consider whether a formalised water efficient specification for kitchen and

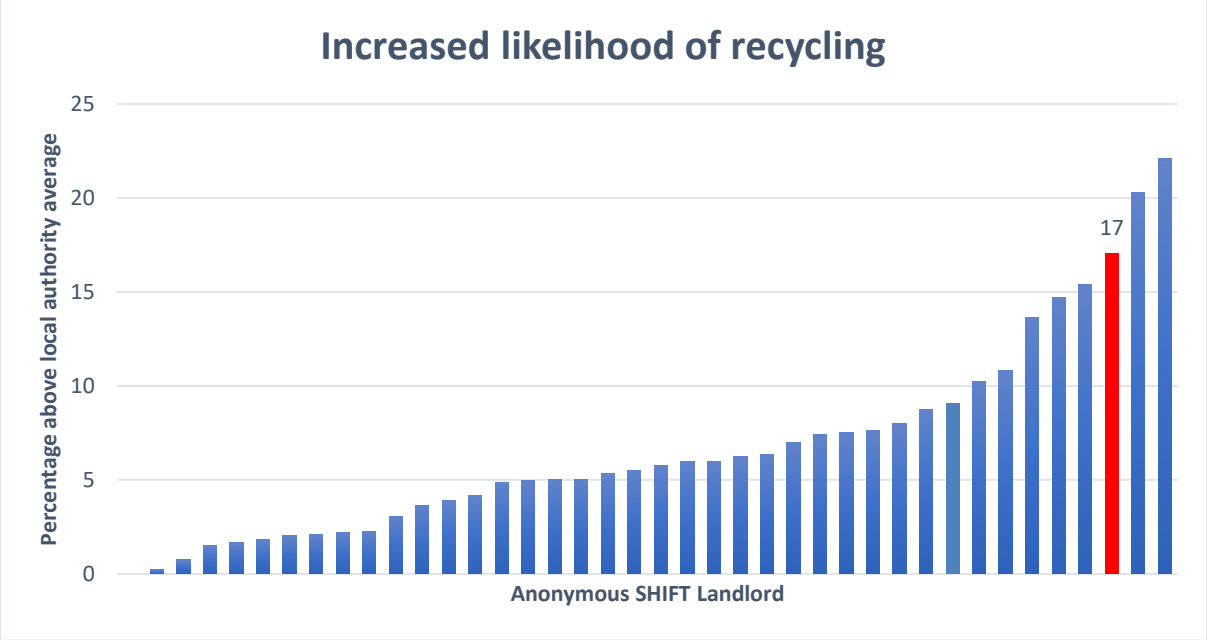
bathrooms replacements could be created which prompts water meters and other components to be installed when plumbing work is undertaken at a home or during a void period, for example.

- Some landlords have found that their local water companies are willing to provide free water efficiency devices, home visits and other engagement work with your residents. This is something to consider following up on.

Domestic recycling

This SHIFT metric reflects the measures that landlords can take to encourage additional recycling by residents, above and beyond what local authorities are doing to boost recycling rates.

No updated data was provided this year, but based on assumptions that 95% of homes built between 2008 – 2016 (to the Code for Sustainable Homes) have internal recycling bins, an estimated 44.2% of Catalyst's properties have internal recycling bins fitted. Active engagement with residents is not currently in Catalyst's remit as local councils are deemed to have more expertise but all residents have access to Catalyst's website where reduce, reuse and recycle tips are offered. These measures encourage an estimated 17% increase in recycling over and above local authority average.



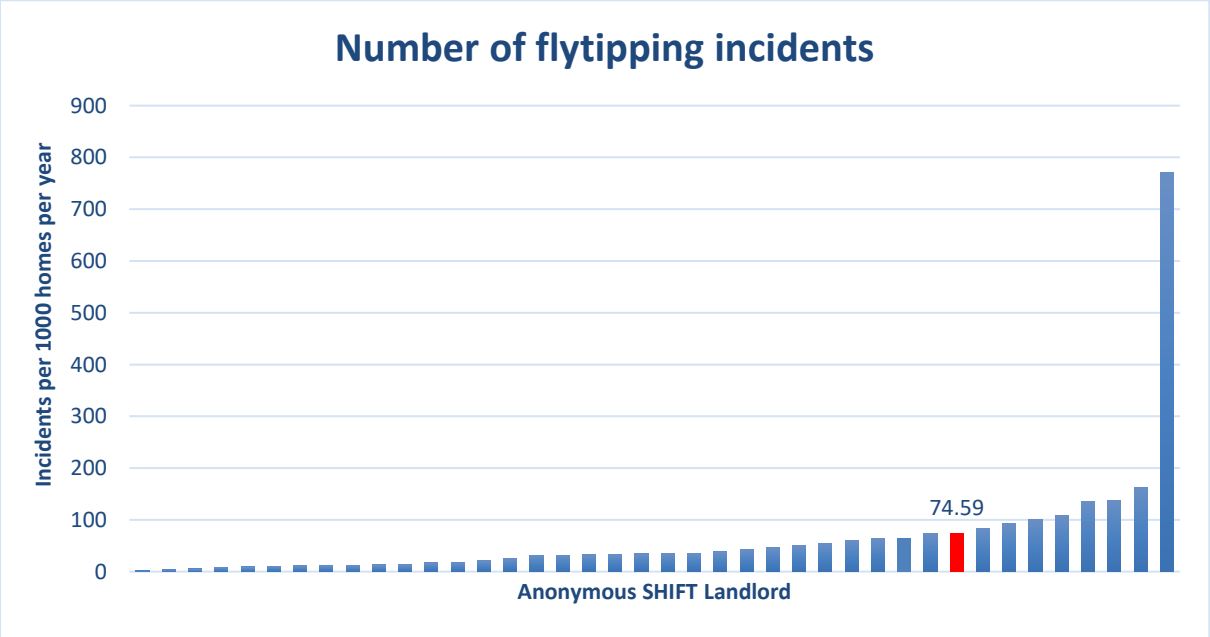
Recommended improvements:

- Liaise with new build colleagues to ensure internal recycle bins become a standard component in 100% of new builds. This can be an initiative taken on both land-led schemes and section-106 developments.
- Ensure that internal recycling bins are a general specification in kitchen replacements and record these figures in SHIFT using build dates and refurbishment data.
- Similar to cycle storage, internal recycling bin coverage in Catalyst's stock could be assessed during stock conditions surveys to provide a baseline of performance and then supplemented with kitchen refurbishment and new build data.
- Consider arranging quarterly estate clean-ups involving residents and Catalyst staff.
- 'Skip days' where landlords provide free bulky waste collection are a popular way for landlords to reduce fly tipping issues, whilst also offering an opportunity to engage directly with residents on waste issues their estate may be facing.

Fly tipping

Fly tipping is unsightly, presents a potential fire hazard and is costly for landlords to deal with.

Last year, Catalyst reported 8 months of fly tipping data which was scaled up to an estimate of 1694 fly tipping incidents within the 12-month reporting period. This equated to 74.59 incidents per 1,000 homes annually. No updated data was provided this year.



Recommended improvements:

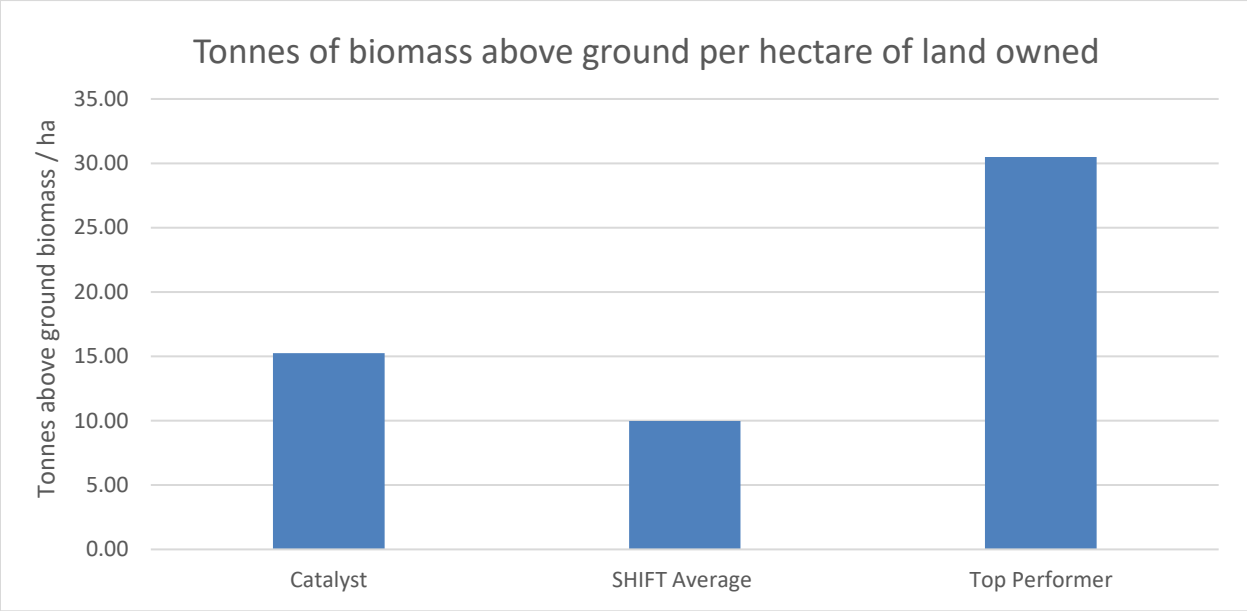
- Nationally, fly tipping has increased due to COVID lockdowns; consider installing preventative measures such as signs and CCTV at known hotspots.
- Consider whether introducing a more comprehensive system for logging fly tipping including location and type of waste could help devise a strategy for reducing the number of incidents in hotspot areas. For example, if mattresses appear to be a commonly fly tipped item, Catalyst may choose to offer a bulky waste collection service for mattresses. Could Catalyst look at arranging a discounted cost to residents for the collection of these items?
- Signpost residents to correct ways to deal with waste and contextualise the fly tipping clearing costs through comparison with the number of home improvements that could be completed instead.

Biodiversity and green spaces

Access to green spaces and biodiversity can deliver major benefits to our health and wellbeing. These include air quality improvement, flood attenuation and cooling during heatwaves. The current UK Government has set a short-term target of increasing woodland planting rate to 30,000 ha/yr., by the end of this parliament[1]. The proposed long-term target is currently to increase woodland cover in England from 10% to 12% of land area by 2060, which involves planting 180,000 hectares by 2043[2]. SHIFT has converted this into a biomass target for landlords to aim for in their green spaces.

Last year, Catalyst sought information from their Estates Team, which provided tree survey data for both Catalyst and Aldwyck owned trees and crown spread data was used to estimate the total hectares covered by woodland. Data was not held for land size or types for Catalyst's other communal land or for their properties, so SHIFT default values were utilised in these areas. It has therefore been calculated that 6.13% of land total land owned by Catalyst is "protected". This equates to an estimated 4,090.8 tonnes of biomass across Catalyst's stock or 15.25 tonnes per hectare.

[1] The England Trees Action Plan 2021-2024, pg. 10
https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/987432/england-trees-action-plan.pdf
[2] A Green Future: Our 25 Year Plan to Improve the Environment pg. 26
https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/693158/25-year-environment-plan.pdf



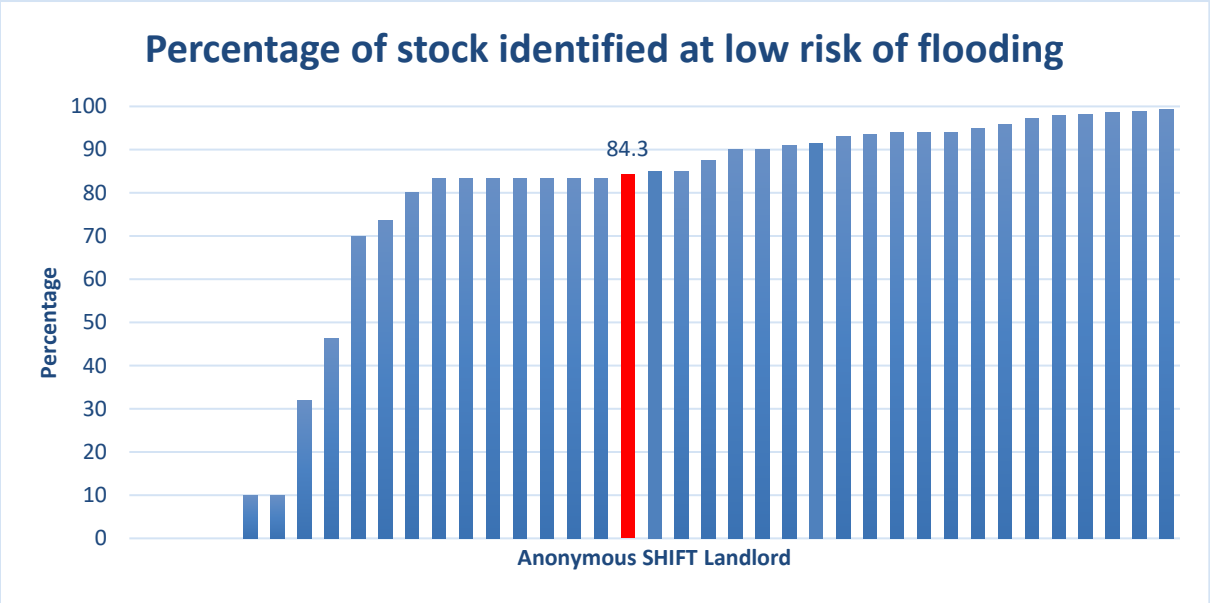
Recommended improvements:

- Consider planting higher density biomass areas in existing green spaces as ~60% of the reported green spaces are currently just grassland. These are probably mown areas which require time, money and carbon emissions to maintain
- Catalyst must identify their total land owned and also identify land types within communal spaces to ensure representative performance is reported
- Liaise with new build colleagues to ensure that at least 19% of land on new sites is equivalent of "protected". This will likely go beyond what currently takes place on Catalyst's schemes but pointing out forthcoming biodiversity ambitions may help with this – the recent Social Housing White Paper makes considerable mention of improving green space provision for example
- Derive efficient measurement of green spaces quality as this issue is increasingly being assessed by lending institutes as part of their ESG requirements
- Ensure that Catalyst continues to record crown spread within tree survey data as this data enables land coverage to be more accurately measured
- Catalyst should consider undertaking garden area and biodiversity surveys of a sample selection of properties to ensure that SHIFT default figures do not need to be used
- Consider whether a biodiversity fund for residents to do wildlife planting could be achieved by partnering with contractors. This will provide them good examples for their Corporate Social Responsibility and help Catalyst convert more of their underutilised green/grey spaces in high biodiversity areas

Homes at risk of flooding and overheating

Met Office projections indicate more flood events and more heatwaves. The ideal is to have 100% of homes at low risk or adapted to climate change.

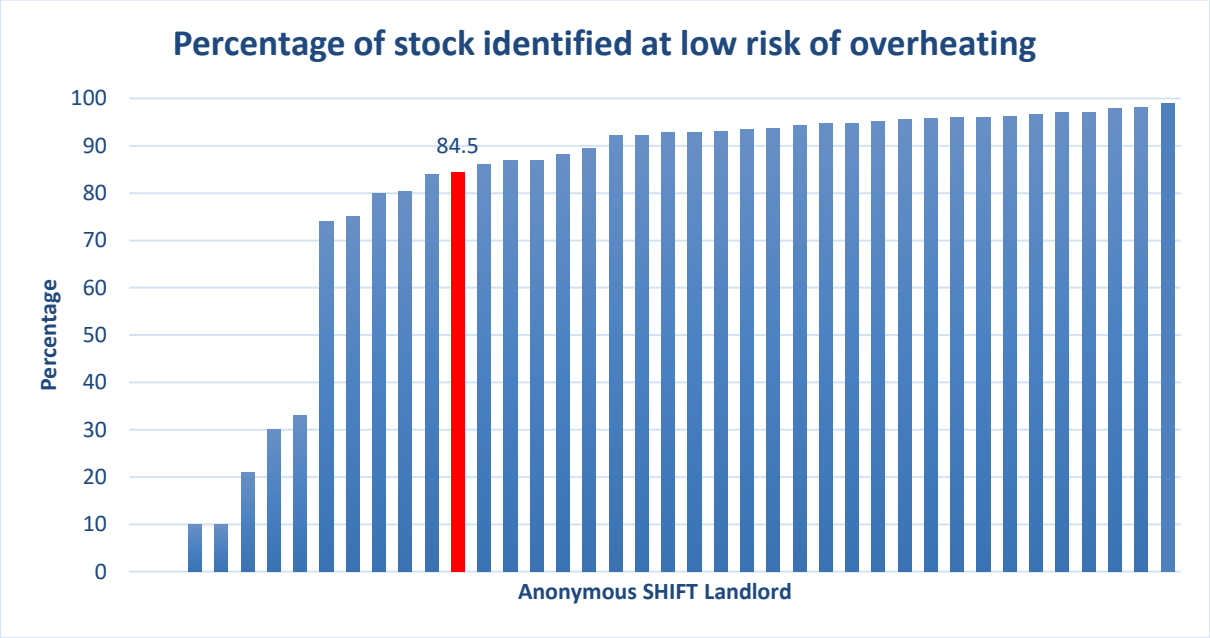
From last year's assessment, Catalyst had assessed fluvial and tidal flooding using Environment Agency flood scenarios and identified 84.3% of homes as being at low risk of flooding. It is especially important in urban areas that surface flood risk is considered as it is projected to be the most likely form of flooding.



Recommended improvements:

- Ensure flood risk assessments use long term projections and include surface water run-off risk – the Environment Agency states over 3 million properties in England are at risk of surface water flooding, even more than those at risk from rivers and the sea (2.7 million).
- For the homes at medium or high risk, ensure they are signed up to early flood alerts and ensure responsive actions are in place from Catalyst in the event of flooding
- In areas of surface water flooding liaise with the relevant drainage authority to ensure drains are fully functional and maintained
- Continue to remain vigilant for funding opportunities through local government and other agencies for flood mitigation works
- Confirm with new build colleagues that all new homes are low flood risk and that relevant flood risk assessments and subsequent mitigation works are being undertaken
- Ensure good quality green areas (see biodiversity above)

Information provided from Catalyst's asset management database was used in the SHIFT overheating risk assessment tool to estimate that 84.5% of homes to be at low risk of overheating. The SHIFT overheating risk assessment uses information on housing stock property types, postcodes, communal heating and build dates along with SHIFT sourced data on risk factors such as the Urban Heat Island effect and population density to estimate overheating risk in Catalyst's housing stock.



Recommended improvements:

- Ensure any overheating risk assessments cover the risk factors addressed in the SHIFT overheating estimator tool – especially using projected summer temperature data.
- Liaise with new build colleagues to ensure that all new homes address all risk factors and have suitable measures to prevent overheating if necessary.
- For homes identified at high risk, and have condensation issues, install adequate ventilation measures which will go some way to reducing both risks.
- Ensure good quality green areas (see biodiversity above).
- Design reactive actions in the event of heatwaves for houses at risk (e.g. sourcing fans).

New build

It is critically important to ensure that homes built now are 100% sustainable. Retrofitting sub-standard homes at a later date incurs higher whole life costs for the landlord. Research by the Committee on Climate Change believes that achieving 15 kWh/m^2/yr for space heat demand in new builds could be achieved for an extra £4800 per home whereas retrofitting to the same standard is likely to cost £26,300 per home[3] [4]. In addition, when good quality new homes are added to the asset register, they improve the average environmental performance in a cost-effective manner.

The SHIFT metric factors in a range of measures to determine the sustainability of new builds, including energy efficiency, ecological enhancements, flood risk, overheating risk, recycling support, use of responsibly sourced materials and sustainable transport support. We also encourage the use of some form of third-party verification to ensure that the so-called "performance gap" between design and final home, is minimised.

Figures provided for last year's assessment by Catalyst's Sustainability Manager indicated (after recalculation) that 72.11% of homes achieved low EPC B (SAP 81-85), 25.42% achieved a high EPC B (SAP 86-91) and 0.77% achieved EPC A (SAP 92+). A further 1.7% of new homes only achieved EPC C (SAP 69-80). In the renewal of Catalyst's new build specification, the importance of achieving a minimum EPC Grade (e.g. "A") or SAP rating (e.g. SAP 92+) for all new properties should not be understated as it will help Catalyst bring up its average energy efficiency closer to environmentally safe levels and reduce the level of investment needed in the existing stock in order to achieve the net-zero 2050 target. Assuming Catalyst's current build rate of 3% continues up to 2050, almost 60% of your stock would be built to EPC A which will contribute massively to achieving SAP 86 average across all your stock and cheaper than retrofitting to the same result.

Data was also collected last year for additional sustainability measures, but data was only available for 514 out of 717 homes completed within the reporting period. 94% of homes where data was available have had flood risk checks completed and are deemed low risk of flooding but only but only 36.2% of these properties were confirmed to be at low risk of overheating. 43.2%

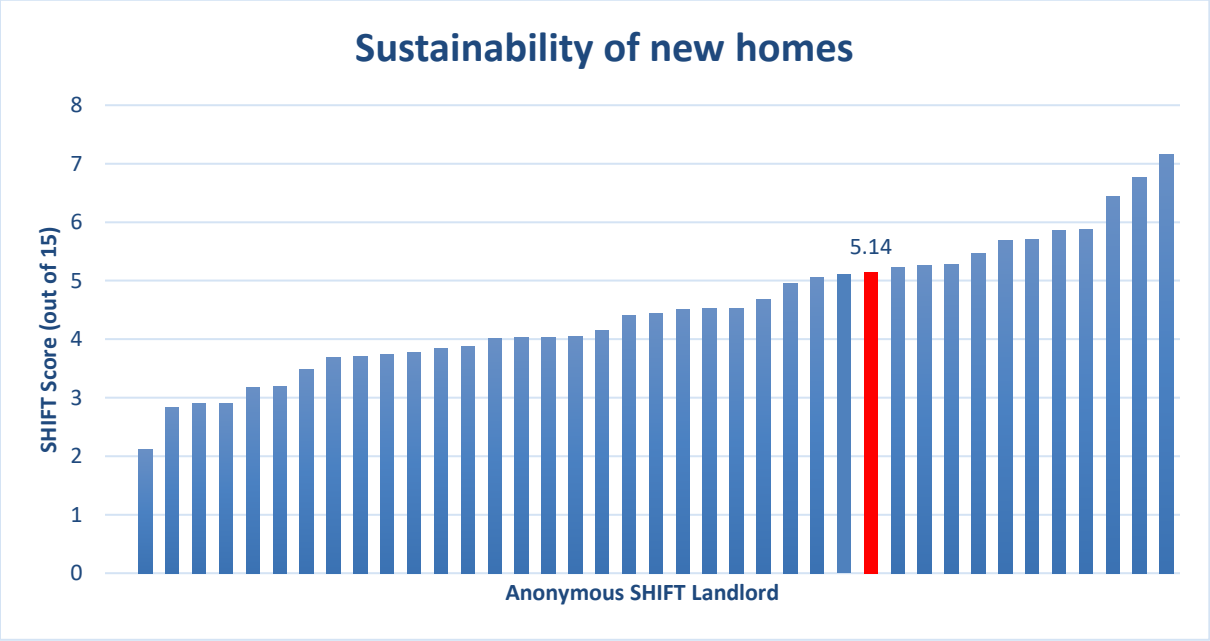
[3] Committee on Climate Change, 2019, pg 42 https://www.theccc.org.uk/wp-content/uploads/2019/02/UK-housing-Fit-for-the-future-CCC-2019.pdf

[4] Currie & Brown, AECOM, 2019, pg 102 onwards https://www.theccc.org.uk/publication/the-costs-and-benefits-of-tighter-standards-for-new-buildings-currie-brown-and-aecom/

of these schemes have received ecological enhancements with examples including bat box installations, wildflower planting, balancing ponds etc were all undertaken to enhance the biodiversity of sites. 60.3% of homes were reported to have internal recycle bins fitted in kitchens and all schemes were reported to have cycle storage facilities. Information was provided for the responsible sourcing of materials from four of Catalyst's development contractors who worked on 34.8% of schemes recorded in this assessment. Again, no updated data was provided for this year's assessment.

New builds are currently not verified on their sustainability performance and features. Verifying the expected energy performance and sustainability measures of new homes is essential otherwise Catalyst runs the risk of creating a "performance gap" between what they are expecting from their new homes and what is actually being achieved. Catalyst may wish to consider a scheme such as the Home Quality Mark (HQM) on some new builds or develop a verification process by having a representative sample of post-occupancy energy performance monitoring within new schemes.

Using the SHIFT calculator for new build and the data above, the sustainability score for Catalyst's new build homes was 5.14 out of 15.



Recommended improvements:

- Ensure new builds are EPC A rated and have additional sustainability features: internal recycling bins, cycle storage, used responsible materials, low risk of flood and overheating, 19% of area (or equivalent) high value green space. Catalyst appears to be

implementing some of these measures in some of their schemes but a sustainability specification for Catalyst's new developments would help ensure consistency across all new builds especially when Catalyst's internal target for 2021 is to achieve minimum of SAP 85 across 90% of new homes

- Work towards the aim of having all new builds on land-led schemes as EPC A rated and have additional sustainability features: internal recycling bins, cycle storage, responsible materials, low risk of flood and overheating, maximised biodiversity in green spaces. This could be an incremental increase, with the aim of achieving 5% in the next financial year and adding to this each year.
- Homes built today are going to have at least one heating system renewal so it is recommended that building design considers what this heating system will likely be. Installing heat pumps now, or at least providing storage space for a water cylinder as part of a future heat pump system in all new builds will save money in the future, and ensure Catalyst is aligned with upcoming regulations in the Future Homes Standard.
- Establish third party checks on sustainability features. You can use existing sustainability standards, carry out Post-Occupancy Evaluation (particularly good to influence future design), or arrange for asset management to sign off on sustainability features.
- Experiment with new technologies and finance mechanisms to ensure that high quality new build can be achieved cost effectively.
- For homes where 3rd party verification may be more difficult such as Section 106 acquisitions asset management could arrange to sign off on sustainability features that are easier to identify/install such as cycle storage and internal recycle bins.
- It would be beneficial to gather further information from development contractors on their responsible sourcing practices and whether they adhere to any responsible sourcing frameworks such as BES 6001 or ISO 20400.
- As part of their new build schemes, some SHIFT landlords have trialled 'smart technologies' in homes to aid both tenants and the housing association themselves. These new tenants are then engaged in energy efficiency through education on how to use these new systems.

Offices

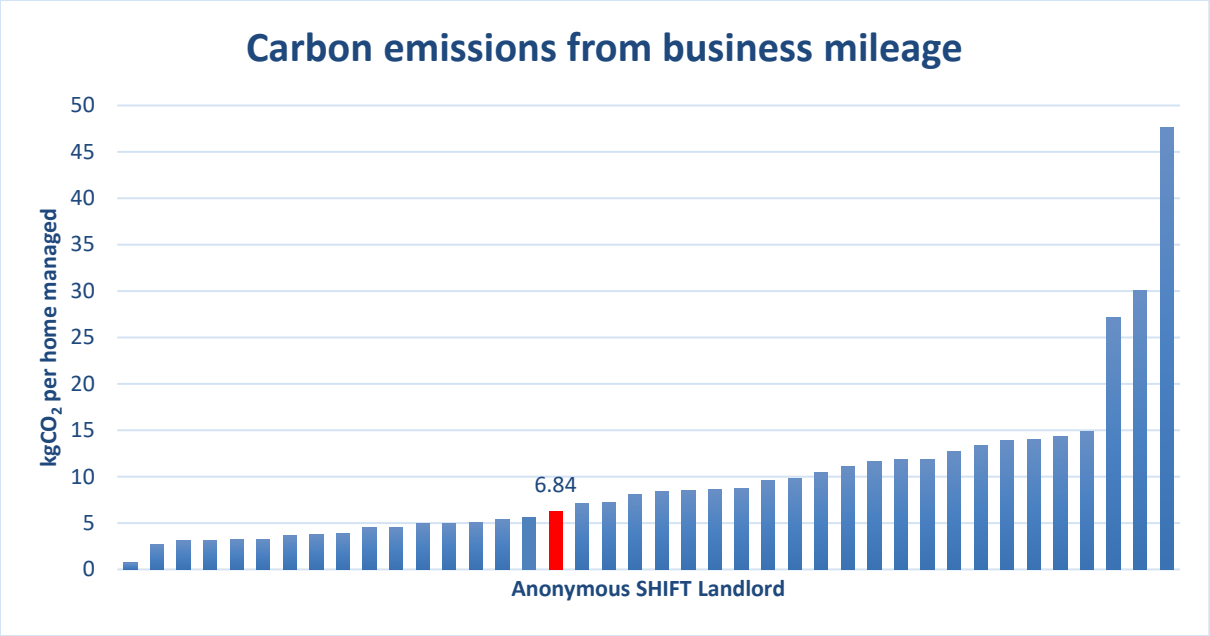
Although offices have a minor impact on the organisation's overall environmental performance there are several advantages to focussing on improving their environmental qualities. Utility bills reduce, staff can see a tangible commitment to sustainability and facilities teams gain first-hand experience in environmental technologies.

COVID Note: During the Covid period many offices were vacated. This may result in lower impacts than in previous years. No corrections have been made for this in this report, so subsequent years may show higher impacts as offices begin to get re-occupied. Also note, that impacts from offices may now be transferred to homes where staff are working from home. E.g., more energy, water and waste impacts will happen at home. These are not recorded in SHIFT as they are out of the normal scope.

Business mileage

Controlling business mileage expenditure can make a real difference to landlords. The SHIFT metric for business mileage looks at car claims, public transport usage and air miles (if applicable).

Data was collected by Catalyst for the total carbon emissions from business mileage from April 2019 – March 2020 using their expenses database. Consulting data collecting for their SECR report, Catalyst provided car mileage claims which were then split in petrol and diesel miles using Government statistics on engine types. Business expenses for public transport use and air travel were also included. Using DEFRA conversion factors to calculate CO_2 emissions, Catalyst are estimated to have emitted 155.4 tonnes CO_2 or 6.84kg CO_2 / home managed through business travel.



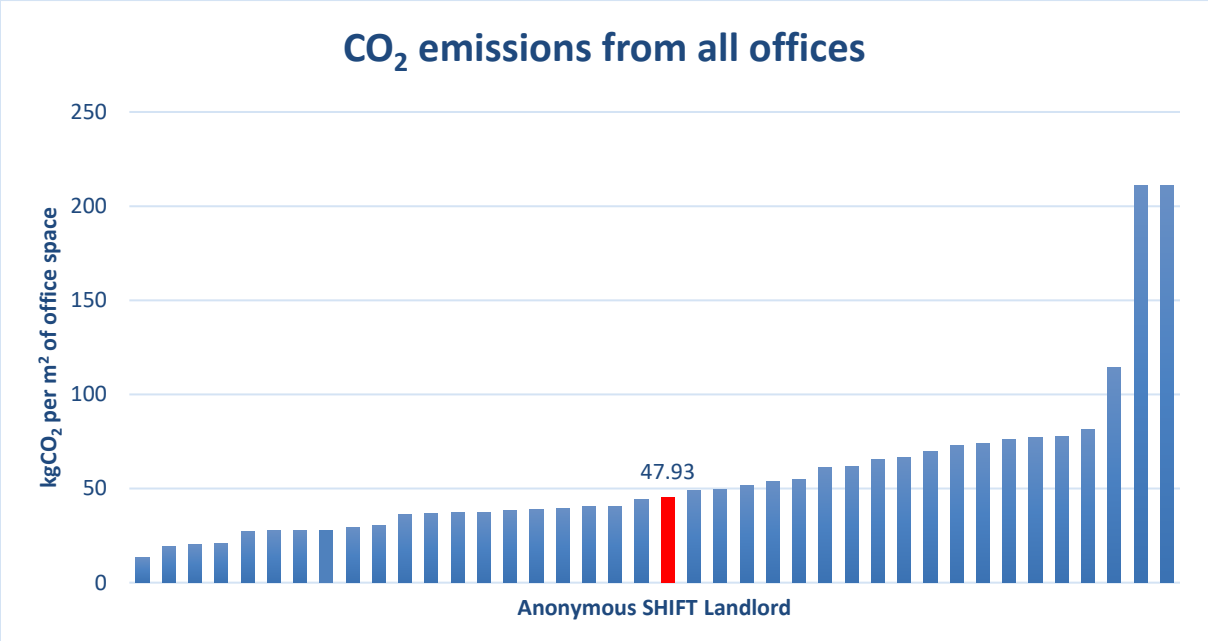
Recommended improvements:

- Consider if electric pool cars could be bought/leased for Catalyst's office-based employees or employees who regularly visit estates to offer a suitable alternative to using 'grey fleet' for business use, this would also encourage the installation of EV charging points across offices and estates.
- Encourage continued use of video conferencing now COVID restrictions have lifted.

Energy usage

SHIFT research indicates that emissions of 25 kg CO_2/m^2 of office space correlate with 80% reduction against 1990 levels, but the ultimate target is net zero emissions by 2050 through a decarbonised grid. The Government states a target of rented, non-domestic properties to be EPC B by 2030.

Data collected by Catalyst's Sustainability Officer last year enabled a recalculation of Catalyst's office emissions, using the 2020 conversion factors. In total, 413.1 tonnes of CO_2 were emitted in the 12-month period which equates to 47.93 $kgCO_2/m^2$ of office space.

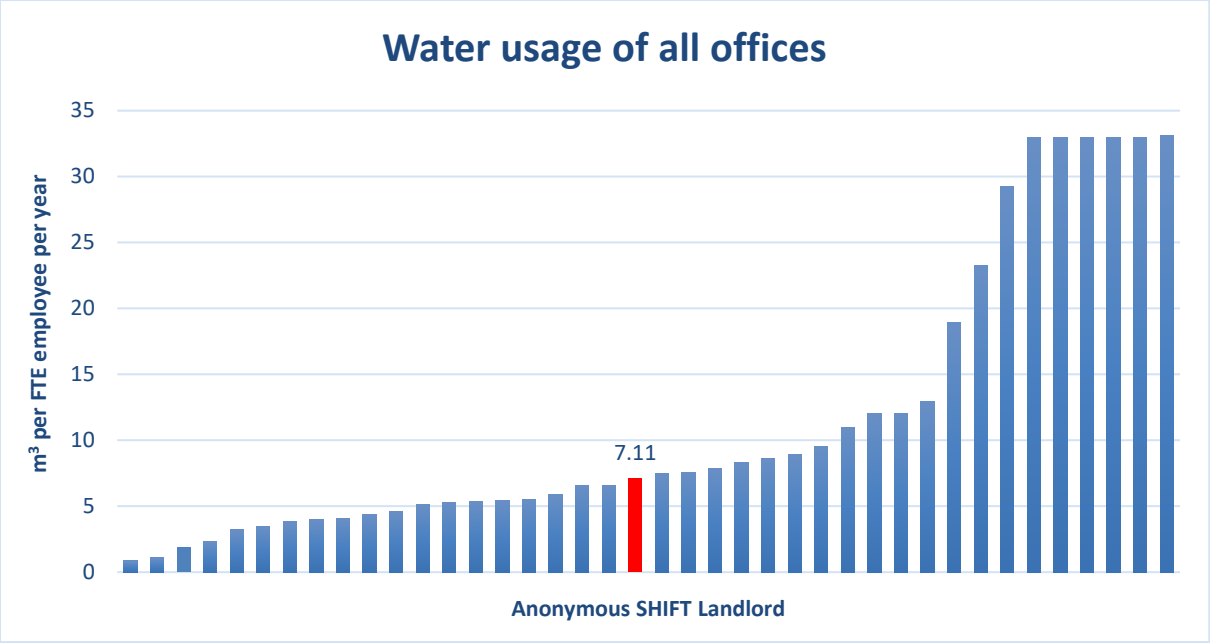


Recommended improvements:

- Maintain low energy usage emissions through engaging staff in saving energy. As always good housekeeping should be encouraged amongst staff, such as turning off devices when not in use, rather than leaving them on standby.
- Consider an office energy audit with an aim of achieving low carbon intensity and implementing the recommendations, especially at the Ealing Gateway office, which has the highest energy use per m^2 of all Catalyst's offices.
- Smart systems are a possibility in office spaces and can highlight the electricity use of devices which are left on standby for example.
- For leased offices try to arrange sub-metering with the landlord. Minimum Energy Efficiency Standard (MEES) and Heat Metering Regulations may help with these discussions.

Water

Water utility data for Catalyst's offices from the previous year's assessment was used but the exact usage for the reporting period was not available due to limited readings across the reporting period. Therefore, for several offices a monthly average has been recalculated and extrapolated to 12 months. Total water usage is estimated to be 7640.05 m^3 which equates to 7.11 m^3 per employee.



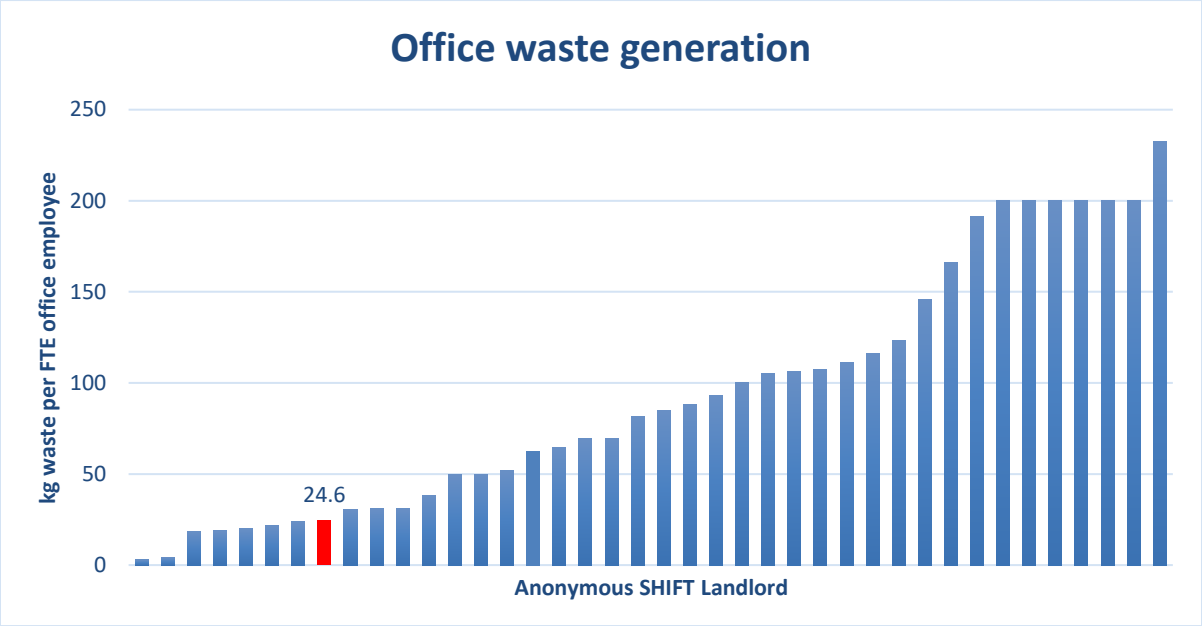
Recommended improvements:

- Consider setting up a quarterly utility reporting system for your offices and your landlord supply to keep a consistent track of data and save time when collating data for the annual report.
- To avoid spikes in water usage as the office becomes more and more occupied, consider carrying out a water audit and implementing water saving measures. Some local water companies offer water saving devices such as tap aerators at no fee or a reduced cost. SHIFT still recommends approaching your local water company about this if they do not currently provide water saving devices, highlighting the wider benefits to Catalyst and others who use the water company.

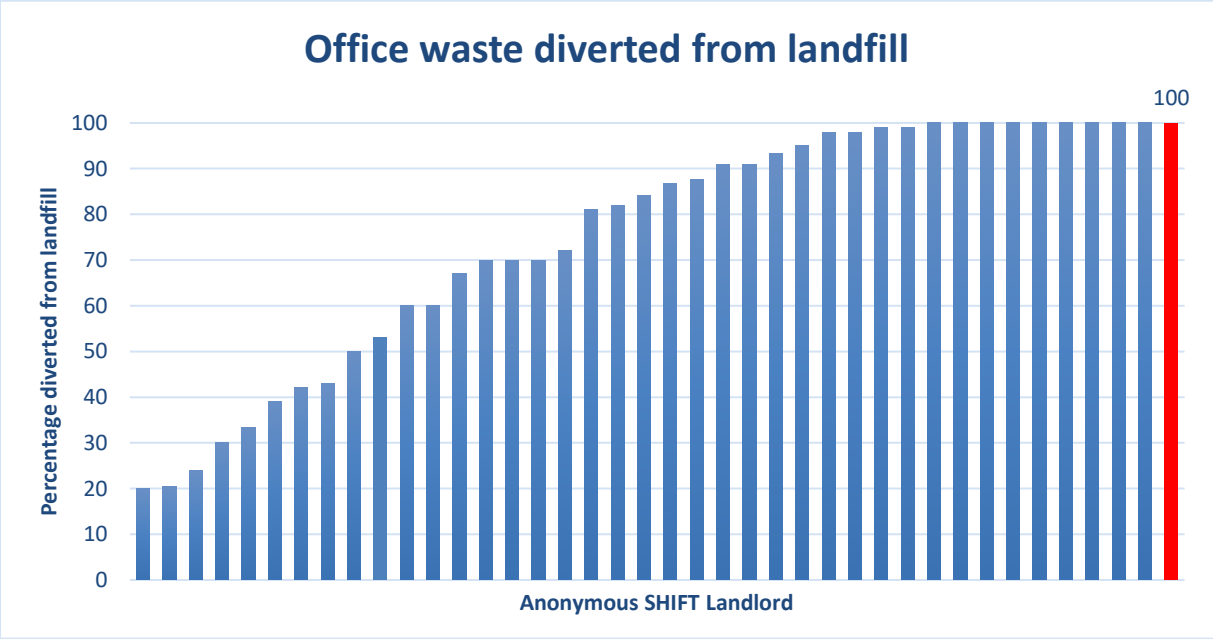
Waste

As interest rises in the circular economy, alongside an awareness of the damaging impacts of plastic pollution in particular, companies from all sectors are ramping up efforts to tackle waste. Quantifying total waste outputs and treatment is an important first step.

The data of the waste generated in Catalyst's offices was collected for the previous assessment and, in the absence of updated data, used here again. It is estimated that total waste generated was around 26.5 tonnes (24.6 kgs per employee).



The previous assessment's data was sourced from Catalyst's waste contractors, with excellent data (albeit possibly out of date) demonstrating that across all offices 100% of waste is diverted from landfill.



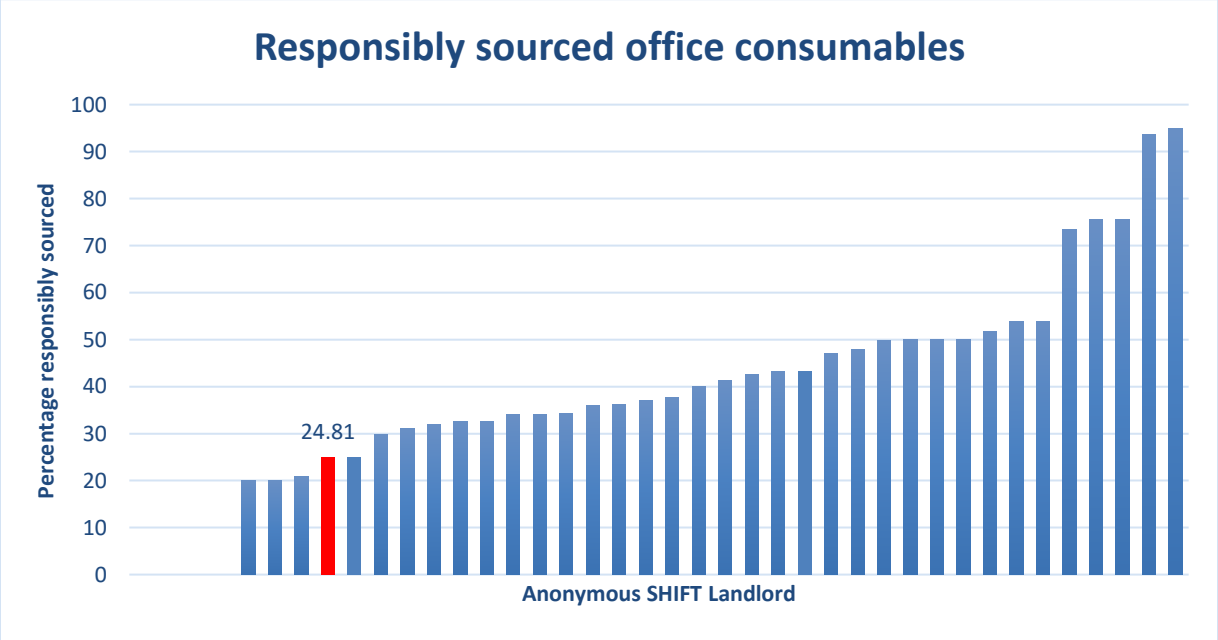
Recommended improvements:

- Install "follow me" printers
- Reduce disposable cups and other utensils

- Work with office waste contractor(s) to increase waste recycling rather than relying on the energy-from-waste option.

Office consumables

As with all section of this assessment, no updated data was provided. Last year, Catalyst contacted Office Depot, their office consumables supplier seeking data on the responsible sourcing of their products. Good data was through an environmental spend report, showing 24.81% of purchases were responsibly sourced. This figure has been used for this SHIFT assessment.



Recommended improvements:

- Catalyst should liaise with printer supply to ensure printer cartridges / toner cartridges are made with high recyclate content alongside being reusable as their manufacture process makes them a high environmental impact product
- Use the data Office Depot provide to see whether Catalyst could switch to 'green' alternatives that are suggested

Offices at risk of flooding and overheating

Climate change will affect offices as well as homes. The same flood and overheating risk precautions should be taken for offices as for homes. This will ensure business continuity.

Catalyst analysed Environment Agency flood data for their offices which revealed that all but one office is considered to be low risk of flooding from fluvial, tidal, surface water and reservoir sources. Catalyst's Brent office is considered at high risk of surface water flooding so Catalyst may wish to introduce a business continuity plan for this office in the event that access and/or egress is prevented by flooding.

Catalyst's offices have not had official overheating risk assessments completed but air conditioning system, dual aspect building design, electrical heating which prevents standing losses were identified during the last visit from SHIFT assessor to Catalyst's head office.

Both of these analyses were using data collected for last year's SHIFT assessment.

Recommended improvements:

- Catalyst should continue to monitor overheating in offices with an updated staff survey and install passive measures such as brise soleil and reflective glass coatings if this becomes an issue in the future. If air conditioning is installed ensure it is the most efficient available as this will increase energy usage.
- Check Environment Agency flood maps and install adequate protection, especially for surface water run-off which is often neglected and yet projected to increase.

Strategy & Management

A strong sustainability strategy underpins robust environmental monitoring and performance at any organisation, by setting out a clear direction of travel in both the short and long term, as well as SMART KPIs to measure progress against. Points for this section are therefore awarded for specific, measurable, achievable, realistic and time-bound targets only, for a range of areas including energy efficiency, waste, water and climate adaptation. In addition, senior level commitment and defined responsibilities help ensure the likely efficacy of the strategy.

Catalyst scored 15 out of 15 for an effective strategy. Catalyst's Environmental Strategy 2018-2025 is freely accessible in public domain and has a formal review date embedded. In Catalyst's Sustainability Strategy Action Plan 2018-2025 there are SMART targets for all environmental issues covered by the SHIFT assessment. Catalyst's Sustainability Manager also provided evidence to show that their Director of Governance is directly responsible for the deliverance of the strategy and reporting sustainable progress and environmental performance to the Executive and Group Board

Recommended improvements:

- Ensure strategies have all the items listed in the SHIFT scoring matrix. You can use the detail in the overall performance data to help establish KPIs for your organisation – it'll be especially important to include sustainability KPI's and long-term targets within your

new build strategy / specification update as this area of the business has a crucial role to play in Catalyst's decarbonisation ambitions

Supply Chain

Engaging with your supply chain is a way to encourage improved environmental performance. As well as bringing an enhanced local environment for staff and residents, there are also financial benefits for your organisation. For example, if a maintenance contractor reduces uses more efficient transport, they save costs which could be passed on to you.

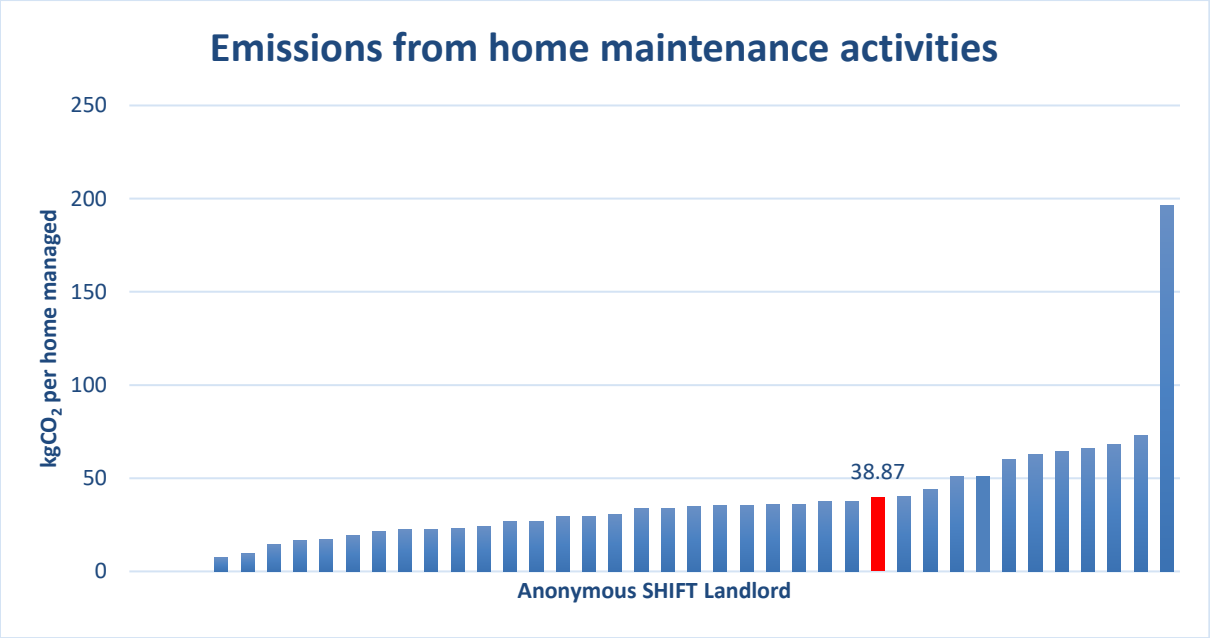
For SHIFT purposes, we include in-house maintenance team data in with the supply chain questions. This allows better comparability between organisations. For example, we can compare maintenance CO_2 emissions per home between organisations that do their own maintenance, with organisations that subcontract out all maintenance.

Maintenance CO_2 emissions

In-house and subcontracted maintenance teams emit CO_2 from their fleets, offices and other operations. Importantly, maintenance fleets also emit air pollutants which contribute to localised poor air quality and consequential health issues.

Figures are based on survey requests to larger contractors requesting data for their operational fleet emissions. Where a landlord has its own maintenance fleet these figures are included too. This metric indicates the total CO_2 emitted due to maintenance activities.

Again, data is taken from the previous year's assessment. Catalyst consulted with their in-house maintenance teams and three of their largest home's maintenance and capital works contractors. A mixture of data was made available with Catalyst's DLO and Aldwyck's 'Connect' team providing a breakdown of fuel usage across the reporting period. For Catalyst's contractors, carbon emission data was limited with only DW returning vehicle mileage data. Catalyst's other major contractors Chas Berger and Engie did not provide any data which leaves significant gaps in carbon emissions associated with homes maintenance and estimates could not be made as contract values were not available. Using DEFRA conversion factors for 2020 (to be used for data covering 1st April 2020-31st March 2021 – the 12-month period covered in this assessment), a revised figure of 882.8 tonnes of CO_2 or 38.87 kgCO_2 / home managed was calculated.



Recommended improvements:

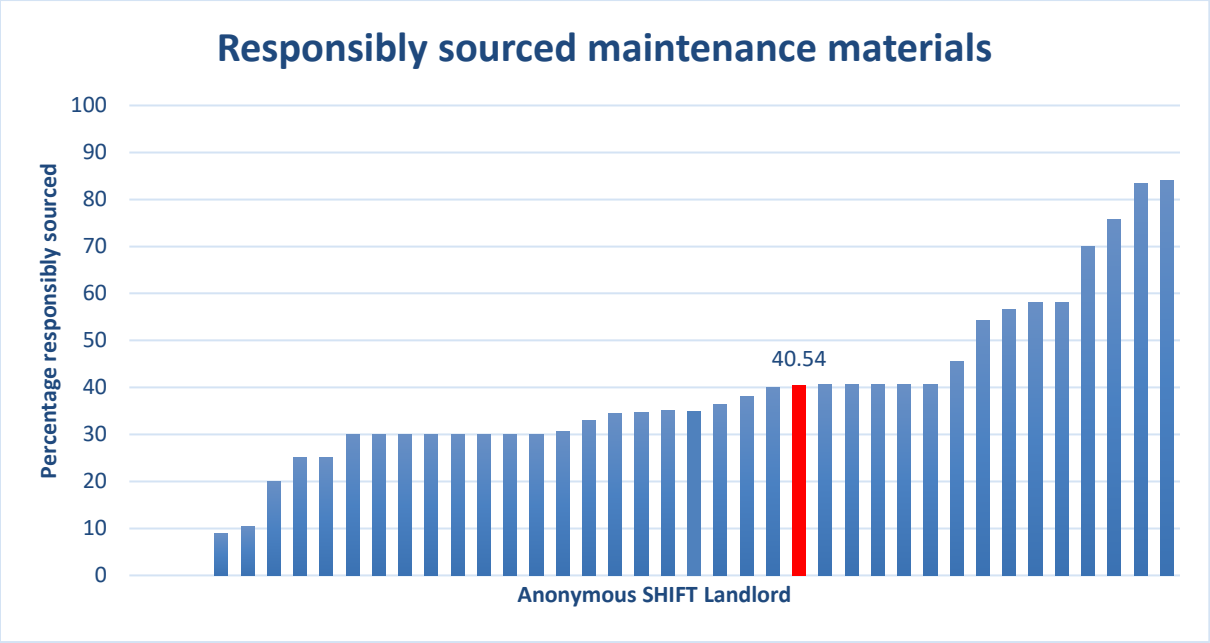
- For your own fleet, vehicle tracking, benchmarking between drivers and fuel-efficient driving training have been shown to reduce emissions. You can also require that external contractors do the same in procurement documents.
- Obtaining data from contractors has been a difficult area for Catalyst over several SHIFT assessments – it is recommended that employer requirements are adjusted to include mandatory reporting of environmental performance metrics related to Catalyst workstreams
- Consider whether a contractor engagement session could be hosted with all of Catalyst's major homes maintenance and capital works contractors to establish a point of contact for future requests for data. You could also use this as an opportunity to explain the reporting expectations that Catalyst has which should help improve the turnaround and quality of reported data
- Investigate whether job assignment software for maintenance team is providing the most efficient order of works. Are Catalyst approaching a job list using distance as an influencing factor?
- A more accurate calculation of carbon emissions from your supply chain is to ask what proportion of your contractors' *total* emissions are associated with Catalyst. Some contractors are purely focussed on mileage and whilst that is almost certainly the majority of associated emissions, contractors should record their total Scope 1 and 2 emissions and should apportion to Catalyst accordingly.

- Explain the above point to your contractors and identify if they are partaking in SECR (Streamlined Energy and Carbon Reporting). This should ensure that you receive carbon emission data for more than just the mileage associated with Catalyst contracts
- Some landlords have arranged with suppliers to have dispersed stores of materials which means drivers do not have to waste time/fuel queuing at central depots.

Responsibly sourced maintenance materials

Responsibly sourced materials have been manufactured in an environmentally sound way and where the producers treat their workers well. Although there are many eco-labelling schemes for maintenance materials, this remains a difficult area to assess. Nevertheless, SHIFT encourages maintenance teams and contractors to devise ways to assess this themselves using a methodical approach.

Data was limited for this section (and was again taken from last year's report) with few contractors able to provide any quantifiable data. Howdens, Catalyst's kitchen supplier evidenced that FSC and PEFC timber is widely used in their kitchens, and this was supported with a purchase log from their buildings supplier however it was unclear what proportion of materials purchased for Catalyst were FSC / PEFC. No further information was provided from other material suppliers to Catalyst's DLO or any of their main subcontractors. Therefore, the SHIFT sector average has been utilised in the absence of primary data to estimate that 40.54% of materials are responsibly sourced. It is recommended that Catalyst uses the suggested improvements made below to extract information more from their supply chain in their next SHIFT assessment to increase the confidence in their environmental performance in this area.



Recommended improvements:

- Catalyst may find it useful to host supply chain 'engagement' days focussing on sustainability with suppliers – they provide a great opportunity to clearly explain the environmental data required and establish a point of contact within each supplier/contractor for sourcing this data which will save Catalyst time and frustration during the data collection process.
- Before Catalyst's next SHIFT report, it is also recommended that they consider re-engaging with suppliers on the specific questions asked during this assessment to try and get a clear answer on why information isn't available. Catalyst could suggest a percentage breakdown of spend on responsibly sourced materials with each supplier covering PEFC timber and eco range products.
- Some landlords have been using herbicide-free weed controls such as biodegradable, organic foams which Catalyst may want to explore to eliminate their use of weed killer.
- Consider making it a requirement within contracts for suppliers and subcontracted maintenance and development firms to devise their own responsible materials scoring methodologies and report them to you. A suggested method for contractors is:
    - Identify the responsible sourcing accreditations that relate to the materials and products they use (e.g FSC/PEFC for timber, BES6001 for plastics/windows/tiles/ flooring, Copper Mark for boilers etc) – probably achieved through a survey of their own suppliers
    - Start tracking responsibly sourced products in their stock databases/purchase logs

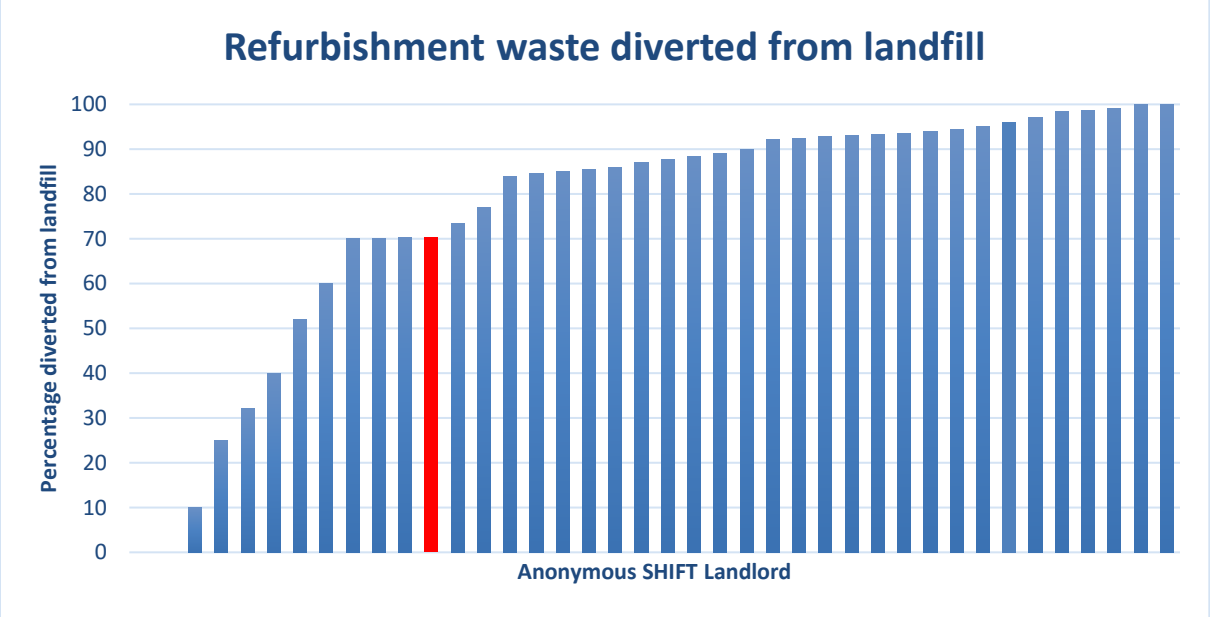
- Make it possible for Catalyst (and others) to either request percentage of materials responsibly sourced or include responsible sourcing information within the invoices for materials so that Catalyst can easily track this information within its own systems.

- Examples of eco-labels and accreditations include BRE Green Guide to Specification, ISO14001, BES6001, ISO 20400, FSC and PEFC

Refurbishment recycling

Detailed breakdowns of waste treatment are normally available from contractors and DLO's. Good reporting and recycling practices should be factored into the decision-making when contractors are selected.

Catalyst was not able to source waste diversion rates for their DLOs and only one of their main contractors provided figures that were supported by waste reports. Therefore, the SHIFT default value of 70.3% of waste diverted from landfill has been reported as a baseline for this assessment in the absence of primary data.



Recommended improvements:

- Catalyst was not able to identify the proportion of waste generated by their internal maintenance teams that was diverted from landfill – this is an important exercise to undertake as it will provide a better understanding of the data and performance you should expect from your contractors

- ESG criteria also request data on waste management which is another incentive to start tracking and recording improvements
- Require subcontracted maintenance firms to report their recycling rates to you with supporting evidence/waste reports. Eventually, these will improve once the supplier sees the importance of recording high recycling rates to your organisation. Organising more frequent reporting will embed this much more quickly in these organisations.
- Consider whether quarterly reporting requirements for contractors could reduce workload for Catalyst when completing your sustainability assessment.
- Consider implementing subcontractor KPIs for this impact once a consistent reporting structure is implemented. This could involve reducing the proportion of waste used for energy-from-waste.

SHIFT

SHIFT carries out a full range of environmental reporting specialising in the social housing sector. We do:

- SHIFT standard – environmental reporting and accreditation for existing homes, new build, supply chain and offices
- Post-Occupancy Evaluation – comparing actual performance in retrofit and new build with design performance
- Environmental road mapping and strategy development – creating a path from a baseline to a truly sustainable housing stock whilst maximising financial benefits to the landlord
- Related consultancy e.g. ESG and SECR reporting

Please be in touch for a free consultation on any of the above. Contact Richard on 07718 647118 or richard@SHIFTenvironment.co.uk

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