



Hexagon Housing Association SHIFT Environmental Report 2023



The SHIFT brand is owned by:



Contents

- Executive summary 1
- Overall performance 3
 - Carbon..... 3
 - Other environmental performance 4
- Existing Homes..... 6
 - Energy and average SAP 6
 - District and communal heating..... 8
 - Other communal area energy..... 10
 - Fuel poverty 11
 - Sustainable transport..... 12
 - Water 13
 - Domestic recycling 15
 - Fly tipping..... 16
 - Biodiversity and green spaces 17
 - Homes adapted to risk of flooding 19
 - Homes adapted to risk of overheating 20
- Resident engagement..... 23
 - Resident engagement 23
- New build 25
- Offices & Operations..... 28
 - Energy usage 28
 - Business mileage..... 29
 - Water 30
 - Waste 31
 - Office consumables..... 32
 - Offices adapted to flooding and overheating risk 33
- Strategy & Management..... 35

DLO & Supply Chain 38

 Maintenance CO₂e emissions 38

 Responsibly sourced maintenance materials 40

 Refurbishment recycling 41

Executive summary

This report details Hexagon Housing Association's latest environmental performance. It is based on the primary data provided by your organisation and this data is transformed using nationally established methodologies where available. Where national methodologies are not available, we have used methodologies devised by SHIFT based on our experience and available science.

Our intention is that you use the data in this report to effectively manage your way to a sustainable stock and sustainable operations. We have arranged the report to align with directorates within your organisation which will make improvements easier to identify.

We find clients use the data in SHIFT report for:

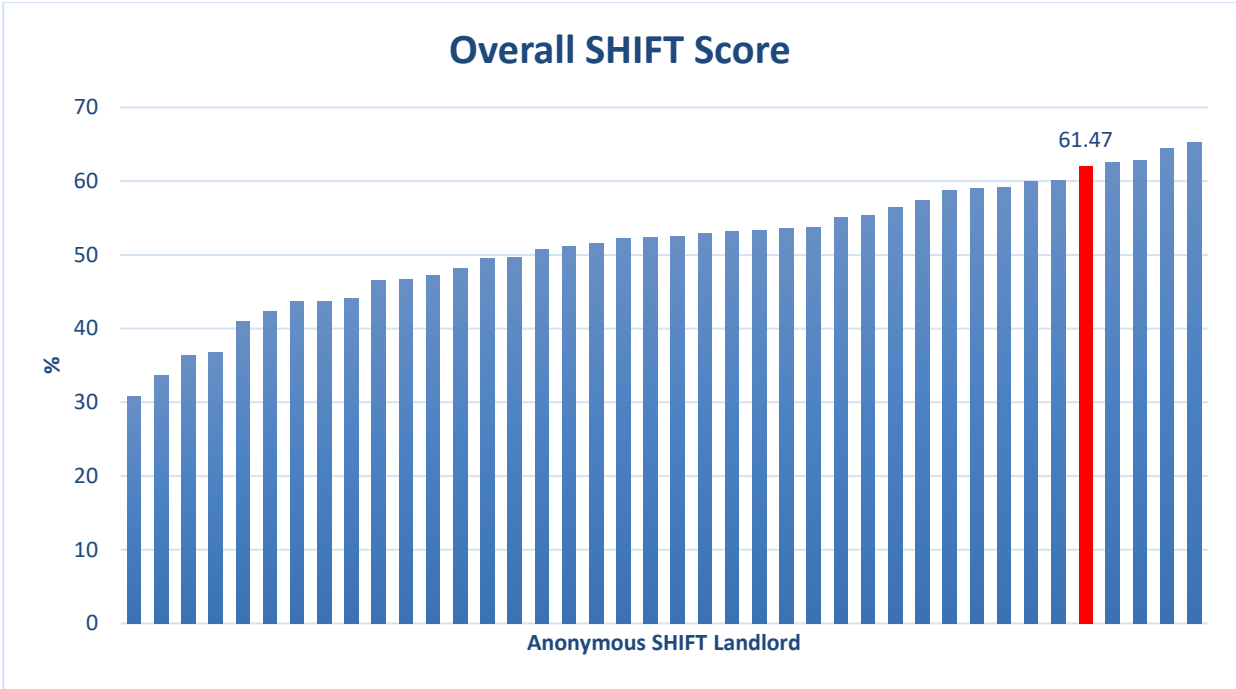
- Effective environmental strategy development
- ESG reporting
- Annual progress monitoring on environmental targets
- Compliance reporting – most recently SECR reporting

SHIFT also has the bronze, silver, gold and platinum accreditation element. Clients find this useful for having a single corporate aim for all directorates and for easy communication with stakeholders. However, clients are reminded that this is not the point of SHIFT. The purpose of SHIFT is to provide you with highly useful data to effectively manage your way to a sustainable stock and sustainable operations.

The report spans existing homes, new build, facilities, resident engagement, supply chain and strategy and management. It covers energy and resource use, transport and travel, climate risk, biodiversity and responsible sourcing, thereby providing a comprehensive overview of your organisation's environmental footprint.

Hexagon Housing Association provide and manage over 3,800 affordable homes across South London. The results of this assessment will show, as best as the data allows, the gaps between Hexagon's current environmental performance and environmentally safe levels of impact. Hexagon are keen to understand the impacts of their current performance and to display their commitment to improving their sustainability and environmental performance. The findings of this assessment will be used to monitor Hexagon's environmental performance progress and support the identification of targeted areas for improvement.

Hexagon Housing Association has achieved the SHIFT Gold accreditation, with a score of 61.47. It ranks 5th out of the 40 most recent SHIFT assessments.



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.

Overall performance

Carbon

Environmental issue	Absolute ¹	Intensity ²	Intensity target for SHIFT platinum 2023 ³	Long term intensity target (by 2050 unless otherwise stated)
Individually heated homes, regulated emissions Scope 3	9,836.79 tonnes CO ₂ e	SAP 72.64 2,596.83 kg CO ₂ e/ independently heated home	SAP 74.1 ✖	SAP 85
Communal heating systems metered data Scope 1	197.09 tonnes CO ₂ e	17,700 kWh / home managed	5,304 kWh yr / home managed ✖	3,600 kWh yr / home managed
metered data Scope 2 ⁵	18.68 tonnes CO ₂ e			
Other landlord supply Scope 1	85.11 tonnes CO ₂ e	63.44 kg CO ₂ e / home managed	109 kg CO ₂ e / home managed ✔	0 kg CO ₂ e / home managed
Scope 2 ⁵	159.38 tonnes CO ₂ e			
Offices Scope 1	35.25 tonnes CO ₂ e	53.65 kg CO ₂ e /m ²	52.0 kg CO ₂ e /m ² ✖	0 kg CO ₂ e / m2
Scope 2 ⁵	43.89 tonnes CO ₂ e			
Business mileage Scope 3	8.05 tonnes CO ₂ e	2.09 kg CO ₂ e / per home managed	9.1 kg CO ₂ e / per home managed ✔	0 kg CO ₂ e / home managed
Maintenance activities DLO Scope 1	0 tonnes CO ₂ e			
Scope 1-3 scaled up to represent 100% ⁶	559.83 tonnes CO ₂ e	145.26 kg CO ₂ e / per home managed	TBA	0 kg CO ₂ e / home managed
Embodied Carbon Repairs and Maintenance Scope 3	1,813 tonnes CO ₂ e	470 kg CO ₂ e / per home managed	TBA	0 kg CO ₂ e / per home managed
New Build Scope 3	703.92 tonnes CO ₂ e	35,196 kg CO ₂ e / per new home	TBA	0 kg CO ₂ e / per new home

Other environmental performance

Environmental issue	Absolute ¹	Intensity ²	Intensity target for SHIFT platinum 2023 ³	Long term intensity target (by 2050 unless otherwise stated)
Water – homes	0.44 million m ³	139.1 lpd	138.2 lpd ✘	130 lpd by 2030
Water – offices	244 m ³	2.33 m ³ /employee/yr	7.1 m ³ /employee/yr	3m ³ /employee/yr by 2030
Waste – homes	1,596 homes with internal recycling bins	9.61% increase in residents diverting waste from landfill	6.8% increase in residents diverting waste from landfill ✓	17.6% increase in residents diverting waste from landfill
Waste generated – offices	4.5 tonnes	100% of waste diverted from landfill	73.0% waste diverted from landfill ✓	100% diverted from landfill
Promotion of sustainable transport facilities – homes	540 homes with cycle storage	4.45% increased likelihood of resident use	TBC	100% increased likelihood of resident use
Responsible materials – maintenance & capital works	43%	43%	49.6% responsibly sourced ✘	100% responsibly sourced
Responsible materials - offices	84.21%	84.21%	60.9% responsibly sourced ✓	100% responsibly sourced
Adaptation to climate change – homes protected from flooding	3,210 homes	83.3% of homes adapted to flood risk	84.5% adapted to flood risk ✘	100% adapted to flood risk
Adaptation to climate change – homes protected from overheating	1,815 homes	47.1% of homes adapted to overheating risk	79.6% adapted to overheating risk ✘	100% adapted to overheating risk
Biodiversity value	163.29 tonnes biomass above ground	3.5 tonnes biomass per hectare	10.5 tonnes biomass per hectare ✘	11.9 tonnes biomass per hectare by 2043

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 m² 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 - 2050 targets unless otherwise stated.

5 – Scope 2 emissions shown here include Scope 3 transmission and distribution losses associated with UK electricity. To calculate just Scope 2, multiply the tonnes CO₂e by 1000, then divide by 0.23112 and then multiply by 0.21233.

6 – This figure has been derived using available carbon emission data from the DLO and external suppliers, scaled up to represent 100% of repairs and maintenance activities.

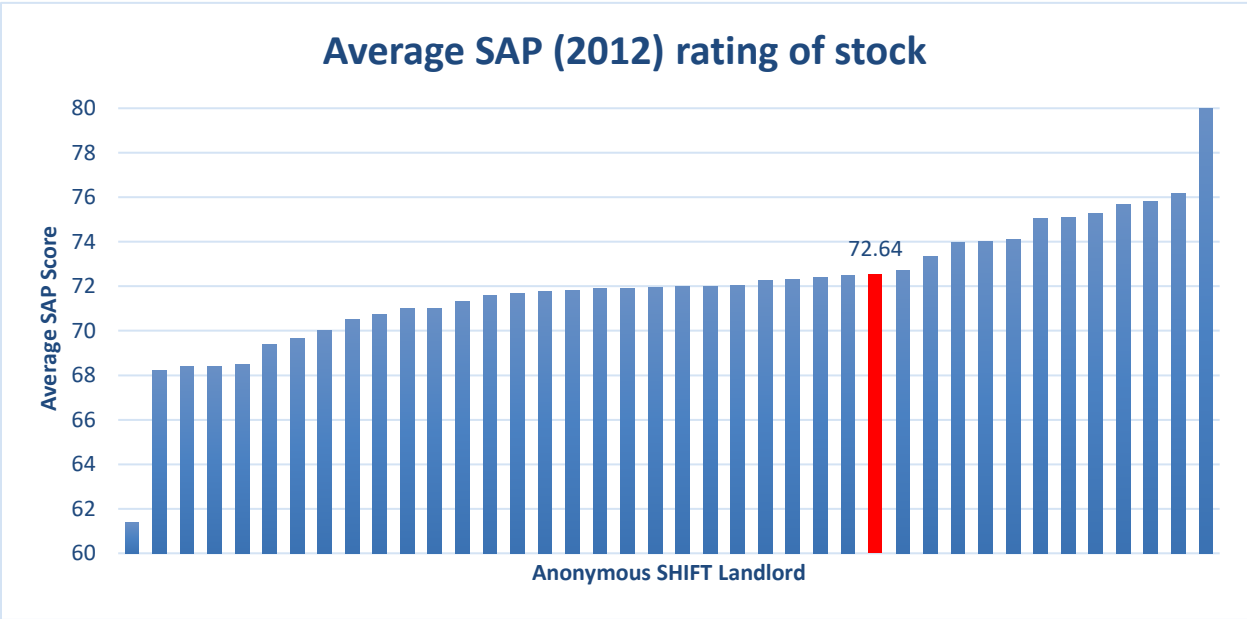
Existing Homes

Most of the homes that exist now will be in use in 2050 and the imperative to future proof them is gaining momentum. Therefore, it is essential to ensure that existing homes are truly sustainable. 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 and provides a very good estimate of CO₂. It also remains the Government’s favoured method for assessing energy efficiency. The SAP rating refers to the cost per m² 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 on how this target has been produced.

Energy performance data was extracted by Hexagon’s Senior Stock Data Administrator from their asset management database which indicated an average SAP of 72.64 has been achieved across their housing stock. Hexagon has a programme in place to improve the SAP ratings of their properties, which includes an EPC planning tool to identify measures needed at UPRN level.



Recommended improvements:

- The direction of travel for UK homes is:
 - All current homes brought up to EPC C (i.e., well insulated) by 2030
 - Switching to electric heating (or other non-fossil fuel heating) by 2050
 - Grid decarbonised to net zero by 2035
 - All new homes to be net zero
- There are still lots of issues to iron out (e.g., hard to treat, hydrogen fuel). For detailed guidance on net zero, download the “Net Zero carbon roadmap roundtable summary” from here: <https://shiftenvironment.co.uk/publications/>
- Ensuring a full dataset is crucial in preparing address-level upgrade plans. The idea is to gain a vision of what your organisation would like each home to be by 2050 in order to be as close as possible to net zero. Upgrade recommendations can normally be taken from the EPC data, but there is a limit. Further analysis will be needed on electrical forms of heating. At the time of writing heat pumps are low carbon but may increase residents’ bills depending on the previous heating system in the properties. There are signals emerging from the Government that electricity bills could be cut to increase the viability of replacing gas boilers with electric systems.
- Include stock analysis in retrofit plans to establish a baseline to help prepare stock improvement strategies. It will also be beneficial to estimate costs for upgrade plans. The analysis can be done on spreadsheets, but third-party software is available which makes the job much easier (ask your SHIFT assessor for more details).
- When designing annual plans, factors worth considering:
 - Identify how many homes per year you will need to upgrade to EPC C by 2030
 - Of these homes, say ~80% of them could be “worst homes first”.
 - For the remaining ~20% consider a “triggers approach” which will save costs in the long run – ideally, you can do sustainability upgrade works at the same time as other anticipated works. The benefit of doing upgrades whilst you have access and trades could reduce installation costs. This approach will involve transforming the way your repairs and maintenance teams work and may take some time to change processes within your organisation. Triggers to consider:
 - Component replacements
 - Disrepair claims
 - Voids
 - Resident engagement opportunity – some highly visible interventions are ideal for getting residents used to new technologies. If these are strategically distributed around the stock then there are more opportunities for residents to hear from each other about the new technologies, especially if they reduce bills. Example interventions that will be part of the future are:
 - Solar PV (possibly with battery storage)
 - Heat pumps

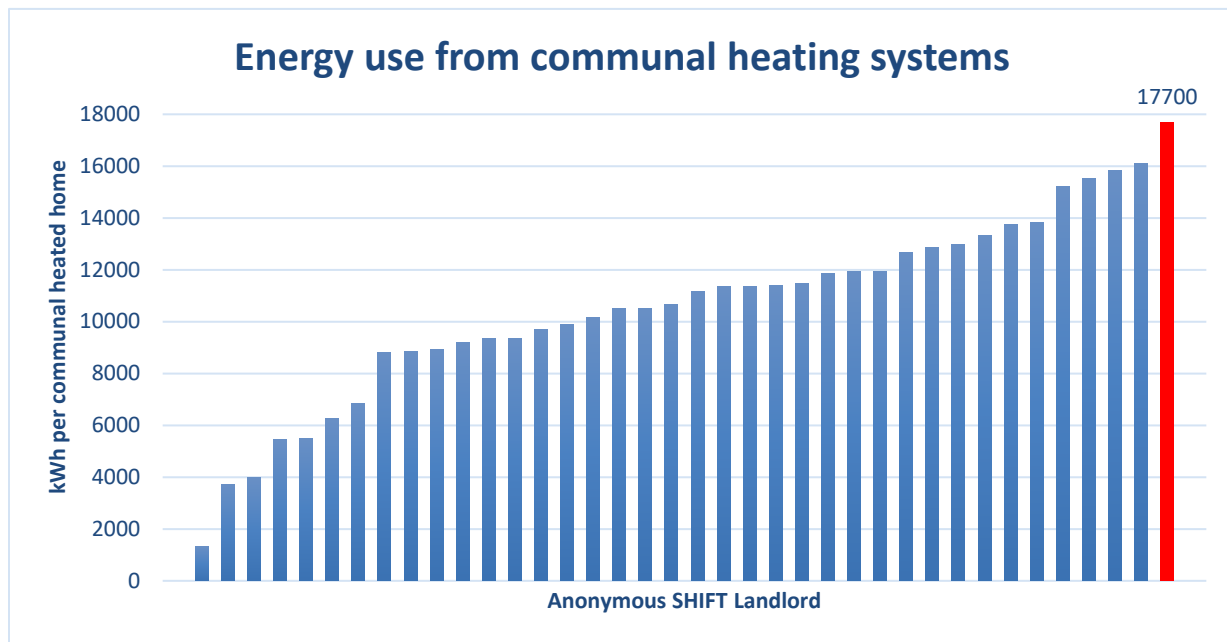
- External wall insulation
- Finance mechanisms are not fully established for achieving net zero at the time of writing. Various grant funds are available but are not sufficient. Nevertheless, many landlords are finding that achieving EPC C is manageable and are putting plans in place. In any case, it will be better to make a start event with 'stepping-stone' projects so that teams can gain knowledge.
- Retrofitting may also present opportunities to address other sustainability issues such as adapting to climate change, water efficiency, internal waste recycling bins and cycle storage.
- Monitoring progress at a strategic level is crucial. In the absence of any clearer definitions of net zero for housing, SHIFT has reviewed the roadmap and has assessed that, if the roadmap is followed, and the promise of cheaper bills for residents is kept, then by 2050 the average SAP of the stock will be SAP 85. This includes all the new builds added to the stock. Average SAP is a straightforward metric to monitor on a quarterly basis.
- Continue to record SAP data in your Lifespan database. Estimated CO₂ emissions can be estimated using existing data and knowing the types of heating systems in place. Please ask your SHIFT assessor if you need more help with the formulas to calculate CO₂ from SAP rating.
- Continue to work linking asset management database with third parties (BIM processes). This will enable faster and easier environmental reporting and the third parties will be able to keep the methodologies up to date in a rapidly changing environment.
- If you have over ~50 solar PV arrays in your stock it may be cost effective to monitor their performance based on actual sunlight. Third party systems are available to do this which may ensure that landlords are maximising their income from them. Please ask your SHIFT assessor for more information on this.

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.

Hexagon identified 66 communally heated properties. Hexagon were unable to determine the kWh usage data for these communal heat networks. These should be clearly documented under the requirements of the Heat Networks (Metering and Billing) Regulations 2020. In the absence of further information, Hexagon should consider the SHIFT default of 17,700 kWh/home managed. This totals 215.77 tonnes CO₂e from communal heating systems. The table

below shows the average kWh values per communally heated home from other SHIFT landlords.



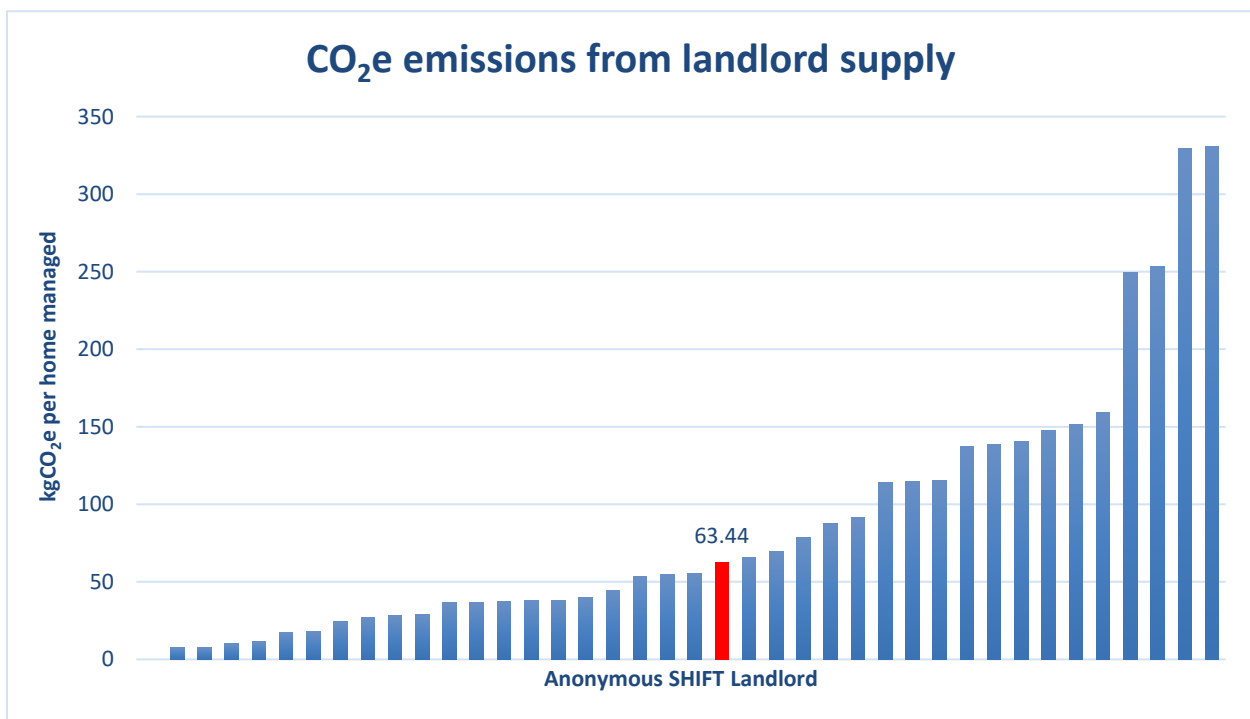
Recommended improvements:

- Prioritise obtaining and reporting kWh usage from your communal heating systems. This will not only provide a baseline for future reporting but will enable identification of any poorly performing systems.
- Ensure full compliance with the Heat Networks (metering and billing) regulations and install individual meters where viable.
- Identifying communal heating systems within the stock profile has presented difficulties for many clients. We recommend that the UPRN for blocks containing communal heating systems be linked with energy broker data using the SHIFT templates provided. This will allow calculating the actual 12-month energy use for each flat and feeding this back into the asset management database. This will allow better CO₂ emission calculation.
- Review all communally heated networks for inefficiencies in heating demand. As an easy first start, clients can consider benchmarking all their communal heating systems on kWh bought/unit, to identify worst performing systems.
- Conduct a review of all communal systems in your stock – the review should include control settings, boilers, pumps and bypass valves. Contact your SHIFT assessor for more information on this.
- Ensure that replacement systems are not oversized – this can lead to excess maintenance, poor use of space and overheating in flats.
- Ensure that new build colleagues specify systems correctly – try to get input into new schemes at an early stage.

- The Climate Change Committee recommendation is for all communal heating systems to be net zero by 2040.

Other communal area energy

Hexagon also assessed premises and homes that use communal energy. For SHIFT this is made up of communal areas in homes as well as ‘other landlord supply’ such as community centres. This totalled 244.49 tonnes CO₂e or 63.44 kg CO₂e/home managed – a 7.4% year-on-year reduction. This is for the total number of homes which Hexagon have decent homes responsibility (265 tonnes CO₂e in 2022). In previous assessments this intensity ratio has been calculated for the homes served by communal areas and the energy use from them. However, this intensity ratio aims to provide an indication of the energy consumption relative to the size of the organisation. Hexagon have already installed low energy, sensory lighting in communal areas and underground car parks. Energy efficient street lighting is standard within the London Boroughs where Hexagon’s homes are located.



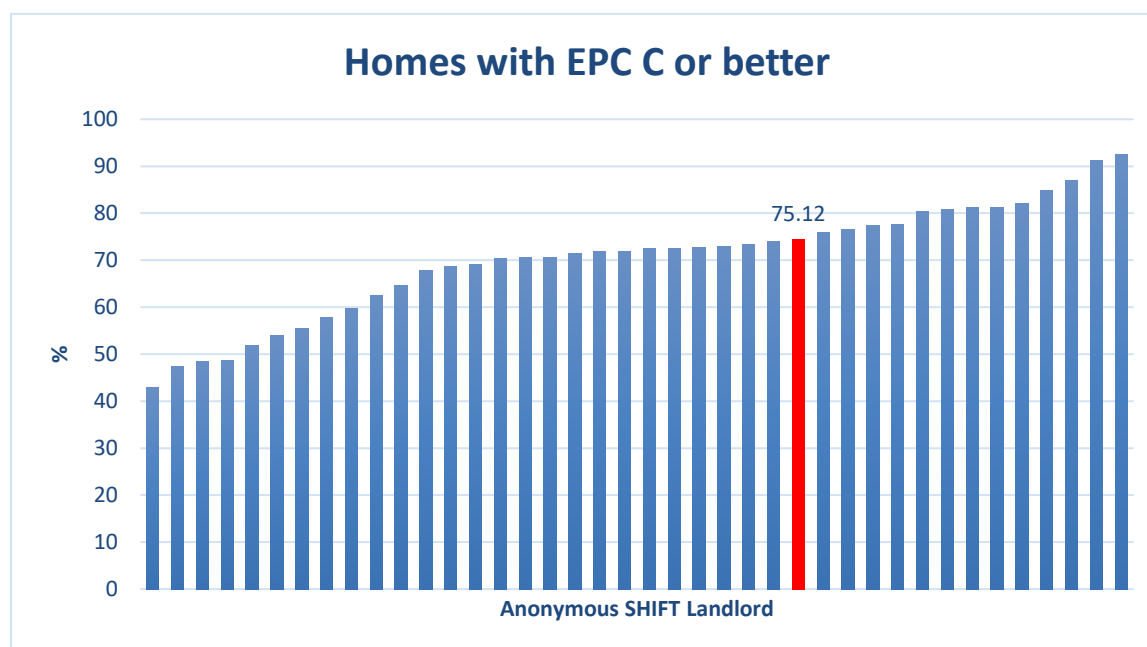
Recommended improvements:

- For other buildings the roadmap to net zero is similar for domestic in that energy efficiency should be pursued and then ultimately switch to electric forms of heating.

Fuel poverty

Tackling fuel poverty now aligns with the UK's net zero pathway. As well as significantly improving environmental performance, achieving EPC C / SAP 69 will dramatically improve the lives of residents in both health and financial terms.

Consulting Hexagon's asset management database, 2,895 properties are believed to be EPC C or above, this equates to 75.12% of Hexagon's stock (up from 74.5% in 2022). Including leaseholders and shared ownership properties may bring this figure up but as Hexagon are not responsible for major works for these properties, they have been excluded from the SHIFT assessment.



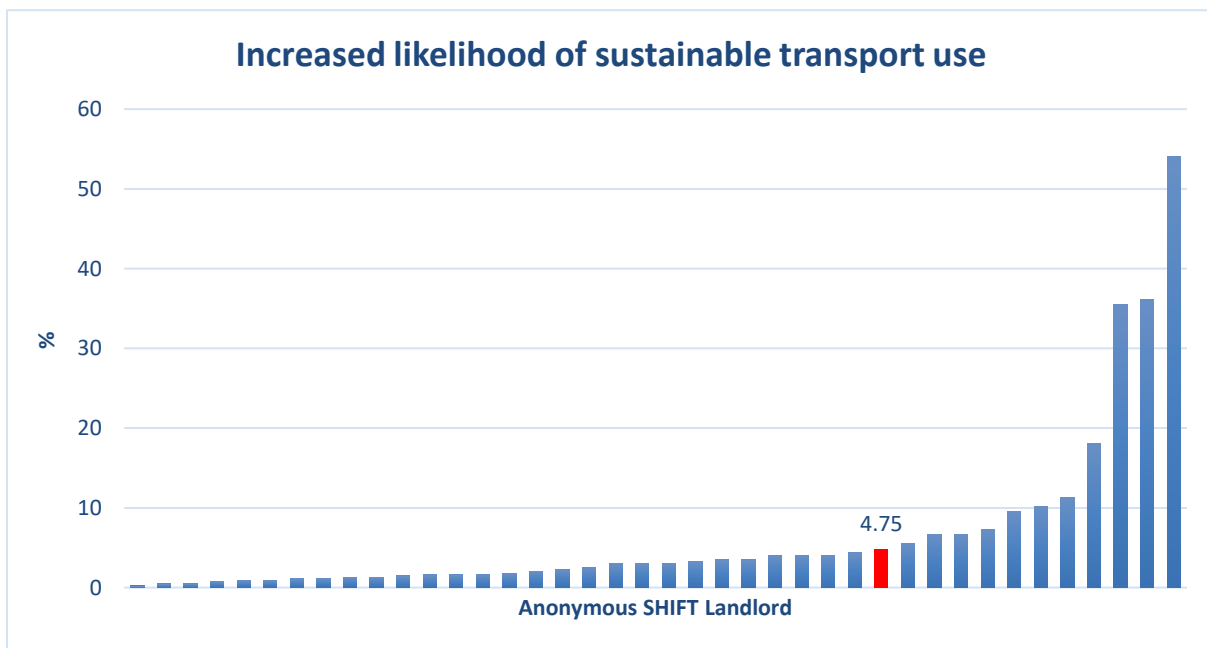
Recommended improvements:

- The government target is minimum EPC C by 2030. Landlords should ensure this is identified in their strategies and develop upgrade plans to reach this.
- Some interventions such as “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. The current version of SAP gives generous rewards for solar PV. This may not be the case when the new version of SAP is issued, so it would be wise to concentrate on improvements that reduce energy demand such as insulation.

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. The national plan for transport is to encourage residents to switch to walking and cycling, coupled with moving to electric vehicles. It is recognised that poor air quality is an issue to residents across the UK and that inequalities exist; air pollution can disproportionately impact less affluent areas. Attempts to improve local air quality will be essential and promoting active transport and low emission travel is a priority.

For sustainable transport facilities it has been estimated that 14% of Hexagon's homes have cycle storage facilities provided based on build date assumptions. Hexagon include cycle storage as part of their design brief for all new builds. Electric vehicle charging infrastructure is available at 5.4% of their properties. Residents do have access to address specific transport advice, information is given to all their new residents as part of their new tenancy pack. As a result of Hexagon's sustainable transport interventions, the increased likelihood of residents using sustainable transport is 4.75%. Below you can see how your performance compares to other SHIFT landlords.



Recommended improvements:

- Address specific transport advice could be provided via new tenancy packs for example and should include the service provided and proximity of public transport links to the specific address.
- You may wish to include data on sustainable transport in the asset management database (e.g., cycle storage provision or EV charge points). This will allow easier and faster reporting on this issue. You can ask your SHIFT assessor for a list of which UPRN's we think may have cycle storage to use as a first pass. Liaise with your new build department so they can also provide this data ready to go into the asset management database.
- Consider installing EV charging points at places where staff can use them during the day, but out of hours, these can be used by residents (for a fee). There is potential that local councils will have initiatives to support businesses and organisations to invest as part of local transport plans.
- The national net zero transport plan indicates that all drives should have EV chargers, so this may be worth prioritising.
- It may be beneficial for residents to engage in cycle training and workshops. This may offer an opportunity to provide additional face-to-face travel advice. It is also an opportunity for community outreach work, improving residents' experience.
- You may facilitate partnering to integrate car clubs, cycle hire and shared transport facilities.
- Promote the health and wellbeing benefits of improved active modes of transport. Consider asking for feedback on resident satisfaction surveys about the facilities you provide for active modes of transport.

Water

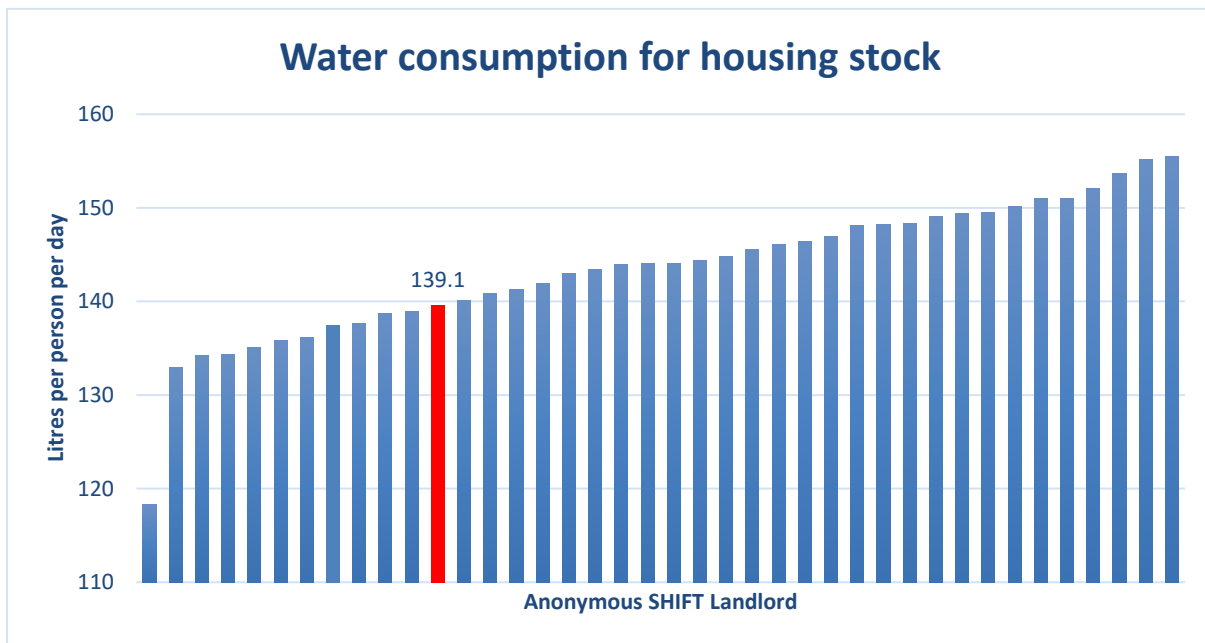
At the time of writing Environment Agency research suggests that UK domestic water efficiency should be 130 litres per person per day (lpd) by 2030 to adapt to forthcoming climate change. However new national strategies are emerging which may mean this target is reduced to 110 lpd¹. Water efficiency 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 Hexagon's stock. Therefore, the SHIFT water efficiency estimator tool has been used. The estimator uses build age data alongside planned kitchen and bathroom refurbishment data to identify the likely water efficiency measures in Hexagon's stock. Using build date information, the percentage of homes with each water efficient feature is:

¹ <https://shiftenvironment.co.uk/news/water-efficiency-targets-for-uk-housing/>

- Smaller than 180L bath: 35.44%
- Low flow taps: 35.44%
- Low flow showers: 35.44%
- Dual flush toilets: 52.49%
- Flats (representing less water usage in garden): 64.56%
- Water butts: 0%
- Water meters: 58.25%
- Greywater/rainwater harvesting systems: 0%
- Residents given information on water efficiency: 100%. Water saving information and advice is available on Hexagon’s website ‘Residents and the Environment’ section.

This gave a result of an estimated 139.1 litres per person per day (lppd) using the SHIFT water efficiency calculator tool.



Recommended improvements:

- Include water efficient fitting information on your asset management system. SHIFT can provide a “first pass” likelihood of certain features to help populate your database, but stock condition surveys can confirm these details.
- Incorporate the recording of water efficiency measures in stock condition surveys. This will allow upgrade plans to be developed.
- Water efficient showers reduce the amount of steam in bathrooms which may reduce the risk of mould growth.
- Develop a formalised water efficient specification for kitchen and bathrooms replacements could be created which prompts installation of water meters and other

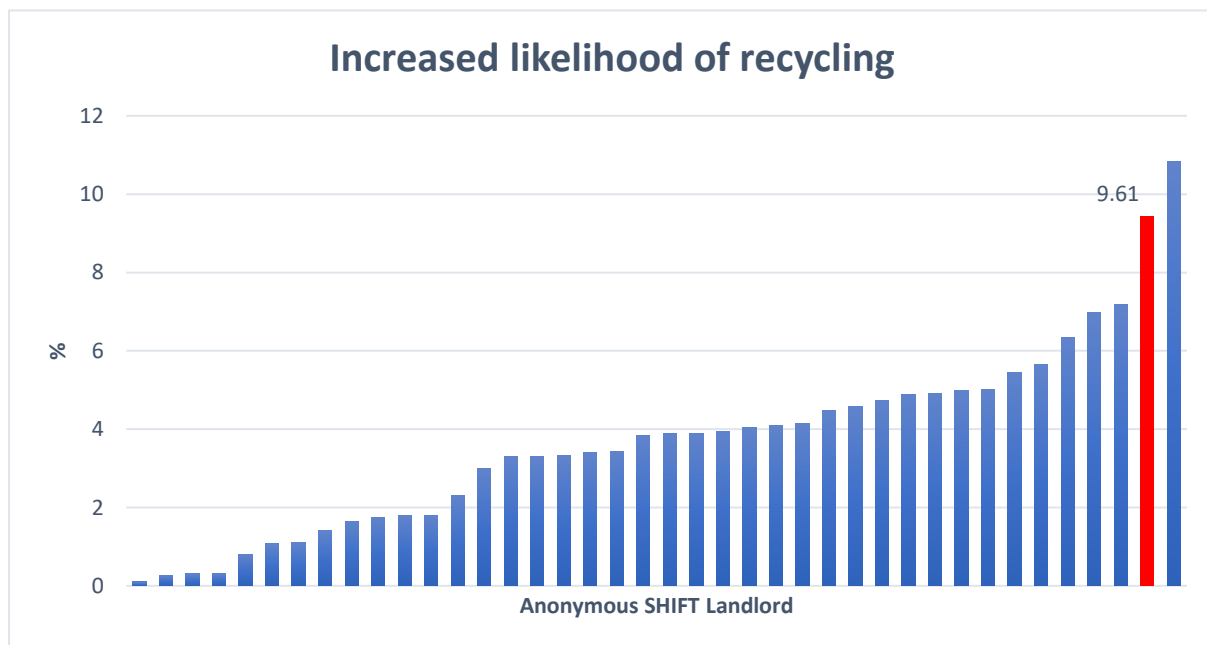
components when plumbing work is undertaken at a home or during a void period for example.

- Continue engaging with your local water supplier as 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.
- Ensure that fittings and appliances offer reduced water consumption beyond normal principles- this may include white goods such as washing machines. Ensure that there is a high energy efficiency rating on these products. The water-efficient product labelling schemes further simplify the task of procurement.
- Ensure effective use of installed water-efficiency information- liaise with installers and residents to ensure this happens. For all installations, you may wish to make providing advice to residents a standard for all work completed on the homes, ensuring there is monitoring of these conversations will help with future SHIFT assessments.

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.

41.4% of Hexagon’s homes are believed to have internal recycle bins fitted using build date assumptions. 100% of residents were passively engaged in domestic or bulky waste advice over the reporting period. A further 14.27% were actively engaged on waste initiatives via Hexagon’s ‘Big Conversation’ survey. These measures encouraged an estimated 9.61% increase in the likelihood of residents diverting waste from landfill.



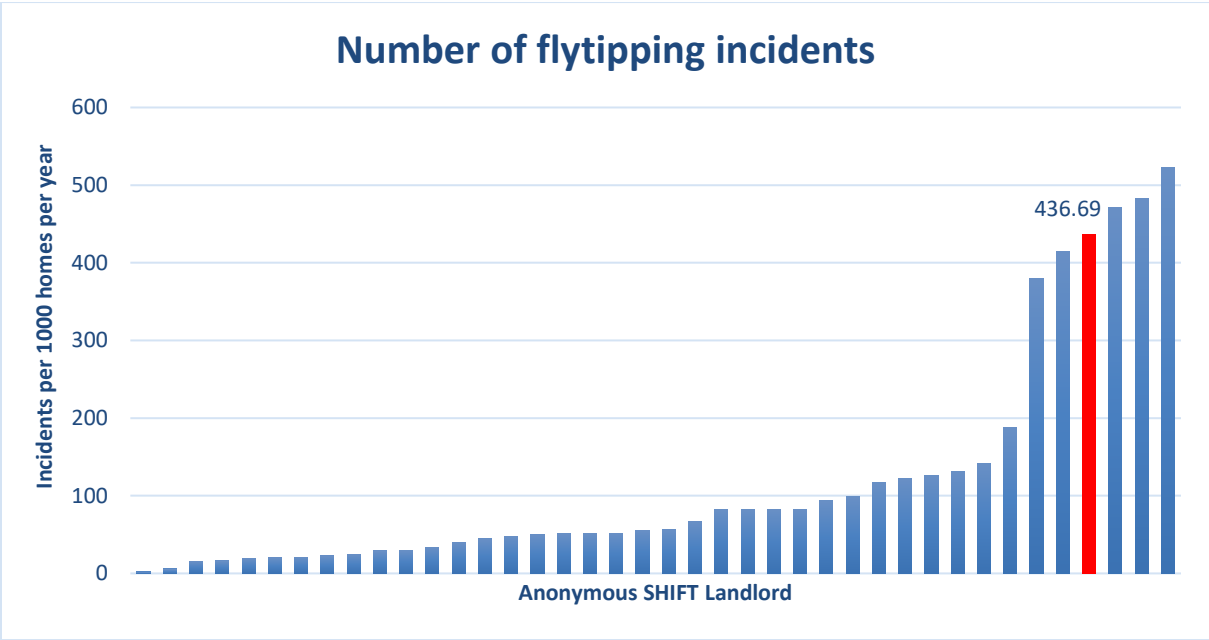
Recommended improvements:

- Consider installing internal recycling bins into kitchen refurbishment works for resident recycling ease.
- Include a new field on asset management databases to show recycling facilities. This will make easier environmental reporting. Ask your SHIFT assessor for a list of UPRNs that we believe may have internal recycling bins.
- Liaise with new builds colleagues and ensure that all homes have internal recycling facilities and ensure this remains a standard in all new builds. Ensure this data is transferred to asset management database.
- Ensure active engagement with residents on waste management. Top performing landlords in this area make regular efforts to engage with resident groups, caretakers, and estate teams to keep track of waste issues throughout your stock. Consider arranging a quarterly estate clean up involving residents and staff.
- Engage with recycling and reuse community schemes. For example, hosting second hand/exchange events for household items. Another example is working with upcycling groups/community projects to fix household items and support a circular economy.
- Make residents aware of the local arrangements for bulky waste collection.
- 'Skip days' where landlords provide free bulky waste collection are a popular way for landlords to reduce fly tipping issues and offer 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. Landlords have reported an increase in the prevalence of fly tipping since the Covid-19 pandemic began, possibly due to the closure of tips and collection services for bulky waste and reduced resident engagement in dealing with bulky waste.

Hexagon record fly-tipping based on number of call outs for which they have been invoiced. Over the reporting period, 1,683 fly tipping incidents were recorded over the 12-month reporting period equating to 436.69 incidents per 1,000 homes. To help reduce fly-tipping, Hexagon have links and telephone numbers of the relevant local authority departments on their website.



Recommended improvements:

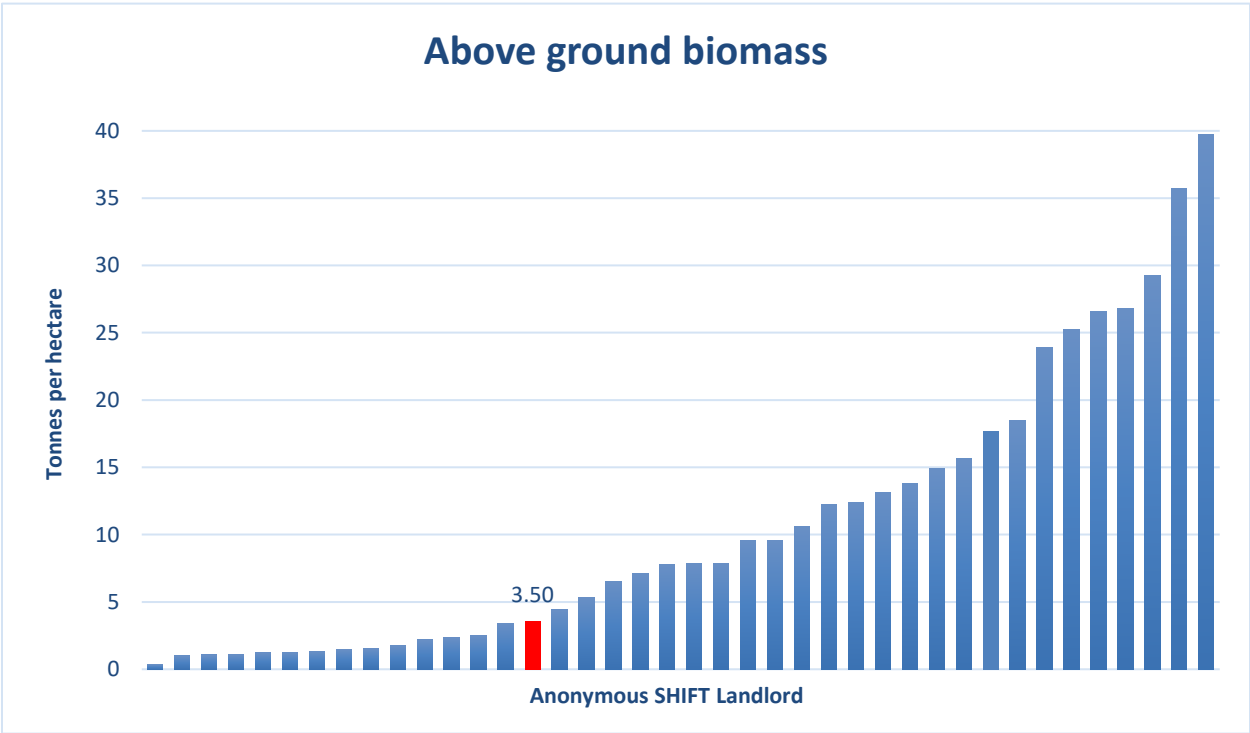
- Make it easy for residents to report fly-tipping.
- Signpost residents to correct ways to deal with waste and contextualise the fly tipping clearing costs through comparison a with number of home improvements that could be completed instead. Providing clear information about new 'green pages' on the website will support this.
- SHIFT landlords have found that leaving notices on fly tipped waste, to show that you are investigating the source, results in local residents coming forward with information.
- Improvements to facilities may include increasing communal bin capacity, install CCTV in fly tipping hotspots, purchasing internal recycle bins for residents etc.

Biodiversity and green spaces

Green spaces and biodiversity can deliver major benefits to our health and wellbeing. These include air quality improvement, flood attenuation and cooling during heatwaves. SHIFT research indicates that there should be 11.9 tonnes of above ground biomass per hectare of landlord land by 2043. This metric aligns with ESG reporting and provides an estimate of above ground biomass per hectare from land coverage data on all land holdings, including gardens as well as communally maintained land. In response to the Environment Bill new biodiversity metrics are emerging, most notably Biodiversity 3.0 for new build and biodiversity offsetting. At SHIFT we are keeping a close eye on this and assessing its applicability to existing homes.

Hexagon’s Stock Improvement Manager provided tree maintenance data that detailed the number of trees that Hexagon are responsible for pollarding. This information was entered into

the SHIFT biodiversity tool, which estimated that there are 3.5 tonnes of above ground biomass per hectare of land owned. Hexagon have already made progress towards biodiversity enhancements across their grounds with a number of community engagement projects and reduced pesticide/herbicide use. As part of Hexagon’s new build project brief, residents are involved with plant schemes and all new homes have additional features to promote biodiversity.



Recommended improvements:

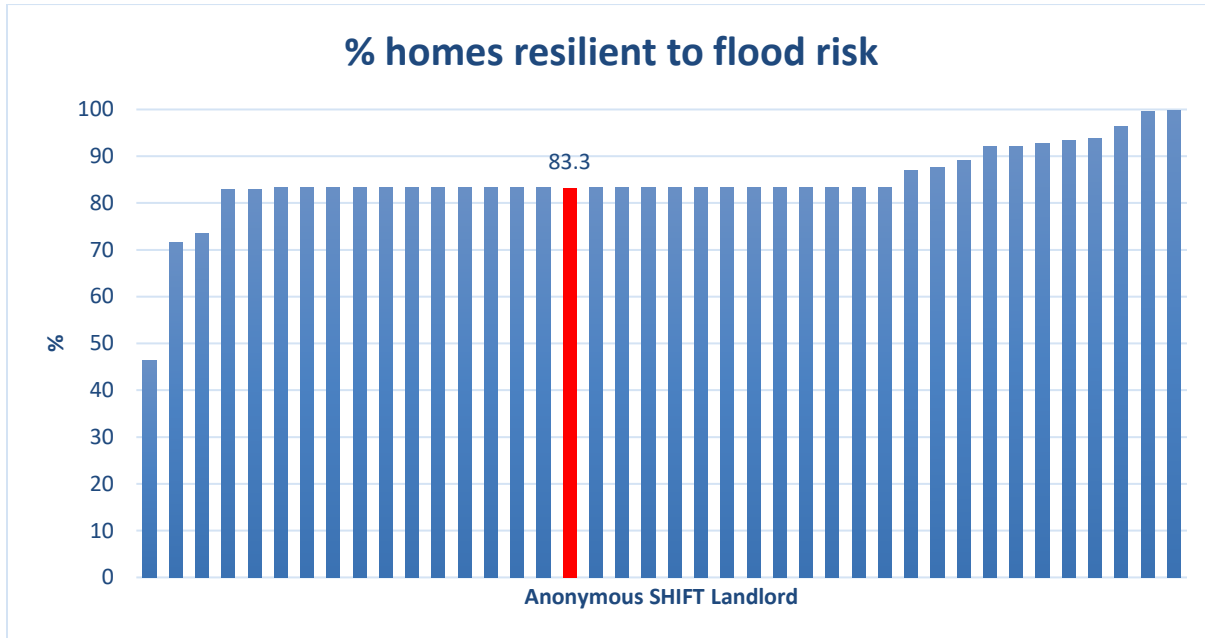
- Consider planting higher density biomass areas in existing green spaces.
- Ensure you know much land you own and the vegetation type. It may be possible to record this on asset management databases to allow easier biodiversity reporting in future. If you do not have this information, contact your SHIFT assessor for some “first pass” estimates of garden sizes and typical vegetation types.
- Consider including in asset management databases the land area and vegetation types for each UPRN. Special consideration will need to be given for blocks of flats.
- Mown areas are common in most communal spaces but require time, money and carbon emissions to maintain. It may be beneficial for you to allow ‘wilder’ gardens and communal spaces that do not require as much maintenance and can improve biodiversity.

- Ensure crown spread data is included when conducting tree surveys. It is also possible that, when conducting these surveys, it be assessed if denser tree planting can occur in these areas.
- Liaise with new build colleagues to ensure that they maximise biodiversity within their schemes. Forthcoming biodiversity ambitions may help with this- the recent Social Housing White Paper makes considerable mention of improving green space provision for example and biodiversity offsetting is being introduced for new build in 2023.
- Above ground biomass can be increased by the addition of green roofs, green walls, and street trees can increase sequestration potential, air quality, water management, and heat regulation. Sustainable Urban Drainage (SuDS) and other biodiversity enhancements are encouraged for new builds. Consider these and additional enhancement potential for supporting broader biodiversity and amenity aims.
- Work with local community groups to enhance biodiversity features across the organisation. Consider whether a biodiversity fund for residents to do wildflower planting could be achieved by partnering with contractors. This will provide good examples for their Corporate Social Responsibility and help you convert more of their underutilised green/grey spaces into high biodiversity areas. Creating community gardens, tree planting and introducing wildflower planters are potential projects.

Homes adapted to risk of flooding

Met Office projections indicate more flood events. 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). The ideal is to have 100% of homes at low risk or adapted to flooding. For SHIFT purposes, we define adapted as homes that are in locations at low risk of flooding or homes that have responsive actions in place to quickly react to a flood event or flood warning. Homes may still flood, but they can be quickly occupied again after a flood event.

Hexagon have provided a flood risk assessment in the past, but this pre-dates 2020 and only covered surface water flooding. It is considered best practice to assess individual property level flood risk which includes the risk of fluvial and surface water flooding. Surface water flooding is especially important to assess in urban areas as it is projected to be the most likely form of flooding in future years. In the absence of up-to-date fluvial and surface water flood risk assessment, using Environment Agency research on flood risk in England which indicates that 1 in 6 properties are at risk of flooding, it is considered 83.33% of homes are at low risk to flooding. All new build properties undergo a flood risk assessment as part of the initial consideration.



Recommended improvements:

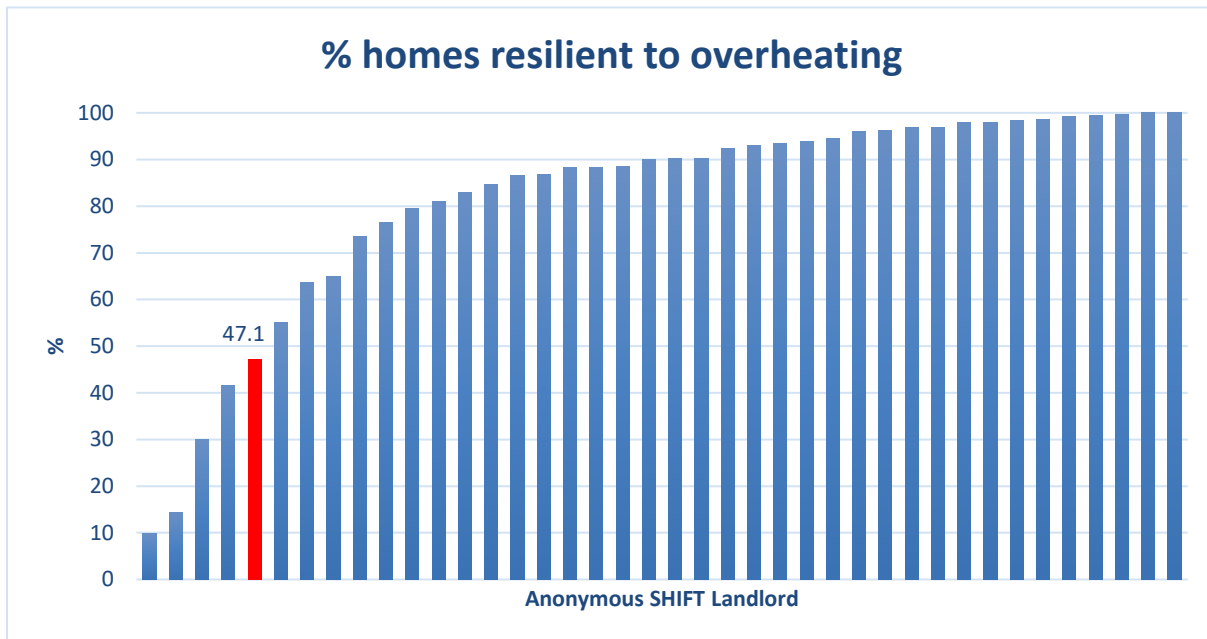
- Ensure future flood risk assessments are assessed annually. Use the Environment Agency’s long term projection maps which are updated regularly.
- Include both fluvial and surface water run-off.
- Include flood risk levels to UPRN level in asset management databases for easier management and reporting.
- For homes in medium or high-risk areas devise a risk management approach so that these homes can be protected and/or upgraded before, during and after a flood event or warning. Ask your SHIFT assessor for our climate resilience assessment methodology which describes such a system and was devised with SHIFT clients.
- 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 undertaken. Transfer this data onto asset management systems.
- Ensure good quality green areas, especially in urban areas, to increase flood attenuation.

Homes adapted to risk of overheating

Met Office data (and recent experience) indicate that heat waves will become more prevalent in coming years. Landlords will need to adapt and manage their stock such that residents are protected from adverse effects. For SHIFT purposes, we define adapted as homes that are either at low risk of overheating or homes that have responsive actions in place to quickly react

to overheating events or overheating warnings. Homes may still overheat, but they can quickly be occupied again after a heat wave event.

Information provided from Hexagon’s asset management database was used in the SHIFT overheating risk assessment tool to estimate that 47.1% 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. The SHIFT overheating risk assessment also uses SHIFT sourced data on risk factors such as the Urban Heat Island effect and population density to estimate overheating risk in Hexagon’s housing stock.



Recommended improvements:

- Ask your SHIFT assessor for a full explanation of the methodology used to calculate overheating risk.
- Ensure any overheating risk assessments cover the risk factors addressed in the SHIFT overheating estimator tool.
- Consider including overheating data in asset management systems. First pass assumptions of risk factors for each address are available from your SHIFT assessor to help you populate your database. In future surveys, you may replace the assumptions with better data. For example, SHIFT assumptions on whether or not a flat is a single aspect or not may require updating.
- Liaise with new build colleagues to ensure that all new homes address all risk factors and have suitable measures to prevent overheating if necessary. Ensure this data is entered into asset management database.

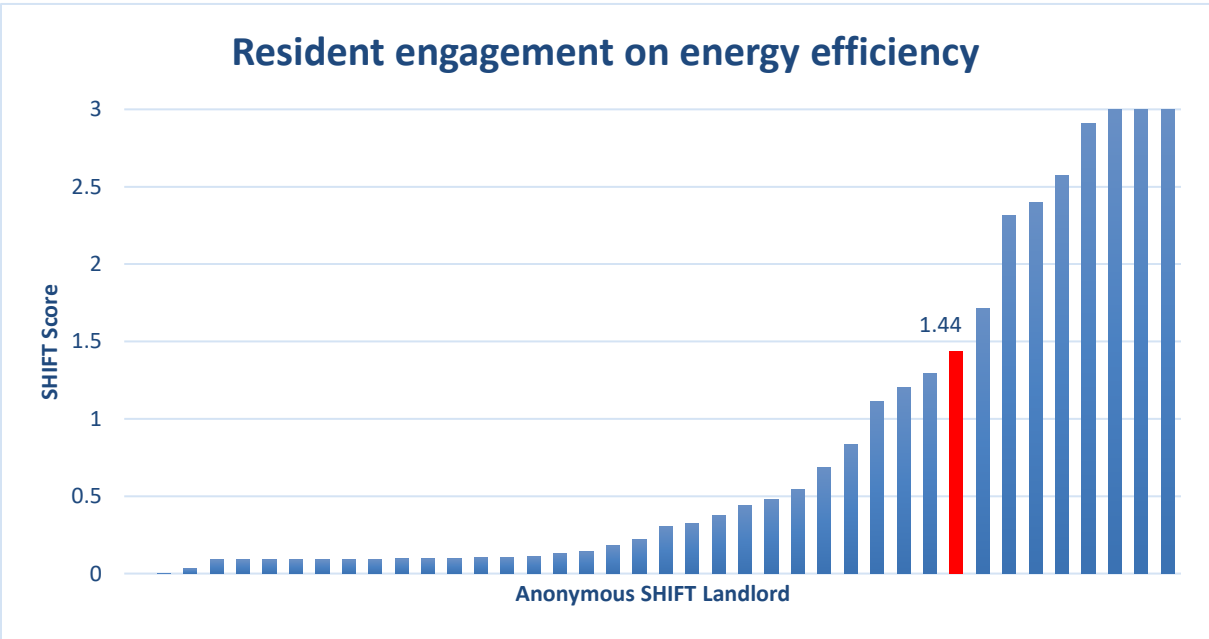
- Incorporating assessments of risk factors, i.e., single aspect, shading facilities, ability to open windows etc, within stock condition surveys will help identify higher risk properties and allow for adaption measures.
- For homes identified at high risk, and have condensation and mould issues, install adequate ventilation measures which will go some way to reducing both risks.
- Ensure good quality green areas to increase shading and reduce the urban heat island effect.
- For homes in medium or high-risk areas, devise a risk management approach so that these homes can be protected and/or upgraded before, during and after a heat wave event or warning. Ask your SHIFT assessor for our climate resilience assessment methodology which describes such a system and was devised with SHIFT clients.

Resident engagement

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. There is an emerging nuance with resident engagement as it is recognised that there will be huge disruption as each home is transformed to net zero. Explaining and demonstrating the benefits of net zero will also be vitally important.

100% of residents have access to energy efficiency advice through Hexagon’s website’s dedicated sustainability section, as well as through resident newsletters and are considered passively engaged. While it is important for residents have access to this information, it is difficult to monitor the effectiveness/interaction of this engagement. It is considered that more active engagement with residents can have the greatest impact. At present, it is considered that 15.75% of Hexagon’s residents had been actively engaged on energy efficiency. This included Hexagon’s excellent ‘Big Conversation’, a door-to-door survey that all staff participated in. With all new tenancy visits, it is a standard to offer advice on energy providers, additional services supporting energy efficiency actions, and helping residents understand their energy uses. These measures resulted in a SHIFT score 1.44 of out of 3 for performance on resident engagement on energy efficiency. This is benchmarked against other SHIFT landlords below.



Recommended improvements:

- Environmental pages or similar on your website will be an easy way to refer residents to top tips and also for staff to refer to. Ways to use heating systems efficiently should be included, especially for newer types of systems. This may also be an ideal space to advise on water saving, waste recycling, adapting to climate change and sustainable transport. The pages will need to be promoted to residents to ensure engagement.
- Include energy advice in all contact with residents – gas safety checks, refurbishments, heating upgrades, rent arrears activities, new sign-ups.
- As part of procurement, you may wish to make providing advice to residents a standard requirement for any contractors carrying out work on the homes, (i.e., gas servicing). This will be particularly important as new retrofit measures be added to the homes. Ensuring that there is a record of these conversations will not only help with future SHIFT assessments, but also ensure that your organisation's expected standards are met.
- Consider developing an active engagement programme. SHIFT landlords have found this the most effective way to influence behaviour. Community engagement teams may host drop-in sessions for staff to discuss energy efficiency in homes and wider sustainability concerns with residents.
- Encourage all staff members to receive carbon literacy and sustainability training. It is hoped that they will then be able to provide sufficient advice to residents when completing other key tasks. For example, if home inspections are conducted, staff can advise residents on energy efficiency improvements in their homes.
- When an energy efficiency visit occurs, attempt to undertake small works such as installing radiator reflectors, hot water saving devices and draught proofing.
- When a new heating system is installed, you 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 you could introduce an option where tenants with new heating systems can report energy use within the first 12 months of usage to you. If bills seem significantly higher than expected this could trigger a request to visit and discuss heating use.

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. Welsh landlords have done considerable research on this due to their unique funding system. They find that the uplift to build to EPC A is far cheaper than the costs to upgrade the same home to net zero at a later stage. 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, above ground biomass, flood risk, overheating risk, recycling support, use 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. Ask you SHIFT assessor for effective ways on carrying out “Post-Occupancy Evaluation”.

Figures provided for this assessment by Hexagon’s Head of Development and New Business indicated that at their Pond House development, 0% of homes achieved an EPC A (SAP 92+), 100% a high EPC B (SAP 86-91), 0% of homes were rated as a low EPC B (SAP 81 – 85) rating, and 0% as an EPC C (SAP 69-80). It is highly recommended that Hexagon builds more homes to an EPC Grade A (SAP 92+ minimum). Hexagon recognise that this will help bring up its average energy efficiency closer to environmentally safe levels and reduce the level of investment needed in its existing stock in order to achieve the net-zero 2050 target.

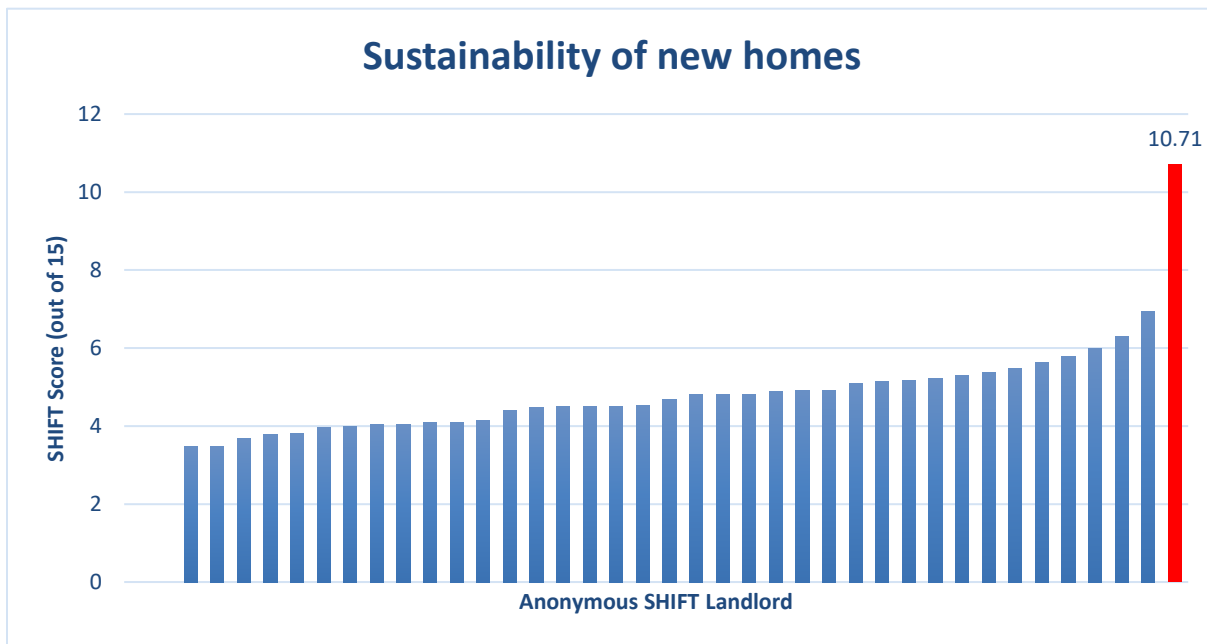
Data was also collected for additional sustainability measures for all new homes. The percentage of homes with each sustainability feature is:

- Internal recycling bins: 100%
- Low risk of flooding: 100%
- Low risk of overheating: 100%
- Sufficient biomass/biodiversity: 100%
- Cycle storage: 100%
- Responsibly sourced materials: 100%

Hexagon were not able to provide detail regarding the embodied carbon of their new build homes, therefore the SHIFT default of 35,196 kg CO₂e per home has been applied to estimate a total of 703.92 tonnes CO₂e for the 20 homes built.

Hexagon provided a detailed post-occupancy heating system/energy efficiency verification report by Falcon Energy of their new builds to determine whether the above sustainability features have been installed as expected by the developers.

Using the SHIFT calculator for new build and the data above, the sustainability score for Hexagon’s new build homes was 10.71 out of 15.



- 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.
- We have found that landlords are having more success with smaller and medium sized builders when preparing for the future. These builders are keen to explore readiness for forthcoming building standards.
- Very few schemes have verifiable responsible sourcing information available so 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. SHIFT has developed an environmental survey that can be used for this purpose – please ask your SHIFT assessor for the “Supply chain environmental survey”.
- Consider excluding gas boilers from new homes now, well in advance of Future Homes Standard.

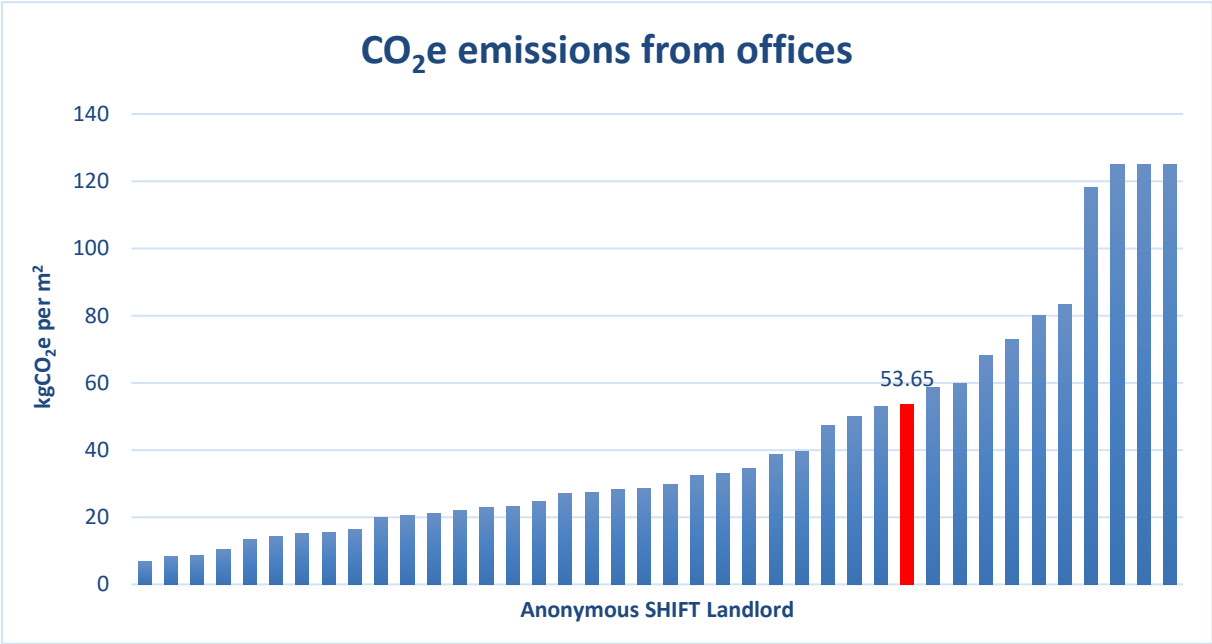
Offices & Operations

Although offices and operations 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.

Energy usage

The ultimate target is net zero emissions by 2050 through low energy demand buildings and a decarbonised grid. The Government states a target of rented, non-domestic properties to be EPC B by 2030. Similar to homes, office buildings are expected to have non-fossil fuel heating systems.

Hexagon documented the energy use at their head office, 130 – 136 Sydenham Road. The office was documented as using 401,036 kWh of energy (a reduction of 31,593 kWh or 7.3%) from the previous reporting period). In total, 79.14 tonnes CO₂e were emitted in the assessment period which equates to 53.65 kg CO₂e per m² of office space. The office has 2 EV charging stations and cycle storage lockers and racks. All lighting in the office is low energy LED, with the small exception of soft lighting in two areas.



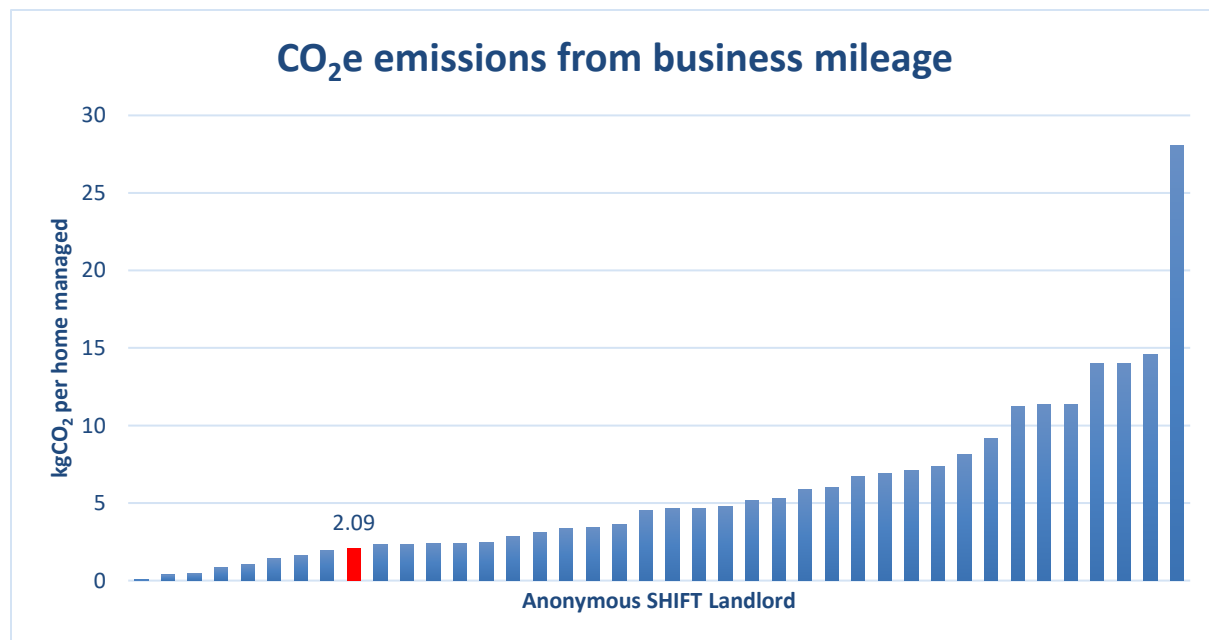
Recommended improvements:

- Investigate the metering of the energy used by the EV chargers. If the energy consumed by the EV chargers is on the same office meter, this energy (and the associated emissions) should be recategorized as business mileage.
- Depending on the uptake of home working, consider restructuring office space in the future. A new hybrid working environment is likely to show a reduction in energy demand at the Head Office but a consideration for home working emissions (Scope 3) should be made.
- Encourage staff to carry out good housekeeping such as turning off lights and computers. It is important that energy demand is reduced to accompany the renewable energy provision.
- Smart systems are a possibility in office spaces monitoring and providing usage of appropriate lighting and heating in certain areas.

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).

Business mileage data was collected by Hexagon’s HR and Facilities Officer for the 22/23 financial year. This included petrol, diesel, and hybrid vehicle mileage from employee-owned vehicles, as well as train, uber and bus travel. Appropriate Defra carbon conversion factors were used to calculate that 8.05 tonnes CO₂e or 2.09 kg CO₂e per home managed was emitted through business travel. Hexagon regularly offer all staff the opportunity to access the benefits of cycle to work and EV salary sacrifice schemes.

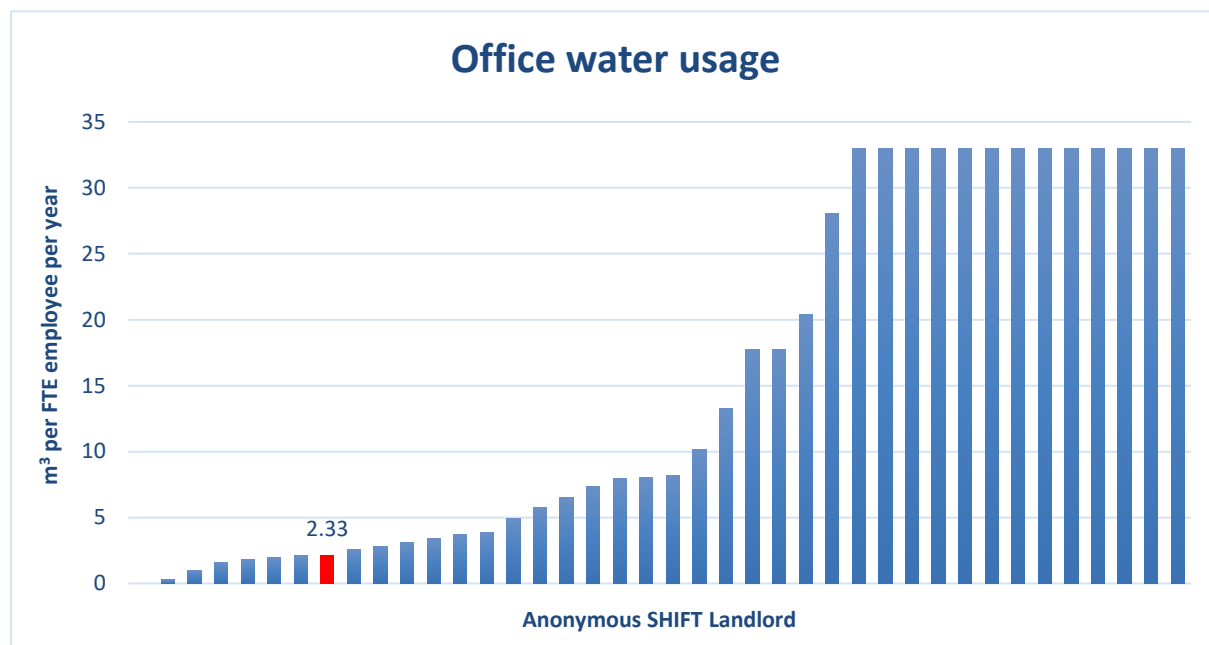


Recommended improvements:

- Document the split of diesel, petrol or any hybrid/electric vehicle use so the appropriate conversion factor can be used for calculating carbon emissions.
- Consider different budget codes for petrol/diesel/hybrid. Review this regularly to ensure that only essential journeys are taking place. This may also emphasise the emissions implications of each form transport.
- Setting mileage targets for teams and individual drivers, not to prevent staff from doing their jobs, but to help them work in a cost-effective and environmentally aware way.
- Consider if electric pool cars are viable. They could be stored and charged at the Head Office if charging infrastructure is installed. This may reduce fuel costs and discourage the use of personal vehicles for business travel.

Water

Water figures have been taken from Hexagon's SPID water report. Water use was reported as 244 m³ at the Head Office. This equates to 2.33 m³ per employee.



Recommended improvements:

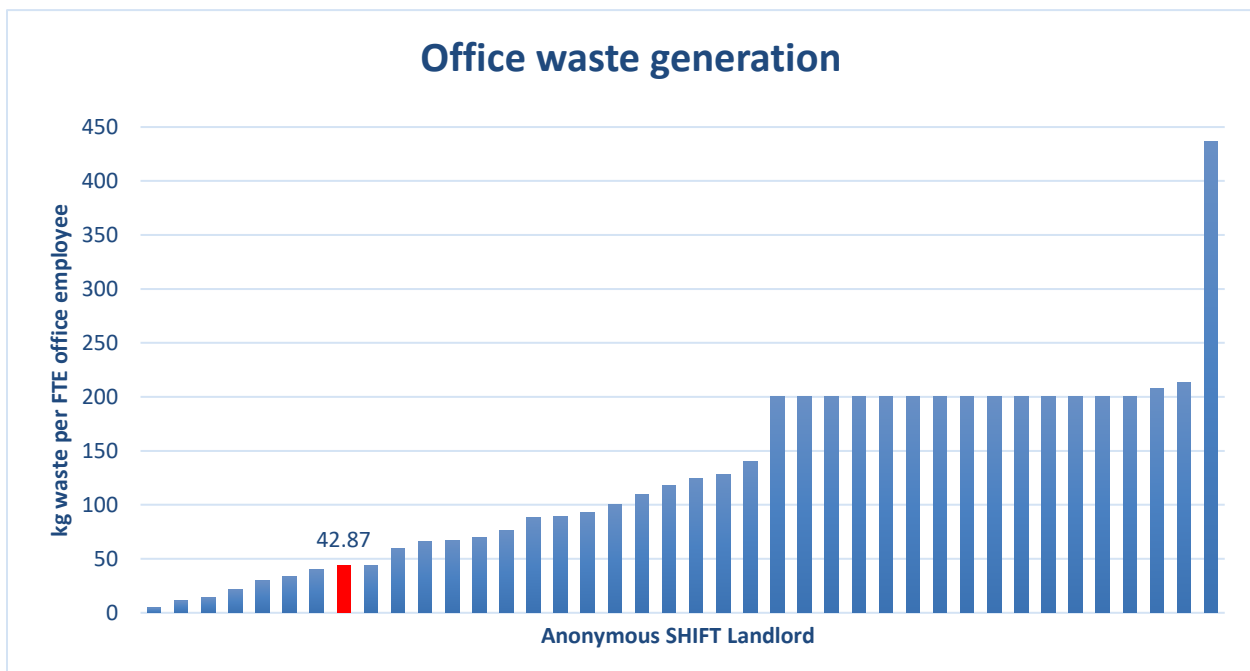
- Consider setting up a quarterly utility reporting system for your offices to keep a consistent track of data. This will also help identify leaks at an early stage.
- Carry out a water audit as this could identify further environmental and cost savings.
- Engage staff on water efficiency initiatives and water saving measures. Incorporating these into water savings policies and procedures i.e., ensuring the dishwasher is full before turning it on.

- Incorporate a ‘water champion’ to regularly check meters and monitor water use into an organisational role.

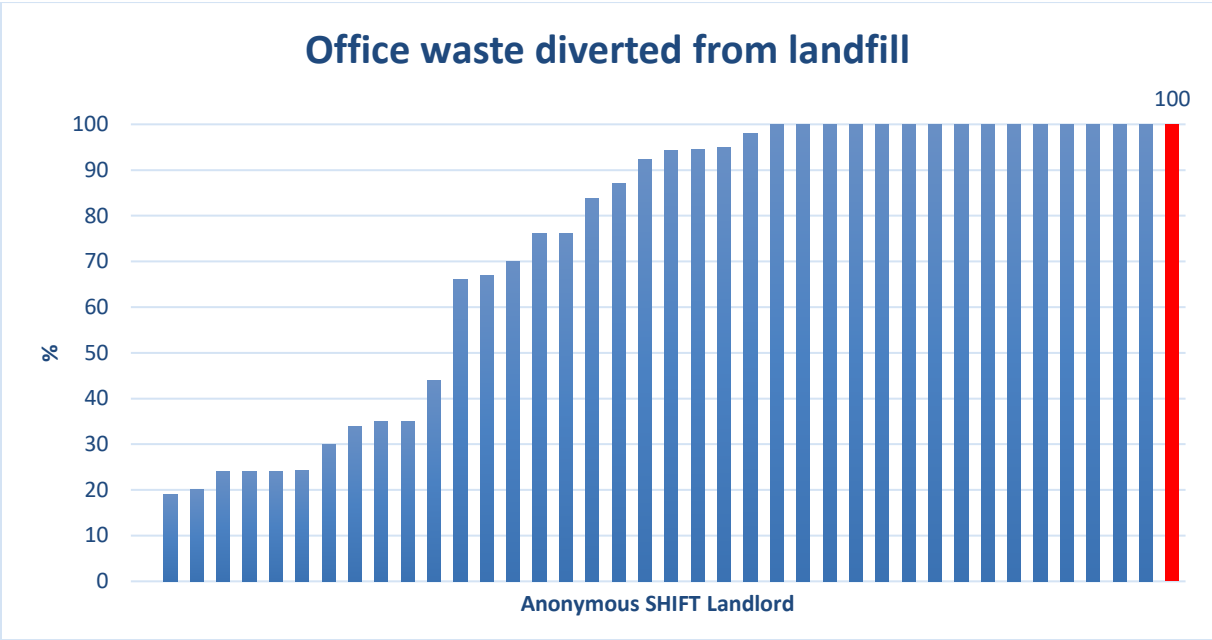
Waste

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

No official waste report was available for Hexagon’s office. The information available was that there is one 770 litre general waste and one 1280 litre recycling bin emptied weekly. It was estimated that the general waste bin is, on average 75% full and the recycle bin 90% full each week. Using SHIFT methodology, this equates to 4,496.7 kgs waste annually. This works out as approximately 42.87 kgs per employee. During the SHIFT office visit, several indoor recycle bins were noticeable, for food, paper and ink cartridges. All printers at Hexagon’s office are set to double sided printing as default and the organisation use a “follow me printing” which minimises the number of documents printed.



Hexagon provided a comprehensive breakdown of their waste recycling. All food waste is collected by The First Mile and taken to a UK based Anaerobic Digestion Facility, paper waste is shredded and sent for recycling. All other waste is collected by Lewisham Council, the recycling is taken to a materials recovery facility and the general waste to an energy recovery facility. Hexagon has a 100% diversion of waste from landfill.



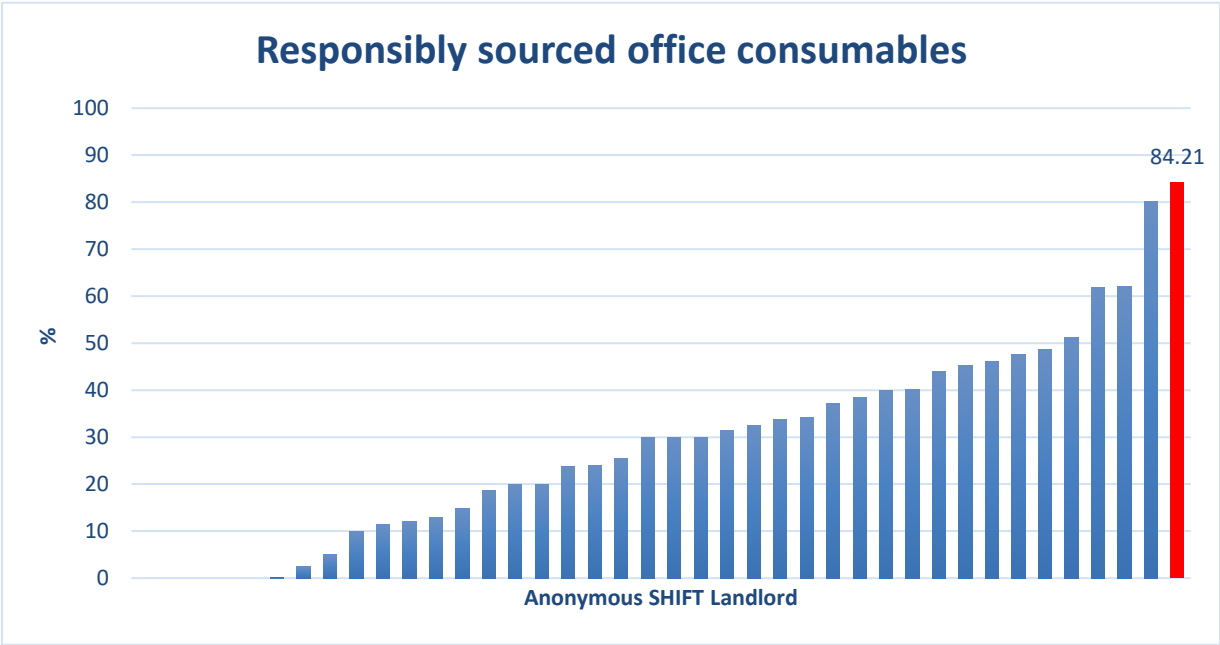
Recommended improvements:

- Your waste contractors should provide a breakdown of waste flows (landfill, recycling) as a minimum requirement.
- Develop your own waste monitoring system to begin developing waste reduction targets across various teams.
- Some office waste is likely to be related to employee lunch and office food and drink facilities. Providing team members with reusable cups and lunch boxes may limit single use items and reduce the amount of waste in the office. Encouraging staff to bring their own lunches rather than single use packaged products may assist in reducing waste. This is also an opportunity to improve staff wellbeing.
- Provide clearly labelled/information on bins to encourage the correct recycling, making it easy for staff members and visitors.

Office consumables

Hexagon’s HR and Facilities Officer provided an office consumables eco/green report from their supplier, Office Depot. SHIFT assessed this report and concluded that 84.21% of office consumables are responsibly sourced. Hexagon also purchase office consumables from Amazon. Although no report was provided for this spending, Hexagon have a procurement policy in place that stipulates that items must be selected by filtering for ‘items with sustainability certifications. Evidence was submitted that backed up this policy. It was also noted during the SHIFT office visit that teabags were biodegradable and rainforest alliance certified, fruit tea certified by the Soil Association and coffee was fairtrade accredited. All paper is FSC certified and carries the Euro Ecolabel. Developing a system at Hexagon to document all

green spending for office consumables or requesting that all products from suppliers are clearly labelled as 'green' will not only save time for future SHIFT assessments, but also allow for easy selection and targeting an increase of future sustainable product procurement. No information was available for janitorial or other products.



Recommended improvements:

- Certain suppliers are committed to providing easily identifiable green alternatives through clear labelling when ordering products. They can also provide a breakdown of spend for green/eco-label purchased products compared to those that are not. Increasing the use of these products over the next few years should be incorporated into your strategy. You can also request this from their current provider or consider a switch of suppliers if it is financially suitable.

Offices adapted to flooding and overheating risk

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.

Hexagon analysed the Environment Agency’s Flood Risk maps and identified that their office at Sydenham Road is at partial risk to surface water flooding. The building is located in flood zone 1 - low probability (Environment Agency Flood map for planning) but is in an area identified as at risk from surface flooding on the Environment Agency’s long term flood risk maps.

Hexagon provided a copy of their overheating risk assessment. This documented that the office is low risk to overheating. It was observed during the SHIFT office visit that the office space has

adequate ventilation, a brise soleil, adjustable window blinds that filter out the sun and an air-cooling system that can be adjusted by HR AND Facilities Team as and when necessary. All 5 of the kitchen areas within the office have plumed in water chillers and glasses are provided to encourage staff to remain hydrated throughout the working day, this also reduces the need for staff to buy plastic bottled water. All staff at Hexagon work under hybrid procedures and can work flexibly.

Recommended improvements:

- Consider if additional passive measures for mitigating overheating risk could be included (i.e., the addition of Brise soleil, additional film glazing on windows).
- Additional shading is also possible through urban greening. Street trees are known to contribute to a reduction in air temperatures. Consider the possibility of intensifying tree planting around the office space.
- If air conditioning is installed ensure it is the most efficient available, low-emission and that it is well maintained.
- Hexagon should continue to monitor Environment Agency flood maps and install adequate protection, if necessary, 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. When assessing strategies for likely effectivity we look 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.

Hexagon have scored 10.83 out of 15 for an effective strategy. Hexagon's Sustainability targets and objectives are covered in three documents – Environmental Sustainability Strategy 2022–2026, Corporate Plan 2023-2028 and the Asset Management Strategy 2021-2025. There is clear organisational commitment from the board, the Chair of the Board and ownership of two of the documents by Hexagon's Property Services Director. Hexagon have set clear SMART targets for energy efficiency (all homes EPC C by 2030 and all new homes minimum EPC B) which is outlined in all three strategies. Hexagon also have a detailed net zero roadmap and planning tool to ensure this target is met.

Hexagon recognise the importance of resident engagement in their sustainability strategy. Hexagon have made residents thoughts central in the planning and implementation of retrofit works. Hexagon will continue to work with residents to help them reduce their energy bills. The strategy also aims to increase waste recycling through resident engagement, alongside other initiatives to improve the environmental of an area.

Hexagon's Corporate plan (2020-2023) outlines targets to achieve full SHIFT points for office waste generation and diversion from landfill, and use of responsibly sourced office consumables. However, it is encouraged that Hexagon also develop sustainable materials and waste SMART targets for their housing stock as well as offices.

No SMART targets were identified regarding adaptation to climate change (flood and overheating risk). The Environmental Sustainability Strategy outlines how Hexagon will adhere to ventilation regulations in their new build homes. However, as a London based landlord, it is strongly recommended that SMART targets are developed to address overheating and flood risk in their existing stock, as these issues will disproportionately affect urban areas. Developing SMART targets will help measure progress in these areas. No SMART targets are outlined in current strategies for biodiversity, fly tipping or water efficiency in Hexagon's existing stock, although these are areas that Hexagon are working to improve.



Recommended improvements:

- Consider pulling all the environmental and sustainability elements contained within the Environmental and Sustainability Strategy, the Asset management Strategy, the Corporate Plan and Hexagon’s website into one document.
- Continue to monitor the progress of existing actions within the strategy. Use the findings from this SHIFT assessment to establish new measurable long-term and interim targets. Interim targets may assist with keeping progress on track.
- Clear communication of targets across the organisation to staff and residents, accompanied by educational support, will ensure that people understand the importance of these strategies and the clear commitment to meeting net zero targets. It is hoped that those who understand the importance of these environmental targets will be more willing to contribute and make changes towards their attainment.
- In the existing homes section, we have made several recommendations for including sustainability data on asset management databases. This data will significantly improve regular sustainability reporting.
- Consider quarterly scorecard style reporting of environmental metrics to Senior Management Teams. By adapting the advice given in earlier sections to include data in asset management systems, this may become an easier task.
- Further advice on developing an environmental strategy can be found by downloading “Developing an environmental strategy for social landlords” from here: <https://shiftenvironment.co.uk/publications/>

- When we develop corporate environmental strategies for clients, we tend to split the strategy into directorate areas and then actions relevant for all environmental areas are listed. We also make reference to the overall corporate strategy.

DLO & 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 uses more efficient transport, they save costs which could be passed on to you. We have also noticed that more clients are saying that ESG investors are asking about supply chain emissions. Our calculations so far indicate that supply chain emissions are a significant proportion of a landlord's overall carbon footprint.

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 CO₂e emissions per home between organisations that do their own maintenance, with organisations that subcontract out all maintenance.

Maintenance CO₂e emissions

In-house and subcontracted maintenance teams emit CO₂e 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 their figures for organisational emissions. Where a landlord has its own maintenance fleet, these figures are included too. This metric indicates the total CO₂e emitted due to maintenance activities.

Hexagon do not operate their own DLO. Repairs and maintenance are carried out by external contractors and suppliers. Fuel usage data was obtained from painting and decorating contractor Bell group (5% of repairs and maintenance budget), which totalled 24.23 tonnes CO₂e and Coyseal, windows and doors suppliers/fitters (10% of repairs and maintenance budget), who reported 51.65 tonnes of scope 1 emissions attributable to Hexagon. In addition to this, Gilmarten's provided their fully audited ISO 9001, 14001, 45001, unfortunately this contained no carbon data.

When the reported emissions from Coyseal and Bell Group are scaled up to represent 100% of repairs and maintenance activities, this equates to 559.83 tonnes CO₂e or 145.26 kg CO₂e per home managed.

In previous assessments this intensity ratio has been calculated for the CO₂e emissions provided. However, this intensity ratio aims to provide an indication of the energy consumption

for 100% of the repairs and maintenance budget. Due to this change in methodology, intensity ratios from previous SHIFT assessments are not available to provide comparison graphs for SHIFT 2023.

As part of SHIFT 2023 embodied carbon figures for repairs and maintenance are being included. The aim is to encourage landlords to request this information from external suppliers and gain detailed waste reports for their in-house maintenance to facilitate these calculations. It is expected that most external suppliers will not be able to provide embodied carbon figures at this stage. However, landlords should demonstrate demand for this data and request this information as early as possible.

Coyseal and Bell reported their embodied carbon attributable to Hexagon. SHIFT extrapolated this data to be representative of 100% of Hexagon's supply chain by calculating the weighted average. For future assessments, where contractors who can't provide embodied carbon data, request a detailed waste report data to allow embodied carbon to be calculated, these reports lists the weight of each material disposed of. The SHIFT assumption is that any material disposed of by the repairs and maintenance teams is replaced by like materials, therefore the embodied carbon can be calculated based on this. The aim is to gain greater accuracy when reporting by capturing as much of the supply chain as possible. Total embodied carbon for Hexagon's supply chain has been calculated to be 271.95 tonnes CO₂e (15% of supply chain), when scaled up to represent 100% of the supply chain the embodied carbon is estimated to be 1,813 tonnes CO₂e.

Recommended improvements:

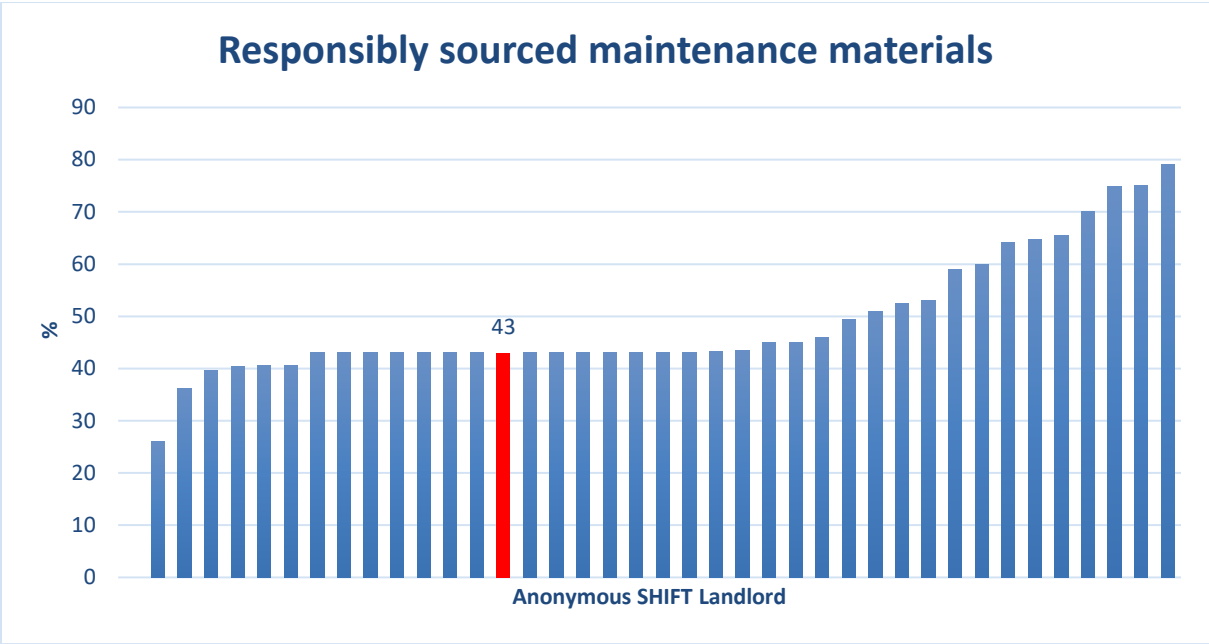
- CO₂ emissions for DLO's should be considered standard now.
- We recommend putting the onus of environmental reporting onto the supply chain in a proportional manner. It is likely they are already being pressured to improve environmental performance and, by adding to that pressure, landlords can encourage the supply chain to improve.
- To encourage engagement, we recommend including a clause in procurement contracts to the effect that suppliers must answer the annual environmental survey. At SHIFT we believe it is currently far too early to start imposing CO₂ targets on the supply chain, but with better data, this may become a reality in the near future.
- We recommend identifying your top suppliers via a Pareto analysis or similar. Include responsive repairs, planned maintenance and any other refurbishment suppliers. Then surveying them for scope 1 and 2 emissions plus embodied carbon of materials they have used in maintaining your homes. It may take some time for the supply chain to respond, but, at the time of writing, there are ~60 SHIFT landlords asking the supply chain for this information and there is evidence that this pressure is beginning to work.

- Additionally, some SHIFT landlords have found that benchmarking contractors' carbon emissions per £1,000 contract value can be a good way of identifying anomalies – where a contractor's CO₂e per £1,000 spend is much lower or higher than the average, you can seek that their calculations are verified.
- Explain to your contractors the importance of carbon emission reductions and identify if they are partaking in SECR (Streamlined Energy and Carbon Reporting). This should ensure that you receive whole business carbon emission data.
- For your own fleet, vehicle tracking, benchmarking between drivers and fuel-efficient driving training have been shown to reduce emissions.
- Some landlords are experimenting with small electric vans. Currently, these seem suitable for densely populated areas where range isn't an issue. Trial the experience of drivers with various journey times and different frequencies of travel during the day. This will ensure you gather knowledge on the successes and challenges. To note, some landlords have experienced difficulties when emergency call outs are required, and drivers were restricted by EV use.
- 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.

Hexagon engaged with Gilmartin's who provided their fully audited ISO 9001, 14001 and 45001 report. This report details Gilmartin's policy around safe working practices, security and approved suppliers. However, it doesn't provide information of responsible sourcing of materials or accreditation schemes. Bell reported that 100% of their sourcing is responsible, and Coyseal, who reported that their windows are made from 100% recycled materials. Neither supplier were able to provide evidence to support these claims, and therefore the SHIFT default (43% of materials responsibly sourced) was applied to this section. This percentage will likely increase with future SHIFT assessments as this is a recent request for Hexagon's suppliers. Minimum requirements for suppliers to ensure a responsible supply chain have been developed and suppliers can achieve a Bronze to Gold. The development of this service will be beneficial to a whole sector improvement.



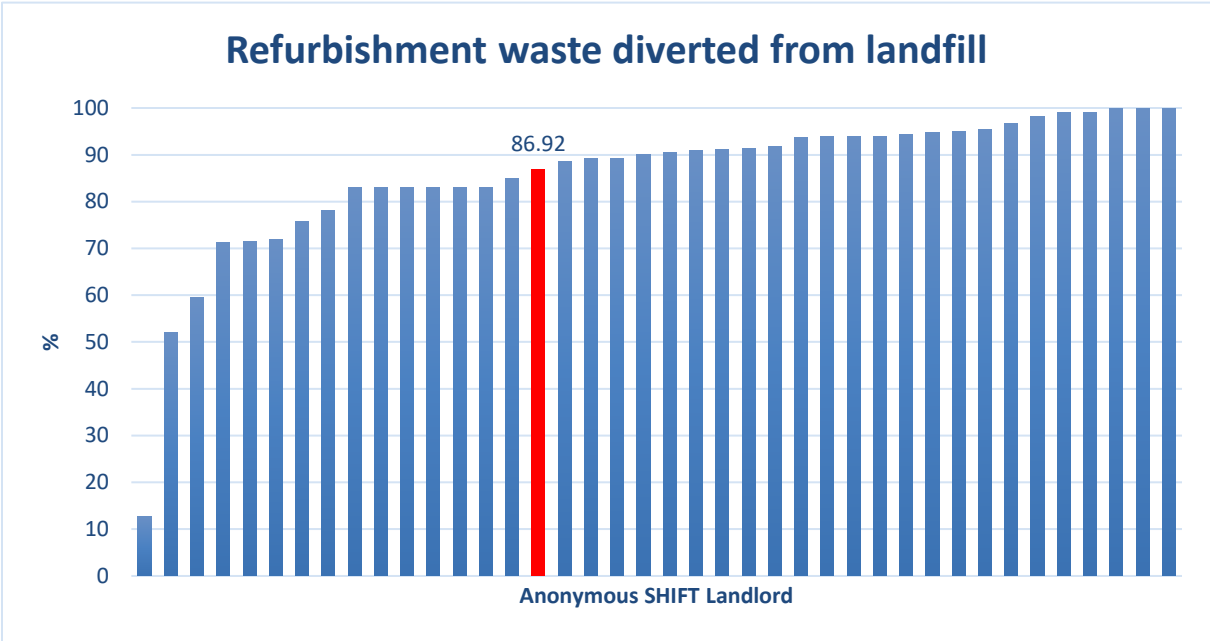
Recommended improvements:

- To gain further detail from all suppliers, it may be useful to host supply chain ‘engagement’ days focussing on sustainability – they provide a great opportunity to clearly explain the environmental data required for SHIFT and your own monitoring strategy. Establishing a point of contact within each supplier/contractor for sourcing this data will save you time and frustration during the data collection process.
- Consider making it a requirement within contracts for suppliers to devise their own responsible materials scoring methodologies. At SHIFT we are exploring a metric along the lines of “the degree to which BES6001 is met”. BES6001 is a catch all standard that deals with both environmental and social aspects of the supply chain. Note, we will not require formal accreditation on this, but each supplier should demonstrate how they believe they are achieving this, even if it is on a voluntary basis. Examples of verification include monitoring visits to suppliers to ensure they are operating responsibly.

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. Knowing the total amount of waste generated is proving useful for embodied carbon calculations, especially where the quantity of new materials used is unknown, which is often the case. Our thought process is that if a tonne of waste is generated, e.g. from a roof replacement, then approximately a tonne of new materials is used, e.g. in the replacement of that roof. From this data we can begin to approximate embodied CO₂ of materials used in maintenance.

A detailed waste report was provided by Gilmartin's. This indicated that 94.71 of their waste is diverted (whole business, not solely Hexagon's waste). Coyseal reported waste diverted as 90% and Bell 96.7%. Together, this data accounted for 35% of Hexagon's maintenance and refurbishment waste generated. The SHIFT default (83.3) was applied to the remaining 65%, and the weighted average calculated to give the overall rate of 86.92% waste diverted from landfill.



Recommended improvements:

- Require subcontracted maintenance firms to report their recycling rates to you and provide supporting evidence in the form of waste reports. Eventually these will improve once the supplier sees the importance of recording high recycle rates to your organisation. Organising more frequent reporting will embed this much more quickly in these organisations.
- Consider implementing subcontractor KPIs for this impact aiming for 100% diverted from landfill by 2050.

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 and compliance e.g., ESG, ESOS and SECR reporting

Please be in touch for a free consultation on any of the above. Contact Richard on 07718 647117 or richard@SHIFTenvironment.co.uk

SHIFT is run and managed by Suss Housing Ltd

www.SHIFTenvironment.co.uk

The Exchange, Brick Row, Stroud, GL5 1DF
www.SHIFTenvironment.co.uk 07718 647117 info@SHIFTenvironment.co.uk