



Network Homes

SHIFT Sustainability Report

2021



The SHIFT brand is owned by:



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.

A lot has happened in the sector since SHIFT 2020 and it is all looking positive.

- Banks now requiring environmental performance metrics for loans
- 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

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

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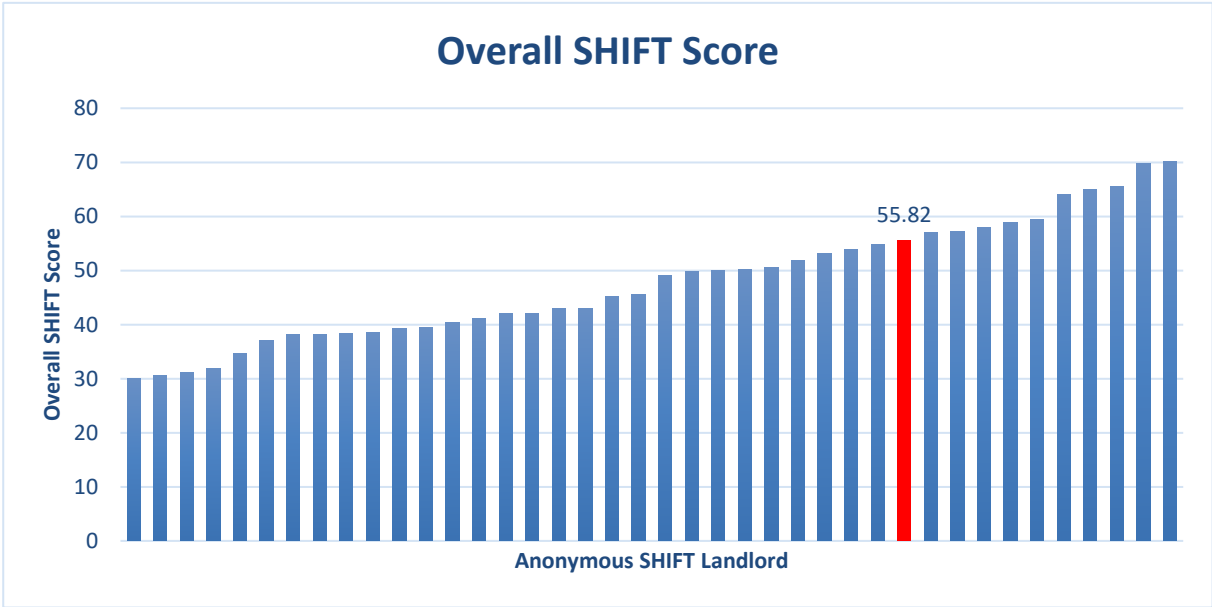
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Executive summary

This report presents the sustainability performance of Network Homes from 1st April 2020 – 31st March 2021 (unless otherwise stated) 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.

Network Homes are one of the largest affordable housing providers in London providing over 20,000 homes across London, Hertfordshire and the South East. The results of this assessment will show, as best as the data allows, the gaps between Networks current environmental performance and environmentally safe levels of impact.

Network has achieved the SHIFT Silver standard with a score of 55.82. It ranks 11th out of the 40 most recent SHIFT assessments. Although now only 1.18 points away from the threshold to SHIFT Gold, Network’s overall performance has improved by over 21 points from SHIFT 2020 to SHIFT 2021 with performance improvements across all areas of the assessment, especially in the Strategy and Management section. This shows that implementation of the SHIFT 2020 recommendations has been taken on board and resulted in good changes within the organisation. 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.

Overall performance

Environmental issue	Absolute ¹	Intensity ²	Intensity target for SHIFT platinum 2021 ³	Long term intensity target (by 2050 unless otherwise stated)
CO ₂ – individually heated homes, regulated emissions (scope 3)	40,989 tonnes CO ₂	SAP 72	SAP 73.33 ✖	SAP 85
CO ₂ – communal heating systems – metered data (scope 1)	1,785 tonnes CO ₂	4,010 kWh / home managed	5,430 kWh yr / home managed ✔	3,500 kWh yr / home managed
CO ₂ – communal areas (Scope 2 for electricity, scope 1 for gas)	n/a tonnes CO ₂	n/a kgCO ₂ / home managed	565 kgCO ₂ / home managed ✖	0 kgCO ₂ / home managed
CO ₂ – offices (gas, scope 1, electricity, scope 2)	152.3 tonnes CO ₂	24.12 kg/m ²	55.9 kg/m ² ✔	0 kgCO ₂ / home managed
CO ₂ – business mileage (scope 3)	217.4 tonnes CO ₂	14 kg CO ₂ / per home managed	9.85 kg CO ₂ / per home managed ✖	0 kgCO ₂ / home managed
CO ₂ – maintenance activities (DLO scope 1 for fuels used, scope 3 for supply chain)	681.2 tonnes CO ₂	42.88 kg CO ₂ / per home managed	35.19 kg CO ₂ / per home managed ✖	0 kgCO ₂ / home managed
Water – homes	1.9 million m ³	143.6 lpd	140.8 lpd ✖	130 lpd by 2030
Water – offices	1,332 m ³	2.74 m ³ /employee/yr	8.43 m ³ / employee/yr ✔	3m ³ /employee/yr by 2030
Waste generated – homes	7,315 tonnes	5.5% increase in resident recycling above current local authority rates	5.99% increase in resident recycling above current local authority rates ✖	45% increase in recycling above current local authority rates
Waste generated – offices	19.5 tonnes	100% of waste diverted from landfill	71.03% waste diverted from landfill ✔	100% diverted from landfill
Responsible materials – maintenance & capital works	66.2%	66.2%	45.82% responsibly sourced ✔	100% responsibly sourced

Responsible materials - offices	28%	28%	57.90% responsibly sourced ✘	100% responsibly sourced
Adaptation to climate change – homes protected from flooding	8,695 homes	56% of homes protected from flooding	83.33% protected from flooding ✘	100% protected from flooding
Adaptation to climate change – homes protected from overheating	12,421 homes	80% of homes protected from overheating	78% protected from overheating ✓	100% protected from overheating
Biodiversity value	113.4 tonnes biomass above ground	1.76 tonnes biomass per hectare	10.3 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.

Unofficial carbon offsets ¹	Absolute CO₂ saved	Intensity
Estimated CO ₂ savings from energy efficiency engagement with residents	27.9 tonnes CO ₂	1.80 kgCO ₂ / home managed
Estimated CO ₂ savings from sustainable transport interventions	12.7 tonnes CO ₂	0.82 kgCO ₂ / home managed

1. These figures are provided for information only and should not be taken as official offset.

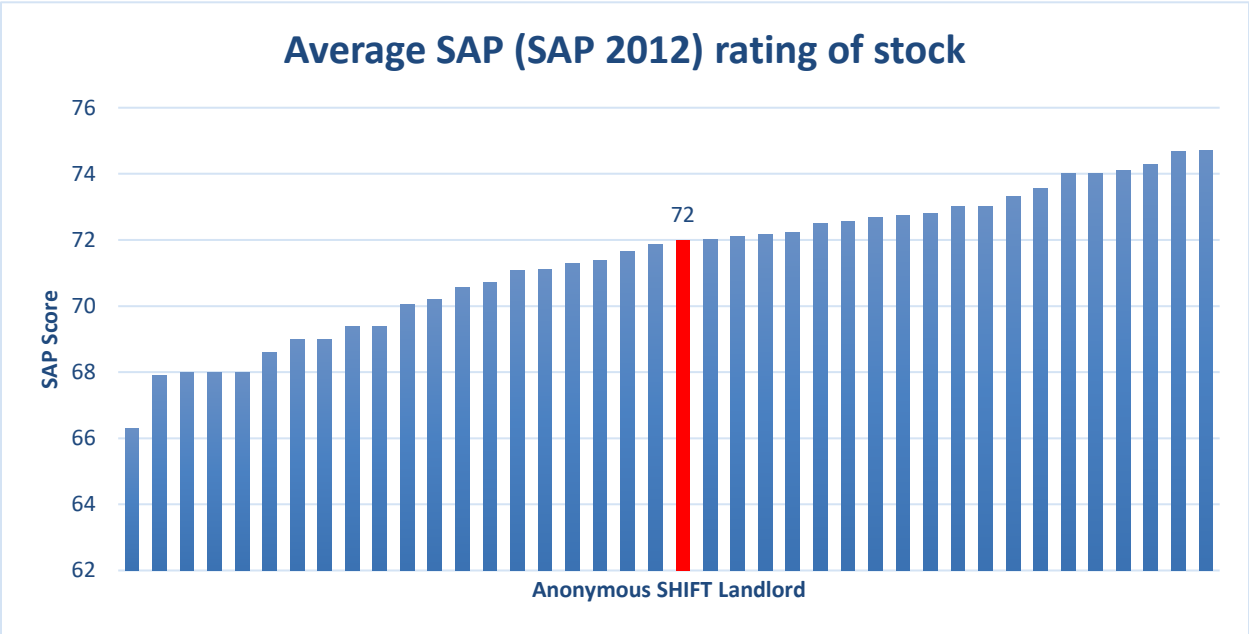
Existing Homes

Most of the homes that exist now will 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 CO₂ it is a very good surrogate. For information, 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 of how this target has been produced.

The Stock Investment Analyst at Network Homes indicated that the average SAP of existing homes was SAP 72, this was derived from Network's Sustainability Strategy, which includes a table of tenanted properties per SAP Band within the existing homes section. Network has Decent Homes Obligations for 15,526 homes as per the most recent Social Housing Statistical Data Return.



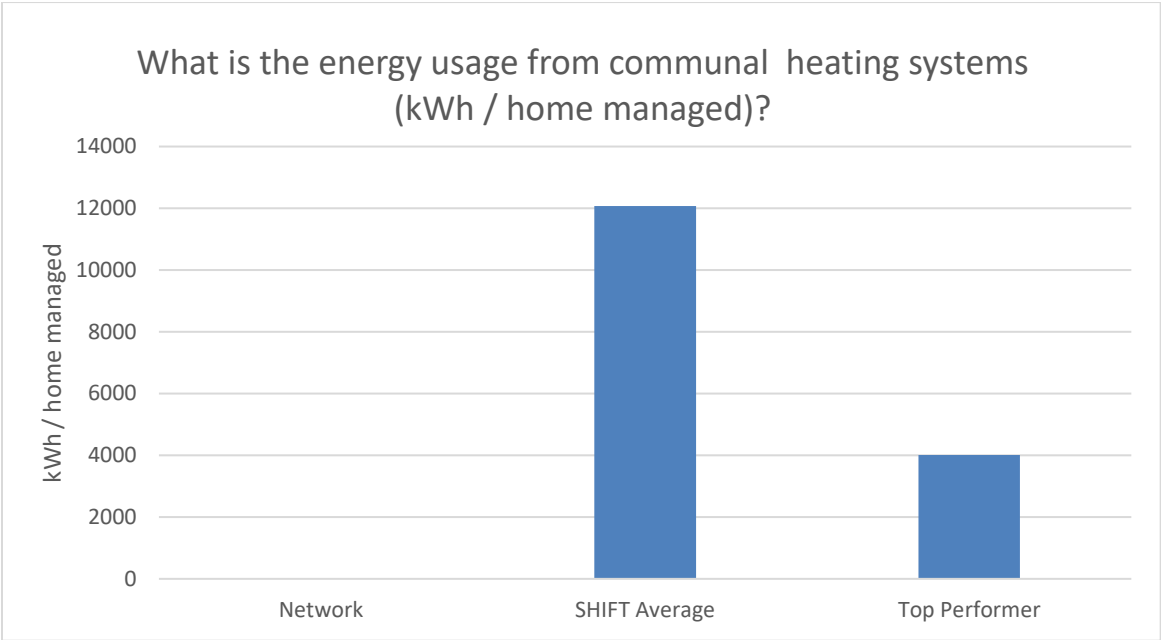
Recommended improvements:

- Prepare address-level upgrade plans– the idea is to gain a vision of what your organisation would like each home to be like 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.
- At the very least, plans should be made for all homes to be EPC C or better to reduce the risk of fuel poverty – something that Network is already undertaking since committing to target E, F and G rated homes in the Sustainability Strategy.
- The analysis can be done on spreadsheets, but utilising asset management systems such as CROHM and DREam can make the job much easier, especially for Network’s ~15,000 properties.
- 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 build that won’t require further retrofit before 2050 to meet energy efficiency requirements. Consider disposal or regeneration options for homes where energy efficiency improvements are particularly costly and still result in a low SAP rating.
- 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/>

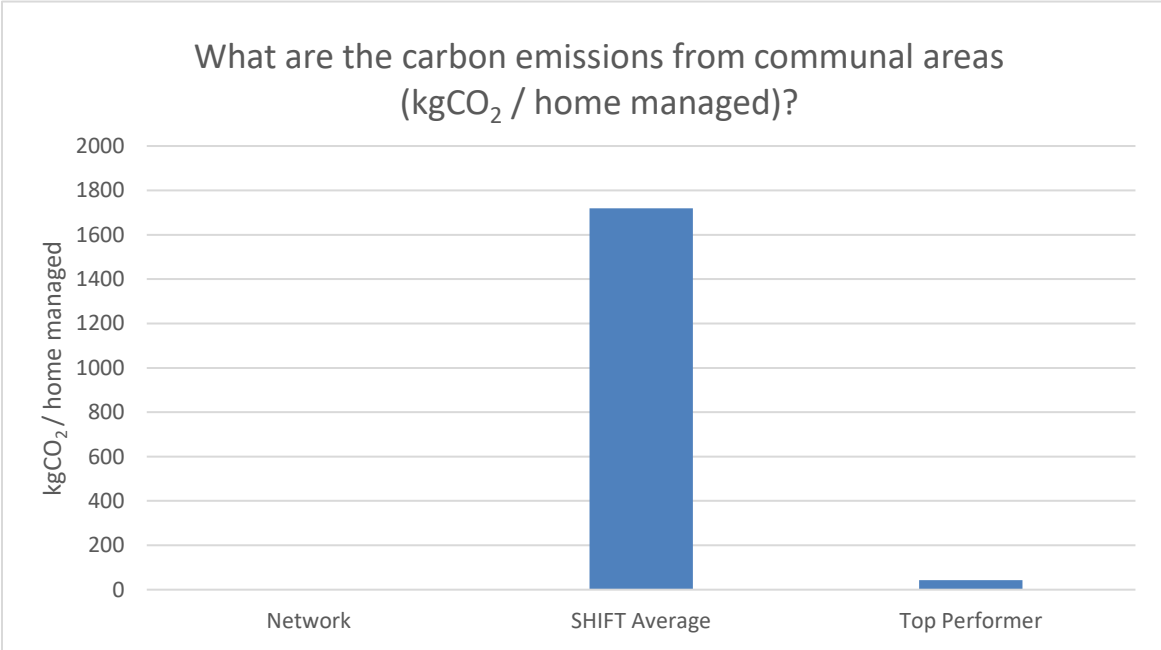
District and communal heating

Energy for communal and district systems is a huge cost to landlords and 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.

2020 consumption data from the Heat Network Submissions to BEIS shows that 9,708,889 kWh of gas were consumed by metered communal heating sites, there are also 2,421 units supplied by communal heating systems managed by Network. As, under the Heat Network Regulations, not all systems have to be metered and the bought energy consumption was not available to verify this figure, it could not be shown to be the total consumption of the communal heating systems. The table below shows the performance from other SHIFT landlords.



Network were unable to provide energy consumption data used in communal areas e.g. communal corridors, street lighting, foyers and community hubs. This data should be available through energy brokers and invoices and should be aimed to include in SHIFT assessments. This data is a requirement for SECR statements as it relates to Scope 1 and 2 carbon emissions from the combustion of fuel and use of electricity respectively.



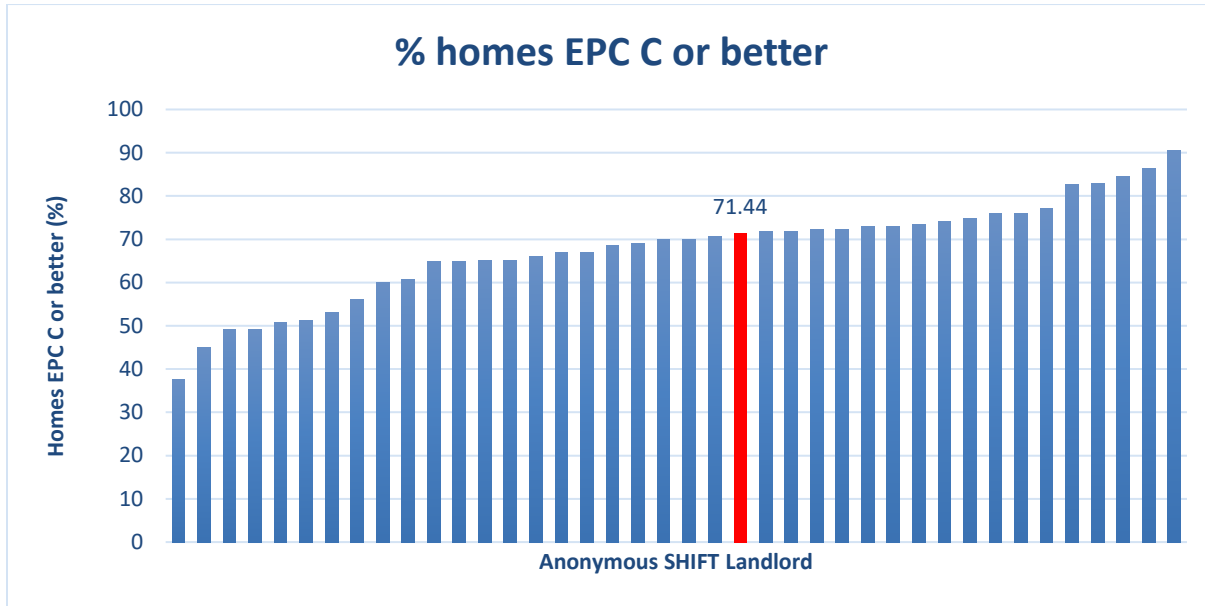
Recommended improvements:

- Actual energy consumption data covering gas and electricity supplied to communal areas and gas supplied to communal heating systems were not available for this assessment. Network should be able to obtain this data under requirements that may apply such as SECR and as well as for ESG reporting which is becoming vital to secure low interest loans. Network can work with their energy providers and energy broker to get access to this data.
- Sub-metering systems for communal heating is not yet a legislative requirement but by November 2021, all heat networks will have to be assessed under the Metering & Billing Regs to see if individual meters or HCAs should be installed. As a landlord, tracking energy use in your communal heating systems will highlight inefficiencies and offer cost and carbon savings for your organisation, we recommend sub-metering systems as soon as possible.
- Consider whether communal electricity supply could be switched to a 100% renewable supplier.
- Conduct a review of all communal systems in your stock – the review should include control settings, boilers, pumps and bypass valves.
- 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 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.

Network's Sustainability Strategy, updated in May 2021, indicated EPC Band ratings per property managed by Network. This was supplied by the Stock Investment Analyst and shows that 71.44% of homes are EPC C rated (SAP 69) or above.



Recommended improvements:

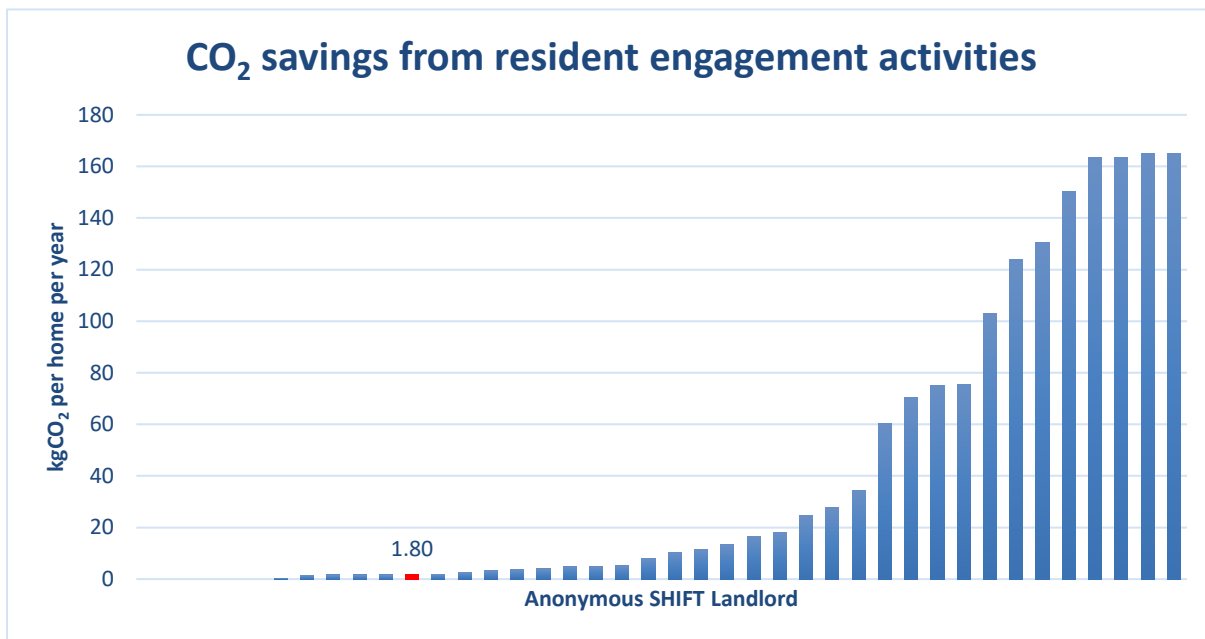
- Similar plans to improve to average SAP 85 except the target is to achieve a minimum of SAP 69 by 2030. Many landlords have identified this target within their respective Sustainability Strategy's but this data demonstrates that most of the landlords within the sector have some way to go for this to be achieved.
- It is good to see Network have a very small proportion of EPC E – G rated properties but will need to identify a plan of improvement works for the 25.6% of their stock currently rated EPC D to ensure fuel poverty targets are met.
- 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.

Whilst the majority of the assessment uses the 2020/21 financial year as a reporting period, the resident engagement activities (and a few other areas of the assessment) use a more recent period of 1st October 2020 – 30th September 2021 August. In this time, a small number of households (0.13%) were engaged actively in March 2021 in an online event to discuss sustainability topics and gather feedback on the Sustainability Strategy. Residents' feedback was mainly focused on energy efficiency improvements in homes, how they can take personal ownership and responsibility, empowering sustainability champions within the organisation and transport. In addition to this, 100% of residents were engaged passively on energy efficiency

through the Network Life newsletter which is sent to all residents and contains updates on energy efficiency improvements in the housing stock, energy management and sustainability. Over 6,000 residents receive the newsletter via email whilst over 9,000 receive regular updates via text messages. A variety of blogs from resident case studies and additional sustainability information available through the website also lead to passive engagement. In future assessment, it is recommended that Network keep the reporting period consistent to avoid impacts on the business from external factors only affecting some of the data. In total, these measures relate to an estimated 1.80 kgCO₂e saved per home managed.



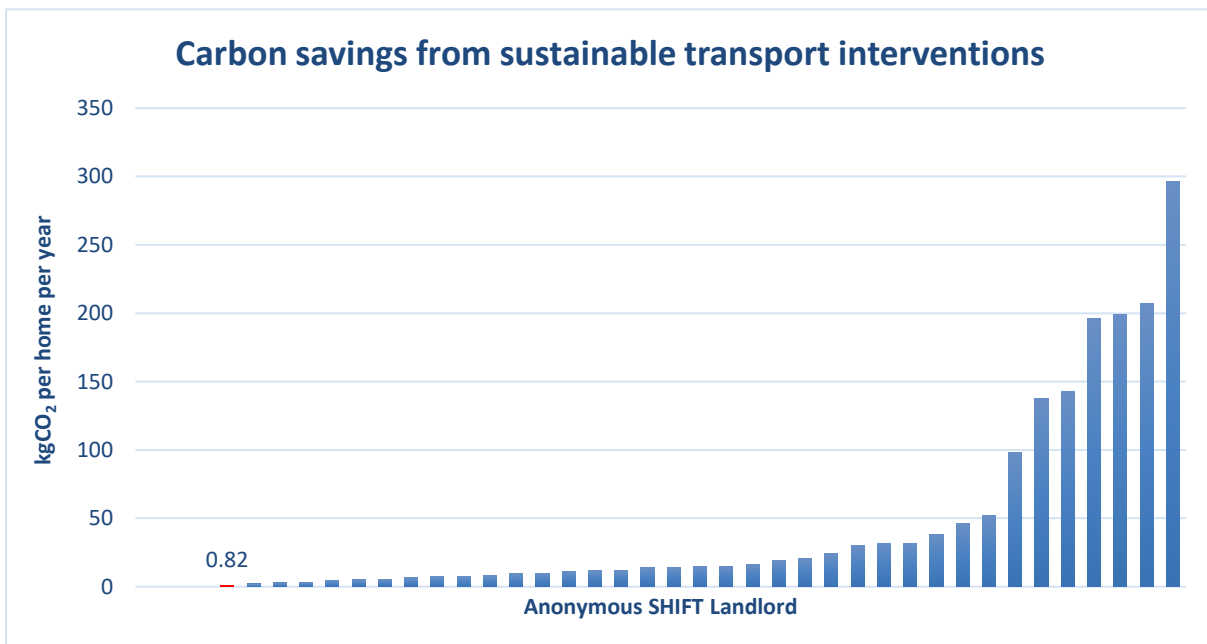
Recommended improvements:

- 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.
- When an energy efficiency visit occurs, attempt to undertake small works such as installing radiator reflectors, hot water saving devices and draught proofing. Network could set annual targets for the number of homes receiving these measures.
- When a new heating system is installed, Network 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 Network could introduce an option where tenants with new heating systems can report energy use for 3(?) months to Network and if bills seem significantly higher than what Network expect 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 examining new build data, it is believed that 0.9% of Network's homes have cycle storage facilities at Pearls Road estate and Hounslow. This was the only information available for the data on the promotion of sustainable transport facilities in existing homes. These measures are estimated to save around 0.82 kgCO₂ per home. Below you can see how your performance compares to other SHIFT landlords.



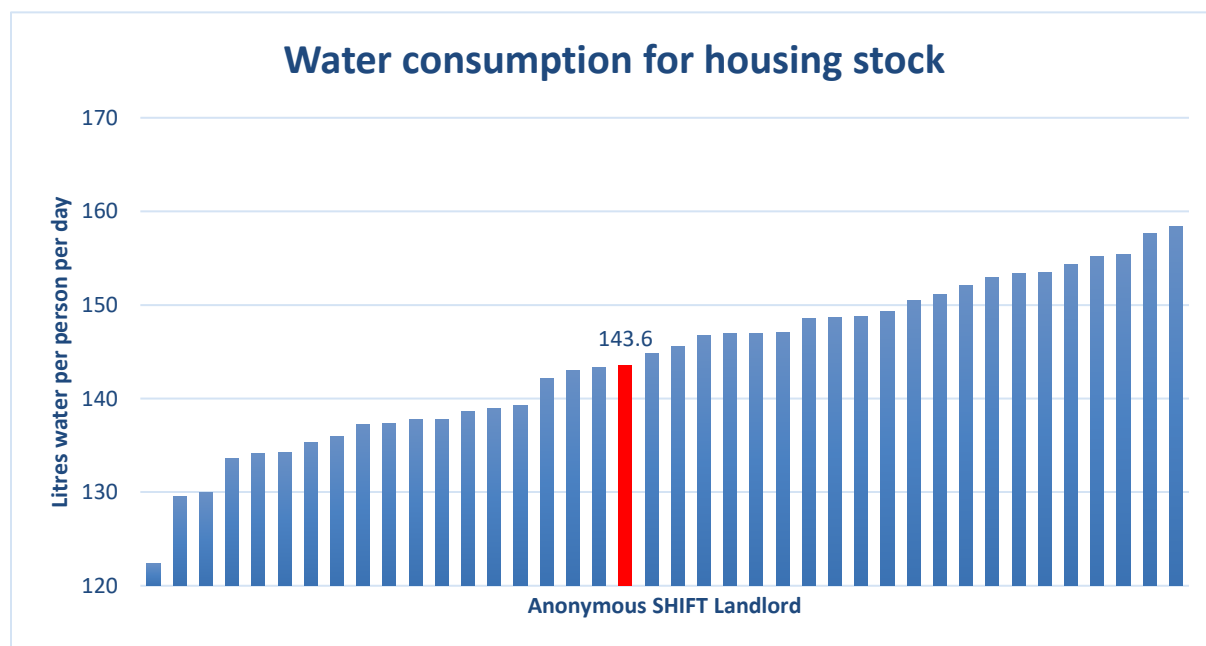
Recommended improvements:

- Work with new build colleagues to ensure that cycle storage is included in all new builds.
- Electric charging infrastructure could be installed at new sites, at offices and depots, and in areas where both employees and residents would have access to them providing dual benefits. This will also encourage more sustainable business mileage choices and could facilitate the argument for electric van trials.
- In addition to this, new tenancy starter packs and handover documents could be modified to include sustainable transport initiatives such as local travel maps, public transport timetables, eco-driving and car share information to encourage residents to travel sustainably.

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 Network's stock. Therefore, the SHIFT water efficiency estimator tool has been used. The tool predominantly uses build age data to identify the likely water efficiency measures in Network's stock but can also incorporate refurbishment data where it is available. The Head of Compliance and M&E at Network indicated that no further information was available this year so build year dates and estimates from SHIFT 2019/SHIFT 2020 have been assumed. This indicates that 31% of homes have smaller bathtubs, low flow taps/showers, dual flush toilets and water meters as well as just under 74% of homes having a water butt or being a flat. There were no greywater harvesting systems recorded in the stock and no residents had been given information on water efficiency. Therefore, this resulted in an estimated usage of 143.6 litres per person per day (lppd) from the housing stock using the SHIFT water efficiency calculator tool.



Recommended improvements:

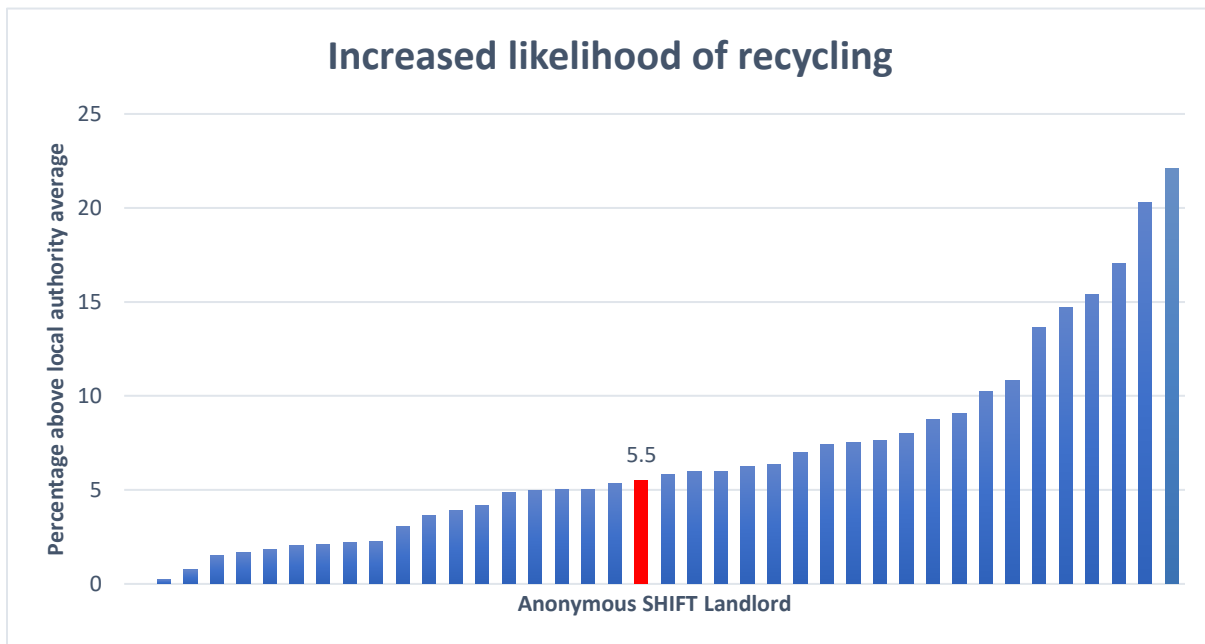
- Bathroom and kitchen specification information and refurbishment data can be used to identify properties that have older build years but water efficient devices installed through general refurbishment and maintenance. Network should consider whether a formalised water efficient specification for kitchen and bathrooms replacements could be created which prompts of water meters and other components when plumbing work is undertaken at a home or during a void period, for example.

- Consider engaging with local water suppliers as some landlords have found that their local water company are willing to provide free water efficiency devices, home visits and other engagement work with your residents.

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.

Based on assumptions that 95% of homes built between 2008 – 2016 (to the Code for Sustainable Homes) have internal recycling bins, an estimated 22% of Networks properties have internal recycling bins fitted. No evidence on passive or active engagement on domestic and bulky waste recycling was provided, however, Network have plans for recruiting Sustainability Ambassadors amongst communities who will help with setting up local sustainable waste initiatives and hopefully lead to improvements for the SHIFT 2022 assessment. Overall, these measures encouraged an estimated 5.5% increase in recycling over and above local authority average.



Recommended improvements:

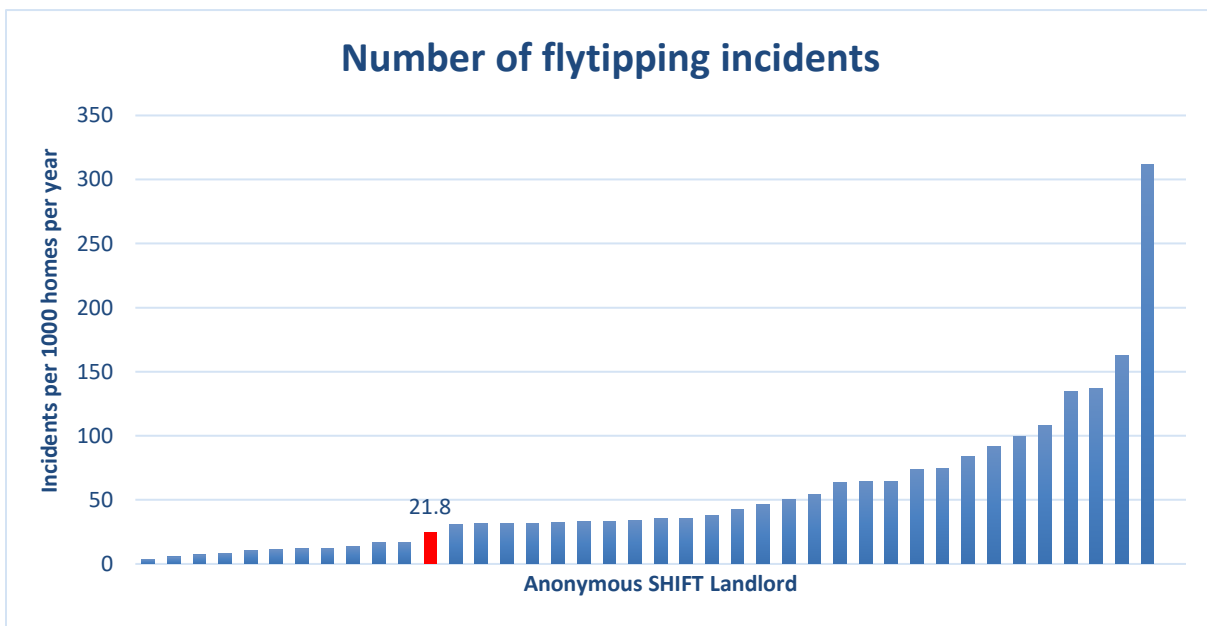
- Liaise with new build colleagues to ensure internal recycle bins become a standard component in 100% of new builds as currently, only 38.5% of homes completed in reporting period received these bins.
- Ensure that internal recycling bins are a general specification in kitchen replacements and record these figures in SHIFT using build dates and refurbishment data.
- Network are keen to increase their active engagement with residents on waste management with Sustainability Ambassadors amongst residents. 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. This will allow Network to proactively take the action necessary to rectify issues. This may include increasing communal bin capacity, installing CCTV in fly tipping hotspots, changing caretaker visit days, purchasing recycle bins for residents etc.

- Consider arranging quarterly estate cleanups involving residents and Network staff.
- 'Skip days' where landlords provide free bulky waste collection are a popular way for landlords to reduce fly tipping issues and also 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. Network has not recorded the incidents of fly tipping over the 12 month reporting period, but the 2020/21 customer satisfaction rate has been used to estimate a default of just under 22 incidents per 1,000 homes managed or 339 incidents in total.



Recommended improvements:

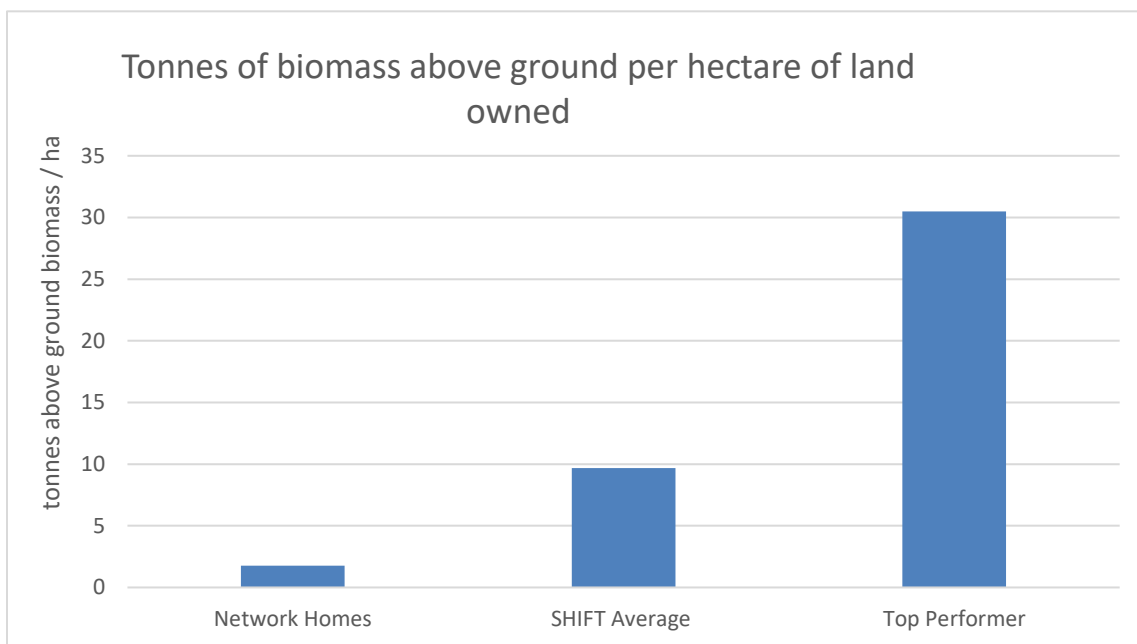
- Nationally, fly tipping has increased due to COVID lockdowns, consider installing preventative measures such as signs and CCTV at known hotspots.
- Consider whether introducing a more comprehensive system for logging fly tipping including location and type of waste could help devise a strategy for reducing the number of incidents in hotspot areas – for example, if mattresses appear to be a commonly fly tipped item, Network may choose to offer a bulky waste collection service for mattresses. Could Network 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 a 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 UK Government is targeting an estimated 19% increase in woodland coverage by 2043 across the United Kingdom (through the Aichi target and 25 Environment Year Plan). SHIFT has converted this into a biomass target for landlords to aim for in their green spaces.

Due to no GIS or tree survey data, Network used SHIFT default figures within the SHIFT biodiversity calculator based on the number of houses and flats managed to estimate the above ground biomass per hectare of land owned. This resulted in 1.76 tonnes of biomass estimated per hectare, or 113.4 tonnes of above ground biomass across the whole stock.



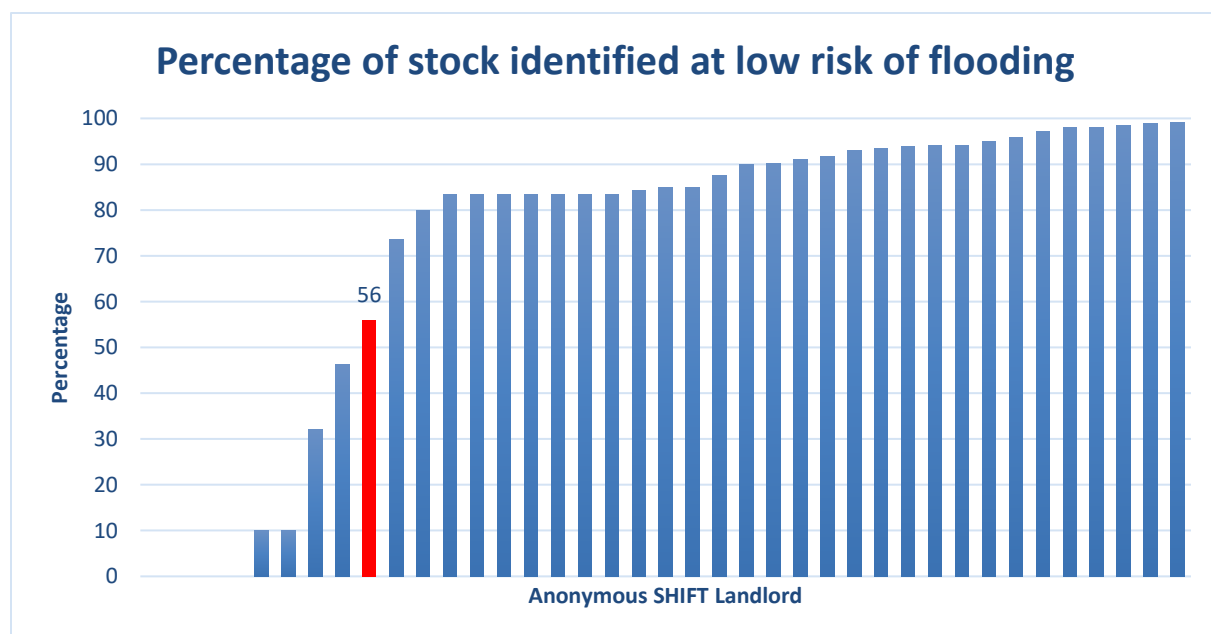
Recommended improvements:

- GIS mapping systems can identify total land holdings from property boundary information as well as areas of grassland and woodland managed by Network. Where this is not available tree survey data and grounds maintenance contracts can be used to generate estimates. Using SHIFT defaults should be considered as a last case scenario.
- Consider planting higher density biomass areas in existing green spaces as most of Network's green spaces are currently just grassland. These are probably mown areas that require time, money and carbon emissions to maintain.

- Liaise with new build colleagues to ensure that they are maximising biodiversity within their schemes. This will likely go beyond what currently takes place on Network’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.
- Consider introducing a Landscape Management Plan for both new schemes and your existing land owned. Some key biodiversity considerations for green spaces include prioritising native species but ensuring a diverse range of species are planted and ensuring permeability as it is crucial for wildlife to be able to pass through the site otherwise these areas will act as ‘green walls’.
- Derive efficient measurement of green spaces quality as this issue is increasingly being assessed by lending institutes as part of their ESG requirements.
- Network should consider expanding their garden area and communal ground surveys to continue to build up a better picture of green spaces managed.
- 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 Network convert more of their underutilised green/grey spaces into high biodiversity areas.

Homes at risk of flooding and overheating

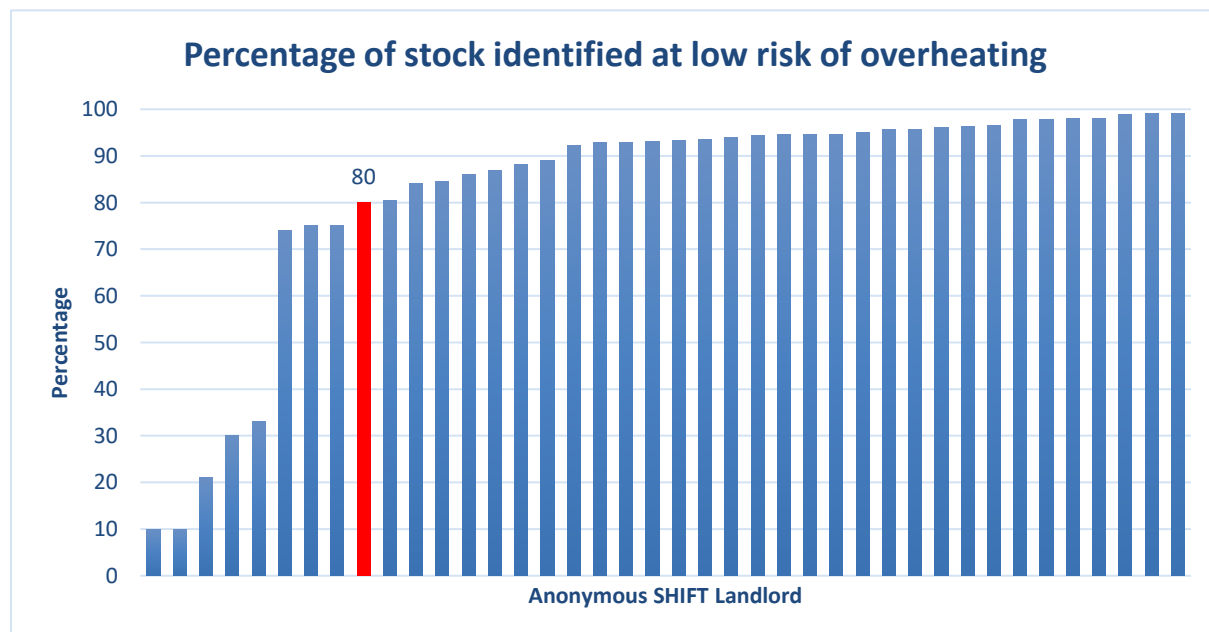
Met Office projections indicate more flood events and more heatwaves. The ideal is to have 100% of homes at low risk or adapted to climate change. The Stock Investment Analyst at Network provided a flood risk assessment covering just over 56% of their housing stock, this indicates that overall 55.90% of homes have been identified at low risk of flooding and 0.18% had been identified at high or medium risk. The remaining 44% of properties had not been assessed.



Recommended improvements:

- Ensure flood risk assessments use long term projections and also 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 (2.7m).
- The Social Housing Sustainability Reporting Standard requests flood risk data information for your housing stock – this could further incentivise an updated flood risk assessment to be commissioned covering the remaining 44% of properties that the current assessment does not account for.
- For the homes at medium or high risk, ensure they are signed up for early flood alerts and ensure responsive actions are in place from Network 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.
- 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).

The Stock Investment Analyst at Network noted that Network are only aware of one scheme (30 flats) where there are known overheating problems and Enforcement Notices have been served by the local authority. Whilst this shows that 0.2% of homes have been hit heavily by the effects of overheating, this does not account for the overheating risk of all homes. Our SHIFT overheating risk assessment tool, used in all SHIFT assessments to keep the risk factors consistent, requires basic asset management data. As this was not available for the SHIFT 2021 assessment, the default figure of 80% of homes at low risk of overheating was therefore assumed.



Recommended improvements:

- Ensure any overheating risk assessments cover the risk factors addressed in the SHIFT overheating estimator tool – especially using projected summer temperature data.
- Provide asset management data and carry out the SHIFT overheating risk assessment tool to gather a more accurate figure for the percentage of properties at low risk of overheating.
- 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 (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 believe that achieving 15 kWh/m²/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^{1 2}. 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 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 this assessment by Network’s BIM Officer indicated that an impressive 58.33% achieved high EPC B (SAP 86 – 91), as well as 38% achieving low B (SAP 81 – 85) and 4% achieving a Band C rating (SAP 69 – 81). This is a good performance compared to other SHIFT landlords and may reflect Networks requirements of building under The London Plan. It is highly recommended that Network start trialling building to an EPC Grade (e.g. “A”) or SAP rating (e.g. SAP 92+ minimum). This will help Network 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. This will also benefit Network by getting ahead of the curb of any future legislative changes to the EPC rating and SAP requirements of new builds, for example, Welsh Government development quality requirements now require new funded social housing homes to be EPC A rated. Assuming Network Homes have a new build rate of ~2% that continues up to 2050 and that all new homes achieve EPC A in this time, ~44% of your stock would be built to EPC A which will contribute massively to achieving SAP 85 average across all your stock and cheaper than retrofitting to the same result.

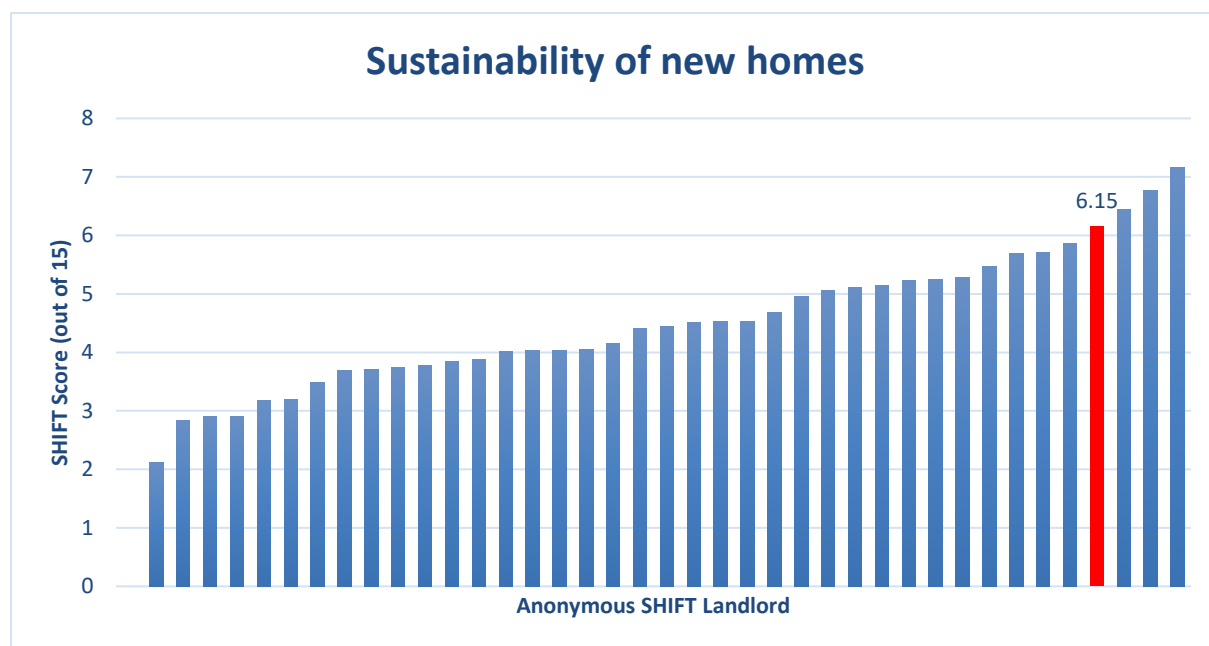
¹ Committee on Climate Change, 2019, pg 42 <https://www.theccc.org.uk/wp-content/uploads/2019/02/UK-housing-Fit-for-the-future-CCC-2019.pdf>

² 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/>

Data was also collected for additional sustainability measures. All sites were reported as having flood risk checks completed and are assessed to be at low risk of flooding. Low overheating risk was reported across 65.4% of schemes, internal recycling bins were installed at 38.5% of new homes and 12.4% of homes had additional ecological enhancements. It was also reported that 100% of new builds had cycle storage facilities included as a specification of their design and 67.5% of new builds were shown to have responsibly sourced materials.

Verifying the expected energy performance and sustainability measures of new homes is essential otherwise Network runs the risk of creating a “performance gap” between what they are expecting from their new homes and what is actually being achieved. Network’s new builds are not currently verified on their sustainability features, so may wish to consider a scheme such as the Home Quality Mark (HQM) 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 Network’s new build homes was 6.15 out of 15.



Recommended improvements:

- Right now, Network is currently building the majority of new homes to a high EPC B rating. This suggests it is achievable and Network could set a requirement for all homes to be build to a high B rating in all new developments, this would improve SHIF T scores by +1.5 and result in homes that reach the long term average SAP target. Network can then run trails on building to EPC A, discussed below.

- 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, used responsible materials, low risk of flood and overheating, maximise biodiversity in green spaces. This could be an incremental increase, with the aim of achieving 5% in the 2022/23 period and adding to this each year. Trailing building to EPC A would set Network up for potential forthcoming legislation, should England choose to follow Welsh Government development requirements of new social homes reaching EPC A.
- 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. For example, providing a storage space now that could then be used for a water cylinder as part of an air source heat pump system could save time and money in the future
- 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.
- No scheme had 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 or ISO 20400.
- Consider excluding gas boilers from new homes now, well in advance of Future Homes Standard.

Offices

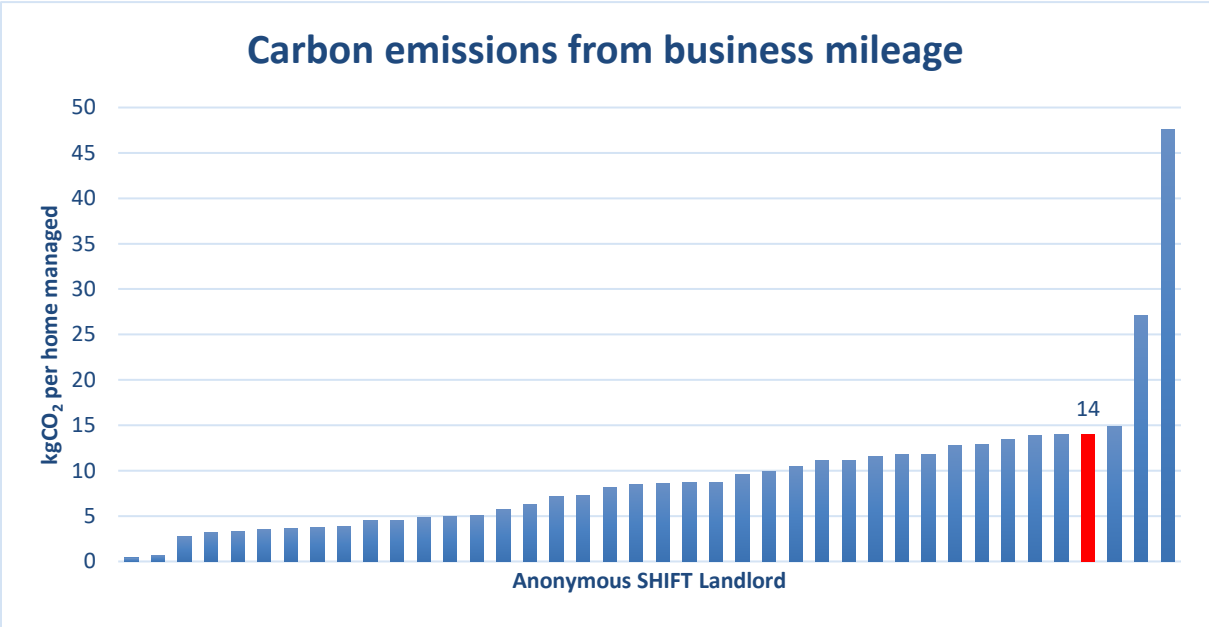
Although offices have a minor impact on the organisations overall environmental performance there are several advantages from focussing on improving their environmental qualities. Utility bills reduce, staff can see a tangible commitment to sustainability and facilities teams gain first-hand experience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

Network’s Research and Policy Analyst stated that data from business mileage from the HR system was not available over the 2020/21 financial year, therefore SHIFT default measures of 14 kgs CO₂e per home managed was assumed.



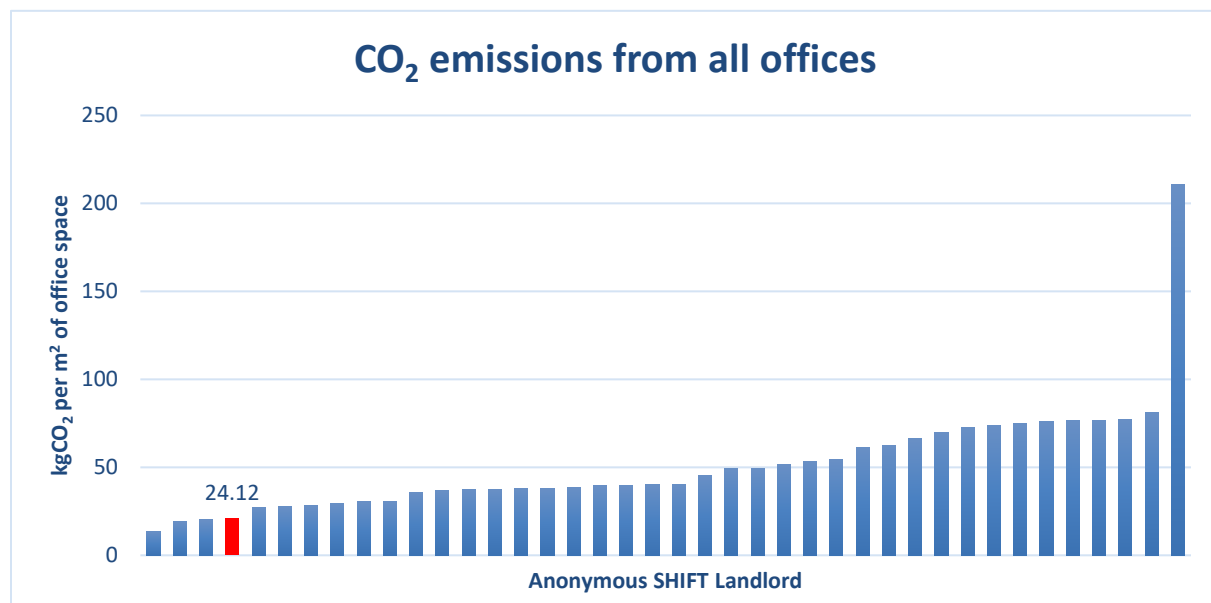
Recommended improvements:

- Data from expense claims generally are much lower than SHIFT default figures which will not reflect the impacts of covid-19 and reduced business mileage.
- Consider if electric pool cars could be bought/leased for Networks office based employees to offer a suitable alternative to using 'grey fleet' for business use.
- Encourage increased use of video conferencing even when the UK fully unlocks as Network has reduced business mileage carbon emissions compared to the previous SHIFT assessment.

Energy usage

SHIFT research indicates that emissions of 25 kg CO₂/m² 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.

As with resident engagement, the energy consumption of office spaces was reported from 1st October 2020 – 30th September 2021. This may have an impact on the results as during this time there were changes to the office space as Network moved offices, this has not been reflected in this assessment due to this reporting period. Data from Networks live energy management dashboard indicated that 152.3 tonnes of carbon were emitted from the office spaces over the course of 12 months, which is equivalent to 24.12 kg CO₂e per m² of office space.

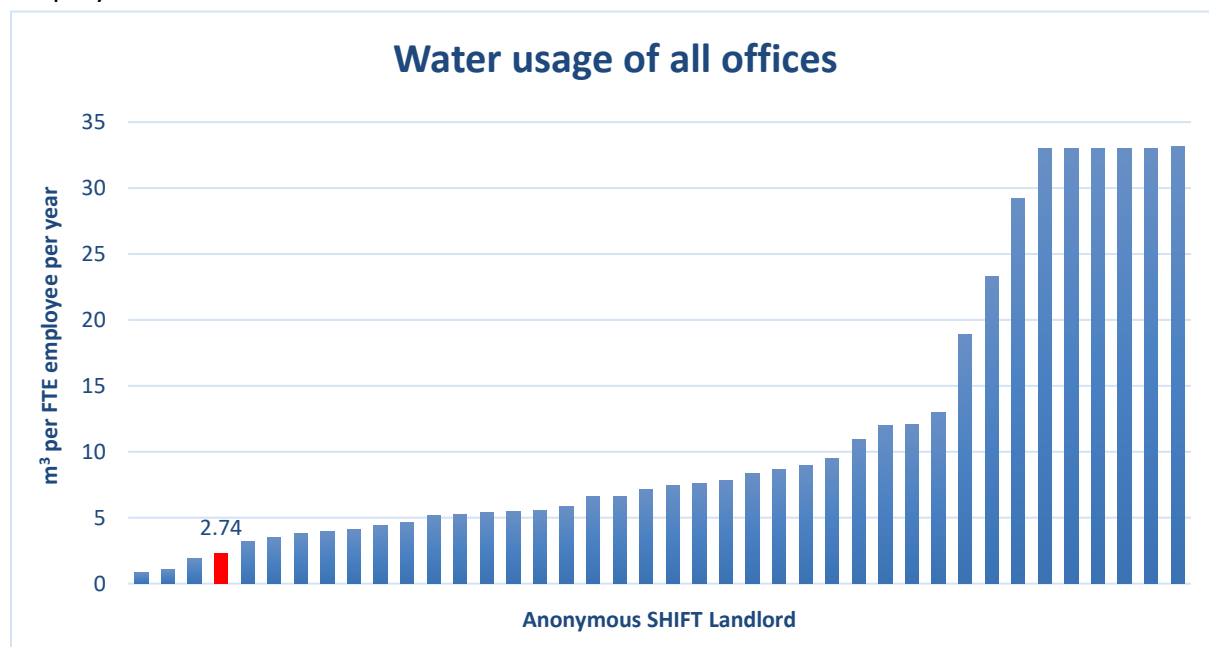


Recommended improvements:

- Networks offices' carbon usage has dropped by over 400 tonnes from the previous SHIFT reporting period – compared to a drop of just under 28 tonnes between the SHIFT 2019 and SHIFT 2020 reporting periods. Depending on the uptake in homeworking, Network may consider restructuring their office spaces in the future to favour multiple 'touchdown point' office spaces rather than having several main offices. This would reduce the office space required and keep the associated emissions low.
- Maintain low energy usage emissions through engaging staff on saving energy and consider an office energy audit with an aim of achieving low carbon intensity and implement the recommendations.
- 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

Utility data for water usage supplied by Network's Facilities Manager reported total water consumption of 1,322 from 1st April 2020 – 31st March 2021. With a reported 482 full time equivalent (FTE) office based employees, this relates to just 2.74 m³ of water consumed per employee.



Recommended improvements:

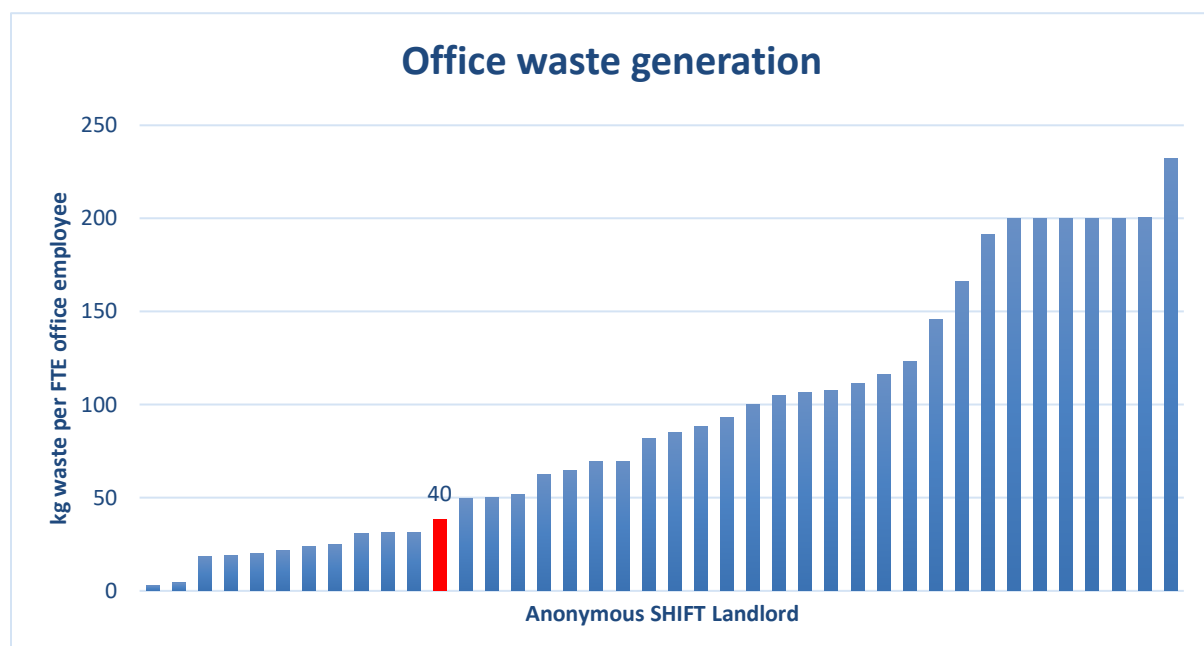
- Like office carbon emissions, it is good to see that water usage has dropped significantly from 12.06 m³ per FTE office based employee as the offices have been shut. It suggests there are no major leaks in your system keeping water use high.

- 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.

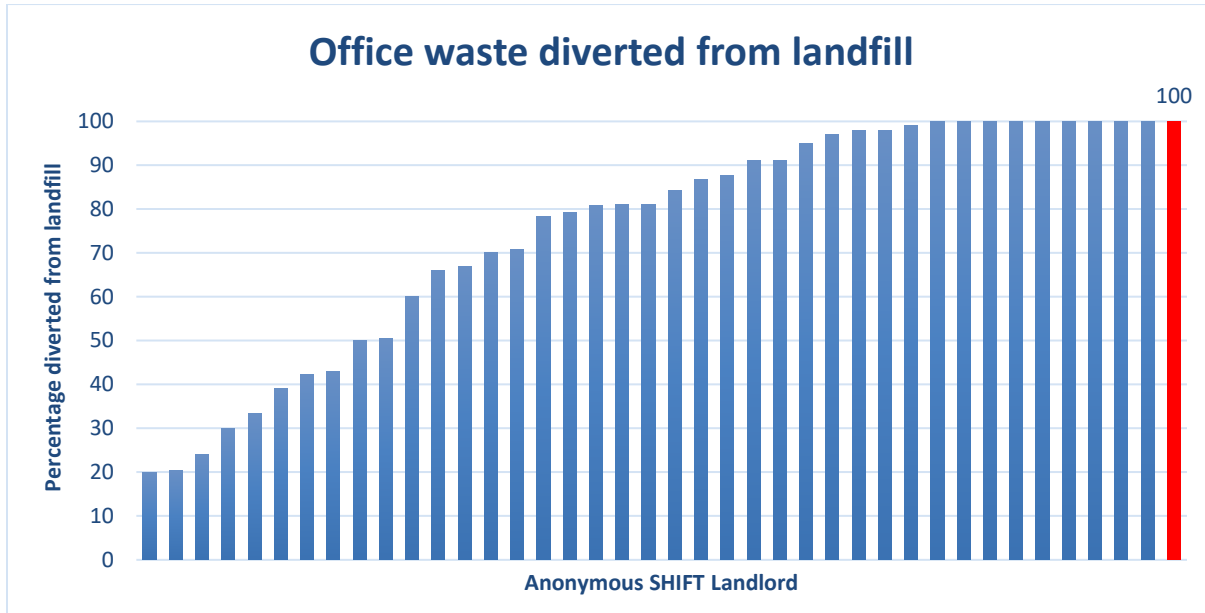
Waste

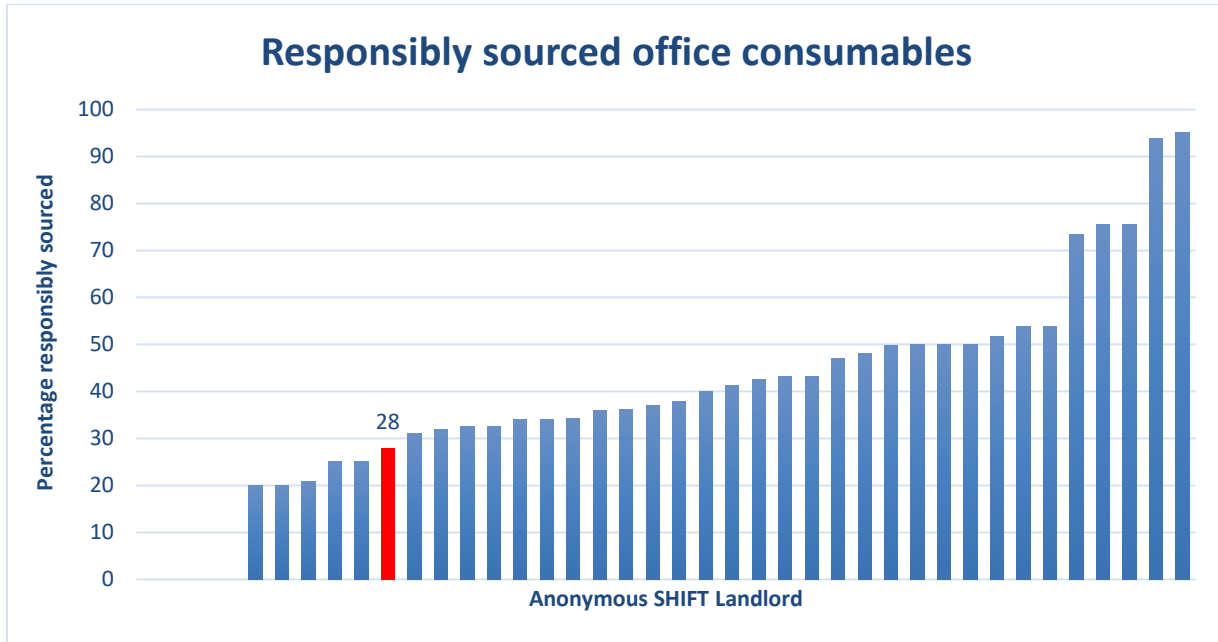
As interest rises in the circular economy, alongside an awareness of the damaging impacts of plastic pollution in particular, companies from all sectors are ramping up efforts to tackle waste. Quantifying total waste outputs and treatment is an important first step.

Over the 2020/21 financial year waste was reported from OOC, Ware Road and Yeoman’s Court offices. Data from the Hive has not been included in this reporting period due to this being a new office as of July 2020. Therefore, the office waste and water usage reported do not align with the reporting year used for the office energy usage and it is recommended in future assessments that the reporting year remains consistent throughout the report. The waste generated in Network’s offices was recorded at 19.5 tonnes, or 40.4 kgs per FTE office based employee.



Details and documents from waste contracted were evidenced, waste contractors including Veolia, ensure that 100% of waste is diverted from landfill as it is recycled with the remaining general waste being sent for incineration for energy.





Recommended improvements:

- Liaise with suppliers to get a detailed breakdown of percentage spend on responsibly sourced products, also ensure that all products are switched to responsible alternatives where viable and aim to reduce consumption in the first place (becoming as paperless as possible and signing all PDFs online).

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.

The Research and Policy Analyst recorded that Networks offices are at partial risk of flooding due to high/medium flood risk in the smaller regional offices, including medium risk of tidal/fluvial flooding at the Ware Road office and high surface water flood risk at the Yeomans Court office.

Network’s office has undergone an overheating risk assessment and was found to be at low risk with multiple risk mitigation solutions in place such as openable windows, blinds and TRV’s on radiators. Therefore, offices were assumed to be at low risk of overheating for the purpose of this years’ SHIFT assessment. As this has been reported from 1st April 2020 – 31st March 2021, Network’s new office space at the Hive has not been considered.

Recommended improvements:

- Network should continue to monitor overheating in offices 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.

- Assess the risk of the new office space at the Hive to ensure that employees are kept comfortable and safe.
- 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.

The strategy and management section of this years' SHIFT assessment has shown huge improvements since the 2020 assessment due to the adoption of their first Sustainability Strategy in November 2020. Network are now scoring 13.33 out of 15 for an effective strategy that displays clear organisational commitment through formal adoption by the board, public accountability as the strategy is available online and clear responsibilities with the Executive Director of Finance directly responsible for ensuring targets are achieved. Network also recruited an Energy Manager who will be responsible for implementing the Energy Management section of the Strategy. The Strategy covers the period 2021-2024 and will be reviewed by Board every 6 months. Network Homes are also looking to expand on this by recruiting a Head of Sustainability and Strategic Asset Management. SMART targets spanning the energy efficiency of homes, adaptation to climate change, water efficiency, waste management, ecology, green transport and resident engagement were displayed. This included a commitment for all tenanted homes to reach a minimum of EPC D rating by December 2023 which includes targeting 439 homes that are currently related below a Band D.



Recommended improvements:

- Targets covering water efficiency, waste management and green transport only applied to new developments and offices, so it is recommended that this is expanded to include existing homes in future revisions.
- Ensure forthcoming revisions to the sustainability strategy include updates to cover all the items listed in the SHIFT scoring matrix. You can use the detail in the overall performance data to help establish KPIs and SMART targets for your organisation.
- Improvements to SHIFT metrics in areas such as biodiversity, average SAP and various carbon metrics from various legislative drivers and government policy mean that Network may want to update the action plan to reflect this.

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 organisations. For example, if a maintenance contractor reduces uses more efficient transport, they save costs which could be passed on to you.

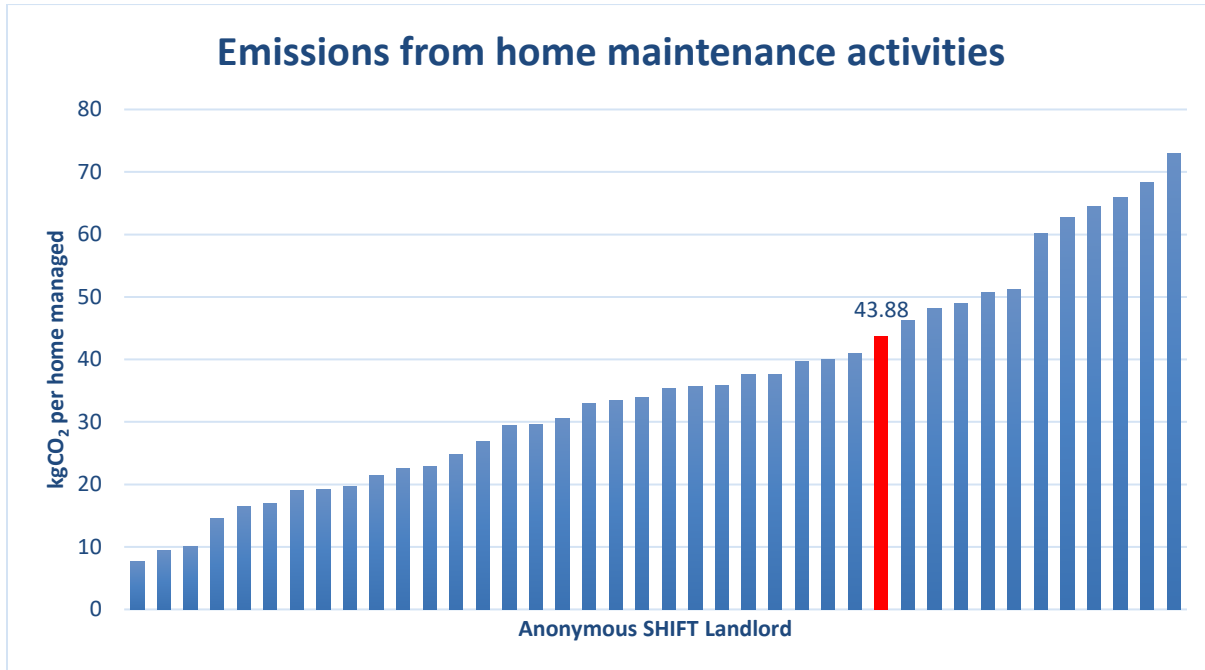
For SHIFT purposes, we include in-house maintenance team data in with the supply chain questions. This allows better comparability between organisations. For example, we can compare maintenance CO₂ emissions per home between organisations that do their own maintenance, with organisations that subcontract out all maintenance.

Maintenance CO₂ emissions

In-house and subcontracted maintenance teams emit CO₂ 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 CO₂ emitted due to maintenance activities.

Network Homes were able to survey over 67% of their contractors based on contract value for the SHIFT 2021 assessment, this shows good progress from last years' assessment covering 51% of contractor spend. Contractors' emails and survey responses were provided for the assessment, in some cases contractors gave no additional evidence for the maintenance fleet emissions reported so it is recommended that this is encouraged in future assessments to validate responses. Other contractors provided some supporting evidence, in the case of Wates this enabled us to identify that the incorrect conversion factor had been used in their calculations so figures were corrected. This data indicated a total of 681.2 tonnes of carbon emissions associated with the maintenance fleet on Networks homes, which is equivalent to 43.88 kg CO₂e per home managed.



Recommended improvements:

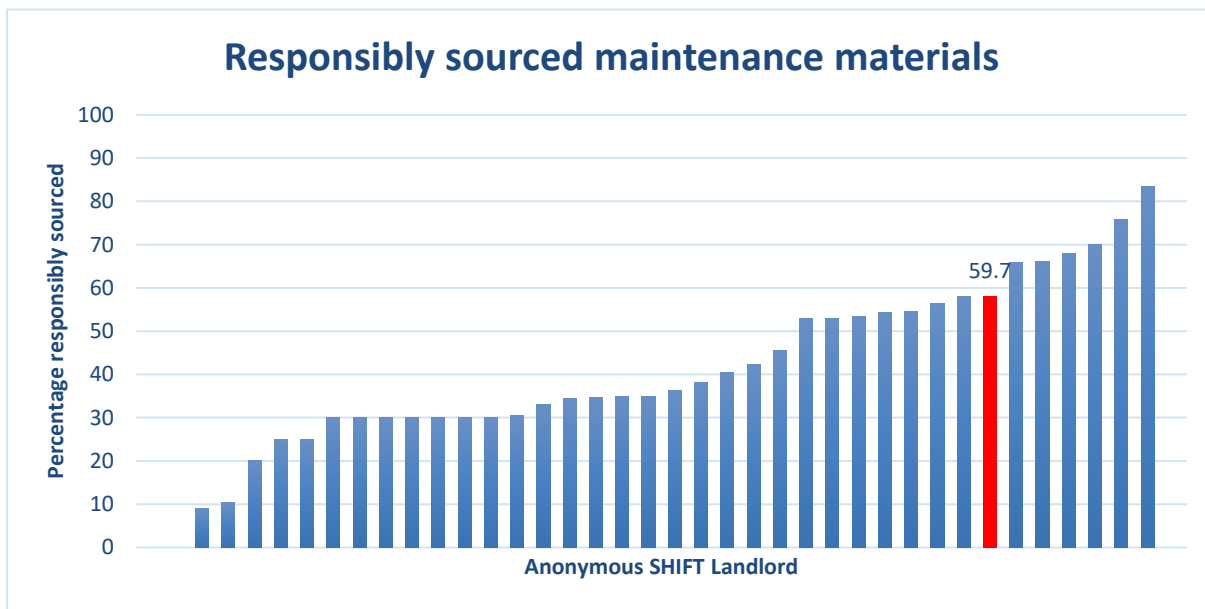
- Some of this usage may be due to increased vehicle use for community response projects due to COVID but the percentage of contractors engaged has also increased, meaning that previously reported data may have been underestimated. Consider the following recommendations and their likely impact on fleet emissions.
- 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.
- Some landlords are experimenting with small electric vans. At the moment these seem suitable for densely populated areas where range isn't an issue.
- 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.

46% of contractors responded to supply chain survey questions relating to the use of responsibly sourced materials. Contractors AJS, MCP and Willow Pumps suggested that 100% of their materials were responsibly sourced and Wates indicated 91% of their materials were. These

suppliers were able to provide environmental accreditations and policies on responsibly sourced materials to back up figures on responsible sourcing. However, none of the contractors were able to evidence responsibly sourced material tracking systems or 3rd party verification on responsible sourcing, therefore the SHIFT adjustment calculator tool has been used to amend their suggested figures. For other contractors that were surveyed and did not respond, we applied the SHIFT default of just over 40% of materials responsibly sourced. This led to a weighted average figure of 59.7% of materials that were assumed to be responsibly sourced over the 2020/21 financial year.



Recommended improvements:

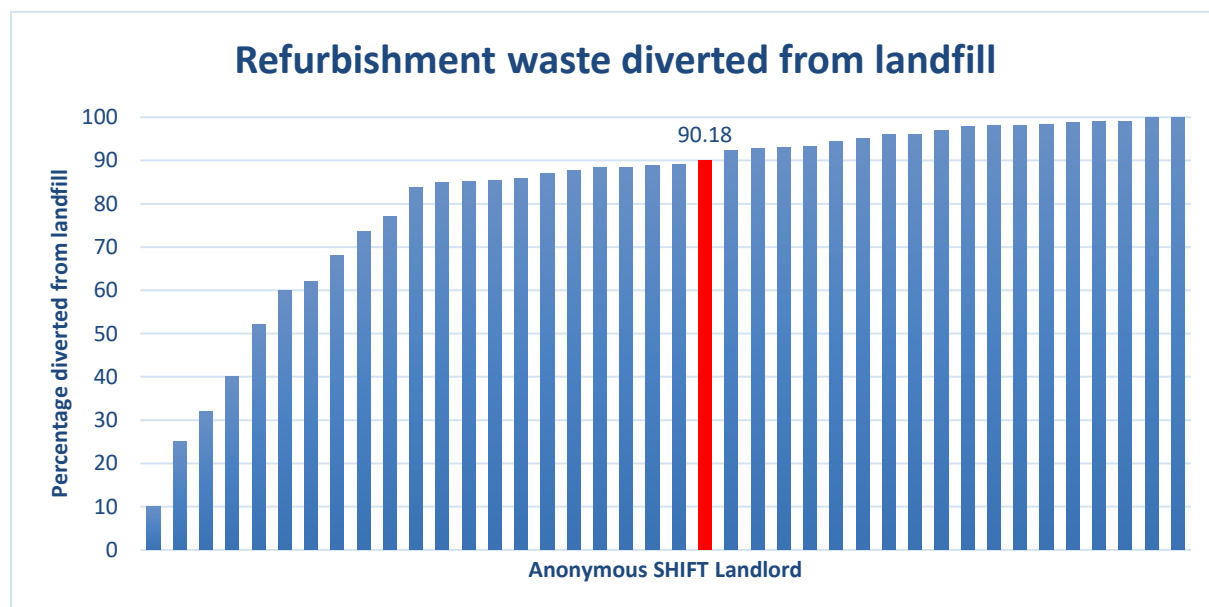
- Network useful to host supply chain ‘engagement’ days focussing on sustainability with suppliers – they provide a great opportunity to clearly explain the environmental data required and establish a point of contact within each supplier/contractor for sourcing this data which will save Network time and frustration during the data collection process.
- Before Network’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. Network 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 Network 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 Network (and others) to either request % of materials responsibly sourced or include responsible sourcing information within the invoices for materials so that Network 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.

Network sourced waste diversion rates across 67% of contractors and applied a weighted average to the figures provided. This showed that 90.18% of waste was assumed to be diverted from landfill over the 2020/21 financial year.



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 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 Network 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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