

Living in Lilac



Assessing the first Mutual Home Ownership Society in enabling sustainable living



Introduction

This report is the joint product of research by a University of Leeds MSc student and a University of Westminster PhD candidate in collaboration with the learning team at LILAC (Low-Impact Living Affordable Community), a community-led cohousing initiative in Leeds, UK. This report looks at the benefits and impacts on sustainable living that community-led housing (CLH) – and specifically Lilac- can provide.

This report is aimed to be accessible to a wide range of stakeholders involved in community led housing. Whether you are in the housing industry, interested in living in or developing community housing, a political stakeholder, or an existing member of a CLH initiative, this will be of interest.

The report is divided into three main sections assessing the benefits of living in Lilac through—'Low Impact Living', 'Affordability', and 'Community'. Overall, we highlight the huge potential benefits 'if every home in the UK were a Lilac home...'



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Lilac's Story

When was the last time you spoke to your neighbours? Do you feel like you can make change in your community? Are you happy with your housing, and how much it costs? Most people don't have positive responses to such questions. This is the result of a housing system that is unsustainable, socially, economically, and environmentally. It is increasingly unaffordable, hinders community wellbeing, and damages the environment.

So how can we solve these problems? Currently, the housing system focuses on profit over people. The Lilac project tried to do something different: put residents in charge and take back control of housing at the grassroots.

15 years ago, a group of people got together to create a new model for community led housing. These conversations led to the Lilac project in 2013—the UK's first mutual home ownership society. Made from natural materials (straw and wood), and based around co-operative governance and cohousing design, the award winning Lilac project is now home to around 50 people.

It is an exemplar of how to create affordable low impact community living, which can tackle the climate crisis, social isolation and economic uncertainty. Let's have look at how this works in more detail.

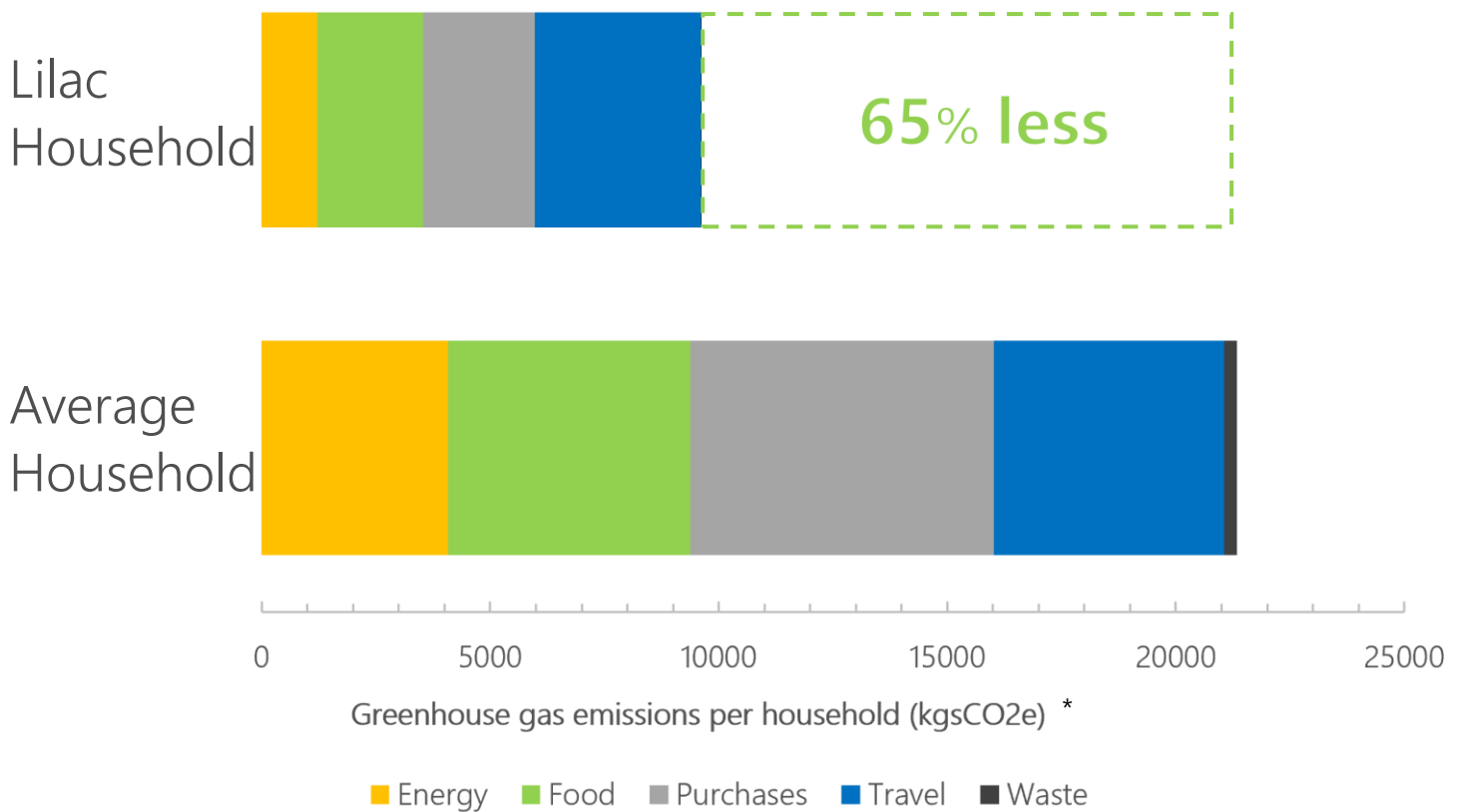




1. Low Impact Living

The key to Lilac's low environmental impact is a combination of environmentally-friendly attitudes mixed with the **nature based solutions** of Lilac's design. The following section will show how Lilac's design and residents have affected the community's environmental sustainability, from energy use to greenspace!

Carbon footprint



*CO₂e is a way of measuring greenhouse gas emissions via their global warming potential equivalent to CO₂.

The way we currently live our lives is dependent on fossil fuel resources and high levels of carbon emissions. Over the next decades, greenhouse gases are set to heat the earth to levels that will make it less safe for human life. To help prevent this, the UK has pledged to be carbon-neutral in the coming decades. Every sector has to play its part. The way we build and live in housing has to change significantly. Heating our homes accounts for 14% of all UK carbon emissions.

Lilac wants to play its part here. As a community Lilac has committed to exploring carbon-neutrality by the 2030s and reducing our dependency on fossil fuels.

The graph above shows the huge progress Lilac has already made towards the zero carbon challenge, emitting around 11,000 kgs of CO₂e less than an average UK home. That's around a 65% less! We'll explain how Lilac achieved this in this section.

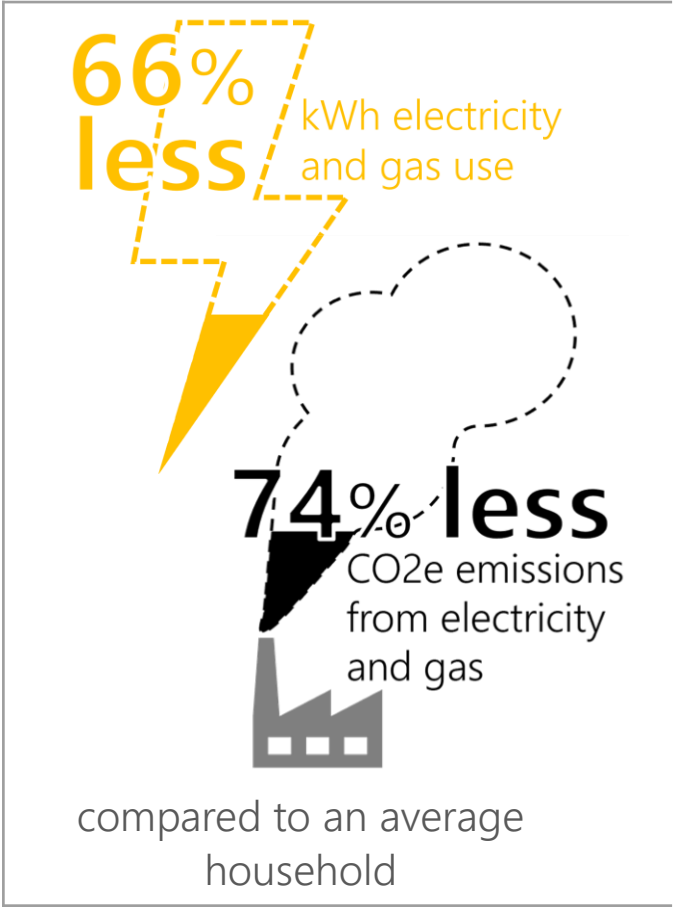


Energy

Energy use is the area where Lilac’s households have made the greatest savings compared to the UK average. Lilac homes emit far less greenhouse gases because they are incredibly well insulated, The homes are constructed from a prefabricated straw system called ‘Modcell’, triple glazed windows, and ‘mechanical ventilation with heat recovery’ systems to cycle air throughout the home. They have ‘B’ rating for energy efficiency (only achieved by 1.2% of UK buildings), compared to the UK ‘D’ average.

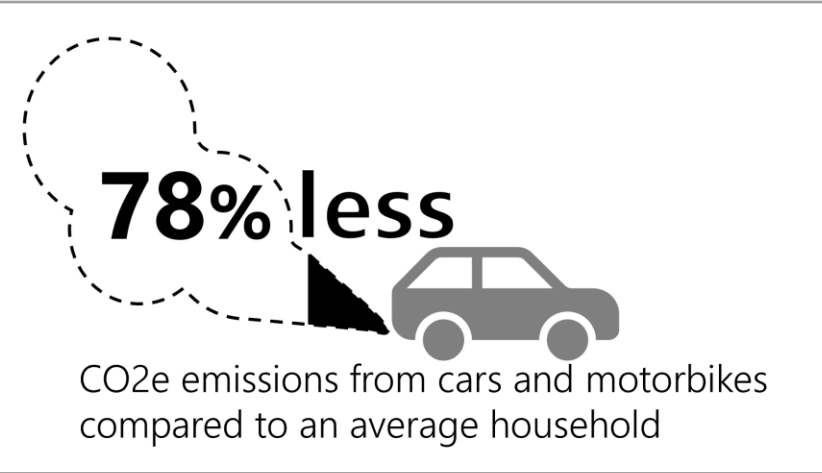
This isn't the end of the story. Each Lilac household produces 1,170 kWh of electricity per year from the 29 kw of solar panels on the roofs. Money generated from these pays for communal heating and lighting. Lilac’s houses also feature solar thermal panels, where hot water is heated from the sun several months a year, further drastically reducing gas use .

Overall, a LILAC household uses on average 5770 kWh of energy (from electricity and gas)—that’s 66% less than the UK average household.



Travel

Travel amongst Lilac residents is much greener than the national and Leeds city picture. As well as the increased use of active travel to get to work (see right), only 8% of Lilac residents drive to work, compared to 43% in Leeds. Lilac households produce 770 kgs of CO₂e from car use, a 78% reduction compared to 3,500 kgs produced by the average UK household. Lilac achieves this through less car parking spaces (0.5 car parking spaces per home), car-sharing, shared e-bikes, and safe dedicated bike storage for every resident.

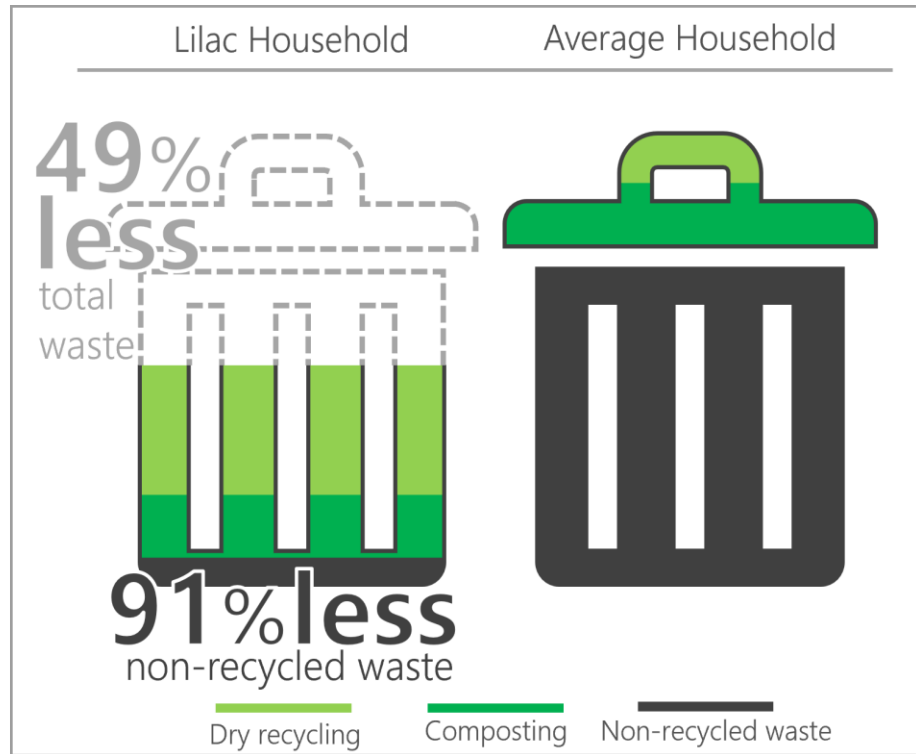




Waste

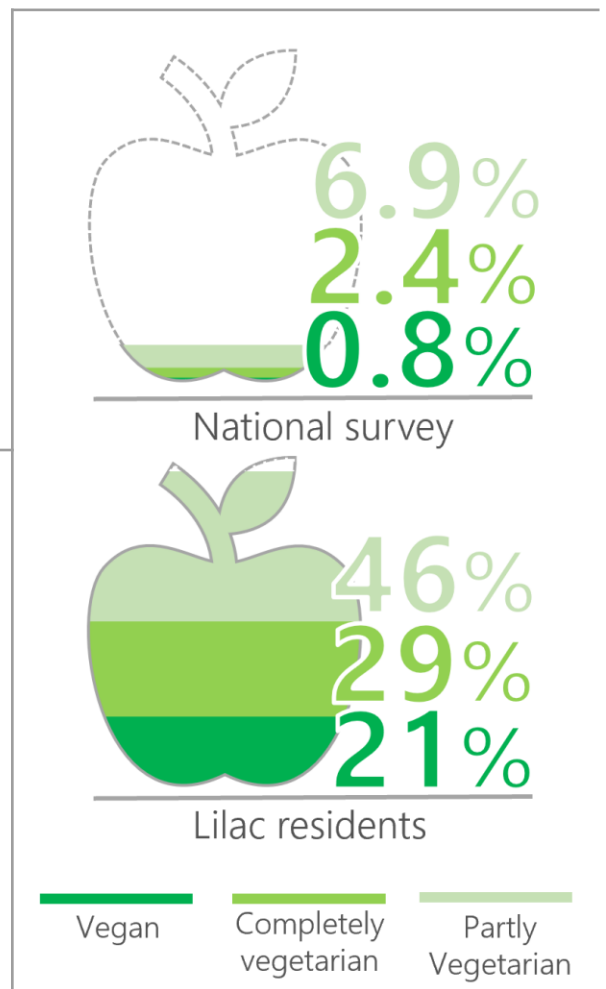
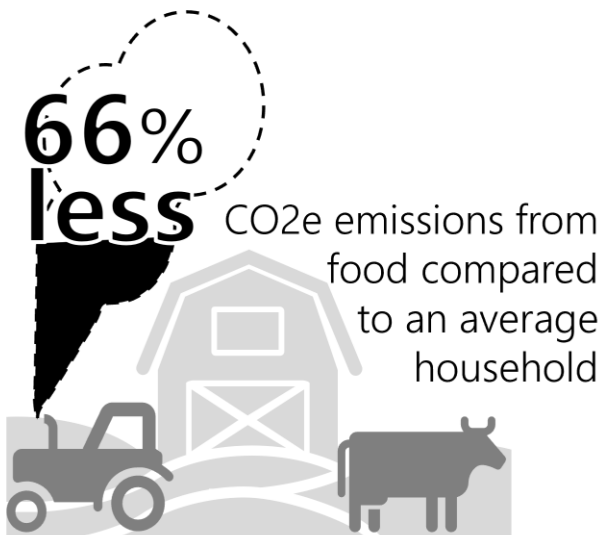
A Lilac household produces around half the waste of an average household (see right), 377 kgs compared to 755 kgs nationally. Significantly, only 48 kgs of waste at Lilac is non-recycled, a 91% reduction compared to the UK average (555 kgs).

The community achieves this in a number of ways, such as bulk buying food from ethical suppliers to reduce waste, a community compost, and on site food growing (which we discuss more below). The community are also conscious of the products they buy: 92% of Lilac residents usually buy eco-friendly products, as opposed to 27% across the UK.



Food

Food consumption at Lilac is far more sustainable than the UK average. Per year, an average UK household produces 5,300 kgs of CO2e from the food it eats, whereas a Lilac household produces 2,300 kgs of CO2e. This is because Lilac residents eat more plant-based diets than the UK average (see right). Since meat production is a large contributor to climate change, Lilac residents' diets generate 66% less greenhouse gas emissions compared to the UK average. This is made easier by each Lilac household having access to an allotment! Lilac households grow an estimated 10% of their food, whereas British households on average grow 3%.





Green Space

Lilac has far higher amounts of tree (canopy) cover and green space per household than the surrounding local ward. The difference is even greater compared to a public housing development near to Lilac, which has very few trees, and five times less greenspace per household than Lilac.

Greenspace and tree cover are important for both the

environment and people’s health. They absorb carbon thus reducing climate change, prevent biodiversity loss, improve physical and mental health, create opportunities for food growing and social interaction. We’ve seen first hand the importance of green space with COVID-19. 16% of UK households have no immediate access to green-space, which has direct links to worse mental health during lockdown.

Lilac



Ward average



New-build public housing near Lilac



= 10% canopy cover



= Green space per household

Water

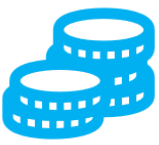
Lilac homes comfortably meet DEFRA’s sustainable water consumption guidelines of 92 m³ per year. Per year, Lilac households use **64 m³** of water, compared to **124 m³** for an average UK home—that’s nearly a 50% reduction. Lilac homes achieve this in three ways. Firstly, Lilac homes are fitted with rainwater butts which capture rainwater for use. Secondly, Lilac homes are fitted with lower water devices so less water is used unnecessarily. Finally, Lilac residents are conscious of water use within the community, meaning people take a little more care to reduce water use!

This isn't the only way Lilac saves water. The community features a ‘sustainable urban drainage system’ (SUDS), a beautifully landscaped pond at the heart of the community. All ground surfaces of the site are permeable, meaning rainwater soaks right through. Both these features naturally enhance flood protection in the community and surrounding area.



**48%
less**

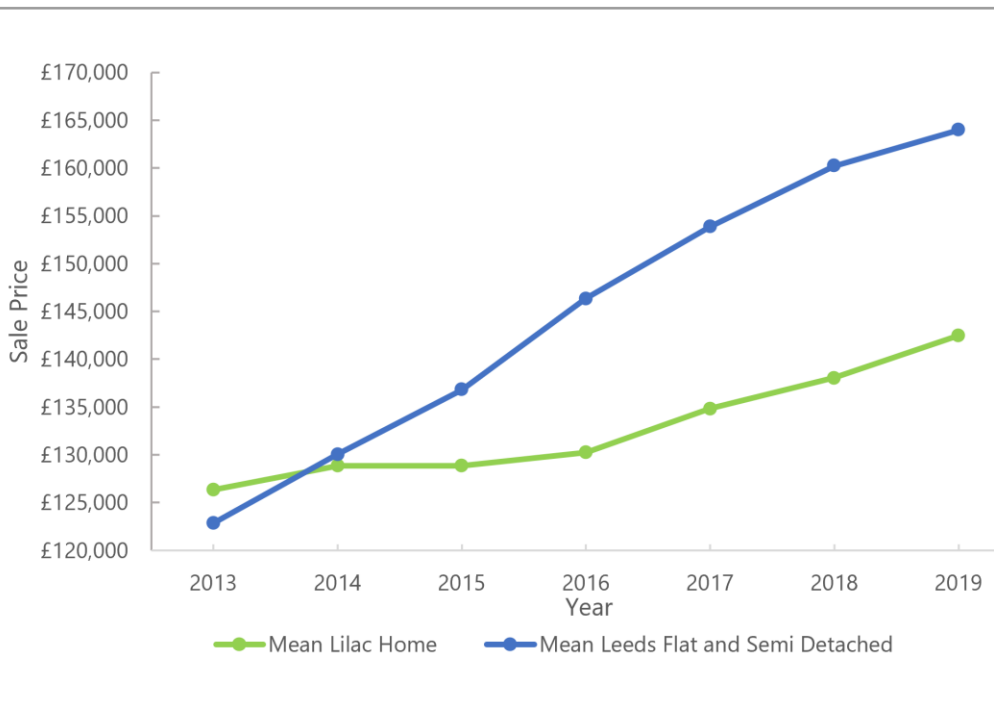
water use compared to an average household



2. Affordable

As a **Mutual Home Ownership Society**, homes in Lilac work differently to the traditional housing market. Instead of home prices being driven by increasing market prices, Lilac's homes are directly linked to average wage growth. This enables Lilac's homes to be permanently affordable.

Lilac Home Costs



Home costs in Lilac are more affordable over time (see left). On average, LILAC home prices increased 2% per-year, compared to 4.5% for Leeds homes.

While LILAC homes were around £3,500 more expensive than Leeds averages when they were built in 2013, linking them to wage increases not house price increase meant by 2019 they were around **£21,500 cheaper**.

What about local house prices? The image on the right show examples of 3-bed homes. Not only was the Lilac home cheaper than a local 3-bed in 2019, its value has remained affordable. While the 3 bed in Lilac increased in value by £21,400, the nearby 3-bed home increased by £73,000.

When these lower costs are taken together with the other benefits of living in Lilac (greater community, sharing, lower bills, more greenspace, social interaction, lower bills) then the Lilac homes model really does offer significant benefits.

£ = £10,000 price increase since 2012

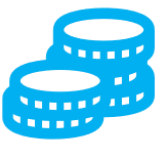
* = Sale price in 2019

£211,000*

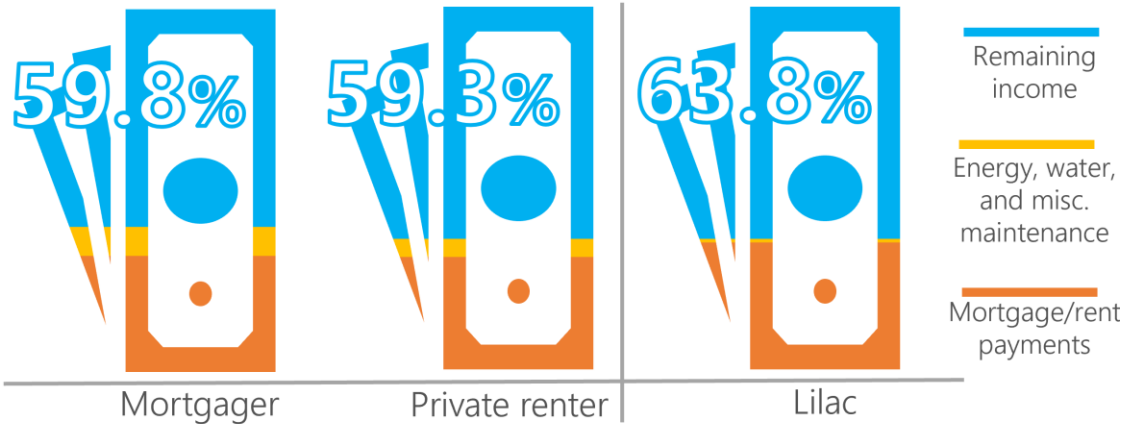
3-bed on a street next to Lilac

£186,500*

Average 3-bed at Lilac



Net Income Spent on Housing



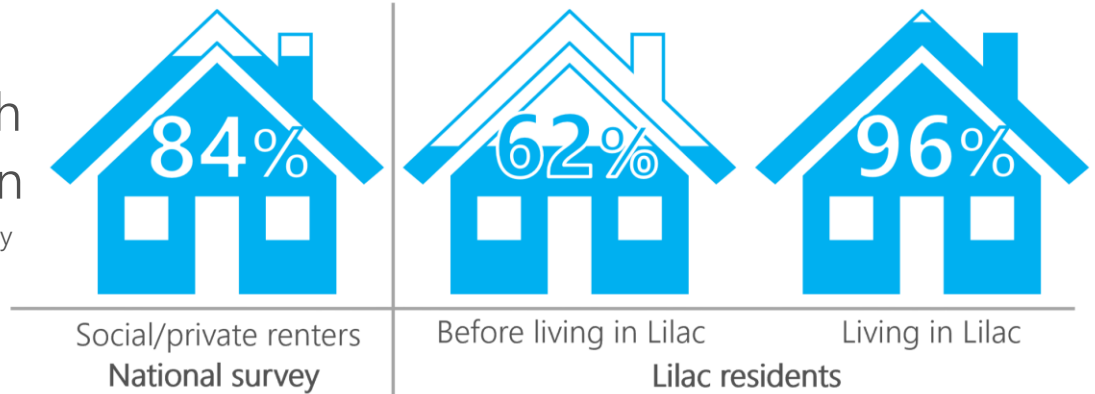
The above image is based on national mean household net income (after tax, national insurance, and pension deductions). It shows that Lilac residents pay less for housing overall than those who rent or own. While Lilac's monthly home payments (35% of net household income) initially appear more expensive than the comparators, Lilac's lower bills create a model that is cheaper overall.

Lilac's household bills equal around 1% of a household's income, opposed to 4.9% for private renters and 8.3% for mortgagers (based on the same income). In addition, deposits at Lilac are set at 10% of home value, much less than the average mortgage deposit (between £38,500 and £25,000).

Housing Satisfaction

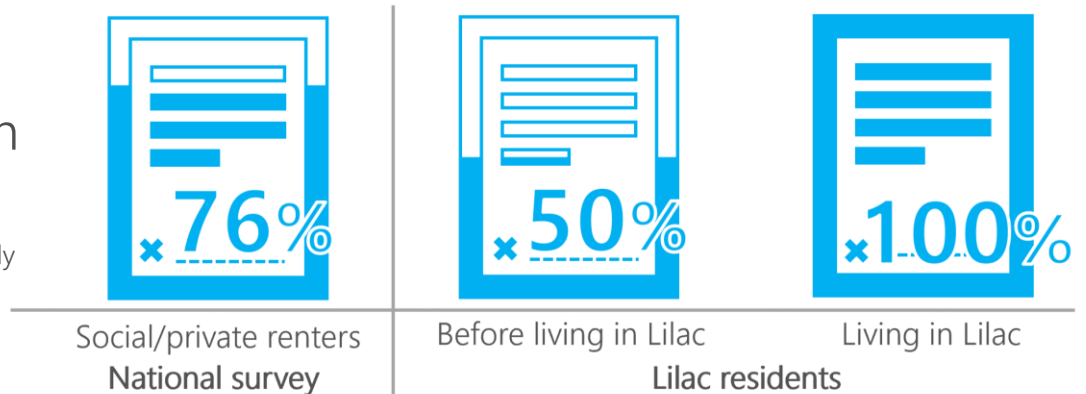
Satisfaction with accommodation

Percentage people very or fairly satisfied



Satisfaction with tenure type

Percentage people very or fairly satisfied



Lilac's MHOS model, coupled with high quality, environmentally friendly homes with lower bills, results in very high satisfaction levels (see above). In particular, Lilac residents enjoy high thermal comfort, sound insulation, and natural light compared to their previous accommo-

modation. Satisfaction with tenure type is exceptionally high, with residents stating they have increased control over their housing through the resident controlled MHOS and cooperative governance which puts residents at the heart of decision making.



3. Community

At the heart of Lilac’s design are **Cohousing principles**. Cohousing is a design approach centred around private homes with shared amenities. Features like the ‘common house’, community meals, shared green space and communal laundry create a strong, inclusive community. Lilac also fosters links with the wider community through regular events.



Lilac’s common house

Shared facilities include a workshop, communal kitchen, office, social space, dining room, post room, and laundry room!



Personal Satisfaction

Satisfaction with life

Percentage people with very high or high satisfaction



National average



Before living in Lilac



Living in Lilac

Lilac residents

Satisfaction with health

Percentage people completely or mostly satisfied



National average



Before living in Lilac



Living in Lilac

Lilac residents

Lilac’s residents reported much higher health and life satisfaction compared to previous accommodation. They state their general health – physically and mentally - has improved since moving to the community due to Lilac’s plentiful greenspace, sustainable travel options, better

high air quality and natural light in the homes, greater social interaction and opportunities for socialising with neighbours. Sharing basic goods, like lawnmowers and tools, also plays a key role in community life, and offers real economic savings.



Neighbourliness

Talking with neighbours

Percentage people talking to neighbours on most days



National average



Before living in Lilac



Living in Lilac

Lilac residents

Borrowing things/ exchanging favours with neighbours

Percentage people who definitely agree



National average



Before living in Lilac



Living in Lilac

Lilac residents

Feeling of belonging in neighbourhood

Percentage people who very strongly feel they belong



National average



Before living in Lilac



Living in Lilac

Lilac residents

Beyond personal satisfaction, Lilac also provides residents with an increased sense of belonging and community compared to the UK average, and previous accommodation of residents.

This is largely due to the use of a cohousing design approach at Lilac, which encourages social interaction. The homes are designed to face each other to increase opportunities for meeting, conversations and opportunities to watch out, and care for, neighbours.

The common house is the hub of the community where residents eat, meet and socialise together. The whole site is car free which offers a safe environment for young and old alike to chat, scoot, ride bikes or just take in nature. Residents have developed 'community agreements' together which help guide and inform life in Lilac, across a range of issues such as pets, food and upkeep of gardens.

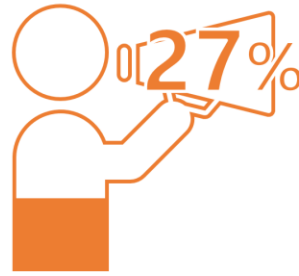




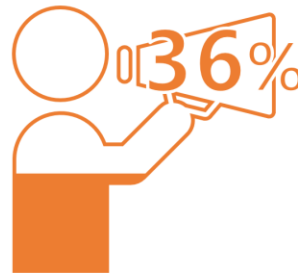
Empowerment in the Wider Community

Ability to influence local decisions

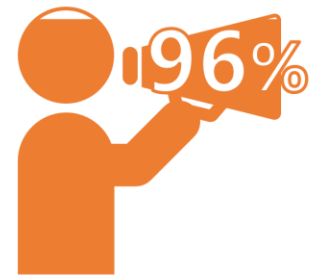
Percentage people who definitely or tend to agree they can influence decisions



National average



Before living in Lilac



Living in Lilac

Lilac residents

Participation in social action*

Percentage people who have participated within the past 12 months



National average



Before living in Lilac



Living in Lilac

Lilac residents

The above image shows that Involvement in social action is over four times higher in Lilac compared to the national average, and almost double where residents lived before. Lilac residents state that this is because living in the community empowered them, built confidence, and enabled networking both inside Lilac and in the wider community. The cohousing design approach is key here as it actively creates opportunities for meeting and chatting.

Similarly, Lilac residents feel they are able to influence local decisions. Lilac's cooperative, consensus based gov-

ernance structure means that everyone in the community has an equal say on how things are run, and no-one is excluded. This empowerment within the community (and links to other cooperative projects around Leeds) encourages Lilac's residents to work with the wider community to explore issues together and make real change. For example, Lilac residents support a local community association, local schools and hold charity and music events.

*What is social action?

Social action is about people coming together to help improve their lives and create positive change within their community. It includes things like organising community events, running local voluntary services (e.g. community centres, parks and childcare) or setting up/ preventing closure of a local service.



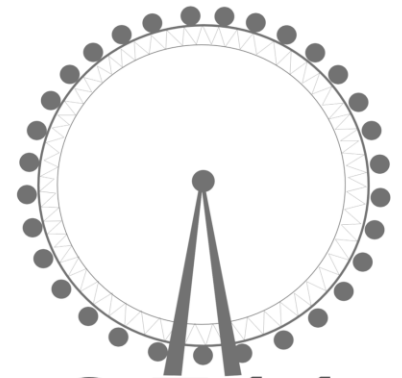
If every UK home were like a LILAC home, every year the UK would save...

1.7 billion m³ water, enough to fill:



Olympic swimming pools

14.1 million tonnes non-recycled waste, the weight of:



6,711
London Eyes

332 billion kWh energy, enough to power:

18.7 million
households = 100,000 homes



220 billion miles driven by vehicles, the distance of:

921,000
trips to the moon



325.3 million
tonnes CO₂e:

a 42% reduction in the UK's total greenhouse gas emissions

Sources for National Benchmark Data

Low-impact

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Spending net income on housing; satisfaction with accommodation:

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Ministry of Housing, Communities and Local Government. 2020. *English Housing Survey 2018 to 2019*: <https://www.gov.uk/government/collections/english-housing-survey#2018-to-2019>

Satisfaction with tenure: Ministry of Housing, Communities and Local Government. 2019. *English Housing Survey 2017 to 2018: private rented sector: Chapter 1*: <https://www.gov.uk/government/statistics/english-housing-survey-2017-to-2018-private-rented-sector>

Community

Perception influencing local decisions; feeling of belonging in neighbourhood; talking with neighbours; borrowing from neighbours; participation in social action: Department for Digital, Culture, Media and Sport. 2020. *Community Life Survey, 2018-2019*: <http://nesstar.ukdataservice.ac.uk/webview/index.jsp?v=2&mode=documentation&submode=abstract&study=http://nesstar.ukdataservice.ac.uk:80/obj/fStudy/8584&top=yes>

Life satisfaction: Office for National Statistics. 2020. *Annual Population Survey: Personal wellbeing in the UK 2019 to 2020*: <https://www.ons.gov.uk/peoplepopulationandcommunity/wellbeing/datasets/headlineestimatesofpersonalwellbeing>

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What if...

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Note on data collection:

The survey results in this report are based upon a sample of 24 residents, and carbon footprint data were based upon a sample of 9 Lilac households. While these are approaching 50% of Lilac residents, the results need to be regarded as a snapshot rather than complete summary of life at Lilac and its impact. Data surrounding an 'average' UK and Lilac home are both based upon the 'average' UK household size of 2.4 people.

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