Energy and Sustainability

LANCASTER WEST
RESIDENTS' ASSOCIATION

Energy and sustainability

Overview

The following is a summary of major concerns and key ideas discussed with the residents. The ideas, developed together with local residents, focus on addressing the quality of indoor environment – in terms of warmth, overheating, ventilation, and their control - together with water services and exposed gas pipe concerns, rodent infestation along pipe routes and poor-quality and disruptive services installations.

The ideas discussed with residents aim to make their homes fit for the next thirty years. They seek to avoid further upgrade works and to deliver zero-carbon retrofits, fit for the zero-carbon city outlined in the London Plan, including eliminating fossil fuel air quality issues. The ideas proposed represent best practice chosen because they are already used on large scale roll-outs elsewhere, particularly in northern Europe. The Dutch 'Energiesprong' in particular, is the large scale retrofit of existing homes addressing very similar challenges, aiming to upgrade each home in a matter of days with a focus on whole life cost neutrally.

The approach will be tailored to individual block constructions. Older blocks with otherwise sound brickwork, may have external walkways enclosed, roofs and ground floor upgrades and new windows. Recent improved understanding of brick heat-loss and thermal mass heat recovery would also be exploited.

Key to this approach is enhancing the building envelope thermal performance sufficiently so that fully recycling the waste heat from people, appliances and cooking within each home can deliver both their heat and hot water needs. Advantage can also be taken of the UK's milder climate and the reduced building envelope area of flats to achieve near German 'Passivhaus' standards but using more cost-effective insulation standards and avoiding community heating costs.

Drawing from Danish experience, off-the-shelf exhaust-air heat-pump units in each home provide complete local control. This lowers electrical demand sufficiently that on-roof PV solar panels electricity is sufficient to make these homes zero carbon. In summer the same unit also cools the ventilation air supply when creating hot water.

Your concerns:

After various discussions with residents, the following concerns were made about your homes, your block and the wider Lancaster West Estate.

Ideas for possible works to address these issues are included on the following page of this report, and within the individual block ideas books.

- Condensation and damp (including after windows and insulation replacement)
- Draughts and acoustic issues of poor windows (including after replacement)
- Lack of control of community heating (temperature and summer changeover)
- Summer overheating
- High utility bills
- Poor water pressure (insufficient for showers)
- Poor maintenance of water and electric systems
- Poor maintenance of windows and building fabric
- Construction work disruption

Ideas we discussed:

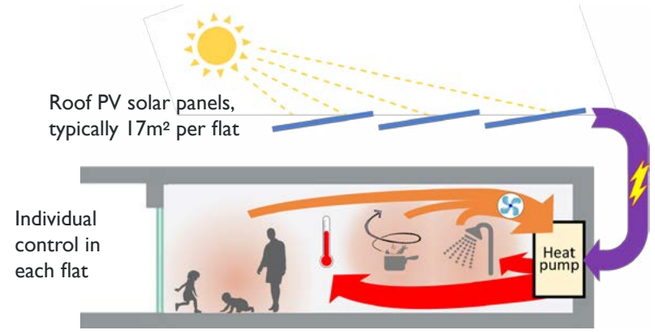
The following ideas were suggested by the consultant team or residents in response to issues raised by residents during the consultation events.

All these ideas require further investigation to examine feasibility and costs. They will be discussed with and reviewed by residents.

- New high-performance double glazing
- Greatly improved insulation (including over concrete, ie: thermal bridges)
- New individual heating & water systems
- Extract ventilation system to remove indoor generated moisture
- Use waste heat from people and appliances as a renewable energy source
- Community Energy Co to harness site renewable energy to reduce bills
- Zero carbon retrofit exemplar
- Minimise occupant disruption by installing new envelope outside building

Zero Carbon

Waste body and appliances heat is captured and recycled by an exhaust-air heat-pump in each flat powered by roof PV solar panels. A Community Energy Co. could also operate the on-site PV allowing residents to reap the economic benefits in their bills.



Zero carbon using recycled heat and roof solar PV electricity

Buildings as Power Stations - harnessing the roof area for urban power

Heating system

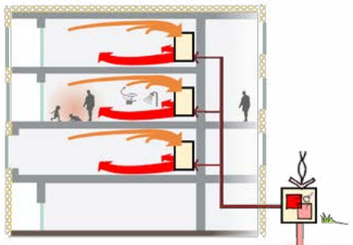
The type of heating system is dependant on the level of insulation achieved in each block. Better glazing and insulation means lower energy needs and hence residents' bills. Option 1 in the hierarchy below is typically recommended, or Option 2 for older blocks.

Option 1
Recommended option: each home has an exhaust-air heat-pump:

- Recycles waste heat
- High insulation needed
- Lower energy bills
- Individual control
- Low maintenance costs
- Electricity powered
- Enables on-site Zero Carbon

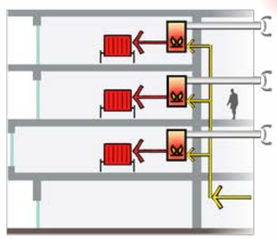
Option 2
Exhaust-air heat-pumps+communal ground-source heat-pump:

- If less insulation installed
- Higher energy bills
- Individual control
- Higher maintenance costs
- Electricity powered
- Zero Carbon needs additional off-site renewable energy



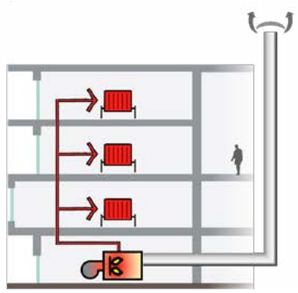
Option 3
Gas boiler in each flat:

- If least insulation installed
- Higher energy bills
- Individual control
- Higher maintenance costs
- Fossil fuel gas use
- Not Zero Carbon
- Flue discharges near windows



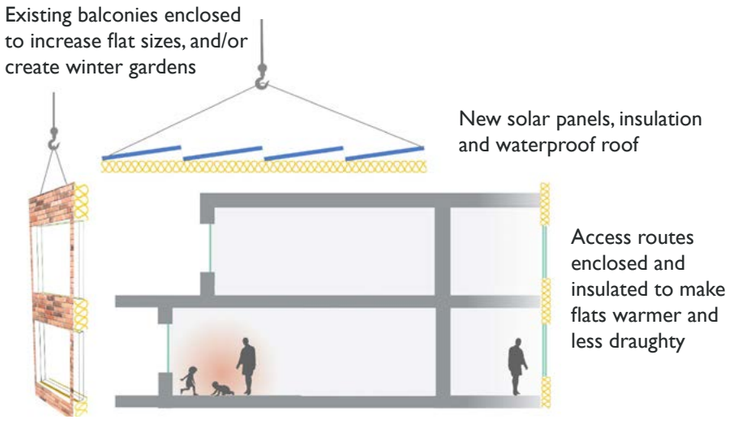
Option 4
Upgrade Communal boilers:

- If least insulation installed
- Higher energy bills
- Individual control
- Highest maintenance costs
- Highest fossil fuel gas use
- Not Zero Carbon



Minimising disruption

Dutch example of new insulated roof in one-week complete refurbishment



Prefabricated modules installed from outside to minimise resident disturbance

Further information:

Website: www.lancwestrefurb.com

This document is available to read in other languages. To request a translated copy of this book or for more information please contact NewmanFrancis on:

Freephone: 0800 644 6040 (free from landlines)

Office: 020 8536 1436

Email: lancasterwest@newmanfrancis.org

A hard copy of this book can be found at Baseline Studios and with your block representative. Please use the contact information above to find out who your block representatives are.

To contact Kensington and Chelsea Council on any issues related to the Estate, please:

Email: LancasterWestOffice@rbkc.gov.uk

Or visit them at: Unit 2, Baseline Studios, Whitchurch Road.

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Somali
Macluumaadka dokumentigan waxaa lagu heli karaa qaabab kale iyo luuqado kala duwan. Haddii aad u baahan tahay caawinaad intaas dhaafsiisan fadlan isticmaal xiriirka faahfaahinta hoose.

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Arabic
يمكن توفير المعلومات التي وردت في هذا المستند بصيغ بديلة ولغات أخرى. إذا كنت في حاجة إلى مزيد من المساعدة، الرجاء استخدام بيانات الاتصال الواردة أدناه.

Farsi
اطلاعات حاوی در این مدارک به صورتهای دیگر و به زبانهای مختلف در دسترس می باشد. در صورت نیاز به کمک بیشترلطفا از جزئیات تماس ذکر شده در ذیل استفاده کنید.