Item No.	Classification: Open	Date: 22 September 2021	Meeting Name: Housing and Community Engagement Scrutiny Commission
Report title:		Scrutiny Request - Council's plans on building Zero Carbon Houses	
Ward(s) or groups affected:		All	
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BACKGROUND INFORMATION

1. The Chair of the Housing and Community Engagement Scrutiny commission has requested information on the Council's plan for building zero carbon homes.

2. In response, this report will cover the following areas:

   - Background and policy context, including how Southwark complies with the Mayor of London's Zero Carbon Homes policy
   - The council's own approach to building zero carbon / low carbon homes
   - The enforcement of high environmental standards in the building of new homes generally
   - The Council's Carbon Offset Fund, and how the funds secured by the council will be spent

KEY ISSUES FOR CONSIDERATION

National context

3. The UK Government statutory commitment is to achieve net zero carbon emissions by 2050 as required by the Climate Change Act (2008) (as amended). This national legislation that applies to governance and institutions to ensure that they are addressing Climate Change. Point 1 of the Climate Change Act (2008) as amended states: "It is the duty of the

Secretary of State to ensure that the net UK carbon account for the year 2050 is at least [100%] lower than the 1990 baseline."

4. Several recent national reports and targets define new considerations for a quicker response to the Climate Emergency and carbon emission reductions. These are relevant in the policy context of attaining zero carbon homes as they set out the need to respond quicker to reduce carbon emissions.
   - The Carbon Budget Order (2021) sets out the carbon budget of 965,000,000 tonnes of carbon dioxide equivalent for the next budgetary period 2033-2037. This is a legally binding reduction target.
   - The 6th Carbon Budget (2021) enshrines a new interim carbon target for the UK. The 6th carbon budget sets out a target of a 78% reduction in carbon emissions against 1990 level baseline carbon levels by 2035.This brings forward previous carbon targets.
   - The recently published IPCC report (2021) was published in response to the impacts of global warming of 1.5°C above pre-industrial levels and related global greenhouse gas emission pathways' contained in the Decision of the 21st Conference of Parties of the United Nations Framework Convention on Climate Change to adopt the Paris Agreement. The report sets out projected impacts and risks of climate change, and emissions pathways. The report demonstrates why both individuals and organisations need to act quickly to respond to Climate Change.

5. These publications and revised targets are part of the UK's pathway to the UN Climate Change Conference (COP26) in Glasgow in October-November 2021. COP26 is a conference where heads of state, climate experts and campaigners agree coordinated action to tackle climate change going forward.

London Plan (2021)

6. This 2050 net zero carbon target, as required by the Climate Change Act (2008), is echoed in policy in the published London Plan (2021) which is committed to making London a net zero carbon city by 2050. London Plan Policy SI2 'Minimising greenhouse gas emissions' requires major development to be net zero-carbon. This means that major residential and non-residential development should reduce greenhouse gas emissions in operation and minimising both annual and peak energy demand. Any shortfall of onsite emissions must be offset by making a financial contribution for each tonne of carbon for a 30-year period.

New Southwark Plan

7. Going beyond London Plan policy, the new energy policy 'P69 Energy' of the New Southwark Plan requires all major residential development to reduce carbon emissions by 100% on 2013 Building Regulations Part L standards. Any shortfall in onsite carbon reductions must be offset through planning obligations or a financial contribution of £95 per tonne of carbon to the council. These financial contributions make up the Carbon Offset Fund, which will be used by the council to fund appropriate carbon offsetting projects. This policy ensures that development in Southwark complies with the London Plan and the Mayor's commitment to zero carbon homes in London. The New Southwark Plan will be adopted by the council in winter 2021/22.

8. Southwark's planning policies have been prepared to attain the highest possible onsite carbon reductions, and as such focus on the largest carbon emitters associated with residential buildings: heating, cooling and power. All development, including residential, should approach achieving carbon reductions using the energy hierarchy framework outlined in the London Plan (2021):
   - Be lean: energy efficient design and construction, including building fabric and materials, orientation, aspect and passive cooling
   - Be clean: Further carbon savings should then be sought using a low carbon energy supply such as decentralised energy networks.
   - Be green: once savings have been maximised at the previous two stages, the use of renewable energy generation such as photovoltaic panels should be incorporated.

9. The New Southwark Plan was prepared against the statutory and legal net zero 2050 target. To meet the council's 2030 net zero target, a review of planning policy will need to take place to develop innovative new policy. The early review of the New Southwark Plan is this opportunity and is scheduled to cover a broad range of policy areas. Alongside this early review, higher carbon price options, including tiered options, will be assessed for viability and feasibility to incentivise greater carbon reduction onsite and reduce the need for offsetting.

LBS Climate Change Strategy

10. On 27 March 2019 Southwark's Council Assembly resolved to call on cabinet to declare a Climate Emergency and to do all it can to make the borough carbon neutral by 2030. In response to this declaration, the

Planning Division is reviewing its planning policies and practice to try and meet this target in line with the council's new Climate Change Strategy. The council work to date has seen a 37% reduction in carbon from 2008.

The enforcement of high environmental standards in the building of new homes generally

11. In response to the Climate Emergency and emerging policy and guidance from the GLA, Southwark is preparing processes to ensure the consistent monitoring of energy performance of new buildings at various stages of the development process – i.e., on approval, as built and operational building performance. This will ensure that monitoring is more accurate and will ensure that what is built is consistent with what is consented to ensure that carbon emissions are reduced to ensure that net carbon zero is met in the borough.

12. The main areas of focus for monitoring energy performance and carbon reduction in new buildings are:
    - The carbon reduction achieved on site against Part L 2013 Building regulations at the submission stage, and the operational stage in order to address potential performance gaps
    - Heating and energy sources that are being consented
    - Development proposing to connect to District Heat Networks (e.g. SELCHP), and
    - Whole lifecycle carbon of new development

13. In addition to improved monitoring, additional training and guidance are being prepared for planning officers to train them in pushing for greater onsite carbon savings and deliver climate emergency priorities through the development process.

14. The emerging New Southwark Plan monitoring framework is now being prepared to capture and standardise the monitoring of energy and sustainability information in new development. It includes data from Energy Statements, monitoring of actual carbon reduction, types of technology used in construction, retrofitting, performance bonds, etc.

15. The current Building Regulations that relate to a building's carbon impact are set out in Approved Document Part L which deals with the conservation

of fuel and power. This document sets out a formula to establish both a target emission rate, and a target fabric energy efficiency rate for new buildings that cannot be exceeded. The standards set by this formula vary based on the type of fuel used in each development.

16. It has been recognised that the current Building Regulation Standards do not go far enough to ensure that all new developments are net-zero carbon by 2050, in line with current government targets. The government is therefore planning to introduce a new Future Homes Standard in 2025 that will require all new developments produce 75-80% less carbon emissions than homes delivered under current regulations and bans the use of heating that relies on fossil fuels.

17. As an interim measure between now and 2025, the government is currently consulting on an update to Approved Document L, which is intended to take effect from 2022, that will require all new developments to reduce carbon emissions by at least 31% more than current regulations require. This reduction is less than is currently required by planning rules.

The Council's own approach to building zero carbon / low carbon homes

18. The New Homes Development Team is responsible for delivering and meeting our target of 11,000 new council homes by 2043. 2,500 of these homes will be built or started on site by May 2022. Southwark Council are committed to making sure our homes meet the highest possible standards for sustainable design and construction to contribute towards making us carbon neutral by 2030.

Current position

19. A review of existing New Homes schemes being delivered was carried out by Anthesis consultants in 2021. The review highlighted the existence of a performance gap, between projects as designed and as operated, as well as there being no current monitoring of embodied carbon emissions. The greatest initial impact on operational carbon may be achieved by reducing or eliminating the performance gap. However, the operational carbon element over a 60-year lifetime of new build development is relatively small (estimated circa 20% for energy use, operations and maintenance) in comparison to the embodied carbon of construction, particularly where extensive use of concrete and steel is made. Where embodied carbon has been assessed the Council's schemes are performing in line with current industry benchmarks, potentially worse where high rise development is

proposed, owing to the increased likelihood of the use of concrete or steel superstructures.

Future Potential

20. At the early stages of a single small-scale, low-rise pilot project it is estimated that a circa 70% improvement may be possible in whole life carbon emissions (operational and embodied) by deploying the best technically and commercially available technologies. This assumes (amongst other factors): the use of passive house operational standards and extensive use of timber structures to replace concrete and steel. The normalised whole life carbon for the new development is comparable to a refurbished development in this case, owing in part to additional de-construction required to adhere to funding criteria and the increased density of new build development.

21. In this study, operational carbon emissions were substantially reduced, but not reduced to Net Zero Carbon (operationally) through on-site measures. Embodied carbon emissions were substantially reduced, but not reduced to Net Zero Carbon (Whole Life Carbon) through on-site measures. Performance comparable to RIBA 2030 Whole Life Carbon targets was forecast to be achieved for retrofit and redevelopment options. It is therefore implied that some form of off-site carbon emission mitigation will be required for both the operational and embodied carbon elements of new development by the Council.

Our vision

22. The council's approach to minimising the carbon emissions of our new homes will be achieved using the following methods:

    - minimising the amount of on-site carbon production
    - offsetting any carbon that is produced in the building process in line with the council's carbon offsetting schemes, and
    - minimising the amount of operation carbon in buildings.

23. This will be achieved by:

    - Acting now on Whole Life Carbon Assessment on all large scale (greater than 150 units) addresses both operational and embodied

carbon performance. The estimated cost of this action is a 20% uplift in construction costs and a 0.5% uplift in professional fees.

- Schemes: Red Lions Boys Club, PC World/B&M site, Folegate Estates, Old Kent Road Gas Works, All projects from 2025.
- Adopting BSRIA soft landings for a 3-year period (with matching warranties and defects) to begin addressing the performance gap. This is the biggest operational carbon opportunity for new build properties. The estimated additional cost of this measure is £30,000 - £60,000 per development.
- Developing a Policy for carbon offsetting to ensure pathway to delivering Net Zero Carbon developments. We will carry out due diligence and monitoring of offsetting results.
- Current cost is £95 tonne per tonne CO2, but this is likely to increase
- Ensuring all relevant new homes officers are trained on Whole Life Carbon approaches and performance monitoring
- Seeking partnerships and collaboration to grow supply chain and ensure best value for money.
- Revising our Employers Requirements and Design Standards to reflect changes in achieving Net Zero Carbon.

The carbon offset fund, and how the funds secured by the council are being spent

The carbon offset fund

24. The Carbon Offset Fund is a collection of financial contributions secured through s106 agreements, where new development has not achieved net carbon zero onsite and an offsetting payment is collected by the council to make up the shortfall to net zero. The current carbon offset price is £95 per tonne of operational carbon (C02/t) per annum. It was previously £60 per C02/t per annum and increased in November 2020.

25. The governance and management of the Fund is crucial to ensuring funds are efficiently spent to offset the total tonnage of carbon that has and/or will be generated by new development. This will be achieved by funding carbon offsetting projects that reduce carbon emissions from existing sources such as existing buildings or service.

26. A Carbon Offset Fund report will be considered by Cabinet on 19 October 2021 where agreement on the scope and governance of the Fund will be agreed.

27. As of August 2021, the current received funds total is £2,398,421.46. This must be solely spent on carbon reduction as established by GLA guidance and s106 regulations. Spending should be at the highest carbon ratio over the lifetime of the offsetting project (30 years). There is the potential for match funding from other funding pots and seeking additional internal and external funding streams.

28. Officers will seek to utilise existing processes to minimise administrative costs, however new internal processes will be set up to allow officers to administer the Fund. Officers will have technical support to evaluate and monitor the effectiveness of offsetting projects.

How the fund will be spent

29. The Fund decision-making process will be flexible to consider a range of projects in terms of scope, scale and deliverability that will reduce the most carbon emissions. The co-benefits of projects that deliver higher carbon reductions and carbon offset ratios will be considered when deciding spending. Projects should make greater reductions/reduce offset costs using economies of scale where possible.

30. One of the focuses of the Carbon Offset Fund will be to fund offsetting projects that enable the retrofitting and decarbonisation of existing building stock as this is where the biggest carbon reductions can be made and can utilise existing in-house structures to reduce administration costs.

31. For an offsetting project to be funded using the Carbon Offset Fund, it will need to comply with Fund's funding criteria. The criteria is currently being prepared but will likely require:
    - Projects to meet at least a carbon offset ratio of 1:1 or higher. This means that for each £60 or £95 spent one tonne of existing carbon emissions must be reduced
    - Not be proposed by an individual or an individual business for individual benefit
    - Provide details of carbon reduction potential and proposed monitoring
    - Be legally entitled to receive funding from the council and observe applicable limitations that apply to funds raised through S106; and
    - Comply with GLA Carbon Offset Fund Guidance and all applicable legislation.

32. Further scope and governance considerations for the 19 October cabinet report include the use of funds throughout the borough, and how community-led projects or collective funding projects will need to ensuring funding criteria are met.

AUDIT TRAIL

Lead Officer	Juliet Seymour	
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CONSULTATION WITH OTHER OFFICERS / DIRECTORATES / CABINET MEMBER		
Officer Title	**Comments Sought**	**Comments Included**
Director of Law and Governance	n/a	n/a
Strategic Director of Finance and Governance	n/a	n/a
List other officers here	n/a	n/a
Cabinet Member	n/a	n/a
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