Twentieth Century Fox Building Soho Square, and associated Properties

The Carbon Case for Retrofit 2

on behalf of

The Soho Society

29th September 2021

Contents:

1. Introduction

1.1. This document must be read in conjunction with the preceding document 'The Carbon Case for Retrofit' dated 31st May 2021 by Targeting Zero on behalf of the Soho Society. This sets out the case for a whole life carbon assessment to which the building owner has responded as per 1.2 below.

1.2. This document comments on the 'Soho Square – Whole Life Cycle Carbon Assessment report' dated 21st September 2021. By Norman Disney Young on behalf of Royal London UK Real Estate Fund.

2. General Comments on the NDY Report:

2.1. The Proposed 'Option 2' does not provide any significant detail however the following figures have been reported.

2.2. The reported total embodied carbon figures for the '**Planning Scheme'** for Construction (Modules A1-A5) of 972.9kgCO2e/m2; 'In Use' emissions (Modules B1-B5) of 366.9kgCO2e/m2; End of Life emissions 32.3kgCO2e/m2, comes to a **Total of 1,372.1 kgCO2e/m2**.

2.3. This figure is at the high end for buildings of this type and are therefore not particularly resource efficient. In the previous report Targeting Zero assumed a conservative total of 1,000kgCO2e/m2 for this project, i.e. in bands C/D in the RIBA/LETI diagram below. This assumption has been shown to be highly optimistic and has been significantly exceeded. See RIBA/LETI Targets below.

2.4. The reported total embodied carbon figures for the '**Option 2'** for Construction (Modules A1-A5) of 611kgCO2e/m2; 'In Use' emissions (Modules B1-B5) of 385.8kgCO2e/m2; End of Life emissions 11.8kgCO2e/m2, comes to a **Total of 1008.6kgCO2e/m2.**

2.5. This is also very high given the reduced scope. See RIBA/LETI Targets below.

Embodied Carbon, A1-5, B1-5, C1-4 (inc. sequestration)

Band	Office	Residential	Education	Retail
A++	<150	<150	<125	<125
A+	<345	<300	<260	<250
A	<530	<450	<400	<380
B	<750	<625	<540	<535
C	<970	<800	<675	<690
D	<1180	<1000	<835	<870
E	<1400	<1200	<1000	<1050
F	<1625	<1400	<1175	<1250
G	<1900	<1600	<1350	<1450

RIBA 2030 Built Target

All values in $kgCO_2e/m^2$ (GIA)

RIBA/LETI Targets to align with 6th Carbon Budget ie Net Zero by 2050.

'Planning Scheme' is in 'Band E' which is almost double the Target for 2030.

'Option 2' is in 'Band D' which is only a marginal improvement on the 'Planning Scheme'.

2.6. The reasons for these high figures for both the 'Planning scheme' and 'Option 2' are likely to be several, principally around complex construction on a tight site and are therefore inefficient from a carbon perspective.

2.7. The alternative 'Option 2' does not represent a true Retrofit which would be the lowest carbon option. This can be evidenced in 'Table 1' below from the NDY submission dated 21st September 2021.

Table 1: Building elements (RICS PS)

Group element	Building element	Planning scheme	Option 2	Option 3
Demolition	0.1 Toxic/Hazardous/Contaminated Material treatment	No	No	No
	0.2 Major Demolition Works	Yes	Yes	No
0 - Facilitating works	0.3 & 0.5 Temporary/Enabling Works	No	No	No
	0.4 Specialist groundworks	No	No	No
1- Substructure	1.1 Substructure	Yes	Yes	No
2- Superstructure	2.1 Frame	Yes	Yes	No
	2.2 Upper floors incl. balconies	Yes	Yes	No
	2.3 Roof	Yes	Yes	Yes
	2.4 Stairs and ramps	Yes	Yes	No
	2.5 External Walls	Yes	Yes	No
	2.6 Windows and External Doors	Yes	Yes	Yes
	2.7 Internal Walls and Partitions	Yes	Yes	Yes
	2.8 Internal Doors	Yes	Yes	Yes
3- Finishes	3.1 Wall finishes	Yes	Yes	Yes
	3.2 Floor finishes	Yes	Yes	Yes
	3.3 Ceiling finishes	Yes	Yes	Yes
4- Fittings Furnishings and equipment (FF&E)	4.1 Fittings furnishings & equipment incl. building-related* and non-building-related**	No	No	No
5- Building services/MEP	5.1–5.14 Services incl. building-related* and non-building-related**	Yes	Yes	Yes
6- Prefabricated Buildings and Building Units	6.1 Prefabricated Buildings and Building Units	N/A	N/A	N/A
7- Work to Existing Building	7.1 Minor Demolition and Alteration Works	N/A	N/A	Yes
8- External works	8.1 Site preparation works	No	No	No
	8.2 Roads, paths, paving and surfaces	No	No	No
	8.3 Soft landscaping, planting and irrigation systems	No	No	No
	8.4 Fencing, railings and walls	No	No	No
	8.5 External fixtures	No	No	No
	8.6 External drainage	No	No	No
	8.7 External services	No	No	No
	8.8 Minor building works and ancillary buildings	No	No	No

2.8. ‘Table 1’ illustrating the building element categories for the ‘Planning Scheme’ and ‘Option 2’ above is included in the NDY Whole Life carbon submission of 21st September 2021. From this it is possible to see that the scopes in terms of building element categories are identical which is why Option 2 is not a significant improvement in carbon terms in relation to the ‘Planning Scheme’.

3. Option 3 – The Retrofit Option.

3.1. Adjacent to Option 2 is a notional ‘Option 3’. This shows a reduced scope which is more in line with a Retrofit approach rather than a ‘new build lite’ as in ‘Option 2’.

3.2. The principal differences are full façade retention (except windows) but to exclude all significant new structural work and associated demolition and waste disposal. Changes to the roof and windows (consistent with conservation area requirements) have been included as these will contribute to the longevity of the building and improve its long-term environmental performance. The assumption is also that as part of a Retrofit approach the facades are overhauled to optimise life cycle.

3.3. This type of Retrofit approach would have a much lower carbon footprint than either the ‘Planning scheme’ or ‘Option 2’.

4. Conclusions

4.1. Both the options are very high comparatively in terms of carbon intensity (kgCO2e/m2), and significantly exceed RIBA2030 and LETI carbon targets. The two options are in carbon terms not that different in practice, although ‘Option 2’ retains the façade on Soho Square and possibly some of the original core.

4.2. What is demonstrated in both the ‘Planning scheme’ and ‘Option 2’ is that major reconstruction on tight urban sites is not efficient from either a carbon or resource efficiency perspective. Provided the buildings are not beyond economic reuse (which these are clearly not) retrofit is clearly the optimum carbon option. This may not be consistent with achieving the most profitable outcome for the site owner, but it is consistent with the needs of society in the context of a climate crisis.

4.3. It would therefore be consistent with GLA Policy SI2 and Westminster City Council’s emerging environmental policies and intentions if the scheme was a true retrofit along the lines of Option 3.