

## Email contents

19/05/2020

Southwark - Zero Carbon query - Cost Query

Hi Max

As discussed / requested we have reviewed the impact on the zero carbon strategy of just upgrading the U values of the building envelope.

We have asked YBS to provide an updated SBEM to show this – copy attached.

You will note that the enhancement is minimal – 8.76% carbon reduction over Part L2a (previous calculation 8.20% reduction).

The reason for the relatively small improvement is due to the buildings cooling load increase because of the enhanced thermal performance of the building. When U-values are enhanced and the fabric heat loss reduced, there is a bit of a juggling act required to ensure a level of equilibrium is achieved between heat load reduction and cooling load increase. The more air tight a building, with a lower heat loss fabric, there is a risk of overheating, therefore the cooling load will increase respectively (solar gains are essentially trapped within the building). This tends to be at a higher rate than the heat load reduces, therefore the overall building energy consumption and emissions can increase. The proposed enhanced U-values represent the optimum thermal performance where by any further enhancements could be detrimental to the overall annual energy consumption and associated emissions (cooling load increases beyond the heat load reduction).

The attached SBEM shows an annual energy reduction of 1,606.64kWh/annum and a carbon reduction of 604.00kgCO<sub>2</sub>/annum.

Cost as below extract from previous issue for upgrading the envelope:-

Upgrade to wall insulation	488.00	m2	15.00	7,320.00
Upgrade to floor insulation	680.00	m2	15.00	10,200.00
Upgrade to Roof Core (to the building extent only)	680.00	m2	30.00	20,400.00
Upgrade from double to triple glazing, upgrade of external doors	1.00	item	15,000.00	15,000.00

Plus you will need to add some fees – architect / eng and an element of M&E to redo cooling calcs etc – say Circa £10k of the fees listed (I would need to review with all of the team to get this exact, but feel this is a good estimate)

Then add OHP and contingency

Total Circa £68k

Our recommendation would be that providing this element of work in isolation to the whole carbon strategy improvement plan is not cost effective, but we await your feedback in due course

Should you have any queries, please do not hesitate to contact me

Many thanks

Phil

---

Phil Stokes | Director | M. 07812340284

---

17 Brooklands Court, Kettering Venture Park, Kettering NN156FD  
T. 01536 524 555 F. 01536 525 264 W. [www.vincentstokes.com](http://www.vincentstokes.com)

VINCENT STOKES  
Hassle Free Construction Solutions



PROUD TO BE SHORTLISTED FOR **SME OF THE YEAR**  
AND **INTEGRATION & COLLABORATION AWARDS**

**CELEBRATING  
CONSTRUCTION  
2018**

**FINALIST WEST MIDLANDS**

**FINALIST EAST MIDLANDS**