



# SPACE PLACE

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June 25































# The Feasibility of Re-use

Debating the remodeling of Leisure



In the past this was a no brainer – always rebuild/consolidate  
(Gravesham)









But now there are two very good reasons why you wouldn't rebuild

# Availability of Capital


# Embodied Carbon



~~Availability of Capital~~

Embodied Carbon



RIBA Sustainable Outcome Metrics	Business as usual (new build, compliance approach)	2025 Targets	2030 Targets
<b>Embodied Carbon</b> kgCO <sub>2</sub> e/m <sup>2</sup> 	1400 kgCO <sub>2</sub> e/m <sup>2</sup>	< 970 kgCO <sub>2</sub> e/m <sup>2</sup>	< 750 kgCO <sub>2</sub> e/m <sup>2</sup>









Just over 500 tonnes per year in-use for LC

Equivalent eCar in building a 75 station gym  
kgCO<sub>2</sub>e/m<sup>2</sup> GIA

So, if you build new LC on net zero principles you  
will have saved the eCar after approx. 9 years





B99D

240 V

40A MAX

50 c/s

S 200·16  
WATTHOUR METER

250 revs/kWh

1PH 2W

SANGAMO WESTON LTD.  
ENFIELD  
MIDDX

F.L.  
S

F.L.  
F

FLOTON®



An aerial photograph of a dense forest of evergreen trees, likely spruce or fir, with a rich green color palette. The text is centered over the middle of the image.

£60,000.00 per Leisure Centre



salix



## A1 Embodied carbon limits

*Table EC-1: Upfront carbon limits, New Works*

← Date of Commencement on site	Commercial Residential			Culture, Worship & Entertainment			Data Centres		Healthcare		Higher Education		Homes		Hotels		Offices		Retail		School		Science & Technology		Sport & Leisure		Storage & Distribution	
			General	Performance Spaces				Single family homes	Flats			Whole building	Shell and core															
	kgCO <sub>2</sub> e/m <sup>2</sup> GIA																											
2025	580	570	855	745	790	640	430	565	670	735	475	715	530	755	820	635												
2026	550	540	810	705	750	610	400	525	635	700	450	680	505	715	780	605												
2027	525	515	770	670	710	575	375	490	605	660	425	645	480	680	740	570												
2028	495	485	725	635	670	545	345	450	570	625	400	610	450	640	695	540												
2029	465	460	685	600	635	515	320	420	540	590	380	575	425	605	660	510												
2030	435	425	640	555	590	480	290	380	500	550	355	535	395	565	610	475												
2031	405	400	595	520	550	445	270	355	470	515	330	500	370	525	575	445												
2032	380	375	560	490	515	420	255	335	440	480	310	470	350	495	535	415												
2033	350	340	510	445	475	385	235	305	400	440	285	430	320	450	490	380												
2034	315	310	465	405	430	350	210	280	365	400	255	390	290	410	445	345												
2035	285	280	420	365	390	315	190	250	330	360	230	350	260	370	405	315												
2036	260	255	380	330	350	285	175	225	300	325	210	320	235	335	365	280												
2037	240	235	350	305	325	265	160	210	275	300	190	295	220	310	335	260												
2038	220	215	325	280	300	240	150	195	255	280	180	270	200	285	310	240												
2039	200	200	295	260	275	225	135	175	235	255	165	250	185	260	285	220												
2040	185	180	270	235	250	205	125	160	215	235	150	225	170	240	260	200												
2041	165	165	245	215	225	185	110	145	195	210	135	205	155	215	235	185												
2042	150	150	220	195	205	165	100	135	175	190	120	185	140	195	210	165												
2043	135	135	200	175	185	150	90	120	155	170	110	165	125	175	190	150												
2044	120	120	175	155	165	135	80	105	140	150	95	150	110	155	170	130												
2045	105	105	155	135	145	115	70	95	125	135	85	130	100	140	150	115												
2046	95	90	135	120	125	105	65	80	105	120	75	115	85	120	130	100												
2047	80	80	120	105	110	90	55	70	95	100	60	100	75	105	115	90												
2048	70	70	100	90	95	75	45	60	80	85	55	85	65	90	95	75												
2049	60	55	85	75	80	65	40	50	65	70	45	70	55	75	80	65												
2050	45	45	70	60	65	50	30	40	55	60	35	60	45	60	65	50												
For details of Date of Commencement, see section 4.2.6																												

# NEW BUILD

exg 1500kgCO<sub>2</sub>/m<sup>2</sup>



Table EC-2: Upfront carbon limits, Retrofit works

RETROFIT

Date of Commencement on site ↓	Commercial Residential	Culture, Worship & Entertainment		Data Centres	Healthcare	Higher Education	Homes		Hotels	Offices		Retail	School	Science & Technology	Sport & Leisure	Storage & Distribution
		General	Performance Spaces				Single family homes	Flats		Whole building	Shell and core					
	kgCO <sub>2</sub> e/m <sup>2</sup> GIA															
2025	460	450	605	525	615	475	270	425	520	600	n/a	500	380	605	655	310
2026	435	425	570	495	585	455	255	395	490	575		475	365	575	620	295
2027	415	405	545	475	555	425	235	370	470	540		450	345	545	590	275
2028	390	385	510	450	525	405	220	340	440	510		425	325	515	555	265
2029	370	365	485	425	495	385	205	315	420	485		400	305	485	525	250
2030	345	335	450	390	460	355	185	285	390	450		375	285	455	485	230
2031	320	315	420	370	430	330	170	270	365	420		350	265	420	460	215
2032	300	295	395	345	405	315	160	255	340	395		330	255	395	430	205
2033	280	270	360	315	370	285	150	230	310	360		300	230	360	390	185
2034	250	245	330	285	335	260	135	210	285	330		275	210	330	355	170
2035	225	220	295	260	305	235	120	190	255	295		245	190	300	325	155
2036	205	200	270	235	275	215	110	170	235	265		225	170	270	295	140
2037	190	185	250	215	255	200	105	160	215	245		205	160	250	270	130
2038	175	170	230	200	235	180	95	150	200	230		190	145	230	250	120
2039	160	160	210	185	215	170	85	135	185	210		175	135	210	230	110
2040	150	145	190	165	195	155	80	120	170	195		160	125	195	210	100
2041	130	130	175	155	180	140	70	110	155	175		145	115	175	190	90
2042	120	120	155	140	160	125	65	105	135	155		130	105	160	170	80
2043	110	110	145	125	145	115	60	90	120	140		115	90	140	155	75
2044	95	95	125	110	130	100	55	80	110	125		105	80	125	140	65
2045	85	85	110	95	115	85	45	75	100	110		95	75	115	120	60
2046	75	75	95	85	100	80	45	60	85	100		80	65	100	105	50
2047	65	65	85	75	90	70	35	55	75	85		70	55	85	95	45
2048	60	55	75	65	75	60	30	45	65	70		60	50	75	80	40
2049	50	45	60	55	65	50	30	40	55	60		50	40	60	65	35
2050	40	40	50	45	55	40	20	30	45	50		45	35	50	55	25

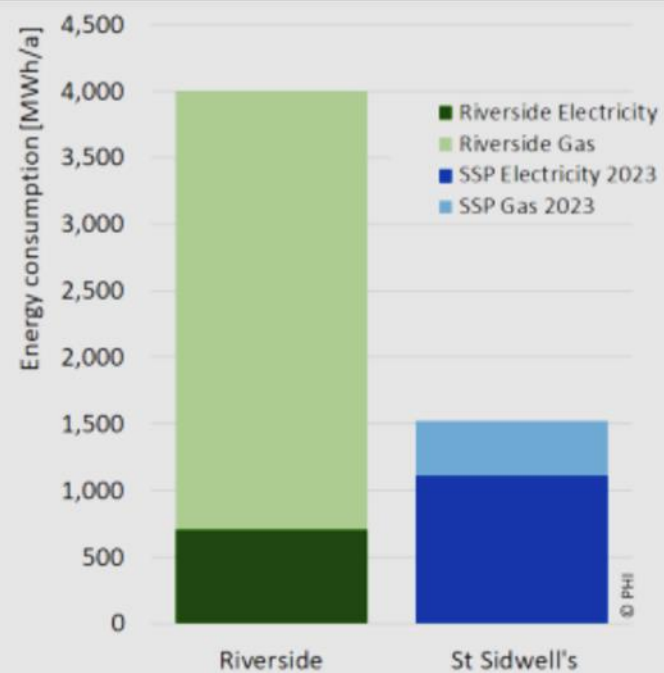
For details of Date of Commencement, see section 4.2.6



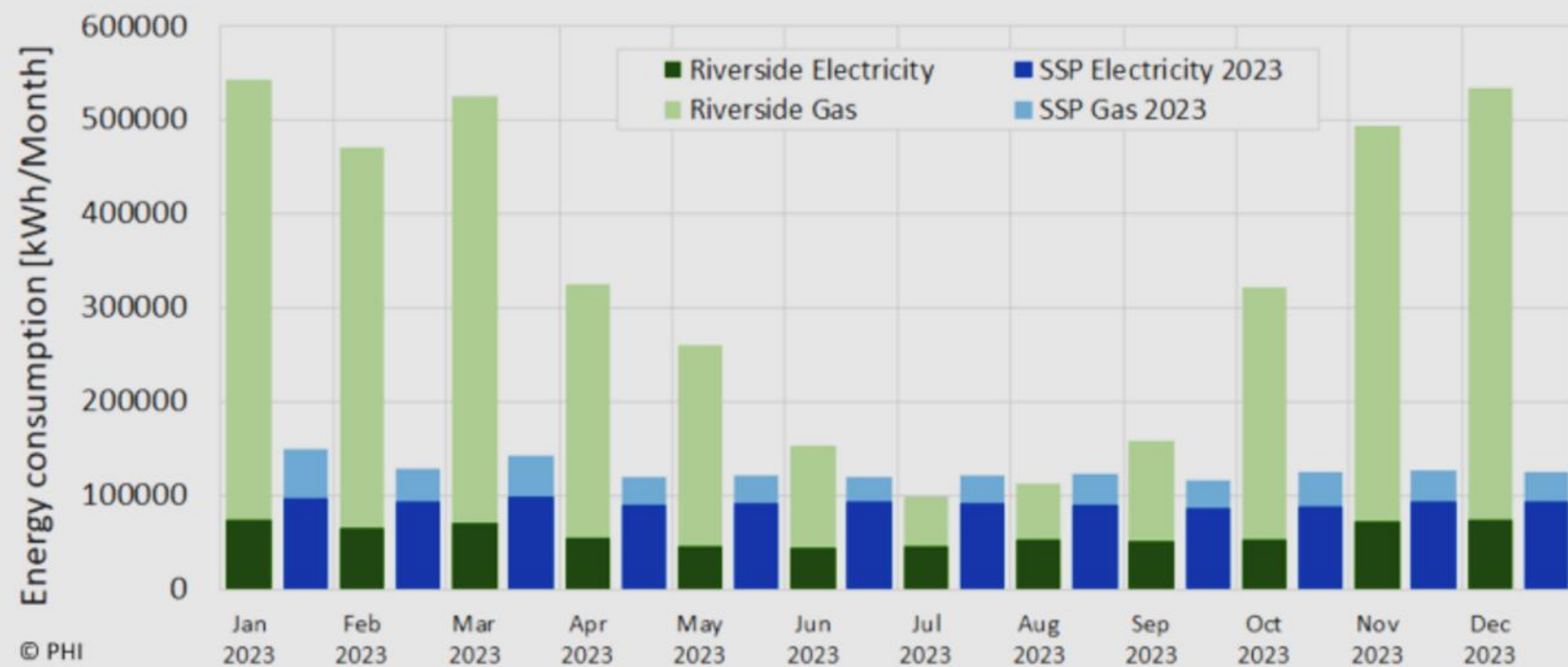
← Date of Commencement on site								Commercial		Residential		Culture & Entertainment		Community Centres		Healthcare		Higher Ed.		Homes		Public Spaces		Other (either /GIA or /NIA metrics may be used)		Retail		Schools			Science & Tech.	Sport & Leisure			Storage & Distribution																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																					
								kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr	kWh/m²GIA/yr



← Date of Commencement on site	Commercial		Cultural & Entertainment			Data Centres		Healthcare						Higher Ed.	Homes		Hotels	Offices (either /GIA or /NIA metrics may be used)						Retail						Schools			Science & Tech.	Sport & Leisure			Storage & Distribution		
kWh/m²GIA/yr	Student resi.	Care homes	Performance	Collection	Archives	PUE	Low utilisation	PUE	High utilisation	Acute Trust	Care Trust	Community Trust	Mental health & Learning Trust	Ambulance Trust	-	Single family homes	Flats	kWh/m²GIA/yr	General	kWh/m²GIA/yr	Call Centres	Trading Floors	Supermarket	High street retail, Department stores	F &B without catering <sup>a</sup>	F &B with catering <sup>b</sup>	Landlord areas <sup>c</sup>	Retail warehouse	Early years	Primary	Secondary incl. SEN	-	Dry	Wet	Fitness	Unconditioned storage	Conditioned storage	Cold store	
2025	110	220	130	100	10	1.4	1.2	258	140	162	166	182	130	75	65	180	100	125	191	239	220	275	230	90	250	450	80	100	90	85	95	360	210	500	280	35	100	230	
2026	108	216	128	98	10	1.4	1.2	259	140	163	167	182	127	74	65	176	97	122	187	234	216	270	224	87	243	438	79	97	89	84	94	351	206	490	275	34	97	221	
2027	106	211	125	96	10	1.39	1.19	259	140	163	167	182	123	73	64	172	94	118	183	229	211	264	217	84	236	425	77	94	88	83	92	341	202	480	270	33	94	211	
2028	103	206	122	93	10	1.38	1.18	259	140	163	167	182	119	72	64	168	91	114	179	224	206	258	210	81	228	412	75	90	86	81	90	331	198	470	264	32	90	201	
2029	101	202	120	91	10	1.38	1.18	259	140	163	167	182	116	71	63	164	88	110	174	218	201	252	204	78	221	400	74	87	85	80	89	322	194	460	259	31	87	192	
2030	99	197	117	89	9	1.37	1.17	259	140	163	167	182	112	70	63	160	85	107	170	213	196	245	197	75	214	387	72	84	84	79	87	312	190	450	254	30	84	182	
2031	96	192	114	86	9	1.36	1.16	259	140	163	167	182	108	69	62	156	82	103	166	208	191	239	190	72	206	374	70	80	82	77	85	302	186	440	248	29	80	172	
2032	94	188	112	84	9	1.36	1.16	259	140	163	167	182	105	68	62	152	79	99	162	203	186	233	184	69	199	362	69	77	81	76	84	293	182	430	243	28	77	163	
2033	92	183	109	82	9	1.35	1.15	259	140	163	167	182	101	66	61	148	76	95	157	197	182	228	177	66	192	349	67	74	80	75	82	283	178	420	238	27	74	153	
2034	89	178	106	79	9	1.34	1.14	259	140	163	167	182	97	65	61	144	73	92	153	192	177	222	170	63	184	336	65	70	78	73	80	273	174	410	232	26	70	143	
2035	87	174	104	77	8	1.34	1.14	259	140	163	167	182	94	64	60	140	70	88	149	187	172	215	164	60	177	324	64	67	77	72	79	264	170	400	227	25	67	134	
2036	85	169	101	75	8	1.33	1.13	259	140	163	167	182	90	63	60	136	67	84	145	182	167	209	157	57	170	311	62	64	76	71	77	254	166	390	222	24	64	124	
2037	82	164	98	72	8	1.32	1.12	259	140	163	167	182	86	62	59	132	64	80	140	175	162	203	150	54	162	298	60	60	74	69	75	244	162	380	216	23	60	114	
2038	80	160	96	70	8	1.32	1.12	259	140	163	167	182	83	61	59	128	61	77	136	170	157	197	144	51	155	286	59	57	73	68	74	235	158	370	211	22	57	105	
2039	78	155	93	68	8	1.31	1.11	259	140	163	167	182	79	60	58	124	58	73	132	165	152	190	137	48	148	273	57	54	72	67	72	225	154	360	206	21	54	95	
2040	75	150	90	65	7	1.3	1.1	258	140	162	166	182	75	58	57	120	55	69	127	159	147	184	130	45	140	260	55	50	70	65	70	215	150	350	200	20	50	85	
2050	75	150	90	65	7	1.3	1.1	258	140	162	166	182	75	58	57	120	55	69	127	159	147	184	130	45	140	260	55	50	70	65	70	215	150	350	200	20	50	85	



**Figure 2:** Comparison of annual final energy consumption of Riverside and St Sidwell's Point Leisure Centres.



**Figure 3:** Comparison of monthly final energy consumption of Riverside and St Sidwell's Point Leisure Centres.



Clearly the biggest challenge.....

# Availability of Capital

# ~~Embodied Carbon~~



Clearly the biggest challenge.....

Availability of Capital

Cost of Capital

~~Embodied Carbon~~

Refit opportunities



















We have a systems designed to fulfil  
funding and procurement criteria

Rather than solutions defined by  
your community

Return on Investment (how to measure?)  
Social Value Measurement



THE GREEN BOOK  
CENTRAL GOVERNMENT  
GUIDANCE ON APPRAISAL  
AND EVALUATION

Improved economic/social outcomes is a numbers game.....





Change in operational contract

# The offer

we need to learn for a re-write of Swimming Pool DGN (currently no retrofit)  
.....define the best practice Checklist

do an Audit.....

...based on Design Quality Indicators and Investable Interventions





# Design Quality Indicators

(under) Capacity Measurement

Unmet need

Unmet demand

Brand identity

Quality/maintainability / failure

Visibility

Accessibility

Safe space

Carbon

Energy

Efficiency re: space ratios

Mystery shopper thinking

## Investable Interventions & Capacity Improvement

Re-skin and Visibility

Capacity Improvement

Infills

Mezzanine provision

Redundant Space / efficiency remodel

Car Park / Site

Stacking Carpark

Studio proofing (sound)

Leisure water to play

Changing wet/dry/group (safe space)

Improved accessibility

Underutilised space re-provided as an alternative sport activity

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## **Professional Services Framework**

Lot 10 (architecture)

Lot 19 (leisure consultancy)

Lot 7 (decarbonisation)

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