

## Appendix 4 - Energy and Carbon Savings

### Guildhall

Measure	Annual kWh pre-project	Annual kWh post-project	Annual kWh Savings	Annual Direct Carbon Savings	Annual Indirect Carbon Savings (tonnes)
Window repairs	1,488,256	1,452,608	35,648.00	6.51	
Gap sealing	1,452,608	1,443,874	8,734.00	1.59	
Secondary glazing	1,443,874	1,409,114	34,760.00	6.35	
Roof insulation	1,409,114	1,375,049	34,065.00	6.22	
Wall insulation	1,375,049	1,321,199	53,850.00	9.83	
Pipe insulation	1,321,199	1,287,816	33,383.00	6.09	
Dynamic TRVs	1,287,816	1,255,100	32,716.00	5.97	
Flow restrictors	1,255,100	1,247,085	8,015.00	1.46	
BMS	1,247,085	1,007,827	239,258.00	43.68	
Zone control valves	1,007,827	967,153	40,674.00	7.43	
Calorifiers	967,153	954,002	13,151.00	2.4	
AHUs	575,156	557,292	17,864.00		0.67
Pump replacement	557,292	499,531	57,761.00		2.1
Cooling units	499,531	496,932	2,599.00		0.2
Timeclocks	496,932	489,173	7,759.00		0.68
Sub metering	489,173	484,078	5,095.00		0
Solar PV	484,078	427,325	56,753.00		2.21
1000Kg lift	427,325	423,744	3,581.00		0.24
LED lighting	423,744	343,813	79,931.00		2.9
Lighting controls	343,813	311,041	32,772.00		2.17
Energy efficient hand dryers	311,041	309,384	1,657.00		0.14

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**City Hall**

<b>Measure</b>	<b>Annual kWh pre-project</b>	<b>Annual kWh post-project</b>	<b>Annual kWh Savings</b>	<b>Annual Direct Carbon Savings</b>	<b>Annual Indirect Carbon Savings (tonnes)</b>
Secondary glazing	1,095,875	1,074,988	20,887.00	3.81	
Skylight repairs and upgrades	1,074,988	1,058,968	16,020.00	2.92	
Window repairs	1,058,968	1,040,109	18,859.00	3.44	
Building gap sealing	1,040,109	945,611	94,498.00	17.25	
Pavement light upgrades	945,611	940,237	5,374.00	0.98	
Basement gap sealing	940,237	934,863	5,374.00	0.98	
Pipework insulation	934,863	916,166	18,697.26	3.41	
Dynamic TRVs	916,166	897,842	18,323.31	3.35	
Flow restrictors	897,842	893,353	4,489.21	0.82	
BMS health check	893,353	848,686	44,667.66	8.15	
New BMS	313,050	266,093	46,957.51		3.56
AHUs	322,732	313,050	9,681.96		0.36
Pump replacement	266,093	264,762	1,330.46		0.07
Sub metering	264,762	262,114	2,647.62		0
Solar PV	262,114	253,913	8,201.00		0.32
2250kg lift	253,913	248,835	5,078.27		0.34
LED lighting	248,835	201,556	47,278.68		1.72
Lighting controls	201,556	183,416	18,140.08		1.2

**Wilson Centre**

<b>Measure</b>	<b>Annual kWh pre-project</b>	<b>Annual kWh post-project</b>	<b>Annual kWh Savings</b>	<b>Annual Direct Carbon Savings</b>	<b>Annual Indirect Carbon Savings (tonnes)</b>
BMS	287,525	273,149	14,376.25	2.62	
LED lighting	202,126	192,020	10,106.30	0	0.6
Solar PV	192,020	128,652	63,368.00	0	2.47

**History Centre**

<b>Measure</b>	<b>Annual kWh pre-project</b>	<b>Annual kWh post-project</b>	<b>Annual kWh Savings</b>	<b>Annual Direct Carbon Savings</b>	<b>Annual Indirect Carbon Savings (tonnes)</b>
BMS	236,275	224,461	11,814.00	2.16	
Solar PV	465,697	397,373	68,324.00	0	2.66