

**In the most optimistic case, the cost is £26.3bn – for simplicity £2bn per year - construction time is 13 years, and rate of return is 4% real.** We assume inflation is at the Treasury’s target level of 2% so the nominal cost of capital will be 6%. 38% of the surcharge will fall on the 28 million residential consumers. The average is in year 7, £11.4 per consumer per year.

Year	Cumulative expenditure (£bn)	Cost of finance (£m)	Cost on residential consumers (£m)	Cost per residential consumer per year (£)
1	2	120	45.6	1.63
2	4	240	91.2	3.26
3	6	360	136.8	4.89
4	8	480	182.4	6.53
5	10	600	228.0	8.14
6	12	720	273.6	9.77
7	14	840	319.2	11.40
8	16	960	364.8	13.03
9	18	1080	410.4	14.66
10	20	1200	456.0	16.29
11	22	1320	501.6	17.91
12	24	1440	547.2	19.54
13	26	1560	592.8	21.17
Total	26	10920	4149.6	<b>148.2</b>

**In the most pessimistic case, the cost is £43.8bn, construction time is 17 years - £2.6bn per year – and real cost of capital is 6% so the nominal interest rate is 8%.** We assume inflation is at the Treasury’s target level of 2% so the nominal cost of capital will be 6%. The average is in year 9, £25.4 per consumer per year, twice the government's stated average amount.

Year	Cumulative expenditure (£bn)	Cost of finance (£m)	Cost on residential consumers (£m)	Cost per residential consumer (£)
1	2.6	208	79.0	2.82
2	5.2	416	158.1	5.64
3	7.8	624	237.1	8.47
4	10.4	832	316.1	11.29
5	13.0	1040	395.1	14.11
6	15.6	1248	474.1	16.93
7	18.2	1456	553.1	19.75
8	20.8	1664	632.1	22.57
9	23.4	1872	711.1	25.40
10	26.0	2080	790.1	28.22
11	28.6	2288	869.1	31.04
12	31.2	2496	948.1	33.86
13	33.8	2704	1027.1	36.68
14	36.4	2912	1106.1	39.50
15	39.0	3120	1185.1	42.33
16	41.6	3328	1264.1	45.15
17	44.2	3536	1343.1	47.96
Total	44.2	31824	12093	<b>431.9</b>

A central case in which the variables are the mean of the higher and lower case, i.e., £35bn, construction time 15 years - £2.3bn per year- and real cost of capital is 5%, making 7% nominal assuming inflation of 2%. The average is in year 8, £16.4 per consumer per year.

Year	Cumulative expenditure (£bn)	Cost of finance (£m)	Cost on residential consumers (£m)	Cost per residential consumer (£)
1	2.3	161	57.5	2.05
2	4.6	322	115.0	4.11
3	6.9	483	172.5	6.16
4	9.2	644	230.0	8.21
5	11.5	805	287.5	10.26
6	13.8	966	345.0	12.31
7	16.1	1127	402.5	14.36
8	18.4	1288	460.0	16.41
9	20.7	1449	517.5	18.46
10	23.0	1610	575.0	20.51
11	25.3	1761	632.5	22.56
12	27.6	1922	690.0	24.61
13	29.9	2083	747.5	26.66
14	32.2	2244	805.0	28.71
15	34.5	2405	862.5	30.76
Total	34.5	19320	7341.6	<b>262.2</b>

#### Notes

1. The absolute level of residential demand is irrelevant to the level of the surcharge. What is important is the proportion of electricity demand accounted for by residential consumers as this determines what proportion of the surcharge will fall on them. If Energy Intensive Industries are exempted from paying the surcharge, the burden on residential consumers will be larger.
2. While the construction time makes relatively little difference to the average level of the surcharge, **it makes a significant difference to the total paid**, so it is important to present the total and the peak as well as the average.
3. Using the most pessimistic figures, the average is more than double the figure using the most optimistic figures and the total paid is nearly 3 times the amount using the most optimistic assumption.
4. The BEIS figure of less than £1/month can only be achieved if the lowest options are chosen for rate of return construction cost and construction time