

### Energy performance certificate (EPC)

|                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
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| Philip<br>Andrew Fowler (b)<br>1931, 1932<br>1933, 1934<br>1935, 1936 | C<br>1937, 1938<br>1939, 1940<br>1941, 1942<br>1943, 1944<br>1945, 1946<br>1947, 1948<br>1949, 1950<br>1951, 1952<br>1953, 1954<br>1955, 1956<br>1957, 1958<br>1959, 1960<br>1961, 1962<br>1963, 1964<br>1965, 1966<br>1967, 1968<br>1969, 1970<br>1971, 1972<br>1973, 1974<br>1975, 1976<br>1977, 1978<br>1979, 1980<br>1981, 1982<br>1983, 1984<br>1985, 1986<br>1987, 1988<br>1989, 1990<br>1991, 1992<br>1993, 1994<br>1995, 1996<br>1997, 1998<br>1999, 2000<br>2001, 2002<br>2003, 2004<br>2005, 2006<br>2007, 2008<br>2009, 2010<br>2011, 2012<br>2013, 2014<br>2015, 2016<br>2017, 2018<br>2019, 2020<br>2021, 2022<br>2023, 2024<br>2025, 2026<br>2027, 2028<br>2029, 2030<br>2031, 2032<br>2033, 2034<br>2035, 2036<br>2037, 2038<br>2039, 2040<br>2041, 2042<br>2043, 2044<br>2045, 2046<br>2047, 2048<br>2049, 2050<br>2051, 2052<br>2053, 2054<br>2055, 2056<br>2057, 2058<br>2059, 2060<br>2061, 2062<br>2063, 2064<br>2065, 2066<br>2067, 2068<br>2069, 2070<br>2071, 2072<br>2073, 2074<br>2075, 2076<br>2077, 2078<br>2079, 2080<br>2081, 2082<br>2083, 2084<br>2085, 2086<br>2087, 2088<br>2089, 2090<br>2091, 2092<br>2093, 2094<br>2095, 2096<br>2097, 2098<br>2099, 2100<br>2101, 2102<br>2103, 2104<br>2105, 2106<br>2107, 2108<br>2109, 2110<br>2111, 2112<br>2113, 2114<br>2115, 2116<br>2117, 2118<br>2119, 2120<br>2121, 2122<br>2123, 2124<br>2125, 2126<br>2127, 2128<br>2129, 2130<br>2131, 2132<br>2133, 2134<br>2135, 2136<br>2137, 2138<br>2139, 2140<br>2141, 2142<br>2143, 2144<br>2145, 2146<br>2147, 2148<br>2149, 2150<br>2151, 2152<br>2153, 2154<br>2155, 2156<br>2157, 2158<br>2159, 2160<br>2161, 2162<br>2163, 2164<br>2165, 2166<br>2167, 2168<br>2169, 2170<br>2171, 2172<br>2173, 2174<br>2175, 2176<br>2177, 2178<br>2179, 2180<br>2181, 2182<br>2183, 2184<br>2185, 2186<br>2187, 2188<br>2189, 2190<br>2191, 2192<br>2193, 2194<br>2195, 2196<br>2197, 2198<br>2199, 2200<br>2201, 2202<br>2203, 2204<br>2205, 2206<br>2207, 2208<br>2209, 2210<br>2211, 2212<br>2213, 2214<br>2215, 2216<br>2217, 2218<br>2219, 2220<br>2221, 2222<br>2223, 2224<br>2225, 2226<br>2227, 2228<br>2229, 2230<br>2231, 2232<br>2233, 2234<br>2235, 2236<br>2237, 2238<br>2239, 2240<br>2241, 2242<br>2243, 2244<br>2245, 2246<br>2247, 2248<br>2249, 2250<br>2251, 2252<br>2253, 2254<br>2255, 2256<br>2257, 2258<br>2259, 2260<br>2261, 2262<br>2263, 2264<br>2265, 2266<br>2267, 2268<br>2269, 2270<br>2271, 2272<br>2273, 2274<br>2275, 2276<br>2277, 2278<br>2279, 2280<br>2281, 2282<br>2283, 2284<br>2285, 2286<br>2287, 2288<br>2289, 2290<br>2291, 2292<br>2293, 2294<br>2295, 2296<br>2297, 2298<br>2299, 2300<br>2301, 2302<br>2303, 2304<br>2305, 2306<br>2307, 2308<br>2309, 2310<br>2311, 2312<br>2313, 2314<br>2315, 2316<br>2317, 2318<br>2319, 2320<br>2321, 2322<br>2323, 2324<br>2325, 2326<br>2327, 2328<br>2329, 2330<br>2331, 2332<br>2333, 2334<br>2335, 2336<br>2337, 2338<br>2339, 2340<br>2341, 2342<br>2343, 2344<br>2345, 2346<br>2347, 2348<br>2349, 2350<br>2351, 2352<br>2353, 2354<br>2355, 2356<br>2357, 2358<br>2359, 2360<br>2361, 2362<br>2363, 2364<br>2365, 2366<br>2367, 2368<br>2369, 2370<br>2371, 2372<br>2373, 2374<br>2375, 2376<br>2377, 2378<br>2379, 2380<br>2381, 2382<br>2383, 2384<br>2385, 2386<br>2387, 2388<br>2389, 2390<br>2391, 2392<br>2393, 2394<br>2395, 2396<br>2397, 2398<br>2399, 2400<br>2401, 2402<br>2403, 2404<br>2405, 2406<br>2407, 2408<br>2409, 2410<br>2411, 2412<br>2413, 2414<br>2415, 2416<br>2417, 2418<br>2419, 2420<br>2421, 2422<br>2423, 2424<br>2425, 2426<br>2427, 2428<br>2429, 2430<br>2431, 2432<br>2433, 2434<br>2435, 2436<br>2437, 2438<br>2439, 2440<br>2441, 2442<br>2443, 2444<br>2445, 2446<br>2447, 2448<br>2449, 2450<br>2451, 2452<br>2453, 2454<br>2455, 2456<br>2457, 2458<br>2459, 2460<br>2461, 2462<br>2463, 2464<br>2465, 2466<br>2467, 2468<br>2469, 2470<br>2471, 2 |
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| Property type    | Top-floor fee   |
|------------------|-----------------|
| Total floor area | £/square metres |

1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023, 2024, 2025, 2026, 2027, 2028, 2029, 2030, 2031, 2032, 2033, 2034, 2035, 2036, 2037, 2038, 2039, 2040, 2041, 2042, 2043, 2044, 2045, 2046, 2047, 2048, 2049, 2050, 2051, 2052, 2053, 2054, 2055, 2056, 2057, 2058, 2059, 2060, 2061, 2062, 2063, 2064, 2065, 2066, 2067, 2068, 2069, 2070, 2071, 2072, 2073, 2074, 2075, 2076, 2077, 2078, 2079, 2080, 2081, 2082, 2083, 2084, 2085, 2086, 2087, 2088, 2089, 2090, 2091, 2092, 2093, 2094, 2095, 2096, 2097, 2098, 2099, 2100, 2101, 2102, 2103, 2104, 2105, 2106, 2107, 2108, 2109, 2110, 2111, 2112, 2113, 2114, 2115, 2116, 2117, 2118, 2119, 2120, 2121, 2122, 2123, 2124, 2125, 2126, 2127, 2128, 2129, 2130, 2131, 2132, 2133, 2134, 2135, 2136, 2137, 2138, 2139, 2140, 2141, 2142, 2143, 2144, 2145, 2146, 2147, 2148, 2149, 2150, 2151, 2152, 2153, 2154, 2155, 2156, 2157, 2158, 2159, 2160, 2161, 2162, 2163, 2164, 2165, 2166, 2167, 2168, 2169, 2170, 2171, 2172, 2173, 2174, 2175, 2176, 2177, 2178, 2179, 2180, 2181, 2182, 2183, 2184, 2185, 2186, 2187, 2188, 2189, 2190, 2191, 2192, 2193, 2194, 2195, 2196, 2197, 2198, 2199, 2200, 2201, 2202, 2203, 2204, 2205, 2206, 2207, 2208, 2209, 2210, 2211, 2212, 2213, 2214, 2215, 2216, 2217, 2218, 2219, 2220, 2221, 2222, 2223, 2224, 2225, 2226, 2227, 2228, 2229, 2230, 2231, 2232, 2233, 2234, 2235, 2236, 2237, 2238, 2239, 2240, 2241, 2242, 2243, 2244, 2245, 2246, 2247, 2248, 2249, 2250, 2251, 2252, 2253, 2254, 2255, 2256, 2257, 2258, 2259, 2260, 2261, 2262, 2263, 2264, 2265, 2266, 2267, 2268, 2269, 2270, 2271, 2272, 2273, 2274, 2275, 2276, 2277, 2278, 2279, 2280, 2281, 2282, 2283, 2284, 2285, 2286, 2287, 2288, 2289, 2290, 2291, 2292, 2293, 2294, 2295, 2296, 2297, 2298, 2299, 2300, 2301, 2302, 2303, 2304, 2305, 2306, 2307, 2308, 2309, 2310, 2311, 2312, 2313, 2314, 2315, 2316, 2317, 2318, 2319, 2320, 2321, 2322, 2323, 2324, 2325, 2326, 2327, 2328, 2329, 2330, 2331, 2332, 2333, 2334, 2335, 2336, 2337, 2338, 2339, 2340, 2341, 2342, 2343, 2344, 2345, 2346, 2347, 2348, 2349, 2350, 2351, 2352, 2353, 2354, 2355, 2356, 2357, 2358, 2359, 2360, 2361, 2362, 2363, 2364, 2365, 2366, 2367, 2368, 2369, 2370, 2371, 2372, 2373, 2374, 2375, 2376, 2377, 2378, 2379, 2380, 2381, 2382, 2383, 2384, 2385, 2386, 2387, 2388, 2389, 2390, 2391, 2392, 2393, 2394, 2395, 2396, 2397, 2398, 2399, 2400, 2401, 2402, 2403, 2404, 2405, 2406, 2407, 2408, 2409, 2410, 2411, 2412, 2413, 2414, 2415, 2416, 2417, 2418, 2419, 2420, 2421, 2422, 2423, 2424, 2425, 2426, 2427, 2428, 2429, 2430, 2431, 2432, 2433, 2434, 2435, 2436, 2437, 2438, 2439, 2440, 2441, 2442, 2443, 2444, 2445, 2446, 2447, 2448, 2449, 2450, 2451, 2452, 2453, 2454, 2455, 2456, 2457, 2458, 2459, 2460, 2461, 2462, 2463, 2464, 2465, 2466, 2467, 2468, 2469, 2470, 2471, 2472, 2473, 2474, 2475, 2476, 2477, 2478, 2479, 2480, 2481, 2482, 2483, 2484, 2485, 2486, 2487, 2488, 2489, 2490, 2491, 2492, 2493, 2494, 2495, 2496, 2497, 2498, 2499, 2500, 2501, 2502, 2503, 2504, 2505, 2506, 2507, 2508, 2509, 2510, 2511, 2512, 2513, 2514, 2515, 2516, 2517, 2518, 2519, 2520, 2521, 2522, 2523, 2524, 2525, 2526, 2527, 2528, 2529, 2530, 2531, 2532, 2533, 2534, 2535, 2536, 2537, 2538, 2539, 2540, 2541, 2542, 2543, 2544, 2545, 2546, 2547, 2548, 2549, 2550, 2551, 2552, 2553, 2554, 2555, 2556, 2557, 2558, 2559, 2560, 2561, 2562, 2563, 2564, 2565, 2566, 2567, 2568, 2569, 2570, 2571, 2572, 2573, 2574, 2575, 2576, 2577, 2578, 2579, 2580, 2581, 2582, 2583, 2584, 2585, 2586, 2587, 2588, 2589, 2590, 2591, 2592, 2593, 2594, 2595, 2596, 2597, 2598, 2599, 2600, 2601, 2602, 2603, 2604, 2605, 2606, 2607, 2608, 2609, 2610, 2611, 2612, 2613, 2614, 2615, 2616, 2617, 2618, 2619, 2620, 2621, 2622, 2623, 2624, 2625, 2626, 2627, 2628, 2629, 2630, 2631, 2632, 2633, 2634, 2635, 2636, 2637, 2638, 2639, 2640, 2641, 2642, 2643, 2644, 2645, 2646, 2647, 2648, 2649, 2650, 2651, 2652, 2653, 2654, 2655, 2656, 2657, 2658, 2659, 2660, 2661, 2662, 2663, 2664, 2665, 2666, 2667, 2668, 2669, 2670, 2671, 2672, 2673, 2674, 2675, 2676, 2677, 2678, 2679, 2680, 26

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| Year | 1990 | 1991 | 1992 | 1993 |
|------|------|------|------|------|
| 1990 | 1990 | 1991 | 1992 | 1993 |

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| Scores | Energy rating | Current | Potential |
|--------|---------------|---------|-----------|
| 92+    | A             |         |           |
| 81-91  | B             |         |           |
| 65-80  | C             | 65-70   | 75-80     |
| 55-64  | D             |         |           |
| 39-54  | E             |         |           |
| 21-38  | F             |         |           |
| 1-20   | G             |         |           |

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1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023, 2024, 2025, 2026, 2027, 2028, 2029, 2030, 2031, 2032, 2033, 2034, 2035, 2036, 2037, 2038, 2039, 2040, 2041, 2042, 2043, 2044, 2045, 2046, 2047, 2048, 2049, 2050, 2051, 2052, 2053, 2054, 2055, 2056, 2057, 2058, 2059, 2060, 2061, 2062, 2063, 2064, 2065, 2066, 2067, 2068, 2069, 2070, 2071, 2072, 2073, 2074, 2075, 2076, 2077, 2078, 2079, 2080, 2081, 2082, 2083, 2084, 2085, 2086, 2087, 2088, 2089, 2090, 2091, 2092, 2093, 2094, 2095, 2096, 2097, 2098, 2099, 2100, 2101, 2102, 2103, 2104, 2105, 2106, 2107, 2108, 2109, 2110, 2111, 2112, 2113, 2114, 2115, 2116, 2117, 2118, 2119, 2120, 2121, 2122, 2123, 2124, 2125, 2126, 2127, 2128, 2129, 2130, 2131, 2132, 2133, 2134, 2135, 2136, 2137, 2138, 2139, 2140, 2141, 2142, 2143, 2144, 2145, 2146, 2147, 2148, 2149, 2150, 2151, 2152, 2153, 2154, 2155, 2156, 2157, 2158, 2159, 2160, 2161, 2162, 2163, 2164, 2165, 2166, 2167, 2168, 2169, 2170, 2171, 2172, 2173, 2174, 2175, 2176, 2177, 2178, 2179, 2180, 2181, 2182, 2183, 2184, 2185, 2186, 2187, 2188, 2189, 2190, 2191, 2192, 2193, 2194, 2195, 2196, 2197, 2198, 2199, 2200, 2201, 2202, 2203, 2204, 2205, 2206, 2207, 2208, 2209, 2210, 2211, 2212, 2213, 2214, 2215, 2216, 2217, 2218, 2219, 2220, 2221, 2222, 2223, 2224, 2225, 2226, 2227, 2228, 2229, 2230, 2231, 2232, 2233, 2234, 2235, 2236, 2237, 2238, 2239, 2240, 2241, 2242, 2243, 2244, 2245, 2246, 2247, 2248, 2249, 2250, 2251, 2252, 2253, 2254, 2255, 2256, 2257, 2258, 2259, 2260, 2261, 2262, 2263, 2264, 2265, 2266, 2267, 2268, 2269, 2270, 2271, 2272, 2273, 2274, 2275, 2276, 2277, 2278, 2279, 2280, 2281, 2282, 2283, 2284, 2285, 2286, 2287, 2288, 2289, 2290, 2291, 2292, 2293, 2294, 2295, 2296, 2297, 2298, 2299, 2300, 2301, 2302, 2303, 2304, 2305, 2306, 2307, 2308, 2309, 2310, 2311, 2312, 2313, 2314, 2315, 2316, 2317, 2318, 2319, 2320, 2321, 2322, 2323, 2324, 2325, 2326, 2327, 2328, 2329, 2330, 2331, 2332, 2333, 2334, 2335, 2336, 2337, 2338, 2339, 2340, 2341, 2342, 2343, 2344, 2345, 2346, 2347, 2348, 2349, 2350, 2351, 2352, 2353, 2354, 2355, 2356, 2357, 2358, 2359, 2360, 2361, 2362, 2363, 2364, 2365, 2366, 2367, 2368, 2369, 2370, 2371, 2372, 2373, 2374, 2375, 2376, 2377, 2378, 2379, 2380, 2381, 2382, 2383, 2384, 2385, 2386, 2387, 2388, 2389, 2390, 2391, 2392, 2393, 2394, 2395, 2396, 2397, 2398, 2399, 2400, 2401, 2402, 2403, 2404, 2405, 2406, 2407, 2408, 2409, 2410, 2411, 2412, 2413, 2414, 2415, 2416, 2417, 2418, 2419, 2420, 2421, 2422, 2423, 2424, 2425, 2426, 2427, 2428, 2429, 2430, 2431, 2432, 2433, 2434, 2435, 2436, 2437, 2438, 2439, 2440, 2441, 2442, 2443, 2444, 2445, 2446, 2447, 2448, 2449, 2450, 2451, 2452, 2453, 2454, 2455, 2456, 2457, 2458, 2459, 2460, 2461, 2462, 2463, 2464, 2465, 2466, 2467, 2468, 2469, 2470, 2471, 2472, 2473, 2474, 2475, 2476, 2477, 2478, 2479, 2480, 2481, 2482, 2483, 2484, 2485, 2486, 2487, 2488, 2489, 2490, 2491, 2492, 2493, 2494, 2495, 2496, 2497, 2498, 2499, 2500, 2501, 2502, 2503, 2504, 2505, 2506, 2507, 2508, 2509, 2510, 2511, 2512, 2513, 2514, 2515, 2516, 2517, 2518, 2519, 2520, 2521, 2522, 2523, 2524, 2525, 2526, 2527, 2528, 2529, 2530, 2531, 2532, 2533, 2534, 2535, 2536, 2537, 2538, 2539, 2540, 2541, 2542, 2543, 2544, 2545, 2546, 2547, 2548, 2549, 2550, 2551, 2552, 2553, 2554, 2555, 2556, 2557, 2558, 2559, 2560, 2561, 2562, 2563, 2564, 2565, 2566, 2567, 2568, 2569, 2570, 2571, 2572, 2573, 2574, 2575, 2576, 2577, 2578, 2579, 2580, 2581, 2582, 2583, 2584, 2585, 2586, 2587, 2588, 2589, 2590, 2591, 2592, 2593, 2594, 2595, 2596, 2597, 2598, 2599, 2600, 2601, 2602, 2603, 2604, 2605, 2606, 2607, 2608, 2609, 2610, 2611, 2612, 2613, 2614, 2615, 2616, 2617, 2618, 2619, 2620, 2621, 2622, 2623, 2624, 2625, 2626, 2627, 2628, 2629, 2630, 2631, 2632, 2633, 2634, 2635, 2636, 2637, 2638, 2639, 2640, 2641, 2642, 2643, 2644, 2645, 2646, 2647, 2648, 2649, 2650, 2651, 2652, 2653, 2654, 2655, 2656, 2657, 2658, 2659, 2660, 2661, 2662, 2663, 2664, 2665, 2666, 2667, 2668, 2669, 2670, 2671, 2672, 2673, 2674, 2675, 2676, 2677, 2678, 2679, 2680, 26

1. The average energy of the system is  $\langle E \rangle = \frac{1}{N} \sum_{i=1}^N E_i$ .  
 2. The average energy of the system is  $\langle E \rangle = \frac{1}{N} \sum_{i=1}^N E_i$ .

*(continued)*

| Year | 1990 | 1991 | 1992 | 1993 |
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| 1990 | 1991 | 1992 | 1993 | 1994 |

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