



Your Path toNet Zero

The comprehensive Carbon Reduction Plan platform for UK organisations. Track emissions, manage compliance, and demonstrate your commitment to sustainability under PPN 006 requirements.

RAL COMMUNITY CARE LTD

Estimates and Averages used

Estimated average annual utilities and waste figures for a 300 sq ft (approx. 27.9 m²) UK office with 6 occupants for the period 01/05/2025 to 30/04/2026.

Estimated Annual Usage Averages

Category	Estimated Annual Average	Key Assumption / Benchmark Used
1. Electricity Use	6,400 – 9,300 kWh	Based on UK office benchmarks of 229–334 kWh/m ² /year
2. Water Use	38.4 m³ (38,400 litres)	Based on EU EMAS "Benchmark of Excellence" of <6.4 m ³ per FTE employee/year
3. Waste Water	38.4 m³ (38,400 litres)	Assumed 100% of water consumed returns as wastewater (no canteen/irrigation)
4. Waste Generated	1,200 kg (1.2 tonnes)	Based on EU EMAS benchmark of <200 kg per FTE employee/year

Detailed Assumptions & References

1. Electricity Use

The calculation uses the UK Government's "Existing Office (NV)" model data for non-domestic buildings. The range represents two efficiency levels (EE1 and EE2) .

- **Floor Area:** 300 sq ft ≈ **27.87 m²**



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- **Calculation:** $27.87 \text{ m}^2 \times 229 \text{ kWh/m}^2 \text{ (EE2)} = \mathbf{6,382 \text{ kWh}}$; $27.87 \text{ m}^2 \times 334 \text{ kWh/m}^2 \text{ (EE1)} = \mathbf{9,308 \text{ kWh}}$
 - **Note:** The benchmark excludes gas for heating. Actual usage will vary based on equipment, lighting, and occupancy patterns.

2. Water Use

The estimate is derived from the EMAS sectoral reference document for the public administration sector, which sets a benchmark of excellence for office buildings at less than 6.4 m³ per full-time equivalent (FTE) employee per year .

- **Calculation:** $6 \text{ FTE} \times 6.4 \text{ m}^3/\text{FTE}/\text{year} = \mathbf{38.4 \text{ m}^3}$
- **Alternative Context:** A Herefordshire Council planning document suggests a standard of **50 litres per person per day** for an office without a canteen . Using this ($6 \text{ people} \times 50 \text{ L} \times 260 \text{ working days}$) would result in 78 m³, which is significantly higher than the best-practice benchmark.

3. Waste Water

In the absence of specific data for your building, the wastewater volume is assumed to be **equal to the water consumption** (38.4 m³). This is a common estimation method when a significant portion of water is used for domestic/sanitary purposes and not lost to irrigation or evaporation.

4. Waste Generated

The estimate uses the EMAS "Benchmark of Excellence" for total annual office waste generation, which is **less than 200 kg per FTE employee per year** .

- **Calculation:** $6 \text{ FTE} \times 200 \text{ kg/FTE}/\text{year} = \mathbf{1,200 \text{ kg}}$
- **Note:** This is a best-practice target. UK commercial waste data often cites higher averages (e.g., **2 kg per employee per day**), which would equate to roughly **3,120 kg/year** for a 6-person office assuming 260 working days .



Reference Links

- **Electricity Benchmark (UK Government):** [2nd UK Cost Optimal Report](#)
- **Water Benchmark (EMAS/UK Legislation):** [Commission Decision \(EU\) 2019/61](#)
- **Waste Benchmark (EMAS/UK Legislation):** [Commission Decision \(EU\) 2019/61 - Waste](#)



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Annual Travel & WFH Breakdown (6 Staff, 12 Months)

Mode	Average Percentage	Average Daily Distance (Round Trip)	Annual Mileage (per person)	Total for 6 Staff (12 Months)
1. Personal Vehicle	67%	~21.2 miles	~4,070 miles	~24,420 miles
2. Train / Rail	11%	~15.8 miles	~3,030 miles	~18,180 miles
3. Bus	7%	~8 miles	~1,540 miles	~9,240 miles
4. Taxi	~1-2%	~7.5 miles	~390 miles	~2,340 miles
5. Work From Home	20% of workdays	0 commute miles	48 days per year	288 days total (48 days × 6 staff)

Assumptions Used

- **Commuting Days:** 4-day office week × 48 working weeks = **192 commuting days per person.**
- **WFH Days:** 1 day/week × 48 working weeks = **48 days per person × 6 staff = 288 days total.**
- **Team Total Calculation:** Per-person annual mileage × 6 staff.



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Key Assumptions & Sources – Agency Workers Commute

- **Personal Vehicle (76.3%):** The **76.3%** figure is the most directly relevant data point from the UNISON-backed report, which found that 71% of domiciliary care staff travel between visits in their own vehicles. This is a strong anchor for agency care workers in London. After redistribution, this becomes the overwhelmingly dominant mode.
- **Train/Rail (10.8%):** The original 10% figure for public transport use among care workers was split evenly between train and bus. In the Abbey Wood context (Elizabeth line), rail is a viable option for a minority of staff.
- **Bus (10.8%):** The other half of the public transport share. London bus speeds average **9.2 mph**, meaning a typical 6-mile round trip takes roughly 40 minutes, which is consistent with the average London commute time of around 46 minutes one-way.
- **Taxi (2.2%):** Taxi use for commuting is consistently very low in UK data. A typical London in-city taxi trip is about **7.0 km (4.3 miles)**.

Mode	Normalised %	Annual Mileage (per person)	Total for 70 Workers (12 Months)
1. Personal Vehicle	76.3%	~4,070 miles	~217,300 miles
2. Train / Rail	10.8%	~3,030 miles	~22,900 miles
3. Bus	10.8%	~1,540 miles	~11,600 miles
4. Taxi	2.2%	~390 miles	~600 miles
Total	100%	—	~252,400 miles