



Carbon Footprint Target Setting for Medhurst Communications Ltd

Based on data from Assessment Period:
1st November 2021 – 31st October 2022



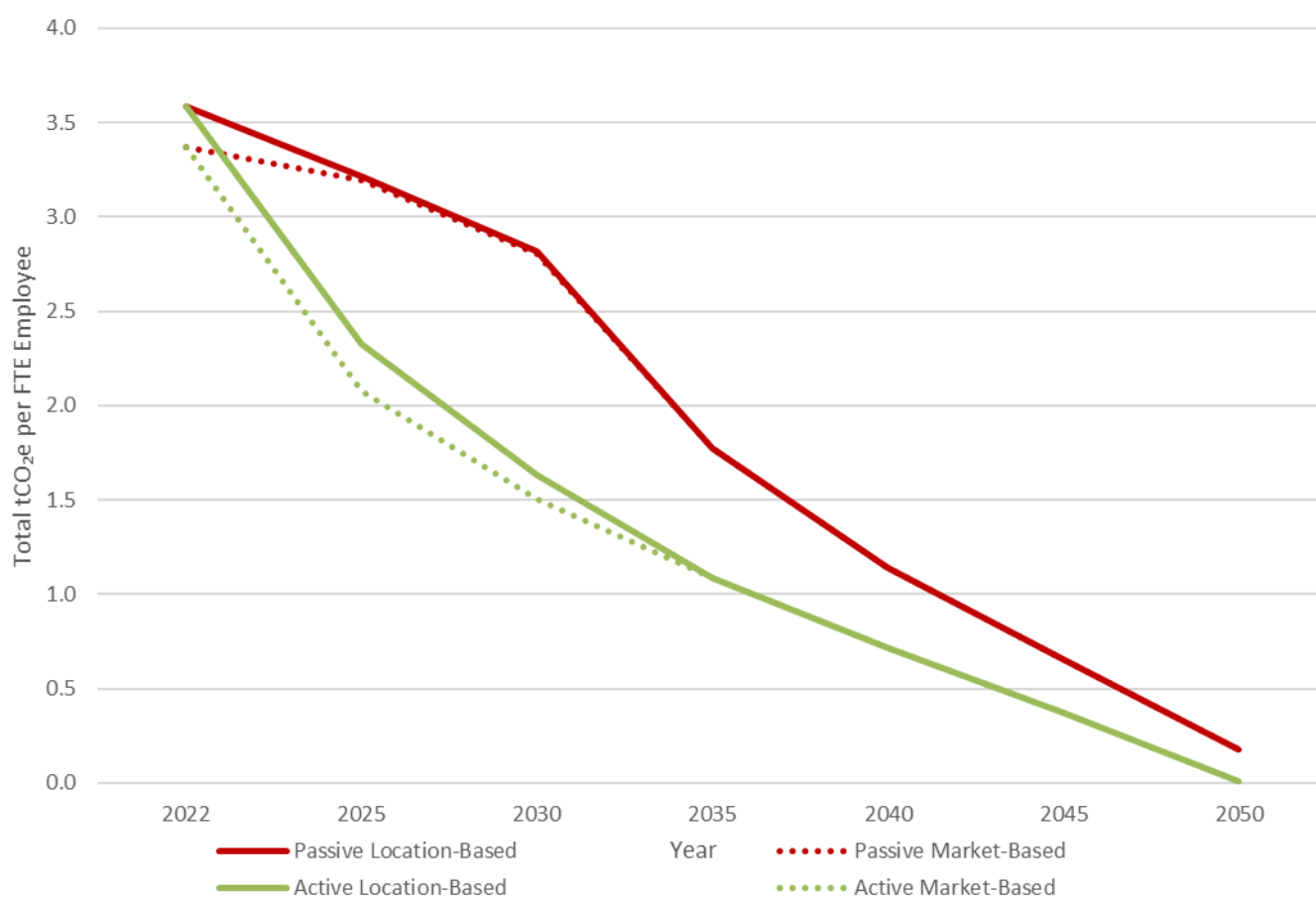
Executive Summary

Carbon Footprint Ltd has completed a forecast of the greenhouse gas (GHG) emissions of Medhurst Communications Ltd (Medhurst) until 2050 based on a dataset provided by the company for the period 1st November 2021 to 31st October 2022.

Key Outcomes

- Baseline absolute location and market-based emissions are 189.84 tCO₂e and 178.69 tCO₂e respectively. On a per a per FTE Employee basis these are 3.58 tCO₂e and 3.37 tCO₂e respectively.
- Based on an active market-based approach (the best-case scenario taking action to reduce emissions), the forecasts indicate that Medhurst can achieve a:
 - **50% reduction in emissions per employee by 2028.**
 - **90% reduction in emissions per employee by 2045.**

Forecasted Emissions to 2050 per employee





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Quality Control

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Calculations reviewed by: Zoe Rudge

Report produced by: Alex Pell
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Director approval: Dr. Wendy Buckley



1. Carbon & sustainability targets

1.1. Target setting

We recommend targets are set against a growth metric, to account for changes in the size of the business. For Medhurst we recommend setting the reduction target on a per FTE Employee basis or per £M turnover basis, to allow comparison with future emissions, when the company may have grown.

There are four categories of carbon dioxide¹ reductions to consider whilst setting targets:

1. **Passive Reductions** – these are carbon reductions that would happen without any action needed by the company e.g., the decarbonisation of the electricity grid will gradually reduce the carbon emissions associated with the electricity you use and purchase
2. **Market-Based Reductions** – these are achieved by selecting and paying for energy tariffs that have lower emissions e.g., buying a green electricity tariff.
3. **Active Reductions** – these are achieved by making technological, behavioural and operational changes within the business. E.g., choosing to reduce the number of miles driven in cars; choosing to put a limit on the number of flights people make; investing in new technology to reduce energy consumption etc.
4. **External Reductions** – carbon **compensation/offsetting** to reduce emissions external to your own footprint to reduce your Net emissions

The **Passive Reductions** assume:

- Electricity Grid emissions will reduce linearly to zero by 2035 (which is the UK's target to achieve zero carbon emissions electricity grid). Note: the grid emissions have reduced by approximately 50% over the last 5-6 years on a tCO_{2e} per kWh basis. This affects site and home-working emissions.
- Grey Fleet vehicles will begin transitioning to electric vehicles (EV) from 2030 linearly until a 100% uptake is assumed in 2050 (as combustion cars will no longer be sold after 2030).
- Company-owned cars will transition to electric vehicle (EV) by 2035 and be powered by a 100% renewable electricity grid in line with the UK's targets to achieve a net zero carbon emissions electricity grid. In the forecast we assume a 100% alternative powered/electric powered van fleet will be in place by 2040 and require the same amount of energy (kWh) as those powered by internal combustion engines.
- Commuting emissions will begin to reduce in 2030 in line with the UK government target to ban the sale of petrol and diesel vehicles in the UK from 2030.
- The emissions from taxis will transition to 100% electric vehicles (EV) by 2035 onwards.
- Natural gas usage is expected to transition to a zero-carbon solution from 2040 with a 100% uptake in alternative energy sources for heating by 2050. This is expected based on government incentives for domestic and commercial heating systems to transition away from traditional natural gas boilers beginning in 2040.

¹ Referred to as "carbon" or "CO₂"



- Water (and wastewater) emissions will decrease in line with the electricity grid emissions to be zero by 2035. This is due to the majority of emissions from water use being associated with electric water pumps.

The **Active Reductions** assume:

- Company-owned cars will transition to a mixture of hybrid and electric vehicles (EV) by 2025. By 2030 all company owned vehicles will be 100% EV and by 2035 will be powered by a 100% renewable electricity grid in line with the UK’s targets to achieve a net zero carbon emissions electricity grid.
- Company-owned vans will gradually transition to 100% electric vehicles. By 2025 smaller vans for local delivery will aim to be 100% powered by electric and by 2030 50% of company-owned vans will be electric powered. By 2035 we have assumed all owned vans will be 100% electric and powered by a 100% renewable electricity grid in the UK.
- Medhurst’s natural gas contract will switch to a green gas tariff by 2025. In addition, Carbon Footprint Ltd are completing an on-site audit which will aim to identify numerous energy saving opportunities to reduce overall kWh consumption on site.
- Site electricity will transfer onto a 100% renewable energy tariff from the 2025. Medhurst can achieve this by investigating a 100% renewable electricity provider for when current electricity contract is due for renewal.
- Emissions relating to computing hardware purchases will reduce by 10% annually. This can be achieved by improving equipment maintenance to prolong equipment efficiency for longer periods.

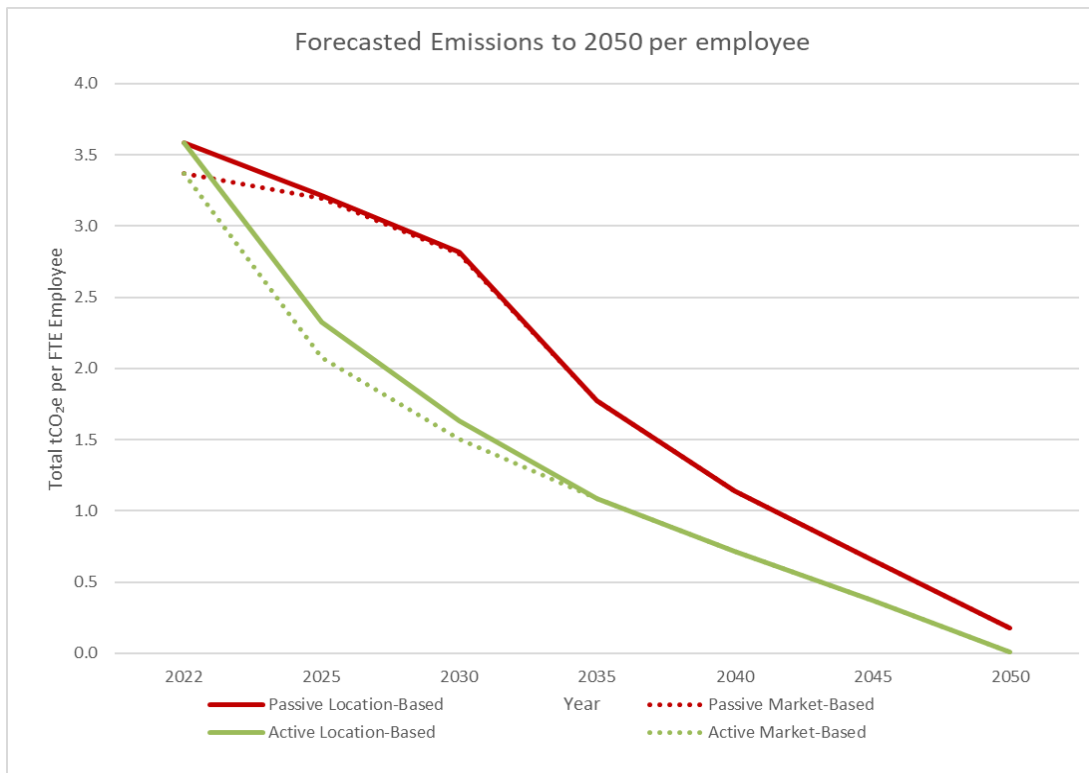
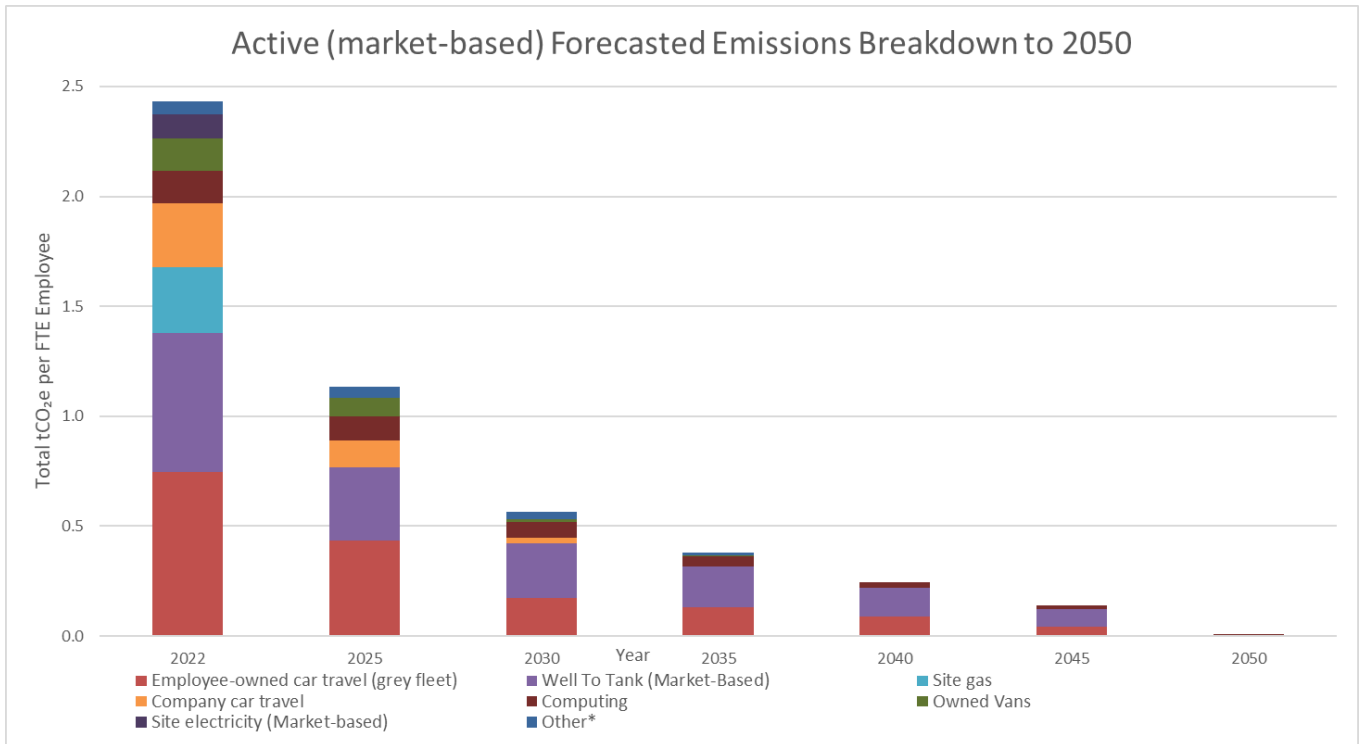


Figure 1: Emissions forecast for Medhurst until 2050

The above graph provides simulations that demonstrate the best (active) and worst-case (passive) scenarios for emission reductions. However, it is impossible to predict the future with 100% accuracy. The area between the passive and active lines represents emissions that could be saved.

The scale is on a per FTE Employee basis; this will allow Medhurst to scale the numbers to account for growth. Medhurst might decide to forecast its sales going forward which would allow the prediction of absolute emissions.

Figure 2 forecasts the estimated breakdown of Medhurst’s future emissions on a per FTE Employee basis. **By 2050 the only emissions remaining from this forecast are computing emissions.**



Other* includes hotel stays, water (and wastewater), paper, rail travel, waste, bus travel, taxi travel and motorbike travel

Figure 2: Breakdown of Medhurst’s future emissions sources, based on an active approach
***Includes well-to-tank (WTT)**

Emissions for employee commuting will be the slowest reducing source due to Medhurst having little control over personal employee behaviour outside the office.

All targets set should be reviewed regularly (e.g., on an annual basis) and amended accordingly (i.e., target increased if it is met ahead of schedule). This will prevent complacency if the target set was too conservative from the onset. An action plan should be developed to set out how the targets will be met and an employee should be allocated the responsibility for carrying out the plan.

1.2. Summary of Target Setting Recommendations

In summary, based on an active market-based approach (the best-case scenario taking action to reduce emissions), the trends indicate that Medhurst can achieve a:

- **50% reduction in emissions per employee by 2028.**
- **90% reduction in emissions per employee by 2045.**

Based on a passive market-based approach (worst-case scenario not taking any steps to reduce emissions), the forecasted emissions would be **5.2% of the baseline in 2050, due to mainly the reduction in the UK electricity grid and both company and employee-owned vehicle emissions based on UK policy to ban the sale of new internal combustion engine vehicles from 2035.**

We recommend setting future targets based on a market-based tCO₂e/£M and on a per employee approach. Medhurst should consider committing to, or improving upon, the following key 'active' target reductions:

- Investigate switching onto a 100% renewable electricity tariff on completion of your current tariff which will result in zero emissions relating to market-based electricity. In addition, switch to a green gas provider by 2025. In addition, Carbon Footprint Ltd are completing an on-site audit which will aim to identify numerous energy saving opportunities to reduce overall kWh consumption on site.
- Aim to reduce computing budget in future years and invest more in hardware maintenance and purchasing second hand equipment where possible.
- Transition company-owned cars to hybrid or electric vehicle (EV) by 2025 and 100% EV by 2030. By 2035 all owned vehicles will be powered by a 100% renewable electricity grid in line with the UK's targets to achieve a net zero carbon emissions electricity grid.
- Transition company-owned vans gradually to electric vehicles. By 2025 smaller vans for local delivery to be 100% powered by electric and by 2030 a total of 50% of owned vans will be electric powered. By 2035 all owned vehicles will be powered by a 100% renewable electricity grid in line with the UK's targets to achieve a net zero carbon emissions electricity grid.

2. References

1. BEIS GHG Conversion Factors for Company Reporting (2016-2021)
2. Carbon Footprint Ltd's Target Setting White Paper (2021)
3. Guidelines to Defra's Greenhouse Gas (GHG) Conversion Factors for Company Reporting – annexes (June 2013)
4. The Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard, Revised Edition (March 2004)