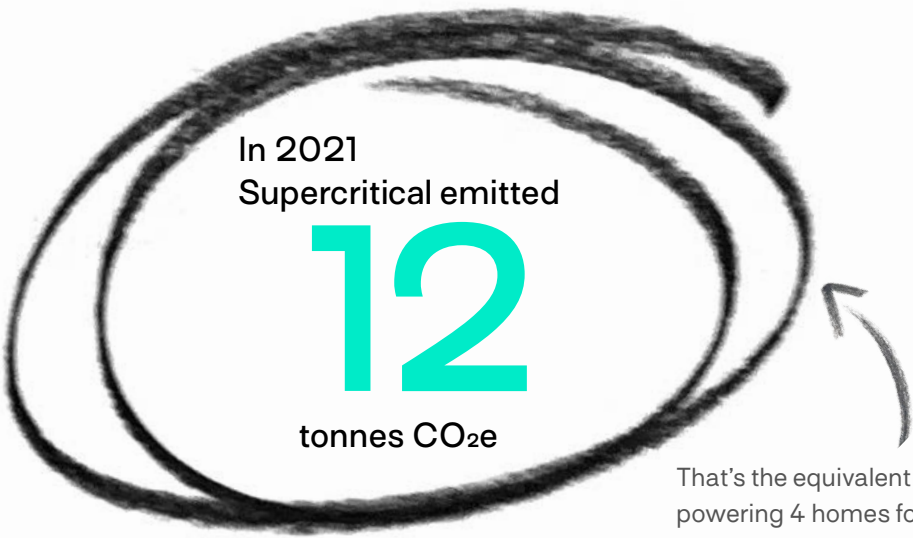Supercritical

May 2022

2021
Carbon Footprint Report.

Overview.

The climate crisis is the single-biggest threat to humanity. As a forward-thinking company, Supercritical recognises this. You've partnered with Supercritical to measure, reduce, and offset your emissions.

The first step is to understand your current impact. We've calculated Supercritical's carbon footprint for the 2021 calendar year.

In 2021 Supercritical emitted

12

tonnes CO₂e

That's the equivalent of powering 4 homes for a whole year [1]

23%

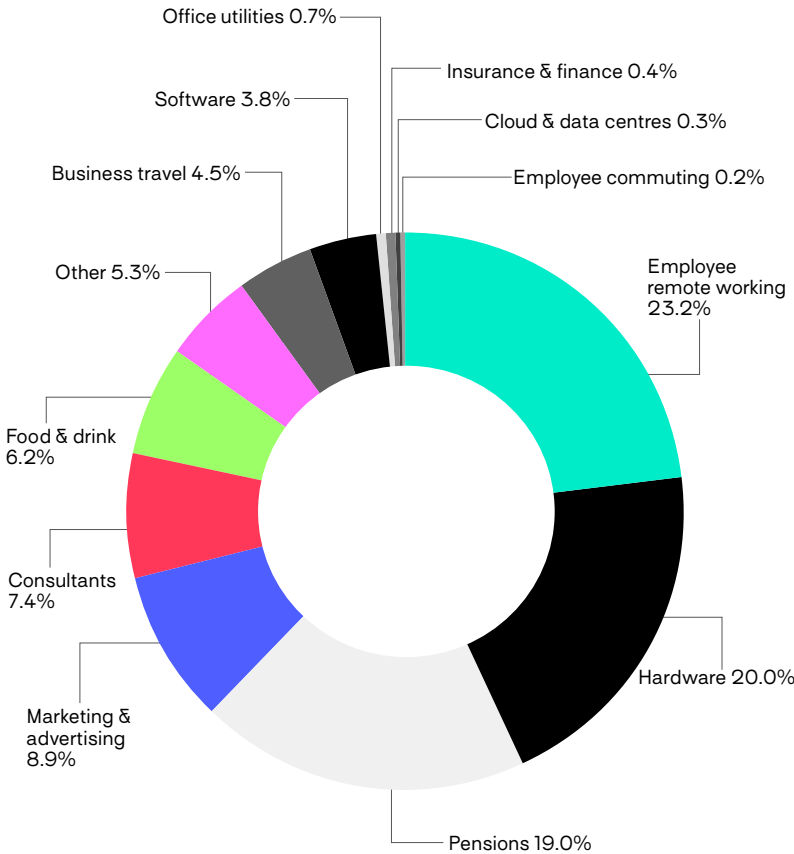### of emissions were created from employee remote working

Emissions associated with Supercritical employees' remote working generated 3 tonnes of CO₂e emissions.

3.01t CO₂e

per employee

Your total footprint equates to 3.01 tonnes CO₂e per employee over the course of 2021. The average footprint for a person in the UK is 12.7 tonnes per year, and the average footprint of an employee in a tech company is ~2.5 tonnes.

0.05

GHG intensity ratio

The ratio between your footprint and revenue in 2021. This is an industry standard way to normalise your footprint so you can track progress over time. As Supercritical grows, we'll be providing industry benchmarks to better contextualise this number.

Office utilities 0.7%
Insurance & finance 0.4%
Software 3.8%
Cloud & data centres 0.3%
Business travel 4.5%
Employee commuting 0.2%
Other 5.3%
Employee remote working 23.2%
Food & drink 6.2%
Consultants 7.4%
Hardware 20.0%
Marketing & advertising 8.9%
Pensions 19.0%

Category	Scope	Footprint (t CO₂e)
Employee remote working	3	2.90
Hardware	3	2.49
Pension	3	2.37
Marketing & advertising	3	1.11
Consultants	3	0.93
Food & drink	3	0.77
Other	3	0.67
Business travel	3	0.57
Software	3	0.48
Office utilities	3	0.08
Insurance & finance	3	0.05
Cloud & data centres	3	0.04
Employee commuting	3	0.02

Our methodology.

Supercritical's methodology is aligned with the GHG Protocol standard, the standard developed by the World Resources Institute (WRI), and used by governments & cities all over the world as well as over 92% of Fortune 500 companies.

Base year footprint

We begin by calculating a base year footprint; the total CO2e emissions released as part of a company's activities over the period of a specified year. Companies choose the base year as the earliest whole year for which they have reliable data: for Supercritical this is 2021. Calculating a base year footprint is necessary to set and track progress towards future emissions reduction goals. But since 2021 was a highly unusual year, you can expect many emissions categories to change going forward. We can use backcasting next year to help you understand which of the changes are due to your climate actions, and which are due to other background changes.

Emissions calculations

Most business activities don't have a direct measurement of the GHG emissions recorded for them. Instead, we use emission conversion factors to calculate the equivalent emissions created for activities. A number of governments & organisations create and maintain official GHG conversion factors, and the majority of emissions factors we've used to calculate Supercritical's footprint have been provided by the UK Government's Department for Business, Energy & Industrial Strategy (BEIS) team[2].

For example, converting a 15km taxi ride into the amount of CO2e emitted into the atmosphere, using the BEIS taxi km/kg CO2e conversion factor (0.20369):

GHG emissions = **activity data** x **emission conversion factor**
3.05 kg CO₂e = **15** x **0.20369**

Our approach to emissions scope

We use a comprehensive and progressive approach to mapping emissions, aiming to capture the majority of emission sources in your sphere of influence. Emission sources such as home-working and pension investment are often overlooked. However, they present a huge opportunity for your positive influence!

Deeper dive: Remote working approach

We wanted to provide more information on our remote working methodology, so you can understand one of the largest contributors to your footprint.

The pandemic meant that offices were closed for most of 2021. Working from home uses more electricity (charging laptops and powering external monitors) and heating (since more homes were occupied in the daytime).

To calculate the impact of employee home-working, first we estimate the additional electricity used. The two biggest contributors to home-working electricity usage are laptops and lighting. The average power consumption of a standard laptop[4] is 140 watts, and lighting is 10 watts.

Total laptop usage (kWh) = **140 watts** x **number of employees working from home** x **working hours per month**

Total lighting usage (kWh) = **10 watts** x **number of employees working from home** x **working hours per month**

Next we translate these into CO₂e emissions using the BEIS electricity conversion factor (0.233):

Work from home electricity emissions (kg CO₂e) =
(Total laptop usage (kWh) + **Total lighting usage (kWh)) x 0.233**

We then calculate the impact of the additional energy required to heat employees' homes during this period. It takes on average 4800 kWh to heat a home during working hours in the heating season, and research shows that one third of homes would already be heated during the day before lockdown. Using this information, we can calculate additional heating:

Total heating usage (kWh) = 4800 kWh x (66% x number of employees working from home)

Lastly, we translate additional heating into CO₂e emissions using the BEIS natural gas conversion factor (0.184):

Work from home gas emissions (kg CO2e) = Total heating usage (kWh) x 0.184

This gives us the total emissions created as a result of your employees working from home.

Reduction recommendations.

Emissions reduction plays a vital role in tackling the climate crisis. In order to limit global warming to 1.5°C, the world needs to halve CO_2e emissions by 2030 and reach net-zero CO_2e emissions by 2050[5]. This requires companies like Supercritical to both reduce emissions and offset those that can't be avoided.

Highest impact areas

Reuse and repair hardware

Potential reduction: 0.5 tonnes CO_2e per year

Extracting raw materials and manufacturing new devices creates substantial emissions. You can implement a company policy on hardware to keep for longer, reuse and repair. For example, keeping phones and laptops in use for 5 years rather than 3 years, as a rule, will reduce your companies' emissions by 0.5 tonnes CO2e/year, which is 4% your 2021 footprint. Buying refurbished, reselling and recycling also helps.

You can read more about this here and here.

Support employees in improving insulation and installing heat pumps

Potential reduction: 0.4 tonnes CO_2e per year

Emissions associated with home-working are a large contributor to your 2021 footprint. Supporting your employees' transition to renewable energy suppliers for electricity and gas at home could save up to 0.4 tonnes CO_2e per year, 3% of your total footprint.

Options include educating your team about renewable energy and insulation options (e.g. Ecotricity, loft or cavity wall insulation), using employee energy switching services (e.g. BigCleanSwitch), and incentivising employees to switch or organise insulation installation (by offering time off).

You can read more about this here, here and here.

Reduce meat & milk purchases

Potential reduction: 0.2 tonnes CO_2e per year

Food is a substantial emissions source: this is a great opportunity to reduce the climate impact of both your company and your employees. Meat consumption has an outsized negative impact on the environment: a meat diet produces double the carbon emissions of a vegetarian one. For the office, you can ensure that you provide plenty of plant-based alternatives i.e. plant milks, and you can implement vegetarian policies/incentive schemes for deliveries.

You can read more about this here.

Potential reduction

8%
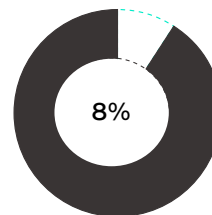
Footprint per employee (tCO₂e)

~~3.01~~
2.76

gosupercritical.com
contact@gosupercritical.com

Sources

[1] https://bulb.co.uk/carbon-tracker/
[2] https://www.gov.uk/government/publications/greenhouse-gas-reporting-conversion-factors-2021
[3] https://www.ons.gov.uk/economy/environmentalaccounts/datasets/carbondioxideemissionsintensitybyindustry
[4] https://www.cibse.org/knowledge/knowledge-items/detail?id=a0q20000008I7oTAAS
[5] https://sciencebasedtargets.org/resources/files/foundations-for-net-zero-full-paper.pdf