

JIGSAW²⁴

Carbon Reduction Plan

September 2021



Table of contents

Commitment to achieving net zero.....	3
Baseline emissions footprint	4
Current emissions reporting.....	5
Calculation methodology	6
Expected energy consumption increase post-COVID-19 pandemic.....	6
Emissions reduction targets	7
Completed carbon reduction projects.....	8
In progress and future carbon and energy reduction initiatives.....	10
Carbon Reduction Plan by Scope of emissions including all 15 Scope 3 categories.....	12
Addendum - Scope 3 courier emissions reporting	16
Declaration and sign off.....	18
Appendix A – Carbonfootprint.com license	19
Appendix B – Woodland Trust Certificate	20

Commitment to achieving net zero

Jigsaw Systems Ltd is committed to achieving net zero carbon (carbon neutral) Scope 1, 2 and a subset of Scope 3 emissions by 2022 and net zero carbon (carbon neutral) Scope 1, 2 and 3 full set by 2025.

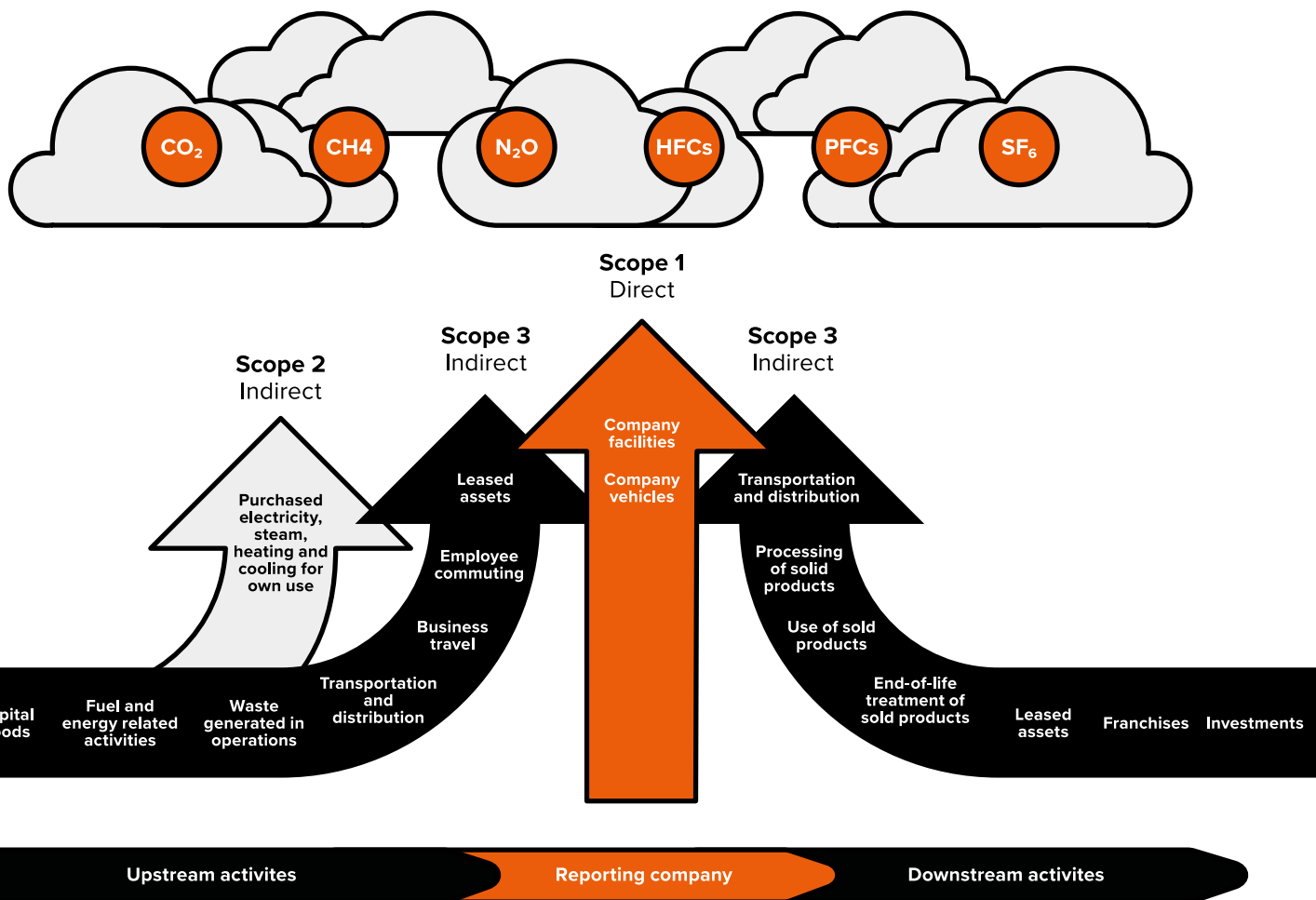
In order to continue our progress to achieving net zero (carbon neutral), we have adopted the following carbon reduction targets. Jigsaw24 intend that any target should be aligned with the Science-Based Targets initiative (SBTi), intended to limit global warming by less than 1.5%. Jigsaw24 will be looking to formally sign up to the SBTi in 2022.

<https://sciencebasedtargets.org>

Based on the Scope 1,2 and 3 factors reported for 2020/21, we project that carbon emissions will decrease over the next five years by 78 tCO₂e by 2026. This is a reduction of 33% against the baseline and takes into account an anticipated increase in emissions by 100 tonnes in 2022 due to the return to normality post-pandemic, and the impact of our new service centre building.

Jigsaw24 have committed to offsetting 800 tonnes of carbon with the Woodland Trust in 2021/22, which we believe will cover all increases in the emissions factors that we have reported in 2020/21. Jigsaw24 will look to verify this disclosure against the PAS 2060 standard.

In the longer term, Jigsaw24 will work with its key partners to support their efforts to reach net zero, with the aim that our cleaner tier one and two supply chains will allow us to reasonably offset our Scope 3 indirect courier emissions.



Baseline emissions footprint

Baseline emissions are a record of the greenhouse gases that have been produced in the past and were produced prior to the introduction of any strategies to reduce emissions. Baseline emissions are the reference point against which emissions reduction can be measured.

Baseline year: 2020/21 (June 2020 to May 2021)

Additional details relating to the baseline emissions calculations

While Jigsaw24 did produce a baseline report for 2019/20, which was carried out internally, for 2020/21 reporting we commissioned **Carbonfootprint.com** to produce an enhanced report. This expanded the scope of our reporting and allowed more detailed and accurate measurements with external verification. We have therefore established the 2020/21 report as our baseline. The additional factors that were considered in our Scope 3 'subset' reporting included home working, employee commuting, waste, and water. Note that the reporting period is aligned to Jigsaw24's financial year, which runs from June to May.

Baseline year emissions:

Scope	Activity	Location-based (tCO ₂ e)	Market-based (tCO ₂ e)
Scope 1	Company car travel	2.81	2.81
	Van travel and distribution	2.55	2.55
	Site gas	0.34	0.34
Scope 1 subtotal		5.69	5.69
Scope 2	Electricity generation	56.95	19.57
Scope 2 subtotal		56.95	19.57
Scope 3	Employee-commuting car travel	90.53	90.53
	Home-workers	68.07	68.07
	Well-to-Tank	36.78	28.25
	Employee-owned car travel (grey fleet)	7.13	7.13
	Electricity transmission & distribution	4.90	1.52
	Employee-commuting bus travel	2.45	2.45
	Cash opt-out car travel	2.34	2.34
	Hire cars	1.69	1.69
	Water (and wastewater)	1.37	1.37
	Employee-commuting taxi travel	0.74	0.74
	Waste	0.70	0.70
	Rail travel	0.59	0.59
	Taxi travel	0.53	0.53
	Employee-commuting rail travel	0.25	0.25
	Flights	0.10	0.10
Scope 3 subtotal		218.17	206.26
Total tonnes of CO ₂ e		280.80	231.51
Tonnes of CO ₂ e per employee		1.02	0.84
Tonnes of CO ₂ e per £M turnover		2.02	1.67
Total energy consumption (kWh)*		321,195.92	321,195.92

* Total energy consumption includes UK electricity, UK site gas, company-owned vehicles and employee-owned vehicles (grey fleet).

Current emissions reporting

Reporting year: FY 2021 (June 2020 to May 2021)

As detailed below, as 2020/21 is our baseline. The current last reporting period is also 2020/21, therefore the data below is a replication of the baseline. We are using [Carbonfootprint.com's](https://www.carbonfootprint.com) Sustrax software for ongoing reporting in the current financial year.

Scope	Activity	Location-based (tCO ₂ e)	Market-based (tCO ₂ e)
Scope 1	Company car travel	2.81	2.81
	Van travel and distribution	2.55	2.55
	Site gas	0.34	0.34
Scope 1 subtotal		5.69	5.69
Scope 2	Electricity generation	56.95	19.57
Scope 2 subtotal		56.95	19.57
Scope 3	Employee-commuting car travel	90.53	90.53
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	Employee-owned car travel (grey fleet)	7.13	7.13
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Total energy consumption (kWh)*		321,195.92	321,195.92

* Total energy consumption includes UK electricity, UK site gas, company owned vehicles and employee-owned vehicles (grey fleet).

A copy of our SECR report is available on request.

Calculation methodology

The carbon footprint appraisal is derived from a combination of Jigsaw24 data collection and data computation by Carbon Footprint's analysts.

Carbon Footprint's analysts have calculated Jigsaw Systems footprint using the 2020 conversion factors developed by the UK Department for Environment, Food and Rural Affairs (Defra) and the Department for Business, Energy & Industrial Strategy (BEIS) – both of which are compliant with the Greenhouse Gas (GHG) Protocol.

These factors are multiplied with the company's GHG activity data. Carbon Footprint has selected this preferred method of calculation as a government recognised approach and uses data that is realistically available from Jigsaw24's records.

Well-to-Tank (WTT) emissions factors (DEFRA 2020) have also been used to calculate the upstream emissions for fuels and energy. The emissions factors include an average of all GHG emissions released in the production, processing and delivery of fuels or energy.

For further information on Scope 3 transportation emission factors methodology, please refer to the addendum on page 17 of this document.

Expected energy consumption increase post-COVID-19 pandemic

Due to the ongoing Covid-19 pandemic, which has reduced Scope 2 electricity consumption by 25%, and greatly reduced business travel by 90%, it is expected that our 2020/21 carbon emissions based on the categories reported above will rise in 2021/22 as the business returns to normal. This is one reason why it was so important to report on staff commute and home working emissions in our reporting.

Energy consumption will be impacted by the opening of the new Service Centre building (Resource House). However, we expect to mitigate this to an extent by installing EV chargers at our HQ, ensuring that we are purchasing 100% renewable energy, continuing to use video conferencing and home working where possible and converting more drivers to electric vehicles.

At the time of writing, Jigsaw24 are working on expanding our Scope 3 emission reporting to cover as many achievable aspects as possible. While we have offset 800 tonnes of carbon for 2021/22, we do acknowledge that our upstream Scope 3 emissions, particularly concerning 3rd party couriers and inbound/outbound logistics will be a significantly higher amount than our reported Scope 1 and 2 emissions. As a result, we are keen to offset more to mitigate some of our indirect emissions despite these being our supply chain's direct emissions.

Emissions reduction targets

Jigsaw Systems Ltd is committed to achieving carbon neutral Scope 1,2 and subset of Scope 3 emissions by 2022, and net zero Scope 1,2 & 3 carbon emissions by 2025.

In order to continue our progress to achieving net zero, we have adopted the following carbon reduction targets. Jigsaw24 intend that any target should be aligned with the Science Based Targets initiative, intended to limit global warming by less than 1.5%. Jigsaw24 will be looking to formally sign up to the SBTi in 2022.

<https://sciencebasedtargets.org>

Based on the Scope 1,2 and 3 factors reported for 2020/21, we project that Scope 1 and 2 plus waste, employee commute and business travel carbon emissions will decrease over the next five years by 78 tCO₂e by 2026. This is a reduction of 33% against the baseline for those factors and takes into consideration an anticipated increase in emissions estimated at 100 tonnes in 2022 due to the return to normality post-pandemic, in addition to the impact of our new Service Centre building.

With regards to Scope 3 emissions - primarily upstream and downstream transportation, we anticipate a slower actual reduction in emissions due to the longer-term nature of our courier's carbon reduction plans. Nevertheless, we are working with suppliers to push for electric vehicle collections and deliveries wherever possible, and anticipate that electrified courier fleets will reduce our average delivery emissions by 25% by 2026. For further information on Scope 3 upstream and downstream transportation emissions, please refer to the addendum at the end of this document as they have been analysed and reported separately from our main footprint report due to the initial lack of data and their inherent complexity.

Jigsaw24 has committed to offsetting 800 tonnes of carbon with the Woodland Trust in 2021/22, which we believe will cover all increased emissions based on the factors we have reported in 2020/21. We will aim to verify this disclosure against the PAS 2060 standard in 2022.

In the longer term, Jigsaw24 will work with its key partners to support their efforts to net zero. We expect that our cleaner tier 1 & 2 supply chains will allow us to reasonably offset our Scope 3 courier emissions and allow more accurate and thorough reporting on our Scope 3 product footprint emissions.

Carbon reduction projects

Completed carbon reduction initiatives

While we have set a new baseline for 2020/21, the following projects have already been completed or implemented over recent years and are under regular review. As these schemes were put in place before the baseline was set, it is not relevant to detail their impact on carbon reduction, however, we do already have data on how they contributed to energy reduction, and can demonstrate year on year energy consumption reduction despite company growth. In addition, our Nottingham HQ has energy efficient windows and all sites have full LED lighting including our new building Resource House.

Energy Performance Indicators (EnPI)

Energy in kWh is reported to the board as a Key Performance Indicator (KPI).

Year	Nottingham	Golden Square (GSQ)	Wardour Mews	Data centre	Company fleet	Total Energy Usage	Annual difference (%)
2017	209797	44825	81449	100000	134099	570169.7	Baseline
2018	185366	51761	95020	100000	125000	557147.0	-2.28
2019	176978	53537	78271	67082	84348	460216.0	-17.40
2020	164084	65527	28702	34164	41753	334229.7	-27.38

Table 9. Overall energy usage for all sites plus fleet, annually from 2017 to 2020.

Opportunity	Impact	Progress as of September 2021	Time frame
Implement a maintenance procedure for all significant energy consumption equipment.	Low	Complete: records available for all major SEU maintenance.	2018
Review of increased use of PIR technology to turn off lights automatically.	Medium	This is in place in all areas at all sites where relevant to do so (including Resource House).	2018
Printing – look into further options to reduce printing.	Medium	Accounts and most areas are now virtually paper-free (a by-product of home working due to the pandemic). Our warehouse is looking into how paper dispatch notes could be removed. Most export paperwork is electronic, however, we are finding that we still have to provide duplicate paper copies.	2020
Improve carbon reporting.	High	We partnered with Carbonfootprint.com for the 2020/21 report. We are using their Sustrax software for 2021/22 reporting.	May-21
Undertake degree day analysis to determine the impact of temperature on energy high consumption.	Low	This is under review. 23 °C has been identified as an ideal setting, but our HQ building is prone to changes in temperature based on the external temperature.	Jun-21

Ensure energy management is a key consideration in any proposed office space search.	High	Environmental considerations were at the forefront in the search for an additional building. Factors considered included: <ul style="list-style-type: none"> • A heat map of impacted staff to identify the most suitable location for all staff to commute to. • The energy efficiency of the building. • The use of LED lighting, modern AC and electrics. • All energy will be able to be sourced from renewables. • The building has infrastructure for EV points. • The site is within walking distance of the tram Park and Ride. 	Jun-21
Offset carbon emissions.	High	800 tonnes of carbon will be offset with Woodland Trust for the financial year of 2021/22. Reported emissions for 2020/21 are 280 tonnes net. This covers Scope 1,2 and elements of Scope 3, including employee commute, home workers, waste and water. https://www.woodlandtrust.org.uk/partnerships/our-partners/more-partners/	Jun-21
Install electric vehicle (EV) charging points at the Jigsaw24 HQ.	High	This is now in place from August 2021 at HQ, with plans to install chargers at Resource House in 2022. We have partnered with Chargepoint to implement this. EV charging is not relevant to the London office due to its location being in Soho.	Aug-21
Encourage all staff to consider electric vehicles for their next car.	Medium	The EV salary sacrifice leasing scheme that can assist staff in upgrading to an EV is at the pilot stage with a strong level of interest.	Aug-21
Implement a training program to ensure that all personnel who are in a position to control or influence energy efficiency are competent in their role.	High	Our Managing Director is leading environmental training. World Environmental Week events and other incentives are considered by the environmental and energy team monthly.	Ongoing BAU
Obtain data to confirm how many internal meetings are being held over Zoom compared to face to face.	Medium	We estimate that one Zoom meeting hosted in Nottingham per working day, prevents one employee from visiting London or Nottingham. This saves 60,720 miles of train travel per annum.	Ongoing BAU
Increased facilitation of home working post the Covid-19 lockdown.	Medium	Zoom and Microsoft Teams have been the primary meeting method over the pandemic and have become the new norm, facilitating more home working post-pandemic. It is recognised that some teams do perform better in an office environment, but more home-based workers will be the norm.	Ongoing BAU
Increase use of cloud-based systems to reduce on-site server requirements.	High	Implementation of cloud-based 3CX phone system, Salesforce and ServiceNow which are core work processes that need little or no onsite server usage.	Ongoing BAU

In progress and future carbon and energy reduction initiatives

The following environmental management measures and projects are in progress or planned for completion soon. Note that while not a tangible carbon reduction aspect, we consider improved reporting and regulatory adherence to be a key driver for our carbon reduction efforts and have therefore noted them in our plan.

Opportunity	Impact	Progress as of September 2021	Time frame
Continue to maintain ISO 50001 certification originally gained in 2019.	Compliance	The next annual audit is in November 2021 with NQA, a UKAS accredited provider.	Nov-21
Encourage staff to take the tram to work.	Medium	Our new office, Resource House has been selected because of its proximity to tram Park and Ride. A Tram2Work scheme is under consideration, however interest from staff has been low so far.	2021
Make company car and van fleet fully electric.	High - increased electric usage from charging should be offset by petrol and diesel consumption.	Our company car fleet will be sold by 2022 and replaced by car allowances. Users will be encouraged to move to electrified vehicles where possible. Our company van will be replaced with an EV when ready. Mileage is extremely low.	2022
Review the process of recording company mileage to take electric vehicle charging into account for ongoing reviews.	Reporting	As EV uptake rises and Jigsaw24 install charging points, the methodology used to record mileage will need to be reviewed to take into account electricity consumption both on-site, and as part of staff fuel expenses when charged externally.	2022
Discuss the possibility of developing safe driving apps with the apps team.	Low	Jigsaw24 always encourage safe and frugal driving techniques. Apps have been decided to be a personal choice. Our new health insurance provider, Vitality can provide suitable apps to all members of staff.	2021
Insulate the warehouse roof for improved thermal efficiency.	Medium - this should reduce reliance on electric heaters or fans.	The main office ceiling has been insulated. Quotes have been obtained to explore the possibility of insulating the rear warehouse roof that currently has no HVAC.	2022
Couriers - use partners that are progressively rolling out EV deliveries.	High	This is mainly relevant to carbon emissions. DPD, UPS & DHL are key partners, and are all increasing EV presence, however, reporting their carbon emissions is over-complicated and costly.	2022
Look into breaking down electricity usage further to track individual SEU.	Low	This is ongoing. SEUs are known. Jigsaw24 will need to carry out work on fuse boards to identify routing and remove obsolete cabling first.	2022
Remove the gas supply from Resource House.	TBC as consumption is not known at this point, we estimate that it could be 8000Kw PA.	Resource House has a gas boiler to heat water and power a few radiators and we will look to remove these if the landlord agrees. Hot water will use in line electric heaters and replace gas radiators with electric.	2022

Obtain improved Energy Performance Certificates (EPC) ratings for all buildings.	Compliance	This is in place. Our Nottingham HQ review is in 2022 and we are seeking to achieve a B-rating rather than the current C-72. Resource House is currently rated C-68.	2022
Implement a purchasing/ procurement policy specifying that energy efficiency is considered in all purchasing decisions.	Compliance	There are several ongoing projects around our procurement policy and sustainability. Jigsaw24 requests that all suppliers are environmentally responsible.	2022
Move the ISO 14001 certification to UKAS certified provider (NQA)	Compliance	Jigsaw24 holds ISO14001 through a partner who is not UKAS accredited. Our ISO 50001 certification is with NQA.	2022
Determine whether the ISO14064 carbon management certification is relevant to the business.	Compliance	Identify the requirements of the standard. This will be through a UKAS accredited provider.	2023
Improve Ecovadis and CDP score and reporting available for customer tenders.	Compliance	Ensure our environmental commitments are shared with our customers and that we are shown to be a leader in our industry.	2022
Move to 100% renewable purchased energy.	High - currently around 30% of energy purchased is non-renewable (19.57 tonnes).	Our Nottingham HQ is 100% renewable. Resource House will have 100% renewable electricity and 100% offset gas. London has four separate supplies, one of which is currently renewable and will be 100% renewable from August 2022 when the current contract expires.	Aug 2022
Continue our investment into air conditioning upgrades, moving from R410 to R32 refrigerant.	Energy-saving through lower power consumption – a less damaging refrigerant is less likely to need to be topped up.	There are five older R410 units left at our HQ. It will cost approximately £17,000 to upgrade our current older units, plus £8,000 to install AC in the warehouse. However, all of the existing units are currently working well.	Final upgrades for HQ will be made in 2022. All units are on a 10-year renewal program. Resource House air conditioning was installed in 2020 and the air conditioning in our London office was installed in 2018.
Pursue PAS 2060 certification for carbon neutrality.	Verification	To verify any claims to carbon neutrality, possibly in conjunction with ISO 14064 .	2022

Carbon reduction plan by scope of emissions including all 15 Scope 3 categories

Scope	Activity	5-year reduction plan (based on expected rise in 2022 post-Covid-19)	Carbon Emissions Impact
Scope 1	Company car travel.	Aim to have no company-owned cars by 2022. Our two company vans will be replaced by EVs within two years.	Reduce to zero.
	Van travel and distribution.	Move to EV company van.	Reduce to electricity consumption emissions.
	Site gas.	Remove the requirement for gas at Resource House.	Reduce to zero.
Scope 1 Sub Total			
Scope 2	Electricity generation.	Resource House will be operating from November 2021 which will increase electricity consumption by an estimated 25%. Supply will be 100% fully renewable to reduce market-based emissions.	Reduce market rate emissions to a more appropriate emission factor.
Scope 2 Sub Total			
Scope 3	Employee-owned car travel (grey fleet).	Emissions reduced by 75% during the pandemic and are expected to increase post-pandemic but not to pre Covid-19 levels. We will reduce the requirement for travel through enhanced use of video conferencing through Zoom and Microsoft Teams.	Reduce to electricity consumption emissions.
	Cash opt-out car travel.	Emissions reduced by 75% during the pandemic and are expected to increase post-pandemic, however, all cars will be electric or hybrid. Company cars will be moving to car allowances with an emphasis on staff choosing electric vehicles where possible.	Reduce to electricity consumption emissions.
	Hire cars.	Electric hire cars will be the standard offering ahead of ICE vehicles.	Reduce to electricity consumption emissions.
	Rail travel.	This will rise post-Covid-19, but there will still be a reduction due to video conferencing.	Negligible change as video conferencing is already widely Used.
	Taxi travel.	This is currently ad-hoc. As more taxis become electric, we will be able to measure this as EV emissions.	Reduce to electricity consumption emissions.
	Flights.	Encourage train travel to nearby continents - very few require flights outside of the EU. Many conferences will become virtual events.	Will be negligible due to low flight activity.
	Home-workers.	Post-Covid-19 increased home working will be the norm when appropriate to departments and individuals. We will encourage the use of domestic carbon footprint tools for staff. Staff numbers are expected to increase by 10% year on year.	Emission factors should be revised based on greener homes and behaviours in years to come.

Scope 3	Home-workers.	Post-Covid-19 increased home working will be the norm when appropriate to departments and individuals. We will encourage the use of domestic carbon footprint tools for staff. Staff numbers are expected to increase by 10% year on year.	Emission factors should be revised based on greener homes and behaviours in years to come.
	Employee-commuting car travel.	Commuting is expected to be significantly higher post-pandemic as our main buildings were previously operating at 30-50% capacity. We will encourage staff to switch to EVs through the salary sacrifice scheme and EV chargers on-site. Our new office is near to the M1, and will reduce inner-city emissions in	We will switch from ICE emission factors to EV factors over time.
	Employee-commuting bus travel.	We encourage staff to use public transport where possible.	Emission factors should reduce as buses switch to EVs.
	Employee-commuting rail travel.	We encourage public transport where possible.	Emission factors will only reduce as rail infrastructure is modernised.
	Well-to-Tank.	This will follow other factors and decrease as other emissions decrease.	Fall in-line with energy consumption.
	Electricity transmission & distribution.	This will follow other factors and decrease as other emissions decrease.	Fall in-line with energy consumption.
	Water (and wastewater).	Will increase with Resource House. Jigsaw24 consumes very little water. We use rain collection for watering green areas and plants that require little water.	Negligible impact.
	Waste.	Jigsaw24 ICE is becoming more focused on services rather than being product-led. We will ensure that packaging continues to be FSC certified, more compact, reusable and recyclable. We have a 100% landfill avoidance policy at all sites in place. Staff are encouraged to consume less, reuse and recycle more.	This may rise depending on future business, but a metric will be put in place to reduce impact per £ of revenue.
	Detail of Scope 3 factors not reported in 2020/21		
Scope 1 and Scope 2 emissions of transportation providers, distributors, and retailers that occur during the use of vehicles and facilities between Jigsaw24 and the end-customer.	Jigsaw24 acknowledge that this will be the major factor of its Scope 3 emissions. We have calculated estimated emissions based on courier data, and will continue to refine our calculation process in future reports. See addendum in this document.	Couriers moving to EVs will reduce this, however, couriers should be obliged to better report emissions to their customers.	

Scope 3	Scope 1 and Scope 2 emissions of transportation providers, distributors, and retailers that occur during the use of vehicles and facilities between Jigsaw24 and the end-customer.	Jigsaw24 acknowledge that this will be the major factor of its Scope 3 emissions. We have calculated estimated emissions based on courier data, and will continue to refine our calculation process in future reports. See addendum in this document.	Couriers moving to EVs will reduce this, however, couriers should be obliged to better report emissions to their customers.
	Cradle to grave emissions of products purchased.	Jigsaw24 is not a manufacturer. Apple documents the lifecycle footprint of their products in their own carbon disclosure, as do most of our other key vendors. As a result, this aspect has been out of scope.	Emission factors should be revised based on greener product footprints.
	All upstream (cradle to grave) emissions of purchased capital goods.	Jigsaw24 CAPEX purchases are considerably less than 1% of turnover and will therefore not be reported. We are committed to using environmentally friendly, low power products from local suppliers wherever possible.	Emission factors should be revised based on greener product footprints.
	The Scope 1 and Scope 2 emissions of waste management companies that occur during disposal or treatment of sold products.	For some customers, we do offer EOL treatment as a service and continue to develop these solutions for customers. We will look at suitable metrics for reporting, but our major impact is likely to be found in increasingly offering this service in the future.	Will help tier 1 and 2 customers improve their customer footprints.
	The Scope 1 and Scope 2 emissions of downstream companies that occur during processing.	Jigsaw24 generally sell finished goods that require very little processing after we sell them except for final configuration and distribution to end users. We have over 15,000 customers on our records and so focus on understanding the Scope 1 and 2 emissions of customers that account for 70% of our revenue if possible. Alternatively, we look at the data based on analysing the actual products sold.	This is negligible due to the provision of finished goods rather than raw materials.
	The end use of goods and services sold by the reporting company in the reporting year.	As above, Jigsaw24 has 15,000 direct customers who in turn will have many times that number of end users whom Jigsaw24 will not know. We will investigate ways that this could be estimated using the average data method.	This will help tier 1 and 2 customers improve their customer footprints.

Scope 3	The Scope 1 and Scope 2 emissions of lessors that occur during the reporting company's operation of leased assets. company's operation of leased assets.	Jigsaw24 currently has no leased assets apart from buildings that are covered elsewhere in our reporting.	No impact.
	The operation of assets owned by the reporting company (lessor) and leased to other entities in the reporting year.	Jigsaw24 has no direct leased asset contracts with any customers that are not covered in Scope 1 and 2.	No impact.
	The operation of franchises in the reporting year, not included in Scope 1 and Scope 2 – reported by the franchisor.	Jigsaw24 has no franchise model.	No impact.
	The operation of investments (including equity and debt investments and project finance) in the reporting year.	Jigsaw24 does not currently have significant external investments that contribute to GHG emissions. This area will be reviewed annually.	No impact.

Addendum September 2021

Scope 3 courier emissions reporting

Jigsaw24 did not include Scope 3 upstream and downstream third-party courier emissions in their 2020/21 carbon footprint report as the data was not available to make an accurate estimation. The reporting of transportation emissions is a complex area, with different methodologies providing very different results and data not readily available from couriers.

Scope 3, category 4 - upstream transportation

Upstream transportation of goods purchased by Jigsaw24 and delivered to its premises will form part of Scope 3, category 1 - purchased goods. In future reports, we must be careful not to double count by attempting to separate out upstream transportation where we have not purchased the courier services directly. Category 1 is more relevant to Jigsaw24 as we are not a manufacturer and only source and provide finished goods.

Most of Jigsaw24's purchased goods are sourced from UK distribution companies, with three suppliers accounting for 79% of spend, and just 20 suppliers accounting for 98% of spend, with a very long 'tail' of several hundred smaller suppliers. Therefore, it is not possible to calculate emissions from all of them currently. 99% of Jigsaw24's spend is with UK based suppliers, with a small number of EU based and a handful of RoW suppliers.

Jigsaw24 placed over 18,000 purchase orders for physical (non-software) goods in the financial year of 2020/21. 76% of physical goods are delivered to our warehouse for stocking or pre-configuration purposes, however, to streamline stock holding, 24% of purchases were direct drop shipping, where the goods are delivered direct to customers from our suppliers.

Data is not available on inbound or drop shipment weights or distances travelled. It is also not possible to ascertain how many actual deliveries were shipped, as sometimes suppliers consolidate their deliveries so that multiple orders are on one delivery, while in other instances one order can be split over several deliveries. Deliveries to our main warehouse are usually free of charge from our larger suppliers so it is also difficult to separate from product costs.

Scope 3, category 9 – downstream transportation and distribution

After considerable research and analysis as well as improving our internal reporting capability from May 2021, we have calculated an estimated courier emissions footprint based on the following methodology. This is aligned with the GHG protocol guidance and uses UK DEFRA 2021 emission factors.

<https://www.gov.uk/government/publications/greenhouse-gas-reporting-conversion-factors-2021>

Jigsaw24 analysed all outbound third-party courier activity for four calendar months (23,182 shipments).

From the courier reporting available:

1. Air and road freight shipments were identified.
2. Each journey was postcode mapped to ascertain the total miles and Km that all vehicles travelled. (straight-line distance was used). While actual road distances could be estimated based on multiplying the straight-line distance by a factor to estimate actual road distance, there is no official guidance as to what this figure would be, and research shows factors of 1.23 to 1.38.
3. The weight of the individual Jigsaw24 shipments was multiplied by the vehicle distance for each delivery was available.
4. This weight distance was then multiplied by the most appropriate emission factor for road and air freight, which broadly broke down into four emission factor categories:
 - a. Average diesel van, tonnes/Km – general domestic courier services where Jigsaw24's parcels will be one of many in a vehicle. Note that while the m² of van and lorry movements is not known, as is the loading of any lorries used, Jigsaw24 has used the higher van only emission factors rather than a blend of van and lorry (which would be lower).
 - b. Average diesel van, Km only – this is where same-day deliveries use a dedicated vehicle, and therefore parcel weight is less relevant.

c. Short-haul freight flights, where the flight distance is under 3700km. Note that the actual airport used is not known so the distance has been based on distance from East Midlands Airport (EMA) to the nearest destination airport, including the indirect effects of non-CO2 emissions. This may not be realistic for flights where EMA was not the departure airport, but we hope that this method will improve as we receive better reporting or emission factors for these calculations.

d. Long haul freight flights, where the flight distance is over 3700km, are calculated from EMA as above.

5. The four months' work of data was then extrapolated three times to give an estimate of twelve months' activity. An additional 10% was added to the total to account for further uncertainty.

When breaking down the weight profile of shipments, 79% are less than 5kg, accounting for 25% of emissions, while the heaviest 0.78% of shipments equate to 29% of the emissions.

Row labels	4m tCO2e tonnes	X3 multiplier + 10%	Average shipment emissions
AIR	22.48	74.18	96.07kg CO2
ROAD	20.40	67.33	1.86kg CO2
Grand Total	42.88	141.52	

The declared figure of downstream courier emissions is estimated at 141.52 tonnes tCO2e over twelve months. This gives a total tCO2e declaration for 2020/21 as 422.32 tCO2e location-based, and 373.02 tCO2e, market-based.

Weight cat	Total shipments	Weight (tonnes)	tCO2e (tonnes)	% Of shipments	% Of weight	% Of tCO2e
<=5kg	60720	291.58	35.68	79.37	42.57	25.21
5 - 20kg	10527	112.49	17.40	13.76	16.42	12.30
20 - 50kg	3300	116.83	35.12	4.31	17.06	24.81
50 - 100kg	1356	86.66	11.97	1.77	12.65	8.46
100kg+	597	77.32	41.35	0.78	11.29	29.22
Grand total	76501	684.89	141.52	100.00	100.00	100.00

Declaration and sign off

Emissions have been reported and recorded in accordance with the published reporting standard for Carbon Reduction Plans and the GHG Reporting Protocol corporate standard and this report uses the appropriate Government emission conversion factors for greenhouse gas company reporting.

Scope 1 and Scope 2 emissions have been reported in accordance with SECR requirements, and the required subset of Scope 3 emissions have been reported in accordance with the published reporting standard for Carbon Reduction Plans and the Corporate Value Chain (Scope 3) Standard.

This Carbon Reduction Plan has been reviewed and signed off by the board of directors (or equivalent management body). Report compiled by Roland Boyer-Blanchard.

Signed on behalf of Jigsaw Systems Ltd:

A handwritten signature in black ink, appearing to read 'R. Whittle', with a long horizontal flourish underneath.

Name: Roger Whittle

Position: Founder & CEO

Date: 30th September 2021

Appendix B: Carbon Footprint Standard licence agreement



Date: 16th August 2021

Carbon Footprint Ltd ('The Licensor') hereby licenses Jigsaw Systems Ltd ('The Licensee') to use the 'Carbon Footprint Standard' brand logo shown below on a non-exclusive basis for a period of one year from today's date.



Scope of use

The scope of use of the Licence shall apply to The Licensee organisation only.

The Licence enables the 'Carbon Footprint Standard' branding to be used to promote The Licensee's organisation as being environmentally responsible on any associated marketing/sales/other communications materials in any media format, as listed in Schedule A.

Obligations

The Licence is for sole use by the Licensee – it is not to be sold/sub-licensed or otherwise transferred to any Third Party, without the prior and written consent of the Licensor.

The Licence is not to be used by the Licensee for any particular product or service other than those that may be listed in Schedule A.

The Licensee shall use the 'Carbon Footprint Standard' branding in an appropriate way, so as to avoid damage to the Licensor's brand and reputation.

Renewals and amendments

The Licence may be renewed at the end of the licence period, subject to negotiation with written agreement from the licensor.

Amendments may be made to Schedule A subject to negotiation and written agreement from the Licensor.

Appendix C: Woodland Trust Certificate

