OPEN SOURCE ARTS

NET ZERO CARBON ROADMAP

community canvas

YORKSHIRE CIRCUS

KIRKSTALL Community VALLEY Climate GRANTS Collaboration

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Contents

Executive Summary

Open Source Arts is committed to reaching net zero greenhouse gas emissions by 2030, and we must deliver on this commitment. This document lays out why we decided to commit to Net Zero, where we find ourselves now, the work we have to do and the beginnings of an ambitious yet realistic pathway to reaching our targets.

Background

- Open Source Arts is uniquely situated at the interface between culture, society, arts and environmental engagement, and we will utilise this to express the climate crisis' interconnectedness.
- The scientific evidence calls for immediate reductions in carbon emissions if we can limit warming to 1.5°C and the IPCC issued a 'code red' warning for humanity.
- We understand that we all have a responsibility to make changes in our lives however great or small. We will truly LEAD in this Letting Every Action Demonstrate our recognition that change towards a low carbon, sustainable, resilient world is necessary and possible.
- As part of Sustainable Arts in Leeds (SAIL) we have a responsibility to share our actions to bring together the creative and cultural sector.

Carbon Reduction Targets

- Targets will be set using an absolute-based approach; requiring us to reduce absolute greenhouse gas emissions by the given percentage at each time frame.
- Carbon reduction targets are set relative to the 2022 baseline carbon footprint reported in this document.

- Our target emissions cuts are as follows: 50% by 2024, 75% by 2026, 90% by 2028 and 100% by 2030.

Baseline Carbon Footprint

- Open Source Arts' carbon footprint is an expression of the carbon emissions produced from the activities undertaken over a year period and expressed in carbon dioxide equivalence (CO2e).
- The baseline will include emissions from:
  - waste production
  - team travel
  - fleet travel
  - audience travel
  - energy consumption
  - water usage
  - digital activities: browsing, website hosting, social media and cloud storage

Baseline Carbon Footprint Results

- Our research has found that overall we have a carbon footprint of 32,767.81 kg CO2e when excluding offsets and green tariffs.
- We have decided to report 'Offsets / Green Tariffs' separately to show what has been purchased to counter our carbon emissions - this is currently 14,652.29 kg CO2e.
- This means including offsets and green tariffs our carbon footprint is 18,115.52 kg CO2e.
- Find a breakdown of emissions below.

Key Performance Indicators (KPIs)

- KPIs are tools used to measure progress and performance and can be used to assess progress towards a specific objective.

- They are selected to relate to the activities that affect our balance of emissions and can be used to monitor progress towards Net Zero and inform action.

Proposed Net Zero Carbon Roadmap

- We want our Net Zero Carbon Roadmap to be emergent and collaboratively created with our entire team and the community.
- We have created a proposed roadmap outlining some potential actions that we may take in our journey to Net Zero.
- This is an emergent roadmap which is highly fluid and flexible as we want to ensure:
  - the needs, concerns and voices of all in the communities are heard
  - a shared sense of ownership
  - a collective understanding of the importance of taking action

Engagement & Communication

- To be successful in reaching Net Zero Carbon we must have the full working team and community behind us.
- To secure this we must provide training to team members to develop a deeper understanding of climate change, the systems which have contributed to climate change, net zero and its issues, and our own place in the collective solutions.
- We also hope to offer more environment- and climate-based workshops to further the knowledge and understanding of our community and the local people.

Comments on Carbon Offsets

- We recognise that carbon offsetting is not a silver bullet or perfect solution.
- Open Source Arts is committed to only utilising carbon offsets as a final lever and to purchase carbon offsets from renewable energy schemes providing benefits to communities.

Comments on Carbon Offsets

- Net Zero is not a perfect solution either, often used to justify damaging behaviour and delay action, as well as bringing issues of equity.
- In response, OSA is committed to moving towards Net Zero immediately and reaching carbon neutrality by 2030. We recognise that we must extend our ambitions beyond Net Zero.

Background

Open Source Arts (OSA) sits at the interface between culture, society, arts and environmental engagement. We believe that each of these are intrinsically linked, with each benefitting from the strength of the other to help create resilient communities with sustainable futures.

We believe well connected and more equitable communities allow people more space to think about improving their own lives and the world around them. That is why we work with people to engage communities in actively creating better places for themselves, whilst encouraging creativity, environmental and social sustainability.

At Open Source Arts we take our social responsibility seriously and consider social, environmental, cultural and economic factors in everything we do. We recognise that we are in a climate and ecological crisis and that we are faced with a huge challenge globally to reduce our carbon emissions to limit warming to 1.5°C and act on the IPCC's 'code red' warning. We all have a responsibility to make changes in our lives however great or small, and push for greater systems change from those in positions of power.

Moreover, Open Source Arts truly believes in LEADing by **L**etting **E**very **A**ction **D**emonstrate our recognition that change towards a low carbon, sustainable, resilient world is necessary and possible, whilst utilising our unique position to express the climate crisis' interconnectedness highlighting its relations not only to the environment but to culture, arts, society and economics as well.

Our membership in the Sustainable Arts in Leeds (SAIL) network is a further demonstration of our commitment to

driving change in Leeds. As a member we are working to bring together the creative and cultural sector to take action on the climate crisis and help create a low carbon future for Leeds and beyond.

For these reasons, here at OSA we have decided to establish our carbon footprint and environmental impact as an organisation - including each of our projects: Kirkstall Valley Grants, Community Canvas, the Ladybird Project and Yorkshire Circus - and use this initial footprint to begin collaboratively developing a pathway to Net Zero Carbon Roadmap taking us up to 2030. This roadmap will lay out the steps we must take as an organisation to move to Net Zero Carbon and help bring our community and team with us.

We aim for our Net Zero Carbon Roadmap to be a collaborative and emergent project developed with our entire community of team members, artists, performers, visitors and everyone in the local area. Not only will this ensure we bring our community and team with us on our journey to Net Zero, but it stands in solidarity with our belief that resilience comes from diversity of connection and skills.

Some Key Terms Defined

Net Zero (Carbon)

This is a term which, like ‘carbon neutral’, refers to achieving an overall balance between emissions produced and emissions removed from the atmosphere through sequestration and carbon sinks.

To be ‘Net Zero’ would mean the activities of Open Source Arts would not be adding to the amount of greenhouse gases in the atmosphere as all emissions produced would be balanced by certified greenhouse gas removals or carbon offsets.

Carbon Offsetting

A carbon offset allows individuals or organisations to compensate for and negate the emissions they are unable to reduce. They often refer to programmes which reduce emissions such as afforestation and tree planting, renewable energy projects, solar cooking stoves, and energy efficiency projects.

Carbon Footprint

A carbon footprint is the total amount of all greenhouse gas emissions produced by the activities of an individual, organisation, country, etc. over a given time period, often a year.

Net Zero Carbon Roadmap

This term refers to the pathway of actions over a given time period, such as by 2030, that organisations, sectors, etc. must undertake in order to bring their activities to the balance of Net Zero. They lay out achievable and viable routes for decarbonisation.

They blend together multiple different solutions and levers for decarbonisation and moving towards Net Zero, such as use of renewables and changes to travel.

Carbon Reduction Targets

Carbon reduction targets provide a clear pathway to reaching Net Zero. They specify by how much and how quickly greenhouse gas emissions need to be reduced over the given time period.

Open Source Arts, following the choice of SAIL in their Improving the Sustainability in the Leeds Arts, Culture and Creative Industries report, has chosen to set reduction targets based on an absolute-based approach. Using this approach we are required to reduce absolute greenhouse gas emissions by the given percentage at each time frame.

Our carbon reduction targets are all set relative to 2022 as this is the year used for the initial baseline assessment, discussed below. Reduction targets are as follows:

- 2024 = 50%
- 2026 = 75%
- 2028 = 90%
- 2030 = 100%

It is important to note the rate of change in emissions cuts, with the 2022 to 2026 seeing 75% reductions whilst 2026 to 2030 only has a target of 25% reduction (based on 2022 emissions). The rate of change slows over the period to 2030 as initial actions garner larger reductions, such as reducing car travel, whereas more granular changes in the future will provide lower reductions.

These emissions targets have been chosen after analysing the targets and ambitions of other groups and organisations in

Leeds. This includes a consideration of SAIL's target and pathway for the Cultural and Creative sector reaching Net Zero by 2030, and is in line with Leeds City Council and Leeds Climate Commission's target for Leeds to reach Net Zero by 2030.

Baseline Carbon Footprint

An integral part of developing a Net Zero Carbon Roadmap is firstly establishing a baseline environmental impact and thus carbon footprint. Our carbon footprint is an expression of the carbon emissions produced from the activities we undertake over a year period and expressed in carbon dioxide equivalence (CO2e). It includes the emissions from:

- waste production
- team travel
- fleet travel
- audience travel
- energy consumption
- water usage
- digital activities: browsing, website hosting, social media and cloud storage

Embodied Carbon

We have also been able to calculate our embodied carbon for team travel, fleet travel and digital devices. For team and fleet travel this includes the carbon embodied within each vehicle. It was found using the average embodied carbon in each vehicle type; for example, the average small car in the UK has embodied carbon of 6,000 kg CO2e and in the team there are 4 small cars meaning an embodied carbon of 24,000 kg CO2e. For digital devices again an average embodied carbon for each device type (e.g. laptop or smartphone) was taken and multiplied by the number of devices present in the team.

Overall, the embodied carbon in these three sectors reaches 145,795 kg CO2e. This is not a fully comprehensive picture but is something essential to recognise.

Open Source Arts has taken the decision not to include the embodied carbon statistics in its Net Zero Carbon Roadmap or initial baseline. This is because these items have already been purchased and disposing of these in favour of items with lower claimed embodied carbon would be unsustainable. Instead, this knowledge and understanding will continue to guide our behaviours. This will include ensuring the longevity of all assets, including digital devices, vehicles and more, to prevent the need to purchase more in the future.

Moreover, this understanding has helped guide procurement and digital impact policies where the purchase of second hand or refurbished items has been highlighted as a key action to reduce our environmental impact.

Carbon Offsets

When it comes to carbon offsets we have decided, following government guidance, that in the reporting of our carbon footprint, emissions savings from carbon offsets and green tariffs will be reported separately to be clear on what our resource use and carbon impact is. Before carbon offsets or green tariffs are considered our baseline carbon footprint would stand at 32,767.81 kg CO2e. When taking into consideration the green tariff we use for energy our carbon footprint would fall by 14,652.29 kg CO2e to 18,115.52 kg CO2e.

Transparency

We believe these approaches to the baseline carbon footprint allow for our report to be transparent. Making clear our approach to our carbon footprint while allowing us the space to utilise carbon offsets and green tariffs, albeit only as a final lever.

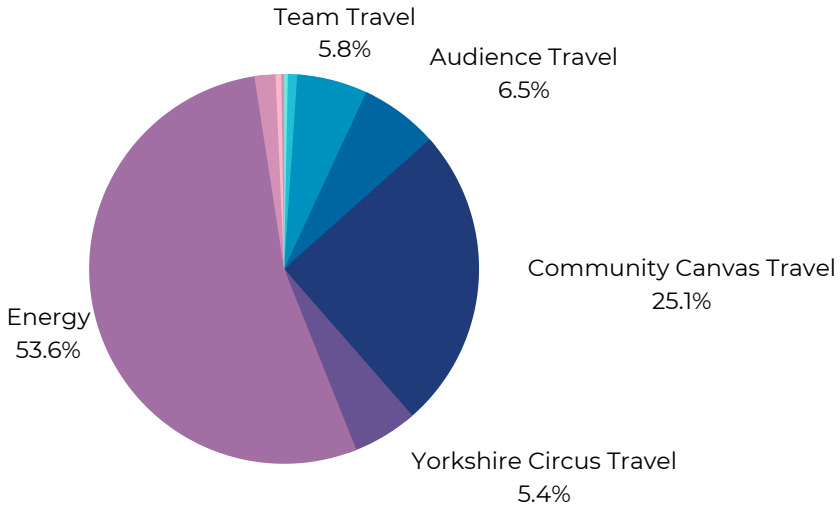
If you have any questions or comments regarding the reporting of our baseline carbon footprint then please get in touch at info@opensourcearts.co.uk.

Baseline Carbon Footprint Results

Area of Activity	Emissions (kg CO2e)	Percentage of Excluding Offset Emissions (%)
Online Browsing	102.51	0.31
Device Use	251.96	0.77
Social Media	2.36	0.01
Team Travel	1,913.36	5.84
Audience Travel	2,132.37	6.51
Community Canvas Travel	8,235.82	25.13
Yorkshire Circus Travel	1,766.65	5.39
Energy	17,566.48	53.61
Waste	571.07	1.74
Water Usage	16.91	0.05
Cloud Storage	152.52	0.47
Website Hosting	17.37	0.05
Single Use Plastics	38.44	0.12
Total Emissions	**32,767.81**	
Purchased Green Tariff	**14,652.29**	
Total Net Emissions	**18,115.52**	

Overall, Open Source Art's baseline carbon footprint stands at 32,767.81 kg CO2e with a large amount of emissions coming from energy and Community Canvas travel.

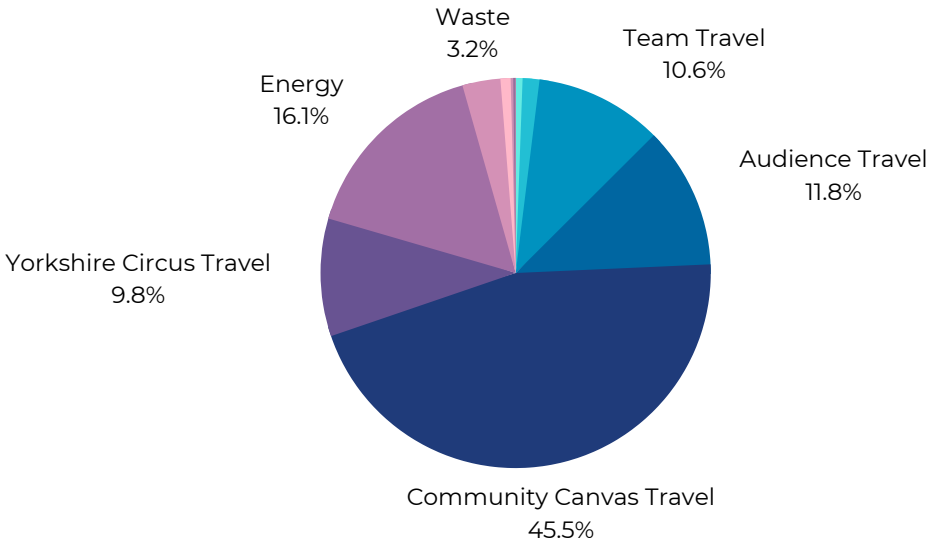
Carbon Footprint excl. offsets



Consistent with above we have also reported 'Offsets / Green Tariffs' separately to show what has been purchased to counter our carbon emissions. Here you will see that an offset/green tariff at the value of 14,652.29 kg CO2e is reported. This is the amount of emissions from gas use at Open Source Arts and is shown in this column as it is green gas obtained from Ecotricity. Part of this gas supply comes from green gas mills which use grass cuttings broken down anaerobically to produce biomethane to be carbon neutral with any remaining gas supply obtained from natural gas with all residual emissions offset through investment in carbon reduction schemes globally. Therefore, this gas supply is carbon neutral and can be taken from the over carbon footprint.

This means when including offsets and green tariffs Open Source Arts' carbon footprint is reduced significantly to 18,115.52 kg CO2e.

Carbon Footprint incl. offsets

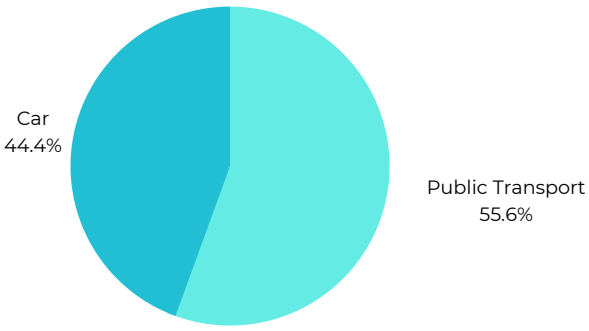


Team Travel

Team travel includes the journeys members of staff take to and from work, as well as any other journeys they may take for work related activities.

Overall, it was found that team travel leads to the production of 1,913.36 kg CO2e emissions over a year and a distance travelled of 17,420 miles.

Percentage of Emissions



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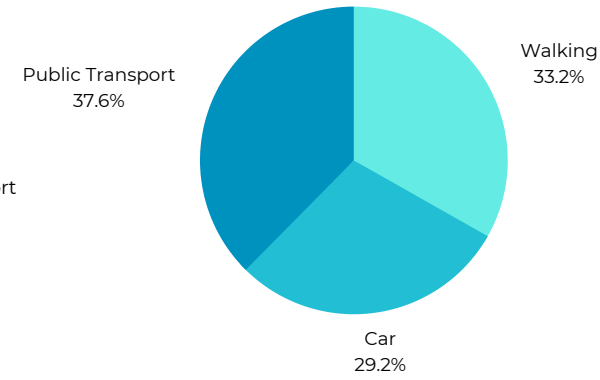


Some key points to take from this data include private car use being responsible for 58.5% of emissions but only 29.2% of distance travelled by the team. Walking is a popular mode of transport making up 33.2% of travel signalling that many of our team members live locally.

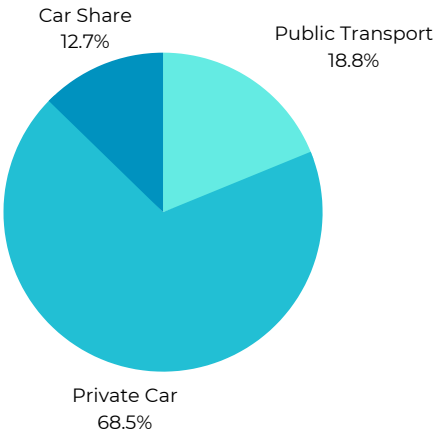
Audience Travel

Audience travel includes the journeys taken by people who are visiting OSA for a workshop, event, market or anything else.

This data collection was challenging and in some cases may not be perfectly accurate. However, best efforts have been taken to produce as representative an image as possible.

We found that over a year period individuals travelling to our venue would cause 2,141.28 kg CO2e emissions with miles travelled amounting to 14,970.6.

Percentage of Emissions



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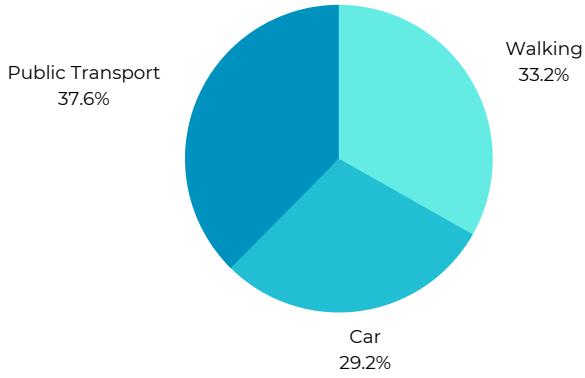


Key points to take from this dataset include private car journeys and car sharing together make up over 55% of travel whilst cycling and walking make up only 18.1% of travel to Open Source Arts.

Additionally, private car journeys are the most polluting, responsible for 68.4% of CO2e emissions or 1,465.5 kg CO2e.

Community Canvas Travel

Community Canvas travel includes the transport of equipment and people to and from all hires, and encompasses the use of personal, Open Source Arts and hired vehicles.

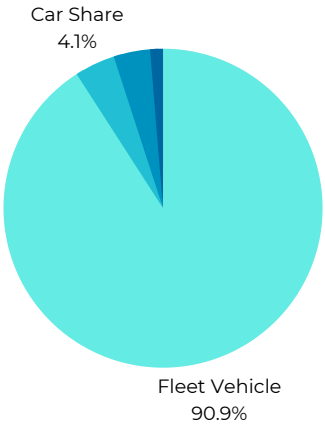
Overall, it was found that over a year period Community Canvas would lead to the production of 8,235.82 kg CO2e.

Key points that can be pulled out of this data include the dominance of fleet vehicles in terms of emissions and miles travelled. This is positive as fleet vehicles can be used to transport team members and equipment at the same time.

Another positive note is that public transport is the second most popular transport type.

However, it is clear that action needs to be taken to reduce the level of emissions from fleet vehicles.

Percentage of Emissions



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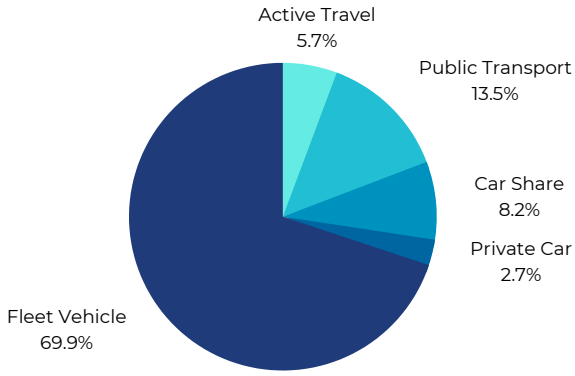


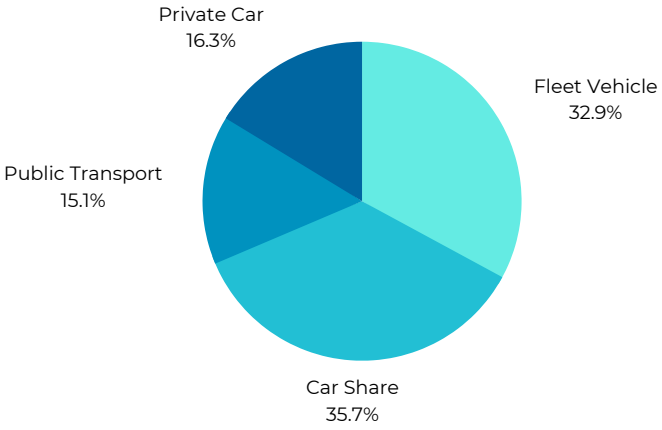
Yorkshire Circus Team Travel

Yorkshire Circus team travel includes both the transport of equipment and people to and from all hires and gigs, and encompasses use of personal and Open Source Arts owned vehicles.

This data includes Open Source Arts, Yorkshire Circus and the Ladybird Project's participation in the British Juggling Convention in Ramsgate, Kent.

Over a year period Yorkshire Circus team travel would lead to the generation of 1,766.65 kg CO2e emissions and 7,189.58 miles of travel.

Percentage of Emissions



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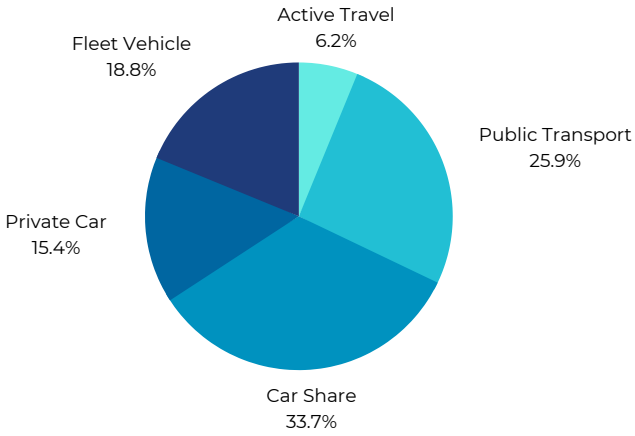


Energy

Energy includes the use of both gas and electricity in the space.

We are aware that as much as we love our homely urban warehouse space, its open plan design, exposed brick and thin warehouse style roof means a lot of energy is required to keep the space at a safe temperature for our team, performers and visitors.

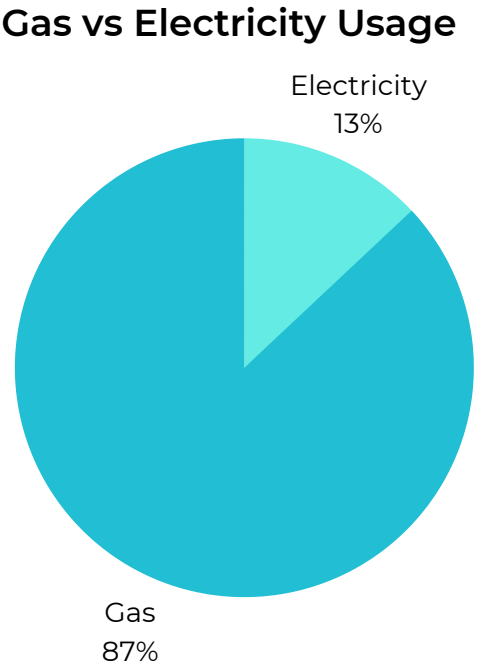
Our energy emissions figures contain some nuance as we obtain our gas from Ecotricity using a Green Gas tariff..

This means at Open Source Arts our gas supply is carbon neutral as it is effectively offset by the organisation from which we obtain it.

However, we are aware that the use of energy (gas and electricity) is a resource demand. By using this green gas we are still taking this from the grid and taking this away from another consumer who will then use fossil fuels.

Here we highlight that our energy consumption without accounting for the use of a green tariff generates 17,566.49 kg CO2e emissions and is responsible for over half of our overall emissions excluding offsets.

When considering the green tariff, however, 87% of our energy usage is gas and therefore when taking this offset away from our overall emissions we see the figure fall to just 2,914.19 kg CO2e.



Waste

General Waste and Recycling includes all the waste we generate and is collected by our waste contractors.

Using information received from our waste contractors we were able to calculate our carbon emissions and recycling rate.

We were unable to calculate the emissions coming from the materials we recycle here as the information required to do this was not available nor was it provided upon request.

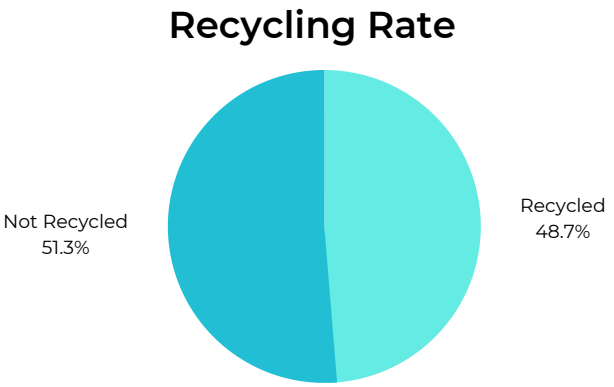
Carbon emissions from general waste could be calculated as this waste goes to an Energy Recovery Facility where it is incinerated and used to generate energy.

Based on information from the Leeds Recycling & Energy Recovery Facility we were able to establish the emissions per .

kilogram of general waste - 0.349 kg CO2e.

Using this information our emissions from waste could be calculated. This stands at 47.59 kg CO2e per month and 571.07 kg CO2e per year.

We aim to improve our recycling rate to reduce our environmental impact and carbon footprint in the future



Water

Emissions from water usage come from the processing and transportation of water. In Leeds our water is supplied by Yorkshire Water.

DiscoverWater have reported that Yorkshire Water is responsible for 151 kg CO2e per megalitre of water supplied.

Here we found, using our water metre, that over a year period we, on average, use 115,492 litres of water and therefore our water usage leads to 16.91 kg CO2e.

Online Browsing

Online browsing requires energy meaning it has a carbon impact too.

Using a useful browser plug-in called Offset Mode, a member of our team was able to monitor their browsing usage over a week period. An average of hourly carbon emissions from browsing could then be found.

The average, at just 6.88g CO2e, could then be multiplied out by the teams working hours per week to give a weekly average for the entire team, which came to 2.05 kg CO2e.

This was then multiplied out to give an estimated yearly figure of 102.51 kg CO2e.

Device Use

When using devices such as mobiles and laptops we are using energy and energy production leads to CO2e emissions. Therefore, device use is connected to CO2e emissions.

Our team largely uses laptops for working with some use of mobile phones during working hours.

Using online information showing the average energy usage of laptops and mobile devices along with the UK's average emissions per kWh, and team working hours, we could estimate the emissions generated by team device use.

Over the course of a year, device use for work requires 1080.73 kWh and 280.9 kg CO2e.

Cloud Storage

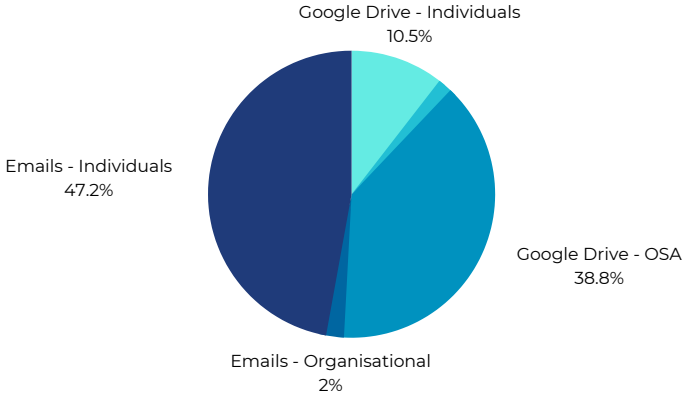
Storing data in the cloud requires energy due to the servers used, and a lot of the work we do at Open Source Arts requires cloud storage due to its collaborative nature.

We found, using information on energy per gigabyte of cloud storage and average emissions from energy in the UK, that each gigabyte of online storage leads to the generation of 1.194 kg CO2e per year.

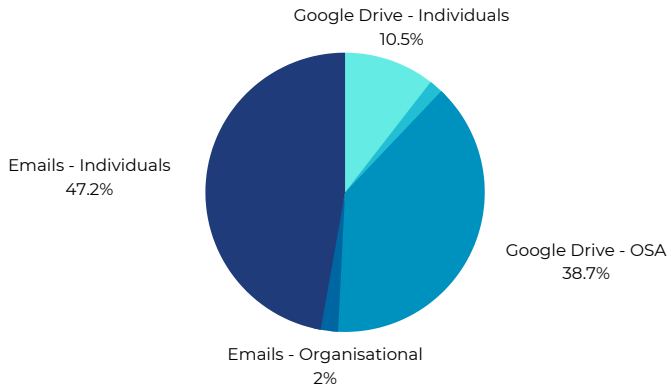
We were then able to establish the level of cloud storage being used by the team which amounted to 114.35 GB, which could be used to establish the carbon impact.

In total our cloud storage leads to the generation of 152.52 kg CO2e per year

Storage Quantity



Percentage of Emissions



Social Media

Another digital behaviour that has carbon implications is social media use and messaging.

Research has found that uploading images to Facebook and Instagram requires 2 MB and 100KB of data respectively, and sending images over WhatsApp requires 100KB.

This then equates to 5.18g CO2e per Instagram image and 0.26g CO2e per Facebook image post and WhatsApp image message.

Using an average for the number of images sent and posted per month on each platform across Kirkstall Valley Grants, Yorkshire Circus, Open Source Arts and Community Canvas we were able to establish the level of emissions associated with only social media use.

Over a year period our activities on social media would lead to 2.36 kg CO2e.

Website

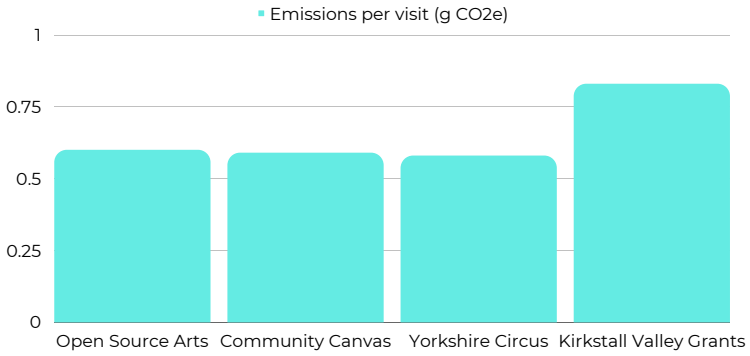
Hosting a website requires energy as they utilise data centres, transmission networks and connected devices. This data includes the emissions produced from hosting the Open

Source Arts, Community Canvas, Yorkshire Circus and Kirkstall Valley Grants websites.

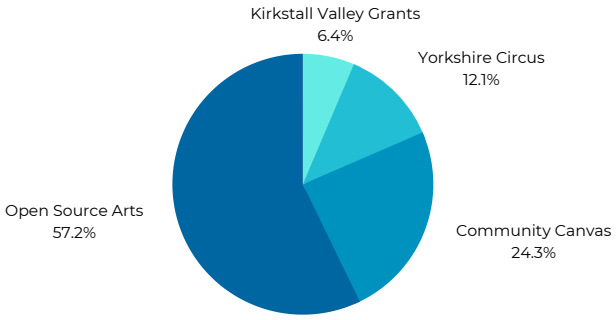
Using Website Carbon - the first methodology for calculating carbon emissions linked to a website - we were able to find the carbon emissions associated with each website visit.

Over the course of a year the websites held by Open Source Arts lead to 17.37 kg CO2e emissions.

Emissions per Visit



Percentage of Emissions



Single Use Plastics

Single use plastics (SUPs) have received lots of attention over the past few years and rightly so. Not only are plastics not biodegradable, meaning they pollute the environment for hundreds of years, but they are made from coal and oil too.

It has been found that each gram of plastic produced is responsible for 6.15g CO2e.

As a team we use plastic in our working lives from our lunches to packaging on purchased items.

Calculating the amount of plastic used each week by the team has allowed for an estimate of yearly use to be obtained. This stands at around 6.25 kg of plastic waste per year.

This means SUP use at Open Source Arts is responsible for the production of 38.44 kg CO2e.

Key Performance Indicators (KPI)

Key performance indicators (KPIs) are tools used to measure progress and performance and can be used to assess progress towards a specific objective. With regards to the Net Zero Carbon Roadmap, KPIs selected are related to the activities that affect the organisation's balance of emissions. These KPIs are therefore effectively measures of the progress towards reaching Net Zero.

Category	Objective	Measures
Carbon Footprint	Reduce carbon footprint including offsets to zero	Footprint including offsets = 18,115.82 CO2e
		Footprint excluding offsets = 32,767.81 CO2e
Energy	Reduce emissions from energy	Amount of energy consumed = 91,575.43 kWh
	Reduce energy demand	Renewable energy rate = 0%
	Move to 100% renewables	
Water	Reduce water consumption	Consumption = 2,221 litres
	Increase grey water usage and rainwater harvesting	Grey water usage = 0%

Team Travel	Reduce emissions from team travel	Emissions from travel = 1,913.36 kg CO2e
	Reduce private car journeys and emissions	Public Transport Rate = 37.6%
	Increase active travel and use of public transport	Active Travel Rate = 33.2%
Audience Travel	Reduce emissions from audience travel	Emissions from audience travel = 2,141.28 kg CO2e
	Increase use of active travel and public transport	Public Transport Rate = 22.2%
		Active Travel Rate = 17.7%
Community Canvas (CC) Travel	Reduce emissions from audience travel	Emissions from CC travel = 8,235.82 kg CO2e
	Increase use of active travel and public transport	Public Transport Rate = 13.5%
		Active Travel Rate = 5.7%
Yorkshire Circus (YC) Travel	Reduce emissions from audience travel	Emissions from YC travel = 1,248.96 kg CO2e
	Increase use of active travel and public transport	Public transport rate = 25.9%
		Active travel rate = 6.2%
Online Browsing	Reduce emissions from browsing	Data usage = 1380.5 GB
		Emissions = 102.51 kg CO2e
Device Use	Reduce emissions from device use	Energy usage = 1080.73 kWh
		Emissions = 280.9 kg CO2e

Waste	Decrease waste sent to landfill and energy recovery	Recycling rate = 48.7%
	Reducing single use plastic use	Single Use Plastic use = 6.25 kg of plastic (38.44 kg CO2e)
	Reduce total waste production	Waste Reduction Rate = N/A
		Landfill Rate = 0%
	Increase the recycling rate	Energy Recovery Rate = 51.3%
		Total Waste Production = 3191.25 kg
Cloud Storage	Reduce emissions from cloud storage	Data stored = 114.35 GB
	Reduce amount of data stored in the cloud	Emissions = 152.52 kg CO2e
Social Media	Reduce emissions from social media use	Emissions = 2.36 kg CO2e
Website	Reduce website emissions whilst growing its use	Emissions = 17.36 kg CO2e
Natural Capital	Enhancing the green space we have on offer	Amount of greenery in yarden space =
	Improving natural capital in the UK	Trees planted through UK-based offsetting = 0
		Number of hours of stewardship projects offered = 27.5

Awareness	Increasing team awareness and understanding of climate change	Hours of training per employee = 0

Proposed Net Zero Carbon Roadmap

Year		2022	2023	2024	2025	2026	2027	2028	2029	2030
Emissions Cut Targets		50%			75%		90%		100%	
Area	Objectives									
Carbon Footprint	Reducing overall carbon footprint and organisation carbon emissions	Calculating Baseline	Year review	Year review	Year review	Year review	Year review	Year review	Year review	Year review
Energy	Reducing energy use and related emissions and costs	Energy Audit	Install Motion Sensored Lighting	Assessing feasibility of alternative heat sources	Assess feasibility of onsite micro-renewables, i.e. solar panels, wind turbine	Install Micro-Renewables		Upgrade heat and cooling systems / Heat Recovery System		
		Switch to 100% Renewable Energy			Assess feasibility of insulation & double glazing	Install Insulation & Double Glazing				
	Moving to 100% renewables	Installing a smart metre	Introducing an Energy Policy		Install alternative heat sources					
		Install low energy lighting & introduce switch off policy								
Water	Reducing water consumption	Water Usage Audit	Assess feasibility of grey water systems	Installing rainwater harvesting system	Install Grey Water systems					
	Increasing grey water usage and rainwater harvesting		Installing Water Efficient Technologies							

Proposed Net Zero Carbon Roadmap

Waste	Decreasing waste to landfill and energy recovery	Waste Audit	Waste Reduction Policy	Increasing provision of community recycling facilities - Terracycling	Collective Purchasing to enable bulk buying	Holding workshops about the impact of waste and how to reduce it		
	Reducing plastic use and waste production	Become a Refill Station	Improving and solidifying food waste and composting systems	Becoming FoodWise Organisation				
	Avoiding single use plastics	Change waste contractor	Providing community recycling facilities					
	Increasing the recycling rate	Introducing food waste solution						
Travel	Reduce emissions from travel by team and audience	Staff Team & Audience Travel Audit	Assess the feasibility of Cycle to Work Schemes or eBike trials	Introduce a Cycle to Work Scheme			Transition to EVs for Community Canvas Fleet	
	Support and promote sustainable travel by team and audience	Introducing a Staff Team & Audience Travel Policy				Develop and Run Own Educational Campaign for Importance of Car Free City, Sustainable Transport and Active Travel		
	Develop community understanding of sustainable transport							

Proposed Net Zero Carbon Roadmap

Natural Capital	Create Green Space at OSA and enhance our onsite natural capital	Audit of Natural Capital			Green Walls	
	Providing natural capital to the community via stewardship projects in Leeds	Audit of Increasing Natural Capital Mechanisms	Creating and improving green spaces around the venue		Provisions for growing food locally for team and local community	
Staff Team	Improve team awareness of climate change and environmental impacts	Carbon Awareness Survey	Increasing Carbon Based Training	Encouraging the team to make pledges for taking climate and sustainability action	Becoming accredited to provide Carbon Literacy training	Provide Carbon Literacy Training
	Improve team's motivation to make change and introduce low carbon practices at work and in their daily lives				Providing in-house sustainability training	
	Provide Carbon Literacy Training					

Proposed Net Zero Carbon Roadmap

Procurement	Reducing negative supply environmental and social impacts	Supply Chain Audit	Mapping out suppliers to understand their values, ethics and enviromental impacts	Practice responsible and progressive procurement	
	Ensuring suppliers are environmentally and socially responsible, and support the values and goals of Open Source Arts	Developing a supplier policy			
Community	Embedding environmental themes and engagement in community programmes	Communicating zero carbon roadmap	Developing Precious Plastics Educational Campaign	Develop and run own engagement and educational campaigns with audience and community	
	Develop environmental collaboration and carbon reduction attitudes into collaboration	Communicating Climate Emergency		Sustainability Advisor for Associate and Member Artists	
	Improve awareness in the community of our Zero Carbon Roadmap and the importance of climate action	Social media campaigns and communication	Collaboratively developing the zero carbon roadmap		

Proposed Net Zero Carbon Roadmap

Digital Impact	Reduce the carbon footprint of our digital facilities and capabilities	Introduce Digital Usage Policy	Clear out unneeded data in the cloud and in emails	Practice using the Digital Usage Policy
	Implement a policy for managing and reducing carbon footprint of digital assets			
Offsets	Introduce a socially and environmentally responsible carbon offsetting scheme	Join a UK-based, ethical Carbon Offsetting Scheme		Local Community Planting
	Using offsets to move towards Net Zero Carbon			

Engagement and Communication

The success of any organisation reaching Net Zero Carbon is highly dependent on having the full working team and community behind the initiative. Reaching such a target may require team members to make changes to the way they live whether it be their travel choices or their consumption choices in the workplace.

To secure this buy-in it is essential that training to team members is provided to develop a deeper understanding of climate change, the systems which have contributed to climate change, net zero and its issues, and our own place in the collective solutions.

Additionally, Open Source Arts hopes to grow its offering of environment and climate-based workshops to further knowledge and understanding in its community and in the local area. This will initially include sessions similar to those provided to the internal team.

It is hoped that these sessions will not only help inform individual action to ensure that it is effective and equitable but is hoped to generate an enthusiasm for change.

Finally, by developing team and community understanding it is hoped that through a series of sessions the actions in the Net Zero Carbon Roadmap can be developed together by the community and team to make a Net Zero Carbon Roadmap that is emergent and collaboratively created. This will help to ensure the needs, concerns and voices of all in the communities are heard, there is a shared sense of ownership as well as a collective understanding about the importance of taking action.

Comments on Carbon Offsets

It is important to note that although carbon offsets are key to reaching Net Zero we recognise that they are not a silver bullet or perfect solution. They are often used to allow corporations to continue their unsustainable behaviours and simply shift the responsibility.

Open Source Arts also recognises the impacts that many carbon offset schemes can have numerous negative impacts on indigenous people and communities in lower income countries and can create issues of monoculture, as well as recognising the impacts they have on our understanding of nature as it becomes a commodity to be used. To limit the damage of using carbon offsets we will invest in only accredited, UK-based offsetting schemes whilst engaging in our own offsetting practices such as tree planting in local communities or greening our own space.

Nature-based carbon offsets on a large scale, as well as being damaging to biodiversity and indigenous communities, are also limited by time. Newly planted trees can take up to 20 years to sequester the amount promised in a carbon-offset. Moreover, any planted trees are at risk of drought, wildfire, tree diseases and deforestation if not effectively protected. There is the risk that any trees planted now in offsetting schemes could release the carbon they were planted to offset back into the atmosphere.

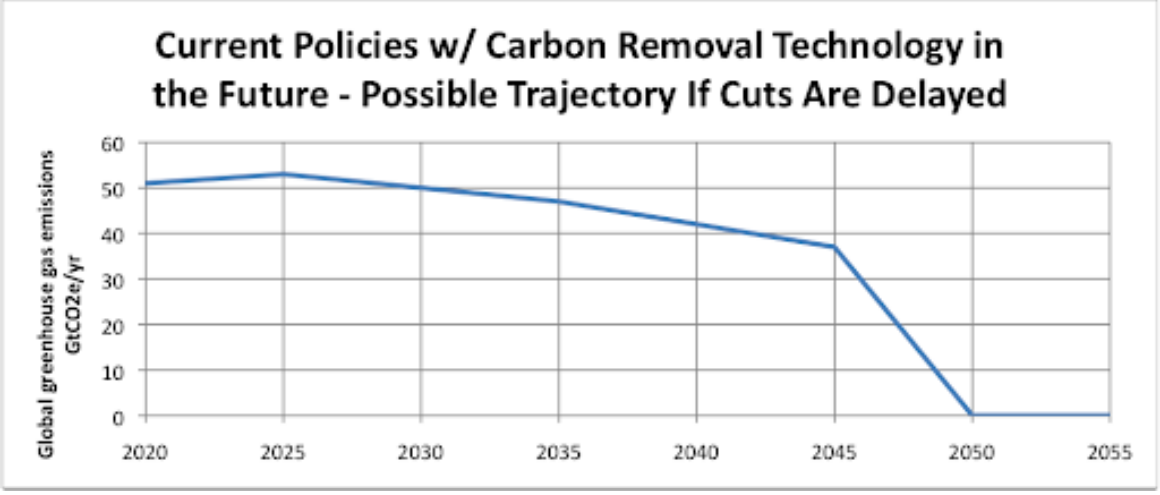
We are committed to only utilising carbon offsets as a final lever and strategy after all other feasible and viable reduction methods have been employed. Open Source Arts is also

committed to purchasing carbon offsets from renewable energy schemes that will provide benefits to communities by supporting the delivery of renewable energy to lower income or isolated communities.

Comments on Net Zero

Going Net Zero is not a perfect solution. We see that a Net Zero approach often brings a mindset in the Global North that we are able to justify our damaging behaviours if we offset emissions. However, the truth of this is often that these offsets take longer periods of time to 'come online'.

Moreover, a Net Zero narrative leads to continued emissions over the period leading up to reaching the milestone. This will continue contributing emissions towards the carbon budget for the planet to limit warming to 1.5°C - which is the amount of carbon emissions humanity can emit for all time not per year. Net Zero means unacceptable emissions continue and major reductions can be delayed.



We would likely see a pathway to emissions like the one above where emissions are allowed to continue at high levels for a number of years leading up to the target date for Net Zero. This would likely mean the global carbon budget for limiting warming to 1.5°C would be surpassed.

Net Zero also has issues of equity. Countries and many communities, businesses and individuals in the Global North

exceeded their fair share of the global carbon budget many years ago. It is important that we reduce our emissions immediately as a point of equity. This will allow countries in the Global South the best opportunity to develop sustainably and eradicate poverty without the global carbon budget being exceeded.

In response, OSA is committed to moving towards Net Zero immediately and reaching carbon neutrality by 2030. This is the time frame the Intergovernmental Panel on Climate Change (IPCC) report highlights as the best possible options for limiting warming to 1.5°C. The annual reductions targets also demonstrate our commitment to reducing emissions as quickly as possible as we recognise historical emissions. Moreover, we recognise that we must extend our ambitions beyond Net Zero and continue to reduce our emissions further with potential to move towards becoming carbon negative.

Glossary

Carbon Dioxide Equivalent (CO_2e)

This is a measure which is used to compare various greenhouse gases based upon their global warming potential (GWP) by converting amounts of other gases to the equivalent amount of carbon dioxide with the same global warming potential.

This equivalency is derived by multiplying the amount of the gas by the associated GWP.

For example, the GWP of methane is 25. This means that emissions of 1 kg of methane is equivalent to the emissions of 25 kg of carbon dioxide.

Global Warming Potential (GWP)

This is a term which describes the relative potency of a molecule of a greenhouse gas, and it takes into account the amount of time the gas remains active in the atmosphere. This effectively means it is the amount of heat absorbed by a greenhouse gas in the atmosphere expressed as a multiple of the heat absorbed by the same mass of CO_2.

GWPs used currently are those calculated over 100 years. In this term carbon dioxide is taken as the reference greenhouse gas and given a 100-year GWP value of 1.

For example, each methane molecule over a 100-year period absorbs 25 times more heat than a carbon dioxide molecule and therefore has a GWP of 25.

Greenhouse Gas (GHG)

Greenhouse gases are a group of gases that contribute to climate change and global warming. They are the gases that allow the earth's atmosphere to trap the sun's energy (and thus heat) like a blanket.

The growth of the concentration of these gases is contributing to climate change and global warming.

Carbon Footprint

A carbon footprint is the total amount of all greenhouse gas emissions produced by the activities of an individual, organisation, country, etc. over a given time period.

For example, as an organisation we need to heat our premises, our team travels to work, etc. and our carbon footprint is the total amount of emissions produced by all these activities.

Net Zero

This is a term which, like 'carbon neutral', refers to achieving an overall balance between emissions produced and emissions removed from the atmosphere through sequestration and carbon sinks.

To be 'Net Zero' would mean the activities of Open Source Arts would not be adding to the amount of greenhouse gases in the atmosphere as all emissions produced would be balanced by certified greenhouse gas removals or offsets taking carbon dioxide out of the atmosphere.

Carbon Neutral

A carbon neutral organisation or activity is one which causes no increase in global greenhouse gas emissions over a given period. It occurs when for non-emitting activities and when emissions of the same volume emitted are offset.

period. It occurs when for non-emitting activities and when emissions of the same volume emitted are offset.

Carbon Offsetting

A carbon offset allows individuals or organisations to compensate for and negate the emissions they are unable to reduce. They often refer to programmes which reduce emissions such as afforestation and tree planting, renewable energy projects, solar cooking stoves, and energy efficiency projects.

Greenhouse Gas Removals (GGRs)

This is a term that refers to all the methods of removing greenhouse gases from the atmosphere and sequestering them. Nature-based methods include tree planting, wetland and peatland restoration, and more. Engineered solutions include direct air carbon capture and storage (DACCS), bioenergy with carbon capture and storage (BECCS), and more.

Net Zero Carbon Roadmap

This term refers to the pathway of actions over a given time period, such as by 2030, that organisations, sectors, etc. must undertake in order to bring their activities to the balance of Net Zero. They lay out achievable and viable routes for decarbonisation.

They blend together multiple different solutions and levers for decarbonisation and moving towards Net Zero, such as use of renewables and changes to travel.

Embodied Carbon

This is defined as the sum of greenhouse gas emissions released during the whole-lifecycle of an item. It includes: raw material extraction, transportation, manufacturing, construction, maintenance, renovation and end of life disposal. It is reported in CO2e.

An example would be the embodied carbon of the average laptop is 119 kg CO2e. This figure will include the emissions produced when the rare earth metals needed to construct it were mined, transported and assembled. It will also include the emissions related to its disposal when it breaks.

Sustainable Arts in Leeds (SAIL)

Founded in 2018, SAIL is a group of organisations and companies from the Cultural and Creative sectors of Leeds that came together to discuss how they should respond to the climate crisis. The ultimate aim is to significantly reduce the sectors' carbon footprint bringing it to net zero carbon by 2030. Moreover, the network aims to use the power of the network for knowledge sharing as well as informing and engaging audiences in climate action.

Green Tariff

A green tariff is one offered by utility companies, often energy companies, where the supply promises to match the energy consumption on this tariff with renewable energy. The energy is not 'green' at the point of use as the energy is still taken from the National Grid which is only 25% renewable at present.

Green Gas

Green gas is gas which is obtained from renewable sources such as plants, food waste and animal waste. These materials are broken down anaerobically and the biomethane produced in the grid or to generate energy. This process is carbon neutral as the carbon sequestered by the renewable source is equal to that released when it is burned for energy.

Carbon Sequestration

This is the process of capturing and storing carbon dioxide from the atmosphere. There are different types of carbon sequestration. Oceans, soils, trees and grasslands all naturally store carbon, whilst carbon can also be artificially sequestered in underground geological formations. There are other technological carbon sequestration techniques using novel technologies.

Carbon Negative

This is beyond Net Zero and is when the level of CO2e being emitted by an organisation is less than the level of CO2e emissions being offset.

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