

WATERSHED

CARBON LITERACY TRAINING

June 2022



BRISTOL+BATH
CREATIVE R+D

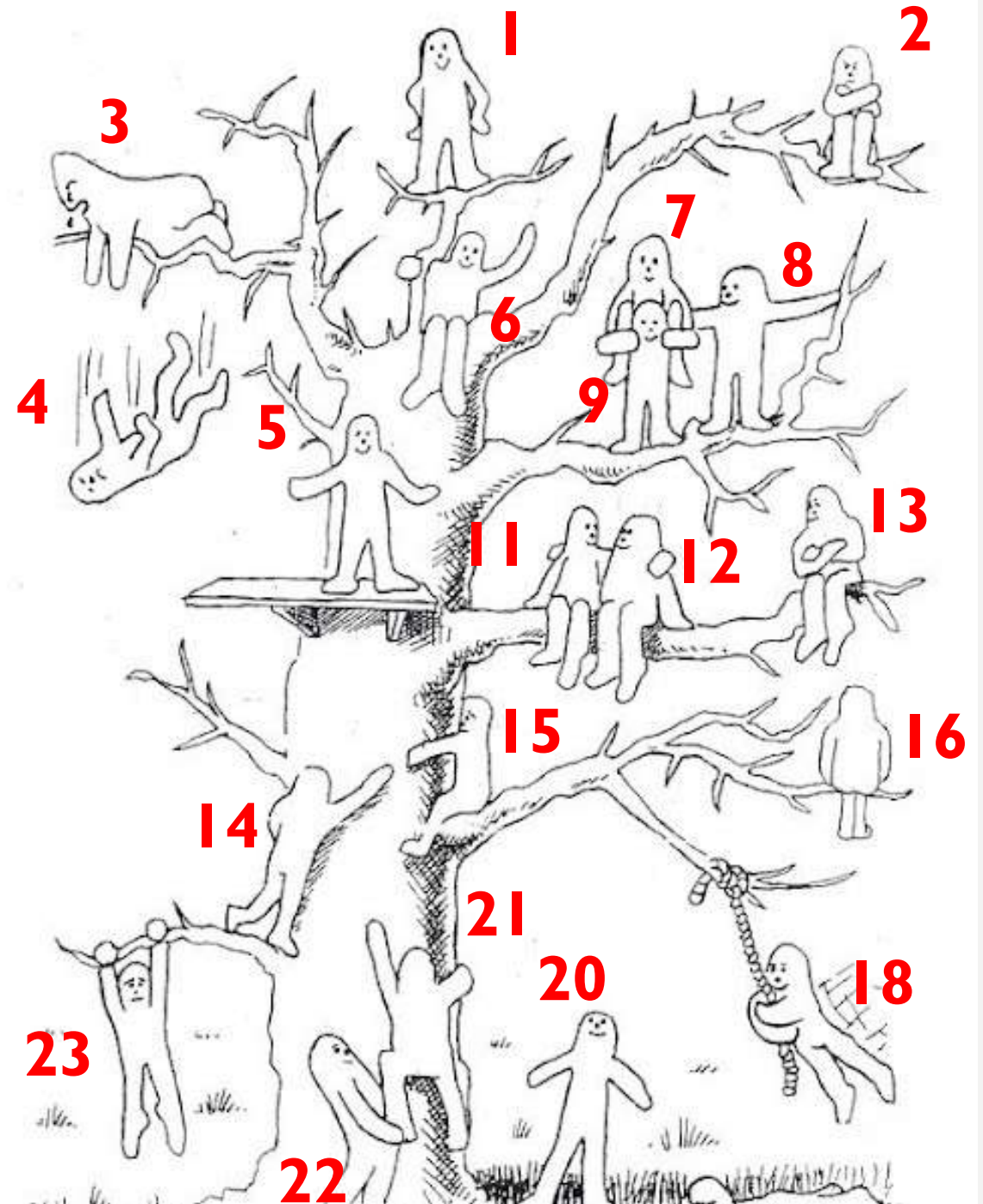
**Carbon Literacy
Project**



CHECK IN

Lets go round in a circle:

- 1) Name
- 2) Job & department at Watershed
- 3) How do we feel about climate change?
- 4) What weather describes your mood today?



WHY ARE YOU HERE?

In 2019, Watershed declared a climate emergency. And in 2019, the Watershed's Environmental Group did a staff survey which indicated people wanted to know more about what they could do & a breakdown of Watershed's impacts.

We believe true organisational change starts with all staff having access to training, so we all have the same basis of knowledge, and an opportunity to ask questions, critique and raise concerns.

This is what today is all about, learning about climate change together and discussing together. We value each of your opinions, and are not trying to tell people what to think – but give everyone access to the same knowledge base to inform how you make decisions within Watershed.

WHAT IS CARBON LITERACY?

“An awareness of the carbon dioxide costs and impacts of everyday activities, and the ability and motivation to reduce emissions, on an individual, community and organisational basis.”

The Carbon Literacy Project is based on the key aim that if we are to cut our carbon emissions by the kind of reductions demanded of us by science, then we will need to change culture alongside technology.

The Carbon Literacy project provide a framework for learning and action. We have designed a bespoke training which has been accredited by them.



Undergo full carbon literacy training day



Use what you have learnt to generate a group action, and individual action in our final session



We collect these as evidence of learning, and send them to Carbon Literacy Project



You are certified carbon literate, and we can build towards our organisational carbon literacy accreditation

HOW DOES IT WORK?

EVIDENCE FORM

Pen and paper: take notes!

These are the questions that we'll be asking you about towards the end of the day:

1. Following the climate science you have heard about today, what actions do you think **humans need to take to tackle climate change?**
2. As a result of your Carbon Literacy training, **what significant, new carbon reduction group action are you committing to undertake, involving a wider group of people?**
3. **What significant, new carbon reduction action are you committing to as an individual as a result of your Carbon Literacy training?**
4. What do you need within your teams/roles to make this happen?

HOUSEKEEPING

Today we will be:

- Respectful & supportive to different levels of knowledge
- Interruptible – ask questions and provoke discussions (use hand-raise tool!)
- Learning together
- Listening actively
- Respect this is an emotional topic
- People will have their own opinions + that's ok! It's a big topic!
- We realise this is a long day online: we have an hourly break of minimum 10 mins, so please try and stay with us for when we are together.

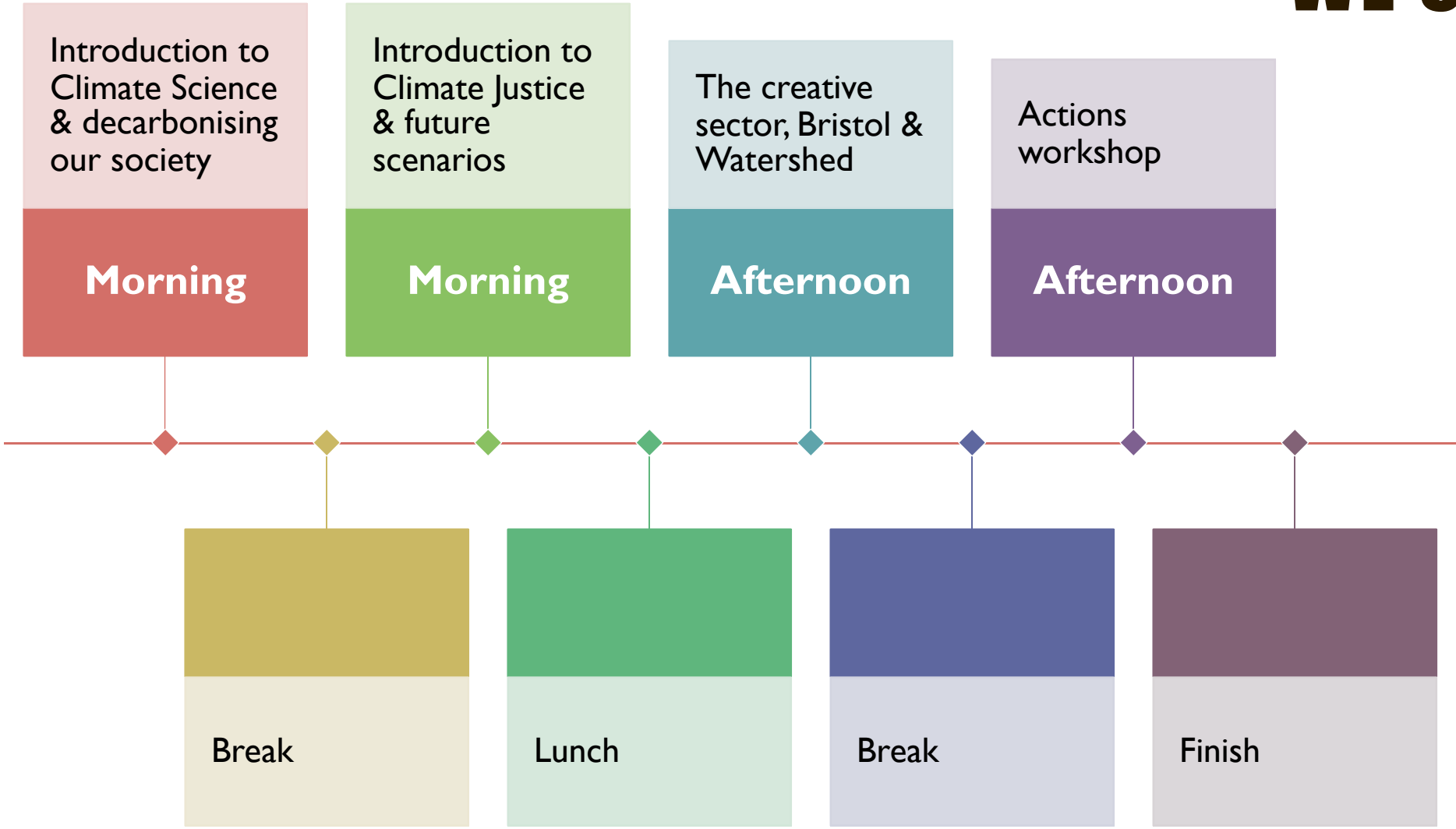
NO SHAME!

Climate action looks different for different people, depending on your lived experience and identity. All decisions around sustainability require thoughtfulness and nuance.

We want to ensure our discussions are inclusive, to lead to inclusive actions and solutions across Watershed.

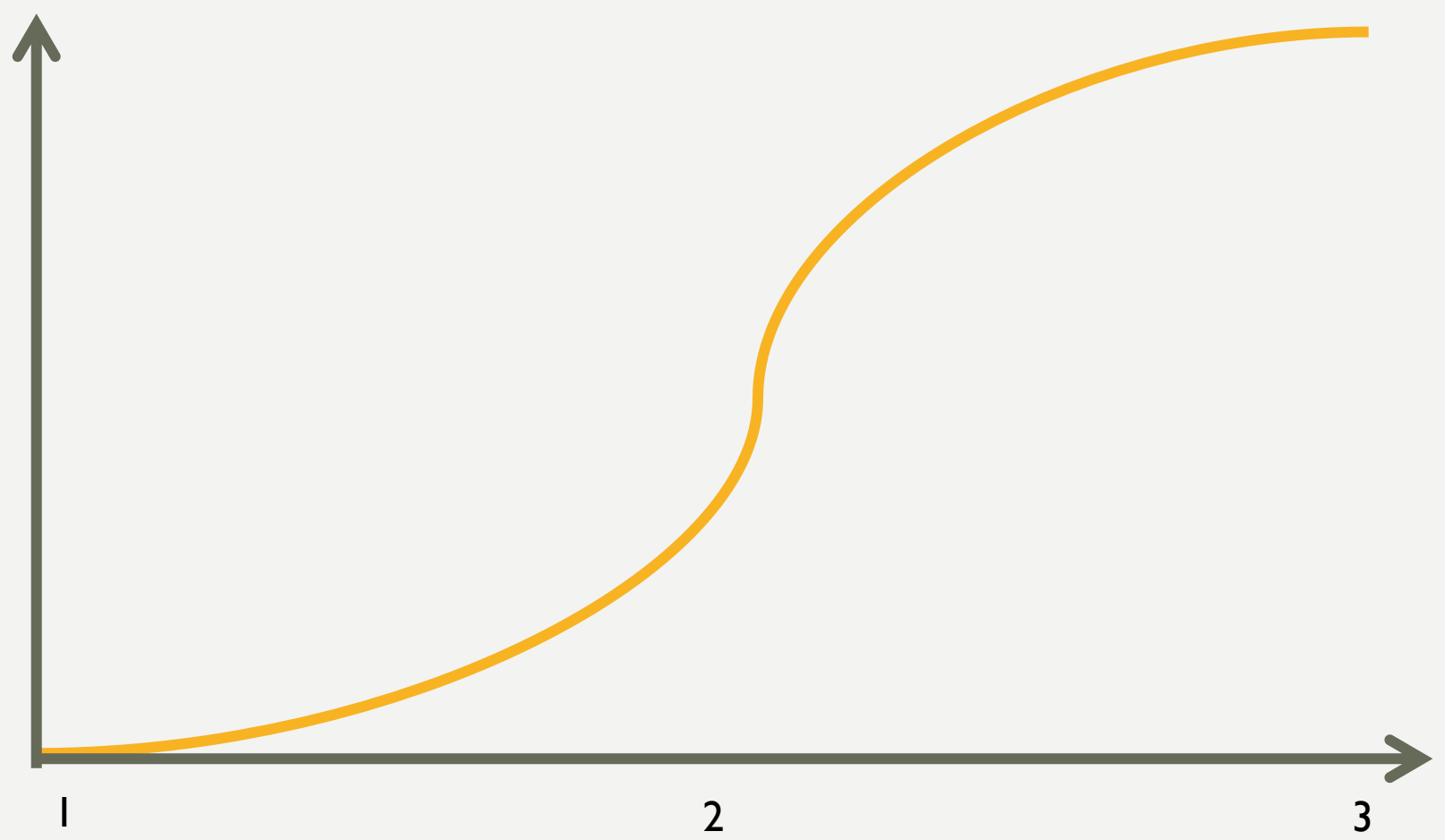
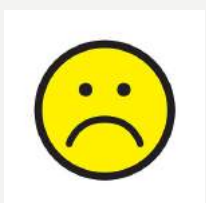
Do what is within your means. Your voice is really important. This is the space to have these discussions.

WHAT WILL WE COVER?





Vibe



Modules

WATERSHED

SECTION I

INTRODUCTION TO CLIMATE SCIENCE

Carbon Literacy
Project



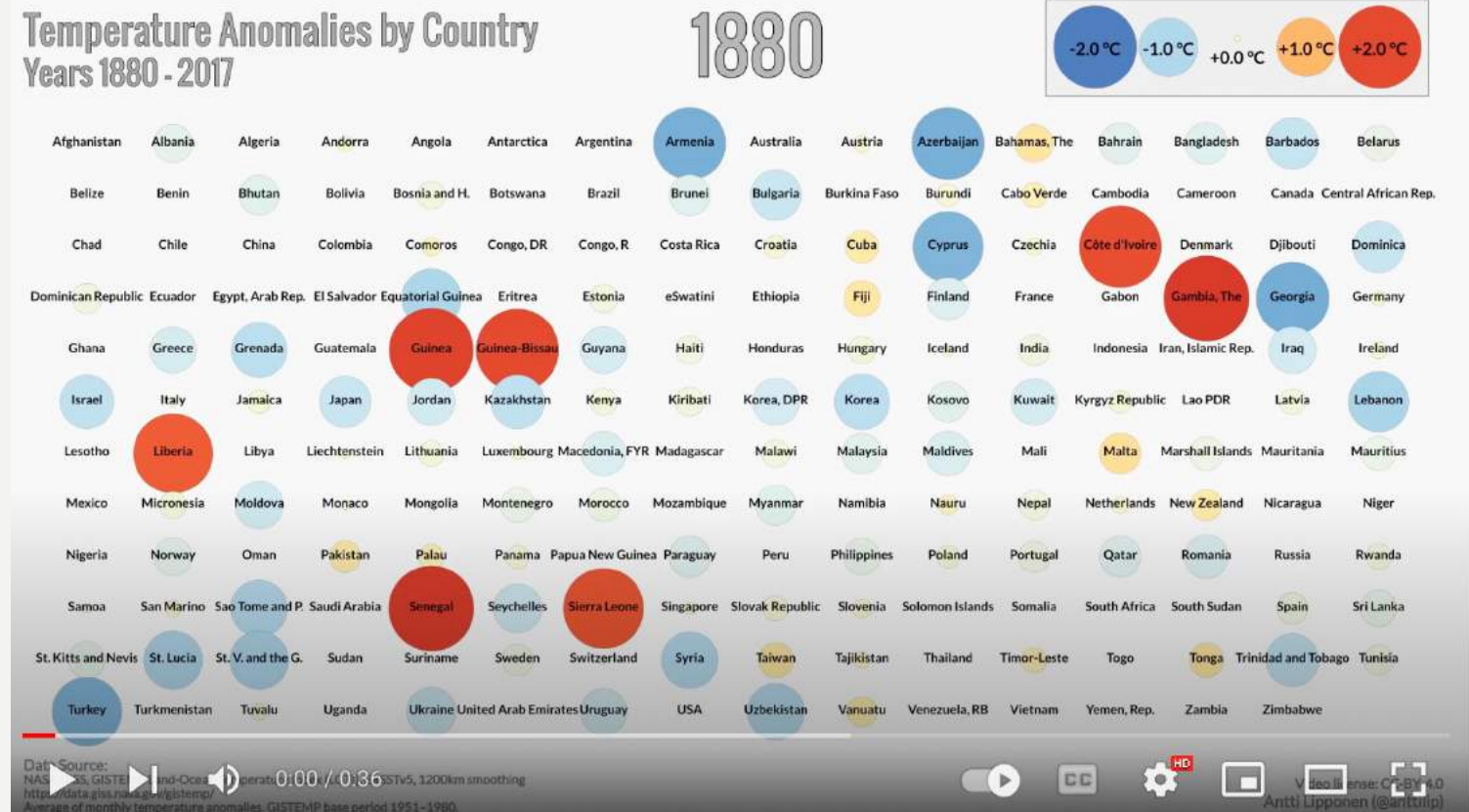
WHAT IS CLIMATE CHANGE?

Climate change refers to a large-scale, long-term shift in the **planet's weather patterns and average temperatures.**

Since the mid-1800s, humans have contributed to the release of carbon dioxide and other greenhouse gases into the air. This causes global temperatures to rise, resulting in **long-term changes to the climate.**

HOW DO WE KNOW HUMANS ARE CHANGING THE CLIMATE AT UNPRECEDENTED LEVELS?

https://www.youtube.com/watch?v=P_hbdyNnUliM&ab_channel=Windy



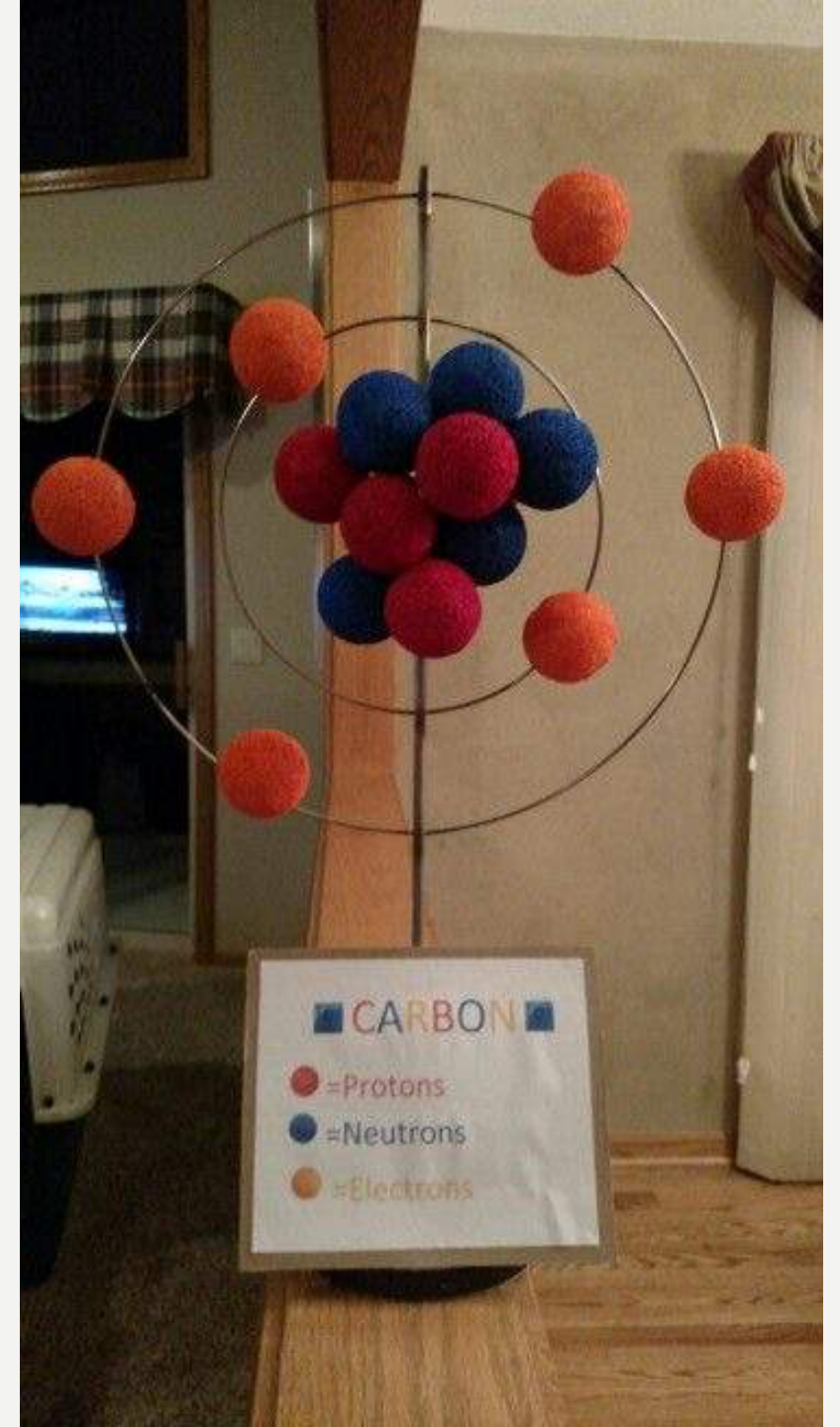
WHAT IS THE GREENHOUSE EFFECT?

[VIDEO:](#)



CARBON EQUIVALENT

A **carbon dioxide equivalent** or **CO₂ equivalent**, abbreviated as **CO₂-eq** is a metric measure used to compare the emissions from various [greenhouse gases](#) on the basis of their [global-warming potential \(GWP\)](#), by converting amounts of other gases to the equivalent amount of carbon dioxide with the same global warming potential.



Generating energy

A lot of power generation for electricity and the vast majority of home heating are still done by burning fossil fuels, such as gas.

Transport

Cars, buses, trains, trucks, ships and planes, (unless electric and charged with renewable energy), all produce emissions by burning fossil fuels.

Food production

Livestock reared for meat and dairy products emit methane, and agricultural soils emit gases like nitrous oxide, which is made from nitrogen in the soil through the use of fertiliser.

Deforestation

Because trees store carbon as they grow, cutting or burning down trees releases that carbon into the atmosphere.

Powering industry

Humans burn fuels such as coal, oil and gas in order to drive large-scale industries. Industrial emissions come from producing things like cement, iron, steel, electronics, plastics and clothing.

Plastics and waste

Plastics are made from fossil fuels, releasing emissions through their production. Globally, about 40% of plastics are used as packaging.

HOW PEOPLE CREATE GREENHOUSE GASES?

**ANY
QUESTIONS?**



ipcc

INTERGOVERNMENTAL PANEL ON
climate change





CLIMATE POLICY:

WHAT IS THE PARIS AGREEMENT?

Agreement between 196 countries to **keep global temperature rise well below 2°C pre-industrial levels** and to pursue a path to limit warming to 1.5°C

Common but differentiated responsibilities!



WHAT IS CARBON NEUTRALITY?

Carbon Neutral means that any CO₂ released into the atmosphere from a company's activities is balanced by an equivalent amount being removed. We have declared to be carbon neutral by 2030 as part of a climate emergency.

Climate positive means that activity goes beyond achieving net-zero carbon emissions to create an environmental benefit by removing additional carbon dioxide from the atmosphere.

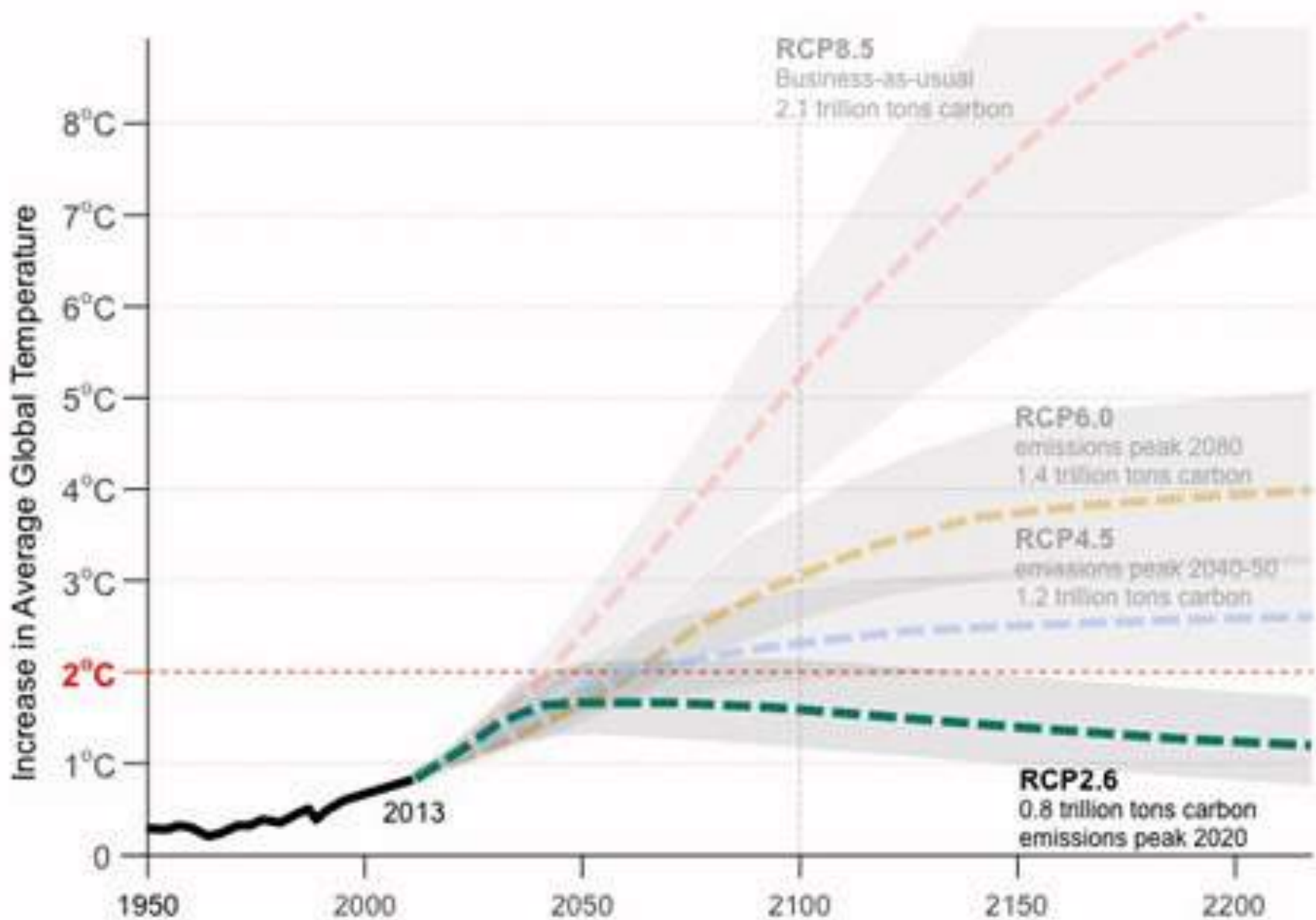
YOU ARE NOW A CITY COUNCIL!

Your city has a limited budget, so using a restricted number of decisions you must get your city as close as possible to net zero.

As a group, you must choose which categories to prioritize and get your city to net-zero.

We will then discuss our feelings and thoughts on the process!





Global Temperature Projections for various RCP Scenarios

Source: Architecture 2030; Adapted from IPCC Fifth Assessment Report, 2013
 Representative Concentration Pathways (RCP), temperature projections for SRES scenarios and the RCPs.



THE PARIS AGREEMENT, IPCC REPORT AND PREDICTED SCENARIOS

WHAT MIGHT 4 DEGREES WARMING LOOK LIKE?

From a participant in the Studio's own Gathering Moss project:

The Future We Choose by Tom Forsey

<https://gatheringmoss.art/artworks/the-future-we-choose/>

BREAK

WATERSHED CARBON LITERACY TRAINING

CLIMATE IMPACTS

We've spoken about causes... but now it's time to talk about impacts.

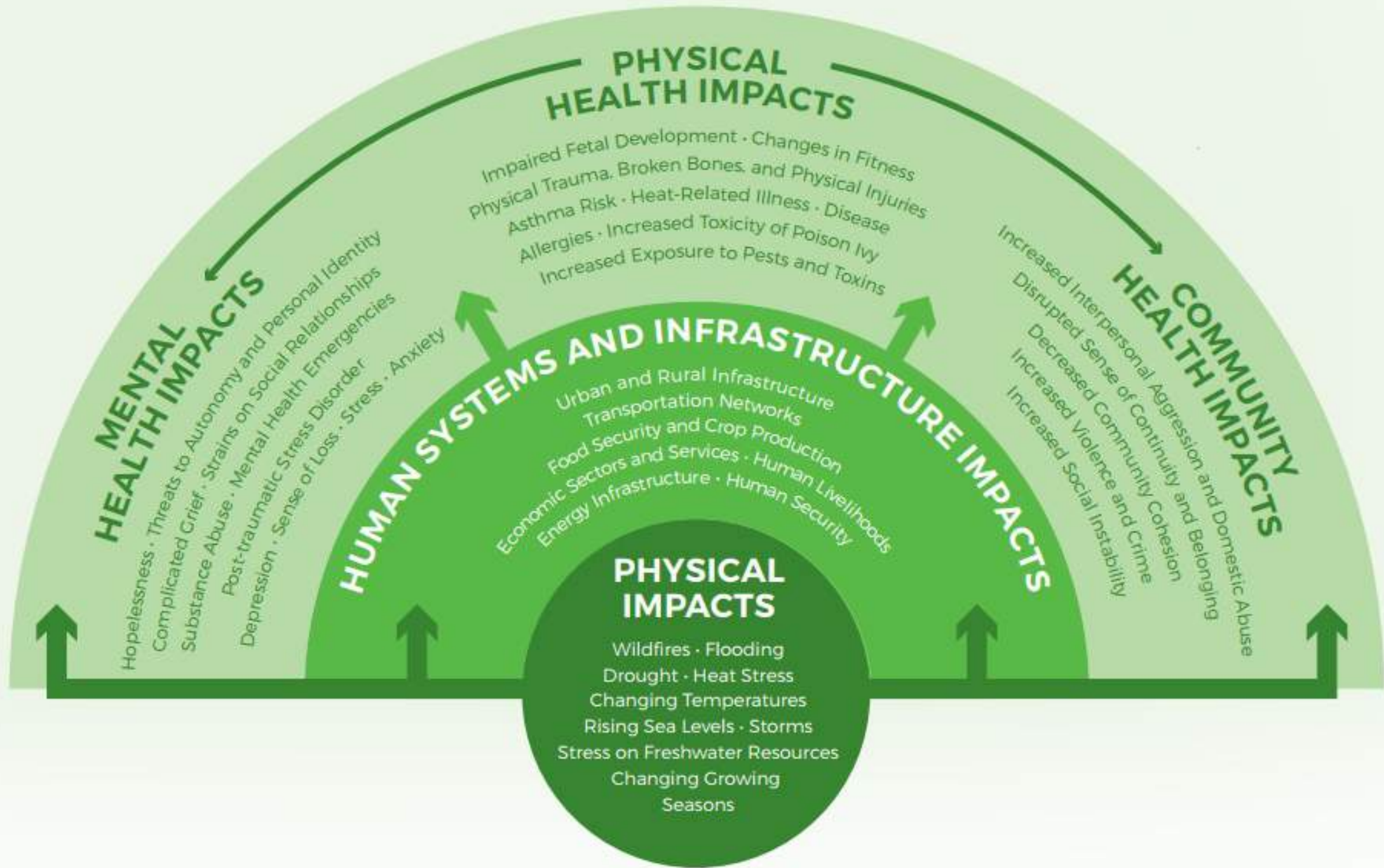
Follow the link to the **jam-board** in the chat. Use the post-it notes function to brainstorm as many impacts as you can think of!

EXERCISE: 3 MINS

We've spoken about causes... but now it's time to talk about impacts.

Shout out different impacts of climate change?

**CLIMATE CHANGE IS A THREAT
MULTIPLIER**



EXERCISE: 5 MINS

Second part of this exercise... look at those physical impacts you've down on the paper.

As a group, lets choose one of these impacts that could affect us here in Bristol and map the potential consequences of these:

Physical → Infrastructural → Health & Community

Consider, which groups may affected by these impacts? What might make someone more vulnerable to being impacted?

JARGON BUSTER

Climate justice:

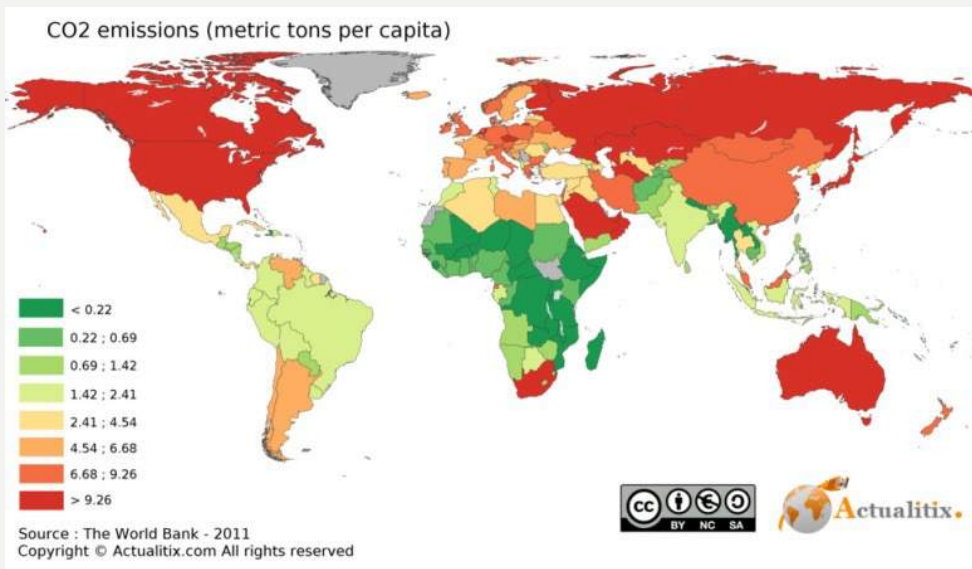
Climate justice is a concept that addresses the ethical dimensions of climate change. Ensuring that collectively and individually we have the ability to prepare for, respond to and recover from climate change impacts – and the policies to mitigate or adapt to them – by considering existing vulnerabilities, resources and capabilities. Understanding climate change doesn't happen in a vacuum!

Historical responsibility:

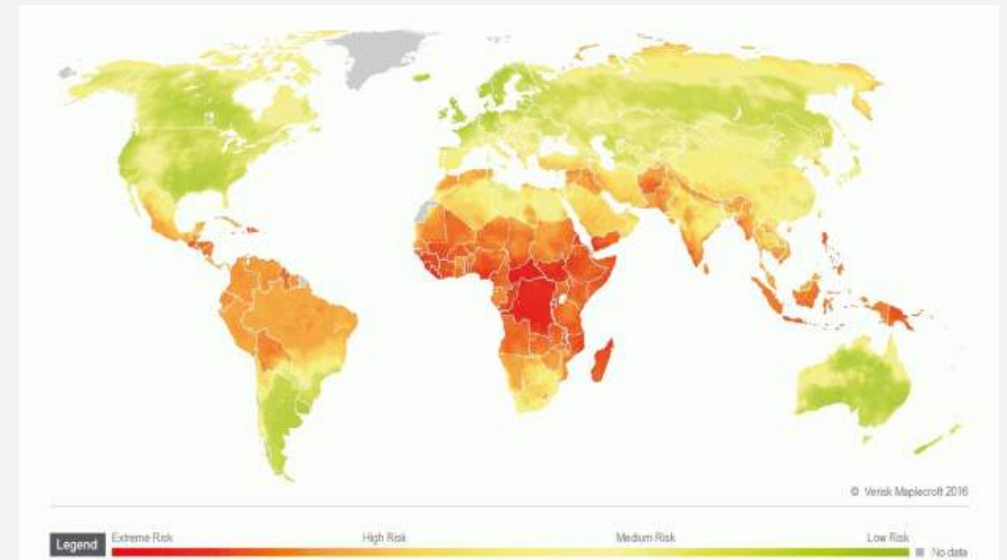
How responsible a country is for climate change by taking a look at emissions cumulatively, and how much they have benefitted from this contribution.

IMPACTS: GLOBAL – CLIMATE JUSTICE

RESPONSIBILITY



VUNERABILITY



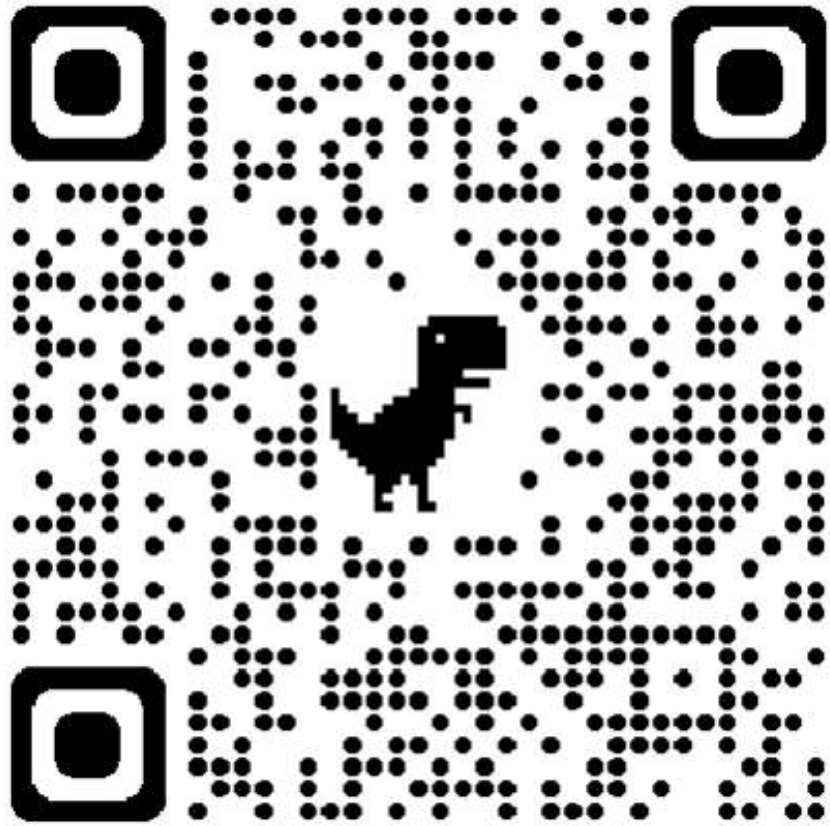
The UK is the most historically responsible for climate change – as in cumulative emissions since the industrial revolution divided by population size.

In 2017, the U.S. military alone produced more greenhouse gases than Sweden, Switzerland, Morocco, Peru, Hungary, Finland, New Zealand and Norway.

In 2019, the UK heatwaves lead to almost 900 extra deaths: the link between infrastructure, fuel poverty & climate injustice.

CLIMATE SCIENCE: HOW WELL DO WE UNDERSTAND CLIMATE CHANGE?

QUIZ: <https://www.earthday.org/the-climate-change-quiz/>



EXERCISE 10 MINS

Calculate your personal carbon footprint with Giki:

<https://carbon-calculator.climatehero.me>

We will then come back together and discuss.

CARBON FOOTPRINTS

- While carbon footprints can be a useful place to start, it's important to remember their history: Big oil coined the term to put the onus on the individual
- Making conscious choices is important but individual action must be held as a part of system change
- Also calculating your carbon footprint doesn't consider a lot of your indirect emissions: you may not drive, but you might buy a lot from Amazon

Big oil coined 'carbon footprints' to blame us for their greed. Keep them on the hook
Rebecca Solnit



BREAK

WATERSHED CARBON LITERACY TRAINING

WATERSHED

SECTION 2

OUR SECTOR & CLIMATE ACTION

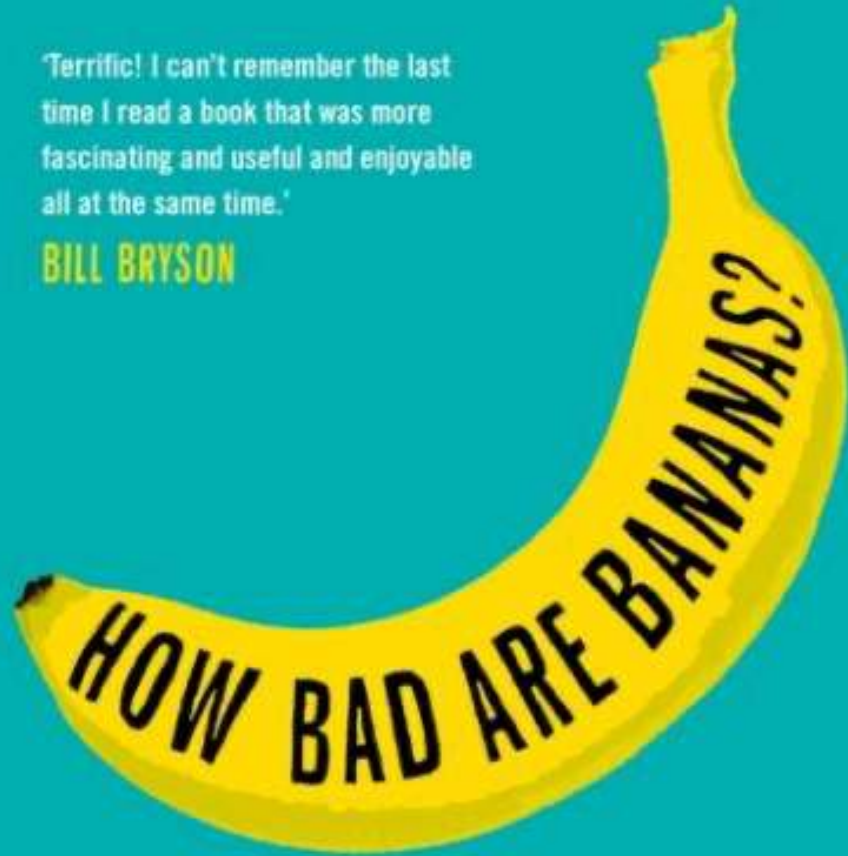
Carbon Literacy
Project



NEW EDITION - UPDATED AND EXPANDED

'Terrific! I can't remember the last time I read a book that was more fascinating and useful and enjoyable all at the same time.'

BILL BRYSON



THE CARBON FOOTPRINT
OF EVERYTHING

MIKE BERNERS-LEE

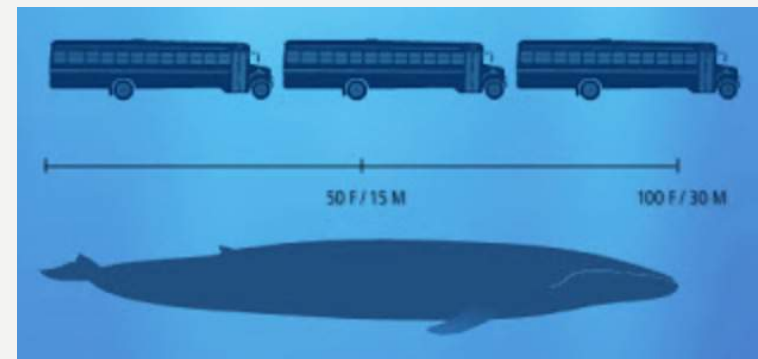
BANANA GAME

Based on the 2020 edition of How Bad Are Bananas by Mike Berners-Lee, English researcher and writer on carbon foot-printing, professor and fellow of the Institute for Social Futures at Lancaster University.

We have a set of items or activities to try and work out how bad are they in their carbon impact measured in CO₂e (Carbon Dioxide Equivalent)

Carbon Dioxide Equivalent (CO₂e or CO₂eq) is the standard metric measure used by [the UN's Intergovernmental Panel on Climate Change.

We have also included base units of Bananas or Miles in an average UK car to try and help make sense of it.



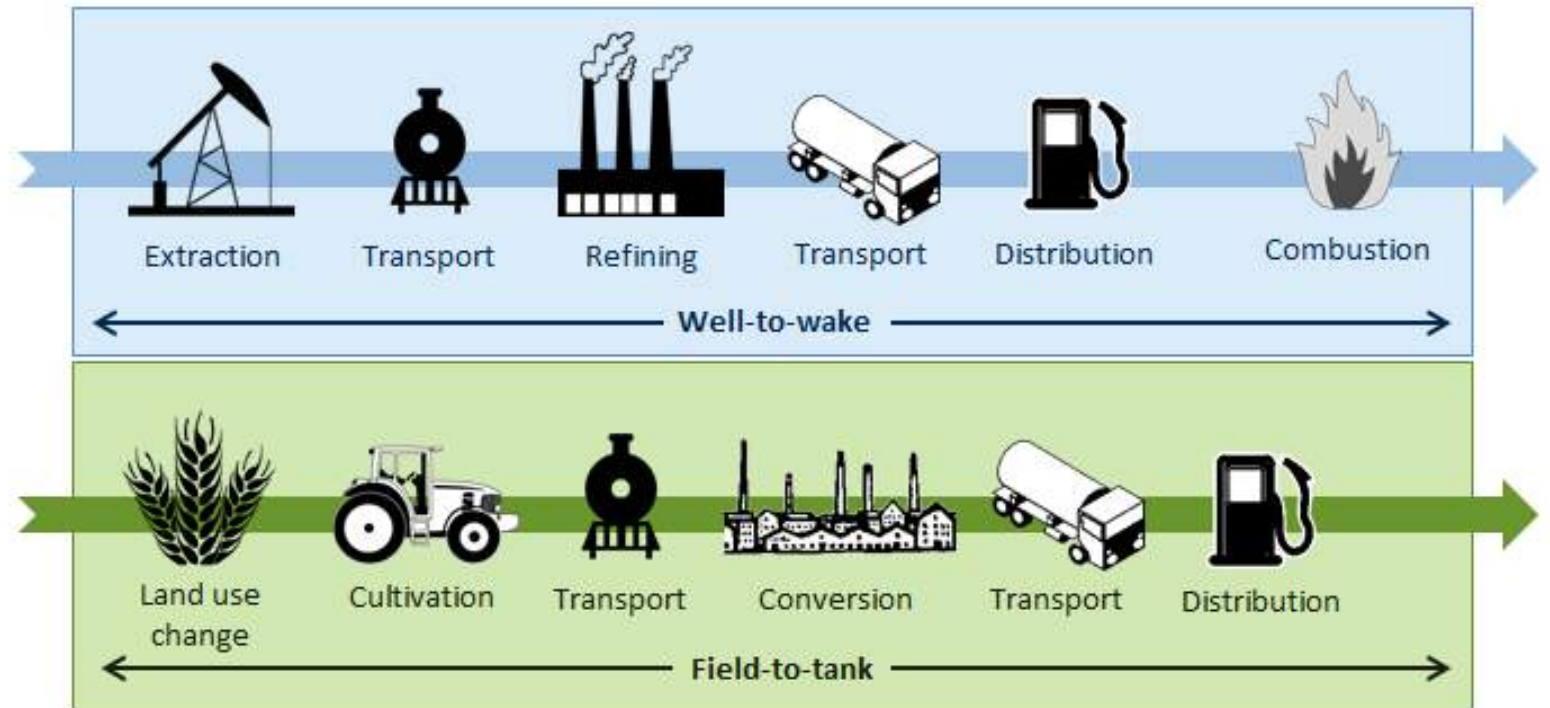
BANANA GAME

Looking at the cards, rank them from highest emissions to lowest emissions.

EMBODIED CARBON

A product's embedded emissions are **the sum of greenhouse gas emissions required to bring the product to market.**

This includes emissions generated through raw material extraction/farming, processing of materials, as well as the manufacturing and transportation of the final product.



LOCAL ACTION >>>

BRISTOL

2015 EUROPEAN GREEN CAPITAL



The organisations that signed up to the pledge at launch were:

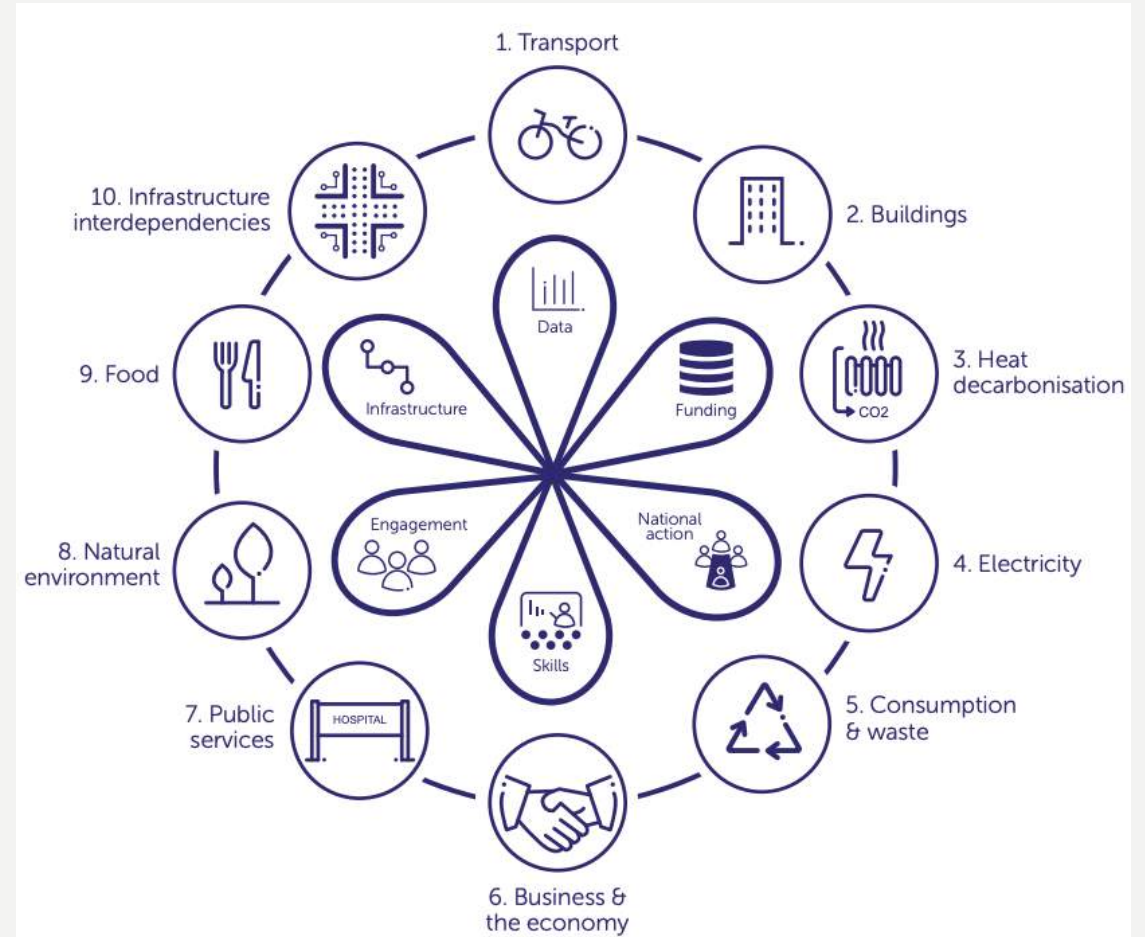
- Bristol City Council
- Knowle West Media Centre,
- Environment Agency
- Cater Business Park
- Bristol Primary Care Trust
- Luckwell Primary School
- University of Bristol
- Bart Spices
- DAS
- Safer Bristol and The Care Forum
- The Soil Association
- Sustrans
- Project Agora
- Colliers CRE
- Bordeaux Quay





BRISTOL'S ONE CITY CLIMATE PLAN

Launched in January 2019, the One City Plan describes where we want to be by 2050, and how city partners will work together to create a fair, healthy, and sustainable city.



Web Page: <https://www.bristolonecity.com/about-the-one-city-plan/>

Full Plan PDF: <https://www.bristolonecity.com/wp-content/uploads/2021/06/Bristol-One-City-Plan-2021-2050-1.pdf>

SCHOOL STRIKE FOR CLIMATE





Opening Hours
Mon. - Sat. 08.00 - 22.00
Sun. 10.00 - 16.00

#ClimateAction
@greathuberg



United Nations
Climate Change



UN CLIMATE CHANGE
CONFERENCE UK 2021

#TogetherForOurPlanet



Black
& Green
Ambassadors



www.blackandgreenambassadors.co.uk

[@blackgreenambassadors](https://www.instagram.com/blackgreenambassadors)

[/blackgreenambassadors](https://www.facebook.com/blackgreenambassadors)

[/blackgreenambassadors](https://www.linkedin.com/company/blackgreenambassadors)

BLACK AND GREEN AMBASSADORS AT COP26

The Black Seeds Environmental Social
Justice Network (BSN)

CULTURE DECLARES EMERGENCY SOUTH WEST



CULTURE DECLARES





WILDSCREEN FESTIVAL 2022

The Future of Natural World Storytelling for a
Better Planet

Celebrating 40 Years!



BRISTOL CLIMATE JUSTICE NETWORK

BRISTOL CLIMATE SUMMIT TAKES STEPS TOWARDS UNITED CLIMATE MOVEMENT



The Natural
History
Consortium

FESTIVAL ²⁰²²
OF NATURE



INDEPENDENT
OPTIMISM
INSIGHT
PIONEERING
JUSTICE
ADVICE
TOGETHER
POLICY
CHALLENGE
CAREING
EMPOWER
FUTURE
OPEN
COLLABORATE

FOCUS
LEADERSHIP
ADAPT
PEOPLE
INDUSTRY
DATA
SERVICES
TECHNOLOGY
MARKETS
FOCUS
RESEARCH
VISION
INFLUENCE
HOPE
PRACTICAL
CHANGE

centre for
sustainable
energy



BUILDING A MARTIAN HOUSE

An artwork by Ella Good and Nicki Kent, in collaboration with Hugh Broughton Architects, Pearce+ and the people of Bristol. Presented in partnership with M Shed.

This is a public art project that has created a real prototype of a Martian house. Mars is a place where you'd have to live carefully and resourcefully. Imagining how a small community would live there offers a sharp lens on our lives here on Earth and our relationship with consumers.

Made possible with generous support from Hugh Broughton Architects and Pearce+

HUGHBROUGHTONARCHITECTS PEARCE+





Cabot Institute

for the Environment

Many minds, one mission



The Bristol Rainforest

Planting a rainforest in Bristol one classroom at a time

JULIES BICYCLE

CREATIVE . CLIMATE . ACTION



Video Link: https://vimeo.com/395230586?embedded=true&source=vimeo_logo&owner=8148503

Web page: <https://juliesbicycle.com>

JB supports the arts and culture to:

Become net zero carbon and restore nature.

Inspire public action on climate and ecology.

Champion environmental justice and fairness.

**WHAT ELSE DO
YOU KNOW
ABOUT THAT IS
GOING ON?**



- The act of misleading consumers regarding the environmental practices of a company or the environmental benefits of a product or service



THE SEVEN SINS OF GREENWASHING

Sin #1: Hidden Trade-off



The hidden trade-off revolves around classing a product as green based on a narrow set of information or attributes. An example of this is a product made of recycled materials. It may appear sustainable ignoring the manufacturing process with high energy, polluting factories or use of toxic chemicals.

THE SEVEN SINS OF GREENWASHING

Sin #2: No Proof



Providing no proof to back up a claim is one of the easiest greenwashing tactics.

We can all make baseless claims where you have no research or proof to prove your product is eco-friendly.

Companies may claim they have eco products but actually, they have no real information about the raw materials, supply chain, or manufacturing process used.

THE SEVEN SINS OF GREENWASHING

Sin #3: Vagueness



Politicians are famous for being vague when questioned on uncomfortable topics and businesses regularly use this tactic when it comes to the environment. Making claims with no specifics or over-generalized claims are clear symptoms of vagueness. You'll likely find a lot of buzzwords too like circular, wild or natural; the terms don't really mean anything or have any legal standing.

THE SEVEN SINS OF GREENWASHING

Sin #4: Irrelevance



This is a nice little loophole for greenwashers to skate through because the claims may well be true whilst not being a distinguishing factor when discussing eco-products. For example, stating something is CFC-free may be true but it is generally a banned chemical anyway.

THE SEVEN SINS OF GREENWASHING

Sin #5: Lesser of Two Evils



Claiming to be greener than other competitors or similar products is not something to be celebrated when it is still harmful to the environment.

Audi notoriously tried this one with a 2010 SuperBowl advert for 'clean diesel'.

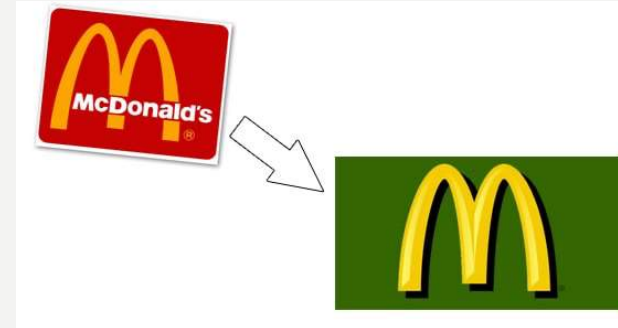
I mean come on, it's still diesel...

THE SEVEN SINS OF GREENWASHING

Sin #7: Worshipping False Labels



False labels consist of badges, certificates, labels and awards realistically meaning nothing. Some corporations even award themselves certificates or endorsements not backed by any authority. Paid endorsements also fall under this category, for example, some brands pay publications to review products in a favourable light.





BREAK

WATERSHED CARBON LITERACY TRAINING

WATERSHED DIRECT EMISSIONS

From WECA Survey

Our annual direct emissions:

- 41.9 average homes energy use for 1 year

YOUR DECARBONISATION REPORT

The Watershed Arts Trust Ltd.



Utility	Annual Consumption	Annual CO ₂ e Emissions	Annual Cost
Electricity	503,371 kWh	224.4 tCO ₂ e	£69,969
Gas	581,549 kWh	123.6 tCO ₂ e	£16,865
Total	1,084,920 kWh	347.9 tCO₂e	£86,833

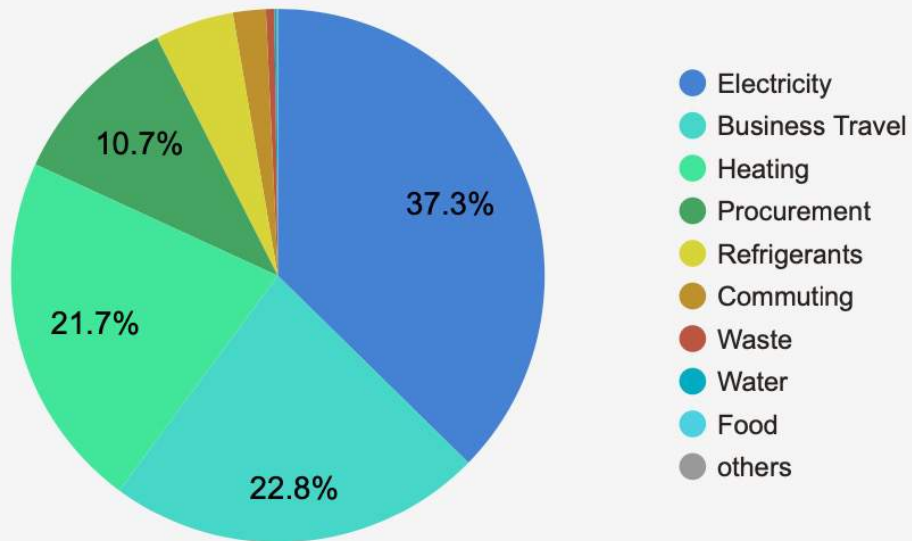


Total carbon emissions: 408.38 tCO₂e

Total emissions per employee: 4.08 tCO₂e

This is just under the average for business of our size, which stands at 4.58 tCO₂e emissions per employee.

BREAKDOWN OF TOTAL WORKSPACE EMISSIONS

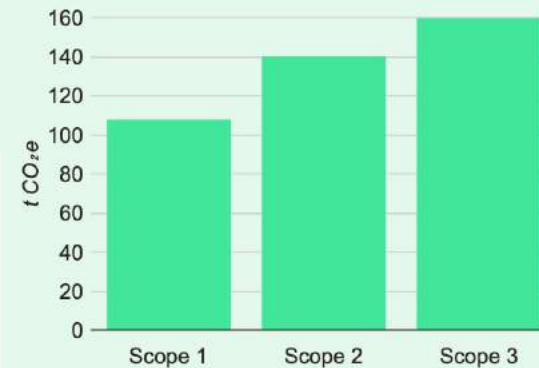


Total CO₂e

408.38 t

CO₂e - Carbon Dioxide Equivalent

The universal unit of measurement to indicate the global warming potential of Greenhouse Gases



Scope 1

Direct emissions from sources that are owned or controlled by the company

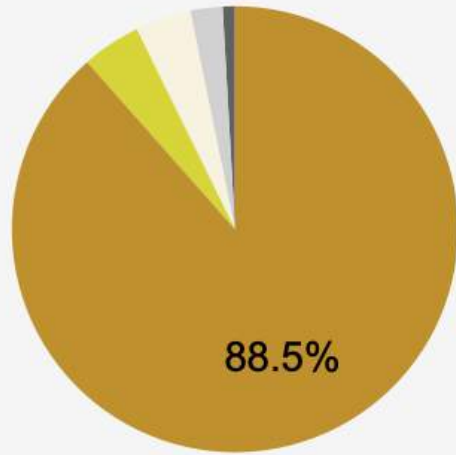
Scope 2

Indirect emissions from purchased sources of energy that the company does not control - e.g. electricity

Scope 3

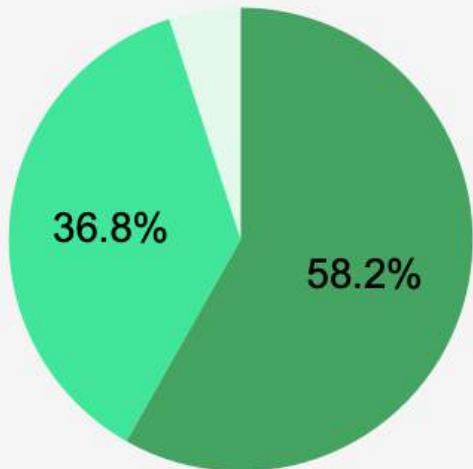
All other indirect emissions - e.g. travel

FURTHER BREAKDOWNS



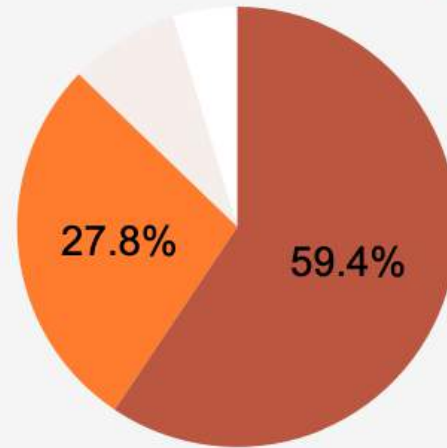
- Services
- Electronics
- Material Purchases
- Miscellaneous Electrical Items
- Vehicles

Procurement



- Building Electricity
- Building Heating
- Building Electricity T&D*
- Home Working Heating
- Company Electric Vehicles
- Home Working Electricity T&D*
- Home Working Electricity

Travel and Transport



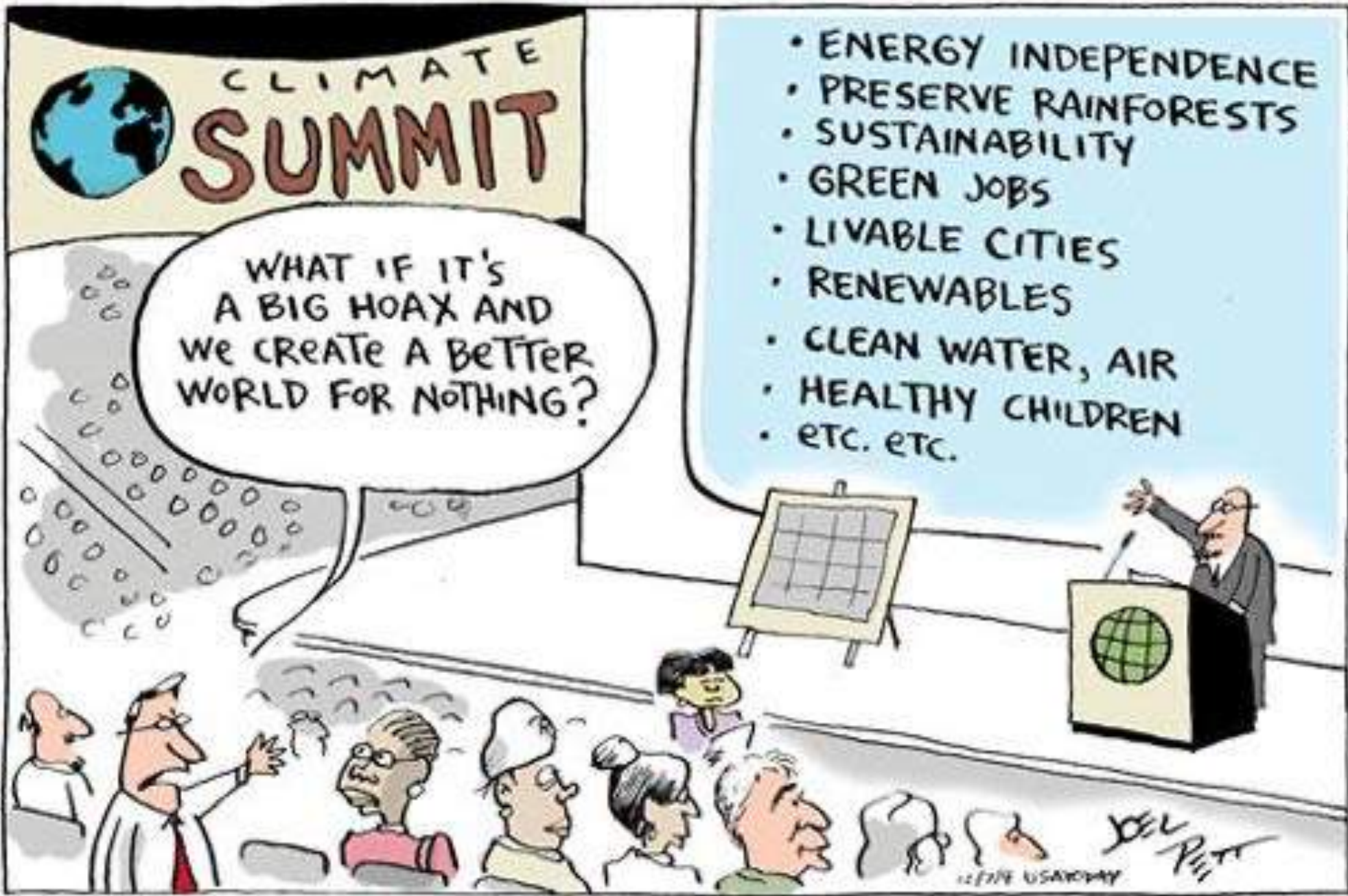
- Business Travel - Flights
- Business Travel - Other
- Commuting
- Hotels
- Freight Rail
- Freight Flights
- Owned Vehicles
- Shipping
- Vans and HGVs

Electricity and Heating

*T&D = Transmission and Distribution

BREAK

WATERSHED CARBON LITERACY TRAINING



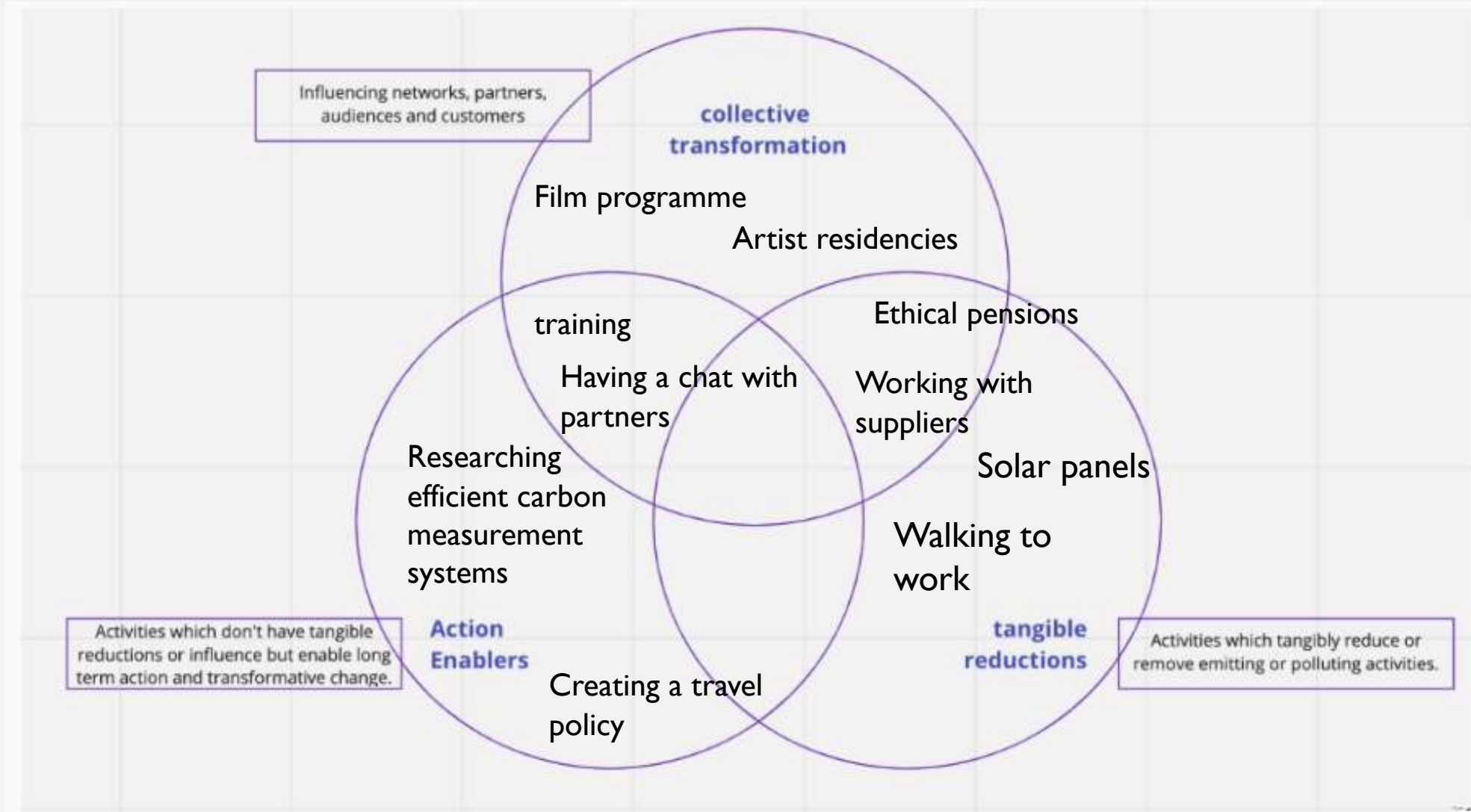
AJ

OUR ROLE – DISCUSSION

What is the art and culture sectors role in the climate emergency?

What is Watershed's role in the climate emergency?

ACTION AREAS: PROGRAMMING





ELECTRONIC + DIGITAL SUSTAINABILITY

2021: **57 million tonnes of e-waste.** Life-cycles so short, physical impacts as end up in scrap yards with toxic fumes harming workers in global south.

32 billion trees would have to be planted EVERY YEAR to offset the pollution caused by unopened attachments, unread email and spam.

In April 2019, it was estimated that **data-centers worldwide used more than 2% of the world's electricity.**

Question: What could we do to reduce our electronic waste and digital footprint?

BUILDINGS

ENERGY

TRAVEL

DIGITAL

WASTE

MATERIALS

PROGRAMMING

FINANCE

AUDIENCES

NETWORKS

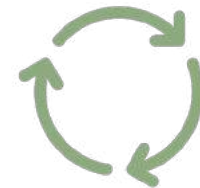
MARATHON, NOT A SPRINT



Imagine and explore how we
can do things differently
collectively



Identify needs for long term
change and intersectional
action



Support each other,
experiment and play

THINKING TIME...

Start thinking about how sustainability links to the work you do:

- Use the best practice as a jumping off point, do 15 mins of research into your area
- Feel free to ask the facilitators for resources, direction or guidance

WATERSHED

SECTION 3

**WHAT CAN
WE DO?
TAKE ACTION**

**Carbon Literacy
Project**



ENVIRONMENTAL ACTION WORKSHOP

Using the knowledge we have learnt to date in the *Introduction to Climate Change and Our Sector & Climate Action*, we are next going to think about **action we can take** to help meet Watershed's environmental goals.

In this workshop we are going to consider actions that we can take, in collaboration with other people and as individuals.

You must be able to demonstrate an understanding of why your action will have impact.

We then also record these and send them off to CLT. Once they've been approved you will then be credited as completing your carbon literacy training.

EXERCISE 1:

Following the climate science you have heard about today, what actions do you think **humans need to take to tackle climate change?**

Working together in groups, take 5 minutes to write down what actions need to be taken to decarbonise our society by 2038, reflecting on what we've learnt today.

Generating energy

A lot of power generation for electricity and the vast majority of home heating are still done by burning fossil fuels, such as gas.

Transport

Cars, buses, trains, trucks, ships and planes, (unless electric and charged with renewable energy), all produce emissions by burning fossil fuels.

Food production

Livestock reared for meat and dairy products emit methane, and agricultural soils emit gases like nitrous oxide, which is made from nitrogen in the soil through the use of fertiliser.

Deforestation

Because trees store carbon as they grow, cutting or burning down trees releases that carbon into the atmosphere.

Powering industry

Humans burn fuels such as coal, oil and gas in order to drive large-scale industries. Industrial emissions come from producing things like cement, iron, steel, electronics, plastics and clothing.

Plastics and waste

Plastics are made from fossil fuels, releasing emissions through their production. Globally, about 40% of plastics are used as packaging.

HOW PEOPLE CREATE GREENHOUSE GASES

GROUP & INDIVIDUAL ACTIONS

What's the difference?

1. **A group action should consider how to work with other people,** to create a change within the workplace that reduces the carbon footprint of a group of people.
2. **An individual action asks you to commit to a change you can create,** without needing to ask anyone's permission; to reduce your carbon footprint at work or that of your workplace/ organisation/ community.

These should be related to your work. If you think there are actions you would like to take, but feel currently you are unable to do so for whatever reason... note this down and add it to the action form at the end.

AJ

THINKING TIME

WATERSHED CARBON LITERACY TRAINING

EXERCISE 2: GROUP ACTIONS

Groups are not necessarily the ones you are in now, but existing teams or groups you can collaborate with or influence.

Decide and commit to your group action, answering for each:

- **What** is the commitment
- **Who** are the group of people
- **Why** is your group action relevant to the group
- **How** will your action reduce carbon impact
- **When** will you do it

GOTO

<https://wshd.to/CLT>

**to submit your
group action**

EXERCISE 2: GROUP ACTION EXAMPLES

“We are reducing our reliance on single-use plastics in our bars. We have already phased out plastic straws and cocktail stirrers but we will go further and eliminate plastic cups as far as possible. The local authority insists that audience members can only take drinks into the theatre if they are in plastic containers. So we have begun work with them to investigate if they are able to compost the remaining plastic cups that are currently incinerated (we have sourced these especially).”

“To start having chats with other people in my department and see what they are thinking about doing. Once these have taken place I intend to start a working group to see what changes we can make across our department going forward and to make a list of action points.

GOTO

<https://wshd.to/CLT>

**to submit your
group action**

EXERCISE 3: INDIVIDUAL ACTIONS

Decide and commit to your individual action, answering for each:

- **What** is the commitment
- **Why** will this have an impact
- **How** will it reduce your individual carbon impact
- **When** will you do it by

If an individual action in the workplace just doesn't feel possible for you, chose an action outside of work instead.

GO TO
<https://wshd.to/clt>
to submit your actions

EXERCISE 3: INDIVIDUAL ACTION EXAMPLES

“From now all my external meetings will be video calls and, where that is not possible and we have to meet face to face, then I will use public transport wherever feasible.”

“Materials for our projects are sometimes bought last minute from wherever is easiest, using corporations such as amazon. I will produce a procurement hierarchy, and share it internally and with our collaborators, so that we can buy locally produced and sourced materials.”

“I will start biking to and from work as well as promoting our current bike-to-work scheme and sharing events that support biking to help facilitate and encourage others to do the same.”

GO TO

<https://wshd.to/clt>

to submit your actions

NEXT STEPS

- Give feedback on this training
- Follow up any questions, concerns or ideas on this training with Zoe, Alan or David
- Join Watershed's Environmental Group! Or pass on to a member of the Environmental Group questions, ideas or concerns for them to share back to the EG group.
- Start taking action through the commitments you have made today
- Revisit and report back on your commitments in 6 months

WE DID IT!
THANK YOU