

# Carbon Literacy Introductory Training

# Introduction – Presenters & Trainers



**Dr Sandra Lee**



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# What will be covered in this session

**1. Carbon Literacy  
Explained**

**2. Your Ability to Reduce  
Emissions**

**3. Your Next Steps**

**4. Further information**

# Carbon Literacy Explained



**Why?**

# Jargon Buster

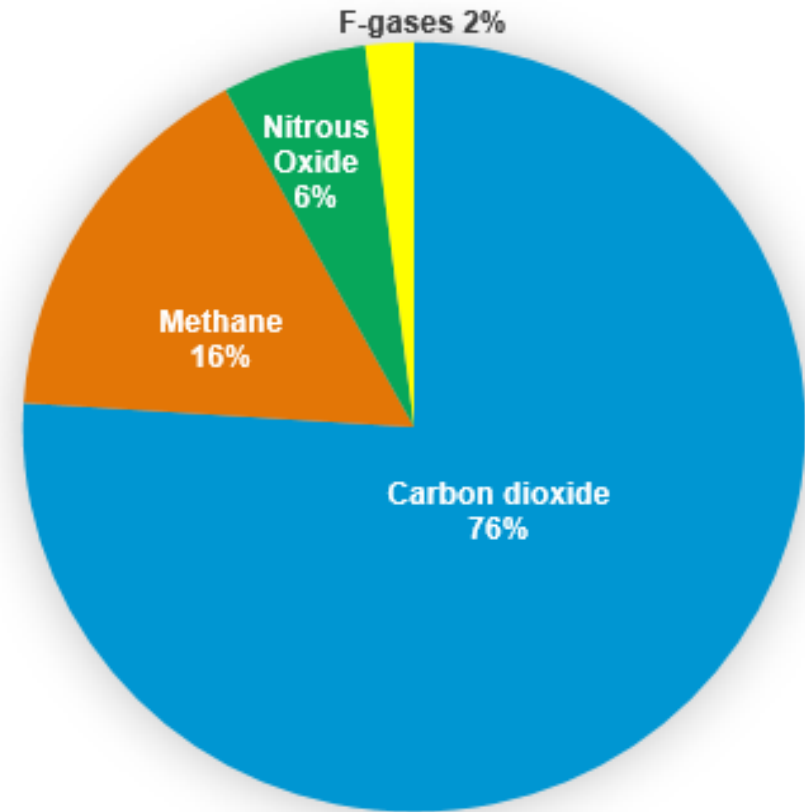
- CO<sub>2</sub>e
- Carbon Footprint
- Carbon Neutral
- Net Zero
- Offsetting
- Sustainability



# Jargon Buster

- Carbon dioxide = greatest contribution
- Methane = 2nd largest

Global greenhouse gas emissions by gas



Based on 100-year Global Warming Potential  
IPCC (2014)



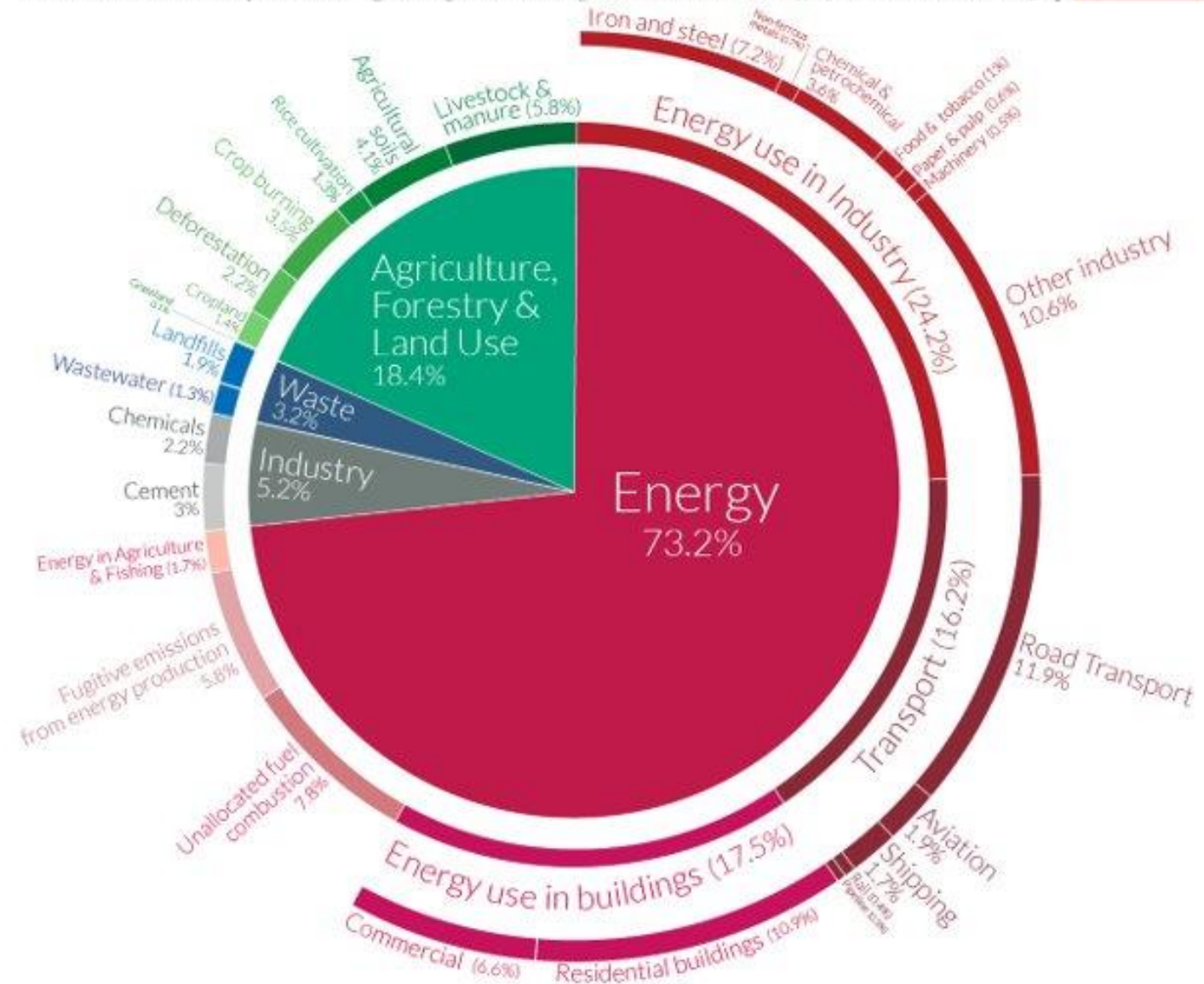
# Global emissions

- Energy (in industry, transport and buildings)
- Agriculture, Forestry and Land Use (livestock)
- Industry (chemicals and cement)

## Global greenhouse gas emissions by sector

This is shown for the year 2016 – global greenhouse gas emissions were 49.4 billion tonnes CO<sub>2</sub>eq.

Our World  
in Data



OurWorldinData.org – Research and data to make progress against the world's largest problems.

Source: Climate Watch, the World Resources Institute (2020).

Licensed under CC-BY by the author Hannah Ritchie (2020).



# Where do our emissions come from?



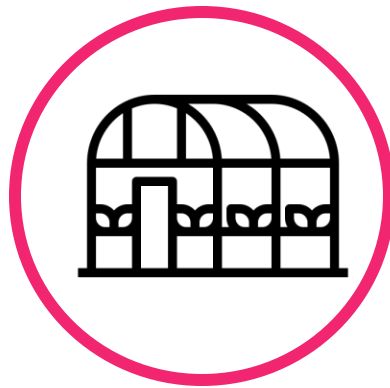
# Carbon Footprint Quiz

Different varieties of tomatoes, which variety has the highest carbon footprint?



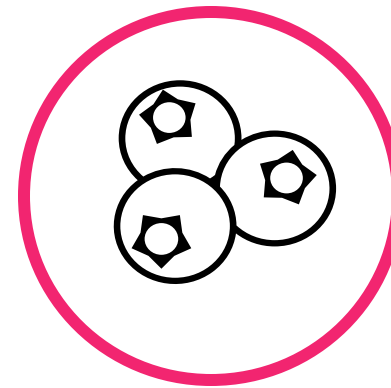
**Large salad  
variety, grown  
locally, in season**

VS



**Organic vine cherry  
tomatoes, grown in a  
heated greenhouse in  
the UK in March**

VS



**Baby plum – UK  
summer or  
Spanish winter**

# Carbon Footprint Quiz

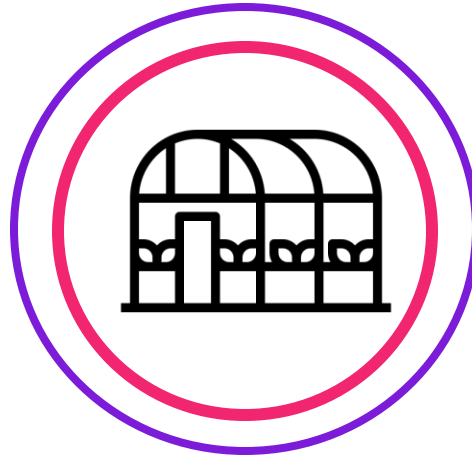
Different varieties of tomatoes, which variety has the highest carbon footprint?



**Large salad variety, grown locally, in season**

1.3kg CO<sub>2</sub>e

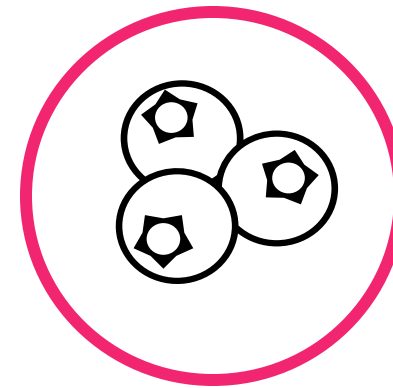
VS



**Organic vine cherry tomatoes, grown in a heated greenhouse in the UK in March**

28.2kg CO<sub>2</sub>e

VS



**Baby plum – UK summer or Spanish winter**

4.9kg CO<sub>2</sub>e

# Carbon Footprint Quiz

A return trip from London to Glasgow, which mode of transport has the highest carbon footprint?



**Train**

VS



**Plane**

VS



**Coach**

VS



**SUV  
(driver only)**

# Carbon Footprint Quiz

A return trip from London to Glasgow, which mode of transport has the highest carbon footprint?



**Train**  
64kg CO<sub>2</sub>e

VS



**Plane**  
368kg CO<sub>2</sub>e

VS



**Coach**  
40kg CO<sub>2</sub>e

VS



**SUV  
(driver only)**  
1.02 tonnes CO<sub>2</sub>e

# Vision: what does “Carbon-Neutral” look like?

**Leicestershire County Consultation highlights six areas to consider**

What do these look like in your area?



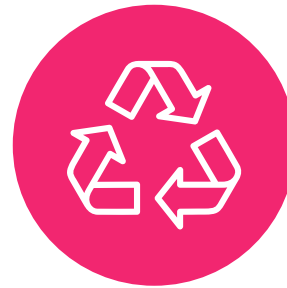
**At Home**



**Our Consumer  
Choices**



**Travel and  
Transport**



**Resource  
Use**



**Local  
Economy**



**Biodiversity,  
Habitats  
and Local  
Environments**

# Vision: what does a “Carbon-Neutral” business look like?



## Energy

- Gas & electricity from renewable sources
- Create your own
- Switch provider



## Buildings

- Insulation
- Double / triple glazing
- Heat pump



## Transport

- Goods in / out
- Business travel
- Employee commuting



## Procurement

- Energy efficiency rating of appliances
- Consider recycled & long lasting items



## Supply chain

- Use recycled materials
- Work in partnership to share best practice



## Waste

- Reduce, reuse, recycle
- Circular design



# Your Ability to Reduce Emissions

# Why work on your Carbon Reductions in businesses?

- **99%** of all businesses in the UK are SMEs and are responsible for **three fifths of UK employment** and around **half the private sector's turnover**
- **Increasing expectations** from customers, investors, suppliers, insurance regulators and employees to act
- Manage your **risks** (environmental & legislative)
- An empowered private sector can **catalyse action** across society
- Increase your **potential for growth**





## Green Jobs Barometer

**42 /100**

For the purposes of aggregation of pillars across the UK, we have created an overall index. 0 denotes the worst performing region across every individual Pillar, and 100 the best.



### 1: Green job creation

The number of green job advertisements, expressed as a proportion of total job advertisements.

**1.2%**

max: 1.7%

Average across all regions 1.2%. Higher numbers are better



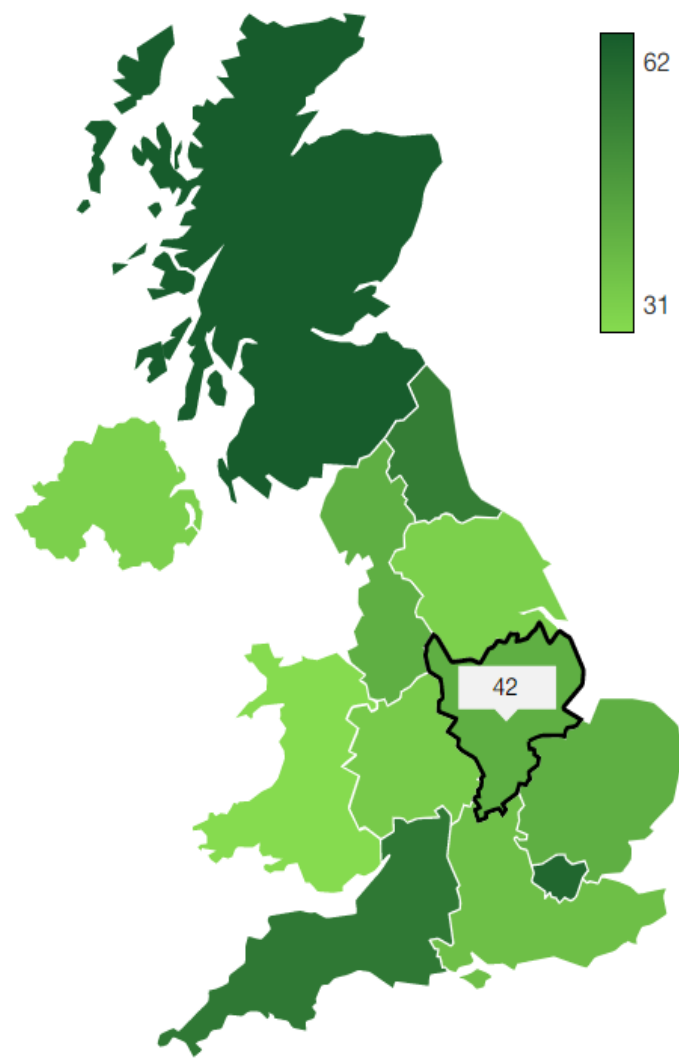
### 2: Wider benefits from green jobs

For every green job created there are an additional x jobs created elsewhere in the economy.

**2.1x**

max: 3x

Average across all regions 2.4x. Higher numbers are better



### 3: Sunset jobs to disappear

Percentage of the expected jobs lost by 2030 to the green transition concentrated in the selected region.

**8.1%**

max: 15.6%

Average across all regions 8.3%. Smaller numbers are better



### 4: Carbon intensity of employment

Carbon dioxide emissions per employee.

**10.9 tonnes of CO<sub>2</sub> per employee**

Average across all regions 10.1 tonnes of CO<sub>2</sub> per employee. Smaller numbers are better



### 5: Green workplaces

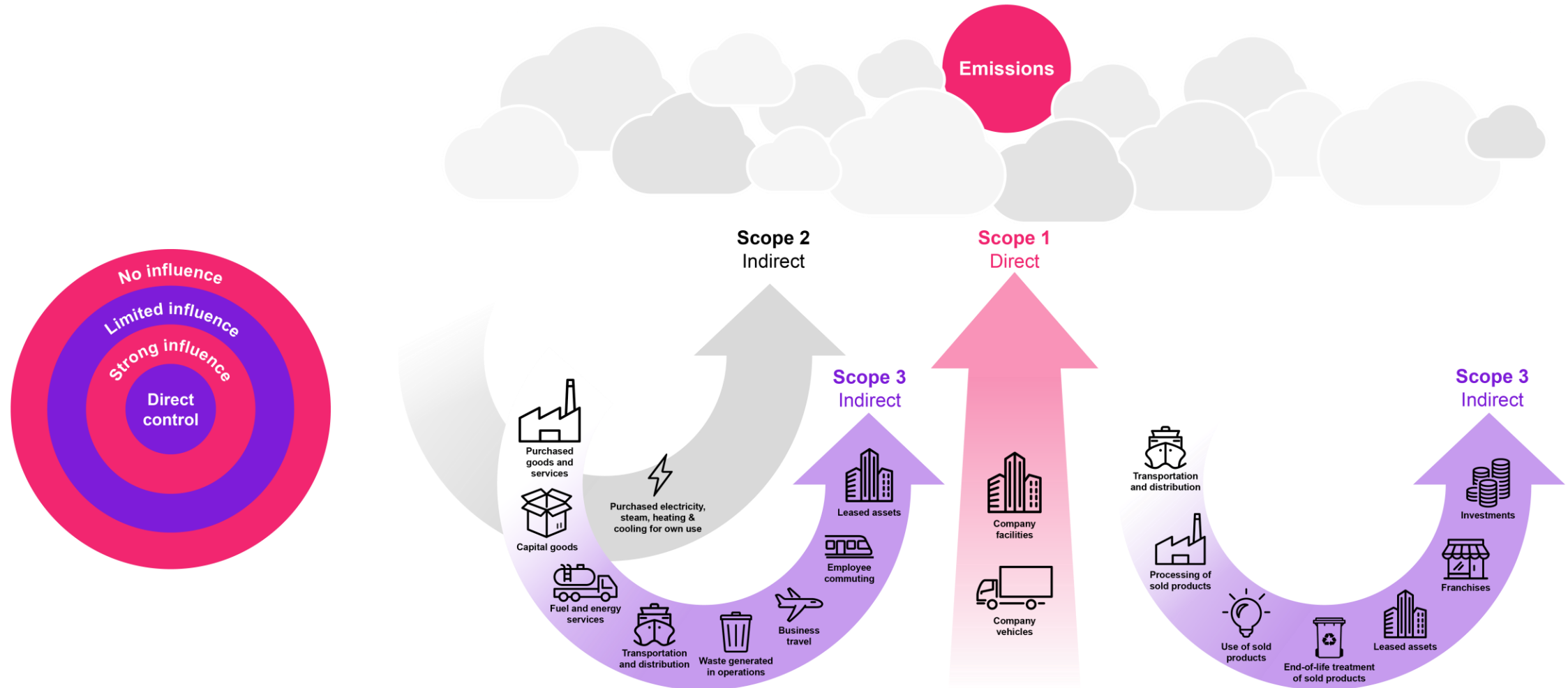
Employee sentiment about the environmental friendliness of their jobs and workplaces.

**6.6 /10**

Average across all regions 6.5. Higher numbers are better

<https://www.pwc.co.uk/who-we-are/our-purpose/building-trust-in-the-climate-transition/supporting-a-fair-transition/green-jobs-barometer.html>

# Influence on Direct & Indirect Emissions



# Vision: What will a 'carbon-neutral' business look like?

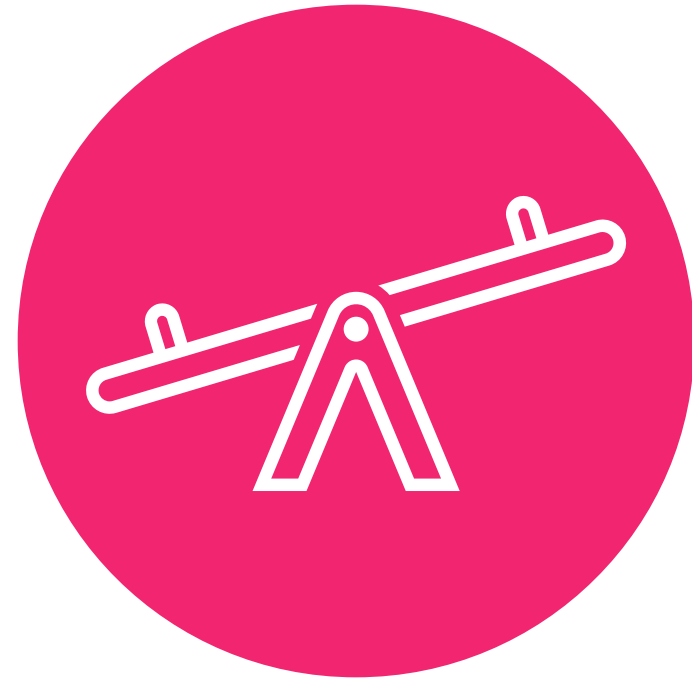
## Context:

- Gas and **electricity** used by **businesses** and other employers is one of the largest sources of carbon emissions **in our cities**.
- Commuting **by employees, travel for work, and the transport of goods** causes carbon emissions and air pollution.
- The materials bought and used by businesses also have a carbon footprint.

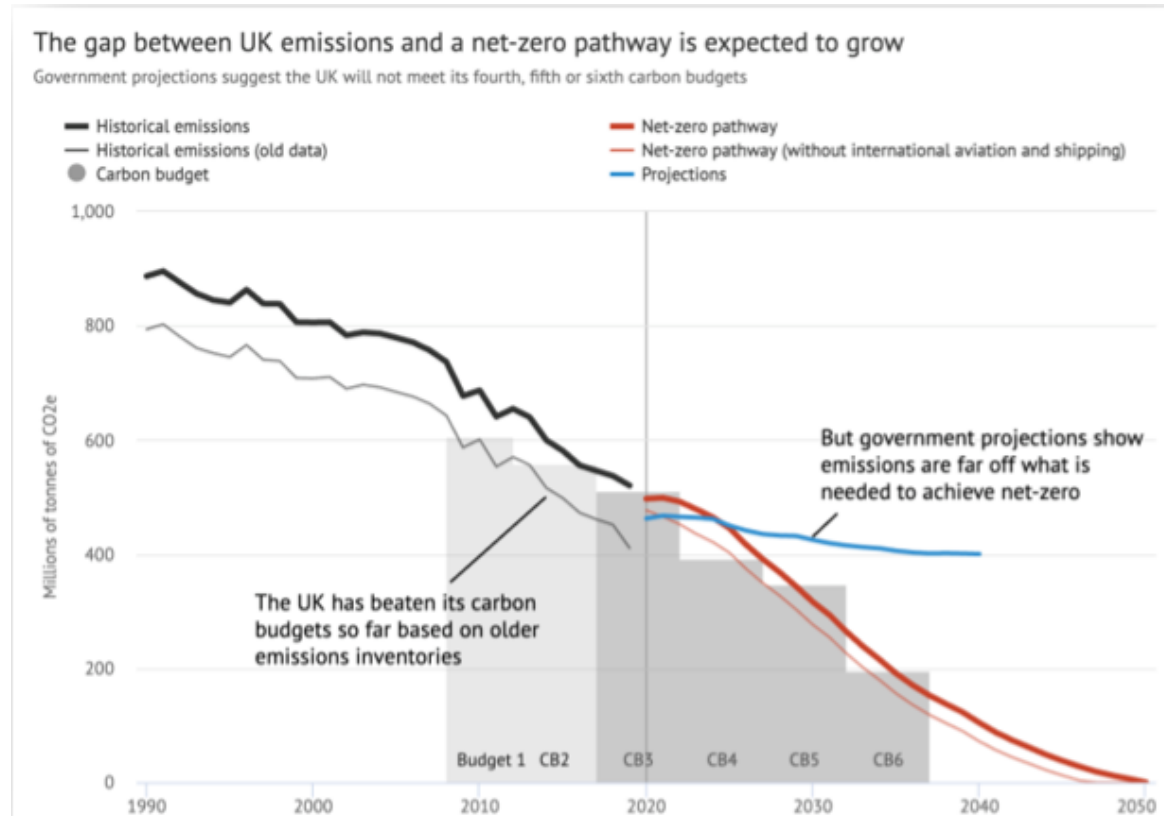


# Offsetting – What is important?

- Net zero definition
- It's not just trees!
- Principles of offsetting
- Greenwashing



# Vision: What will a 'carbon-neutral' business look like?

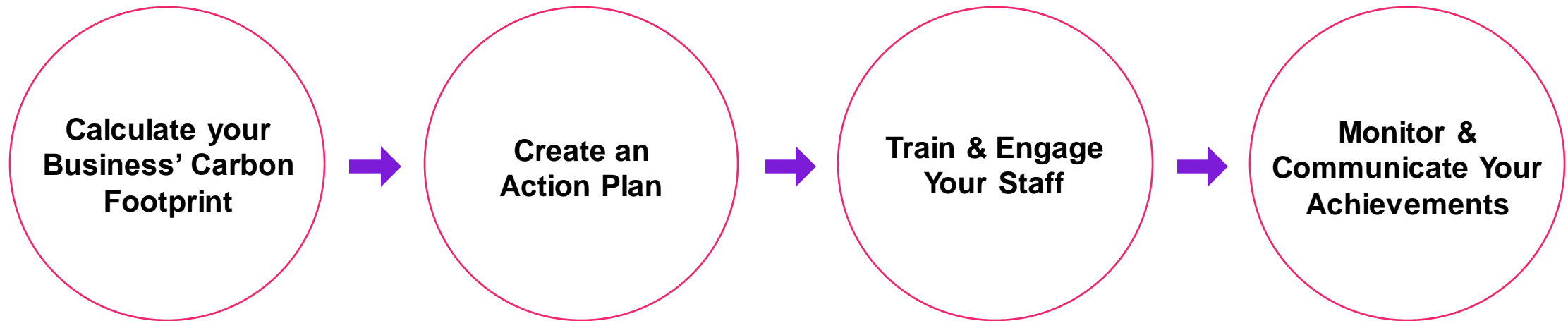


- To have a reasonable chance of achieving this, global emissions would need to reach net zero by 2050

At 2017 CO<sub>2</sub> emission levels, Leicester would use this entire budget within 7 years from 2020



# What stage is your organisation at?



How can you contribute to this?  
What is your sphere of influence?

# Co-Benefits



**Health**



**Environment**



**Capacity**



**Jobs**



**Community**

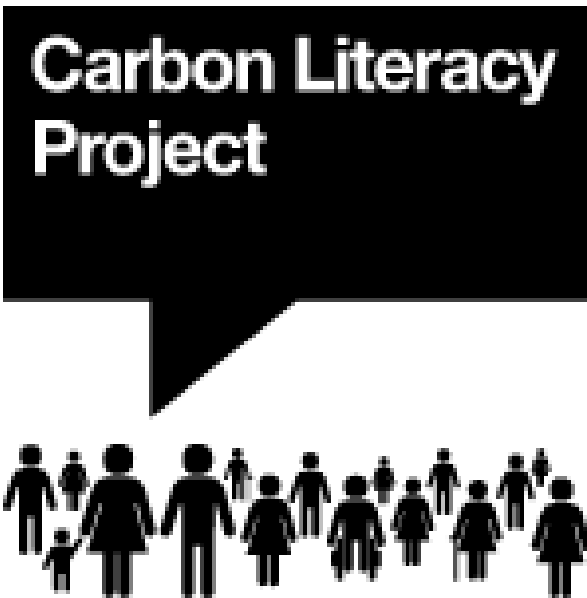


**Resilience**

# What Are Your Next Steps

# Carbon Literacy Training for Engineers

- Today, over 56,757 individuals from over 4,156 organisations are Carbon Literate - are you?
- Opportunity to attend a full Carbon Literacy Training
- Certificate of Accreditation
- ***Thursday, 25th May AND Friday, 26th May 2023,***

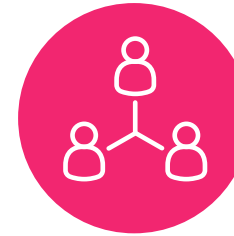


# Tools, support & certifications

- University Support
- Zero Carbon Business (FSB & IEMA)
- SME Climate Hub (Gov & Race to Net Zero)
- Carbon Footprint
- Carbon Trust
- Science-based Target Initiative
- WWF Emission Possible
- Zellar
- ISO14001
- Carbon Literacy Training



# Climate Actions – positive outcomes



- Third of Britons have stopped or reduced eating meat
- Ireland becomes world's first country to divest from fossil fuels
- Free public transport in cities across the world
- Costa Rica forests have doubled in size since 1990
- More people are employed in clean energy than the fossil fuel industry
- China's carbon emissions have fallen 3% year on year
- Scotland gets 97% of electricity from renewables



**Questions?**



**Thank You**  
**Contact us on [our form](#)**

