

Carbon Literacy Training



Adapted for the University of Worcester by
Katy Boom, Sian Evans, Gill Slater, Ruth
Whittaker

Session 3: Climate Solutions



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During the training you will:

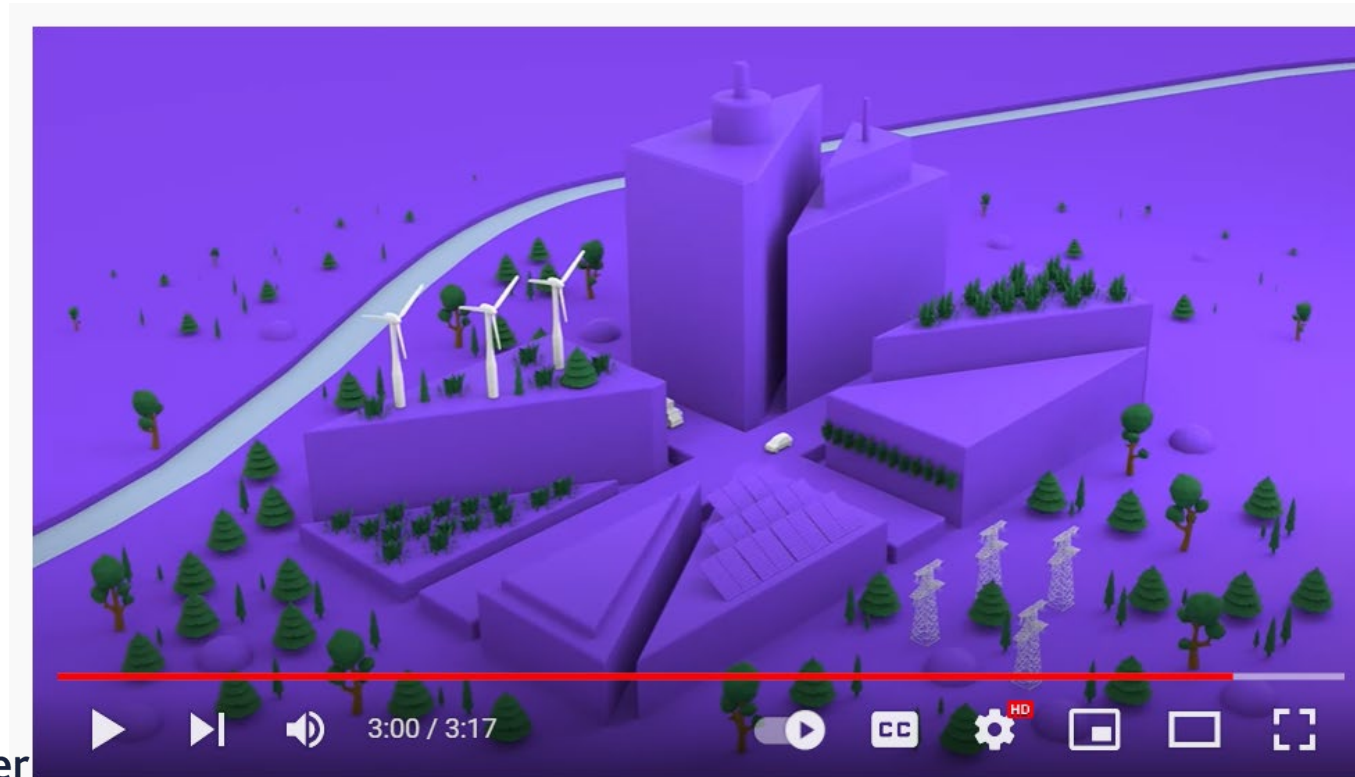
	Session 1 - Science	Session 2 - Impacts
The Problem	<ul style="list-style-type: none">• Learn about the science of climate change• Your individual carbon footprint	<ul style="list-style-type: none">• Examine the impacts of climate change• Explore the distribution of impacts and reflect on climate justice• Consider possible future scenarios
The Solutions	Session 3 – Actions <ul style="list-style-type: none">• Learn about action on climate change (including mitigation and adaptation) at various scales• Compare high and low carbon footprint actions• Devise high impact individual strategies• Consider ‘multisolving’ climate solutions• Devise high impact group strategies	



“Providing you with the tools to make a difference....”

Summary film: from problems to solutions

Climate Change Committee (CCC): UK Climate Change



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What is climate change mitigation?

Mitigation refers to activities which **reduce the rate** of climate change. The focus is on:

- reducing Green House Gas (GHG) emissions
- preventing new GHG emissions being released
- preserving and enhancing sinks and reservoirs of GHGs

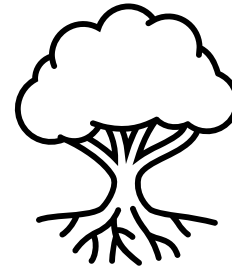
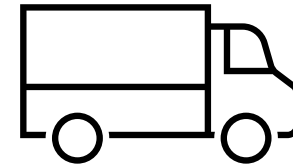
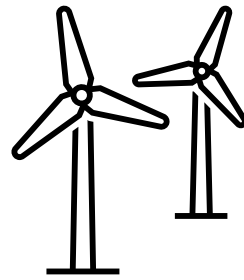
Thereby preventing / reducing climate change and avoiding its impacts.



Solutions - mitigating climate change

There are many high and low-tech solutions for mitigating climate change already in action, in progress or in R&D phase. Examples include:

- Renewable energies and Heat Networks
- Electric heat pumps (ground, air, water)
- Electric vehicles
- Hydrogen for HGVs
- Afforestation/reforestation and peat restoration & rewilding
- Improved public transport hubs and cycle networks
- Carbon capture and storage





Responsibility for mitigating climate change

Responsibility for mitigating climate change is linked to multiple stakeholders:

- Global institutions
- Governments national and local - e.g. public services
- Businesses (of all sizes in all sectors)
- Non-Government Organisations (of all sizes in all sectors)
- Individuals

“Our choices matter both at home and at work ”



UN Sustainable Development Goals



What is being done at a global level to mitigate climate change?

Global governance to mitigate climate change via the UN.

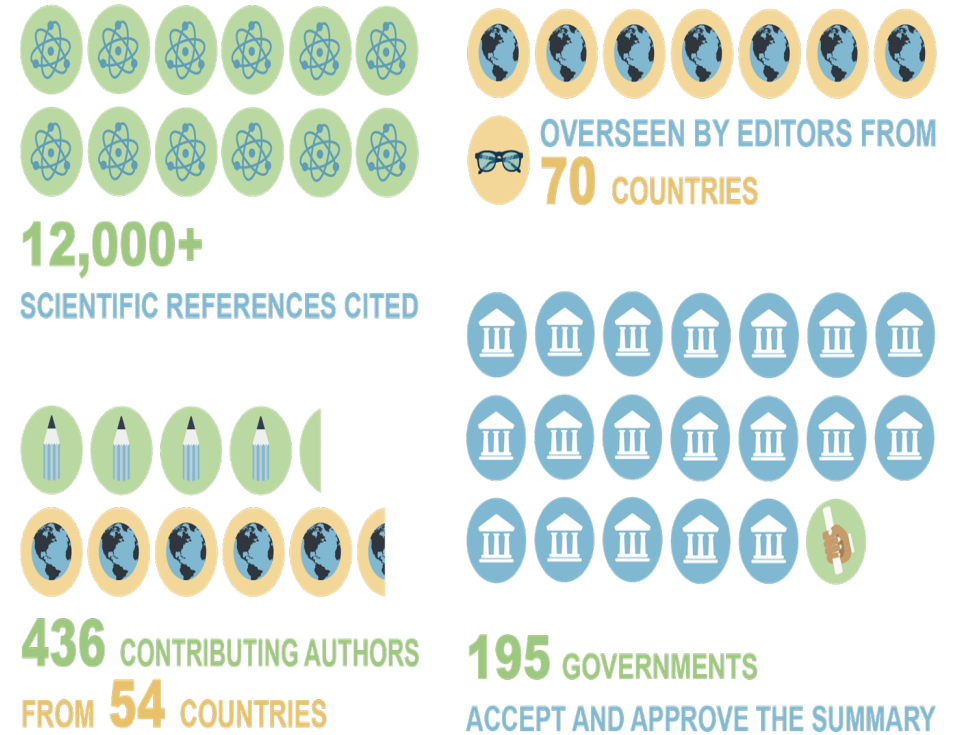
Key events and actions include:

- Launch of Intergovernmental Panel on Climate Change (IPCC) (1988)
- Kyoto Protocol (1997)
- Paris Agreement (2015)
- Annual COPs attended by nearly all countries – most recent COP 27 Egypt
- COP28 United Arab Emirates

..... and 193 countries have signed up to the **UN's Sustainable Development Goals** framework



IPCC Reports on Climate Change





What is being done at the national level to mitigate climate change?



Sanctuary

...committed to halve operational emissions by 2030 and reach net zero emissions overall by 2050, as part of the UN-backed 'Race to Zero' campaign.



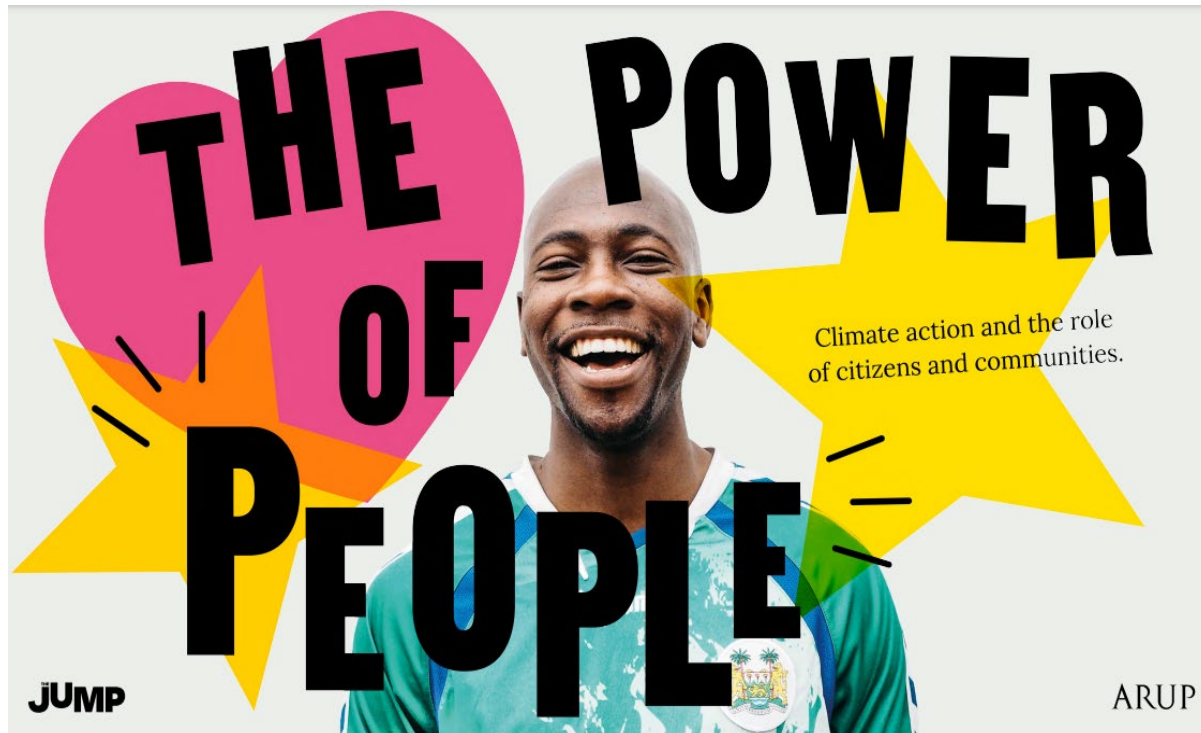
[Decarbonisation and Net Zero Strategy 2023-2026 \(sanctuary.co.uk\)](https://sanctuary.co.uk)

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- Declared a Climate Emergency in July 2019.
- September 2020 Sustainability Strategy 2020 - 2030 which reviewed the carbon journey since 2008/9 baseline – pages 14 &15- and projected based on a 1.5-degree warming scenario the university aims to reduce its direct and indirect GHGe emissions to be net zero by 2030 from a new baseline year 2018/19, pages 16-19.
- Review this year
- Short film <https://youtu.be/z1eAa-jrMvQ>



Individual action on climate change



THE CONCLUSIONS

- 1 Citizens have primary influence over 25-27% of the savings needed by 2030 to avoid ecological meltdown, by making key lifestyle changes!**
Achieved through reducing vehicle ownership, changing eating habits, reducing flying, reducing the number of new clothes purchased, and keeping electronics and appliances for as long as possible. This is the JUMP that all citizens and communities can make, [click here](#) to get help making these changes.
- 2 The 25-27% is actually a minimum figure for the impact of citizens, because citizens can also have indirect influence on large portions of the remaining 73%.**
Citizens can also have indirect influence over government and industry, encouraging them to make the changes needed. For instance through consumer demand or political activity to influence policy. This is the JUMP that all citizens and communities can make, [click here](#) to get help having an influence.
- 3 At the same time, government and industry still have most responsibility**
Government and industry are still responsible for the large majority of needed emissions reductions, 73%. For example by decarbonising electricity supplies.
They also have a role in facilitating the transitions needed by individuals to ensure the 25-27%. For instance, by ensuring there are accessible, affordable low carbon transport options. There is no one lead actor: we need all a ction from all actors now!
- 4 Individual action is particularly relevant between now and 2030, the most important decade for climate action.**
Given the time it takes for robust and urgent action by governments and industry to deliver deep reductions, it is vital that citizens take these actions by 2030.
- 5 For the changes led by citizens and communities, it is higher income groups that must take faster and bigger action**
Lower income groups tend to exhibit lower levels of high impact behaviour such as flying and multiple vehicle households. As a result, when considering lower income groups, the responsibility for making shifts is lower than high income groups, dropping from covering 25-27% of emissions to just 9%.



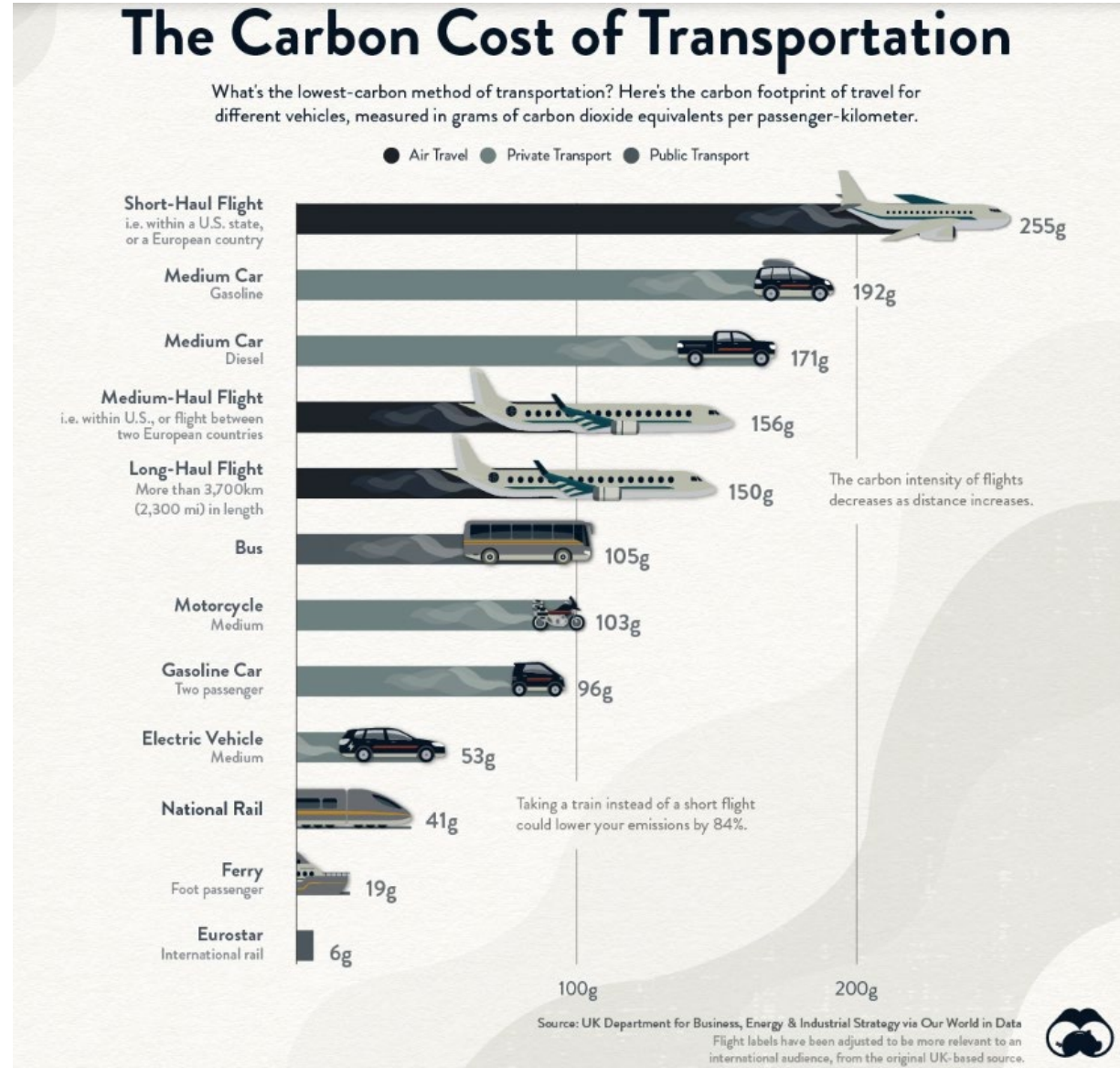
Case study one: carbon cost of drink choices

- Open up the BBC Food Carbon Footprint Calculator
- In the box marked **which food would you like?** Enter your favourite drink and in the box marked **how often do you have it?** Select the option suitable for you
- Scroll down and see how this compares to the footprint of other drinks
- After you've done this, explore how your daily milk consumption compares to other milk types

<https://www.bbc.co.uk/news/science-environment-46459714>



Email and text uses less carbon than letters. Take care with email signatures especially images or icons



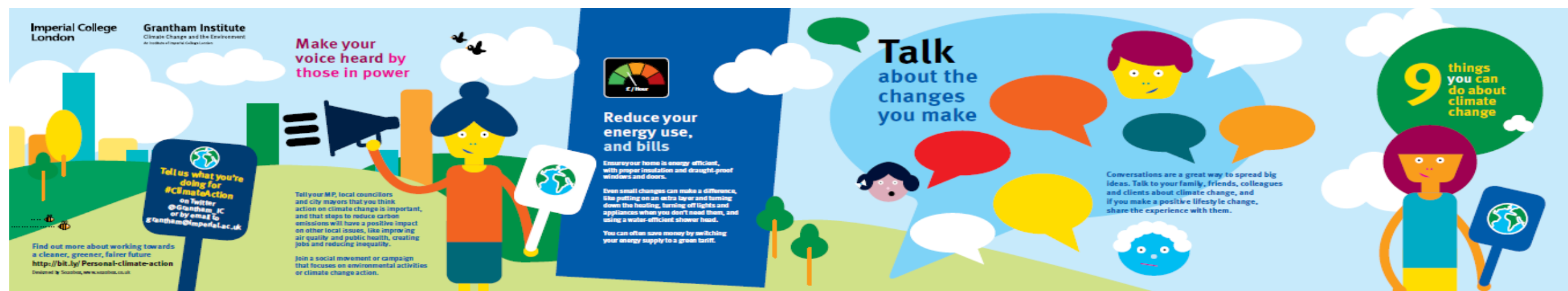
More actions you can take

1. Make your **voice** heard by those with influence
2. Adopt **energy saving** behaviours to reduce your energy use (and bills)
3. Invest your **money** wisely
4. Cut **consumption** and **waste**
5. Respect and protect **green spaces**



Activity: individual actions

- Read through the actions you can take for climate change. Remember the food, communication and transport case studies.
- As you're reading through the actions, consider which of these you could adopt both at home **AND** in the workplace.
- In breakout rooms, discuss the actions you could take as an individual both **at home and in the workplace**. Be sure to note down at least one action you could take at home and one you could take at work.

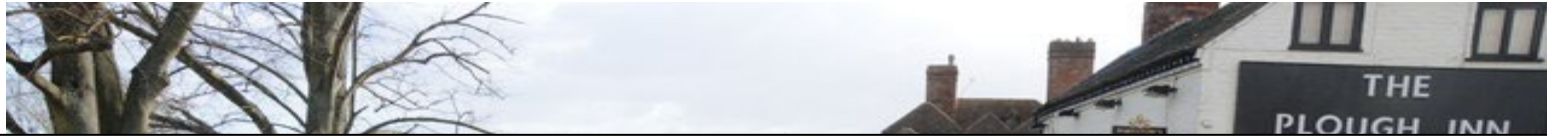




**5-minute
break time!**



What is adaptation?



Adaptation refers to adjustments in our decision making, activities and structures that we make in **response to observed or expected** changes in climate. The focus is on:

- reducing the real and potential damage caused by a changing climate
- reducing vulnerability and increasing adaptive capacity
- identifying potential opportunities arising from a changing climate

Thereby preparing for climate change and reducing the scale of its impacts.





Why is adaptation important?

- Climate change impacts are already happening
- Global average temperatures will continue to rise even if we put strong effective mitigation strategies in place now – ‘committed warming’
- Ethics & climate justice – poor and vulnerable in society most at risk



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Solutions: climate change adaptation

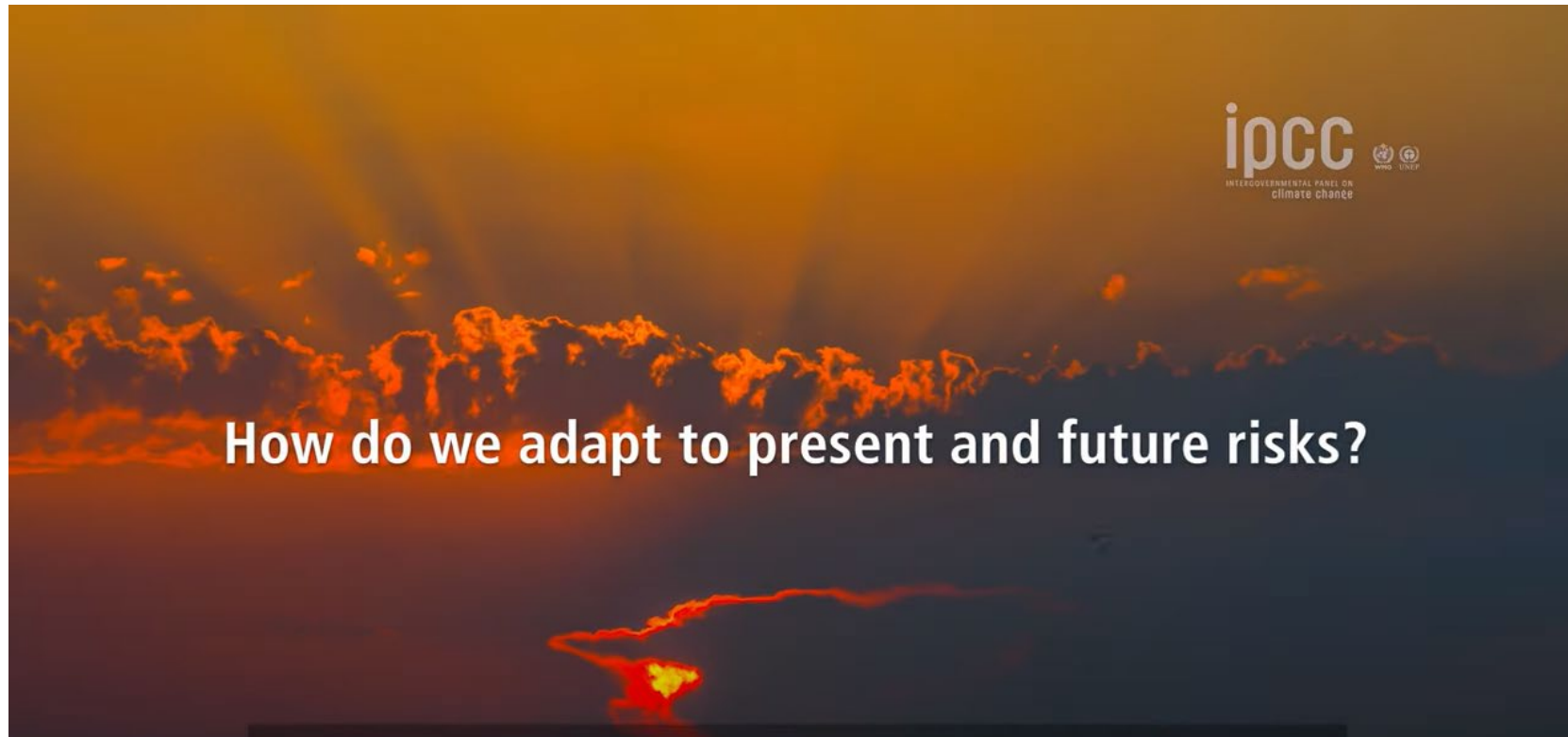
There are many high and low-tech solutions for adapting to the changing climate already in action, in progress or in the R&D phase. These are rarely 'one size fits all' solutions, most need to be tailored to specific people and places.

Examples include:

- setting up **early warning systems** for extreme weather events
- building **flood defences**
- switching to **drought resistant** crops
- genetically engineering more **weather resistant** crops
- changing planning **laws**
- increasing **rain-water storage**

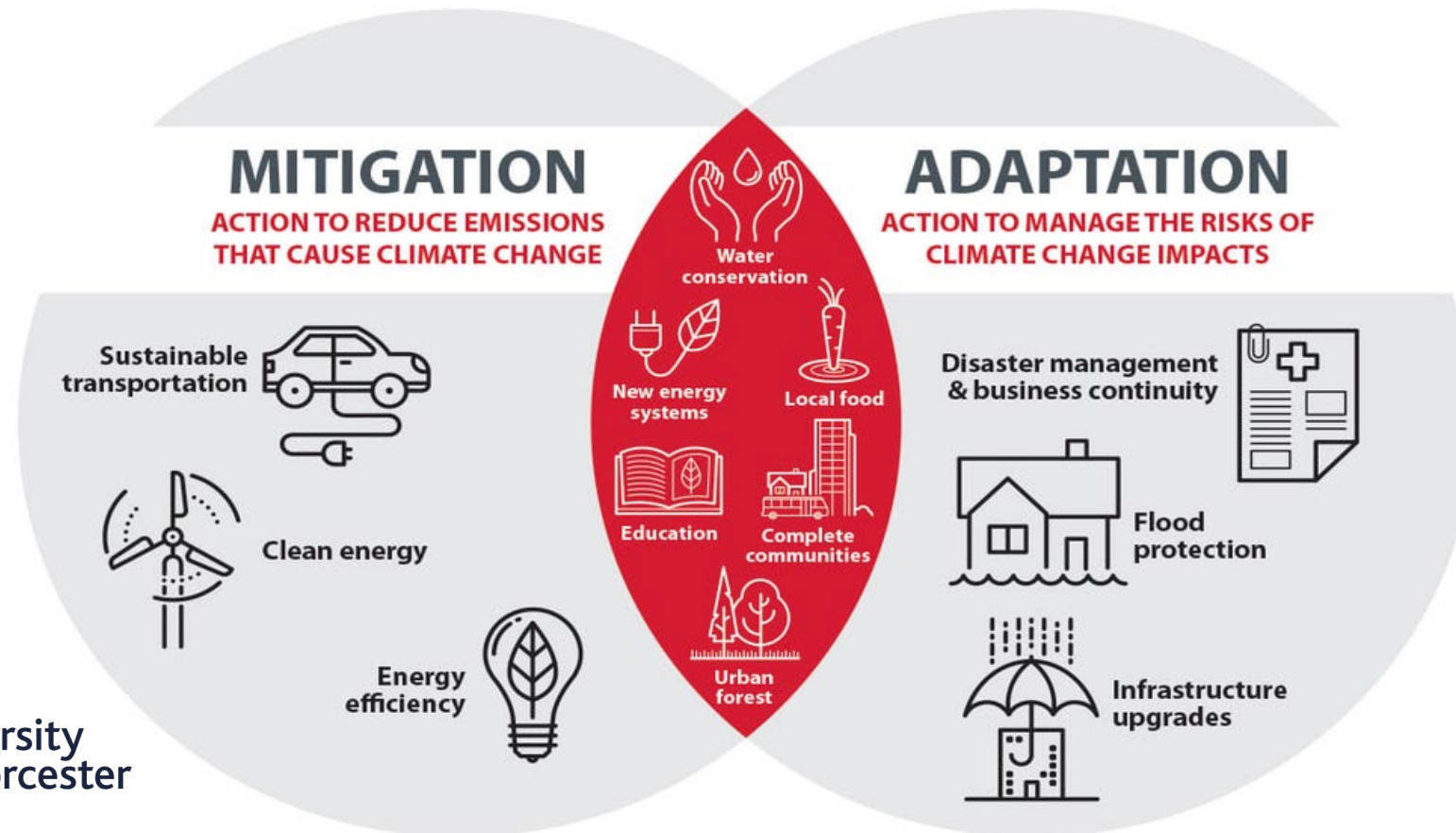


IPCC June 2022 Adaptation summary



Summarizing adaptation and mitigation

Building Climate Resilience

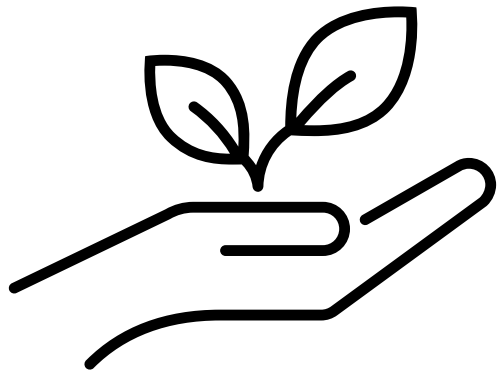


Offsetting

- University of Worcester – Carbon Coalition is an initiative for universities and colleges to purchase carbon credits for offsetting residual carbon emissions which cannot be further reduced or as part of a net-zero plan to achieve a more ambitious target year.
- Sanctuary - Offsetting... not to apply carbon offsetting as an excuse to avoid decarbonisation, but as an additional way to achieve our environmental ambitions page 15



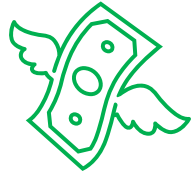
The co-benefits of climate solutions



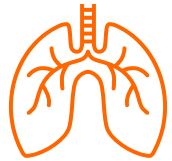
‘Climate co-benefits are beneficial outcomes from climate actions that are not directly related to climate change mitigation. Such co-benefits include cleaner air, green job creation, public health benefits from active travel, and enhancing biodiversity through expanding/ enhancing green space.’

Planning climate action that also delivers co-benefits can maximise opportunities to address multiple social, environmental, and economic challenges.’

The co-benefits of renewable energy and energy efficiency measures



Better insulated homes **reduce energy costs** for residents



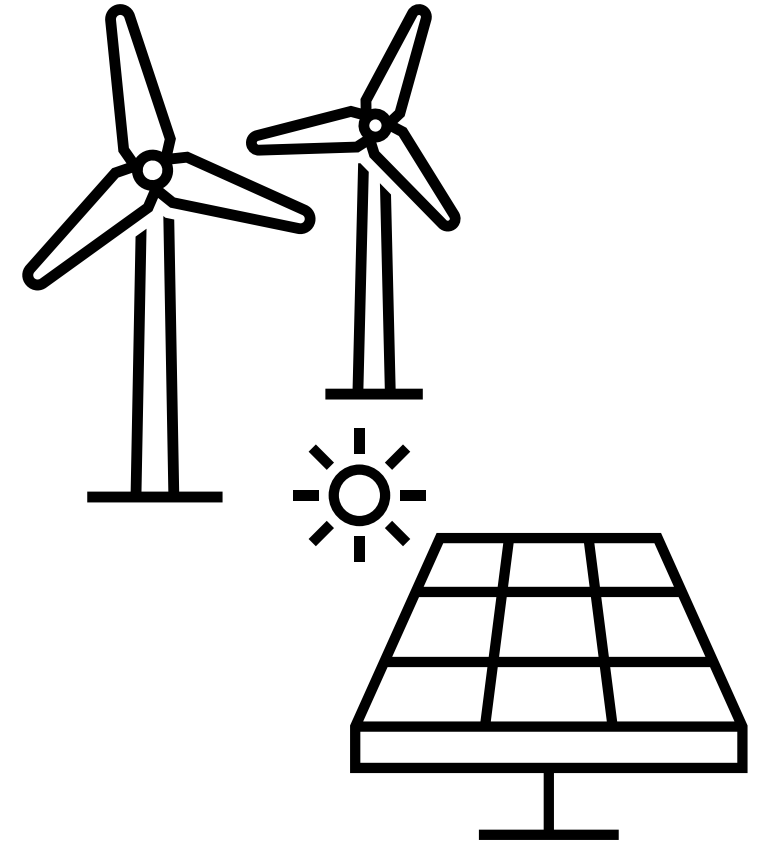
Improved **air quality**



Green **jobs** and upskilling the workforce



Resilience to spikes in energy costs



The co-benefits of electric vehicles and public/ active transport



Mental and physical **health benefits**



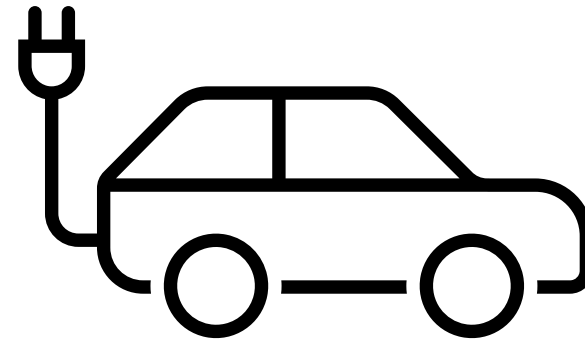
Improved **air quality**



Reduced **noise** pollution



Green **jobs** and upskilling the workforce





The co-benefits of enhancing green space and biodiversity



Mental and physical **health benefits**



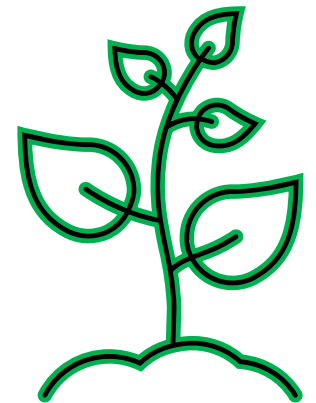
Improved **air quality**



Temperature management –
reducing the urban heat island effect



Educational and community benefits



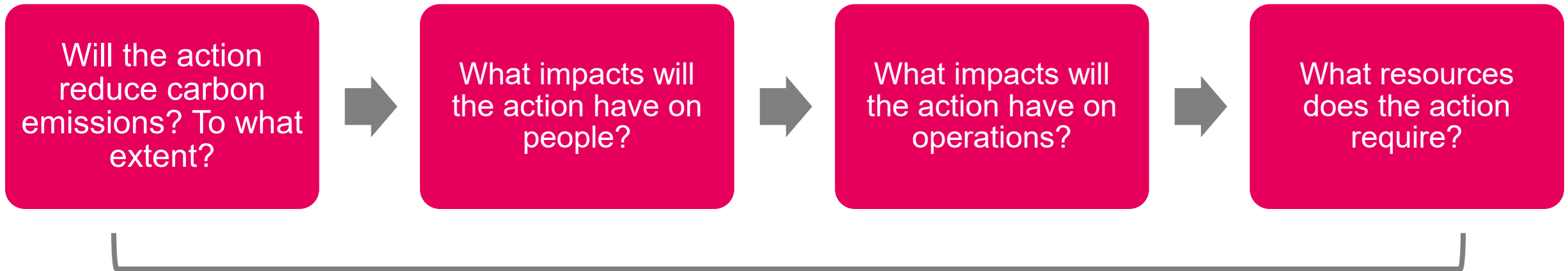


Group actions: communicating about climate change

Being able to communicate about climate change is an important part of motivating and taking part in group actions for climate change.



Group actions for climate: what should you consider?



Is the action practical and impactful?



Group actions for climate: example ideas

'I'm going to suggest that we start a de-branding and reusing/recycling process for workplace uniform'

'I'm going to work with my team to strengthen sustainability requirements in our tendering processes'



'I'm going to put forward the idea of sustainable investments and choosing green accounts to the Treasury team'

'I'm going to work with my team to prepare a business case for electric grounds maintenance equipment'

'Dept. Children and Families annual conference for 200 students and staff. Sustainability theme golden thread'





Groups actions for climate change: activity

- Work together to develop ideas for group actions (relevant to the concerns highlighted in introductions) that each of you can take back to your teams at your organisation.

The purpose of this activity is to generate ideas for group actions that participants can take away and develop with colleagues after the training.



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Assessment form guidance

Assessment forms are the **only evidence** that the Carbon Literacy Project uses to decide whether to certify learners – make sure your form reflects your understanding.

Your individual and group action should both be work-based (where possible), and it is important that your actions are measurable. In your response about individual and group action, try to include:

- ✓ What the **action** you're pledging is (remember to try and keep this work-based)
- ✓ What **steps** you need to take to adopt it
- ✓ How you could **evidence** the impact of your action

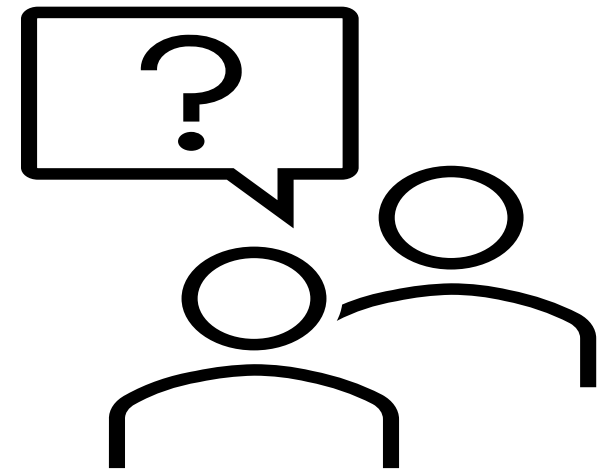




Assessment form and questions

We now have some time for you to open and begin your assessment form/ ask any questions you have about the training/ assessment.

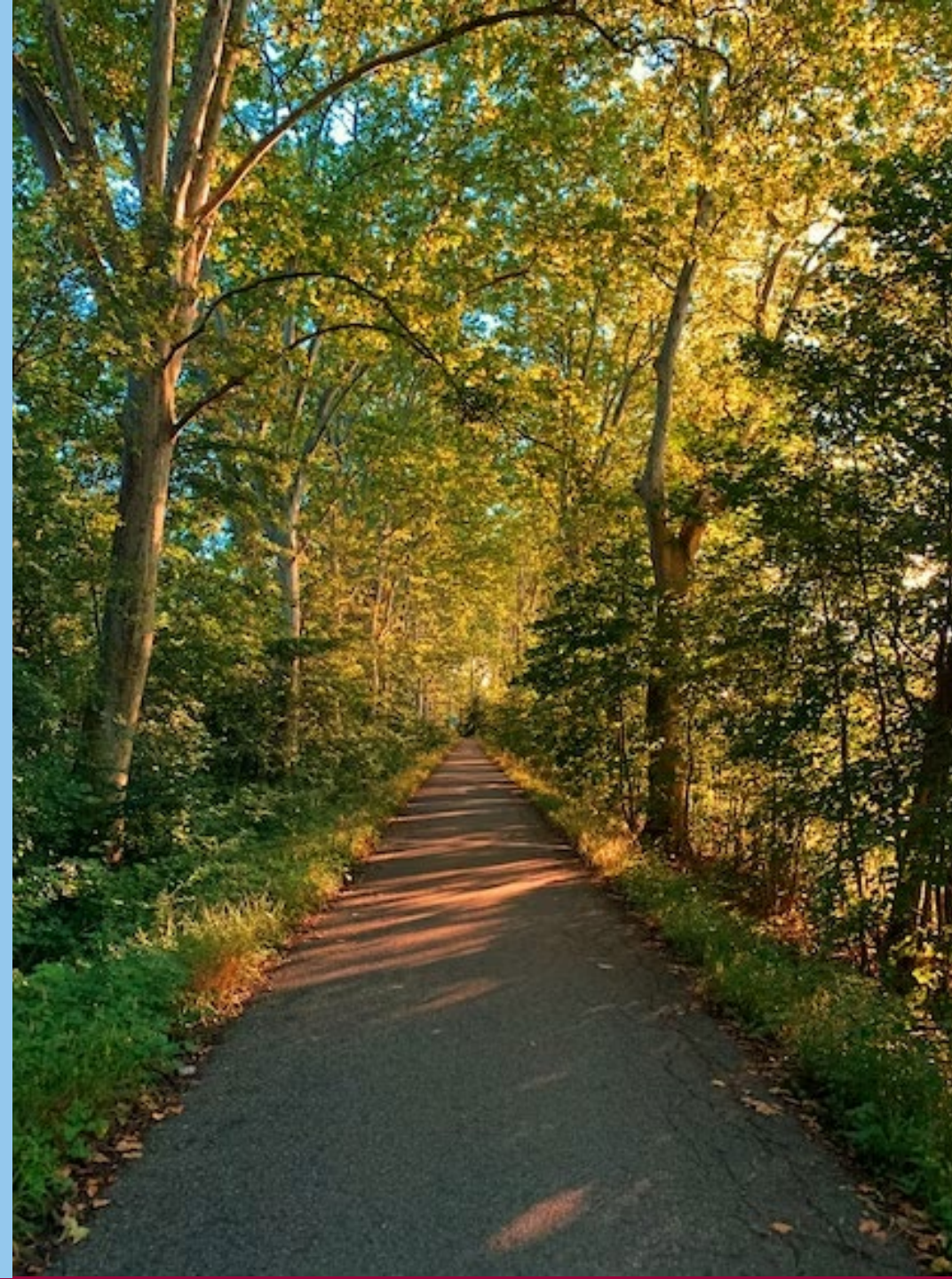
Assessment due date: 18 December 2023





“Climate change is the single greatest threat to a sustainable future but, at the same time, addressing the climate challenge presents a golden opportunity to promote prosperity, security and a brighter future for all.”

Ban Ki-Moon, Former Secretary-General of UN



Additional resources

[The Energy Saving Trust](#)

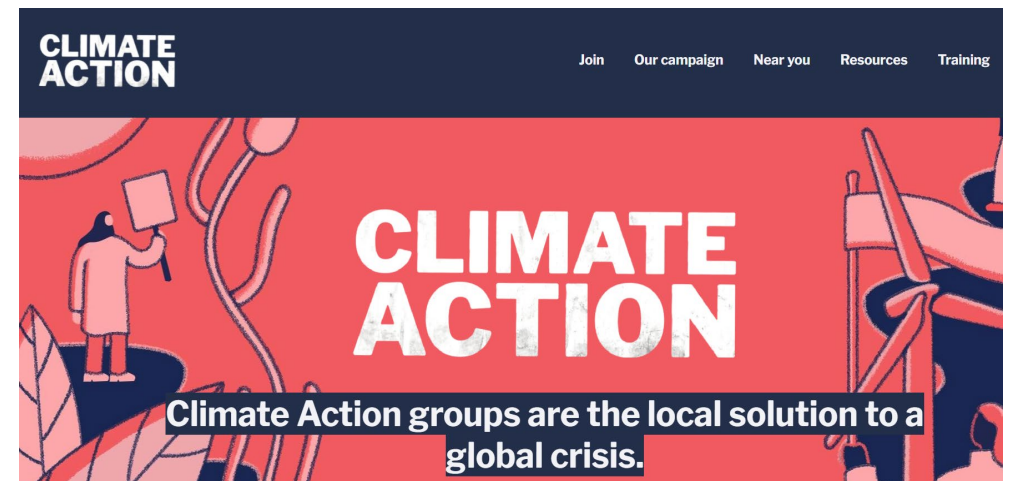
[The Carbon Trust](#)

[Working from home: reducing your carbon footprint](#)

[Environmental Sustainability – Worcester City Council](#)

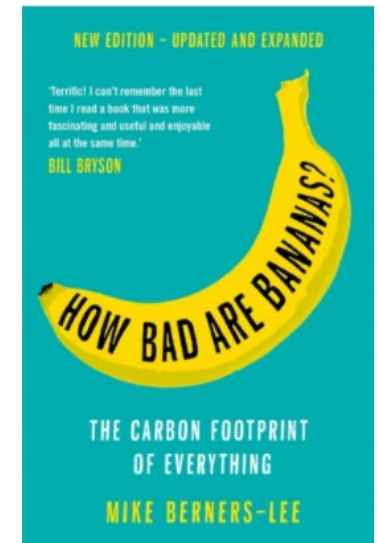
[Take Climate Action](#)

**energy
saving
trust**



Resources on climate change mitigation and adaptation

- [How bad are bananas? The carbon footprint of everything by Mike Berners-Lee](#)
- [The Power of People – report by Jump and Arup](#)
- [Can you reach net zero by 2050? Interactive game by the Financial Times](#)
- [Nine things you can do about climate change by Grantham Institute](#)
- [Adapting to a changing climate – video by the United Nations](#)
- <https://www.sniffer.org.uk/blog/climate-change-risk-and-vulnerability-assessments>



Activity: how do solutions at different levels interact for a net zero future?

The My 2050 tool brings together solutions at all levels and across all sectors and demonstrates how they can work together to achieve emissions reductions.

Use the tool to create a net zero future by adjusting the levers.

What does this tool reveal to you about climate change solutions?

