



# Getting Started

Welcome to your Carbon Literacy Training Pack. This pack contains all the information you need for your training. Please read the attached documents to understand more about your training pack, how your learners gain certification and what steps to take to ensure your learners get the best Carbon Literacy experience.

Our documents change from time to time. To ensure you're always using the most up-to-date version, please follow the links provided in this document.

This "Getting Started" guide is presented in two parts.

**Part A** covers the **Carbon Literacy process**

**Part B** introduces the **Nottingham Trent Carbon Literacy for Universities training materials**.

# Part A – The Carbon Literacy Process

## A1. The Trainer Documents Folder

The 'Trainer Documents' folder contains the following documents:

- CLP1 The Carbon Literacy Trust Bank Details
- CLP2 Trainer Code of Conduct
- CLP3 Certification Marking Guide

You will need The Carbon Literacy Trust Bank Details to get set up for certification (see A2 below).

Please familiarise yourself with the Trainer Code of Conduct and the Certification Marking Guide before starting your training.

## A2. Getting set up for certification

The Nottingham Trent Carbon Literacy for Universities training materials are free to use as part of certified Carbon Literacy training.

Before getting started on your training, you will need to set up The Carbon Literacy Trust on your accounting system. This will allow us to issue invoices to cover certification costs and prevent hold-ups in returning certificates to your learners.

Please see **The Carbon Literacy Trust Bank Details** document (within the **Trainer Documents** folder) for the information you will need to set up The Carbon Literacy Trust as a vendor.

Some organisations chose to bulk purchase certificates in advance, based on the total number of participants they plan to train in a given timeframe (e.g. a year). This allows straightforward tracking of learners and certification, and reduces the administration for both parties. Alternatively, if you would prefer to invoice for each batch of learners, we can accommodate this.

The cost per learner is £10 per certificate application, and further details can be found [here](#).

## A3. Collecting & submitting participant details & learner evidence

### A3.1 Participant details & learner evidence – information required

In order for a learner to be certified as Carbon Literate, we require:

- Basic details from each of your learners - this helps us to collect information confidentially for possible future studies on the effectiveness of CL.
- Evidence that your learner has completed and understood their CL course, and created an individual action and a group action (requirements of the CL Standard).

We provide a standard **Participant Details and Evidence Form** that collects the *minimum* evidence the Project needs to receive (preferably electronically) per learner, to determine whether your learner has met the Carbon Literacy Standard, and so can be certified as Carbon Literate.

*Download the most up-to-date versions of the Participant Details and Evidence Form [here](#).*

### **A3.2 Collecting your participant details & learner evidence**

When delivering training remotely you may wish to move the information requested in our **Participant Details and Evidence Form** (this is the minimum amount of evidence needed for the certification of learners. See A3.1) onto an online form or survey platform. How you collect evidence from learners is your decision, but we recommend doing so within the training, usually at the end of the last session. This avoids having to chase learners for details and evidence after the session, potentially resulting in fewer learners being certified.

### **A3.3 Reviewing your learner evidence**

Prior to submitting learner evidence for certification, we strongly recommend that trainers take the time to review evidence. You should check for mistakes (e.g. not completing a section) and potential areas of weakness that may prevent a certificate from being awarded (please review the **Certification Marking Guide** in the Trainer Documents folder).

### **A3.4 Submitting your participant details & learner evidence for certification**

After you have collected and reviewed your learner evidence, you will need to submit it for certification.

The trainer (or training organisation) should complete the **Certificate Request Form** for each group for whom Carbon Literacy certification is being requested. This form must be submitted along with the batch of participant details & learner evidence and the relevant payment information. Submit the completed documents and the appropriate certification fees (if not already purchased) to [evidence@carbonliteracy.com](mailto:evidence@carbonliteracy.com), and we'll do the rest.

*Download the most up-to-date versions of the Certificate Request Form [here](#).*

Please note the following:

- What is on the Certificate Request Form is what will appear on the certificates – so please take care to ensure correct spellings of learner's names and that the correct organisation is identified.
- You also need to state the course ID number to demonstrate that you have used an accredited course to conduct your training. The ID number for the Nottingham Trent Carbon Literacy for Universities course is **CC000194**.
- Please ensure that everyone handling your learner data has undergone GDPR training and that you abide by all GDPR requirements. For example, sending information in password protected documents and sending passwords under separate copy. If in doubt, check with your in-house GDPR advisors.

### **A3.5 Receiving certificates & feedback**

Assuming we have all the evidence and documentation needed, please allow two weeks for us to get back to you with:

- Certificates in PDF format for those who have met the CL Standard
- Feedback for any learners who've not yet passed

Certificates will always be issued to the trainer. The Carbon Literacy Project never distributes certificates to individual learners.

Any learners who do not gain certification on their first attempt have 28 days, from our response, in which they can reapply by addressing the feedback provided to the trainer. All resubmissions should come via the trainer, and we ask that these are submitted as a group alongside a new Certificate Request Form. Resubmissions are classed as new applications, and therefore the £10 certificate application will apply.

### **A3.6 Keep a record of your activities!**

We recommend that you keep a record of what you have done in a Trainer Log, how many Carbon Literacy 'graduates' you have, and your learners' actions, as this will form the foundation of your application to become an accredited Carbon Literate Organisation, Carbon Literacy Facilitator/Trainer/Consultant, or Carbon Literacy Training Organisation, should you wish to apply.

Information on these supplementary accreditations, and documents to support you in keeping a record, or making an application, can be found [here](#).

## **A4. Further information about Carbon Literacy**

[Education Sector](#)

[What On Earth Is Carbon Literacy?](#)

[Introduction to Carbon Literacy](#)

[Frequently Asked Questions](#)

All online resources can be found at [www.carbonliteracy.com](http://www.carbonliteracy.com).

If you have any questions about this pack, please contact us at [education@carbonliteracy.com](mailto:education@carbonliteracy.com).

## Part B – Nottingham Trent Carbon Literacy for Universities (NTU CLU)

### B1. Authors

Molthan-Hill, P., Jackson, D., Mifsud, A. and Odell, Vanessa (2020), NTU Carbon Literacy Toolkit for all staff and students at universities. NTU Green Academy.

The 'NTU Carbon Literacy Training for all staff and students' was designed by NTU's Green Academy adapting the 'Carbon Literacy training for Business Schools' to a wider audience. The 'Carbon Literacy training for Business Schools' was developed by Nottingham Business School (Nottingham Trent University) in collaboration with the UN PRME Champions, Oikos International and The Carbon Literacy Project. It also includes an introduction to En-ROADS developed by Climate Interactive in collaboration with MIT Sloan and Ventana Systems.

### B2. Audience

These training materials have been designed to be accessible and engaging for all university members, and are equally suitable for academic or professional services staff, and for undergraduate and postgraduate students from any discipline.

### B3. Modular Structure

The training materials are structured in four Modules:

- **Session 1:** High Impact Climate Solutions
- **Session 2:** Climate Justice and Future Scenarios
- **Session 3:** Climate Science and Carbon Footprint Calculations
- **Session 4:** Climate Change Mitigation – A Systems Approach

### B4. Delivery Options

Please follow the order of modules, and the order of activities within modules, as ideas and concepts are built up across the training programme.

#### B4.1 Online Training

The online version comprises four 2 hour webinars. We would not recommend delivering these back to back equating to a full day webinar as this is tiring for both trainers and participants.

## **B5. Navigating the Toolkit**

### **B5.1 Modular folders**

Within the main folder there are separate folders for each of the four Modules. Within each Module folder you will find the PowerPoint Presentation, Trainer Guide and any 'handouts' and additional resources to send to learners before and/or after the session as per the email template suggestions in each Trainer Guide.

## **B6. Creating your Slide Stack & Co-branding the Slides**

We understand that you will want to add your logo to the slides for your training – and we've set up the slides to facilitate this – please follow the guidance below.

### **Step 1: Edit the Slide Masters**

- On the 'View' tab, select the Slide Master view.
- In each of the Slide Masters (colour sets and layouts) in use in the slide stack, replace the space holder shape with your logo.
- Your logo should be of a similar size (occupy a similar area) to the Nottingham Trent logo.
- The Nottingham Trent logo on the content slide layouts should not be reduced.
- There must be space between your logo and the Nottingham Trent logo – and space between the Nottingham Trent logo and the edge of the slide.

## B7. Licensing information

This 'NTU Carbon Literacy Toolkit For All Staff and Students at Universities' can be used and adapted under a **Creative Commons 4.0 Attribution-NonCommercial-NoDerivatives 4.0 International (CC BY-NC-ND 4.0) Licence** Please give credit to the authors of each session, which you can find on the last slide in the sets provided. Please do not remove the logos.

If you refer to the whole toolkit, please cite it as follows: **Molthan-Hill, P., Jackson, D., Mifsud, A. and Odell, V. (2020), *NTU Carbon Literacy Toolkit For All Staff and Students at Universities -A Systems Approach*. NTU Green Academy.**

Please mention at least once in your invitation to participate in training using this course the following: The 'NTU Carbon Literacy Training For All Staff and Students' was designed by NTU's Green Academy adapting the 'Carbon Literacy training for Business Schools' to a wider audience. The 'Carbon Literacy Training for Business Schools' was developed by Nottingham Business School (Nottingham Trent University) in collaboration with the UN PRME Champions, Oikos International and The Carbon Literacy Project. It also includes an introduction to En-ROADS developed by Climate Interactive in collaboration with MIT Sloan and Ventana Systems.

This toolkit and materials are designed and curated **for the purpose of certified Carbon Literacy training within UK universities, further education colleges and approved partner organisations**. The contents are **distributed free of charge and licenced and in many cases sub-licenced by many contributing organisations for that purpose only**. The **rights and copyrights of contributing parties still apply**.

The decision as to what constitutes an approved university, further education college or partner organisation rests exclusively with The Carbon Literacy Trust and its delivery partner(s).

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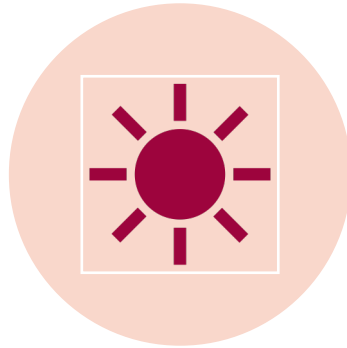
You can find the terms of the licence <https://creativecommons.org/licenses/by-nc-nd/4.0/>

Any questions or requests for adaptation please contact [info@carbonliteracy.com](mailto:info@carbonliteracy.com)

# 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 FOCUS OF THIS COURSE IS TO **EMPOWER YOU** TO CHOOSE YOUR OWN CLIMATE SOLUTIONS.



THE STANDARD REQUIRES **ONE DAY** OF TRAINING TO GET A CERTIFICATE.



# You will learn:

**Possible future scenarios**

**Climate justice**

**Science behind it**

**Solutions**

**Individual Strategies**

**Group Strategies**

## **Part 1: The problem**

- Explore the challenge of climate change, how it affects the planet and how it can be prevented.

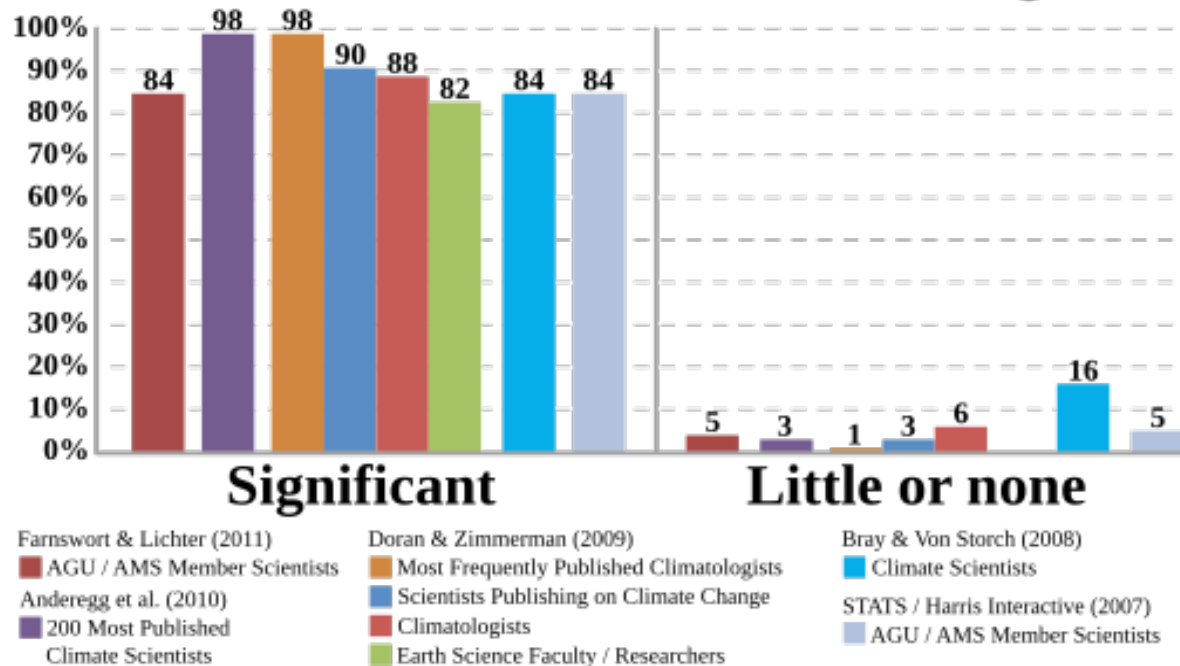
## **Part 2: The solutions**

- Discuss the ways that we are already taking action as individuals and in organizations.
- Make a commitment to change something as an individual and within the context of your discipline or/and your work.



# Anthropogenic climate change

**Opinions of Climate and Earth Scientists on Human Role in Global Warming**

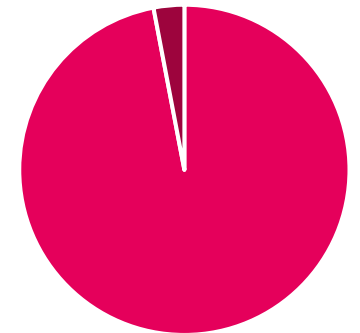


## Intergovernmental Panel on Climate Change

“Warming of the climate system is unequivocal, and since the 1950s, many of the observed changes are unprecedented over decades to millennia. The atmosphere and ocean have warmed, the amounts of snow and ice have diminished, and sea level has risen.”<sup>13</sup>

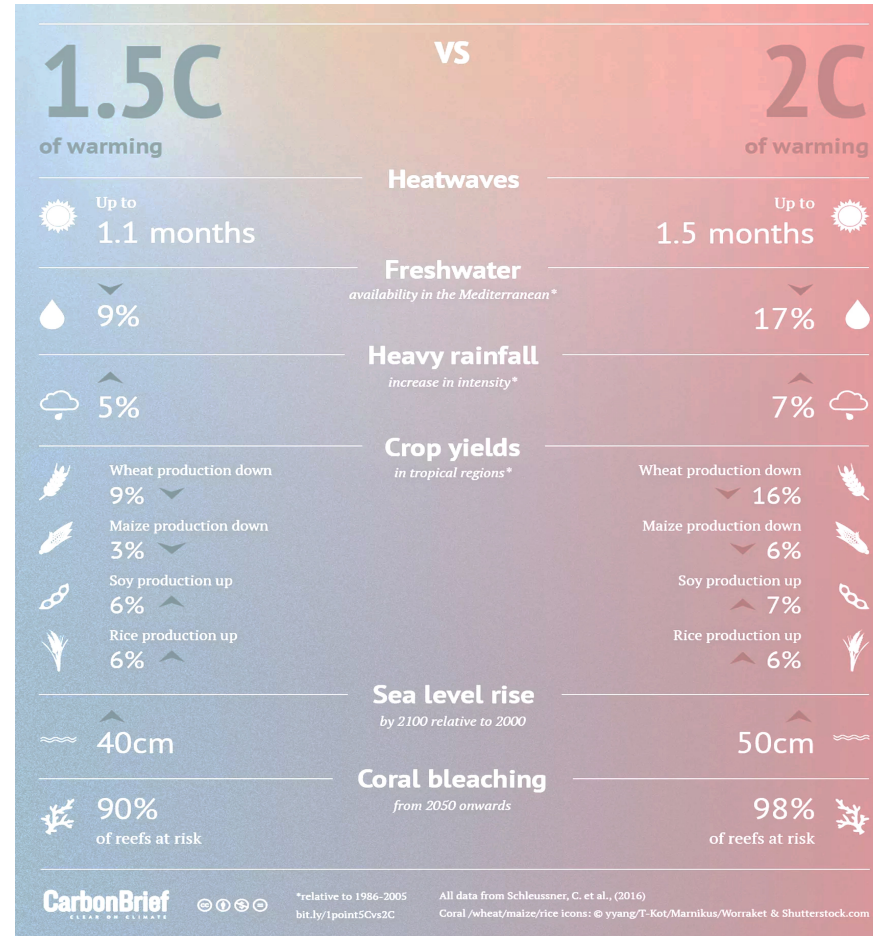
“Human influence on the climate system is clear, and recent anthropogenic emissions of greenhouse gases are the highest in history. Recent climate changes have had widespread impacts on human and natural systems.”<sup>14</sup>

**Scientific consensus that climate change is caused by humans is 97%**



# 1.5 or 2 degrees?

We are nearing 1.5 degrees of warming now



Warming of more than 2 degrees will result in catastrophic climate change

# What is the Greenhouse effect?

Go to [www.menti.com](http://www.menti.com)

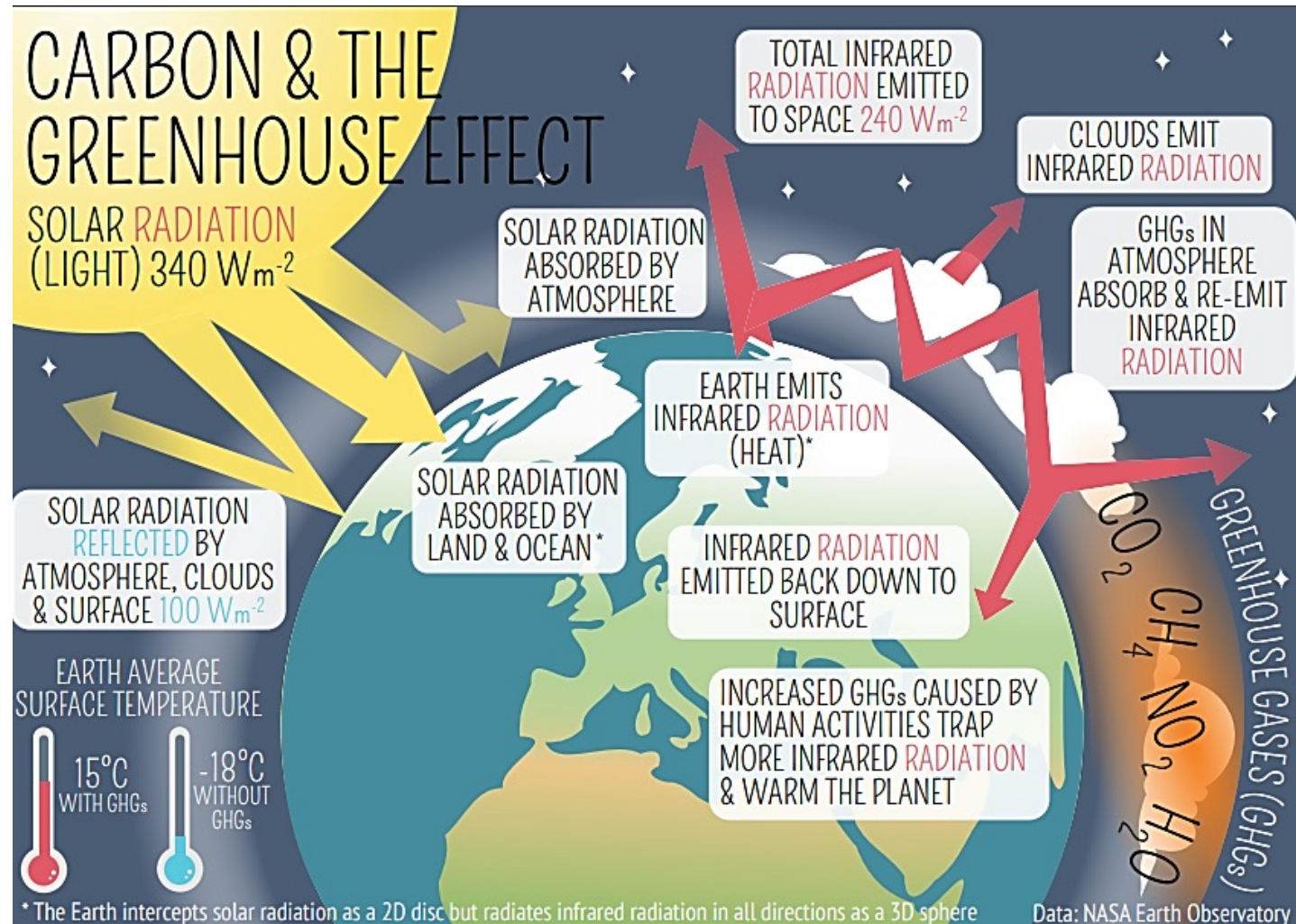
Use the code:

*Insert number you get  
when you set up the  
mentimeter*

and create a word  
cloud.



# Greenhouse Gas effect



# What is a Carbon Sink?

Go to [www.menti.com](https://www.menti.com)

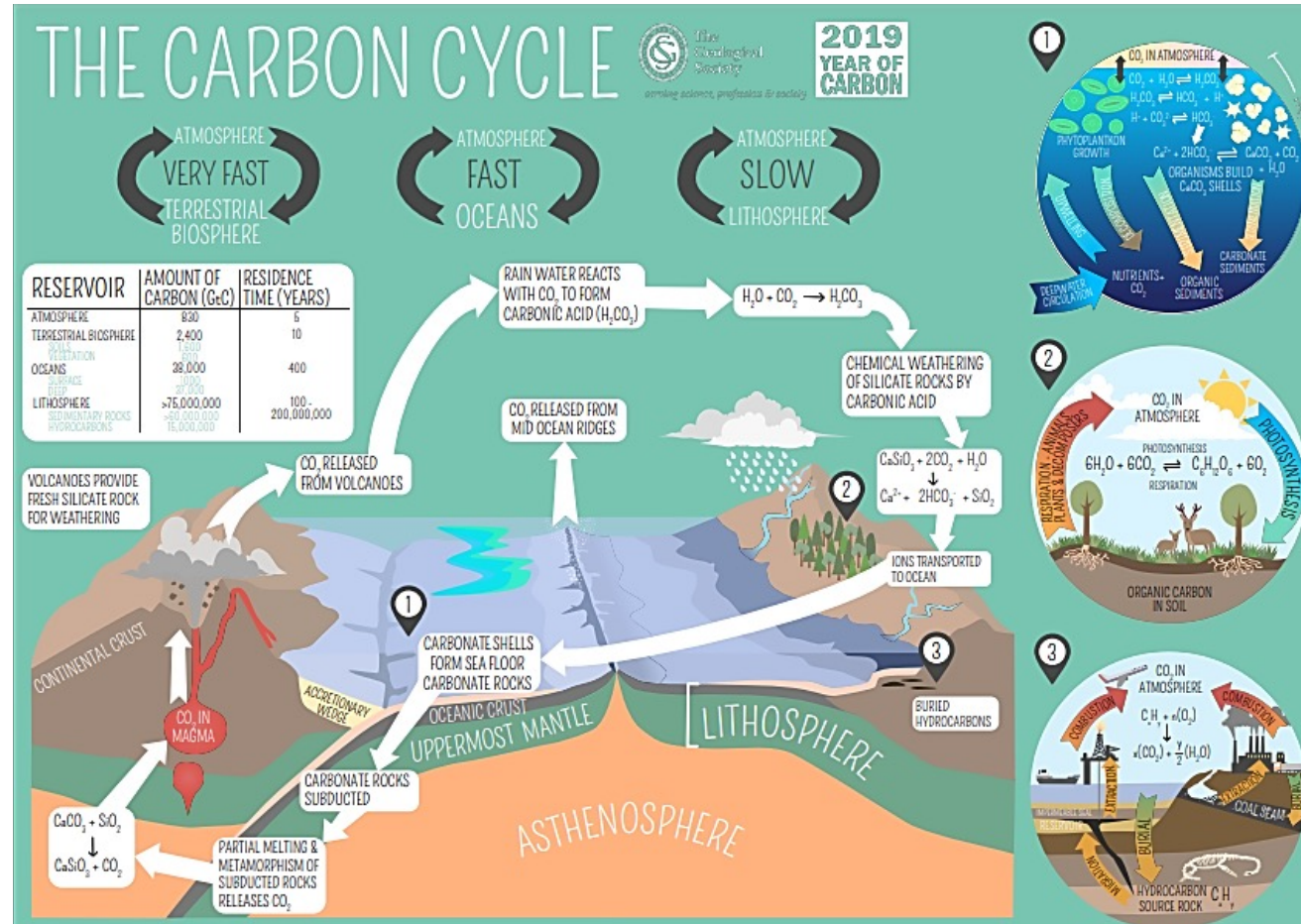
Use the code:

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and create a word  
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# Natural Carbon Cycle and Sinks



# Soil and Carbon Sinks

- Estimated that 50% of the carbon stored in soil has been released into the atmosphere in the last century due to long-term conversion of grassland and forest into cropland.
- Estimated that 1/3 of GHG emissions are from agriculture (FAO, 2019).
- Therefore agriculture has potential to mitigate climate change through increasing soil carbon.
- It is predicted that soil can sequester 10% of total anthropogenic emissions of carbon in 25 years (FAO, 2019).



A sink is defined as a process or an activity that removes greenhouse gas from the atmosphere (FAO, 2019)



# Climate Justice Activity: Learning Outcome

## Learning Outcome:

- You will learn about the countries that emit the most carbon per person and the countries that are the most vulnerable to climate change.

## Resources:

- Kahoot.it
- [Climate Justice Interactive Tool](#)



# Climate Justice Interactive Tool Activity: Individual Work

The screenshot shows the Climate Justice Interactive Tool interface. It features a central world map with black bubbles of varying sizes representing emissions. On the left, there are three main sections: '1 EMISSIONS' with sub-sections 'TYPE' and 'UNITS'; '2 COUNTRIES' with sub-sections 'ALL' (showing 221), 'REGIONS', 'GROUPS', and 'RANKING'; and '3 TIMELINE' at the bottom. On the right, there is a 'TOOLS' panel with options for 'MAP VIEW', 'CHART VIEW', 'FOCUS', 'RANKING', 'TIME SERIES', and 'BUBBLES'. A 'Fossil Fuels Emissions' panel is also visible, listing 'EMISSIONS' (Terrestrial, UN) and 'COUNTRIES' (Africa, Asia, Central America, Europe, Middle East, North America, Oceania, South America) with their respective counts. A central pop-up window titled 'MAP VIEW' contains the text 'Geographical emissions of several countries over time', an 'OK, I get it' button, and a checkbox for 'Don't show me again' with the note 'This information is always accessible under HELP'. Three numbered annotations (1, 2, 3) point to specific UI elements: 1 points to the 'EMISSIONS' section, 2 points to the 'COUNTRIES' section, and 3 points to the 'TIMELINE' section. Additional annotations point to the 'TOOLS' panel and the 'Fossil Fuels Emissions' panel.

**1 EMISSIONS**  
Select one emission type and a unit  
1 Choose one emission type and a unit

**2 COUNTRIES**  
Select countries or group of countries  
2 Choose countries or groups of countries  
Groups (such as EU28) can be visualized as one single entity by ticking "group as one"  
Ranking lets you visualize the biggest emitters

**3 TIMELINE**  
3 Launch the play button to visualize emissions over time. You can pause at anytime or drag the year button

**MAP VIEW**  
Geographical emissions of several countries over time  
OK, I get it  
 Don't show me again  
This information is always accessible under HELP

**TOOLS**  
Fossil Fuels Emissions  
Other visualizing tools are here  
Sources, methods and download options for data and snapshots are here

**EMISSIONS:**  
Terrestrial  
UN  
MtCO<sub>2</sub>

**COUNTRIES:**  
Africa (56)  
Asia (36)  
Central America (32)  
Europe (45)  
Middle East (15)  
North America (5)  
Oceania (18)  
South America (14)

**SOURCES**  
**HELP**  
**METHODS**  
**SHARE**  
**DOWNLOAD**

# Climate Justice Interactive Tool Activity: Individual Work

- **Vertical Menu on left hand side** of screen:
  - ✓ Emissions;
  - ✓ Type – Select **Consumption**;
  - ✓ Units – Select **tCO<sub>2</sub>/person**;
  - ✓ Countries – **All, Regions, Groups, or Ranking**
- **Vertical Menu on right hand side** of screen:
  - ✓ Tools – Select **Map View** or **Chart View**
  - ✓ Bottom Right Hand Corner: **Sources, Help, Share, Download**
- **Bottom of screen** – Time Slider bar



# Climate Justice Interactive Tool Activity: Individual Work

## Questions from Interactive Tool:

- ✓ Identify the top 10 countries for CO<sup>2</sup>/person.
- ✓ Can you offer possible reasons for the result?

## Alternative exercise:

Go to

<https://www.climatewatchdata.org/>

- ✓ Identify the countries with the highest emissions.
- ✓ Then go to the country information and analyse how vulnerable these countries are.

Put your answers in the chat

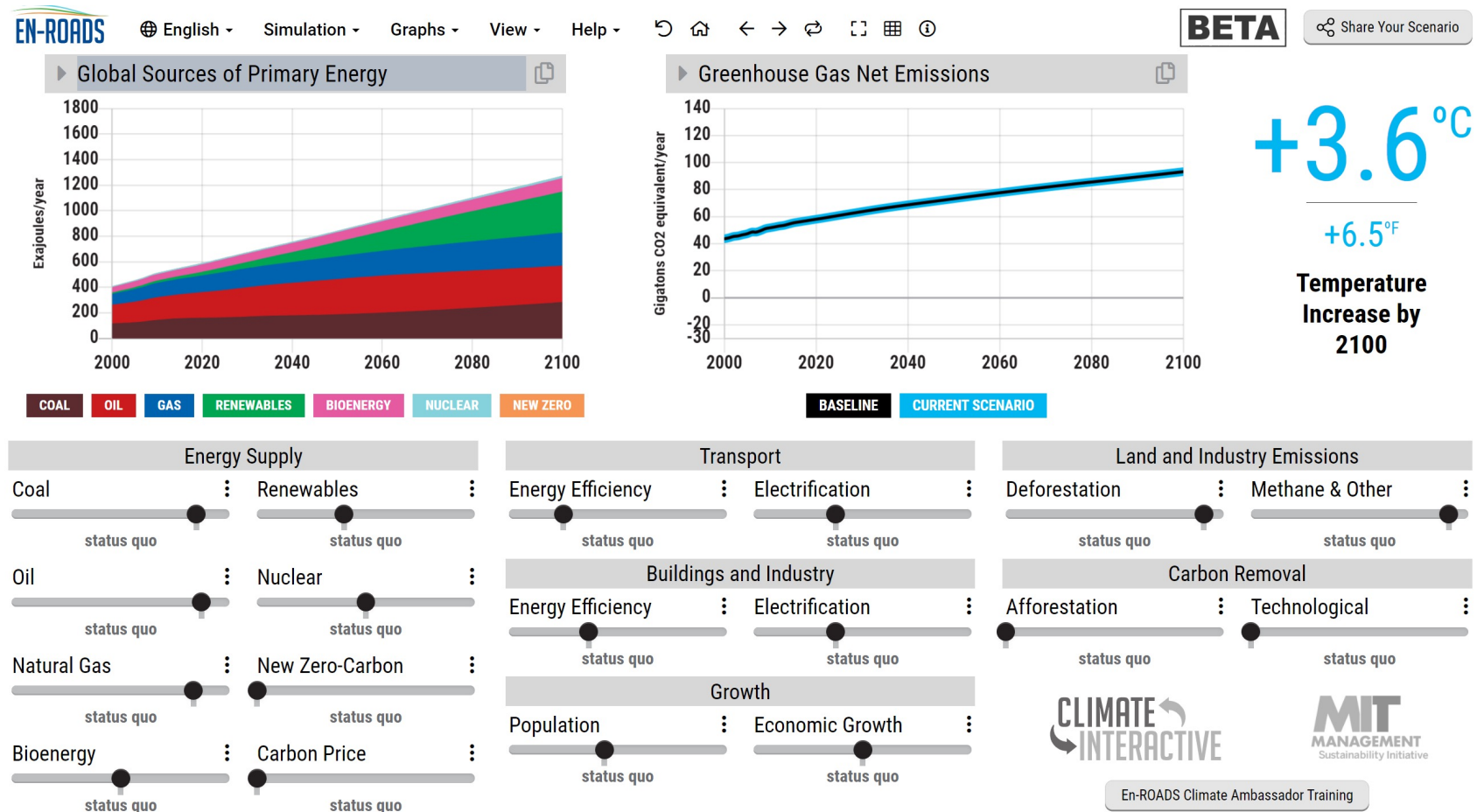
# En-Roads Simulation: Preparatory Work (10 minutes)

- **En-Roads Climate Change Solutions Simulator:**
  - A policy simulation model
  - Explores the consequences of energy, economic growth, land use, and other policies on the climate.
- **Preparatory work for Session 4:**
  - Use the En-Roads Simulator in order to try and bring the scenario to 1.7C.



# En-Roads 1.5 Degree Future Model

Online Climate Change Solutions Simulator from Climate Interactive: En-Roads Simulator



# Climate solutions often have multiple other positive effects and solve multiple problems

**Multisolving (v):**  
Changing lives for the better  
while protecting the climate

**Health. Social justice. Resilience. Economics.**  
Connection to people and the planet.

**CLIMATE**  
**INTERACTIVE**  
tools for a thriving future



# Multiple Impacts of Climate Solutions

## London Transport Scenarios

More efficient engines  
and fuel switching. 

Some car travel replaced  
with walking and cycling. 

Reduction in transport CO<sub>2</sub> emissions:

35%

38%

Reduction in premature deaths per million people:





















17



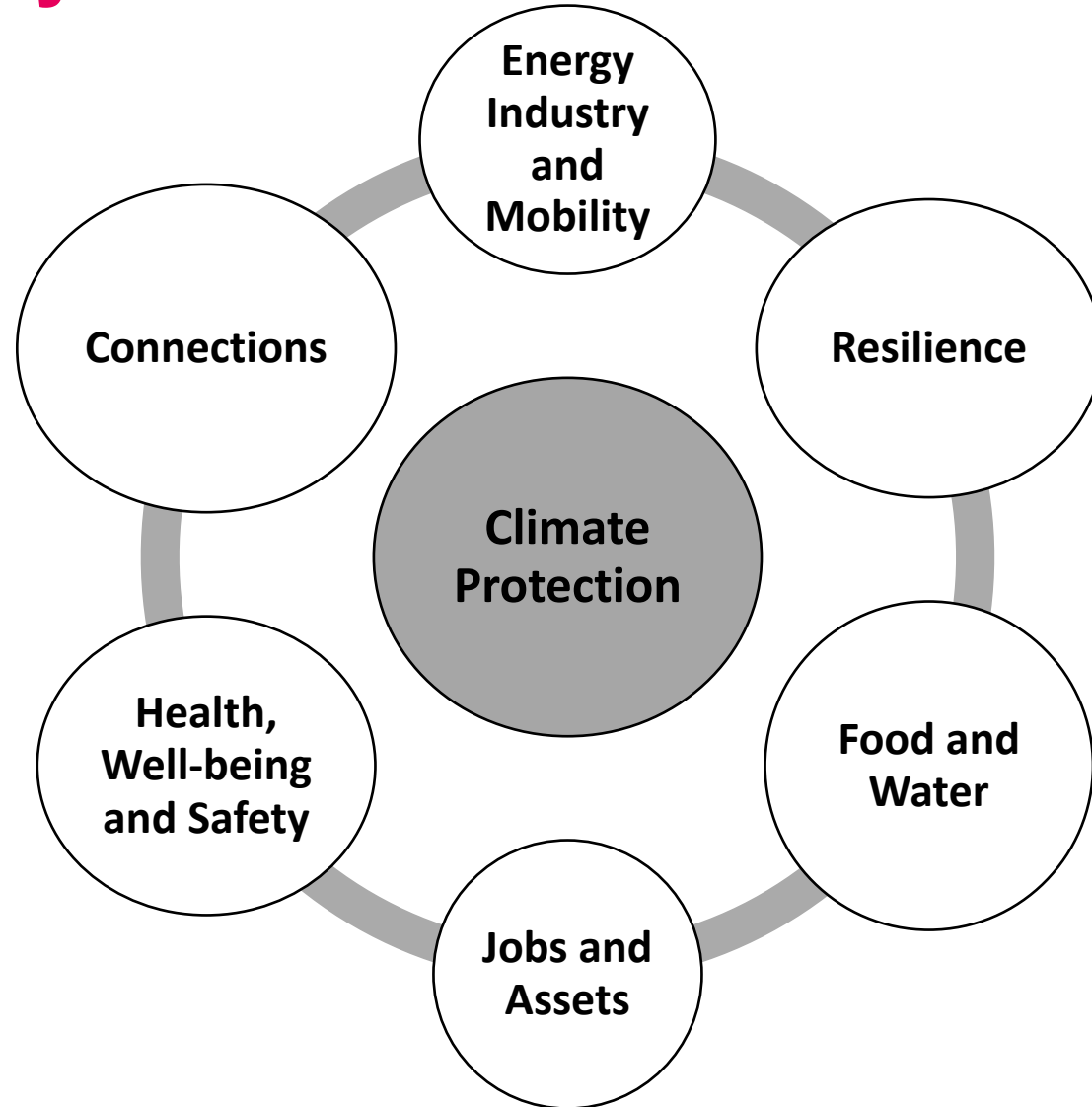
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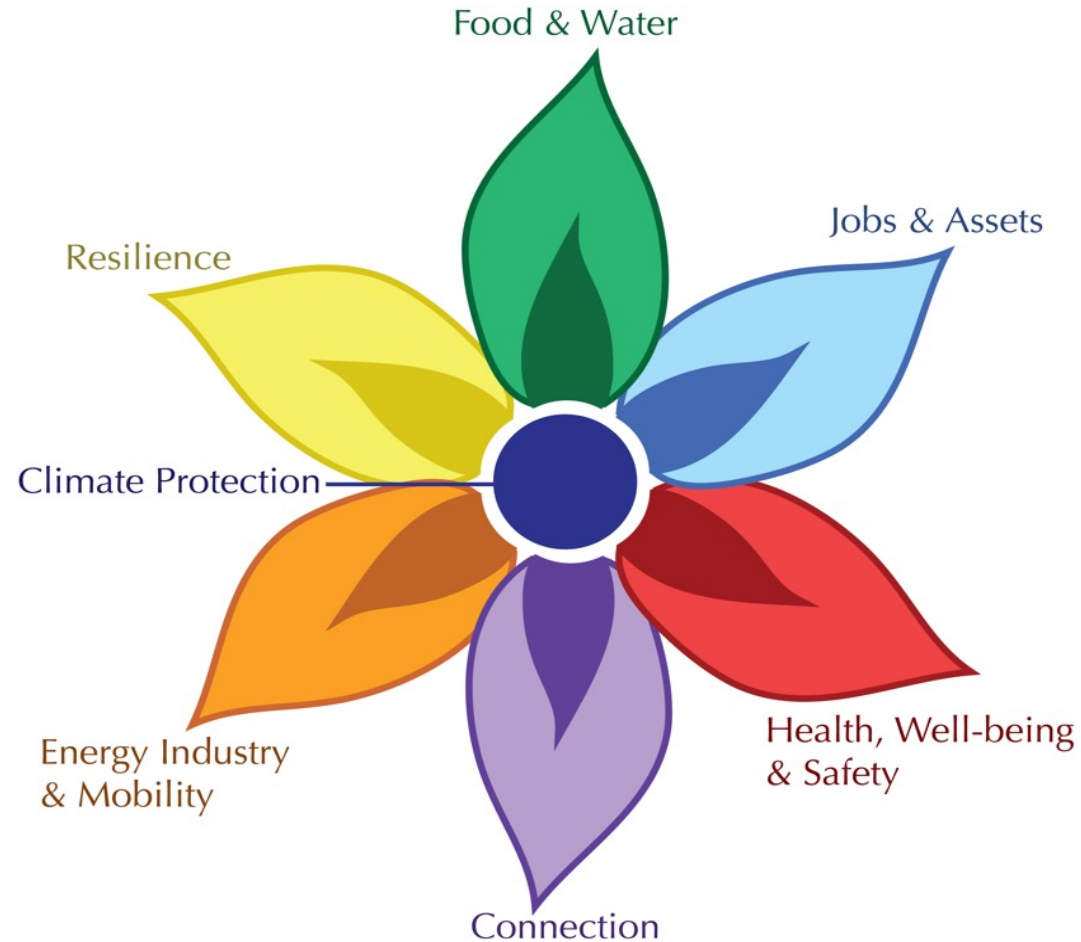
# Multiple Impacts of Climate Solutions

Multisolving co-benefits for En-ROADS					
Energy Supply		Transport		Land and Industry Emissions	
<b>Coal</b> Taxing coal can reduce air pollution, which can improve community & ecosystem health. 	<b>Renewables</b>  Subsidizing can reduce air & water pollution, improve health, productivity, savings, energy access, and job opportunities.	<b>Energy Efficiency</b> Increasing can lower total energy costs, improve public transit & reduce traffic congestion. More biking & walking increases physical activity and health. 	<b>Electrification</b> Increasing creates jobs in manufacturing & sales of electric batteries & engines. Improves air quality at the source, which can increase health & worker productivity. 	<b>Deforestation</b> Reducing can decrease erosion, help protect biodiversity, ecosystems, & food sources. Also can preserve small-scale resource gathering & sustainable forestry livelihoods. 	<b>Methane &amp; Other</b> Reducing can improve water pollution & protect habitats. Plant-based diets are typically healthier for individuals and ecosystems. 
<b>Oil</b> Taxing reduces chance of harmful oil spills. Less oil demand can improve national security & lower military costs. 	<b>Nuclear</b> Taxing can reduce the risk of exposure to radiation from nuclear meltdown or hazardous waste. Protects health of uranium miners. 	<b>Buildings &amp; Industry</b>		<b>Carbon Removal</b>	
<b>Natural Gas</b> Taxing can improve water security & quality, protects wildlife and biodiversity. 	<b>New Technology</b> Research advancements in new technologies can create jobs and may be useful for other applications. 	<b>Energy Efficiency</b> Increasing can reduce total energy costs, improve indoor air quality, & health, and create jobs. 	<b>Electrification</b> Increasing creates jobs, can lower energy costs, & improve indoor & outdoor air quality. 	<b>Afforestation</b> Increasing creates jobs in tree planting & care. Urban tree canopies reduce urban heat island effect which conserves energy. 	<b>Technological</b> Growth in nature-based carbon removal approaches like agricultural soil sequestration may help improve small-holder and farmer profits. 
<b>Bioenergy</b> Taxing can free up land for other uses like food production and protect intact ecosystems. 	<b>Carbon Price</b> Can improve air quality, healthcare savings, & worker productivity. Makes renewable energy relatively cheaper. Funds can be earmarked for social programs. 	<b>Population</b> Lower growth can reduce global consumption. Access to family planning, reproductive services, & education enhances quality of life for women. 	<b>Economic Growth</b> Low growth can shift focus from material consumption to alternative measures of wellbeing such as gross national happiness. 		
		<b>Growth</b>			

# FLOWER: The Framework for Long-Term, Whole-System, Equity-based Reflection



# Flower Framework: Petals



# Action Plan Tasks: Group Activity (1hr)

*To be completed in your assigned groups using the Action Planning Doc*

- Identify Climate Action Project Name & Target Audience.
- List CO<sub>2</sub> Reduction Targets and High Impact Solutions.
- Evaluate Action Plan using the Flower Framework.
- Complete the SMART Action Plan.
- Plan how to communicate your action plan using Climate Outreach REAL TALK principles.



# Targets, Solutions and Action Plan: Group Activity (10 mins)

1. In your groups read through a selection of problem cards.
2. Based on the shared interest in your group, discuss and decide upon:
  - A Climate Action Project.
  - The target audience/community/setting for your project.
3. By using the problem cards, identify around 3 CO<sub>2</sub> Reduction Targets for your chosen Climate Action Project.
4. List a set of high impact climate solutions that address a selection of the problem cards.
5. Complete SMART action plan (following slide) based on your discussions.

# Evaluating Your Action Plan: Group Activity (10 mins)

Using the Flower Framework and the shading in method of the petals, discuss how your climate action plan creates co-benefits for:

- your target group;
- your local community;
- marginalized groups;
- privileged groups.

