



## Unit 1: Climate Change

Human-induced climate change is an urgent global issue and is the primary environmental challenge of this century. Increased levels of greenhouse gases such as carbon dioxide and methane are enhancing the greenhouse effect and causing irreversible changes in the climate.

The main sources of greenhouse gas emissions are from transport, energy production, agriculture, industrial processes and deforestation. Irish per capita emissions of greenhouse gases are among the highest in Europe and indeed the world.

### Teaching Point

Climate change is a real issue; we are part of the cause and must now find ways to tackle causes and effects globally, nationally, locally and on an individual level.

### Outcomes

Students will:

- Identify the main causes of climate change.
- Identify the main contributions to the problem in Ireland.
- Understand that climate change has local causes but global consequence.
- Suggest local and individual actions to deal with the issue.

### Eco Eye Clips and Comprehensions

(NB remember to print and prepare these in advance).





### **Climate change and Ireland – an introduction**

This clip introduces the topic of climate change, causes, effects and how Ireland plans to tackle the issue.

### **Global effects of climate change**

Here we look at the effects of climate change in different parts of the world and the countries most severely affected like Bangladesh. It becomes clear that the poorer countries responsible for least emissions will suffer most because of climate change.

### **Local effects of climate change - Protecting Dublin from flood risk**

In this clip we hear about how climate change is effecting Irish weather, we look at the consequences on a local level in Dublin (flooding in East Wall and Ringsend) and hear about measures being taken to protect the City from flooding in the future.

### **Measuring our carbon footprint**

What can we as individuals do to tackle climate change? We can measure our carbon footprint or the amount of CO<sub>2</sub> emissions each of us causes in our daily lives through our travel, energy use and lifestyle. Duncan helps a volunteer to calculate her carbon footprint and find ways to reduce it.

**Watch the clips (choose some or all) and complete the comprehension exercises.**

## **Activities**

### **1. Brainstorming**

Following the viewing of the clips and the completion of the comprehensions the class should identify and clarify their understanding of the problem both in written and graphic form.

Using questions the teacher should ask the class to:

- Outline the main causes of climate change.





- Outline the main global impacts and explore the reality of climate change for people in different areas of the globe.
- Focus the questions on how people in Ireland contribute to the problem and the consequences for this country over the next 50 years. Ask students:
  - What can they do now in relation to cutting back their emissions? (e.g. turning off lights, walking to school)
  - What sustainable choices could they make in years to come:
    - 10 years (e.g. buying electrical vehicles)
    - 20 years (e.g. buying eco houses)
    - 30 years(e.g. transport, lifestyle, holidays)
- The overarching question here is what decisions the students will be making into the future that will have long term emission consequences (this includes work and lifestyle choices).

## 2. Group work

Divide the class into three groups to draw diagrams and create posters or in other ways illustrate the following aspects of climate change (e.g. Powerpoint presentation, short film, newspaper article).

- Section 1: Climate change and its causes.
- Section 2: Awareness of the problem and possible solutions.
- Section 3: Measuring our carbon footprint using the calculator at <http://cmt.epa.ie/Calculator/>. Use what they learn to encourage others to think about the issue.

Provide students with A3 sheets of paper, markers, colouring pencils or other materials as required.



