



CLIMATE CHANGE AND SUSTAINABILITY

Introductory notes for school speakers

This workshop contains up-to-date facts (as of 2013) and the most recent stories from Christian Aid's partners around the world, as well as ideas for interactive activities for older and younger pupils. You can adapt the material and the activities to suit the needs of the school you are visiting, the age and ability of the pupils, the timings and format of the session, and your own preferences. The age group appropriate for each activity is indicated, and suggestions are given for how activities can be adapted and extended.

The issue: climate change

Human-made climate change, caused by greenhouse gas emissions that have warmed the atmosphere, is contributing to changing weather patterns around the world and is impacting first and worst on people living in poverty. This is because people in poverty are more vulnerable to climate-related disasters (such as floods, droughts and hurricanes) and are less likely to have the resources to adapt to changes in the weather. Christian Aid's work on climate change focuses on mitigation (campaigning for governments to cut carbon emissions to limit climate change) and adaptation (helping people around the world to cope with changes to their environment).

Key facts

- Scientists predict that at the current rate of carbon emissions, tens of millions more people will go hungry in the next couple of decades as agricultural yields diminish across the globe.
- A rise of 2°C in global average temperatures, by 2050, is expected to force 250 million people to leave their homes as environmental refugees.
- It is predicted that 1-3 billion people will suffer acute water shortages and, as sea levels rise, nearly one-fifth of Bangladesh will be submerged.
- A lot of work is already being done to try to curb carbon emissions and help people adapt to the changing climate.

Talking about climate change with younger people

Talking about climate change can make some young people feel anxious. As speakers in schools, we should focus on the creative ways in which people are learning to adapt to change and to live more sustainably, as well as on the technological advances that are enabling that progress.

Countries featured in this workshop: USA, UK, China, Bolivia, India, Philippines, Senegal, Bangladesh, Burkina Faso, Jamaica.

PowerPoint presentation

There is an optional PowerPoint presentation to accompany this workshop, but it is not essential to use it – most of the stories and activities can be adapted to leave out the PowerPoint elements.

Film

This workshop makes use of film footage, which can be downloaded in advance. The PowerPoint and films are available to download from the volunteer teachers' Dropbox, or you can ask your local Christian Aid office for help with this. If there are no facilities available for playing films (check with the teacher first), or if you prefer not to use them, you can adapt the activities to leave them out, or in some cases show PowerPoint slides instead.

Session planner

The table overleaf provides an overview of suggested activities and approximate timings. It also lists materials, worksheets and films required for each activity. You can tailor your own session plan from this list, and add or adapt activities to suit your needs.



| Age group | Activity | Approx. timing (mins) | Materials | Worksheet (available to photocopy at end of this pack) | PowerPoint slides | Film |
|-----------|-------------------------------------------|-----------------------|------------------------------------------------------------------------------------------------------------|--------------------------------------------------------|-------------------------|---------------------------------------------------------------------------------------------|
| All ages | Warm up | 10 | X | X | X | X |
| Primary | Pollution explained | 20 | X | X | ✓ (optional) Slides 2-7 | X |
| All ages | Impacts and adaptations | 15-20 | 'Match to adapt!' sorting cards | X | ✓ (optional) Slides 8-9 | <i>Oumar's story. SuperDucks.</i> (For older students: <i>Green Shoots in the Desert.</i>) |
| Primary | Cardboard challenge | 15 | Three rolls of sticky-tape and lots of clean, safe scrap material | X | X | X |
| Primary | Climate change chatterbox | 15 | X | 'Climate change chatterbox' worksheet (one per pupil) | X | X |
| Secondary | The biggest emitters | 15 | Signs with the following written on them: UK, USA, CHINA, INDIA, PHILIPPINES, SENEGAL, BANGLADESH, BOLIVIA | X | X | <i>Climate Change animation</i> |
| Secondary | Reducing emissions and living sustainably | 15 | X | X | X | <i>Jamaican Climate Change Song*</i> |
| All ages | Concluding activity | 10 | Postcards (optional) | X | ✓ (optional) Slide 10 | (optional for older students: <i>Forgive Us reflection</i>) |

*This film is provided courtesy of Panos Caribbean

Aims of the workshop

For younger pupils:

To understand how people around the world are adapting to climate change.

For older students:

To understand that climate change is having the most impact on those with least responsibility for causing the problem (the poorest people in developing nations), and to engage with some of the ways in which people around the world are adapting to the changing environment.



Learning outcomes

By the end of this session, **younger pupils** should be able to:

- understand that climate change is happening and recognise some impacts of environmental change
- reflect on their own capacity for adaptation and creativity in the face of challenge
- engage with some stories of people who are adapting to their changing environment
- think of ways that they can reduce their own environmental impact and encourage others to do the same.

By the end of this session, **older students** should be able to:

- understand climate change as an issue of injustice
- challenge misconceptions about who is most responsible for climate change
- engage with stories of adaptation from around the world
- identify opportunities to live more sustainably, and think about how to share these ideas with others.

Warm-up activity for younger pupils

Ask all pupils to stand up. Explain that one side of the room represents 'Strongly agree', the other side of the room represents 'Strongly disagree', and the middle of the room is 'Not sure/Don't care'. Ask pupils to position themselves in the room

according to whether they agree/disagree with the statements you announce. (You can change these statements to add your own ideas to this warm-up, but the point is that some 'fun' points should be interspersed with some 'serious' points.)

- *Chocolate is the best flavour of ice-cream*
- *Arsenal is the best football team in the world*
- *'The Simpsons' is a great TV programme*
- *Climate change is happening now*
- *Justin Bieber is really cool*
- *I always save electricity by turning off the light if I'm the last person to leave a room*

Warm-up activity for older students

As above, but with slightly different statements:

- *Football is better than cricket*
- *Watching TV is a nice way to relax*
- *I always turn my mobile phone charger off when my phone stops charging*
- *One Direction is the best band ever*
- *Climate change is already happening*
- *Facebook is a great way to keep in touch with friends*
- *I care about people in other countries*

Note: this warm-up activity will engage people and will also help you to gauge their understanding of climate issues and their emotional engagement with environmental concerns. You can go on to ask a few questions about pupils' attitudes to the environment.

Activity: Pollution explained

For younger pupils

Split the class into three groups and ask one group to discuss the causes of pollution, the second group to discuss the effects of pollution, and the third group to discuss what they think is being done to reduce pollution.

Ask the groups to feed back what they have discussed, one group at a time (you could ask them to do this in a creative way – for instance, by acting it out/charades).

Explain:

As the groups have helpfully demonstrated, pollution has caused a lot of problems in our world. But why do we have pollution? Well, over the last 200 years, countries like the UK have industrialised.

- Does anyone know what 'industrialisation' means?

It means getting machines to do the work that humans or animals, such as horses, used to do.

- Can pupils give any examples of industrialisation – of things that people or



horses did in the past that are now done by machines? (Answers might include: transport, farming, food production, clothes-washing, cloth-making.)

Industrialisation means that difficult jobs can be done much more quickly – and on a much bigger scale – than in the past. Because of this, people in industrialised countries have a much higher standard of living now that at any other time in human history.

- Can you explain what 'high standard of living' means? (Answers might include: being comfortable, being healthy, being warm, having money, having time to relax, having a wide range of possessions, having lots of choices.)

(Slide 2) *Just think about the options we have open to us! For example, strawberries only ripen in this country in June and July, but at any time of year we can pop into a supermarket and pick up ripe strawberries. When I tuck into a bowl of strawberries in November, I am actually relying on a number of industrial processes that have brought those strawberries to my table: fertilisers and watering systems to grow the strawberries; manufacturing of plastic for the packaging that stops them getting bruised; refrigeration to keep them fresh; aeroplanes and ships to transport them from the places where they are grown overseas; vans to bring them to my local supermarket; my own car to pick them up. That's an awful lot of energy just for me to enjoy a few strawberries in winter!*

(Slides 3-5) *But there are important benefits to industrialisation too: nowadays, nearly everyone in the UK has clean running water, electricity and heating in their homes; they are able to travel anywhere they want in cars or on buses and trains, and they have a range of things designed to make life easier and more comfortable: dishwashers, washing machines, radiators, supermarkets. Two hundred years ago, most of these things did not exist. Can you imagine how different your lives would be if you had to wash your clothes by hand, heat your home with wood you'd collected, and survive on the vegetables you grew yourself? Life would be much harder and more tiring, and there would certainly be a lot less time to enjoy some of*

the other products of industrialisation: television, MP3 players, games consoles, the internet.

Ask pupils to look at slide 6 and name everything in this kitchen that uses energy. *All these things make life easier – and in many ways better. Industrialisation has brought us comfort and leisure time. It has allowed information and goods and ideas to flow around the world like never before, and brought huge improvements in the standard of living for billions of people.*

But there is a downside to this too. Not everyone has benefited from industrialisation, and as parts of the world have grown richer, other parts have suffered from the demands of people in rich countries. This is the richest time in human history, but it is also the most unequal – nearly half the people on the planet live in poverty. And industrialisation has also caused the major problem of pollution.

(Slide 7) *Pollution has changed our planet, because the gases that are burnt when we use energy warm up the atmosphere and affect weather patterns everywhere. This is causing climate change and it is very unfair, because the people who are affected the most by changing weather patterns have benefited the least from industrialisation: people in poorer countries. In a moment we will be finding out some more about the impacts that climate change is having on their lives, and how they are adapting to the changing weather.*

But first, let's see if we can we imagine the next big step in human history. Can we imagine a world in which the flow of information and people and goods and ideas happens without so much pollution? A world where people can enjoy the things that make life easier and free up their time without it costing the earth? A world where everyone is able to live their life to the fullest potential, wherever they are?

Many people are already making moves towards that world. People everywhere are coming up with ways to adapt to the changing weather. And they are using the best human skills and ideas to reduce pollution and live more sustainably. Now that is the kind of world that I want to live in.



Activity: Impacts and adaptations – stories from around the world

(For all ages)

Show the following films:

- *Oumar's Story: climate change and water in Senegal*
- *SuperDucks: climate change and water in Bangladesh*

Questions:

- How is climate change affecting life in different ways in Senegal and Bangladesh?
- What is being done in those countries to adapt to that change?

(Slides 8-9)

Climate change doesn't just mean that everywhere is warmer – in some places, like Bangladesh, the weather is becoming wetter; in other places, like Senegal, it is hotter and drier. In some places storms are becoming more powerful, and in lots of other places the weather is becoming more unpredictable.

- Why might changes in the weather particularly affect people who are poor?

People who are poor are much more likely to depend on their local environment for food and for their jobs. They are also much more likely to live in houses that are not very strong, which means that they are more at risk if flooding happens, or if a bad storm hits.

But as we have seen, there is a lot that can be done to adapt to the changing climate. And Christian Aid is working hard to help this happen across the world.

Split the class into five groups of six and hand each group a set of the 'Match to adapt!' sorting cards (Before the session, you should print/photocopy five copies of the 'Match to adapt!' worksheet and cut out the cards so that you will have one full set of cards per group.)

You could first ask pupils to point out the countries (UK, Senegal, Bolivia, Bangladesh, Philippines) on a map, and then ask them to identify which problems (shown on grey cards) match which country, and which solutions (shown on white cards) match the problems.

If you think that younger groups might struggle with this activity, you could just hand out matching cards for two or three countries.

Explain:

Christian Aid partners all over the world are working with the poorest communities to find creative solutions to problems related to the changing weather.

You could show older students the film *Green Shoots in the Desert*, which details ways in which farmers in Burkina Faso are being helped to adapt their farming techniques. This film should be stopped at 05.08mins, as it was produced for a fundraising partnership scheme, so the final section will not be appropriate for schools.

Activity: Cardboard challenge

(For younger pupils)

With pupils organised in six groups of five, present them with a range of cardboard and other (safe, clean) scrap material. Hand rolls of sticky-tape to just three groups, and tell them that they need to share it with the groups that don't have any sticky-tape.

Set groups the challenge of building the highest and most stable tower that they can in 10 minutes.

After 10 minutes is up, ask them to present their towers and discuss any problems that they

experienced while building them. You could award prizes to the groups that made: the tallest tower; the strongest tower; the most creative tower. You could also award a prize to the group that worked best as a team.

Questions:

- Were the groups with the sticky-tape good about sharing it?
- If not, how did this make the other groups feel?

Explain:

This activity shows how brilliantly adaptable you all are. You were given a challenge, and you used



everything available to rise to that challenge. That included using the scrap material you had, but it also included using your own skills, determination and imagination. And that is exactly how people are dealing with climate change – using everything at their disposal to think of creative solutions to problems.

Think of all the things that are already being done to reduce waste and pollution and to help us live more sustainably (which means using resources in a way that makes them last for longer). For example, 20 years ago there were very few systems set up for recycling – now, these systems are everywhere and a large proportion of waste is recycled.

The people who worked well as teams tended to make the best towers, which reminds us how important teamwork is when it comes to overcoming problems.

If teams were good about sharing sticky-tape, congratulate them: *You are already better at sharing than lots of people in the world, you have a great attitude for fighting poverty and overcoming challenges such as climate change.*

If they were not so good at sharing, point out the problems this caused: *Not sharing your sticky-tape may have allowed you to build a good tower, but it prevented other people from making the best of their towers, and this has made them feel cross with you. You need to think about how to make it up to them, and about how much happier we would all feel if we were better at sharing and could all have decent towers.*

You can draw out the parallels between this point and the unequal distribution of wealth and power in the world.

Activity: Climate change chatterbox **(For younger pupils)**

Ask pupils to work together in their groups to come up with all the ideas they can about how to save energy and reduce pollution.

The 'Climate change chatterbox' worksheet contains a great origami game (known as a chatterbox/fortune-teller/cootie catcher) that's an ideal way of learning about reducing carbon emissions. It will help younger people to reflect on the subject and share information about climate change with others.

Note: this activity is included in the Christian Aid *Disaster Strikes!* pack, which is available to schools, so do check with the teacher beforehand that pupils have not already done this activity.

Instructions on how to construct a chatterbox are included below, but many children will already be familiar with how to do this.

How to make a 'chatterbox':

- Cut around the outside line of the chatterbox template on the worksheet.
- Write a carbon-cutting action in the shaded area, and in the striped area suggest what effect this action might have.
- With the printed side up, fold the square in half horizontally and then vertically, and then open it out.
- Turn the square over.
- Fold each corner over so they meet neatly in the middle. They should not overlap.
- Leave the square folded, and flip the square over.
- Now fold the corners neatly into the centre – make sure they do not overlap.
- With a pair of scissors, carefully cut down the middle of each flap.
- Now the fiddly bit! Fold the whole square in half and poke thumbs and forefingers under the flaps.
- When fingers are brought together, the chatterbox should form a peak and you will be ready to play!



Activity: The biggest emitters

(For older students)

Ask eight students to step forward and hand out signs (A4 sheets of paper) with one of the following countries written on each sheet:

| | |
|-------------|---------|
| UK | USA |
| INDIA | CHINA |
| PHILIPPINES | SENEGAL |
| BANGLADESH | BOLIVIA |

Ask students to arrange themselves according to which countries they think are the biggest carbon emitters per person (note: it is important that you say 'per person' – and if the students are unsure, explain that 'to emit' means 'to produce'). They could arrange themselves across the room from 'most' to 'least'.

Go through the list below and tell them whether they got it right:

Average carbon emissions per person, per year:

USA – 20 tonnes

UK – 10 tonnes

China – 5 tonnes

Bolivia – 1.5 tonnes

India – 1 tonne

Philippines – 1 tonne

Senegal – 0.5 tonnes

Bangladesh – 0.3 tonnes

Ethiopia – 0.07 tonnes

Note: figures above a unit of 1 have been rounded to the nearest number.*

Questions:

Are there any surprises here?

Explain

You may be surprised that people in China and India emit such relatively small amounts compared to people in the UK and USA. Often, climate change seems to be blamed on emerging economies such as China and India, but as these figures show, this is not reflected in reality. You could point out that the populations of those countries is larger, so the figures for overall emissions by country might look different. But when we look at the average emissions per person, we can see that people in the UK and USA are generally more polluting than people in China and India – and very much more polluting than most people in developing countries such as Bangladesh and Senegal.

Now ask students to arrange themselves according to which countries they think are worst affected by climate change – the places where people are really suffering from changes in the weather. Again, they should arrange themselves from most to least.

Note: this is not an exact science but, broadly-speaking, the position of the students will reverse, illustrating the point that it is the people who are least responsible for climate change that are worst affected by it.

You could play the *Climate change* animation, which also explains this point.

*Data from <http://www.guardian.co.uk/environment/datablog/2009/sep/02/carbon-emissions-per-person-capita>



Activity: Reducing emissions and living sustainably

(For older students)

Explain:

All over the world, people are finding ways to adapt to the changing environment and to reduce carbon emissions.

Split students into groups and ask them to come up with five ways to cut carbon emissions, and one idea for how to share the message about reducing pollution with other people.

Explain:

Christian Aid partner organisations work on climate change both by helping people in the poorest communities to adapt to changing weather, and also by putting pressure on governments to reduce carbon emissions. This type of pressure is called campaigning, and it's a very effective way of making big changes happen.

For example, in 2012, after a very long and hard-fought campaign by Christian Aid supporters, the British government agreed to make it the law that companies must report on their carbon emissions. This is a great example of how campaigning works: a lot of Christian Aid supporters wrote letters and visited their MPs to ask for this change, and eventually the government was persuaded to make that change into a law.

And campaigning doesn't just happen in this country. All over the world, people are asking their governments to make important changes to reduce carbon emissions and limit climate change.

You could show the *Jamaican Climate Change Song* film, which was produced by Panos Caribbean, a Christian Aid partner in Jamaica, to raise awareness of climate change.

Concluding activity

(For all ages)

Show the image of planet Earth on slide 10.

Explain:

This was one of the first images of our planet from space. It revealed to the world just how beautiful – and how fragile – our lovely home is. Let's take a moment to look at this image and think about what we can all do to look after planet Earth.

You could invite pupils to write their thoughts, reflections or pledges on postcards, which you could post back to them at a later date to remind

them. If you do this, make sure that you get the pupils to write their name on the right-hand side of the card. (When you send them back to the school, include all the cards in one large envelope.)

(The *Forgive Us* film has been provided in the volunteer teachers' Dropbox account at the request of volunteer teachers, but this should be used with caution. The content is overtly Christian and some of the images of environmental devastation are quite upsetting. If it is used, it should be used as a reflective piece for discussion with older students, before looking at the many ways in which Christian Aid is helping people to adapt to climate change.)

**Other resources you could use to explore issues of poverty with younger pupils:****Global Explorers**

This interactive whiteboard resource is a great tool for volunteer teachers. Most schools will have an interactive whiteboard, so check with the teacher prior to a visit. The country with stories relating to climate change is: India

'Disaster Strikes' resource

The 'Disaster Strikes' resource includes information about how climate change is increasing the frequency and intensity of disasters in many areas. It includes a poster and the excellent 'Typhoon town challenge' simulation game, which would be suitable to use for off-timetable days.

Assemblies

The following assemblies explore climate change for primary-age pupils:

- Beautiful Butterflies
- World in our Hands

Please note: All these resources can be downloaded from christianaid.org.uk/learn

Other resources you could use to explore issues of climate change with older students:

- Sixth form workshop on climate change

- 'Emergency exit!' simulation game

This simulation game allows students to think about what is really important to them and to consider what they would do if they had to flee an environmental disaster such as a flood.

Assemblies

The following assembly explores climate change and sustainability for secondary school audiences:

- Wonderful World

Please note: All these resources can be downloaded from christianaid.org.uk/learn



Match to adapt!

WORKSHEET

| | | |
|------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>Bangladesh</p> | <p>This country is prone to floods. It has lots of big rivers and the land is very flat, with few hills. It rains a lot here. Rising sea levels are contaminating the water supplies, making the water salty. Traditional varieties of crops struggle to survive in these conditions.</p> | <p>Christian Aid's partners are helping farmers to create 'floating gardens', which are gardens with plants that can cope with very wet weather and flooding. They have also given farmers a new type of rice that can grow well in saltwater conditions.</p> |
| <p>Philippines</p> | <p>This country is made up of 7,000 islands in the Pacific Ocean. People here are facing increasingly wet and stormy weather – around 20 typhoons* batter this country every year, and scientists believe they are becoming stronger.</p> <p><small>*Typhoon is the name given to a hurricane that happens in the north-west Pacific Ocean.</small></p> | <p>People in the poorest communities are most at risk from storms, so Christian Aid partners are training them in how to escape when a typhoon hits. People are being taught how to spot the signs that a flood or storm is likely, and are being given radios and loudspeakers so that they can warn other people of the potential danger and evacuate.</p> |
| <p>Senegal</p> | <p>The north of this country used to be covered in forest, but hotter, drier weather and deforestation (people cutting down trees) has resulted in more desert, making it harder for people to find food for their cattle.</p> | <p>Christian Aid partners are helping people to find new ways to farm that are more suited to the new conditions in this area. Many are giving up their cattle, which were not thriving in the dry desert conditions, and are growing fruit trees instead. The fruit can be eaten or sold, and planting trees is helping to bring vegetation back to the area.</p> |
| <p>Bolivia</p> | <p>This country has lots of mountains and glaciers (big areas of ice), which provide many people who live here with drinking water. But these glaciers are melting, which means that people's water supplies are disappearing.</p> | <p>Christian Aid partners have helped people who live in the mountains to build a small reservoir that can hold water from mountain streams, so that they have more water to use for washing, drinking and to water their crops.</p> |
| <p>United Kingdom</p> | <p>Several years of very low rainfall resulted in a drought in the south east of this country, which was shortly followed by some of the wettest weather on record, in 2012. This meant that farmers had a difficult time growing crops, first with too little rain – and then too much. People's houses were damaged by floods.</p> | <p>To conserve water, the government of this country ordered a hosepipe ban during the drought. Working with weather forecasters, it issued warnings to let people know when to expect flooding. Emergency services stepped in to rescue people whose homes became cut off by the floods.</p> |



Climate change chatterbox WORKSHEET

| | | | |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------|
| <p>Flood</p> | <p>Turn off lights</p> <p>7</p> <p>Turning off the lights around the home, when you leave a room, could save your family around £8 a year.</p> | <p>Buy local produce</p> <p>2</p> <p>In the UK, our food travels an amazing 3 billion kilometres each year.</p> | <p>Drought</p> |
| <p>Recycle more</p> <p>6</p> <p>Recycling in the UK saves an estimated 18 million tonnes of CO² a year – equivalent to taking 5 million cars off the road.</p> | <p>Compost your waste</p> <p>1</p> <p>Up to 30% of household waste is organic and could be composted.</p> | <p>Turn your heating down</p> <p>3</p> <p>80% of home energy is used for heating. Turning heating down by just a couple of degrees saves energy and money.</p> | <p>Hurricane</p> |
| <p>Typhoon</p> | <p>Try to walk to school</p> <p>5</p> <p>During term-time, it is estimated that one in five cars on the road in the morning are taking children to school.</p> | <p>Turn off electric appliances</p> <p>4</p> <p>Many appliances use nearly as much energy in standby mode as when they are turned on! People in the UK waste £740 million a year by leaving appliances on standby.</p> | |

The facts used in the Chatterbox were sourced from the following websites:

1. recyclenow.com
2. climatechoices.org.uk
3. direct.gov.uk/en/Environmentandgreenerliving/Energyandwatersaving/Energyandwaterefficiencyinyourhome/DG_064374
4. guardian.co.uk/environment/ethicalivingblog/2007/nov/02/pulltheplugonstandby
5. walkit.com
6. recyclenow.com
7. energysavingtrust.org.uk/Take-action/Money-saving-tips/Energy-saving-tips/Energy-saving-kids