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# Sustainable development





# Sustainable development

We, the people of the Earth, are living beyond our means and our different ways of life are placing a huge burden on the planet. Earth's resources, including water, land, air, minerals, are fast being used up or polluted – and this is beginning to affect not only human beings but plants and other animals. Many species are being lost, rainforests are shrinking, oceans are being over-fished. The rich countries of the world are using more than their share of natural resources causing pollution and climate change, while in poorer countries over a billion people are living on less than a dollar a day.

This cannot go on. More and more people, and some governments, have accepted that we must take sustainable development seriously – in other words, we must make sure that **developments meet the present needs of the inhabitants of the Earth *without* making it more difficult for future generations to meet their needs.**

Young people are already very aware of the problems of ensuring that everyone takes their environmental responsibilities seriously, since the issues are frequently in the news and often discussed in primary and secondary schools. However, as part of citizenship education, they should consider how individuals and groups can influence the policies and strategies needed to make sustainable development a reality.

This supplement provides some suggestions for activities that will clarify the causes and effects of some of the worst problems, as well as suggestions for action that young people can take within and outside of their own learning organisations to influence policy. Everyone has a responsibility to make 'greener' decisions for him/herself, but, as citizens, we should also use democratic processes to encourage those who have power to develop more effective strategies.

The materials are aimed at levels 2/3. The activities would build on Unit 12 of the QCA suggested schemes of work for key stage 4 citizenship (Global issues, local action) especially Section 2 (How is our community more sustainable?). At level 3, learners could investigate the ways in which planning decisions are made at local and national levels and the opportunities for public participation.

# Sustainable development – the Big Issues

## Climate change

Although there have often been changes to the earth's climates in the past, the changes we've seen over recent years and those which are predicted over the next 80 years are thought to be mainly as a result of human behaviour rather than due to natural changes in the atmosphere. Fossil fuels (oil, coal and gas) produce carbon dioxide when they burn. This, together with extra nitrous oxide and methane (from decaying waste), changes the composition of the atmosphere, producing the greenhouse effect. These gases keep the earth warm and prevent heat escaping. It is the extra greenhouse gases which humans have released which are thought to pose the strongest threat. The impact of climate change will affect sea levels, floods, drought, agriculture and animals.

[www.bbc.co.uk/climate/evidence/greenhouse\\_effect\\_img.shtml](http://www.bbc.co.uk/climate/evidence/greenhouse_effect_img.shtml)



## Biodiversity

The earth is home to many thousands of species of animals and plants. They are all part of life and interconnected. There has always been extinction of some species, and humans had not evolved when some of these extinctions occurred. However, extinction has greatly increased and scientists believe we are seeing mass extinctions. Humans have more than doubled their numbers in 50 years and are taking up more space, using land to grow food, exploiting other species, trading in them and squeezing them to the edge of existence. But we depend on many of the species for our own existence: purifying water, recycling nutrients in the soil, pollinating crops, producing oxygen, absorbing carbon dioxide. There are now said to be 12,000 species at risk: one bird in eight, 13% of the world's flowering plants, a quarter of all mammals.

[www.wwf.org.uk/researcher/issues/rarespecies/index.asp](http://www.wwf.org.uk/researcher/issues/rarespecies/index.asp)



## Waste disposal

Every year, 111 million tonnes of waste are disposed of in landfill sites in the UK. There are 4,000 landfill sites in the country, and we are running out of places to dig more. It has been estimated that 1.5 million tonnes of methane gas (a greenhouse gas) were released into the atmosphere from these sites last year, and decomposing waste can leach through the soil and pollute underground water supplies. Incineration is the second largest method of waste disposal, and this gives off carbon dioxide and other air pollutants, but some modern incinerators are used to generate electricity. A less common form of waste disposal is 'anaerobic digestion'. The waste decomposes in an enclosed chamber and is broken down by bacteria, producing fertilisers and compost. Some local councils are now using this process to break down organic waste collected from households. Recycling is a major attempt to reduce the use of landfill and incineration.

[www.wastedisposal.com](http://www.wastedisposal.com)



## Food production and consumption

Much of the food we eat and drink has travelled many thousands of miles to reach our plates. Sometimes we buy food, perhaps milk or eggs, which were produced nearby, but have travelled many miles to be bottled or packaged, and then transported back to the shop where we buy them. Other foods consist of ingredients that have come from the other side of the world where the producers are paid a pittance for their products. Eating foods that are out of season – for example, strawberries in winter – means that they are flown to us from hotter countries where they are grown simply because we are willing to buy them. Food transport makes up 30% of all haulage. Also, the production of some foods causes huge environmental damage – trawling the seabed for fish, cutting down forests to grow sugar, using large amounts of water in the irrigation of fruit. Other food production methods increase the dangers of disease in animals and humans – factory farming of poultry, toxins in salmon, or genetic modification of cereals.

[www.bbc.co.uk/food/food\\_matters/foodmiles.shtml](http://www.bbc.co.uk/food/food_matters/foodmiles.shtml)



**These four are just some of the Big Issues in sustainable development. There are others of course – product packaging, alternative energy sources, mass tourism, road-building, loss of rainforests, marine pollution – to name a few.**

- Work in groups of four or five and choose one of the four issues summarised. Or, if you have a particular interest in a different issue, you can choose that instead.
- Research your issue to find out the background, the arguments and the possible solutions. A useful website has been suggested for each issue just to get you started.
- Write a short PowerPoint presentation on the main points and make your presentation to the whole group.
- After all the presentations have been made, get into ‘rainbow groups’ – i.e. a mix of people who investigated different issues.
- Choose one of the topics and discuss what action needs to be taken, whether by government, local councils, manufacturers, airlines, schools/colleges... whoever.
- Draw up an action list and then decide what **you** could do to influence the people who need to take the action. Think about:
  - writing letters
  - putting on an exhibition and inviting visitors to discuss it
  - emailing people with influence
  - writing newspaper or website articles
  - running a conference and getting press coverage
  - visiting decision-makers in their offices to discuss your ideas.

# Green decisions

Many of the everyday decisions we make can affect the environment and make sustainable development more or less likely – for example, the kind of house we buy, the kind of car we drive, how we make journeys, what food, clothes and other products that we buy. The arguments surrounding two of these issues – **green-field house-building** and **motorway-widening** – are listed on these two pages.

Work in pairs and decide, for each issue, which of the arguments you agree with and which you disagree with. Can you think of other arguments? Find out who makes the decisions on these issues and let them know what you think. You could hold a debate in your whole group on one of the issues.

## Green-field house-building

Many more houses are needed in this country because people tend to live in smaller units and they want, and can often afford, modern accommodation. Areas around large cities have, in the past, been designated ‘green-field sites’, which means that they should be left for farming and recreation, and not built on. The ‘green belt’ around London, for example, has been called ‘the lungs of London’. However, with increased pressure for housing, particularly in the south east of England, governments have loosened the law, and allowed building to go ahead. Here are the different arguments on this issue.



**People like to live in new houses because they are clean, modern and convenient.**

**People like to live in the country and not in the centres of noisy towns.**

**Many solid well-built old houses have been left empty and could be renovated and used.**

**More houses mean more roads and therefore more traffic and pollution.**

**Building houses usually means loss of open countryside, which people and animals need.**

**Some people own more than one house. If they were not allowed to, there would be more houses to go around.**

**If houses are not built where they are needed, the prices rise on houses already there, and people cannot afford to buy.**

**Houses are needed near to areas where there is work. If there are not enough houses in these areas, more must be built.**

**Housing development generates jobs and wealth.**

**If land is used for house-building, it cannot be used in food production and farming.**

Other (specify):

## Motorway building and widening

60 million people live in the UK and need to travel around for work and leisure. The economy depends on the transport of goods and people, and an extensive motorway system is now in place linking all the major towns and cities, and opening up beauty spots such as the Lake District, Devon and Cornwall, and the highlands of Scotland. As more and more people buy cars, or are provided with a car by their employer, the roads get busier and busier and are often jammed, especially at peak times such as bank holidays. One possible solution is to build more motorways and widen the existing ones to take more traffic. Here are the different arguments on this issue.



**Building more motorways and widening existing ones simply increases the number of people using cars and makes the problem worse.**

**People should be priced off the roads. Instead of building new motorways, there should be a toll for using existing ones, as in France.**

**You can't stop people using their cars. It is a free country. They pay road tax and should expect good safe motorways to make their journeys quicker.**

**If motorways are blocked, people will choose to use trains, which are less damaging to the environment, so we don't need quicker motorways.**

**Motorways keep traffic away from the centres of towns and areas where people live, so they are good for people's health.**

**Motorways enable more people to be able to travel to the beautiful parts of the country and to enjoy them.**

**Motorway travel is safer than other roads, so we should encourage people to use them.**

**Motorways take up valuable farm land and divide communities. There are already too many.**

**Motorways destroy natural habitats of plants and animals. Some important heathland and forests have been lost through motorway-building.**

**Motorways encourage fast driving, which uses up more fuel. This increases pollution and depletes stocks of oil.**

Other (specify):

# Closer to home

What about your own learning organisation – your school or college, training organisation, employer or youth group? How does it support, or not support, sustainable development?

Go through the following checklist and find out what happens here. If you think there are things that could be improved, run a campaign to get things changed.

For your campaign, you'll need to think about the following actions:

1. Do some investigation. Who is responsible for environmental issues in your organisation? Interview them.
2. What do other learners and staff think about the current practices of the organisation, and what do they suggest could be improved? You'll need to carry out some research – perhaps a survey.
3. Run a meeting, an exhibition or a conference on sustainable development and the organisation (see *Getting the show on the road: Skills for planning and running citizenship events*, LSN 2006 [www.post16citizenship.org/materials](http://www.post16citizenship.org/materials)).
4. Raise the matter with the learner council in your organisation.
5. Discuss the motion with senior managers and facilities staff.
6. Write a report making recommendations and present it to relevant people.

## How green is my organisation?

Issue	What we do, and how	Good ✓ or Bad X or OK ○
<b>Recycling</b>		
Cans		
Bottles		
Paper		
Food		
Other (specify)		
<b>Saving energy</b>		
Lights		
Heating		
Cooking		
Computers		
Other (specify)		

Issue	What we do, and how	Good ✓ or Bad ✗ or OK ○
<b>Transport</b>		
Facilities for cyclists		
Car parking provision		
Use of public transport		
Other (specify)		
<b>Waste reduction and management</b>		
Equipment		
Books		
Stationery		
Materials		
Other (specify)		
<b>Use of water</b>		
Collection and use of 'grey' water		
Taps in cloakrooms		
Leakage		
Cisterns		
Other (specify)		
<b>Suppliers</b>		
Fairtrade products		
Renewable materials (e.g. wood)		
Use of local services		
Other (specify)		
<b>Sustainable communities</b>		
Involvement of staff		
Involvement of learners		
Links with the local community		
Other (specify)		

# If I ruled the world...

In this activity, you can make all the decisions that you think the governments of the wealthy countries of the world should make so that the earth can have a sustainable future. You really can rule the world!

- Work in five groups of four or five. Each group is the government of a developed country (A, B, C, D and E), and has to make two decisions from a list of possibles supplied. Some of the decisions on the list might be impractical; you have to decide.
- You can devise your own decisions if you don't like the ones listed.
- Take the two agreed decisions to an inter-governmental conference where they will be discussed and voted on as binding on all governments as part of a new treaty.
- Discuss how and why you all decided on the new treaty. What were the main areas of disagreement?



## **Possible decisions**

- Make compulsory all recycling of paper, glass, plastic, card, foodstuffs, textiles, cans, aluminium.
- Increase taxation by 100% on all cars with an engine capacity greater than 2,000cc (2 litres).
- Reduce rail fares by subsidising them from taxation.
- Cancel all debt from poorer countries and insist on fairtrade standards for imported goods.
- Invest in sun, wind and wave power as a means of boosting energy supplies and reducing the use of coal- and gas-fired power stations.
- Increase airport charges for planes landing and taking off, and put a tax on aviation fuel.
- Provide tax incentives for supermarkets to stock local produce.
- Protect fish stocks by banning the sale of endangered fish.
- Increase the number of protected countryside sites in order to support wildlife.
- Freeze all plans to build on green-field sites.



# Resources

## Education for Sustainable Development: A manual for Schools

Produced by the Royal Town Planning Institute, the guide provides information for teachers of 11–19 year olds about the importance of town planning for sustainable development. Since virtually all development is subject to the planning process, and will have an impact on the environment, achieving sustainable development should be at the heart of planning decisions. The manual provides case studies and examples of ways in which local people can participate in decision-making.

[www.rtpi.org.uk/resources/consultations/envired/manual.pdf](http://www.rtpi.org.uk/resources/consultations/envired/manual.pdf)

## Sustainable human development: A young people's introduction

What is sustainable human development? This book draws the answer to this question from the most respected source of all – the United Nations annual Human Development Reports. An international team of young people have selected key information from these reports and presented it in their own words, together with personal stories about human development problems and progress in local communities around the world. Graphs, photos, paintings, charts and even poems all help to illustrate the material in a lively way that will appeal to geography and citizenship students.

Development Education Project, [www.dep.org.uk](http://www.dep.org.uk)  
PCI 14, £7.99

## Sustainable development

This DVD offers a stark account of the dangers threatening the planet and looks at what we can do to avoid disaster. Some people are taking action to make life sustainable – planting trees, controlling traffic and promoting renewable forms of energy. But will this be enough? Is it too late?

Produced 2006, duration 30 minutes. Available from TV Choice [www.tvchoice.uk.com](http://www.tvchoice.uk.com), priced £47.00 for schools (£125.00 without school discount). Support booklet available (£26.00).

## Sustain

Sustain, the alliance for better food and farming, is an organisation that campaigns to raise awareness of some of the problems created by unsustainable food production and consumption. It produces publications to encourage healthy eating, local purchasing and fairer trade.

[www.sustainweb.org](http://www.sustainweb.org)

## Encyclopedia of Sustainable Development

A website that has been written by the Atmosphere, Climate & Environment Information Programme, and is supported by the Department for Environment, Food & Rural Affairs. The Encyclopedia is a one-stop source of information on sustainable development for learners at GCSE level or higher.

[www.ace.mmu.ac.uk/esd](http://www.ace.mmu.ac.uk/esd)