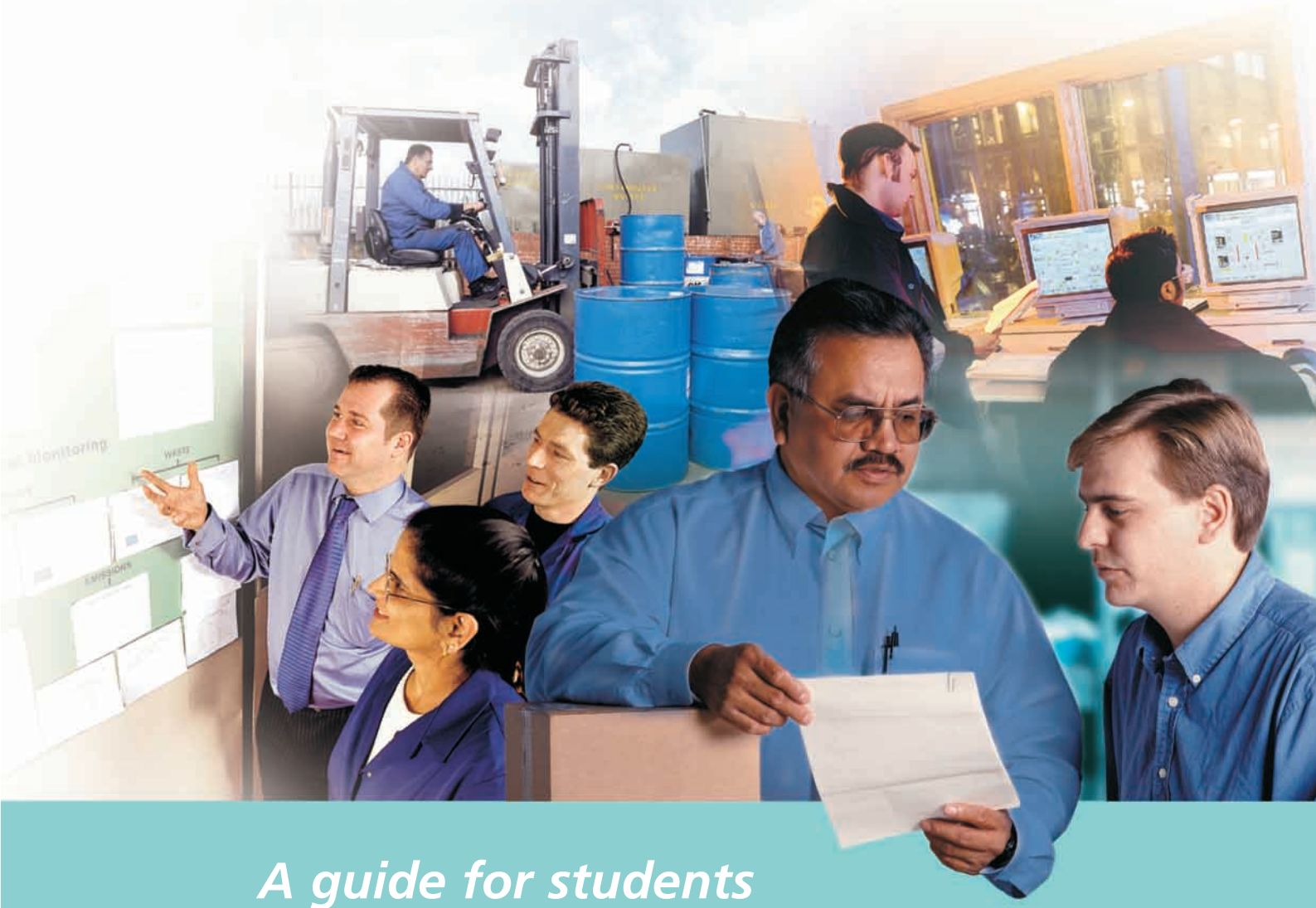
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Environmental education for trade unionists



A guide for students

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Environmental education for trade unionists: a guide for students

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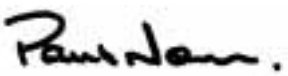
Nigel Morter, Principal Lecturer and Director of the Centre of Environmental Protection and London Metropolitan University

Dr Charlie Clutterbuck, EP@W Publishing Company Ltd

Foreword

Welcome to the Environmental Education for Trade Unionists course. We hope that you find the course both enjoyable and informative, and that what you learn here you will apply to your work, union, home and community.

This course is the culmination of several years of development and we hope that it represents the main areas of sustainable development and environmental concern. The Trade Union Sustainable Development Advisory Committee is committed to providing a forum for the voice of workers and their representatives to be heard on these challenging issues, which confront us in all elements of our lives today. We sincerely hope that, at the end of this course, you will be encouraged and enlivened to join us, through your unions, to promote a sustainable and just future for all.



Paul Noon, General Secretary, Prospect
Co-chair TUSDAC



Larry Whitty, Minister for Farming, Food and Sustainable Energy
Co-chair TUSDAC

About TUSDAC

The Trade Union Sustainable Development Advisory Committee, TUSDAC, was set up in 1998 as the main forum for consultation between the Government and trade unions on sustainable development and environmental issues. The membership is composed of the General Secretaries of the major TUC-affiliated unions in the UK.

TUSDAC meets three times a year (March, July and November). Meetings focus on its input to Government policy and the development of practical measures that unions can adopt to address sustainable development issues. Working groups then look more closely at the areas discussed.

TUSDAC is particularly concerned with the potential employment implications of the UK's moves towards a more sustainable and resource efficient economy. TUSDAC believes that a major objective of sustainable development must be to reshape the economy to ensure continued economic growth and wealth creation, while improving and safeguarding the environment, both now and for the future. In particular, TUSDAC is interested in the economic effects of significant reductions in greenhouse gas emissions in line with the UK's climate change objectives.

For more information about TUSDAC and its recent work, visit www.defra.gov.uk/environment/tusdac/ and the TUC's Sustainable Workplace website (www.sustainableworkplace.co.uk). For more information about the Trades Union Congress (TUC), visit www.tuc.org.uk

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Introduction

This three-day course was developed by Nigel Morter of London Metropolitan University with support from Envirowise, the Carbon Trust and TUSDAC. It is applicable to members of all trade unions and contains four modules and a review. Each module consists of short presentations on different topics by the course tutor (the trainer) and group work on these topics by the students (trainees), followed by report-back/ discussion sessions involving all participants.

The purpose of this course is to provide you with a foundation in environmental issues, their impact on the workplace and the implications for trade unions and their members. The course further aims to provide you, as a trade unionist, with the confidence and tools to enable you to play an active and informed part in promoting environmentalism in your workplace, union and beyond.

The tutor is also here to answer more immediate questions you may have regarding this subject. To this end, please do not feel constrained by the programme as most areas of concern can be incorporated into the course (time allowing).

Above all, the course aims, through active learning, to be informative and enjoyable and we hope that this is your experience of it.

This student pack consists of a series of handouts and sheets giving details of group work activities. The appendices include a glossary of common environmental and waste terms, a list of common acronyms, a bibliography, information about the free help available from Envirowise and the Carbon Trust, and a list of useful websites.

There is no need for you to take lots of notes during the presentations, as all the slides are derived from material in this student pack.

During the course review, your tutor will probably hand out copies of the individual evaluation sheet shown in Appendix 1 (or a similar one) and ask you to complete it. Please hand it to the course tutor before you leave.

Free practical advice from Envirowise and the Carbon Trust

Visit **www.envirowise.gov.uk** to find out how reducing waste saves money - and improves environmental performance.

Visit **www.thecarbontrust.co.uk/energy** to find out how saving energy saves money - and helps combat climate change by cutting carbon emissions.

If you do not have Internet access at work, call the Environment and Energy Helpline free on 0800 585794.

Envirowise, the Carbon Trust and TUSDAC accept no responsibility for the availability or content of the websites belonging to other organisations cited or suggested in this guide.

Please note that the legislation mentioned within this publication was checked for accuracy in February 2005 before going to press. However, legislation is constantly changing and being updated. For information on current environmental legislation, please contact the Environment and Energy Helpline free on 0800 585794 or visit the Department for Environment, Food and Rural Affairs (Defra) website (www.defra.gov.uk).

Programme

Welcome, introductions, course aims and objectives **Day 1**

Module 1: What is environmental concern?

- Group Work 1: *Introductory activities*
- Report back and discussion

The environment - an overview (if video available)

- Video: historical context

Evolution of environmentalism

- Tutor-led discussion
- Group Work 2: *Environmental evolution*
- Report back and discussion

Module 2: Why is the environment a trade union issue?

The trade union role in environmentalism

- Group Work 3: *Trade unionists talk rubbish (and other environmental issues)*
- Report back and discussion

Environmentalism: a trade union dilemma?

- Group Work 4: *Jobs and the environment - a pressing issue*

Module 3: Systems and legislation **Day 2**

- Group Work 5: *Environmental risk assessment*
- Report back and discussion

Environmental protection at work

- Tutor-led overview of policy/legal philosophy/principles/perspectives
- Group Work 6: *Environmental protection - the British context*

Voluntary environmental management systems

- Tutor-led discussion, history and philosophy
- Group Work 7: *Dealing with environmental management systems*

International protection

- Group Work 8: *Making development sustainable*
- Report back and discussion on international treaties, Earth Summit (Rio 1992) and sustainable development, Local Agenda 21, etc

Module 4: Strategies for change **Day 3**

Trade unions and environmentalism

- Tutor-led overview and discussion (with guest speaker(s) - if available)
  - Within the workplace
  - Within communities - local and beyond
  - Trade unions as campaigning organisations
  - Trade unions as employers

Developing a strategy for trade union environmental action

- Group Work 9: *Developing a strategy for trade union environmental action*
- Presentations
- Questions and discussion

Course review

Module 1

What is environmental concern?

Group Work 1: Introductory activities

Aims:

These activities will help us to:

- define 'the environment';
- see how work impacts on the environment.

Task 1:

In your groups, look at the definitions given below and other course materials in the student pack. Then discuss:

- what the environment means to you, at home and in the workplace;
- your definition of the environment.

Task 2:

Draw an 'In/On/Out' diagram of your workplace showing:

- what goes in (inputs);
- what happens in the workplace (processes);
- what comes out (outputs).

You should consider environmental issues relating to air, water, land … and people.

Put your drawing onto a flip chart and elect one member of the group to report back to the course.

Resources:

Definition given in the Environmental Protection Act 1990:

> *The environment consists of all, or any of the following media, namely, the air, water and land; and the medium of air includes the air within buildings and the air within other natural or man-made structures above or below ground.*

ISO 14001: 1996 defines the environment as:

> *... the surroundings in which an organisation operates, including air, water, land, natural resources, flora, fauna, humans and their interrelation. Surroundings in this context extend from within the organisation to the global system.*

Albert Einstein is supposed to have said:

> *The environment is everything that surrounds us, including ourselves.*

Handout 1: Evolution of environmentalism

Environmental problems in society are not necessarily recent. In 1273, Britain passed what was probably the world's first piece of environmental legislation - a decree prohibiting the burning of sea coal. However, the 19th century saw the emergence of more protracted and subtle killers; for the miners it was silicosis and, for matchgirls, it was 'phossy jaw'.

There were many more production processes with such dangers, eg the widespread use of arsenic in confectionery and printing, mercury in the production of barometers and mirror backing, lead in glass manufacture and the obligation on bleachmakers to work in clouds of chlorine. These pollutants were not, of course, limited to just the workplace - they spilled over into the neighbouring residential areas. The pollutants would make their journey into the human body through the air people breathed and the water they drank.

The stench of these locations was inescapable. Not only was there the pollution of industry, there were open sewers and the accumulated waste of overpopulated urban conditions. Conditions such as these facilitated the cholera epidemics of 1831 and 1848. In some industrial cities, such as Liverpool, the living conditions were so extreme that environmental pollution, along with industrial deaths, reduced the working class life expectancy (at birth) to only 15 years. Engels described the conditions in Lancashire in 1844 in the following way:[1]

> *"Among the worst of these towns after Preston and Oldham is Bolton ... It has, so far as I have been able to observe in my repeated visits, but one main street, a very dirty one ... A dark-coloured body of water, which leaves the beholder in doubt whether it is a brook or a long string of stagnant puddles, flows through the town and contributes its share to the total pollution of the air, by no means pure without it."*

The official recognition of these conditions came in the form of numerous reports in the mid to late 1800s such as *The bitter cry of outcast London* by the Rev. Andrew Mearns (1883),[2] the *Royal Commission on the Housing of the Working Classes* (1885) and, of particular influence, Chadwick's Sanitary Report (1842).[3] Chadwick[4] commented that the frequent outbreaks of disease were:

> *"... caused, or aggravated, or propagated chiefly amongst the labouring classes by atmospheric impurities produced by decomposing animal and vegetable substances, by damp and filth, and close and overcrowded dwellings ..."*

1 Engels, F., 1943. *Condition of the working class in England in 1844*. George Allen & Unwin Ltd, p. 43.

2 See, for example, www.attackingthedevil.co.uk/miscellanea/outcast.php

3 Chadwick, E., 1842. *Report on the sanitary conditions of the labouring population of Great Britain.*

4 Chadwick, E., 1842. Conclusions from the sanitary report. In: Harvie, C., Martin, G. and Scharf, A., 1970. *Industrialisation and culture 1830-1914*. ISBN 0333121473. Macmillan, pp. 137-141.

Further insight can be gleaned from the observations of the socialist Beatrice Webb.[5] These illustrate that, at the turn of the century, the environment still needed a great deal of improvement:

> *... a million poverty-stricken men, women and children working, sleeping, eating, mating and being born under the perpetual shadow of buildings belching out smoke, sweating vermin and excreting filth ... a physical and social environment in which all but the strongest bodies and minds suffer continuous deterioration.*

In *Early green politics*,[6] Peter Gould suggests that the most important period for environmental politics before 1980 was the years between 1880 and 1900. In support of this premise, he submits that society, during this period, received an unprecedented level of critical examination which questioned the relationships of individual, social, industrial and capitalistic philosophy with the physical environment.

Trade unions played a central role in the alleviation of these conditions; as David Pepper argues in his book *Eco-socialism*,[7] historically the labour movement was *"always essentially an environmental protest movement."* He defends this statement by asserting that trade unions, in particular, have always fought for a better environment for workers to live and work in.

In a foretaste of later governmental policy positions and of the language used, US President, Theodore Roosevelt, argued that:[8]

> *The conservation of our natural resources and their proper use constitute the fundamental problem which underlies almost every other problem of our national life ... There must be the look ahead, there must be a realization of the fact that to waste, to destroy, our natural resources, to skin and exhaust the land instead of using it so as to increase its usefulness, will result in the undermining in the days of our children the very prosperity that we ought by right to hand down to them amplified and developed.*

However, the modern environmental movement argues that there is a significant difference in the environmental issues of the new millennium in terms of scale. Michael Jacobs[9] summarises this position thus:

> *... a new phase of modernity or modern life. The new phase is characterised by the pervasiveness of risk: of uncertainties, insecurities and hazards ... A central part of Beck's analysis is concerned with environmental hazards posed by new technologies. Whereas previous forms of industrial pollution were localised and relatively easily controlled, the new technologies ... pose risks on a qualitatively different scale.*

---

5 Webb, B., 1938. My apprenticeship (2 volumes). Pelican Books, p. 284.

6 Gould, P., 1988. *Early green politics: back to nature, and back to the land and socialism in Britain 1800-1900*. ISBN 0710811926. Harvester Press.

7 Pepper, D., 1993. *Eco-socialism: from deep ecology to social justice.* ISBN 0415097193. Routledge.

8 Roosevelt, T., 1907. On conservation. In: Hofstadter, R., *The progressive movement 1900-1915*, Prentice Hall, c1963, pp. 69-72.

9 Jacobs, M., 1997. Greening the millennium? In: Jacobs, M. (editor). *Greening the millennium? The new politics of the environment.* ISBN 0631206191. Blackwell Publishing, pp. 6-8.

Handout 2: The growth of environmentalism since 1945

It is reasonable to suggest that the current wave of environmental concern has its roots in the post-war era. The emphasis on growth and economic expansion as well as post-war reconstruction altered the speed with which society used its natural resources. By the mid-1950s, concern over the ecological impact that modern industrial processes were having on the environment was beginning to grow.

By the 1980s, environmentalism had become a major political issue that led to significant advocacy coalitions based upon single-issue concern. The main issues were:

- pollution of the air, land and water;
- acid rain;
- global warming/climate change;
- depletion of the ozone layer;
- biodiversity;
- soil erosion and desertification;
- depletion of non-renewable resources;
- deforestation;
- disappearance of species;
- overpopulation and urbanisation.

Table 1 shows the health effects that sensitive individuals might experience at very high levels of five main air pollutants in the UK.

Table 1 Nature and effects of air pollution in the UK

Pollutant	Health effects at very high levels
Nitrogen dioxide Sulphur dioxide Ozone	These gases irritate the airways of the lungs, increasing the symptoms of those suffering from lung diseases.
Particles	Fine particles can be carried deep into the lungs where they can cause inflammation and a worsening of heart and lung diseases.
Carbon monoxide	This gas prevents the normal transport of oxygen by the blood. This can lead to a significant reduction in the supply of oxygen to the heart, particularly in people suffering from heart disease.

Source: Department for Environment, Food and Rural Affairs (Defra) 2002. *Air pollution: what it means for your health.* Visit www.defra.gov.uk/environment/airquality/airpoll/index.htm

The growing awareness of the public of these issues is expressed in the growth of environmental pressure groups (see Table 2).

Table 2 Membership numbers of selected environmental pressure groups in the UK

Pressure group	1985	1995
WWF (UK)	91 000	184 538
RSPB	390 000	890 000
Greenpeace	50 000	279 000
Friends of the Earth	27 700	180 000

Source: Rawcliffe, P., 1998. *Environmental pressure groups in transition.* Manchester University Press.

Despite this growing public awareness, the number of members of 'green' organisations such as Friends of the Earth has levelled off since 1990. This could be due to an increased concern about more local issues rather than headline-grabbing international concerns, or simply due to a lack of public interest.

Survey of public attitudes to the environment

In 2001, a survey[10] carried out by the Department for Environment, Food and Rural Affairs (Defra) showed that the environmental issues about which respondents were most concerned were:

- the disposal of hazardous waste;
- the effects of livestock methods (including BSE);
- pollution in rivers and bathing waters, and on beaches.

The largest rise in concern since the 1996/7 survey was over the effects of livestock methods. Traffic congestion and fumes were identified as the issue of most concern for the future.

Most respondents had heard of climate change, global warming or the greenhouse effect. But only a third had heard of the term 'sustainable development'. Most identified the destruction of forests, carbon dioxide emissions, and emissions from transport and from power stations as contributors to climate change. However, the majority of respondents also wrongly identified the hole in the ozone layer as a cause.

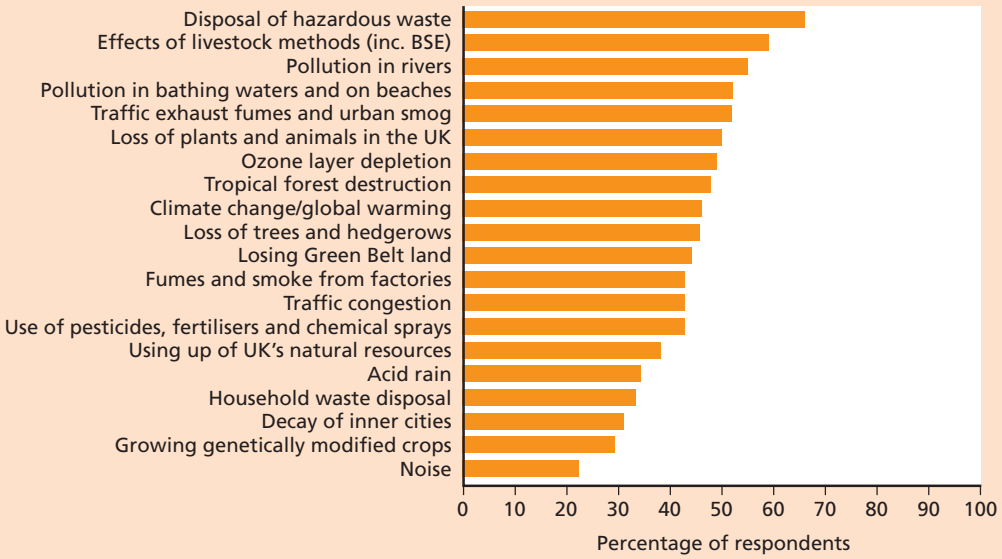
When asked how worried they felt about a set of 20 environmental issues (see Fig 1), the five causing most concern were:

- disposal of hazardous waste (66% very worried);
- effects of livestock methods (including BSE) (58%);
- pollution in rivers (55%);
- pollution in bathing waters and on beaches (52%);
- traffic exhaust fumes (52%).

The proportion of respondents saying they were very worried increased for almost all of the issues compared with the 1996/7 survey. The exceptions were: pollution in rivers, bathing waters and on beaches; and the use of pesticides, fertilisers and chemical sprays. The greatest increase in concern was over the effects of livestock methods (BSE) (59% in 2001 compared with 33% in 1996/7).

10 www.defra.gov.uk/environment/statistics/pubatt/index.htm

Fig 1 Percentage of respondents 'very worried' about each environmental issue



Source: Defra. Survey of public attitudes to quality of life and to the environment - 2001.

When asked what environmental trends or issues would cause the most concern in about 20 years' time, the issues mentioned most by respondents were:

- traffic (congestion, fumes, noise) (52%), increased from 1996/7 (37%);
- air pollution (41%), increased from 1996/7 (30%);
- climate change (32%), remained the same as in 1996/7;
- water pollution (21%), remained about the same as in 1996/7 (23%);
- urban sprawl (18%), increased from 1996/7 (10%);
- population growth (18%), increased from 1996/7(14%).

Group Work 2: Environmental evolution

Aims:

This activity will help us to:

- determine how environmental issues change over time;
- identify trade union concerns with regard to environmental issues.

Task 1:

In your groups and using the course materials, discuss the main periods of development in relation to environmental concerns.

Take into consideration:

- early industrial revolution;
- development of public health policies;
- development of trans-national issues.

Task 2:

Discuss the overlap between environmental concerns and health and safety issues.

Put your responses onto a flip chart and elect one member of the group to report back to the course.

Resources:

Handouts 1 and 2.

Module 2

Why is the environment a trade union issue?

Group Work 3: Trade unionists talk rubbish (and other environmental issues)

Aims:

This activity will help us to:

- identify attitudes;
- find responses to common perceptions.

Task:

In groups, review and discuss the following statements.

1. Members are concerned only with their own conditions and environment.
2. Trade union representatives have enough to do without getting involved in environmental issues.
3. Environmental issues do not really involve trade unions.
4. Members' environmental concerns are their own individual issues.
5. There is not a lot I can do about the environment.
6. Representatives cannot have an impact on large global issues.
7. Environmental issues are for middle-class people with time on their hands.
8. To be effective, trade unions need to be involved globally.
9. We are recycling paper - that is enough.
10. Taking care of the environment is an employer's issue.
11. Britain is becoming the environmental dumping ground of the world.
12. The environment and health and safety go hand in hand.
13. Environmental law is too stringent and will lead to job losses for our members.

Report back Respond to the statements and give reasons for your answers.

Group Work 4: Jobs and the environment - a pressing issue

Aims:

This activity will help us to:

- recognise the problems for trade unions when jobs may be under threat;
- develop responses to job threats.

Task:

You will be given two case studies out of the three provided.

This activity may be performed by dividing into groups and involves:

- writing a press release as trade union members using your first case study;
- drawing up questions as journalists on your second case study;
- holding a press conference (choose a chairperson) based on your first case study.

Part 1:

Looking at the case studies

For your first case study, imagine a group of trade unions representing workers in affected industries. Prepare a press release explaining what you believe would be the unions' position on this issue. Consider possible questions for the trade union officials from journalists, based on your second case study.

Part 2:

The press conference

Present your press release on your first case study to the conference. Take on roles as journalists from various newspapers for your second case study.

Resources:

Material from Handout 3 (as instructed) featuring 'threat' case studies. Other case studies of your own experience, eg from the cement or asbestos industries.

> *"In their concern to protect jobs, they ignore the possibility that some technologies are potentially too dangerous and costly to be continued."*
>
> **Source:** Pepper, D., 1986. Radical environmentalism and the labour movement. In: Weston, J. (editor), 1986. *Red and green: a new politics of the environment*. ISBN 0745301479. Pluto Press, p. 129.

Handout 3: Examples of 'threat' case studies from the media

The fallout

*by **Paul Brown**, Guardian Society, 26 September 2001, pp. 8-9.*

With Sellafield seen as a potential terrorist target, the new government report on how to manage Britain's nuclear waste becomes more urgent. Paul Brown on the implications for the industry.

The stocks of plutonium and uranium in the UK, mostly kept under guard at Sellafield, are no longer the valued national asset we have always been led to believe. They will not keep the lights on for a century or two, but are a liability which will cost the taxpayer billions.

These facts are buried deep in the long-awaited document Managing Radioactive Waste Safely…Britain's 61.5 tonnes of plutonium are decaying and becoming more dangerous and will cost billions to process in a safe form for disposal.

British Nuclear Fuels (BNFL), the government-owned company that runs the Sellafield complex in Cumbria and guards the stockpile, still claims that the plutonium and 60,000 tonnes of uranium is an energy resource that could be used for fuel in nuclear reactors.

After 50 years, the fact that the DTI still encourages BNFL to propagate the pipe dream that plutonium is untapped energy is a reminder that the same industry claimed nuclear power would produce electricity too cheap to meter. No government has ever been willing to stand up to the nuclear industry and spell out the facts.

But the new document is much more revealing. It says that there is so much plutonium and uranium in store that not enough reactors could be safely or economically adapted to burn it, even if it was the wish of the reactor owners to do so. It adds that 90% of the plutonium and uranium stockpile is useless, and that it would be folly to add to the problem by continuing to produce more. Despite this, BNFL continues to do exactly that.

The problem for ministers is that, if they admit this is true, the whole economics of the nuclear industry and the way it operates will have to change. Admitting that plutonium and uranium are a liability makes BNFL bankrupt. It would also cause the closure of the prestige Thorp reprocessing works at Sellafield which employs 2,600 people.

This conclusion is bad enough for the government in financial terms, but the politics are tricky too. The renewed interest by ministers in promoting more nuclear power does not sit well with these facts. It would confirm that Britain's energy policy is still anchored in the thinking of the mid-20th century, when we were intent on building more and more power stations without any thought for the future. In those days, it was justified by the need for an independent nuclear weapon. Now the justification is that nuclear power does not produce greenhouse gas emissions, and we need security of energy supply, which does not force us to depend on unreliable gas pipelines operated by foreigners.

According to the document, 90% of the plutonium stored at Sellafield comes from the old Magnox reactors. Since the plutonium was no longer needed for new bombs, it was diverted to be used in a civil fast breeder reactor programme. These burn plutonium fuel and, in theory, produce oodles of electricity. But fast breeders have long been abandoned on cost and safety grounds. The only remaining use for the plutonium is to mix it with uranium and burn it in conventional reactors. But this is more costly than conventional uranium fuel derived from ore and has been rejected for use in Britain as uneconomic by both BNFL and British Energy (BE) - the privatised arm of the nuclear industry - for their own UK reactors.

The only alternative is to export the British plutonium to other countries in the form of this mixed fuel, known as MOX. But even before the terrorist attack on New York, moving it around would be a hard trade to negotiate in an unsafe world.

Just as disturbing, the document reveals that, even if there were a market, there are additional technical difficulties. The natural decay of plutonium into a more radioactive substance called americium-241 means that it would need cleaning up before it could be used. The document says that one-third of the stockpile is already unusable because of this. Another 10% is contaminated by chemicals and, additionally, would have to be cleaned up ...

... The report says "it would have significant financial implications for the owners of the plutonium. The liability would fall on the taxpayer." Accurate costings are not available, the document says, but "are likely to be of the order of billions of pounds". And that is only for one-third of the plutonium. The cost implications of dealing with the rest of it and 60,000 tonnes of surplus uranium do not rate a mention.

One of the problems the government admits to is that, in order to immobilise the plutonium to avoid it being used for nuclear bombs, it would have to be mixed with other dangerous wastes. Making the plutonium very difficult to handle would have a deterrent effect. This cocktail would then be placed in glass blocks for storage and eventual disposal.

This glass-block process is currently used at Sellafield to deal with high-level wastes from reprocessing spent fuel, but is currently not working because of technical problems. This causes a backlog of waste from normal operations. It would have to be entirely revamped to take in the extra plutonium.

Despite this avalanche of facts, the document reaches no conclusions, merely asking for public comment, which will be followed by consultation on a timetable which runs to 2007.

Successive governments have sought to avoid making tough decisions about the nuclear industry, but the signs are that New Labour will not get away with it this time.

While BNFL insists that plutonium and uranium are a potential asset, BE takes a different view. BE runs the eight newer, advanced gas cooled reactors and the single pressurised water reactor Sizewell B, and is struggling to make a profit in a competitive electricity market. The company was signed up to have its fuel reprocessed at Sellafield years before it was privatised. Now BE is paying for it, because reprocessing is far more expensive than the alternative of storing fuel. The company is squealing because it is no longer a subsidised public utility and could go bust.

It comments to the review that, if plutonium was declared a waste "it would be nonsensical for BE to continue with reprocessing and creation of further liability".

The costs imposed by BNFL on BE are squeezing the company and its shareholders hard. BE is already lobbying ministers because of the financial problems this is causing. Meanwhile, at Sellafield, costs continue to rise as both reprocessing works and management of waste streams fail to meet production targets. The fact that BNFL's nuclear liabilities far exceed its assets cannot be hidden from the public forever. Soon these nuclear myths will be exploded.

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Green tax on flights will cost up to £50

*by **Ben Webster**, Transport Correspondent, The Times, 4 April 2002.*

Air passengers face having to pay an environmental charge of up to £50 a ticket under a European plan to force airlines to reduce greenhouse gas emissions.

The charge could be imposed on all airlines within two years, adding £50 to the cost of flying from London to California, £35 to flights to New York and between £5 and £10 to flights within Europe.

Holidaymakers and budget airline passengers would be most affected by the levy, which the aviation industry denounced last night as a "tax on holidays". Virgin Atlantic said airlines would have no choice but to pass the charge on to passengers.

Air travel is the fastest growing source of greenhouse gas emissions: the average jet pumps just under one tonne of carbon dioxide into the atmosphere for each passenger it carries from London to New York. The Inter-governmental Panel on Climate Change has calculated that aviation causes 3.5% of man-made global warming and has predicted that this could rise to 15% by 2050.

Britain is one of several EU countries that support a charge. The Government's Green Paper, The Future of Aviation, states that the absence of a tax on kerosene is an anomaly and introducing one would "place environmental costs on the polluter".

Until now, airlines have escaped paying tax on fuel consumption or emissions, arguing that they could simply fly to another country with no tax and fill up there. Only Norway imposes a carbon dioxide tax on domestic flights.

But the European Commission is now preparing to recommend a European-wide charging system both to encourage airlines to buy more fuel-efficient aircraft and to deter people from flying.

Another option would be for a revenue neutral scheme under which the worst polluting airlines would pay a charge that would be used to reward the least polluting ones. But Ron Wit, co-author of an environmental report that will go to the Commission this month, said that such a scheme would have far less impact on emissions.

Mr Wit, of the Dutch consultants CE Delft, said the Commission was likely to produce recommendations in the second half of this year and if they were accepted by ministers from member states, legislation could be introduced after about 18 months.

He added: "Of course, there would be a reduction in the number of people who want to fly. Setting the level will be a political choice but compared with a few years ago the airlines are more aware of their environmental problems and they accept that aviation is contributing to climate change."

The charge would be collected by Eurocontrol, which manages European airspace and charges airlines a fee for each flight.

CE Delft has explored various options for how the money could be spent. It could simply be passed on to member states or placed in an international climate change fund working to mitigate the impact of rising sea levels and extreme weather patterns.

The airlines argue that the £1 billion passengers pay each year in departure tax is roughly equal to the environmental damage arising from flights.

Greener by Design, a lobby group established to oppose any fuel charge, said that such a tax would damage people's freedom to fly. "This is nothing other than a holiday tax and poor people and those who pay fares out of their own pocket would suffer most."

Tim Johnson, of the Aviation Environment Federation coalition of green groups, said the charge would deter people from making non-essential trips: "Offering flights to Dublin for £8 return is creating demand that wouldn't be there if the price was more realistic."

Copyright The Times, London 4 April 2002.

The end-of-life vehicle: position in the EU

*by **Keith France & John Kell***

Rationale

There is general recognition in the EU that it is necessary to improve the use of resources of all types, one of which is the increasing scarcity of landfill sites, particularly among the more populous regions. This is exacerbated by the increasingly tough regulations on what may be dumped where. The European authorities therefore determined to reduce the amount of waste, and the automotive industry has been selected as an area of major attention [1], this despite the fact that, with an average recycling rate of 75%, the car was already the most recycled complex product in the EU.

Background

In 1997, the European Commission made a proposal for a directive on the disposal of end-of-life vehicles[2]. The proposal covered 3 areas:

a. The original vehicle manufacturer was to be responsible for taking back the vehicle at the end of its life.

b. Disposal to landfill of certain specific hazardous substances (e.g. heavy metals) was to be reduced virtually to zero.

c. Targets (by weight fraction) were set for increased levels of material recovery, and most recovered material had to be either re-used or recycled, with only a small fraction being permitted to be reprocessed for energy recovery. The specific targets were:
By 1 Jan 2005: 85% to be recovered (including max 5% to energy recovery)
By 1 Jan 2015: 95% to be recovered (including max 10% to energy recovery)

Not surprisingly, the industry objected to (a), as the cost would inevitably have to be added to the price of new vehicles. Apart from matters of fine detail, it had no problem with (b). However, the biggest objection was to (c), as the recycling targets would apply to all vehicles, however old, many of which would have been designed and manufactured long before the legislation was even thought of; also, the severe restrictions on energy recovery would inhibit the increased use of plastics in the effort towards lighter vehicles. A major lobbying campaign was therefore mounted, which caused numerous delays and eventually resulted in the activation of the 'conciliation procedure'.

Present Position

After some 3 years of activity, on 18 September 2000, the European Parliament passed a directive[3] that makes some small concessions towards the industry:

- **The date for achieving an 85% target is delayed by 1 year, to 1 Jan 2006**
- **For vehicles made (not designed) before 1 Jan 1990, member states may permit a recycling target of 75% (including max 5% to energy recovery)**

The industry is unlikely to be satisfied with this outcome, but it is now highly unlikely that any further concessions will be forthcoming.

Relevant bullet items from Directive 2000/53/EC of the European Parliament and of the Council, 18 September 2000 on end-of-life vehicles

The directive: -

- Restricts the use of certain heavy metals in new vehicles from 1 July 2003.
- Introduces a "certificate of destruction" for scrapped vehicles.
- Requires producers to mark certain vehicle components to aid recycling.
- Requires producers to make available dismantling information in respect of new vehicles.
- States that producers must provide free take back for vehicles put on the market from 1 July 2002, if such vehicles have a negative value when scrapped.
- Requires that ELVs can only be scrapped ('treated') by authorised treatment facilities, which must meet tightened environmental standards.

The ELV Directive became effective 1st July 2003
This Directive severely restricts the use of Lead (Pb), Mercury (Hg), Cadmium (Cd) and Hexavalent chromium (Cr^{6+}).

ELV Initial Exemptions
Lead as an alloying element
- Steel containing up to 0.35% lead by weight
- Aluminium containing up to 0.4% lead by weight
- Aluminium (wheel rims, engine parts and window levers) containing up to 4% lead by weight
- Copper alloy containing up to 4% lead by weight
- Lead/bronze bearing shells and bushes

Lead and lead in components
- Batteries
- Coating inside petrol tanks
- Vibration dampers
- Vulcanising agent for high pressure or fuel hoses
- Stabiliser in protective paints
- Solder in electronic circuit boards and other applications

Hexavalent chromium
- Corrosion protective coating (max 2g per vehicle)

Mercury
- Bulbs and instrument panel displays

Requirements for Whole Vehicle Recyclability
- 85% Re-use and energy recovery in 2006
- 95% Re-use and energy recovery in 2015

Spare Parts
Taking some Member State interpretations, OEMs may not be able to sell spare parts for some applications, as from July 2003.

The Tier 1 Supplier must assign application codes for restricted substances

Useful web sites:

European Commission web site http://europa.eu.int/comm/index_en.htm

Central DTI site with RoHS, WEEE, EuP and ELV details: legislation, timetables, contacts www.dti.gov.uk/sustainability

ELV consultation and legislation information www.dti.gov.uk/environment/consultations/elv.htm

IMDS: http://www.mdsystem.com

EDS off – line tools: http://services.mdsystem.com/index.en.jsp

MDSMap: http://www.mdsmap.com (visit their "Resource Centre")

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1 Although automotive waste going to landfill accounts for just 0.2% of the total, it is the automotive industry which finds itself at the focus of the drive for increasingly stringent legislation.

2 Proposal for a Council Directive on End-of-Life Vehicles, COM (97)358.

3 Directive 2000/53/EC, 18 Sep 2000 (In OJ L 269/34-42, 21 Oct 2000).

Source: TWI Ltd (see www.twi.co.uk/j32k/protected/band_3/kslkf001.html).

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Module 3

3

Systems and legislation

Group Work 5: Environmental risk assessment

Aims:

This activity will help us to:

- prioritise environmental issues relating to the workplace;
- carry out an environmental risk assessment.

Task:

1. Choose a workplace from an In/On/Out activity featured in Group Work 1: Introductory activities.
2. Select an aspect for the activity and carry out an environmental risk assessment of it.
3. Use the same methodology of health and safety risk assessments based upon the likelihood and severity of the impact.

   However:

   Assess the risks of environmental **impacts** rather than workplace **hazards**.

   - 'Hazards' always have potential to cause you harm.
   - 'Impacts' may be positive or negative and affect land, air, water and/or people once the emission has left the workplace.
4. Determine which of the risks has the most 'significant' impact upon the environment. Consider members' concerns, issues involved, and the likely extent of the impact.

Resources:

Definitions from ISO 14001:

- **Environmental impact** is the change to the environment, whether adverse or beneficial, which wholly or partly results from the organisation's activities.
- **Significant environmental aspect** is an environmental aspect that has or can have a significant environmental impact.

Worksheet 1 (on next page).

Worksheet 1: Assessing environmental risks

	Impacts (sxl)				Significance (total impact)
Aspects	**Land**	**Air**	**Water**	**People**	
Inputs (transport/goods deliveries/ materials/packaging)					
Processes (energy efficiency/ chemicals/noise)					
Outputs (waste/recycling/product)					

Key:

sxl = an estimate of the sort of occurrence resulting from the severity (s) and likelihood (l) of the impact.

For each aspect (ie inputs, processes, outputs), allocate a score from 1-5 where 5 is the most severe. Add up your scores to give the significance or total impact of each aspect.

Handout 4: Instruments of environmental protection

There are four main areas:

1. UK environmental/health/conservation legislation.
2. European-derived environmental legislation.
3. Financial incentives/disincentives (taxation).
4. Voluntary environmental systems (eg codes of practice).

Key elements of these four areas are summarised in Handouts 5-8.

These are merely intended to provide an overview and do not attempt to cover all applicable instruments and explain all their features. For the latest information and advice on environmental legislation and policies affecting your workplace:

- Call the Environment and Energy Helpline free on 0800 585794;
- visit NetRegs (www.netregs.gov.uk);
- contact the local office of the Environment Agency/Scottish Environment Protection Agency (SEPA)/Environment and Heritage Service (Northern Ireland);
- contact your union's environment/health/safety department (if it has one).

Remember that different provisions may apply in England, Wales, Scotland and Northern Ireland. The full text of all UK Acts of Parliament and Statutory Instruments dating back to 1988 and 1987, respectively, can be downloaded free of charge from the HMSO website (www.legislation.hmso.gov.uk). European environmental legislation can be downloaded free of charge from www.europa.eu.int/comm/environment/legis_en.htm.

Handout 5: Environmental protection - UK legislation

There have been many legal provisions made for the protection of the environment in the UK. Many of these are specific to a certain situation or incident; for example, the Alkali Act 1863 established what would now be seen as the first environmental agency to oversee the production and emissions of alkalis. Further examples of this specific model of environmental redress include the:

- Public Health Acts of 1848, 1875 and 1936;
- Clean Air Acts of 1956 and 1968 (consolidated in 1993).

In addition, there have been general protection statutes that aim to change the way in which the detrimental impact of human activity can be alleviated. These include the:

- Town and Country Planning Act 1947;
- National Parks and Access to the Countryside Act 1949;
- Control of Pollution Act 1974.

A reorganisation of Government departments in 1970 saw the creation of the Department of the Environment (DoE).[11] This was an attempt to create an overall environmental coherence by uniting perceived environmental remits, which were previously spread widely over departments, into one cohesive unit. It also attempted to unify many of the enforcement authorities.

However, this needs to be set in the context of the British approach to environmental policy; that is, 'dilute and disperse' as opposed to many other countries within Europe, which follow the 'contain and condense' approach. In Britain, there is the belief that the polluter should cover any cost of clean-up and pay compensation. This is, however, dependent on the source of pollution being determined and proven. Although there is support for the notion of polluters paying in the rest of Europe and especially in Germany, there is also a much greater cautionary approach to pollution and development. The ethos is that any company wishing to develop a site or produce any product must first prove that it will not have any significant detrimental effects on the environment. In the presence of any doubt, the decision should err on the side of caution. This is the main thrust of the precautionary principle.

Government and other policy-makers have also aimed to influence the approach taken in the philosophy of production. This philosophy aims to create a more holistic approach to production methods or service provision. This process is often referred to as life-cycle analysis - the notion that the environmental impact of a product/service should be considered over its whole lifespan rather than limiting environmental considerations to the period before sale. This process has given rise to not only direct 'in-house' environmental protection, such as energy saving, waste segregation, etc, but also that beyond the 'factory floor', ie disposal issues.

The legal framework of environmental law in Britain is long-standing and encompasses many areas. However, there have been some important additions to environmental law since the 1980s.

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[11] The Department of the Environment, Transport and the Regions (DETR) was formed in 1997 by a merger of the Departments of Environment and Transport. In 2001, the environment functions of DETR moved to the new Department for Environment, Food and Rural Affairs (Defra).

Wildlife and Countryside Act 1981

This is an important piece of law which, amongst other measures, introduced wildlife protection in the form of Sites of Special Scientific Interest (SSSIs). Farmers are paid compensation for land designated as an SSSI. However, this has not proved entirely successful as housing developments, roads etc, more often than not, take precedence. Parts of the Act were recently updated as the Countryside and Rights of Way Act (CROW) 2000.

Environmental Protection Act (EPA) 1990

This wide-ranging piece of legislation laid the foundations of the concept of environmental crime. The enforcement of most of these provisions is now the remit of the Environment Agency in England and Wales and SEPA in Scotland. Northern Ireland has similar legislation and enforcement of this is carried out by the Environment and Heritage Service (EHS). However, prior to the Environment Act 1995 (see opposite), there were separate enforcement bodies - for example, in England there were the National Rivers Authority, Her Majesty's Inspectorate of Pollution and the Waste Regulation Authorities. Additionally, the Health and Safety Inspectorate performed some duties. Local authorities are still responsible for some aspects of air pollution enforcement.

This Act also attempted to outline the meaning of environment, defining it as follows:

> *"The environment consists of all, or any of the following media, namely, the air, water and land; and the medium of air includes the air within buildings and the air within other natural or man-made structures above or below ground."*

Part 1 Integrated Pollution Control (IPC)[12]

IPC relates only to certain industries for which EPA 1990 demands the application of BATNEEC (best available techniques not entailing excessive cost). A summary of IPC on the Defra website[13] defines BATNEEC as follows:

> *"These techniques are used to prevent, and where that is not practicable, to minimise release of certain substances (prescribed in regulations) into any environmental medium (air, water, land); and to render harmless both any such substances which are released and any other substances which may cause harm if released into any environmental medium. BATNEEC is usually expressed as emission limits for the prescribed substances released by the process."*

BATNEEC is, in essence, a method by which a balance is sought between the best technological controls available and what companies can afford to invest.

The aim of the methods and processes above is to minimise environmental impact as much as possible or, in the terminology of the EPA, achieve the Best Practicable Environmental Option (BPEO). In its Twelfth Report[14] in 1988, the Royal Commission on Environmental Pollution (RCEP) defined BPEO as:

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12 Now replaced by the Pollution Prevention and Control Act 1999.

13 www.defra.gov.uk/environment/ppc/ipc.htm

14 RCEP, 1988. *Best Practicable Environmental Option.* Cm 310. ISBN 0101031025. HMSO.

> *... the outcome of a systematic and consultative decision-making procedure which emphasises the protection and conservation of the environment across land, air and water. The BPEO procedure establishes, for a given set of objectives, the option that provides the most benefit or least damage to the environment as a whole, at acceptable cost, in the long term as well as in the short term.*

Part 2 Waste on land

The Act introduces a 'Duty of Care'[15] on all those in the waste chain from the production of the waste through carriage, storage and treatment to disposal. Waste must only ever be passed over to authorised handlers (local authority or a waste licence holder).

Part 3 Statutory nuisance

This section relates to effects that are either prejudicial to human health or interfere with somebody's use of land. Statutory nuisances under the EPA include:

- any premises in such a state as to be prejudicial to health or a nuisance;
- fumes or gases emitted from premises, so as to be prejudicial to health and/or a nuisance;
- odours;
- any accumulation or deposit which is prejudicial to health or a nuisance;
- excessive noise emitted from premises.

Environment Act 1995

Over 50% of this Act dealt with the establishment of the Environment Agency and the Scottish Environment Protection Agency (SEPA), ie the unification of the enforcement bodies with environmental responsibility in England/Wales and Scotland, respectively. The agencies have statutory powers to prosecute any organisation or individual found to be in breach of the law.

The remainder of the Act deals with:

- pollution from abandoned mines;
- the creation of an independent authority for the National Parks;
- producer responsibility for waste streams;
- hedgerow protection;
- grants for conservation and enhancement of the countryside.

In addition, the Act introduced the Air Quality Strategy, which set threshold levels for certain pollutants to alert local authorities to commence remedial action.

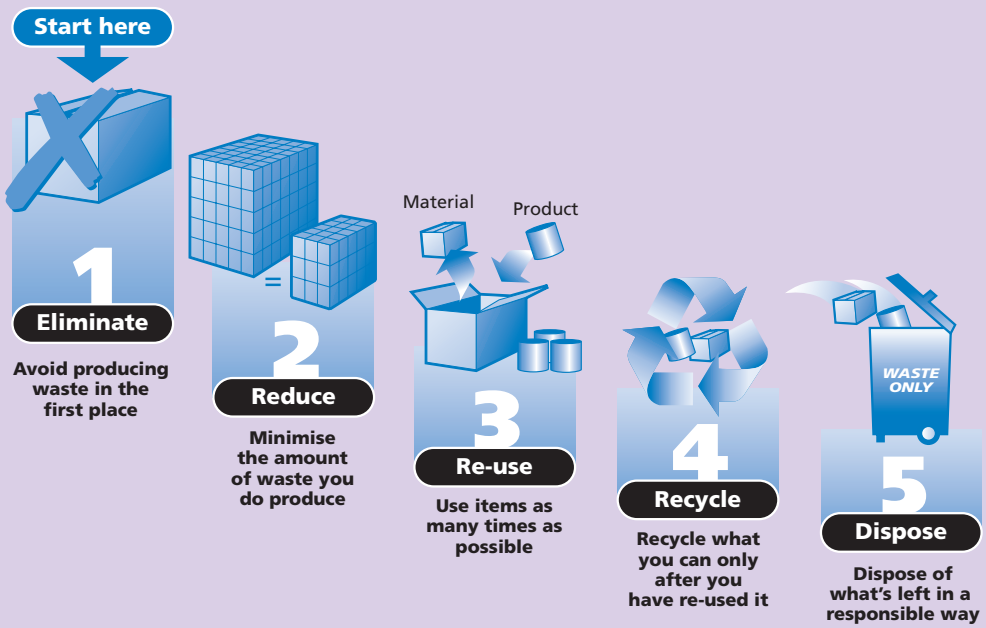
Plans for waste control in the Act have been superseded by the national waste strategies, which oblige waste producers to consider the waste hierarchy (see Fig 2 overleaf) as a mechanism for waste minimisation.

The Act also discusses responsibility for the overseeing and regulation of contaminated land. This is now shared between the agencies and local authorities, which are working to set up a register of contaminated sites.

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[15] For more information, visit www.defra.gov.uk/environment/management/doc/ or www.netregs.gov.uk.

Fig 2 Waste hierarchy



Pollution Prevention and Control Act 1999

The IPC regime as outlined above is being progressively replaced by the Pollution Prevention and Control (PPC) regime, which implements the EU's Integrated Pollution Prevention and Control (IPPC) Directive in the UK. The new legislation deals with issues not previously covered by IPC such as energy efficiency, waste minimisation, vibration and noise. In addition, a system of management must be implemented to ensure that all appropriate pollution prevention and control measures are taken. Best Available Techniques (BAT) should be used to reduce the environmental impact of each process. PPC is being applied to the industrial sectors affected according to a timetable that began in 2000 and ends in 2007.[16]

Separate PPC regulations are applicable in England/Wales, Scotland and Northern Ireland. Because of these regional differences, Defra, SEPA (with the Scottish Executive) and the Northern Ireland Environment and Heritage Service have all published practical guidance on IPPC, outlining their respective PPC regulatory regimes.

The aim of BAT is to prevent, and where this is not practicable, to reduce the pollution to air, land and water from certain industrial activities to acceptable levels. BAT also aims to balance the cost to the operator against benefits to the environment. The Pollution Prevention and Control (England and Wales) Regulations 2000[17] define BAT as:

> *"... the most effective and advanced stage in the development of activities and their methods of operation which indicates the practical suitability of particular techniques for providing in principle the basis for emission limit values designed to prevent and, where that is not practicable, generally to reduce emissions and the impact on the environment as a whole; and for the purpose of this definition -"*

16 PPC already applies to certain new installations and substantial changes to installations.

17 The Pollution Prevention and Control (England and Wales) Regulations 2000. SI 2000 NO. 1973. ISBN 0110996216. The Stationery Office. www.legislation.hmso.gov.uk/si/si2000/20001973.htm. This definition is as given in the IPPC Directive.

> *(a) 'available techniques' means those techniques which have been developed on a scale which allows implementation in the relevant industrial sector, under economically and technically viable conditions, taking into consideration the cost and advantages, whether or not the techniques are used or produced inside the United Kingdom, as long as they are reasonably accessible to the operator;*
>
> *(b) 'best' means, in relation to techniques, the most effective in achieving a high general level of protection of the environment as a whole;*
>
> *(c) 'techniques' includes both the technology used and the way in which the installation is designed, built, maintained, operated and decommissioned.*

Health and safety legislation

Many aspects of health and safety legislation can be used to achieve environmental goals, as a situation that is damaging to the environment is likely to pose risks to employees.

The **Control of Substances Hazardous to Health (COSHH) Regulations**,[18,19] where an obligation is placed upon the employer to have full knowledge of all substances used and their possible dangers, are particularly useful in this area.

This notion is extended in the **Control of Major Accident Hazard (COMAH) Regulations 1999**. Companies to which the Regulations apply must introduce measures for avoiding major accidents or limiting their impact on the health and safety of both workers and the wider population, as well as the environment. The Regulations also contain an obligation to consult with trade union appointed health and safety representatives and those appointed under the Health and Safety (Consultation with Employees) Regulations 1996.

The **Health and Safety at Work etc. Act 1974** is the cornerstone legislation that guides health and safety philosophy in Britain. Central to the Act is a 'partnership approach', which emphasises the role of trade union appointed health and safety representatives. Section 2(6) states:

> *It shall be the duty of every employer to consult any such representatives with a view to the making and maintenance of arrangements which will enable him and his employees to co-operate effectively in promoting and developing measures to ensure the health and safety at work of the employees and checking the effectiveness of such measures.*

In furtherance of this paragraph, regulations entitled the **Safety Representatives and Safety Committee Regulations 1977** were introduced. These Regulations outlined the role and function of the trade union appointed health and safety representative by prescribing the following rights:

- to inspect workplaces at least every three months;

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18 First enacted in 1988, consolidated in 1994, amended in 1996, 1997, 1998, 1999 and further consolidated in 2002.

19 www.hse.gov.uk/hthdir/noframes/coshh/

- to investigate accidents, industrial diseases and dangerous occurrences;
- to have access to information, including documents that the employer is obliged to keep under health and safety legislation;
- to consult and receive information from the Health and Safety Inspectorate (or other enforcing authority) on behalf of union members;
- to make representations to the employer;
- to require joint safety committees to be set up, and to attend such committee meetings;
- to receive training (from a provider approved by the TUC or the member's union) in order to enable the representative to carry out the above functions.

In addition, the original Act made explicit reference to the environment in Section 5(1):

> *"It shall be the duty of the person having control of any premises of a class prescribed for the purposes of section 1(1)(d) to use the best practicable means for preventing the emission into the atmosphere from the premises of noxious or offensive substances and for rendering harmless and inoffensive such substances as may be so emitted."*

This section of the 1974 Act has now been repealed.

Handout 6: European-derived legislation

Environmental Impact Assessment Directive 85/337/EEC

Environmental impact assessment (EIA) is the process of predicting and evaluating a development's impact on the environment. The conclusions are used as an aid to the decision-making process relating to large developments. It aims to prevent environmental degradation by giving decision-makers better information, but cannot, itself, halt development proposals.

EIA involves:

- reviewing the existing state of the environment and the characteristics of the proposed action (and possibly alternative actions);
- predicting the state of the future environment with and without the action;
- considering methods for reducing or eliminating any negative impacts;
- preparing an environmental impact statement that discusses these points.

After a decision is made about whether the action should proceed, the process may include monitoring the actual impacts of the action.

To date, EIA in the UK has mostly been carried out for large projects, eg power stations, industrial installations, and railway developments such as the Channel Tunnel Rail Link. These types of project are considered to be Schedule I projects (or Annex I in EC terms) and, under the Directive, require an EIA. However, Schedule II projects, some of which are as environmentally damaging, are only to be considered for EIA at the discretion of individual Member States. These projects include agriculture, mining and the processing of metals.

However, as this Directive is only a guideline, and not enforceable by law, even Schedule I projects often go ahead without EIAs. In addition, an EIA is the financial responsibility of the developers and therefore likely to be low on their list of priorities!

Habitats Directive 92/43/EEC

The Habitats Directive obliged the UK to enact measures to preserve wildlife and their habitats, specifically through the use of designated areas of protection such as Special Areas of Conservation (SACs) and Special Protection Areas (SPAs). This has had the practical effect of making it a criminal offence to take, kill or disturb any such designated flora and/or fauna.

When presenting the Commission's proposal for its Sixth Environment Action Programme, the then Commissioner for the Environment, Margot Wallstrom, stated:

> *"Environment policy is one of the success stories of the European Union - thanks to European Union legislation we have made significant improvements such as cleaner air and safer drinking water. But we still face some real problems."*

The Sixth Environment Action Programme[20] gives a strategic direction to the European Commission's environmental policy until 2010 and highlights four priority areas:

- climate change;
- nature and biodiversity;
- environment, health and quality of life;
- natural resources and waste.

Packaging waste regulations

The Producer Responsibility Obligations (Packaging Waste) Regulations 1997 (as amended) are designed to ensure that businesses take responsibility for the packaging wastes they generate. Another objective is to ensure that the UK achieves compliance with EC targets for recovering packaging waste for re-use and recycling.

The Regulations apply to any business fulfilling the following two criteria:

- in the previous year (the current year in Northern Ireland), the business (or group of companies) handled more than 50 tonnes of obligated packaging or packaging materials (excluding any packaging or packaging materials which were exported from the UK and any re-used packaging);
- the business had an annual turnover of more than £2 million.

Businesses have to consider whether they 'handle' 'packaging', ie do they carry out one or more of the following activities (or have it carried out by a third party):

- production of raw materials for packaging manufacture;
- conversion of packaging materials into packaging;
- import of packaging materials or packaged goods;
- putting goods/products into packaging;
- supply of packaging to the final user of that packaging;
- own the packaging on which the activities are carried out;
- supply of packaging or packaging materials to another stage in the chain or to the final user of the packaging.

'Packaging' includes all products (regardless of the material from which they are made) to be used for the containment, protection, handling, delivery or presentation of goods. The goods in question may include anything from raw materials to processed goods, and may be being transported from the producer to the user or consumer of the packaging. A guide, *The Agencies' interpretation of packaging* (2nd edition), is available from the Environment Agency and SEPA.

For more information about packaging waste legislation, call the Environment and Energy Helpline (0800 585794) or visit the legislation area of the Envirowise website (www.envirowise.gov.uk).

New hazardous waste regulations

From July 2004, the Landfill Directive (1999/31/EC) banned the co-disposal of hazardous waste with non-hazardous waste in landfill. Even sites licensed to accept hazardous waste cannot take it if it has not been pretreated.

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[20] www.europa.eu.int/comm/environment/newprg/

- **Who is affected by these changes?** All businesses that produce hazardous waste are affected. They must ensure that wastes are dealt with properly and in line with relevant legislation.
- **Is my waste 'hazardous'?** In practice, most businesses are likely to produce some hazardous waste. However, the environmental regulators have issued guidance to help businesses decide if their wastes are hazardous. Anyone still unsure should consult the European Waste Catalogue (see below) and/or the local office of their environmental regulator.

In 2005, the Hazardous Waste Directive and the European Waste Catalogue (EWC) will largely come into effect in the UK. The Hazardous Waste Directive provides an exact and consistent definition of 'hazardous waste'. This can be applied across the European Union to attempt to avoid confusion and theoretically make systems for dealing with hazardous waste more efficient. In the UK, it will include the following:

- The meaning of 'hazardous waste' will be extended to include 'special waste'. This could mean that many businesses are classified as producing hazardous waste for the first time.
- Hazardous waste will have to be separated from 'non-hazardous waste' where this is technically and economically practical.

For more information about the changes and hazardous waste legislation, call the Environment and Energy Helpline (0800 585794) or visit the legislation area of the Envirowise website (www.envirowise.gov.uk).

Waste Electrical and Electronic Equipment (WEEE) Directive 2002/96/EC

The WEEE Directive aims to reduce the waste arising from electrical and electronic equipment and to improve the environmental performance of all those involved in the life-cycle of electrical and electronic products. The Directive covers WEEE used by both consumers and businesses.

By August 2005:

- Householders will be able to return their WEEE to collection facilities free of charge.
- Producers (manufacturers, sellers, distributors) will be responsible for financing the collection, treatment, recovery and disposal of WEEE from households deposited at these collection facilities.
- Producers will be responsible for financing the collection, treatment, recovery and disposal of WEEE from users other than householders from products placed on the market after 13 August 2005.
- Producers will also be responsible for financing the management of WEEE from products placed on the market before 13 August 2005. However, it may be possible for all or part of these costs to be recovered from users other than householders.

By 31 December 2006:

- producers must achieve a series of recycling and recovery targets for different categories of appliance;
- the UK must reach an average WEEE collection rate of 4 kg/person/year.

For more information on the WEEE Directive, call the Environment and Energy Helpline (0800 585794) or visit the legislation area of the Envirowise website (www.envirowise.gov.uk).

Directive on the restriction of the use of certain hazardous substances (RoHS) in electrical and electronic equipment 2002/95/EC

The RoHS Directive aims to reduce environmental impacts of waste and improve recyclability. It requires a number of potentially hazardous substances to be phased out by July 2006.

The Directive restricts the use of lead, mercury, cadmium, hexavalent chromium, polybrominated biphenyls (PBBs) and polybrominated diphenyl ethers (PBDEs).

For more information on the RoHS Directive, call the Environment and Energy Helpline (0800 585794) or visit the legislation area of the Envirowise website (www.envirowise.gov.uk). Information is also posted at www.dti.gov.uk/sustainability

Handout 7: Environmental taxation in the UK

Within the last 20 years, there have been significant developments in the use of market mechanisms to encourage change in consumer behaviour. The success of these schemes in affecting behavioural change is still being determined.

Fuel duty escalator

The high price of petrol has led to large-scale protest in Britain of the kind not seen since the 1970s. Much of the debate is centred around the level of duty levied on petrol in Britain. Why does Britain pay so much tax on fuel?

The answer to this question lies in the introduction in 1993 by the then Environment Minister, John Gummer, of the 'fuel duty escalator'. This escalator was designed to push up the price of petrol beyond the level of average increases to deter use and reliance on the car. However, there is little to indicate that this tactic actually changes behaviour in this case, as many argue there is no viable alternative to the use of the car at the moment. Nevertheless, as Zoe Smith of the Institute of Fiscal Studies points out: *"People may have switched to buying more fuel-efficient cars, which helps reduce the harmful effect on the environment."*[21]

Many opponents of the use of market mechanisms as a tool of consumer control argue that the fuel duty has a disproportionate impact upon the poor. However, it needs to be considered that the poor are less likely to own cars and more likely to be reliant on an under-funded public transport infrastructure. Nonetheless, the impact will be greater on the poorest amongst car owners.

Climate Change Levy

The Climate Change Levy (CCL) was introduced in April 2001 to encourage non-domestic energy consumers to improve their energy efficiency and reduce emissions of carbon dioxide to the atmosphere. The levy is a key element of the UK Climate Change Programme,[22] which was published in November 2000 and details how the UK plans to deliver its target under the Kyoto Protocol (see Handout 9).

The levy is charged at a flat rate on each kWh of energy consumed and applies, with specified exclusions, to all non-domestic consumers of energy. It typically adds around 15% to the non-domestic fuel bills of all businesses. One consequence of the 'flat rate' application is that those consumers who have been buying at particularly competitive rates have seen the greatest percentage increase on bills. The levy is administered by HM Customs and Excise,[23] and is collected by the energy supplier on its behalf. Oil products are exempt from the levy, as these already carry excise duty. Electricity generation from renewable sources, good quality combined heat and power (CHP), and road fuels is also exempt.

Businesses in energy-intensive industries can secure an 80% discount from the levy under a Climate Change Agreement (CCA)[24] negotiated between the Government and the trade body for their sector, provided they meet specified energy reduction targets over a ten-year timeframe, with milestone targets every two years. Eligibility for a CCA is currently limited to those facilities throughout the UK that operate activities listed in Part 1 of the Pollution Prevention and Control

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21 Smith, Z., 2000. Fuelling dissent. *Guardian.* 12 September. www.guardianunlimited.co.uk

22 www.defra.gov.uk/environment/climatechange/02.htm

23 www.hmce.gov.uk (Click on the Excise & Other tab and then Improving our Environment. Scroll down to Climate Change Levy.)

24 www.defra.gov.uk/environment/ccl/index.htm

Regulations 2000. However, there are plans to extend the eligibility criteria for CCAs to sectors that meet a specific energy-intensity threshold.

The Government expects to raise £1 billion/year from the levy, but it is intended to be revenue-neutral to the Treasury. The money raised is being returned through a number of initiatives, including:

- a cut of 0.3 pence in the pound in employers' National Insurance contributions (this benefits organisations with high employee numbers but low energy bills);
- research and promotion of energy efficient and low carbon technologies by the Carbon Trust;[25]
- Enhanced Capital Allowances (ECAs) allowing 100% tax relief on investment in energy saving equipment and technologies specified on the Energy Technology List. ECAs are also available for certain types of water saving device.[26]

Landfill Tax

This tax aims to encourage waste producers to generate less waste, to recover more value from waste through recycling or composting, and to use more environmentally friendly methods of waste disposal. The tax applies to active and inert (inactive) waste disposed of at a licensed landfill site. There are two rates of tax; inert waste is subject to the lower rate. The tax is administered by HM Customs and Excise.[27]

The Landfill Tax Credit Scheme enables landfill site operators to claim tax credit for contributions they make to approved environmental bodies for spending on projects that benefit the environment. The environmental bodies are those enrolled by Entrust,[28] the regulatory body for the scheme. Further information is available from Customs and Excise or Entrust.

A general guide to the landfill tax (HMCE Reference: Notice LFT 1) can be downloaded from the Customs and Excise website.

Aggregates Levy

The aim of this levy is to address, by taxation, the environmental costs associated with quarrying operations (noise, dust, visual intrusion, loss of amenity and damage to biodiversity) in line with the Government's statement of intent on environmental taxation. The long-term aim is to reduce demand for aggregate and encourage the use of alternative materials where possible.

The levy is a tax on the commercial exploitation in the UK of rock, sand and gravel (with various reliefs and exemptions). There is one basic rate. The levy is administered by HM Customs and Excise[29] and further information is available on its website.

Pesticides tax

There are proposals for a pesticides tax, although the farming industry has set up a Voluntary Initiative[30] to demonstrate there is no need for a tax. The Voluntary Initiative is a programme of measures, agreed with Government, to minimise the environmental impacts of pesticides.

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25 www.thecarbontrust.co.uk

26 www.eca.gov.uk - gives information about ECAs for energy and water (includes the Energy Technology List and the Water Technology List).

27 www.hmce.gov.uk (Click on the Excise & Other tab and then Improving our Environment. Scroll down to Landfill Tax.)

28 www.entrust.org.uk

29 www.hmce.gov.uk (Click on the Excise & Other tab and then Improving our Environment. Scroll down to Aggregates Levy.)

30 www.voluntaryinitiative.org.uk/Content/default.asp

Group Work 6: Environmental protection - the British context

Aims:

This activity will help us to:

- find relevant instruments to improve environmental protection;
- compare the value of different instruments;
- recommend approaches to environmental protection.

Task:

Choose the most significant impact of one workplace.

Use the course materials and/or the Internet (if available) to:

- identify how various national controls could be put in place to better control significant aspects of work.

Possible controls include:

- relevant UK law;
- fiscal measures such as the Climate Change Levy and the Landfill Tax.

Resources:

Handouts 4-7.

Internet (if available) for the websites suggested in these handouts and relevant entries from the list in Appendix 6 (eg Envirowise, Defra, NetRegs, Environment Agency, SEPA and EHS).

Handout 8: Voluntary environmental management systems

> *Industry is starting to take up the challenge of environmental protection through various environmental management schemes.*[31]

The world's first environmental management system (EMS) standard, the British Standard BS 7750, was drawn up by the Environmental Management Standards Policy Committee of the British Standards Institution (BSI) and introduced in early 1992. The committee had members from 38 different organisations, including businesses, Government departments and the TUC. The motivation for the development of the standard was the increasing stringency of Government environmental legislation creating an evident need for companies to conform to recognised environmental standards and, in addition, to appease the growing environmental awareness of consumers.

Moreover, there was an intention to follow on from developments made with BS 5750, the quality assurance standard. There is certainly an obvious progression - businesses were lean, mean, and now they are green too! Compliance with BS 7750 enabled the public, in theory, to make an instant assessment of a company's 'green' credentials.

This type of voluntary scheme protects the environment as a result of its quality management system approach, ie the implementation of management systems that attempt to ensure that the environmental impact of any registered company is kept to a minimum. The motivation for companies to achieve the standard is the potential savings in operational costs once their EMS is in place.

However, the standard does not itself prescribe how a company can become more environmentally conscious. It is more a case of the industry/service determining the best environmental measures for themselves, which are then laid out in policy form.

In April 1997, the International Standard ISO 14001 superseded BS 7750. Its main distinguishing feature is that it contains an explicit clause that commits the subscribing company to reduce its impact on the environment. However, some criticism has been levelled at this standard, as it still contains no mandatory obligation for the company's reports to be independently verified.

> *Under the present macro-economic framework conditions, even if all the companies on earth were to meet the minimum requirements of EMAS and ISO 14001 … this would only slow down the growth in resource consumption and emissions on this planet. It would not be enough to reverse the trend to destruction of our biosphere. Industry would be quite capable of destroying the biosphere - while complying with the standards - and would thus destroy itself and all human civilisation.* [32]

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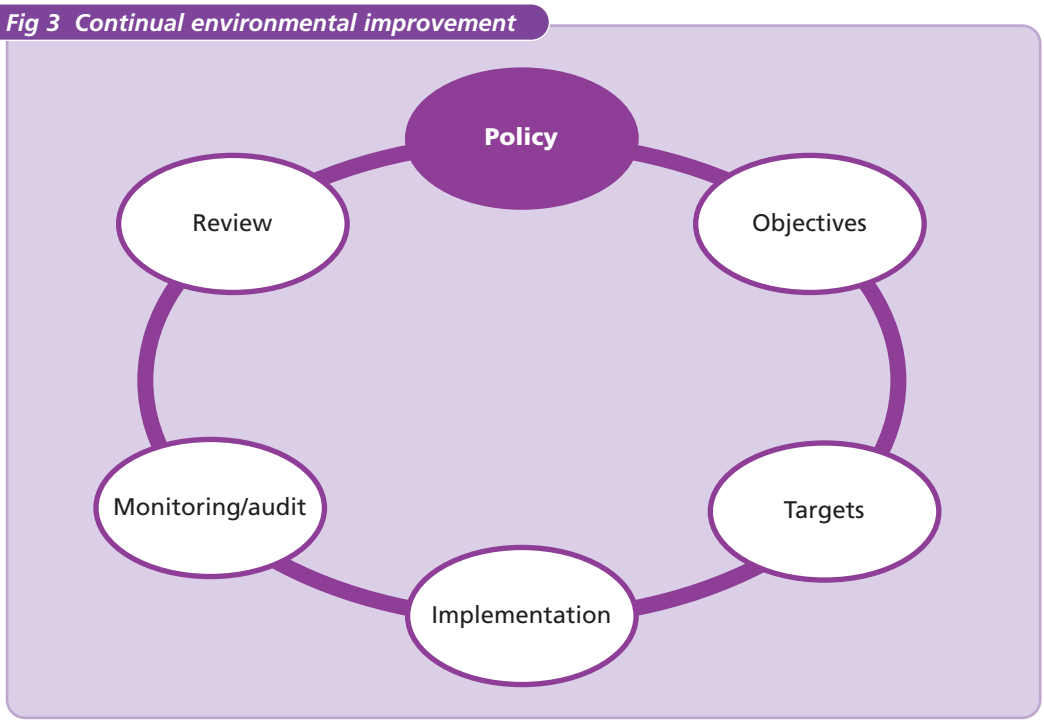
31 Wolf, S. and White, A., 1995. *Environmental law*. ISBN 1859411606. Cavendish, p.14.

32 Dr Georg Winter, International Network for Environmental Management Association (German Environmental Management Association B.A.U.M.) www.inem.org/htdocs/articles/sustainability_scheme.html

ISO 14001

The management system at the centre of ISO 14001 works on the principle of continual improvement (see Fig 3), providing environmental benefits by continual scrutiny of production methods and other procedures.

Fig 3 Continual environmental improvement



There are six main steps in achieving the objectives of ISO 14001. Once completed, the cycle should begin again in order to achieve continual improvement and maintain accreditation. These steps are as follows:

1. The establishment and maintenance of an environmental policy (which must be supported at the highest managerial level and made available to the public), environmental management systems, programmes and reviews.

2. The definition and recording of management responsibility for environmental objectives/targets and the provision of appropriate finance and administrative support.

3. The establishment of a 'register of environmental effects'. This involves knowledge of all potential environmentally damaging effects of the industry, both direct and indirect.

4. The creation of specific environmental objectives and targets, as defined in response to step 3. These should be made publicly available.

5. The setting out of procedures and work instructions in the form of an 'environmental management manual'. This should include procedures outlining verification, testing, measurement and recording.

6. The establishment of environmental auditing schemes and a programme of future audits to ensure compliance with the company's objectives and targets.

There are two additional points for a union negotiator to consider. First, it should be realised that this procedure must be verified by an outside-recognised source and secondly, ISO 14001 recommends that good practice would involve two-way consultation with employees in the development of the scheme.

Eco-auditing

An eco-audit provides basic information against which environmental policies and performance can be assessed. Envirowise uses the term 'review' to distinguish this process from a financial audit. In order to fulfil this function, it is important that the audit informs the pursuance of two questions:

- Do the workplace activities conform to the established procedures/objectives laid down by the programme?
- Do the programme's procedures/objectives fulfil the environmental policy?

This is an area where trade union members, through their representatives, can become involved as the audit provides a perfect opportunity for joint work. The Transport and General Workers' Union (TGWU) has published an outline of possible areas of inspection (see Table 3), which provides a reasonable point of departure for any representative wishing to undertake this task.

Table 3 TGWU guide to eco-auditing

Possible areas of inspection

- Product planning (design, packaging, use, re-use, life-span, disposal)
- Selection and use of raw materials (Are they used efficiently? Are there alternatives?)
- Production processes (Could they be friendlier to the environment?)
- Energy efficiency (power, heat, lighting, ventilation, etc)
- Waste minimisation (durability, recyclability and re-use, biodegradation, use of by-products, etc)
- Safe storage (of product and raw materials, especially chemicals)
- Transportation (the safe and environmentally-conscious transportation of raw materials, chemicals, components, product, employees, etc)
- Reduction and elimination of all emissions and other nuisances (not just toxic and harmful, but odours, noise, etc)

Source: Transport and General Workers' Union, 1993. *Workplace health and safety and green audits - a guide for TGWU safety reps.*

As a result of such audits, differences in business consumption and, therefore, their impact on the environment can be identified. In addition, it is as a result of eco-audits that organisations experience the highest environmental cost savings and thereby increased profitability. The potential for cost savings (and therefore environmental benefits) through the implementation of an EMS accredited to a recognised standard is illustrated in Table 4.

Table 4 Example of savings obtained with an EMS verified to BS 7750

Opportunity	Capital investment (£)	Savings (£/year)	Payback period
Processing and re-use of raw material previously sent to scrap	0	15 000	-
Recycling of containers	36 800	27 600	16 months
Raw material change	14 500	83 000	9 weeks
Process change to reduce loss	300	10 000	1.5 weeks
Waste stream segregation	0	7 000	-
Re-use of reject product	0	9 000	-

Source: British Standards Institution, October 1992. *Environmental News.*

Eco-Management and Auditing Scheme (EMAS)

The EC's EMAS, which was established by Regulation (EEC) No 1836/93 in June 1993 and launched in April 1995, fulfils many of the same functions as ISO 14001. The main aims of EMAS can be defined as follows:[33]

> *... to promote continuous environmental performance improvements of industrial activities by committing sites to evaluate and improve their environmental performance and provide relevant information to the public.*

There are two main differences between EMAS and ISO 14001, which reflect the more 'social' aspects of EMAS compared with the 'free market' emphasis of ISO 14001. EMAS can be achieved by, first, fulfilling the conditions of ISO 14001, and then conforming to its additional requirements.

One difference between ISO 14001 and EMAS is the public statement. There is no compulsion for an organisation to make an annual statement within ISO 14001. Yet, it is this declaration of intention and targets that allows the public to measure and judge a company's environmental performance. Germany considers that there is no point in the EMAS process unless there is improved public confidence, whereas the UK tends to consider that any declaration of what is going on at work is an intrusion into a company's secrets. However, the nature of the statement as defined by EMAS is not without difficulties. Some companies develop their public statement along the lines of their subscribed ideology. This ideology carries its own perspective, such as, an opposition to recognised trade union input.

The other main difference is in the role of employees. Changes made in 2001 by Regulation (EC) No 761/2001 require their active involvement:

> *... the active involvement of employees in the organisation and appropriate initial and advanced training that makes active participation in the establishment of an environmental system. Where they so request, any employee representatives shall also be involved.*[34]

As an EU Regulation, it cannot be reinterpreted into the legal framework of Member States in the same way as Directives can. While the scheme is voluntary, companies have to adopt EMAS exactly as prescribed.

The following websites offer useful information about EMAS:

- www.europa.eu.int/comm/environment/emas/index_en.htm
- www.emas.org.uk (EMAS in the UK).

In 2003, a new environmental standard, BS 8555,[35] was introduced by the BSI to help small and medium enterprises (SMEs) to achieve ISO 14001 or EMAS by taking a phased approach to implementing an EMS. The standard takes the form of guidance towards achieving ISO 14001

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33 Wilson, P., 1996. *The Community Eco-Management and Audit Scheme: an overview, progress to date and current issues*. European Commission. p.5.

34 Clause 2(d) of Article 1 of Regulation (EC) No 761/2001 of the European Parliament and of the Council of 19 March 2001 allowing voluntary participation by organisations in a Community eco-management and audit scheme (EMAS). *Official Journal of the European Communities*, L114, pp. 1-29. 24 April 2001.

35 BS 8555:2003. *Environmental management systems. Guide to the phased implementation of an environmental management system including the use of environmental performance evaluation.*

or EMAS, and is not a certifiable specification in itself. It outlines an implementation process that can be undertaken in up to six separate phases and allows for phased acknowledgement of progress towards full EMS implementation.

Envirowise has published a number of guides offering practical advice on how to implement an EMS, some of which are specific to different industrial sectors. All stress the cost savings and environmental benefits of adopting an EMS and point out that it is not necessary to seek formal accreditation to a standard, although this can help companies to increase their creditability with both customers and suppliers. Further information is available from the Environment and Energy Helpline free on 0800 585794 or via the Envirowise website (www.envirowise.gov.uk).

Group Work 7: Dealing with environmental management systems

Aims:

This activity will help us to:

- identify the main characteristics of an EMS;
- contrast various systems;
- define the role that trade unions can play.

Task:

Identify how managers introduce an EMS.

Discuss how managers' reasons ('drivers') for introducing an EMS may differ from those of a trade union.

In your groups, consider where trade unions, working in social partnership, can influence an EMS:

- setting up an EMS;
- initial environmental review;
- aspects and impacts;
- legislative requirements;
- environmental policy;
- objectives and targets;
- environmental management programme;
- communication and training;
- documents and control;
- measuring, monitoring and auditing;
- review.

How would the involvement differ with EMAS and ISO 14001?

Resources:

Handout 8.

Handout 9: International conventions

International protection has usually taken the form of international conventions which have little or no enforcement potential, but depend upon the 'goodwill' of the nation state signatories to implement the agreed objectives.

However, it is not appropriate to undervalue the achievements and potential of international agreements, as they can be extremely effective. For example, the Montreal Protocol,[36] which was the result of an international convention involving over 25 countries, has led to substantial reductions in the production and consumption of ozone-depleting substances[37] since the mid-1980s.

International agreements on climate change

> *Climate change is widely recognised as one of the key environmental challenges facing all countries today. There is growing scientific consensus on the potential impacts on climate of increasing concentrations of greenhouse gases in the atmosphere. The impact may vary starkly across the world, with rising sea levels and flooding in some regions at the same time as water shortage and famine in others.*[38]

At the Earth Summit held in Rio de Janeiro in 1992, the developed countries agreed a voluntary target to return their emissions of greenhouse gases to 1990 levels by 2000. This agreement was extended at Kyoto in 1997; the developed countries agreed a legally binding commitment to reduce greenhouse gas emissions by 5.2% below 1990 levels over the period 2008-2012. At the same summit, the EU signed up to an agreement to reduce its greenhouse gas emissions by 8% on 1990 levels by the year 2010. The UK share was a commitment to reduce by 12.5% on 1990 levels by the year 2010. However, the Government has set itself a target well in excess of this requirement (20% emissions reduction by 2010). Nevertheless, in the first nine months of 2003, UK carbon dioxide emissions rose by 4%.

The most notable absentee from the UN Framework Convention on Climate Change[39] is the USA which, with 4% of the world's population, contributes 25% of its greenhouse gases. Russia's ratification of the Kyoto Protocol in November 2004 paved the way for its entry into force on 16 February 2005.

Another important international agreement, on sustainable development, was made at the Earth Summit in 1992.

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36 www.unep.org/ozone/Treaties_and_Ratification/2B_montreal%20protocol.asp

37 Examples of ozone-depleting substances include chlorofluorocarbons (CFCs), halons, carbon tetrachloride and methyl chloroform.

38 HM Customs and Excise. www.hmce.gov.uk (introduction to Climate Change Levy - in depth).

39 http://unfccc.int

Handout 10: Sustainable development and Local Agenda 21

The 1992 Earth Summit's objectives were to reduce environmental damage by tackling global problems such as inequality, poverty and human health as well as combating deforestation, ozone depletion, radioactive wastes, etc. Many of these issues have been campaign arenas for trade unions for some considerable time. Furthermore, the environmental element of this list can be considered an extension of trade union principles - after all, it is the trade union movement's environment as well. The erosion of our environment affects the lives of trade union members - not only in the workplace but at home and at leisure. Therefore, trade union activists should ensure that the views, concerns and aspirations of their membership are addressed.

The Earth Summit set in motion the wheels of Agenda 21 - in essence, the first organised step towards large-scale sustainable development. Sustainable development was defined in 1987 in the report, *Our Common Future,*[40] as *"... development that meets the needs of the present without compromising the ability of future generations to meet their own needs,"* while keeping within the Earth's ability to supply resources and absorb waste.

There are now over 500 definitions of 'sustainable development', as it means different things to different people; all maintain the core value of developing by balancing the environmental, social and economic aspects. For example, IUCN, UNEP and WWF[41] offer the definition: *"Improving the quality of life while living within the carrying capacity of the earth's eco-system."*

It was realised that global sustainability could only be achieved if it was democratic and egalitarian (ie based upon the participation of as many people as possible with an equal say), and that this process should take place at the most local scale as is possible and effective. This is known as Local Agenda 21 (LA21).

Central to the process of sustainable development is the incorporation of the views of other stakeholders, including representatives from categories such as:

- the voluntary and business sectors;
- trade unions;
- environmental pressure groups;
- tenants associations;
- chambers of commerce;
- traders associations;
- local people especially women, the poor, young, old and the disabled;
- universities;
- local/central government.

Nine major groups are identified within Agenda 21's 40 chapters as crucial for working in partnership to promote a more sustainable future:

- women (chapter 24);

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40 Brundtland Commission. ISBN 019282080X. Oxford Paperbacks, 1987. p.43.

41 International Union for the Conservation of Nature, United Nations Environment Programme and Worldwide Fund for Nature.

- children and young people (chapter 25);
- indigenous people (chapter 26);
- non-governmental organisations (NGOs) (chapter 27);
- local authorities (chapter 28);
- workers and trade unions (chapter 29);
- business and industry (chapter 30);
- scientific and technological community (chapter 31);
- farmers (chapter 32).

Furthermore, the literature surrounding the subject of sustainable development defines six core elements that must be considered before any development is considered sustainable. These are as follows:[42]

1. **Environment-economy integration**: ensuring that economic development and environmental protection are integrated in planning and implementation.
2. **Futurity**: an explicit concern about the impact of current activity on future generations.
3. **Environmental protection**: a commitment to reducing pollution and environmental degradation and to the more efficient use of resources.
4. **Equity**: a commitment to meeting at least the basic needs of the poor of the present generation (as well as equity between generations).
5. **Quality of life**: a recognition that human well-being is constituted by more than just income growth.
6. **Participation**: the recognition that sustainable development requires the political involvement of all groups or 'stakeholders' in society.

Role of local government in LA21

Local authorities are responsible for the LA21 process. They are - as identified in chapter 28 of Agenda 21 - key actors in achieving sustainable development due to their position in the local community making them ideal for *"educating, mobilizing, and responding to the public to promote sustainable development".* This, combined with their responsibility to plan, implement and construct local, social and environmental infrastructure, brands local authorities as excellent facilitators for the LA21 process. A number of objectives, which emphasise this, have been allocated for the local authorities of the Rio signatories. These are summarised in the box below.

A sustainable community would be one in which:

- Resources are used efficiently, waste is minimised and materials are recycled.
- Pollution is limited to levels which do not cause damage to natural ecosystems.
- The diversity of nature is valued and protected.
- Where possible, local needs are met locally.
- Everyone has access to adequate food, water, shelter and fuel at a reasonable cost.

[42] Jacobs, M., 1999. Sustainable development as a contested concept. In: Dobson, A. (editor). *Fairness and futurity: essays on environmental sustainability and social justice.* ISBN 0198294891. Oxford University Press, pp. 26-27.

A sustainable community would be one in which: (continued)

- Everyone has the opportunity to undertake satisfying work in a diverse economy. The value of unpaid work is recognised, and payment for work is both fair and fairly distributed.
- Health is protected by the creation of safe, clean, and pleasant environments and of services which emphasise prevention of illness as well as care for the sick.
- Access to facilities, services, goods and other people is not achieved at the expense of the environment or limited to those with cars.
- People live without fear of crime, or persecution on account of their race, gender, sexuality or beliefs.
- Everyone has access to skills, knowledge, and information which they need to play a full part in society.
- All sections of the community are empowered to participate in decision making.
- Opportunities to participate in culture, leisure and recreation are readily available to all.
- Buildings, open spaces and artefacts combine meaning with beauty and utility.
- Settlements are 'human' in scale and form.
- Diversity and distinctive local features are valued and protected.

Source: Local Government Management Board, 1994. *Local Agenda 21, principles and process: a step-by-step guide.*

The role of trade unions in LA 21

> *... trade unions are vital actors in facilitating the achievement of sustainable development in view of their experience in addressing industrial change, the extremely high priority they give to protection of the working environment and the related natural environment, and their promotion of socially responsible and economic development.*[43]

Local Agenda 21 gives the trade union movement an opportunity to play an active part within the local community to provide a voice for the ordinary working population. These people, who very probably believe in environmental protection measures, also have very real concerns and fears about the security of their jobs. This process, however, allows trade unions to work in conjunction with the environmental lobby and other sectors to represent these fears and have them addressed in any new strategy that should develop.

LA21 may not initially seem an issue that demands the attention of active trade unionists, yet non-participation will result in the process of discussion continuing, but without a trade union contribution. Subjects that may affect us directly, such as issues concerning transport or energy, or points of trade union principle, may go unheard. In particular, the social elements of sustainable development are likely to be ignored. Principles of justice, fairness and equality are standard issues for the trade union movement, and thus well suited to assist the process of Agenda 21 to achieve its aims.

Appendix 2 reproduces the text of chapter 29 of Local Agenda 21 on the role of workers and their trade unions in implementing sustainable development.

[43] United Nations Conference on Environment and Development, 1992. *Earth Summit: Agenda 21: Programme of Action for Sustainable Development*, Chapter 29, UN, p. 235.

Handout 11: World Summit on Sustainable Development 2002

The World Summit on Sustainable Development (WSSD) or Earth Summit 2002 in Johannesburg produced both advances and setbacks. Partnership initiatives were an important element of the outcome of the Summit. In the words of UN Secretary-General Kofi Annan: *"This Summit represents a major leap forward in the development of partnership."* The Summit adopted the WSSD Plan of Implementation (PI)[44] and the Johannesburg Declaration (JD),[45] but targets for a range of sustainable development issues were not set.

Targets set included these for:

- **Fish** - governments promised to restore the world's depleted fish stocks by 2015.
- **Sanitation** - a new commitment was set for sanitation, ie to halve the proportion of people without access to sanitation by 2015 together with the UN Millennium Development Goal[46] to halve the proportion without access to safe drinking water by 2015.
- **Type 2 partnerships** - these can be partnerships between countries, private companies and public services, governments and businesses, NGOs and local authorities, and with key groups (particularly women, farmers, indigenous people and young people).

  Social partnerships between employers and employees have the potential to deliver real environmental improvements.

There were a number of other gains.

- There was confirmation in the Plan of Implementation that makes it clear that UN Multilateral Environmental Agreements (MEAs) are not subservient to World Trade Organization (WTO) decisions.
- The action plan calls for active promotion of corporate responsibility, although there will not be a global police force to catch corporate polluters and human rights abusers. A reference to 'intergovernmental agreements' and 'international initiative' could open the way to some kind of global convention on corporate behaviour.
- There was commitment, by 2020, to use and produce chemicals in ways that do not lead to significant adverse effects on human health and the environment. This will be achieved through sound international management of chemicals through implementation of the Rotterdam and Stockholm Conventions.[47]

Perhaps the biggest disappointment was the lack of any targets to boost the use of renewable energy resources such as wind and solar power. There was a lot of debate as to what are 'renewables' and whether they include nuclear energy.

Ways forward

Speaking at the closing press conference, UN Secretary-General Kofi Annan stressed: *"We have to go out and take action. This is not the end, it is the beginning."*

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44 www.un.org/esa/sustdev/documents/WSSD_POI_PD/English/POIToc.htm

45 www.un.org/esa/sustdev/documents/WSSD_POI_PD/English/POI_PD.htm

46 www.un.org/millenniumgoals/

47 www.epaw.co.uk/newchemical.html

Proposed measures included:

- As part of the wider action to change unsustainable consumption and production patterns:
  - workplace-based partnerships and programmes, including training and education programmes (PI paragraph 18d);
  - use a range of partnerships ... among governments, intergovernmental organizations, workers, and other stakeholders, to promote transparency and accountability (PI paragraph 46a).
- The Plan of Implementation recognises measures for corporate accountability and the strengthening of government roles by taking action 'at all levels' to 'actively promote corporate responsibility and accountability, based on the Rio Principles' (PI paragraph 49).
- Registering Type 2 partnerships. More than 220 partnerships, worth $235 million in resources, were identified during the Summit process; these were in the form of partnership initiatives by and between governments, civil groups and businesses.
- The Summit Implementation Plan provides the basis for raising workplace issues as part of the tools for addressing issues for WEHAB (water, energy, health, agriculture and biodiversity), many of which are being promoted by Type 2 partnerships.
- There was also growing support for 'workplace assessments programmes', which enable people such as trade union representatives to assess how their organisations are contributing to environmental improvement and sustainable development.

Since WSSD, the main development was in relation to the agreement in June 2003 at Marrakech (Morocco) at a meeting called to map out a ten-year framework to promote sustainable consumption and production (better known as the Marrakech Process).[48] This sets out:

> *... to accelerate the shift towards sustainable consumption and production to promote social and economic development within the carrying capacity of ecosystems by addressing and, where appropriate, delinking economic growth and environmental degradation through improving efficiency and sustainability in the use of resources and production processes and reducing resource degradation, pollution and waste.*[49]

Information on other processes following from WSSD is given on the WSSD area of the UK Government's website on sustainable development (www.sustainable-development.gov.uk/wssd2/index.htm).

48 www.un.org/esa/sustdev/sdissues/consumption/marrakech.htm

49 Plan of Implementation of the World Summit on Sustainable Development, paragraph 15.

Group Work 8: Making development sustainable

Aims:

This activity will help us to:

- understand the meaning of 'sustainable development';
- develop the role of trade unions;
- identify opportunities to promote trade unions.

Task:

In groups:

Agree on a definition for 'sustainable development' and write it on either flip chart paper or an OHP slide.

Identify what opportunities sustainable development offers trade unions.

Present your ideas to the other groups.

Resources:

Handouts 9-11.

Module 4

Strategies for change

4

Handout 12: Trade unions and environmentalism

The following handout is intended to support the overview given by the course tutor and/or a guest speaker (if available) and the ensuing group discussion.

During the course, we have studied different elements of the environmental agenda and seen how trade unions relate to this. As Local Agenda 21 from the 1992 Earth Summit asserted:

> *... trade unions are vital actors in facilitating the achievement of sustainable development in view of their experience in addressing industrial change, the extremely high priority they give to protection of the working environment and the related natural environment, and their promotion of socially responsible and economic development.*[50]

However, the involvement of trade unions in environmentalism is a little more contentious than this quote implies. The following two quotations show the breadth of opinion on this subject:

> *Labour is encumbered by a century's worth of obsolescent philosophy ... that it cannot divest itself of its history and traditions ... and that it can become no more green than a tortoise can become a hare.*[51]
>
> *.... the trades union movement was always essentially an environmental protest movement. Its struggle for health and safety at work was a struggle for quality of environment at the point of production. Its struggles for decent wages were struggles for environment in the social sphere ... Few other campaigns have had such impact on the quality of people's environment and lives in the West as these.*[52]

We will further consider areas of trade union involvement by focusing on four aspects of trade unions and environmentalism:

- within the workplace;
- within communities - local and beyond;
- trade unions as campaigning organisations;
- trade unions as employers.

Within the workplace

As we have discussed in the earlier modules, trade union representatives can play a key role in developing the workplace environmental agenda and broadening the scope of the bargaining

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50 United Nations Conference on Environment and Development, 1992. *Earth Summit: Agenda 21: Programme of Action for Sustainable Development*, Chapter 29, UN, p. 235.

51 Morrissey, J. Cited in Pepper, D., 1986. Radical environmentalism and the labour movement. In: Weston, J. (editor). *Red and green: a new politics of the environment.* ISBN 0745301479. Pluto Press, p. 116.

52 Pepper, D., 1993. *Eco-socialism: from deep ecology to social justice.* ISBN 0415097193. Routledge, p. 63.

arena. A central part of this process is to raise the profile of the environment among your union members. This may be achieved by having an active profile in the following areas:

- extending the role of the trade union representative to include environmental protection;
- broadening the bargaining agenda to include the promotion of environmental measures such as energy saving and waste strategies;
- becoming involved in and promoting environmental management systems;
- using your normal routes of communication to promote environmental schemes to your members.

Within communities - local and beyond

> *In the long run the real choice is not jobs or environment. It's both or neither.*[53]

Trade unions have always been community organisations and are uniquely placed in the arena. As outlined in an earlier module, trade unions could take up the challenge of Agenda 21 and promote activity from their representatives and members in Local Agenda 21 processes within local authority strategies.

However, environmentalism, as we have discussed, will at certain times run contrary to our members' job interests. Nevertheless, many paint a more optimistic picture believing that, in the longer term, workers' lives and the environment will be improved. This suggests:

> *A broad consensus has developed amongst trade unions and environmental groups that a green economy can create jobs.*[54]

For some in an environmentally sensitive industry, however, the reality today may not be quite as comfortable.

> *The sticker on the hard hat says: 'Honk if you smell of wee'. It sits in a cubbyhole in the lodge of the Hurn Recycling Centre, Dorset. The men who work there stand on the line for nine and a half hours at a time, picking out contaminants from a stream of recyclable waste that shoots past on a conveyor belt. They don't, generally, have much to laugh about. The noise of the engines is too loud to talk over and, anyway, their mouths are covered by plastic masks … Recycling schemes give their participants a sense of well-being that is not, for the most part, passed on to the people whose job it is to implement them.*[55]

The need to ensure that skilled jobs lost are replaced by similarly skilled jobs being created in the environmental sector has become a key priority for many environmentally minded trade unionists, who are keen to suggest realistic solutions.

A study by GMB, UNISON, FoE and the Association for the Conservation of Energy in 1998 found that job gains flow from an integrated approach. They are not new specialist 'green' jobs, but they are made up of the same mix of skilled, semi-skilled and unskilled occupations.[56]

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53 United Steelworkers of America. Cited in: Renner, M., 1992. Sustainable jobs. *Geographic Magazine*, April, p.22.

54 Hewett, C., 1996. Jobs versus pollution. *Labour Research*, April, p. 15.

55 Brockes, E., 2002. Cash for trash. *Guardian Society*, 22 May, pp. 6-7.

56 www.foe.co.uk/resource/reports/green_job_creation.html

The Danish trade union, SID, heightened the job skills of refuse collectors by developing the notion of 'green ambassadors'. This successful scheme was based on the idea that those best placed to promote and educate people in the community in the needs of recycling are those that are most frequently in touch with the public when collecting their rubbish. Local residents were encouraged by the local authority to raise environmental issues with the refuse collectors. SID led the way in a sustainable waste strategy: it raised health and safety issues, protected the environment, saved money, and engaged socially, making this a classic study in sustainable development.[57] However, there may be occasion to question the continuation of the work on environmental grounds:

> *Environmental measures have and will lead to certain jobs being placed under threat, a real concern for any trade union. So devising alternative employment strategies must be a central part of the process … The recent Royal Commission report on transport will, if its radical suggestions are adopted, mean fewer jobs in car and truck manufacturing and road building. But there will be more building of buses, trams and trains. The challenge will be to try and ensure, as far as is possible, that the 'new' jobs are in the same area as those lost.*[58]

This was not a new idea. In the mid-1970s, workers faced with unemployment and moral dilemmas surrounding the arms industry developed a plan for industrial conversion that involved using the skills of the workers that were focused around a geographical area for more socially and environmentally useful production (see box). The scheme was rejected by management, but has been extremely influential and other schemes based upon it have achieved much greater levels of success.

Philosophy and plan: an early example from the UK arms industry

- Be accessible and useful to everyone in the community and not confined to fulfilling the needs of a select few.
- Take maximum advantage of the existing skills within a company and develop them to the advantage of the workforce and the community.
- Produce products capable of being made and used in ways that do not impair the health and safety of the workforce or the community at large.
- Make minimum demands upon natural resources and improve the quality of the environment.

Source: McRobie, G., 1981. *Small is possible.* Jonathan Cape, p. 93.

Trade unions as campaigning organisations

Many of the areas we have discussed may need policy decision amendments by unions. This will be reliant on the activists within the organisations raising the profile of the issues and bringing them onto the agenda of the relevant conferences or policy-making bodies. This may involve the drafting of, and defence of, motions in support of this change.

Trade unions can also use their national and international links to move the environmental agenda forward and to ensure that the issues of those people it represents are being considered; without their input, this may not be the case.

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57 Clutterbuck, C., 2002. *Towards a sustainable waste strategy*. Report for the TUC.

58 Dalton, A.J.P., 1994/5. Jobs or the environment. *Hazards,* 49, p. 10. The Eighteenth Report from the Royal Commission on Environmental Pollution, *Transport and the environment* (Cm 2674, ISBN 0101267428), was published in October 1994.

On a national scale, trade unions can lobby the Government and make their perspective heard. Shortly after the election of the Labour Government in 1997, TUSDAC was established to bring together trade unions and the Government to discuss these issues.

> *The Trade Union Sustainable Development Advisory Committee (TUSDAC) was set up in 1998. Its key objective is to provide Government with a trade union perspective on the employment consequences of climate change, and the response to it and to allow the trades unions to enter into constructive dialogue with the Government on sustainable development and environmental issues.*[59]

The terms of reference of TUSDAC are:

- to direct trade union input into the policy process to enable constructive dialogue with Government on sustainable development and other related environmental issues;
- to provide a trade union perspective on the employment consequences of climate change, and the response to it;
- to help mobilise the trade union movement to become involved in the move towards better environmental practice in the workplace, building on existing initiatives and activities, disseminating information and experience.

Trade unions as employers

An element of this discussion that is often overlooked is trade unions as employers, users, consumers and investors. Each of these has its own impact on the environment, which deserves scrutiny.

However, it is unusual for a trade union to have an internal environmental strategy. Systems demanding the use of the waste hierarchy, energy saving, purchase of environmentally benign products and environmental auditing are everyday requirements for trade union representatives in the workplace, but are seldom applied to the unions themselves.

Moreover, when we are looking for more sustainable ways to invest money in our pension scheme at work or at the bank, perhaps we should ask where the movement invests its money and what social/environmental criteria of investment does it apply?

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59 Hewett, C. and Foley, J., 2000. *Employment creation and environmental policy: a literature review.* TUSDAC. Can be viewed at www.defra.gov.uk/environment/tusdac/reports/ecep/index.htm

Group Work 9: Developing a strategy for trade union environmental action

In this session, you will be asked to make a 15-minute group presentation. This presentation should be based upon your work during the course and should attempt to devise a programme of action for the four areas we have just discussed, ie:

- within the workplace;
- within communities - local and beyond;
- trade unions as campaigning organisations;
- trade unions as employers.

For the purposes of this exercise, you can be as ambitious in your ideas as you feel is appropriate.

Any information you may require will be made available (if possible). In addition, flip charts and overhead projectors will be available on request.

You may also find it useful to refer to relevant publications produced by Envirowise and the Carbon Trust (see Appendix 6). If your tutor has not brought them along to the course and you have access to the Internet, many can be downloaded from their respective websites (www.envirowise.gov.uk and www.thecarbontrust.co.uk).[60]

Areas for possible consideration

NB This is not an exhaustive list!

- Waste minimisation programme.
- Energy saving schemes.
- Work in the community.
- Negotiating additional rights at work.
- Work with 'green' groups.
- Union policy.
- Union strategy.
- Potential areas of union campaign/strategy organisation.
- Conflicts of interest.
- Environmental job creation.
- Union investment.

In addition, each member of the group should outline the specific targets/strategies they are going to pursue once they return to work and union activity.

60 You will have to register on the websites to be able to do this.

Example individual evaluation sheet

Environmental education for trade unionists (GG488)

Please complete this questionnaire during the course review and hand to your tutor before you leave at the end of the course.

Date: ..... **Tutor(s):** .....

1. To what extent did the course achieve its stated objectives?

1	2	3	4	5	6
not at all					*totally*

Comments: .....

2. How useful did you find the course?

1	2	3	4	5	6
least useful					*most useful*

Comments: .....

3. How well do you think the topics on the programme were covered?

1	2	3	4	5	6
poorly					*extremely well*

Comments: .....

4. How effective do you think the methods on the course were?

1	2	3	4	5	6
not effective					*very effective*

Comments: .....

5. What did you think of the standard of the training venue?

1	2	3	4	5	6
poor					*excellent*

Comments: .....

6. What is your overall assessment of the value of this course?

1	2	3	4	5	6
poor					*excellent*

Comments: .....

7. How will you apply the lessons of the course in your trade union work?

.....

.....

.....

.....

GG488B published by Envirowise (www.envirowise.gov.uk) Helpline 0800 585794

Extract from Local Agenda 21

PROGRAMME AREA

Basis for action

29.1 Efforts to implement sustainable development will involve adjustments and opportunities at the national and enterprise levels, with workers foremost among those concerned. As their representatives, trade unions are vital actors in facilitating the achievement of sustainable development in view of their experience in addressing industrial change, the extremely high priority they give to protection of the working environment and the related natural environment, and their promotion of socially responsible and economic development. The existing network of collaboration among trade unions and their extensive membership provide important channels through which the concepts and practices of sustainable development can be supported. The established principles of tripartism provide a basis for strengthened collaboration between workers and their representatives, Governments and employers in the implementation of sustainable development.

Objectives

29.2 The overall objective is poverty alleviation and full and sustainable employment, which contribute to safe, clean and healthy environments - the working environment, the community and the physical environment. Workers should be full participants in the implementation and evaluation of activities related to Agenda 21.

29.3 To that end, the following objectives are proposed for accomplishment by the year 2000:

- to promote ratification of relevant conventions of ILO and the enactment of legislation in support of those conventions;
- to establish bipartite and tripartite mechanisms on safety, health and sustainable development;
- to increase the number of environmental collective agreements aimed at achieving sustainable development;
- to reduce occupational accidents, injuries and diseases according to recognized statistical reporting procedures;
- to increase the provision of workers' education, training and retraining, particularly in the area of occupational health and safety and environment.

Activities

(a) Promoting freedom of association

29.4 For workers and their trade unions to play a full and informed role in support of sustainable development, governments and employers should promote the rights of individual workers to freedom of association and the protection of the right to organize as laid down in ILO conventions. Governments should consider ratifying and implementing those conventions, if they have not already done so.

(b) Strengthening participation and consultation

29.5 Governments, business and industry should promote the active participation of workers and their trade unions in decisions on the design, implementation and evaluation of national and international policies and programmes on environment and development, including employment policies, industrial strategies, labour adjustment programmes and technology transfers.

29.6 Trade unions, employers and governments should cooperate to ensure that the concept of sustainable development is equitably implemented.

29.7 Joint (employer/worker) or tripartite (employer/worker/government) collaborative mechanisms at the workplace, community and national levels should be established to deal with safety, health and environment, including special reference to the rights and status of women in the workplace.

29.8 Governments and employers should ensure that workers and their representatives are provided with all relevant information to enable effective participation in these decision-making processes.

29.9 Trade unions should continue to define, develop and promote policies on all aspects of sustainable development.

29.10 Trade unions and employers should establish the framework for a joint environmental policy, and set priorities to improve the working environment and the overall environmental performance of enterprise.

29.11 Trade unions should:

- seek to ensure that workers are able to participate in environmental audits at the workplace and in environmental impact assessments;
- participate in environment and development activities within the local community and promote joint action on potential problems of common concern;
- play an active role in the sustainable development activities of international and regional organizations, particularly within the United Nations system.

(c) Provide adequate training

29.12 Workers and their representatives should have access to adequate training to augment environmental awareness, ensure their safety and health, and improve their economic and social welfare. Such training should ensure that the necessary skills are available to promote sustainable livelihoods and improve the working environment. Trade unions, employers, governments and international agencies should cooperate in assessing training needs within their respective spheres of activity. Workers and their representatives should be involved in the design and implementation of worker training programmes conducted by employers and governments.

Means of implementation

(a) Financing and cost evaluation

29.13 The Conference secretariat has estimated the average total annual cost (1993-2000) of implementing the activities of this programme to be about $300 million from the international community on grant or concessional terms. These are indicative and order-of-magnitude estimates only and have not been reviewed by governments. Actual costs and financial terms, including any that are non-concessional, will depend upon, inter alia, the specific strategies and programmes governments decide upon for implementation.

(b) Capacity-building

29.14 Particular attention should be given to strengthening the capacity of each of the tripartite social partners (governments and employers' and workers' organizations) to facilitate greater collaboration towards sustainable development.

Source: United Nations Conference on Environment and Development, 1992. *Earth Summit: Agenda 21: Programme of Action for Sustainable Development*, Chapter 29, pp. 235-236.

Glossary

Acid rain

Rain (also sleet or snow) contaminated by the release of sulphur oxides and nitrogen oxides into the atmosphere. These gases come from industrial smokestacks, electricity generating plants, industrial boilers and large smelters. Acid rain destroys trees, plants and buildings, and harms human health. It can have effects many kilometres from the source of the pollution.

Aerosol

An aerosol container has its contents of liquid or gas under pressure so the product is released as a mist or spray.

Agenda 21

The name of the agreement signed by most countries at the Rio Earth Summit in 1992. Agenda 21 addresses the pressing problems of today and aims at preparing the world for the challenges of the 21st century. It reflects a global consensus and political commitment at the highest level on development and environmental co-operation.

Asbestos

The name for a group of needle and thread-like minerals used because of their resistance to heat and acids. Asbestos can have harmful effects; inhalation of particles can greatly harm the lungs and can cause different types of cancer.

Atmosphere

Around the earth, there is an envelope of gases held by gravity; this is the atmosphere. The gases are mainly nitrogen and oxygen; others include hydrogen, ozone, carbon dioxide, radon and inert elements such as argon. There are different layers: the troposphere is nearest the Earth and extends up to about 6 km and then the stratosphere extends up to 50 km; the highest layers are the mesosphere, the thermosphere, and the ionosphere, which reach out to about 400 km.

Audit

Originally, an 'eco-audit' was a workplace inspection assessing the environmental effects of the work carried out. This meaning can often be heard in Europe today. Nowadays, the word is closer to the meaning of a financial audit. An environmental management system audit is part of all environmental management systems. It is a systematic and documented verification process of objectively obtaining and evaluating evidence to determine whether an organisation's environmental management system conforms to the criteria set by the organisation, and for communication of the results of this process to management. Envirowise uses the term 'review' to distinguish this process from a financial audit.

BAT

Stands for Best Available Techniques. Companies operating processes covered by Integrated Pollution Prevention and Control (IPPC) have to demonstrate they are using BAT in order to be issued with a permit to operate. Key BAT issues include waste minimisation, water use, energy use, emissions to air, effluent management and accident risk.

BATNEEC	Stands for Best Available Techniques Not Entailing Excessive Cost. Companies operating processes covered by Integrated Pollution Control have to demonstrate they are using BATNEEC in order to be authorised to operate. BATNEEC strikes a balance between the best available technology and what the sector of industry can generally afford.
BEMS	Stands for Building Energy Management System. Computerised control of a building's energy use such as heating, lighting, air-conditioning, etc.
Biodegradable	A material that can be broken down by living organisms to matter that re-enters the biological cycle.
Biological diversity or biodiversity	The wealth of life on Earth. Biodiversity is represented by the world's millions of plants, animals, micro-organisms, and their genes. The wide diversity of these is thought to guarantee more and better responses to any adverse changes in the environment.
Biological treatment	Any biological process that changes the properties of waste (eg anaerobic digestion and composting).
Biotechnology	Techniques that use biological processes (eg enzymes, bacteria and fungi) for manufacturing. It now also means genetic modification - where genes representing 'useful' characteristics are inserted into different organisms.
Bleaching	The name given to industrial processes applied to whiten or lighten in colour. Those using a chemical agent often use chlorine. By-products of this process include organochlorines such as dioxins and furans, which are among the most dangerous chemicals in the world.
BPEO	This stands for Best Practicable Environmental Option and relates to the disposal or dispersal with the lowest environmental impact in the long term. As defined by the Royal Commission on Environmental Pollution, the aim of BPEO is *"to find the optimum combination of available methods of disposal so as to limit damage to the environment to the greatest extent achievable for a reasonable and acceptable total combined cost to industry and the public purse."*
Bring (drop-off) recycling	Schemes where the public brings material for recycling to centralised collection points (eg bottle and can banks) at civic amenity sites, supermarket car parks and similar locations.
Brown agenda	A people-centred approach that believes the rich consume too much, placing pressure on the environment, and that the poor fall back on natural resources to meet their needs, degrading the environment. Alleviating poverty thus helps the environment.
Carbon dioxide (CO_2)	A colourless and odourless gas formed from the burning of all fossil fuels (coal, oil, gas), wood and other sources. All animals (including people) breathe in oxygen and exhale carbon dioxide, while plants absorb carbon dioxide and give off oxygen. Carbon dioxide is non-toxic, but is the largest contributor to the greenhouse effect.

Carbon monoxide (CO)	A colourless and poisonous gas formed from the incomplete combustion of a fossil fuel. Particularly given off by car engines and released through the exhaust. If inhaled can cause asphyxiation by combining with the blood haemoglobin to prevent the flow of oxygen.
CCL	Climate Change Levy. A Government levy on carbon-based fuels to encourage energy efficiency.
Chemo-thermal-mechanical process (CTM)	A process for pulping wood that does not require the sort of chemicals and temperatures that produce dioxins. Instead of using purely mechanical means to shorten fibres, CTM uses a mixture of mechanical means and chemicals (eg sulphur compounds or hydrogen peroxide) and, as a result, the fibres still hold together well. This process can take the place of bleaching using chlorine.
Chlorine	A yellow-green gas with a peculiar, suffocating odour. Chlorine is used in bleaching, disinfecting and in many industrial processes.
Chlorofluorocarbons (CFCs)	A group of man-made gases used as refrigerants and aerosol propellants. Because one molecule of CFC can destroy hundreds of ozone molecules, CFCs are considered the most dangerous of the ozone-depleting gases.
CHP	Combined heat and power. The generation of electricity on-site combined with the use of the waste heat from the generation process.
Cleaner production	The continuous application of an integrated preventive environmental strategy to processes and products in order to reduce risks to humans and the environment.
Climatic zones	Regions with similar weather conditions, eg desert areas and tropical areas.
Clinical waste	Healthcare waste such as blood, tissue, needles, soiled dressings, drugs, etc, which is infectious or could cause harm in some other way. It may be produced from hospitals, medical, nursing, dental, veterinary, pharmaceutical or similar practices or from home treatment. Must be collected separately and disposed of according to best practice.
Commercial waste	Waste arising from premises used wholly or mainly for trade, business, sport, recreation or entertainment, other than municipal and industrial waste.
Composting	A process where biodegradable material (eg garden and kitchen waste) is converted, in the presence of oxygen from the air, into a stable granular material which, when applied to land, improves soil structure and enriches its nutrient content.
Conservation	The maintenance of a desired combination of materials, plants, animals and minerals to keep them from changing, being damaged or lost. By doing this, we say that we conserve these resources.
Construction and demolition waste	Waste arising from the construction, repair, maintenance and demolition of buildings and structures, including roads. It consists mostly of brick, concrete, hardcore, subsoil and topsoil, but it can also contain quantities of timber, metal, plastics and (occasionally) hazardous waste materials.

Controlled waste	The UK term for waste controlled under the Waste Framework Directive: any household, industrial or commercial waste.
Conventions	Agreements made between a minimum number of states within the United Nations governing various environmental impacts. Now called Multilateral Environmental Agreements (MEAs).
CV	Calorific value. The energy content of a fuel.
Deforestation	The clearing or thinning of forests to use the wood, or the land for grazing animals or growing crops. Deforestation is happening in many parts of the world, especially in rainforest areas, and is a problem of worldwide concern.
Deplete	When the amount of a substance decreases in the environment, it is said to be depleted. The term usually applies to raw materials used for production, but it can also be used to refer to what is happening to the ozone layer, in that it is being depleted due to the presence of certain chemicals in the atmosphere.
Desertification	Loss of productive land to desert due to declining soil quality and moisture content. This can occur from human activity such as overgrazing and intensive farming, and also from climatic changes.
Dioxins	A family of 80 or so hazardous chemicals associated with the industrial use of substances containing chlorine. One dioxin, TCDD, is one of the most toxic compounds known and was found as a contaminant of the weedkiller, 2,4,5-T. This chemical was also called Agent Orange in Vietnam and was accidentally released over the town of Seveso in Italy in 1976.
Drought	A period when there is a lack of rain or water.
Dumping	Deliberately unloading and leaving waste at a particular site with no attention given to safety or environmental factors.
Durability	The ability to last.
Duty of Care	A duty of care applies to anybody who carries, keeps, treats or disposes of waste, or who acts as a third party and arranges matters such as imports or disposal. They must ensure that nobody in the chain commits an offence regarding waste.
Eco-efficiency	The efficiency with which environmental resources are used to meet human needs. Can help to achieve the aim of maximising benefits while minimising risks.
Ecology	The study of the relationships between living things and their environment.
Effluent	Liquid waste matter that results from industrial processing or sewage treatment. Industrial effluents are either treated on-site in an effluent treatment plant, discharged as trade effluent for treatment at the local sewage works, or discharged directly to a watercourse under a discharge consent agreed with the appropriate regulator.

Emissions	In the industrial context, emissions are the gases, liquids and solid matter given off by, among other things, factories and motor vehicles. Often used to refer to substances discharged into the air.
End-of-pipe	Equipment or technology that is used to treat or dispose of emissions, effluents and wastes from a production process. This contrasts with 'integrated' equipment that reduces the sources of pollution and facilitates re-use or recycling.
Energy efficiency	Using less energy to perform the same function.
Environment	The surroundings in which an organisation operates, including air, water, land, natural resources, flora, fauna, humans and their interrelation. Surroundings in this context extend from within the organisation to the global system (ISO 14001: 1996 Definition 3.2).
Environmental accounting	The development of balance sheets to measure economic activity in terms of the costs to the environment.
Environmental agreements	Voluntary agreements between industry and public authorities for the achievement of environmental objectives.
Environmental auditing	The systematic review and testing of the management, production, marketing, product development and organisational systems of an enterprise to determine environmental impact and suggest changes.
Environmental impact	The change to the environment, whether adverse or beneficial, which wholly or partly results from the organisation's activities (ISO 14001: 1996 Definition 3.4).
Environmental management	The organised effort of all of an organisation's functions, with the main objective of enabling it to comply with existing environmental legislation and to continually improve its impact on the environment.
Environmental management system (EMS)	A system introduced by management, similar to that for quality production, that is designed to continually improve the organisation's environmental performance.
Environmental performance	Measurable results of the environmental management system, related to an organisation's control of its environmental aspects, based on its environmental policy, objectives and targets (ISO 14001: 1996 Definition 3.8).
Environmental policy	A statement by an organisation of its intentions and principles in relation to its overall environmental performance, which provides a framework for action and for the setting of its environmental objectives and targets.
Environmental practice	The process of transforming environmental principles such as the precautionary principle, cleaner production, energy efficiency, water conservation, resource use and waste minimisation into work practices.

Environmental protection	Aims to reduce environmental pollution caused during normal operations: ■ to reduce or prevent emissions to air or water; ■ to dispose of waste materials; ■ to protect land, soil and groundwater; ■ to prevent noise and vibration; ■ to protect the natural environment.
Evaporation	The process of changing liquid into vapour.
Extended Product Responsibility (EPR)	Requires companies to take life-cycle responsibility for their products.
Finite	Some resources are replaced by the normal process of life. Others once used cannot be replaced; these are said to be finite.
Fossil fuels	Hydrocarbon fuels from wood, coal, natural gas and oil.
Fuel poverty	The need for a household to spend more than 10% of its income on fuel to maintain a satisfactory heating regime.
General waste	Term often used to describe non-hazardous waste that is collected in skips, large wheeled bins, etc around the workplace. Includes items normally thrown away in office-style bins such as paper, cardboard, polystyrene and plastic packaging materials, small quantities of food waste, bottles, cans, etc as well as broken pallets, scrap metal, discarded electrical equipment, old furniture, etc.
Genes	The parts of living cells that hold, determine and pass on all the characteristics of the individual organism.
Genetic engineering	The technique of finding and transferring desirable genes from one organism to another.
Global warming	The increase of certain gases in the atmosphere resulting in an average global temperature increase.
Global warming potential (GWP)	The index used to translate the level of emissions of various gases into a common measure in order to compare their relative radiative forcing without directly calculating the changes in atmospheric concentrations.
Greenhouse effect	The process whereby heat from the Earth cannot escape back into space because growing amounts of chemicals (eg carbon dioxide) are trapping the heat high in the atmosphere. The heat is sent back to the Earth. It is predicted that this will raise the temperature of the Earth, which will cause ocean levels to rise and disrupt plant, animal and human living conditions.
Greenhouse gases (GHG)	Those gases contributing to the greenhouse effect. The six main gases with a direct greenhouse effect are carbon dioxide, nitrous oxide (N_2O), methane (CH_4), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs) and sulphur hexafluoride (SF_6).
Green track	A shorthand expression from the USA for alternative pathways that companies take by committing themselves to environmental objectives that go beyond compliance with pollution control laws.

Greenwash	Disinformation produced by an organisation so as to present an environmentally responsible public image, when it is actually not doing much for the environment.
Halogens	This highly reactive family of elements (fluorine, chlorine, bromine and iodine) react easily with metals to produce salts.
Halons	A group of chemicals analogous to CFCs except that they contain bromine instead of chlorine. They are extremely destructive to the ozone layer.
Harm	The hurt, injury to people, the damage or loss of inherent quality to the environment.
Hazard	This is defined by HSE as 'something with the potential to cause harm'. Almost anything may be a hazard, but it may or may not become a risk.
Hazardous waste	Waste is hazardous when it contains properties that might make it harmful to health or the environment. The European Commission's directive controlling the management of such waste is defined on the basis of the European Hazardous Waste List; many of these wastes are already regarded as 'special waste' in the UK. New regulations governing the management of hazardous waste were introduced in the UK in 2004/05.
Holistic approach	This looks at the whole picture. The totality of something is much greater than the sum of its component parts and it cannot be understood by the isolated examination of its parts.
Household waste	Includes domestic waste from household collection rounds, waste from services such as street sweepings, bulky waste collection, litter collection, hazardous household waste collection, garden waste collection, waste from civic amenity sites and wastes separately collected for recycling or composting through bring (drop-off) and kerbside schemes.
Hydrocarbons	Chemical compounds that contain only hydrogen and carbon. The largest source of hydrocarbons is oil. They react with nitrogen oxides to form ground level ozone and can contribute to acid rain.
Hydroelectric power	The electricity produced by the power of water (often held in dams) driving turbines.
Incineration	The burning of waste at high temperatures in the presence of sufficient air to achieve complete combustion, to either reduce its volume (in the case of MSW) or its toxicity (eg for organic solvents and PCBs). MSW incinerators recover heat and/or power. The main emissions are carbon dioxide, water and ash residues.
Indigenous	People, plants or animals belonging naturally to an area or region.
Industrial ecology	Analyses production and consumption by industry, government, organisations and consumers, and the interactions between them. It involves tracking energy and material flows through industrial systems, eg a plant, region or national or global economy.

Industrial waste

Waste from any factory or industrial process (excluding mines and quarries).

Inert waste

Defined in the EU landfill directive as chemically inert, non-combustible, non-biodegradable and non-polluting waste.

Integrated Pollution Control (IPC)

A statutory regime in the UK that tries to integrate the control of pollution to land, air and water. Requires the use of BATNEEC to prevent, or where that is not practicable, to reduce emissions from a range of the potentially most polluting industrial processes. Introduced by Part I of the Environmental Protection Act (EPA) 1990, but now being replaced by the Pollution Prevention and Control (PPC) regime in order to comply with the requirements of the IPPC directive.

Integrated Pollution Prevention and Control (IPPC)

IPPC has been introduced throughout the EU through the IPPC Directive 96/61/EC, and will be progressively implemented in the UK (and the rest of the EU) over an extended period to 2007. IPPC will have greater coverage than the IPC provisions of EPA 1990, in terms of:

- the sectors regulated;
- the scope of activities encompassed by permit conditions;
- the more holistic view of environmental impact from industrial activities.

IPPC, in particular, seeks to enforce an approach to regulation emphasising the reduction of waste at source and better use of raw materials, utilities and energy.

Integrated waste management

Uses a variety of practices to handle municipal solid waste and can include source reduction, recycling, incineration and landfilling.

Intergovernmental Panel on Climate Change (IPCC)

The international body charged by the United Nations with examining the effects of and formulating responses to future world climate.

Irrigation

The process of supplying water to land that does not have enough for the purpose required, by artificial means such as canals.

Just Transition

A process that keeps workers and communities whole when a ban or phasing out of toxic chemicals or other environmentally damaging processes affects jobs, eg a fund raised from a surcharge on the polluting process can provide for employees to make the transition to other jobs. For more information, see www.hazards.org/ justtransition/index.htm.

Kerbside recycling

Collection of recyclable or compostable wastes, usually from the pavement outside premises (hence the name), including collections from commercial or industrial premises as well as from households.

Landfill

A controlled site for the permanent disposal of wastes, run in accordance with safety and environmental requirements laid down by a regulatory authority.

Legionnaire's disease — A serious bacterial infection named after an outbreak at a meeting of the American Legion in 1976. This disease has been associated with both air-conditioning and water supply systems that have not been properly maintained.

Life-cycle assessment (LCA) — A systematic tool for assessing the environmental impacts of a work process in order to:

- build an inventory and make an evaluation of inputs and outputs;
- identify the most significant aspects of the process.

Lignin — The strong, hard component of wood that is broken down by chlorine into cellulose in the bleaching process.

Logging — The felling of trees for commercial timber.

Migration — To change one's home from one place to another for a particular reason, eg to find work, to escape war or to find food and water. Also used to describe the movement of a pollutant through soil or a source of groundwater.

Municipal solid waste (MSW) — Household waste and other wastes collected by a waste collection authority or its contractors, eg waste from municipal parks and gardens, beach cleansing waste and any commercial and industrial waste for which the collection authority takes responsibility.

Natural capital — An extension of the economic notion of capital (manufactured means of production) to environmental 'goods and services'. It refers to a stock (eg a forest), which produces a flow of goods (eg new trees) and services (eg carbon sequestration, erosion control, habitat).

Nitrogen oxides (NOx) — Gases produced by decomposition and during the burning of fossil fuels in furnaces and cars (among other ways). Complex reactions between nitrogen oxides and hydrocarbons in the presence of sunlight generate ground-level ozone.

Non-governmental organisation (NGO) — Any group, agency or organisation that operates independently of the government.

Non-renewable — Once consumed, these resources cannot be regenerated except perhaps over an extremely long period of time.

Obligated company — A company that has packaging that exceeds thresholds set by the packaging waste regulations and therefore must register with the appropriate regulator to reduce the waste from that packaging by reduction, re-use or recycling.

Organic — If something is made from living things, found in or produced by living things, it is said to be organic. Food is said to be organically grown if it is raised without the use of artificial fertilisers.

Organochlorines — Organic compounds that contain chlorine. Many pesticides are organochlorines. They are relatively persistent and accumulate in food chains; some are suspected to cause cancer, and all produce dioxins when burnt.

Organophosphates

Organic compounds that contain a phosphate group. Also the name given to pesticides that contain a phosphate group. These pesticides are less persistent than organochlorines, but are more toxic to people as they can affect the nervous system.

Ozone

A form of oxygen produced when atmospheric oxygen is electrically charged; oxygen is usually found as two atoms together as O_2, whereas ozone has three atoms (O_3). It is found at:

- ground level (created from exhaust gases), where it is dangerous;
- at levels high in the sky, where it is protective.

Ozone depletion potential (ODP)

A relative index indicating the extent to which a chemical may cause ozone depletion.

Ozone layer (or stratospheric ozone)

A layer of the upper atmosphere in which ozone is produced by solar radiation. Ozone filters out much of the harmful ultraviolet radiation and keeps it from reaching the Earth. The entire ozone layer has thinned and holes have been discovered over the North and South Poles.

Persistence

The word used for chemicals that do not break down very easily and remain persistent (in one form or another) in the environment.

Persistent organic pollutants (POPs)

Examples include PCBs, DDT, dieldrin and dioxins. The 1998 Aarhus Protocol on Persistent Organic Pollutants (an extension of the UNECE Convention on Long-range Transboundary Air Pollution) to control POP emissions using process and product controls came into force in October 2003. For more information on the Convention and its protocols, see www.unece.org/env/lrtap/welcome.html.

Pesticides

Chemicals that are used to kill pests (including insects and weeds) that destroy food and other agricultural crops.

Polluter Pays Principle (PPP)

This principle implies that the polluting company will have to pay for the environmental damage it causes.

Pollution

Human-made substances or energy that:

- are hazardous to human health;
- harm living plants, animals and ecological systems;
- can damage structures such as buildings and monuments.

Pollution Prevention and Control (PPC)

Statutory regime in the UK that is replacing IPC to satisfy the requirements of the IPPC Directive. It requires the use of BAT and gives more emphasis to prevention (eg waste minimisation and energy efficiency). PPC was introduced in England and Wales by the Pollution Prevention and Control (England and Wales) Regulations 2000, in Scotland by the Pollution Prevention and Control (Scotland) Regulations 2000, and in Northern Ireland by the Pollution Prevention and Control Regulations (Northern Ireland) 2003.

Polychlorinated biphenyls (PCBs)

A group of over 200 man-made chemicals that have good insulation properties and low electrical conductivity, and are fire resistant. These properties made them popular as fluids throughout the electrical industry in transformers, lights and hydraulic systems. Unfortunately, they are also hazardous and can persist for a long time in the environment. Although their production has ceased, many problems remain with their disposal.

Precautionary principle	Part of the Rio Declaration. Principle 15 states: "In order to protect the environment, the precautionary approach shall be widely applied by States according to their capabilities. Where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation."
Product stewardship	Denotes the responsible management of the health, safety and environmental aspects of the basic configuration of a business in terms of a product throughout its life-cycle and/or the investment and operations to produce a process or provide a service.
Propellants	Used to drive something forward, eg the gases used in aerosol spray cans.
Quality systems	The forerunners of environmental management systems. They were developed in the 1980s to control quality by achieving more accurate production and thus reduce waste. They led to the idea of Total Quality Management (TQM).
Recovery obligation	The amount of packaging materials that a company obligated under the packaging waste regulations must recover when registered directly with the appropriate regulator (eg the Environment Agency).
Recycling	The reprocessing of waste materials or products for use in their original purpose (closed-loop recycling) or for another purpose (open-loop recycling). Commonly applies to non-hazardous wastes such as paper, glass, cardboard, plastics and metals. However, hazardous wastes such as solvents can also be recycled by specialist companies or by using in-house equipment.
Reduction	Reducing the quantity or the hazard of a waste produced from a process. It usually results in lower raw material and energy demands - thus also reducing costs.
Renewable	Resources that can be regenerated relatively quickly.
Resources or natural resources	The supply of materials and elements such as water, forests, land, minerals, etc, which are considered important and useful.
Responsible Care	The scheme established by the Chemical Industries Association (CIA) that builds on quality management and health and safety systems to include environmental concerns.
Re-use	Using materials or products again, for the same or a different purpose, without material reprocessing, eg the use of returnable milk bottles.
Right to discharge	An alternative to the Polluter Pays Principle. Any organisation wishing to discharge a pollutant pays, or is given special allocation for the right to pollute. The intention is levy money 'before' rather than 'after' the event, thus encouraging organisations to clean up.
Risk	According to HSE, 'the likelihood of the hazard's potential being realised'.

Risk assessment	The process of estimating the risk to health or the environment of a product or work process by determining the possible extent of damage and the likelihood of that damage occurring. The goal is to produce 'objective' data as a basis for making managerial or regulatory decisions.
Salinisation	Land that has become too salty to support life is said to be saline. Soils in dry regions, with high rates of evaporation, contain far more salt, as do their groundwaters. Inadequately planned irrigation has often made the problem worse.
Segregation	The separation of different waste streams at source (eg plastics, paper, cardboard, metal and wood) into different containers to facilitate re-use and recycling.
Sick building syndrome	A phrase used to attribute the complaints of office workers of eye, nose and throat irritation, mental fatigue and headaches to particular buildings. Air-conditioning systems and water systems in buildings have also been blamed for some diseases.
Significant environmental aspect	According to ISO 14001, 'an environmental aspect that has or can have a significant environmental impact'.
Sink	A reservoir that takes up a pollutant from another part of its cycle. Soil and trees act as natural 'sinks' for carbon.
Soil erosion	The erosion of soil by wind and water. Often a natural process, erosion can be increased by deforestation, desertification and other means and can greatly degrade overall soil quality.
Special waste	Defined by the Environmental Protection (Special Waste) Regulations 1996 (as amended) and is broadly any waste on the European Hazardous Waste List that has one or more of 14 hazardous properties. New hazardous waste regulations replaced the special waste regulations in 2004/05.
Supertrees	These are drought-resistant, rapid-growing trees (eg leucaena), which can grow many times faster than other trees. They are often planted for commercial use in areas that have been cleared or deforested.
Sustainable development	Development that meets present needs without compromising the abilities of future generations to meet their own needs.
Sustainable waste management	Using material resources efficiently to cut down on the amount of waste produced. Also, where waste is generated, dealing with it in a way that actively contributes to the economic, social and environmental goals of sustainable development.
Temperate forests	Temperate forests are found mostly in North America and Europe and are located there because they do not require the higher temperatures and quantity of water demanded by tropical rainforests.
Toxic	Toxic substances are those that can cause damage to the health of living organisms by physical contact, swallowing or inhalation.

Transport	The system of moving people and things from one place to another.
Treatment	Involves the physical, chemical or biological processing of wastes to reduce their volume or harmfulness.
Triple bottom line	Stands for economic prosperity, environmental quality and social equity, rather than the single financial bottom line. It is for companies aiming for sustainability.
Tropical rainforests	These forests are found in areas with high temperatures and a high level of moisture. The rainforests from the world's oldest ecosystem have the largest variety of plant and animal species. There are many types of rainforests, eg mountain rainforests and swamp rainforests.
Ultra-violet (UV) radiation	That part of the radiation from the sun that is just outside the visible range, ie beyond the violet end of the spectrum. It is responsible for tanning in the skin and producing Vitamin D in human bodies. Prolonged exposure to UV light from the sun can cause cancer of the skin. The stratospheric ozone layer absorbs the greater part of this radiation, but this protective layer is under threat from ozone-depleting chemicals such as CFCs.
Volatile organic compound (VOC)	These are chemicals that are defined in environmental legislation as: 'constituents that will evaporate at their temperature of use and which, by a photochemical reaction, will cause atmospheric oxygen to be converted into potential smog-promoting tropospheric ozone under favourable climatic conditions.' Includes organic solvents, paints, coatings, inks, etc.
Waste	Any surplus or reject material that is no longer useful and therefore not needed or wanted where it is.
Waste brokerage	The circulation of lists of types of waste by waste companies, giving other companies the opportunity to use these wastes.
Waste hierarchy	Framework laid down by the Government's waste strategy, which proposes that an organisation should first try to eliminate waste generation, and then to reduce the amount of waste generated, with re-use as the next best option, followed by recovery (eg recycling) and, as a last resort, disposal.
Waterlogging	When soil is soaked in water and there is then too much moisture present for the soil to be productive, it is said to be waterlogged.
Wetlands	Land areas with lots of water including swamps, marshes, bogs, fens and peatlands. These areas serve a wide variety of functions including assisting flood control, purifying water supplies, protecting shorelines from erosion and trapping sediments that can pollute waterways.

Source: Adapted from *Workers' education and environment,* published by the International Labour Organisation.

Acronyms

BAT	Best Available Techniques
BATNEEC	Best Available Techniques Not Entailing Excessive Cost
BPEO	Best Practicable Environmental Option
CCL	Climate Change Levy
COSHH	Control of Substances Hazardous to Health Regulations
Defra	Department for Environment, Food and Rural Affairs
EHS	Environment and Heritage Service (Northern Ireland)
EIA	Environmental impact assessment
EMAS	Eco-Management and Auditing Scheme
EMS	Environmental management system
EPA	Environmental Protection Act 1990
EU	European Union
FoE	Friends of the Earth
HSE	Health and Safety Executive
IPC	Integrated Pollution Control
IPPC	Integrated Pollution Prevention and Control
IUCN	International Union for the Conservation of Nature
LA21	Local Agenda 21
LGMB	Local Government Management Board
LRD	Labour Research Department
NGO	Non-governmental organisation
OEM	Original equipment manufacturer
PPC	Pollution Prevention and Control
SACs	Special Areas of Conservation
SDEP	Sustainable Development Education Panel
SEPA	Scottish Environment Protection Agency
SPAs	Special Protection Areas
SRSCs	Safety Representatives and Safety Committee Regulations
SSSI	Site of Special Scientific Interest
TUSDAC	Trade Union Sustainable Development Advisory Committee
UNEP	United Nations Environment Programme
WWF	Worldwide Fund for Nature

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Sources of further help

Envirowise

Envirowise is a Government-funded programme that aims to promote business profitability and improved environmental performance through waste minimisation, resource efficiency and cleaner technology. Its services are **free** of charge to UK businesses and include:

- up to two hours of confidential and independent advice over the phone from an Envirowise expert on any environmental issue;
- publications and tools offering practical advice on how to reduce waste;
- confidential on-site waste reviews[61] (known as a *Fast*Track visit) carried out by an Envirowise advisor;
- counselling visits[61] from an Envirowise consultant to discuss a specific environmental issue;
- information about waste minimisation clubs in the UK;
- seminars and workshops.

Call the **Environment and Energy Helpline** free on **0800 585794** or visit **www.envirowise.gov.uk**.

Useful **free** publications include:

- EN30 Finding hidden profit - 200 tips for reducing waste
- EN250 Unpack those hidden savings - 120 tips on reducing packaging use and costs
- EN320 Resource efficiency: a management guide
- GG256 Green officiency: running a cost-effective, environmentally aware office
- GG350 Finding cost savings: navigation for small businesses
- GG469 Hazardous waste management - essential information for businesses
- GG482 Cutting costs and waste by optimising packaging use
- IT313 WasteWise: increased profits at your fingertips (interactive waste minimisation CD-ROM)
- IT341 Seven practical workshops: helping companies to profit from reducing waste (CD-ROM designed for organisations and intermediaries who wish to run workshops on key aspects of waste minimisation).

[61] Available to companies with 250 employees or fewer.

The Carbon Trust

The Carbon Trust helps business and the public sector to reduce carbon emissions and to capture the commercial potential of low carbon technologies. It has a range of programmes and activities to provide companies and other organisations with advice on energy efficiency. It offers:

- free information and advice;
- free publications;
- free energy surveys;
- interest-free energy efficiency loans;
- free events and workshops.

Call the **Carbon Trust Energy Helpline** free on **0800 585794** or visit **www.thecarbontrust.co.uk/energy**.

Useful **free** publications include:

- FOCUS - Focus on energy: a practical introduction to reducing energy bills
- GPG376 A strategic approach to energy and environmental management
- GPG367 Better business guide to energy saving
- GPG316 Undertaking an industrial energy survey
- GPG235 Managing people, managing energy
- GPG084 Managing and motivating staff to save energy
- GPG085 Energy efficiency training and development

The Carbon Trust works with the **Energy Saving Trust** (www.est.org.uk) and local **Energy Efficiency Advice Centres**, which provide advice on energy saving in the home.

Useful websites

Organisation	Website
ACBE/TUSDAC Sustainable Workplace	www.tuc.org.uk/sustainableworkplace/index.cfm
British Standards Institution (BSI)	www.bsi-global.com
Carbon Trust	www.thecarbontrust.org.uk
Climate change	www.thecarbontrust.co.uk/carbontrust/climate_change/index.html
Energy efficiency	www.thecarbontrust.co.uk/energy
Department for Education and Skills	www.dfes.gov.uk
Sustainable development action plan for education and skills	www.dfes.gov.uk/aboutus/sd//index.shtml
Department for Environment, Food and Rural Affairs	www.defra.gov.uk
Climate change	www.defra.gov.uk/environment/climatechange/index.htm

Government commits to environmental purchasing	www.defra.gov.uk/news/latest/2003/sustain.htm
Protecting the environment	www.defra.gov.uk/environment/index.htm
Statistics	www.defra.gov.uk/environment/statistics/index.htm
Sustainable development	www.defra.gov.uk/environment/sustainable/index.htm
Sustainable farming and food	www.defra.gov.uk/farm/sustain/default.htm
Wildlife and countryside	www.defra.gov.uk/wildlife-countryside/index.htm
Department of Trade and Industry	www.dti.gov.uk
Climate Change Projects Office	www.dti.gov.uk/ccpo/
Renewable energy	www.dti.gov.uk/energy/renewables/index.shtml
Sustainable Energy Policy Network	www.dti.gov.uk/energy/sepn/index.shtml
EMAS	www.emas.org.uk
Energy Efficiency Advice Centres	www.saveenergy.co.uk/howto/eeacs.cfm
Energy Saving Trust	www.est.org.uk
Enhanced Capital Allowances	www.eca.gov.uk
Energy and Water	
ENTRI (Environmental treaties and resource indicators)	http://sedac.ciesin.columbia.edu/entri/index.jsp
Environmental legislation	
NetRegs	www.environment-agency.gov.uk/netregs/
HMSO	www.legislation.hmso.gov.uk
Environmental Practice at Work	www.epaw.co.uk
Environmental regulators	
Environment Agency (England and Wales)	www.environment-agency.gov.uk
Scottish Environment Protection Agency	www.sepa.org.uk
Environment and Heritage Service (Northern Ireland)	www.ehsni.gov.uk
Envirowise	www.envirowise.gov.uk
European Union	www.europa.eu.int/index_en.htm
EMAS	www.europa.eu.int/comm/environment/emas/about/summary_en.htm
Friends of the Earth	www.foe.co.uk
Green Job Creation (report)	www.foe.co.uk/resource/reports/green_job_creation.html
Global Reporting Initiative (GRI)	www.globalreporting.org
Greenpeace	www.greenpeace.org.uk
Health and Safety Executive (HSE)	www.hse.gov.uk
ICEM (International Federation of Chemical, Energy, Mine and General Workers' Unions)	www.icem.org
ICEM Global - a magazine about work, health, safety and environment	www.icem.org/global/index.html

ICFTU (International Confederation of Free Trade Unions)	www.icftu.org
Trade Unions @ the Johannesburg Summit 2002	www.icftu.org/focus.asp?Issue=wssd2002&Language=EN
Health Safety & Environment	www.icftu.org/focus.asp?Issue=ohse&Language=EN
International Labour Organization	www.ilo.org
Workers' education and environment	www.ilo.org/public/english/dialogue/actrav/enviro/trainmat/phase1.htm
International Organization for Standardization	www.iso.org
Technical Committee 207 on Environmental Management	www.tc207.org
Local Agenda 21 UK	www.scream.co.uk/la21/
Royal Society of Arts	www.rsa.org.uk
Sustainability Action Group Exchange (funding for sustainable development projects)	www.sage-rsa.org.uk
Scottish Executive	www.scottishexecutive.gov.uk
Environment	www.scottishexecutive.gov.uk/Topics/Environment
Sustainable development - the UK Government's approach	www.sustainable-development.gov.uk
UK headline indicators	www.sustainable-development.gov.uk/indicators/headline/index.htm
Indicators of sustainable development	www.sustainable-development.gov.uk/indicators/index.htm
Sustainable development in Scotland	www.sustainable.scotland.gov.uk
Sustainable development in Wales	www.wales.gov.uk/themessustainabledev/
Sustainable Development Commission	www.sd-commission.gov.uk
Sustainable Development Education Panel	
Workplace sustainable development education learning guides	www.defra.gov.uk/environment/sustainable/educpanel/learnguide/index.htm
Sustainable Development Gateway	www.sdgateway.net/
Trades Union Congress (TUC)	www.tuc.org.uk
Sustainable workplace	www.sustainableworkplace.co.uk
Trade Union Sustainable Development Advisory Committee (TUSDAC)	www.defra.gov.uk/environment/tusdac/
TransportEnergy BestPractice	www.transportenergy.org.uk
United Nations	www.un.org
Compete text of Agenda 21	www.un.org/esa/sustdev/agenda21text.htm
Millennium Development Goals	www.undp.org/mdg/
Sustainable development	www.un.org/esa/sustdev/index.html

WSSD 2002 documents	www.un.org/esa/sustdev/documents/docs.htm
United Nations Economic Commission for Europe (UNECE)	www.unece.org
Convention on Long-range Transboundary Air Pollution	www.unece.org/env/lrtap/welcome.html
United Nations Environment Programme	www.unep.org
Waste and Resources Action Programme (WRAP)	www.wrap.org.uk
Welsh Assembly Government	www.wales.gov.uk
Environment	www.wales.gov.uk/subienvironment/index.htm
Environment and business	www.businessenvironment.wales.gov.uk
World Energy Council	www.worldenergy.org
World Health Organization	www.who.org
Health environment safety and social management in enterprises (guide)	www.imp.lodz.pl/hesme/who.html

Envirowise - Practical Environmental Advice for Business - is a Government programme that offers free, independent and practical advice to UK businesses to reduce waste at source and increase profits. It is managed by Momenta, an operating division of AEA Technology plc, and Technology Transfer and Innovation Ltd.

Envirowise offers a range of free services including:

- Free advice from Envirowise experts through the Environment and Energy Helpline.
- A variety of publications that provide up-to-date information on waste minimisation issues, methods and successes.
- Free, on-site waste reviews from Envirowise advisors, called *Fast*Track visits, that help businesses identify and realise savings.
- Guidance on waste minimisation clubs across the UK that provide a chance for local companies to meet regularly and share best practices in waste minimisation.
- Best practice seminars and practical workshops that offer an ideal way to examine waste minimisation issues and discuss opportunities and methodologies.

The Carbon Trust

The Carbon Trust works with business and the public sector to cut carbon emissions and capture the commercial potential of low carbon technologies. It has a range of programmes and activities to provide companies and other organisations with advice on energy efficiency.

An independent company set up by the Government to help the UK meet its climate change obligations through business-focused solutions to carbon emission reduction, the Carbon Trust is grant funded by the Department for Environment, Food and Rural Affairs, the Scottish Executive, the National Assembly for Wales, and Invest Northern Ireland.

www.thecarbontrust.co.uk

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Practical Environmental Advice for Business

Harwell International Business Centre | Didcot | Oxfordshire | OX11 0QJ
E-mail: helpline@envirowise.gov.uk Internet: www.envirowise.gov.uk

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