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A FRAMEWORK FOR CHANGE

# Wiser, sustainable use of natural resources

JULY 2001



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# Wiser, sustainable use of natural resources

“The central theme of our approach is a more productive use of environmental resources. It is clear that if we continue to grow, and share the benefits of that growth; we must reduce the impact of growth on the environment.”

TONY BLAIR, PRIME MINISTER. OCTOBER 2000

## 1. Why a Framework for Change?

### The Environment Agency's vision

In June 2000 the Agency consulted widely on its long-term objectives and goals. After taking into account the responses that we received, in January 2001 we published *An Environmental Vision: The Environment Agency's Contribution to Sustainable Development* (the *Vision*)<sup>1</sup>. This sets out our long term, aspirational objectives for the environment, grouped under nine environmental themes. In preparing it, we were very conscious that it would be the process by which those objectives are met - the route by which the Agency plans, in partnership with others, to make progress towards the long term destination - that would be of particular interest. This was reinforced by the comments we received during the consultation on the *Vision*.

### Frameworks for Change

To show the route we propose to take, we have prepared a series of *Frameworks for Change*, one for each of the *Vision's* nine environmental themes. This document is one of these thematic *Frameworks* which are intended mainly for internal planning purposes though they are publicly available. They set out our proposals for the medium term to make progress towards the long-term objectives described in the *Vision*. These *Frameworks* - and the associated dialogue and business development that will flow from them - are not only intended to make progress towards the environmental outcomes in the *Vision*, but also to improve the Agency's service delivery to Government<sup>2</sup>, industry, and the public. They are also intended to improve our own internal efficiency and effectiveness. Overall, we regard them as being beneficial to both our stakeholders, and society in general. They are frameworks with a menu of possible actions, rather than final plans, because we still have to agree the final proposals. We have to balance the competing priorities within them, take into account their specific implications for others, and match them to the resources we have available. This balancing and prioritisation has to be

<sup>1</sup> The Environmental Vision, and Frameworks for Change is available on the Agency's website <http://www.environment-agency.gov.uk>

<sup>2</sup> References to Government include the UK Government and, where appropriate, the National Assembly for Wales.

agreed with Government, and will be done through our corporate planning process, with our firmed-up work programmes appearing in our formal Corporate Plans. The Government's current revision of its statutory guidance in respect of our sustainable development remit will also help us clarify the routes and options available to us.

We will be discussing these proposals with our stakeholders. The main vehicle for this external dialogue and discussion will be a separate series of sector based *Frameworks* starting late in 2001. These will draw from the nine themes the issues and outcomes relevant to the sector concerned.

### **Working with partners**

We recognise that we cannot on our own deliver the outcomes and goals we have set out. We already work in close partnership with a wide range of organisations and groups, and we are keen to explore how we can strengthen existing partnerships and develop new ones. This does not just involve seeking partners for Agency led projects, but also supporting the work of others. We will need to work with a wide range of bodies with an interest in land issues, including those we regulate. Below we list areas where we will want to work in partnership with others, but have not sought fully to specify who these others might be.

## **2. Wiser, sustainable use of natural resources**

Society's demands for water, energy and minerals are increasing, and are likely to become more intense as more houses are built, the population expands and standards of living rise. Continued and lasting improvements in resource efficiency are therefore essential if we are to achieve sustainable development. We need to identify innovative solutions which will radically change our demands on natural resources in the future whilst introducing changes now, wherever we can.

Consumption of goods is increasing more rapidly than the economy, largely due to an increase in the number of households. Households are becoming smaller, with many people now living alone. Some four million new homes are needed in England and Wales between 1996 and 2021, including many in the South East where some resources are already stretched. Table 1 (page 17) shows the regional variation in some key pressures on the environment resulting from resource use.

### **Waste production**

The quantity of waste produced is also rising. Its treatment and disposal causes pressure on the environment. More houses, roads and cars will mean greater consumption of resources in future unless more reduction, reuse and recycling takes place. Consumption of renewable resources is of less concern than consumption of non-renewable resources. Demands for certain types of goods can exert pressures on the environment in other parts of the world and any transportation required will have associated environmental impacts.

### **Sustainable resource use**

We need to understand and plan for the truly sustainable rate of consumption of 'renewable' resources such as water and balance that with the needs of wildlife and the quality of life and the environment. The move towards resource rather than waste management is also reflected in the proposed European 6<sup>th</sup> Environment Action Programme whose principles are picked up and developed in this *Framework*. The return of water to rivers as high-quality effluent is essential to support uses downstream in many catchments. Removal of finite resources such as fossil fuels

and minerals needs to be prudent to conserve stocks for future generations and to minimise local and more widely-felt impacts. Table 2 (page 18) shows the current state and associated trends for a number of key resources in England and Wales.

### 3. The Environment Agency's role

The Environment Agency is directly responsible for regulating the overall environmental performance of a broad range of activities that consume natural resources, and for controlling wastes. Through effective regulation we seek to protect or enhance the environment as a whole and to require or encourage more efficient use or management of natural resources.

#### Direct regulatory controls

This includes controls over the energy, manufacturing and service industries, chemical and steel works, oil refineries, waste management sites, and the water and nuclear energy industries. The principal environmental protection regimes are applied through Integrated Pollution Control (Environmental Protection Act (EPA) 1990 Part I), waste management regulation (mostly through EPA Part II), and the Radioactive Substances Act 1993. Many IPC and waste facilities will be introduced into regulation under the Pollution Prevention and Control Act 1999. There is considerable scope for the Agency to assist and encourage industry to be cleaner. The *Framework* document *A 'greener' business world* sets out how we can achieve real improvement.

The Pollution Prevention and Control Regulations were introduced in August 2000. They will introduce EC Integrated Pollution Prevention and Control (IPPC) Directive requirements for a wide range of activities including waste minimisation and resource and energy use.

The Agency manages the water resources of England and Wales by a strategic planning process and, at a local level, by the grant of abstraction licences and other authorisations under the Water Resources Act 1991. It regulates exploitation of inland fisheries through licences and regulations; this is considered in the *Framework* document *An enhanced environment for wildlife*.

#### Advising and influencing

We also **influence** a broad range of public and private sector organisations through:

- our role as a consultee in strategic planning by local and regional government to control development, transport, minerals and waste management, and water demand
- our input to central government planning through the National Waste Strategy for example, and the development of economic instruments aimed at influencing behaviours and environmental performance
- provision of information on the environmental performance of industries and waste production
- providing advice on waste minimisation and resource efficiencies and encouraging uptake of formal environment management systems such as EMAS and ISO14001.

#### Policy drivers

Our actions over the period of this *Framework* will be influenced by a variety of key national and international drivers, including:

- **European drivers:** The proposed Sixth Environment Action Programme of the European Community 2001–2010; European Directives on Landfill, End of Life Vehicles, Waste Incineration, Water Framework, Waste Electrical and Electronic Equipment, and revision of the Packaging and Packaging Waste Directive.



- **National and regional drivers:** Waste Strategy for England and Wales; review of policy on future provision for aggregates; Renewables Obligation; Energy Efficiency Standards of Performance; Planning Policy Guidance 22 on renewable energy; Water Bill; the Department for Environment, Food & Rural Affairs (DEFRA) (formerly DETR) Abstraction licence review; Water Industry Investment programmes; annual reviews of Water Company Water Resources Plans and Drought Contingency Plans.

#### 4. Working in partnership

The Environment Agency works closely on policy development with the Department for Environment, Food & Rural Affairs (DEFRA), the Department of Trade and Industry (DTI) and the National Assembly for Wales (NAW). We also maintain links with the Department of Transport, Local Government and the Regions (DTLR). Our activities are framed by, and help to implement, a range of Government policies and commitments, including its Sustainable Development Strategy (and the supporting strategies and schemes of the DTI and NAW), its Urban and Rural White papers, and Modernising Government and Better Regulation policies.

The Agency maintains a number of collaborative relationships with public, private and voluntary sector organisations to plan and control resource use. Examples include:

- Waste minimisation clubs – the Agency is currently actively involved in over 50 schemes nationally, often with local small and medium sized enterprises;
- Non-governmental organisations and trade associations such as the Tidy Britain Group, the Country Landowners' Association and the Federation of Small Businesses – promoting awareness and avoidance of flytipping;
- Waste industry, academia and consultants – collaborative research and development into waste management science, public attitudes and life cycle assessment;
- Local government – planning for least environmental cost waste strategies through regional technical advisory bodies;
- Other EU member state regulators – to identify regulatory best practice and common standards;
- Government departments to develop better understanding of water demand and supply; waste generation and management; model resource use and substitution by renewables and better regulatory controls;
- Trade associations such as the metals recovery associations, Environmental Services Association and Water UK – to make regulation as simple but effective as possible and to develop tools and information jointly; and
- The public – the Agency depends on individuals for reports of incidents and, ultimately, consumer behaviour and personal responsibility for resource use and re-use/conservation.

We look to build on and develop these partnerships and develop new ones, to help achieve the goals set out in this *Framework*.

#### 5. The Environment Agency's objectives

In *An Environmental Vision*, our overall long-term objective with respect to resource use is that:

*Business, public agencies, other organisations and individuals will minimise the waste they produce. They will reuse and recycle materials far more intensively and will make more efficient use of energy and materials.*

Many of the mechanisms by which our resources can be sustainably managed are addressed through the *Frameworks* covering *A 'greener' business world* and *Restored, protected land with healthier soils* and *Improved and protected inland and coastal waters*. Making better use of resources will also help deliver our aspirations to improve the quality of life and enhance wildlife.

The Vision and long-term objectives will help achieve these outcomes:

- People will be aware of their natural resource consumption and take responsibility for the environmental impact of this.
- Water will be acknowledged as a valuable resource and will be used wisely by all sectors of society. The justifiable demands for water use will be understood and the means of meeting them in place.
- The majority of wastes will be disposed of as close to the source of origin as appropriate, taking full account of their environmental impact.
- Both business and the public sector will be adopting and implementing long-term strategies to reduce the consumption of energy and resources.
- Waste will be regarded by both industry and consumers as a potential resource, with the efficient reuse and recycling of materials the social norm.
- The built environment will be efficient in its use of energy, water, materials and space.
- Products will be designed, marketed and licensed to minimise environmental costs in manufacture/use/end of life; and make producers responsible for the end-of-life fate of products. Prices of goods will reflect all these costs, based on full global environmental impact.

We will seek to achieve these goals in the most efficient and effective manner, taking into account the costs and benefits of the options available to do so.

## 6. Goals and actions

For each outcome we have identified below a number of goals we intend to achieve in the short to medium term in order to move towards the Vision. We have also outlined the activities that will help achieve these goals, together with the tests to assess progress in their delivery. In practice, activities may contribute to the achievement of more than one goal and outcome.

### Tests for progress

The Government's set of sustainable development indicators<sup>3</sup> help show, at a high level, whether we are on a sustainable track. The Agency has also developed its own set of environmental indicators<sup>4</sup> that will be used to show progress towards the Vision. In addition to these, we have included some key tests for progress for each outcome.

### Role of the Environment Agency

To clarify the role of the Agency in achieving each of these goals, we have allocated the activities to one of three categories:

Environment Agency's role is central
Environment Agency as a substantial partner
Environment Agency's involvement to build understanding

<sup>3</sup> DETR (1999) *Quality of life counts. Indicators for a strategy for sustainable development for the UK: a baseline assessment.*

<sup>4</sup> Environment Agency (July 2000) *Environmental Indicators.* A set of Environmental Indicators for Agency use (also available on the Agency's website <http://www.environment-agency.gov.uk>)



**Responsibility for resource consumption**

**Outcome 1 – People will be aware of their natural resource consumption and take responsibility for the environmental impact of this.**

**Tests for progress:**

- Waste quantities and types generated by site and sector, and disposal routes, including re-use and recycling.
- Waste generated per unit of production.
- Numbers of fly-tipping incidents.
- Public participation in waste reduction programmes (e.g recycling schemes).
- Numbers of products with readily available environmental impact measures.
- Public awareness of environmental impacts (and the best options for minimising these).
- Non-renewable resources consumed per person .

GOAL	ACTIVITY
<p>Goal 1.1 Accurate information on the environmental impacts of products and services and of wastes and their management will be readily available.</p>	<p><b>Short to medium term:</b></p> <ul style="list-style-type: none"> <li>• <b>Provide LCA information in the public domain to encourage informed public input to local waste strategy development.</b></li> <li>• Introduce a standard waste classification system to facilitate data collection and reporting.</li> <li>• Undertake and publish, via the internet, regular national waste production and management surveys, moving to a continuous survey and reporting system.</li> <li>• Undertake materials-specific surveys e.g. batteries (important under possible producer responsibility schemes), mineral oils (significant ground and surface water pollutant) and construction materials (to complement industrial and commercial waste surveys).</li> <li>• Further develop life cycle assessment for waste production, treatment (including recycling and re-use) and disposal options.</li> <li>• Undertake and publish generic environmental and health risk assessments and supporting information on:                         <ul style="list-style-type: none"> <li>– Landfill</li> <li>– energy from waste/incineration</li> <li>– composting</li> <li>– energy generation.</li> </ul> </li> <li>• Collaborate in national programmes to promote greater waste and environmental awareness in the public.</li> <li>• Through the flytipping stakeholders group, launch multi-party initiatives and PR campaigns to encourage public participation to combat fly-tipping and illegal waste disposal.</li> <li>• Help develop and promote reliable environmental impact measures for products and services to encourage 'green consumerism', starting with motor cars.</li> </ul>

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**Water as a valuable resource**

**Outcome 2 – Water will be acknowledged to be a valuable resource and will be used wisely by all sectors of society. The justifiable demands for water use will be understood and the means of meeting them in place.**

(See also Framework document *Improved and protected inland and coastal waters*)

Tests for progress:

- Water consumption per person.
- The balance between water supply and demand.

GOAL	ACTIVITY
Goal 2.1 Minimise additional abstraction and optimise timing of abstractions.	<b>Short to medium term:</b>
	<ul style="list-style-type: none"> <li>• On an annual basis monitor and refine demand forecasts and review drought plans and water company water resource plans.</li> </ul>
	<ul style="list-style-type: none"> <li>• Develop Catchment Abstraction Management Strategies (CAMS) as a mechanism for providing information about water resource availability in each catchment, with the water industry, Local Authorities and Planning Authorities, English Nature, the Countryside Council for Wales, British Waterways and local people.</li> </ul>
	<ul style="list-style-type: none"> <li>• Identify damaging abstractions and implement a Government-agreed programme for their curtailment, seeking voluntary solutions where possible.</li> </ul>
	<ul style="list-style-type: none"> <li>• Set benchmarks for all direct abstractors and monitor compliance.</li> </ul>
	<ul style="list-style-type: none"> <li>• Influence the public's use of water to reduce or stabilise consumption.</li> </ul>
	<ul style="list-style-type: none"> <li>• Publicise water use benchmarks for industry.</li> </ul>
	<ul style="list-style-type: none"> <li>• Implement or facilitate actions required in the National Water Resources Strategy and eight Regional Strategies.</li> </ul>
	<ul style="list-style-type: none"> <li>• Implement, to a timescale agreed with Government, its requirements for the Abstraction Licensing Review and the actions to implement the proposed Water Bill.</li> </ul>
	<b>Medium term:</b>
<ul style="list-style-type: none"> <li>• Ensure water use plans are completed for all IPPC authorised sites.</li> </ul>	

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**Waste disposal**

**Outcome 3 – The majority of wastes will be disposed of as close to their source of origin as appropriate, taking full account of their environmental impact.**

**Tests for progress:**

- All 10 regional waste strategies completed.
- All waste local plans completed.
- Whole environmental costs of waste management strategies.

GOAL	ACTIVITY
<p>Goal 3.1 Strategic planning promotes sustainable waste management that reflects the Best Practicable Environmental Option (BPEO).</p>	<p><b>Short to medium term:</b></p> <ul style="list-style-type: none"> <li>• Support Regional Technical Advisory Bodies and Regional Planning fora in setting and then implementing (medium term) regional planning guidance and regional waste strategies reflecting BPEO and Life Cycle Analysis (LCA) or assessment.</li> </ul>
<p>Goal 3.2 Individual Planning permission applications for waste management facilities will be subject to rigorous risk assessment at that stage.</p>	<p><b>Short to medium term:</b></p> <ul style="list-style-type: none"> <li>• Work with local government and applicants for planning permissions to ensure full Agency involvement at as early a stage as possible in planning applications and Local Authority plans including full Environmental Impact Assessments, where required.</li> <li>• Provide guidance on the process and content of risk assessments for:                             <ul style="list-style-type: none"> <li>– landfill</li> <li>– energy from waste/incineration</li> <li>– composting/biological treatment of wastes at both planning and environmental authorisation stages.</li> </ul> </li> <li>• Promote 'twin tracking' of applications for planning permission and environmental authorisations.</li> </ul> <p><b>Medium term:</b></p> <ul style="list-style-type: none"> <li>• Re-assess with national and local government the ability of the planning system, and the Agency's role within it, to deliver an appropriate network of waste management facilities to allow National Waste Strategy targets to be met.</li> </ul>

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**Reducing energy and resource consumption**

**Outcome 4 – Both business and the public sector will be adopting and implementing long term strategies to reduce the consumption of energy and resources.**

**Tests for progress:**

- Amounts of waste sent to landfill.
- Waste management facility risk and management performance, as measured by Operator and Pollution Risk Appraisal (OPRA) schemes.
- Numbers of sectoral benchmarks of environmental performance available.
- Overall resource use by industry.
- Local authorities’ recycling rates.
- Completion of waste and minerals local plans.
- Hazardous waste produced in identified sectors.
- Quantities of hazardous substances released to the environment from regulated processes.
- The use of substitutes or safer alternatives to hazardous substances.

GOAL	ACTIVITY
<p>Goal 4.1 Organisations will use resources wisely and minimise waste generation.</p>	<p><b>Short to medium term:</b></p> <ul style="list-style-type: none"> <li>• Promote voluntary waste exchange and the use of waste derived secondary materials through publishing information from our waste survey.</li> <li>• Use Agency survey information to target our waste minimisation efforts on hazardous wastes, concentrating on the biggest or the environmentally significant producers.</li> <li>• Undertake collaborative research and data collection to identify materials and resource flows in England and Wales.</li> <li>• Inform industry of sector-specific benchmarks and performance on waste generation, through accurate data sets for materials use and waste, and through surveys, R&amp;D, self reporting by industry and data from regulatory activity. Publish after completion of waste arisings surveys.</li> <li>• Introduce risk and performance related charges for Waste Management Licences, and consider their extension to other regulatory regimes.</li> <li>• Advise Government on performance of local authorities in meeting recycling targets and inform review of future targets.</li> <li>• Assess the impact of the Landfill Tax and other economic instruments e.g. Packaging PRNs and Climate Change Levy, to advise Government on setting and refining them.</li> <li>• Work with Government and industry/academia to model the “sustainable” rate of use of finite resources, including the rate of replacement of non-renewable sources by renewable, to guide policy making.</li> <li>• Advise Government on the environmental implications of energy generation and use strategies to inform energy strategy development.</li> <li>• Extend LCA techniques to cover aggregates and use to advise on and influence local minerals development plans. Press Government for completion date for all Minerals Local Plans.</li> </ul>

**Reducing energy and resource consumption** *continued*

	<ul style="list-style-type: none"> <li>• Require all major industries permitted under IPPC to have resource, waste minimisation and energy efficiency plans and benchmarking within 2 years of authorisation.</li> <li>• Publish a league table on energy use and resource use by industry sector drawing on energy and resource use plans, starting 12 months from the introduction of IPPC to individual sectors.</li> </ul>
	<p><b>Medium term:</b></p> <ul style="list-style-type: none"> <li>• Monitor the impact and effectiveness of tradable permits for local authorities under the Landfill Directive to enable full reporting in time for the first Waste Strategy diversion target in 2010.</li> </ul>
<p>Goal 4.2 Developments in 'green' chemistry and clean technology are incorporated into the sustainable production and use of chemicals.</p>	<p><b>Short to medium term:</b></p> <ul style="list-style-type: none"> <li>• <b>Implement Agency Chemicals Strategy:</b> establish priority chemicals, identify sources (point and diffuse) and develop cost effective reduction programmes for priority chemicals.</li> <li>• Support DEFRA chemicals stakeholder forum.</li> <li>• Promote the development and use of clean technologies and 'green chemistry'.</li> </ul>

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**Re-use and recycling**

**Outcome 5 – Waste will be regarded by both industry and consumers as a potential resource, with the efficient re-use and recycling of materials the social norm.**

**Tests for progress:**

- Demand for primary soil additives.
- Illegal waste management activity and pressure for recycling.
- Regional and local minerals planning informed by secondary materials information.
- Use of secondary minerals.
- Agency 'green' purchasing policy influences and sets the trend for public and private sector procurement.
- Progress towards National Waste Strategy targets on waste recycling and reliance on landfill.

GOAL	ACTIVITY
<p>Goal 5.1 Appropriate recovery of waste will be encouraged.</p>	<p><b>Short to medium term:</b></p> <ul style="list-style-type: none"> <li>• Encourage controlled application of waste derived soil improvers through the provision of guidance and information and appropriate regulation.</li> <li>• Enforce rigorously regulations to prevent inappropriate applications of materials to soil.</li> <li>• Advise Government on improving exemptions from waste management licensing to allow greater monitoring and control of application of controlled wastes to land.</li> <li>• Introduce risk based permits and charges for authorised treatment and disposal of materials to land.</li> </ul>
<p>Goal 5.2 The re-use and recycling of secondary minerals is encouraged.</p>	<p><b>Short to medium term:</b></p> <ul style="list-style-type: none"> <li>• Increase the proportion of secondary minerals/aggregates and other construction materials in Agency capital works.</li> <li>• Improve quality and availability of information on secondary minerals, including construction and demolition waste, through targeted surveys.</li> <li>• Help Government review the aggregates levy and Minerals Planning Guidance 6 including consideration of targets for secondary minerals/aggregates.</li> <li>• Agree procedures to allow industry to demonstrate fitness for purpose of waste derived aggregates e.g. furnace bottom ash, foundry sand and other metal production slags.</li> <li>• Influence bodies setting aggregates specifications to encourage the highest possible use of secondary aggregates.</li> </ul>

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**Resource efficiency in the built environment**

**Outcome 6 – The built environment will be energy, water, materials and spatially efficient.**

**Tests for progress:**

- Balance between water supply and demand.
- New opportunities and markets for construction materials derived from secondary materials.

GOAL	ACTIVITY
Goal 6.1 Planning guidance and building regulations encourage efficient resource use.	<p><b>Short to medium term:</b></p> <ul style="list-style-type: none"> <li>• <b>Use the water resource planning process to inform the Agency's comments on local authority plans.</b></li> <li>• Seek to influence the planning process to ensure that all new buildings are water and energy efficient.</li> <li>• Work with Government and industry to develop LCA techniques and supporting data for whole life costing of domestic and commercial buildings to inform the Conservation Best Practice Programme.</li> <li>• Develop guidance with industry on fitness for purpose for the re-use of previously developed or contaminated ("brown-field") sites to encourage urban re-development.</li> </ul>

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**Producer responsibility**

**Outcome 7 – Products will be designed, marketed and licensed to minimise environmental costs in manufacture/use/end-of-life; and make producers responsible for end-of-life fate of products. Price of goods will reflect all of these costs based on a full global environmental impact.**

**Tests for progress:**

- Illegal disposal of tyres.
- Beneficial use of tyres.
- Progress towards targets set under the End-of-Life Vehicle and Waste Electrical and Electronic Equipment Directives and associated producer responsibilities.
- Cost effective and efficient new producer responsibility schemes identified and implemented.
- Compliance with waste management and producer responsibility regulations.
- No artificial regulatory barriers to secondary materials markets.

GOAL	ACTIVITY
<p>Goal 7.1 Further development of producer responsibility schemes.</p>	<p><b>Short to medium term:</b></p> <ul style="list-style-type: none"> <li>• <b>Gather information on tyre disposal and best practice.</b></li> <li>• Work with DEFRA and DTI and the industry on potential schemes for producer responsibility for mineral oils, batteries and tyres.</li> <li>• Work with and support industry in preparing producer responsibilities for other waste streams – in strategic, regulatory and economic terms.</li> <li>• Help to influence EU &amp; UK Government to identify new producer responsibility streams by provision of information on LCA, environmental burdens and associated risks.</li> <li>• Explore producer responsibility mechanisms with industry and Government to identify the most efficient and effective system in each case, helping avoid administrative burdens.</li> <li>• Undertake Research and Development (R&amp;D) and information gathering to support the development of appropriate schemes, including LCA assessment of priority waste streams.</li> <li>• Engage with Government and EU to clarify the definition of 'waste' and 'recycling' to remove unnecessary regulatory barriers to reuse, recovery and recycling.</li> </ul> <p><b>Medium term:</b></p> <ul style="list-style-type: none"> <li>• Help to evaluate pilot producer responsibility schemes and work with Government on any extension.</li> </ul>

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## 7. Research and development

We will need to increase our R&D and development of new tools to allow the assessment of the environmental burdens and health impacts of resource use and facilities involved in regulating or re-use.

We need a better understanding of materials movements through the economy to identify what can be done to reduce demand or wastage. We will also need to increase our work in monitoring and predicting the impact of new approaches such as using economic instruments or producer responsibilities. We will continue and extend our research on LCA.

## 8. Implications for the Environment Agency

Most of the Agency's regulatory effort goes into controlling the use of natural resources, such as water and minerals, and into controlling wastes. Regulation is becoming more complex. We will continue to regulate in a firm but fair manner, and we will target our resources on those sites and operators presenting the greatest environmental risks. We will ensure that administrative and bureaucratic aspects are minimised. We need to do more to change behavior and attitudes.

The Agency's ability to deliver these goals varies. Some are entirely within our power, while others depend on persuading the Government to introduce legislative changes or on the Agency working with or influencing others. Successful delivery will require the Agency to:

### Expertise and awareness

- Develop a better understanding of what resources we use, what wastes we generate, and how they are managed.
- Enhance existing expertise in LCA.
- Increase understanding of the effect of economic instruments.
- Increase influencing and communication skills.
- Increase core competence in the assessment and development of policy on the use of natural resources.

### Policies and strategies

- Assist national regional and local government in completion of local waste plans.
- Develop policies and procedures to implement the Water Bill.
- Implement the National Water Resource Strategy.
- Implement CAMS and associated resource assessments.
- Seek increased levels of fines so that they act as a significant deterrent to non-compliance with environmental legislation.

### Monitoring and reporting

- Extend coverage of the Pollution Inventory to cover landfill sites.
- Continue water demand monitoring and refine demand forecasts.
- Benchmark efficiency levels within and between sectors.
- Transfer monitoring and reporting responsibilities to regulated organisations.



### **Knowledge**

- Develop better understanding of tyre disposal and best practice.
- Develop and promote better understanding of quantities of water saved and costs involved in a range of demand management options.
- Improve quality and coverage of information on wastes generated and resource use in all industry sectors.
- Improve quality and availability of construction and demolition waste generation data.
- Improve understanding of environmental and health impacts of resource use and reuse/recycling.

### **Influencing and education**

- Influence the behavior of others to reduce demand on resources.
- Influence regional and local strategic planning by regional and local government.
- Exert greater influence and enforcement in the areas of producer responsibility.
- Influence bodies setting aggregates specifications to choose appropriate secondary aggregates on the basis of LCA and fitness for purpose.
- Influence regional and local waste strategies and undertake publicity campaigns to promote environmentally beneficial recycling.
- Encourage, with others, consumer choice of lower environmental cost options of high-profile consumer products and services.
- Carry out targeted campaigns for waste minimisation and pollution prevention to promote increased resource efficiency, using resource use benchmarks.
- Maintain best practice procedures to allow industry to demonstrate fitness for purpose of secondary aggregates/construction materials.
- Work with industry to influence Government to introduce a UK-wide waste classification scheme.
- Influence Government to review and improve aggregates levy and MPG6 and in considering more use of economic instruments to increase use of secondary construction materials.
- Influence development of regional waste planning guidance to reflect LCA and best environmental option waste solutions.

### **New and revised regulations**

- Provide advice to Government in the areas of economic instruments and the design of appropriate producer responsibility schemes for wastes.
- Work with Government to:
  - clarify the energy strategy.
  - develop and implement controls on composting.
  - improve waste management licensing exemptions for use of construction and demolition wastes for land reclamation/improvement schemes.
  - help develop and then implement producer responsibility for tyres, end of life vehicles and electrical/electronic equipment.
  - identify and support new producer responsibility streams on the basis of LCA and environmental burdens.
  - assist in preparing and introducing waste reporting systems to satisfy the EU waste statistics Regulations.
  - influence EU to improve the European Waste Catalogue to allow monitoring of materials in the economy and to support national and international waste and materials strategies.
- Co-operate with local government and other landowners in controlling fly-tipping.

**The planning system**

- Ensure that planning for the built environment is guided by Agency water resource strategies.
- Work with Government and local authorities to ensure that all planning permission applications meet appropriate requirements of the EC and UK Environmental Impact Assessment (EIA) Directive and regulations.

**TABLE 1: Regional variation in relative environmental pressures on natural resources**

Stress	Anglian	Midland	North East	North West	Southern	South West	Thames	Wales
Households	L	M	M	M	H	L	H	L
Public water supply demands and availability	M	H	L	M	M	M	H	L
Water availability per person	H	M	M	M	H	L	H	L
Area worked for aggregates	L	M	M	L	H	M	H	(M)
Waste arisings (municipal)	M	H	M	M	M	L	H	L

**KEY**

Regions with the greatest stress are denoted H, and Regions with relatively low stress, others are denoted M. Where data are lacking, moderate M has been assumed and placed in brackets.

Sources: Environment Agency (2000) *Environment 2000 and beyond*  
Environment Agency (1998) *The state of the environment of England and Wales: fresh waters.*









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