



ORR'S SUSTAINABLE DEVELOPMENT & ENVIRONMENT DUTIES

- A CONSULTATION DOCUMENT

OCTOBER 2006

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Chairman's foreword

How to improve our quality of life through a sustainable economy, using natural resources as efficiently and effectively as possible and minimising harmful effects on the environment, is of increasing concern to us all. Indeed, one of the statutory duties of the Office of Rail Regulation is to contribute to the achievement of sustainable development and to have regard to the effect of railways on the environment.

The Government's Strategy on Sustainable Development, published in 2005, identified three 'pillars' of activity that contribute to sustainable development: environmental; economic; and social. In considering our own approach to these issues, we have adopted this framework. Whilst these pillars are given equal importance, much of this document focuses on changes that would impact on environmental decision-making within the rail industry. This is because we consider that we can achieve the most additional contribution to sustainable development under this pillar.

Rail has traditionally been regarded as an environmentally friendly mode of transport. Our regulatory approach to date has reflected this. But the increased importance attached to sustainable development, and developments in technology and scientific knowledge, mean that it is timely for us to review our approach.

Improvements in the environmental performance of other transport modes, for instance through reducing pollutants and noise emissions, mean that the rail industry cannot afford to be complacent about its current environmental advantage. And in some respects, for instance weight of trains and energy efficiency, the railway industry's performance is deteriorating. The long-term sustainability of the rail industry means that this trend must reverse.

The need to ensure that the rail industry does all it can to contribute towards sustainable development has never been more important.

Against this background, we welcome the initiatives being taken forward by the industry, particularly through the Rail Sustainable Development Group, led by the Rail Safety and Standards Board.

On our part, we said in our 2006 Corporate Strategy and Business Plan that we would take a more proactive approach toward discharging our sustainable development and environmental duties. This consultation document therefore seeks the views of both the rail industry and other interested parties on how this can best be achieved.

We look forward to receiving your views. They will be important in helping us to ensure that the rail industry's approach to these issues is properly focused on delivering a sustainable railway – one which is affordable, efficient and safe for all its customers today, tomorrow and into the future.

Chris Bolt

Chairman, Office of Rail Regulation

October 2006

Executive summary

1. The goal of sustainable development is defined in the UK Government's 2005 strategy (the UK Strategy) document "Securing the Future – delivering UK sustainable development strategy"¹ as:

"to enable all people throughout the world to satisfy their basic needs and enjoy a better quality of life, without compromising future generations."

The UK strategy establishes a sustainable development framework which has been agreed with the Scottish Executive² and the Welsh Assembly. They in turn have developed their own strategies to deliver this.

2. This aim is supported by three distinct pillars (the three pillars) that need to be clearly assessed when considering whether activities are being carried out in a sustainable way. These are:
 - (a) environmental impacts;
 - (b) economic impacts; and
 - (c) social impacts.
3. These pillars are given equal importance. However, much of this document focuses on changes that would impact on environmental decision-making within the rail industry. This is because, taking account of our duty/role, we consider that we can achieve the most additional contribution to sustainable development under this pillar.
4. In our 2006-09 Corporate Strategy and Business Plan³, we committed to review the way that we discharge the duties placed upon us under the Act. We have a number of duties that we have to take into account when

¹ "Securing the future - delivering UK sustainable strategy", DEFRA, March 2005 (http://www.sustainable-development.gov.uk/publications/pdf/strategy/SecFut_complete.pdf).

² "Choosing our future – Scotland's sustainable development strategy", Scottish Executive, December 2005 (<http://www.scotland.gov.uk/Publications/2005/12/1493902/39032>).

³ Corporate strategy 2006-09 and business plan 2006-07, ORR, April 2006 (<http://www.rail-reg.gov.uk/upload/pdf/280.pdf>).

performing our functions. Two of these relate specifically to sustainable development and environmental issues, namely:

- (a) to contribute to the achievement of sustainable development; and
- (b) to have regard to the effect on the environment of activities connected with the provision of railway services.

5. This consultation document examines how we currently discharge these two duties, questions whether we could do this in a way that addresses the three pillars more effectively, and seeks industry views on our proposals to achieve this.

6. We believe that our current activities already make a valid contribution toward sustainable development, particularly our incentives-based regulation of Network Rail (encouraging the achievement of least cost production of required outputs). However, with the increasing importance that is being placed on all aspects of sustainable development, and in the light of the UK strategy, and the priorities for action that have been established within it, we consider it appropriate to review how our approach to discharging our duties can be further improved. In doing so it is important to take account of current industry initiatives in respect of the sustainable development agenda. This document therefore considers whether:

- (a) we should change the way in which these duties are discharged in our day-to-day activities;
- (b) we should identify and publish an action plan which would also reflect the industry's position (see paragraph 2.15);
- (c) we should be encouraging the industry to produce common measures of sustainable development and/or whether we should be publishing any relevant Key Performance Indicators (KPIs) (see paragraphs 3.14 to 3.25);
- (d) the existing environmental licence condition in all rail operator licences remains appropriate in respect of assisting us to meet our sustainable development duty (see paragraphs 3.26 to 3.29);
- (e) our existing environmental guidance should be updated to reflect wider sustainable development issues (see paragraphs 3.30 and 3.31);

- (f) we should place greater obligations on Network Rail to take account of sustainable development issues through its business planning process (see paragraph 3.32);
 - (g) our guidelines on the development of RUSs should be amended to ensure consideration of sustainable development factors (see paragraphs 3.33 to 3.35);
 - (h) the scope of Part E of the Network Code and similar provisions in the Stations/Depots Codes are appropriate in clearly identifying responsibilities for clearing up environmental damage (under the “polluter pays”⁴ principle) and incentivising industry parties to manage environmental risk in a responsible manner (see paragraphs 3.36 to 3.40); and/or
 - (i) the use of charges and/or incentives could better encourage the industry (through the “polluter pays” principle) to move to a more environmentally friendly position (see chapter 4).
7. We intend to produce a specific policy which sets out the way in which we propose to fulfil our statutory responsibilities relating to sustainable development. Such a policy will address a wide range of sustainable development issues (taking into account the three pillars, and the five guiding principles identified in the UK strategy).
8. We also intend to hold a one-day industry workshop on 24 November 2006 to enable wider discussion on any of the proposals that we have raised in this document.

⁴ Those who cause environmental damage should offset its effects by compensating for the damage incurred, or by taking precautionary measures to avoid creating such incidents.

1. Introduction

- 1.1 The goal of sustainable development is defined in the UK Government's 2005 strategy (the UK Strategy) document "Securing the Future – delivering UK sustainable development strategy" as:

"to enable all people throughout the world to satisfy their basic needs and enjoy a better quality of life, without compromising future generations."

The UK strategy establishes a sustainable development framework which has been agreed with the Scottish Executive and Welsh Assembly. They in turn have developed their own strategies to deliver this.

- 1.2 This goal is supported by three distinct pillars (the three pillars) that need to be clearly assessed when considering whether activities are being carried out in a sustainable way. These are:

- (a) environmental impacts;
- (b) economic impacts; and
- (c) social impacts.

- 1.3 These pillars are given equal importance. However, much of this document focuses on changes that would impact on environmental decision-making within the rail industry. This is because, taking account of our duty/role, we consider that we can achieve the most additional contribution to sustainable development under this pillar.

ORR's current role

- 1.4 Section 4 of the Railways Act 1993 (as amended) (the Act) places two statutory duties on ORR that are particularly relevant to sustainable development:
- (a) to contribute to the achievement of sustainable development; and
 - (b) to have regard to the effect on the environment of activities connected with the provision of railway services.

- 1.5 A number of our other duties are also relevant. In exercising our functions we have to balance these duties to reach the best public interest outcome. One of our objectives, as well as developing our sustainable development policy and establishing our role in contributing to a sustainable railway, is to inform the relative weight that we place on our duties when exercising our functions on a case by case basis in future.
- 1.6 Currently we discharge our sustainable development and environmental duties through:
- (a) establishing the right economic arrangements to provide a stable financial structure for the industry to encourage further modal shift from transport modes which cause heavier pollution than rail;
 - (b) the periodic review process, establishing appropriate incentive structures to ensure that the industry operates as efficiently and effectively as possible and continues to be incentivised to improve through reducing its cost base and improving its performance whilst maintaining appropriate safety standards;
 - (c) developing other aspects of the incentives framework to encourage more efficient use of industry resources and environmentally friendly behaviour;
 - (d) our role in establishing Route Utilisation Strategies (RUSs) and approving track access contracts to identify the most effective and efficient way to utilise existing capacity and identify the changes required to that capacity to meet future customer requirements and align these with the funding that is, or is likely to become, available;
 - (e) a licence obligation to produce a specific policy statement designed to protect the environment from the effects of licence holders' licensed activities;
 - (f) securing continuous and sustained improvement in safety;
 - (g) contractual obligations under Part E (Environmental Protection) of the Network Code, and similar provisions in the station and depot access conditions, which identify responsibilities for dealing with and preventing environmental damage; and

- (h) carrying out specific projects such as monitoring Network Rail's national pollution prevention programme, funded under the Access Charges Review 2003, to bring its light maintenance depots and other sites into compliance with the Oil Storage Regulations and the Groundwater Regulations.

Additionally, our policy of consulting widely on everything we do enables the industry, funders and other stakeholders to advise us of any impact they may perceive our proposals have on the discharge of our duties.

- 1.7 It is, however, important to make clear that we have no powers conferred on us to enforce environmental legislation - for instance to require a railway body to remedy instances of environmental nuisance. The responsibility for enforcing such actions lies with the Environment Agency (in England and Wales), the Scottish Environment Protection Agency (SEPA) (in Scotland), local authorities or affected individuals.

Developing ORR's future policy

- 1.8 In our 2006 Corporate Strategy and Business Plan, we undertook to take a more proactive approach toward discharging our sustainable development and environmental duties. We said that initially we intended to do this through:
- (a) developing our reporting and assessment of industry environmental performance, and how it compares with other transport modes and comparable industries;
 - (b) reviewing the current industry arrangements (including licence provisions, ORR's environmental guidance, and incentives/charges) for facilitating and incentivising improved environmental performance; and
 - (c) participating in the railway industry, Department for Transport (DfT) and ORR initiative coordinated by the Rail Safety and Standards Board (RSSB), to define and implement the steps necessary to ensure the sustainability of the railway.
- 1.9 Our approach reflects the fact that rail is rightly regarded as an environmentally friendly mode of transport. This is borne out by comparative environmental indicators. However, progress made by other modes to reduce

environmental impact, and the greater importance being placed on sustainable development issues, particularly by the UK Government and European Union, means that rail cannot be complacent in this area.

- 1.10 This consultation document therefore makes a number of proposals which are set out in chapters 3 and 4 and upon which consultees' views are welcomed.

The way forward and timing

- 1.11 This consultation, and in particular chapter 4, "Incentives Framework and Access Charges", is timed to be consistent with the 2008 periodic review timescales. This is so that when we publish our "Advice to Ministers and Framework for setting Access Charges" document in February 2007, we can include any proposed changes to access charges or to the incentive framework. We therefore plan to publish our draft conclusions on this sustainable development consultation in February 2007, with final conclusions following in May 2007.
- 1.12 To enable wider discussion on any of the proposals raised in this document, we will be holding a one-day workshop at ORR on 24 November 2006 to which consultees are invited to attend. Those who wish to attend are requested to contact us at the address in paragraph 1.15 by 31 October 2006.

Structure of this document

- 1.13 The document is structured as follows:
- Chapter 2 provides the wider policy context including information on current rail sustainable performance and our proposed objectives in this area.
 - Chapter 3 provides information on current industry initiatives and sets out the specific policy proposals on which we are seeking your views.
 - Chapter 4 considers whether changes to the current incentives framework and/or access charges might promote more environmentally friendly behaviour/decision-making by the industry.

Responses to this document

- 1.14 We welcome views on any issue raised in this document but, in particular, to the questions we have specifically identified. For convenience these are listed in Annex A.
- 1.15 Responses to this consultation should be sent in electronic format, to be received as soon as possible, but no later than 12:00 hours on 22 December 2006, to:
- Andrew Eyles
Sustainable Development Manager
Office of Rail Regulation
1 Kemble Street
LONDON WC2B 4AN
- Email to: andrew.eyles@orr.gsi.gov.uk
- 1.16 All responses will be made available in our library, published on our website and may be quoted from by ORR. If a respondent wishes all or part of their response to remain confidential, they should set out clearly why this is the case. Where a response is made in confidence, it should be accompanied by a statement summarising the submission, but excluding the confidential information, which can then be used as above. We will publish the names of respondents in future documents or on our website, unless a respondent indicates that they wish their name to be withheld.
- 1.17 Copies of this consultation paper are available from our website (www.rail-reg.gov.uk) and our library.

2. Sustainable Development in the Wider Context

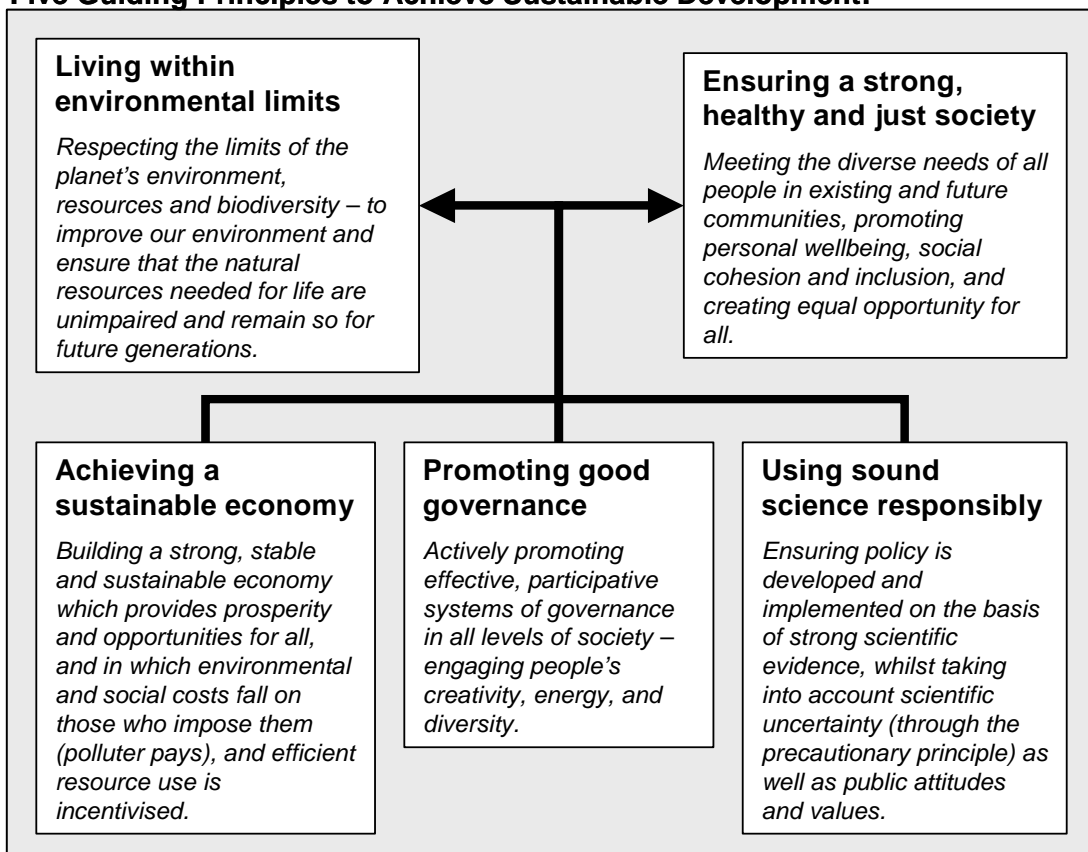
- 2.1 This chapter sets out the framework against which our objectives for developing and delivering our sustainable development role are set.

Policy Framework

Government Strategy on Sustainable Development

- 2.2 The UK strategy published in 2005 identifies the following five guiding principles:

Five Guiding Principles to Achieve Sustainable Development:



Source: "Securing the future: delivering UK sustainable development strategy", DEFRA, March 2005

- 2.3 For a policy to be sustainable it must respect all five of these principles, although in the context of the railway industry and the aims of this document, it is accepted that some of these are more relevant than others. It is also generally recognised that the three distinct pillars of sustainable development need to be clearly assessed when considering whether activities are being carried out in a sustainable way.

- 2.4 In considering how the UK sustainable development strategy might be developed and implemented, the Government has identified four specific priority areas that it believes needs to be addressed immediately. These are:
- (a) sustainable consumption and production, which aims to address issues such as pollution, waste and harmful emissions, and the use of resources;
 - (b) climate change, focusing on the need to reduce harmful emissions which contribute directly toward global warming;
 - (c) natural resource protection, considering ways in which natural resources across the world (such as fossil fuels, air, water, space and eco systems) can be protected and enhanced to create a sustainable environment; and
 - (d) sustainable communities, examining economic, social and local environment problems including safety and integrated transport issues.

European Union Sustainable Development Strategy

- 2.5 The European Council adopted the first EU Sustainable Development Strategy in 2001. Since then, the EU has expressed the belief that trends in relation to climate change, energy use, management of natural resources, biodiversity loss and transport, amongst others, are unsustainable. In its opinion immediate action to address such issues is needed, and on this basis the European Council, in 2006, adopted an ambitious and comprehensive renewed strategy for the European Union.⁵
- 2.6 This revised strategy encompasses four key objectives relating to Environmental Protection, Social Equality and Cohesion, Economic Prosperity and International Responsibilities. Within these, the EU has identified seven key challenges (see Annex B) that need to be addressed by Member States when taking forward proposals for meeting sustainable development obligations.
- 2.7 In doing so the EU has stressed the importance of ensuring that sustainable development issues are addressed in a balanced way in future policy making.

⁵ *Review of the EU Sustainable Development Strategy*, Brussels, June 2006 (<http://register.consilium.europa.eu/pdf/en/06/st10/st10117.en06.pdf>)

We will continue to review developments in this area as they can often provide an insight into future UK legislative requirements.

- 2.8 Of the seven key challenges identified, six have potential implications for the rail industry. Clear targets are established in some instances (primarily in relation to emissions reductions and energy consumption – see Annex B). Government statistics⁶ indicate that the industry reduced its levels of greenhouse gas emissions by 40% (in terms of carbon dioxide) and 56.5% (for other pollutants) between 1990 and 2003, thus already far exceeding the published EU targets. There are issues around the robustness of data in this area and we address this in chapter 3.
- 2.9 The EU also places particular emphasis on:
- (a) communication and education (in terms of raising awareness of sustainable development issues by publicising and promoting best practice principles);
 - (b) the utilisation of economic instruments and incentives (in our case charging regimes) to ensure that real economic, social and environmental costs of services are addressed; and
 - (c) the monitoring of progress and achievement through the use of a standard set of appropriate performance indicators.

ORR's proposed objectives

- 2.10 In considering our role in delivering the sustainable development agenda, our specific aims are:
- (a) that the railway industry should better understand its sustainable development performance and the way in which it is measured;
 - (b) to encourage the efficient development and improvement of such performance;
 - (c) to promote the application of best practice principles across the industry; and

⁶ *Transport statistics Great Britain 2005*, DfT, October 2005 (http://www.dft.gov.uk/stellent/groups/dft_transstats/documents/downloadable/dft_transstats_609987.pdf).

- (d) to ensure that as an organisation we adopt policies and practices, so far as practicable, that will further the UK's sustainable development strategy.

2.11 Whilst we acknowledge that each of the five key principles outlined in the UK strategy needs to be addressed across the rail industry, we are mindful that our ability to influence each of them is constrained by our legal obligations and statutory duties. The proposals outlined in chapters 3 and 4 of this consultation document therefore address those areas that we consider we can influence in our role as economic and safety regulator.

2.12 ***Consultees are invited to comment on our proposed objectives and to say whether we should adopt any additional objectives in developing our role.***

2.13 ***Consultees are also asked for their views on our prioritisation of the three pillars within this document, and to provide their thoughts on the specific issues that they consider need to be addressed.***

Sustainable Development Policy

2.14 It is our intention to produce a sustainable development policy statement. This will set out the way in which we intend to fulfil our statutory responsibilities relating to sustainable development. This will be reviewed on a regular basis. We would expect such a policy not to simply focus on environmental matters, but to address a range of sustainable development issues (taking into account the three pillars, and the five guiding principles identified in the UK strategy). It is our intention, taking into account consultees' responses, to issue a draft sustainable development policy for consideration in our draft conclusions document (in February 2007).

Action Plan

2.15 As part of the UK strategy process, central Government departments and executive agencies were required to publish action plans by December 2005 to be reviewed annually by the Sustainable Development Commission.⁷ The DfT published its action plan on its website on 16 January 2006, setting out its commitments to achieving the Government's objectives. Two of these

⁷ DfT published its action plan in January 2006. Only two commitments specifically relate to the railways - the impact of rail on sustainable communities and the sustainable distribution of goods through freight transport.
http://www.dft.gov.uk/stellent/groups/dft_about/documents/divisionhomepage/610980.hcsp.

commitments specifically related to the railways – the impact of rail on sustainable communities and the sustainable distribution of goods through freight transport.

- 2.16 Similarly, Transport Scotland is currently in the process of developing its National Transport Strategy to promote a safe, integrated and reliable transport system that builds on the sustainable development principles of economic growth, protection of the environment and social inclusion. This is due for publication towards the end of October 2006.
- 2.17 We were not required to develop our own action plan. Nevertheless, the work we are proposing to carry out, including the results of this consultation, could sensibly form part of such an ORR specific plan within which we could incorporate our internal corporate policies and activities. Some such elements are already published e.g. issues relating to good governance identified in our Corporate Strategy. This is a proposal that we will consider further in the light of responses received to this document.

3. Current industry initiatives & our proposals

- 3.1 This chapter identifies the workstreams being taken forward by the industry to meet its sustainable development objectives and sets out our proposals for improving the way that we can contribute to this process. Chapter 4 deals separately with the ways in which we believe more environmentally friendly behaviour can be influenced through financial incentives and the access charges regime.

Current Industry initiatives

- 3.2 Whilst this document focuses on shorter to medium term issues that the industry can tackle now, and which would have a more immediate impact, the industry also needs to take a holistic view of its impact on sustainable development. It therefore needs to consider the impacts of longer-term investment decisions, such as the trade-offs between electrification and diesel or in rolling stock design, and other issues such as the extent and capability of the network.
- 3.3 In addressing this holistic approach, we are encouraged that the rail industry is taking forward a number of initiatives to identify sustainable development issues, and in particular environmental issues, that can be addressed, both by individual organisations and through cross-industry workstreams. The RSSB is chairing an industry group, on which we are represented, to consider such issues. In a February 2006 paper⁸ the RSSB identified a number of areas where Network Rail, train operators and Government bodies are working to improve the environmental performance of the railway. This work is intended to produce a sustainable development strategy for the rail industry as a whole that will address:
- (a) the cost of running the railway (in terms of Government subsidy and the passenger's willingness to pay);
 - (b) modal shift from less sustainable modes of transport and other integrated transport issues;

⁸ *The rail industry - a way forward on sustainable development*, RSSB, February 2006

- (c) safety issues;
- (d) the accessibility of rail to all sectors of the population;
- (e) improving air quality through reductions primarily in diesel engine pollution;
- (f) reducing the impact of climate change through lower carbon emissions both from diesel engines and the use of electricity;
- (g) more efficient use of materials used in the infrastructure and new trains and their disposal;
- (h) management of operational noise from train services; and
- (i) the control and prevention of diffuse pollution.

3.4 We support the RSSB in this work, and our proposals are intended to complement the activities that it is undertaking, particularly the development of industry-wide KPIs. The initiatives being examined by the RSSB and our consideration of environmental charges and incentives (see chapter 4) will also provide important background to the development of the Secretary of State's and Scottish Ministers' High Level Output Specification (HLOS) and Statements of Funds Available (SOFAs) due to be published in July 2007.

3.5 Consideration is being given by industry stakeholders to other initiatives such as the:

- (a) utilisation of more environmentally friendly fuel sources;
- (b) use of on-train electricity metering;
- (c) wider implementation of regenerative braking; and
- (d) development of a technical strategy for the railway being taken forward by DfT and the industry.

3.6 We will work with the industry to facilitate such proposals where we can. Network Rail also encourages sustainable development initiatives through its annual Environmental Awards programme, which this year rewarded the best environmental practice in such areas as biodiversity protection, the efficient use of resources, sustainable development innovation, and social improvement (through crime prevention and community partnerships).

Our approach to developing our proposals

- 3.7 To inform our thinking on how we can better discharge our duties in a way that complements other industry workstreams, and to assess whether examples of best practice amongst transport sector bodies and other Government regulators could be applied to our role, we commissioned Enviros Consulting Limited⁹ (Enviros) to provide advice on initiatives which we believe will enable the rail industry to demonstrate its contribution towards the Government's sustainable development agenda.
- 3.8 Enviros concluded that we generally compare well with other organisations in terms of the number of sustainable development activities being undertaken and measured. Whilst our focus to date has been largely limited to health & safety matters, some environmental issues, and economic/commercial practices, we recognise that there are areas for improvement, and these are addressed in the remainder of this document.
- 3.9 The main focus of our proposals remains the environmental and economic aspects of sustainable development. This is because other organisations are better placed to lead on social aspects of sustainable development. We believe that the DfT and Transport Scotland have an important role to play in developing policies that will contribute to social impacts through the franchising process, the regulation of fares, levels of subsidy, provision for disabled access, the encouragement of modal shift, and the promotion of integrated transport. We will continue to work with them to facilitate industry-wide progress in these areas.
- 3.10 The Enviros benchmarking exercise used a framework of nine key areas derived from the UK sustainable development strategy, Government guidance on sustainability appraisals of regional strategies and development plans¹⁰ (which are required to meet the European Strategic Environmental Assessment Directive), and the British Standard "Guidance for Managing Sustainable Development" (BS 8900:2005).

⁹ *ORR sustainability benchmarking*, Enviros Consulting Limited, August 2006 (http://www.rail-reg.gov.uk/upload/pdf/sd-enviros_benchapps-finrep-aug06.pdf)

¹⁰ Available from the Department for Communities and Local Government website (<http://www.communities.gov.uk/index.asp?id=1161341>).

- 3.11 Through this process a number of gaps have been identified in our current approach and Enviro's has made a number of recommendations as to how these might be addressed. These relate primarily to the production of a formal policy statement, the establishment of KPIs and reporting/monitoring of industry performance, and the consideration of wider social issues. We have incorporated those that we believe we can take forward, taking account of our legal obligations, in the proposals outlined in the rest of this chapter.
- 3.12 ***Consultees are therefore asked to comment both on the proposals we have made, and also on whether there are any others that we could add in order that ORR as an organisation can contribute as fully as possible to the achievement of the key sustainable development principles.***

Our proposals

- 3.13 This section of the document sets out the specific activities that we believe could be taken forward in order to:
- (a) meet our specific objectives as set out in paragraph 2.10;
 - (b) contribute toward the development of our sustainable development policy; and
 - (c) promote sustainable development awareness and action across the industry.

Key Performance Indicators

- 3.14 Rail has traditionally been regarded as an environmentally friendly mode of transport. However, significant improvements have been made in recent years by other modes, primarily road vehicles, in terms of reducing pollutant and noise emissions. The rail industry cannot, therefore, afford to be complacent about its current environmental advantage.
- 3.15 Few statistics are currently available to help understand how rail contributes to wider sustainable development objectives. Following agreement of the Kyoto Protocol, environmental emissions have been measured against either a baseline year of 1990 or 1995. The Government has also committed to putting the UK on a path to reducing the its 1990 carbon emission levels by

60% by 2050¹¹, and the DfT has developed two specific Public Service Agreements¹² which express specific long-term sustainable development objectives on air quality and greenhouse gas emissions.

- 3.16 The data that is available is not always consistent. Annex C sets out published data which indicates that rail is performing well in comparison with other transport modes and in relation to the total UK emissions. These figures suggest that rail is not only the most sustainable mode of transport, but also that it is on the way to meeting the Government's long-term commitment. We believe that the robustness of such data can only be assured if it is owned by the industry. This makes the work that the RSSB is doing in developing metrics all the more important and underlines our view.
- 3.17 Such data also only reflects performance on a small section of the overall sustainable development agenda. One of the key workstreams of the RSSB-led industry group is the development of cross-industry indicators, which will allow performance on key sustainable activities to be measured and compared. We believe that this will help to provide the level of information about rail industry performance that is required to take the sustainable development agenda forward.
- 3.18 In adopting this approach, and in order that the industry can support and clearly demonstrate its level of sustainability performance, we believe that it should:
- (a) produce and take ownership of any sustainable development values published for rail;
 - (b) understand the reasons for any associated changes; and
 - (c) understand how actions can influence future trends.

¹¹ *Our energy future – creating a low carbon economy*, DTI, February 2003 (<http://www.dti.gov.uk/files/file10719.pdf>).

¹² **PSA 6.** Improve air quality by meeting the Air Quality Strategy targets for carbon monoxide, lead, nitrogen dioxide, particles, sulphur dioxide, benzene and 1,3 butadiene.

PSA 7. To reduce greenhouse gas emissions to 12.5 per cent below 1990 levels in line with the Kyoto commitment and move towards a 20 per cent reduction in carbon dioxide emissions below 1990 levels by 2010, through measures including energy efficiency and renewables. (See http://www.dft.gov.uk/stellent/groups/dft_about/documents/page/dft_about_611672.pdf)

- 3.19 The RSSB is currently looking at developing KPIs across a number of sustainable development areas. Once this work is complete, we believe that KPIs for some or all of the issues identified in the following table could be published regularly to highlight how the industry is performing and the progress it is making in respect of the three pillars.

| Pillars of Sustainable Development | | |
|--|---|-----------------------------------|
| Environmental | Economic | Social |
| Greenhouse gas and other pollutant emissions | Cost per passenger kilometre | Health and safety issues |
| Waste management and recycling | Asset stewardship | Rail-related accidents/fatalities |
| Biodiversity issues (including SSSIs and land use) | Transport comparisons by mode | Resolution of customer complaints |
| Noise impacts | Journey time per kilometre | Noise impacts |
| Water consumption | Train service reliability and performance | |
| Energy consumption and efficiency | | Accessibility issues |
| Energy efficiency of vehicles | | Diversity of workforce |
| Pollution incidents and contaminated land issues | | |

- 3.20 We consider that Network Rail and other rail operators should take responsibility for providing the information that would underpin such KPIs. This industry owned data could then be published either by the industry or ourselves, and used to monitor rail industry performance. It would also be useful in providing comparisons with other transport modes, reinforcing and publicising to a wider audience that rail represents a sustainable mode of transport.

- 3.21 The question then arises as to how such information should be gathered, and whether this would be achieved through voluntary agreement or some form of compulsion. We await the outcome of the RSSB work, which may provide an appropriate solution. Alternatively, we consider that this may be achieved possibly through either:
- (a) specific provisions incorporated into Part E, or elsewhere, of the Network Code;
 - (b) the recently established Rail Statistics Steering Group, chaired by this office, which aims to ensure that a consistent level of data is shared across the industry;
 - (c) an amendment to the current environmental licence condition; or
 - (d) part of our policy guidance.
- 3.22 We would also be interested in exploring whether one or more key sustainable development indicators can be developed for inclusion in our Network Rail Monitor. This would give a regular indication of the overall performance of the railways, against which we could provide an independent commentary.
- 3.23 We are clear that our role in this area is to provide visibility to other industry bodies and the general public on how the industry is performing in meeting its sustainable development objectives. Through this approach the industry might be encouraged to adopt best practice principles and take action to mitigate any apparent negative trends.
- 3.24 ***We fully support the RSSB workstream to develop a specific set of railway related metrics, but would be interested in the views of consultees as to whether the publication of KPIs would be beneficial in both encouraging environmental improvements across the industry and promoting the benefits of rail travel to the general public. Are there any other specific KPIs that should be considered? In populating these KPIs, do consultees consider that the information that might be required is already available (to be produced either on a quarterly or annual basis)?***
- 3.25 ***Consultees are also asked to comment on the proposed ways of ensuring that appropriate data is gathered (as set out in paragraph 3.21),***

and provide suggestions of any possible alternatives. Who do consultees believe should collate and publish this information?

Licence holder environmental policies

- 3.26 Licensed operators are obliged to produce and maintain a written environmental policy designed to protect the environment from the effects of their licensed activities, in accordance with guidelines last published by ORR in 1996.¹³
- 3.27 Our responsibilities are wider than an environmental interest and we believe that in order to encourage sustainable development across the industry, licence holder obligations should also be widened to include sustainable development issues. We believe that the following actions in respect of licences will help rail's contribution to the sustainable development agenda:
- (a) widening the scope of the policies required under a licence to include sustainable development issues, which might also require a corresponding change to the wording of the licence condition. This would require a corresponding review of our 1996 environmental guidance which we would undertake as part of the development of our sustainable development policy;
 - (b) monitoring compliance as we do now to ensure that such policies are produced in line with our revised sustainable development guidance. The wording of the licence condition could, if necessary, be amended to allow enforcement through the licence to rectify an operator's failure to comply or at least to ensure that licence holders review their policies from time to time;
 - (c) incorporating standard industry KPIs into operator sustainable development policies (as discussed in paragraphs 3.14 to 3.25 above) to allow performance to be measured and monitored, and to ensure that the impact of operators on sustainable development is understood; and

¹³ *Railway operations and the environment: environmental guidance*, ORR, March 1996 (<http://www.rail-reg.gov.uk/upload/pdf/29-environment96.pdf>).

- (d) requiring licence holders to produce an annual report on their sustainable development activities. This would, in particular, identify performance against the agreed KPIs (and any others that licence holders felt were appropriate). At present we do not intend that these reports be formally audited, but would anticipate that data quality would have to be maintained.

3.28 We realise that operators already have legal responsibilities under existing UK environmental legislation and our actions are intended to facilitate and not compromise the fulfilment of such obligations.

3.29 ***Do consultees agree that the scope of the current ORR environmental guidance document should be widened to encompass sustainable development? Are there any additional issues to those set out in paragraph 3.27 that the revised guidance should cover? Are there any areas of the current licensing regime that are proving to be an impediment to sustainable development, and in particular environmental issues, being taken forward?***

Sustainable development guidance

3.30 In taking forward the proposed review of our 1996 environmental guidance to encompass wider sustainable development issues (as discussed in paragraph 3.27 above), we consider that this document should address four key areas:

- (a) the required structure of an operator's policy document, including a statement of the operator's sustainable development policy;
- (b) how the policy should be published and maintained;
- (c) how operator performance will be measured and monitored. This will include the specific rail KPIs that will be used to monitor the industry as a whole, and how these should be populated; and
- (d) how, and where, such information should be reported.

3.31 Such a document will clearly draw on the views of the industry that are expressed in relation to this consultation. We do, however, envisage working closely with the industry to ensure that requirements placed upon it through this approach are both sensible and achievable.

Network Rail Business Plan

3.32 We want Network Rail to take appropriate steps to ensure that its future Business Plans incorporate more detailed sustainable development objectives, thereby building on the approach it already takes through the publication of its Safety and Environment Plan (S&E Plan). Unlike the Business Plan, we do not currently undertake an annual assessment of the S&E Plan, and we consider that taking such a joint approach will allow Network Rail's annual performance to be more easily measured and evaluated. In order to formalise such an obligation, we could consider either:

- (a) amending paragraph 5 of Condition 7 of its licence to make specific reference to the need to include sustainable development plans and objectives within the scope of the document; or
- (b) ensuring that our annual notice to Network Rail (issued in accordance with Condition 7 paragraph 4.2(b)) should address this requirement.

We would consider if either approach were necessary in the light of industry commitment/activity.

Route Utilisation Strategies (RUSs)

3.33 Network Rail is responsible under its network licence for producing RUSs for the network or part of the network. Our published guidelines on RUSs¹⁴ specify how these strategies should be developed. The objective for each RUS is:

"the effective and efficient use and development of the capacity available, consistent with funding that is, or is reasonably likely to become, available during the period of the route utilisation strategy and with the licence holder's performance of the duty."

Our principal role in the RUS development process is to consider whether a published strategy is deficient either in process or in content, and whether it should therefore be established.

¹⁴ Available on ORR's website (http://www.rail-reg.gov.uk/upload/pdf/rus_guidelines-jun05.pdf).

3.34 RUSs clearly impact upon the sustainability of the railway (in terms of areas served, frequency and timings of services, potential enhancements and funding required, and performance improvements). In order that we can fully take into account our duties when considering proposed RUSs, we propose:

- (a) that Network Rail's future RUS consultation documents should set out the sustainable development impacts - positive and/or negative - of the strategies proposed; and
- (b) to consider whether or the current RUS guidelines require amendment to formalise this approach.

3.35 ***Do consultees agree with our proposals to ensure that Network Rail's Business Plan and the RUS process takes appropriate account of sustainable development issues?***

The access regime

3.36 Part E (Environmental Protection) of the Network Code:¹⁵

- (a) places an obligation on train operators to notify Network Rail of any material that they propose to carry that could potentially cause environmental damage on the network; and
- (b) sets out the standard approach to be followed by all contractual parties in order to prevent, remedy or alleviate any environmental damage that occurs.

3.37 As part of the Network Code reform programme (initiated in 2003), work is currently being taken forward by the Network Code Industry Steering Group (ISG) to review Part E and identify any required changes to reflect emerging environmental issues across the industry. This work is primarily focused on addressing perceived inconsistencies in the way in which costs arising from environmental incidents are allocated between the parties involved, focusing on the "polluter pays" principle.

3.38 We intend to continue to take an active role alongside the industry working group to make sure that:

¹⁵ The Network Code can be found on Network Rail's website (<http://www.networkrail.co.uk/browseDirectory.aspx?dir=Network%20Code&pageid=2889&root=>).

- (a) any changes arising out of the current review work are appropriate; and
 - (b) Part E is kept under review so that it remains an appropriate mechanism by which the responsibilities for preventing and resolving environmental incidents can be managed.
- 3.39 The stations and depots access conditions (to be replaced in due course by the Stations and Depots Codes) place similar environmental obligations to those contained in Part E of the Network Code on the parties to station and depot access agreements. We do not plan to widen these provisions to cover other sustainable development issues, but should the ongoing work on the Network Code produce significant amendments to the way in which Part E mechanisms operate, then similar changes to the stations and depots conditions will need to be considered.
- 3.40 ***Consultees are asked to comment on any specific issues that they consider should be included within the revised Part E of the Network Code.***
- 3.41 When dealing with track access applications, additional services, if proposed, might have a detrimental impact in terms of inefficient use of network capacity. To enable us to assess the impact of any application and balance the relative importance of our statutory duties in making a decision, we currently have regard to the information that is submitted by Network Rail and the relevant train operator under the appropriate application form. This process already requires applicants to provide details of impact of their proposals on such issues as the implications for network performance, safety risks, benefits to passengers and consistency with relevant RUSs. We consider that, taking into account the proposals we are making to ensure that RUSs clearly address sustainable development impacts (paragraph 3.34), completion of the application form will be sufficient to enable us to consider the sustainable development implications of track access applications. We do not therefore propose to make any additional changes to this process at this time.

Noise and social impact

- 3.42 We are aware of a number of complaints in respect of nuisance perceived to be caused by railway activities where it is perceived that the industry has not responded/engaged in an efficient and effective manner. Whilst we try to

facilitate correspondence and action between the relevant parties in an effort to resolve such issues, this is a matter for environmental legislation, and those charged with enforcing it.

3.43 However, we do believe that as a matter of good practice Network Rail and other licence holders could mitigate such complaints by:

- (a) consulting with those that might be affected by proposed works or services to ensure that all relevant views are taken into account to minimise any levels of disturbance;
- (b) considering and costing possible mitigation measures;
- (c) ensuring that any subsequent complaints of disturbance are fully investigated; and/or
- (d) maintaining details of the number of complaints received and how they have been resolved (for publication as one of the measurable KPIs).

3.44 Ultimately the responsibility for enforcement in particular cases falls to the Environment Agency, SEPA, local authorities or affected individuals. We would remain unable to decide the outcome of any particular disagreement.

Health and Safety Management

3.45 In our role as safety regulator, we already have a wide range of measures to ensure high standards of health and safety across the rail industry, and further development is being undertaken in areas such as risk-based assessment, measurement and reporting and intervention planning. Our approach is underpinned, in general terms, by the requirements of The Health and Safety at Work etc. Act 1974 and more specifically by other legislation, for example the Railways and Other Guided Transport Systems (Safety) Regulations 2006.¹⁶ A key element of our approach to sustainable development is to ensure that a safe environment is developed and maintained, both within the industry and for members of the public.

3.46 We propose to:

¹⁶ The ROGS Regulations can be accessed from the Office of Public Sector Information (OPSI) website (http://www.opsi.gov.uk/si/si2006/uksi_20060599_en.pdf).

- (a) continue to meet our obligation to provide health and safety information to Government, industry bodies, and members of the public (i.e. through the Railway Safety Annual Report and Rail Guidance Documents);
- (b) publish KPIs on health and safety issues; and
- (c) continue to support and provide advice and input to public safety information initiatives organised by the industry on issues such as level-crossing safety, vandalism and trespass.

Sustainable development research

3.47 Whilst Enviro's recommended that we consider taking a more proactive role in commissioning research to support the work being taken forward by the RSSB under its programme of work to produce a Sustainable Case for Rail by 2007, we have no responsibility under the Act to undertake specific research into sustainable development issues. Whilst this could be an area to which we could usefully contribute, we have no specific funding to carry out this type of research. We are currently considering whether there are specific areas of safety related research that we could undertake on behalf of the rail industry consistent with our sustainable development duty. In the meantime we will continue to support the work that the RSSB is undertaking in this area.

3.48 ***Consultees' views are sought on whether there is a requirement for greater ORR involvement in this area and, if so, whether the industry would be willing to fund this through the safety levy and/or licence fee.***

Corporate responsibility

3.49 As well as considering our role in the wider rail industry, we will continue to review and address the responsibilities of this organisation, thereby meeting the Government's proposed approach of leading by example, and influencing other rail industry bodies on taking forward corporate sustainable development issues.

4. Incentives Framework and Access Charges

- 4.1 Our incentives framework and structure of access charges provide Network Rail, train operators, their suppliers and funders with signals that inform the decisions they make.
- 4.2 This chapter considers proposed changes to our incentives framework and/or to our structure of access charges that could facilitate the achievement of sustainable development. Most of this chapter focuses on the environmental element of sustainable development as the current arrangements have not generally focused on encouraging positive environmental decisions.
- 4.3 The changes considered in this chapter could be implemented as part of the 2008 Periodic Review (PR08). Following this consultation, we will produce further consideration of such changes in our "Advice to Ministers and Framework for setting Access Charges" document in February 2007.

Current arrangements

- 4.4 Our current arrangements include:¹⁷
- (a) RPI – X based incentive regulation, which provides Network Rail with incentives to minimise its costs subject to achieving required outputs;
 - (b) cost reflective charges, which provide signals to train operators, their suppliers and funders about the number and type of train services to operate;
 - (c) a volume incentive, which encourages Network Rail to promote the use and development of its network; and
 - (d) an asset stewardship incentive which encourages Network Rail to deliver ongoing improvements to the underlying condition and serviceability of the national rail network.

¹⁷ Additional incentive mechanisms are produced through the Schedule 4 restrictions of use regime and the Schedule 8 performance regime in track access contracts.

- 4.5 We wish to examine whether changes could be made to our incentives framework and/or access charges that would encourage better environmental decision-making and therefore produce better environmental outcomes. It is important that any such change does not detract from our ability to meet our other objectives contributing, in particular, to the economic aspects of sustainable development. See, for example, our objectives for access charges, which are set out in our June 2006 PR08 document on the structure of charges.¹⁸
- 4.6 Two of the cost reflective charges provide some incentives to better environmental decision-making:
- (a) traction electricity charge; and
 - (b) variable usage charge.

Traction electricity charge

- 4.7 The traction electricity charge enables Network Rail to recover its costs from procurement and delivery of electricity on behalf of the train operators for traction purposes. The consumption of electricity is one of three determinants¹⁹ of the total traction electricity charge payable by each train operator, and so the charge provides signals that can encourage more efficient energy use.
- 4.8 As on-train metering is not currently generally available, modelled consumption rates are used to determine an initial charge which, for franchised operators using electrified traction, is then adjusted (through a “wash-up” process²⁰) to reflect the difference between the total modelled and actual consumption in their region.²¹ In some regions, one franchised

¹⁸ Paragraph 2.5, *Periodic review 2008, structure of track access and station long term charges*, ORR, June 2006. This is available on the ORR website (<http://www.rail-reg.gov.uk/upload/pdf/291.pdf>).

¹⁹ The other two determinants are the price and the number of electrified vehicle miles operated.

²⁰ While freight operators' traction electricity charges are not adjusted through the wash-up process described, their modelled consumption rates can be reviewed annually.

²¹ The traction electricity regions are defined in Appendix 7B of Schedule 7 of franchised passenger operators' track access contracts. This is available on the ORR website (http://www.rail-reg.gov.uk/upload/doc/sched7_apr04.doc).

passenger operator runs most or all of the electrified services. In these cases a reasonably accurate measure of actual consumption²² by that train operator is produced. This, therefore, provides an incentive to use the electricity efficiently (to minimise the charge). In many regions, however, more than one train operator runs electrified services (e.g. the Southern region). Here, any energy efficient behaviour by one train operator results in that benefit being shared through the wash up with other train operators running electrified services in that region. This therefore weakens the strength of the incentive to encourage efficient use of electricity.

- 4.9 The use of regenerative braking equipment by train operators is incentivised by the current traction electricity charge. Here, a discount of 16.5% is applied to the overall traction electricity charge. However, while providing a financial incentive to use regenerative braking, the single discount does not necessarily reflect the actual savings achieved on the specific part of the network as the savings vary depending on the type of network. On some parts of the network the infrastructure is not capable of supporting the use of regenerative braking.

Variable usage charge

- 4.10 The variable usage charge enables Network Rail to recover its additional costs directly incurred from the operation of services on its network.²³ It is differentiated by vehicle type reflecting their respective cost impacts. The cost drivers, particularly the weight of the vehicle, provide an incentive to train operators, their suppliers and funders, to consider energy efficient and more generally environmentally favourable vehicle types, e.g. lighter vehicles.
- 4.11 Possible changes to these arrangements that might strengthen the incentives encouraging improvements in the environmental impact of rail operations are considered below.
- 4.12 While we recognise that the incentives framework and access charges provide limited positive signals to encourage better environmental decision-making, we are not aware of any current provisions that actually act as a

²² Although, this will not distinguish between train operator consumption and system losses.

²³ This excludes costs in supply of electricity and additional maintenance and renewal on electrification assets.

direct obstacle to positive environmental decisions being made. If any such restrictions exist it is important for these to be identified.

- 4.13 ***Consultees are asked to comment on the effectiveness of the aspects of the current incentives framework and structure of access charges that encourage positive environmental decision-making and wider sustainable development goals. Consultees are also asked to identify any areas where the current incentives framework or structure of access charges prevent decisions being made that would encourage sustainable development.***

- 4.14 The remainder of this chapter considers possible changes to the current arrangements that could support the achievement of sustainable development.

Introduction of a financial incentive

- 4.15 The possible introduction of sustainable development KPIs across the industry is examined in paragraphs 3.14 to 3.25 of this document. We would expect the publication of these KPIs alone to provide reputational incentives to Network Rail, train operators and others involved in the provision of railway services to consider and address their performance in the areas measured. However, it is possible to introduce a financial incentive to support and strengthen this reputational effect. This would work through the provision of financial rewards for improving performance and/or financial penalties for deteriorating performance as measured by the KPIs.

- 4.16 At this stage the mechanism to be used in such a financial incentive is not established. However, its design would require careful development. The specific arrangements would depend on the KPI used as a basis for the incentive and whose decisions it was trying to influence. In particular, any KPI used as a basis for the incentive would need to:

- (a) use widely recognised data, where the data source(s) and assumptions used are generally understood;
- (b) be consistent with a positive environmental impact;
- (c) achieve changes in decisions, i.e. decision makers need to be able to respond to changes in the KPI; and

- (d) be measurable.

4.17 In addition, we would want to consider:

- (a) whether the creation of a new financial incentive would cause distortions in behaviour other than the intended effect (and if so how such distortions might be overcome);
- (b) the interrelationship with existing financial incentives (including the incentive framework established for the next control period (CP4));
- (c) the interaction with other obligations and industry processes;
- (d) how the financial mechanism would work including the source of funds to reward good performance and the treatment of penalty payments (e.g. hypothecation - earmarking funds from penalty payments for environmental schemes);
- (e) ways to minimise the complexity and associated transaction costs associated with the new incentive; and
- (f) the implications of our conclusions on the high-level incentives framework following our July 2006 PR08 document on the incentive framework.²⁴

4.18 One area of environmental impact being examined by the industry is the mass of rail vehicles. While vehicles with higher mass may have some benefits, these should be appraised taking account of all resulting costs. These costs, may exceed the costs incurred by Network Rail, recovered through the traction electricity and variable usage charge e.g. they may include the wider social cost caused by the environmental impact of heavier vehicles. A financial incentive could be applied²⁵ to encourage a move to vehicles of lower mass. To introduce this we would need to consider:

²⁴ Periodic Review 2008, *Enhancing incentives for Continuous Improvements in Performance, A consultation paper*, Office of Rail Regulation, London, July 2006. This is available on our website at <http://www.rail-reg.gov.uk/upload/pdf/298.pdf>.

²⁵ Such an incentive would work with the variable usage and traction electricity charges, which already contain components to reflect the additional cost impact of heavier vehicle mass to Network Rail.

- (a) the current costs and benefits to train operators, their suppliers and funders, associated with moving to vehicles of lower mass;
- (b) how to treat existing vehicles, purchased as long term investments and/or leased on long lease in the light of the current incentives framework and access charges; as well as
- (c) other factors identified above.

4.19 Consultees are asked:

- (a) to suggest which KPIs e.g. those areas set out in paragraph 3.19 or otherwise, might usefully form the basis for a financial incentive; and**
- (b) to comment on the design of such an incentive, and whether any additional considerations should be included.**

4.20 Consultees are asked whether a further financial incentive is needed to encourage the use of lower mass vehicles.

Environmental charge

4.21 The introduction of an environmental charge was considered during last year's structure of costs and charges (SOCC) review²⁶ and in our PR08 document on the structure of charges published in June 2006.²⁷ Such a charge would reflect the costs of the environmental impact on society resulting from the operation of a train service, e.g. from noise or carbon emissions.

4.22 As part of last year's SOCC review, AEA Technology (AEAT) produced a report²⁸ on the environmental costs of rail transport. This examined the different environmental variables that might be used to underpin such a

²⁶ *Structure of costs and charges review, conclusions*, ORR, October 2005. This is available on the ORR website (<http://www.rail-reg.gov.uk/upload/pdf/256.pdf>).

²⁷ *Periodic review 2008, structure of track access and station long term charges*, ORR, June 2006. This is available on the ORR website (<http://www.rail-reg.gov.uk/upload/pdf/291.pdf>).

²⁸ AEA Technology, *Structure of costs and charges review, environmental costs of rail transport*, August 2005. This is available on the ORR website (http://www.rail-reg.gov.uk/upload/pdf/aea_enviro_rep.pdf).

charge (e.g. carbon emissions, sulphur emissions, noise or particulate emissions), and suggested ways in which environmental costs could be measured. The report also indicated how these impacts/costs could be translated into actual charges by vehicle. Any environmental charge would require a robust identification of such costs.

- 4.23 We recognise the need for caution when considering the introduction of an environmental charge, and that it would only be appropriate where it added value over and above other provisions currently in place, e.g. environmental standards, or procedures such as those set out in Part E of the Network Code. In considering implementation of any charge we would want to take account of any resulting shift to less environmentally friendly transport modes. Indeed the EU directive²⁹ prevents a charge that produces revenue for the infrastructure manager unless there is a charge at comparable levels for competing transport modes. While we do not currently intend to implement any form of environmental charge for the start of CP4 in April 2009, we will continue our work on this issue for possible future implementation.
- 4.24 ***Consultees are asked to comment on the idea of an environmental charge and in particular to identify variables that might be used as the basis for the charge, and to say whether they agree that environmental charges should not be implemented in CP4.***

Traction electricity charges

- 4.25 In our June 2006 structure of charges document, we set out our guidelines to Network Rail for use in developing its charges proposal³⁰ as part of PR08. We consider that the traction electricity charge should support energy efficient decisions as far as possible and that improvements should be made where possible.

²⁹ Article 7, paragraph 5 of Directive 2001/14/EC.

³⁰ This charges proposal is subject to our audit and approval. Further details are available in Chapter 4, *Periodic review 2008, structure of track access and station long term charges*, ORR, June 2006.

- 4.26 Two possible energy efficient improvements³¹ were discussed:
- (a) the installation of on-train metering instead of modelled consumption rates in the calculation of the traction electricity charge; and
 - (b) the extension, and improvement of the accuracy of, the regenerative braking discount.

On train metering

- 4.27 A number of European railways are developing on-train metering for use in measuring electricity consumption and feeding into charges. It provides a better measure of actual consumption by each operator and therefore a stronger incentive for operators to seek ways to reduce the amount of energy used. It also provides a more transparent view of the level of system losses from the network. On-train metering is also probably a prerequisite for direct procurement of electricity by train operators. There have been provisions³² in track access contracts since April 2001 for a review of traction electricity charges to reflect direct procurement and the implementation of on-train metering and these continue to be in place for the remainder of the current control period (CP3).
- 4.28 There remain a number of possible practical issues such as:
- (a) the measurement of consumption while the meter coverage is only partial (while the equipment is being phased in); and
 - (b) the calculation and apportioning³³ of system losses.

³¹ Network Rail are also reviewing other changes to the traction electricity charge, including reviewing the basis of calculating the charge, as part of the development of its charges proposal.

³² Part 7 of Schedule 7 of track access contracts. The template Schedule 7 of franchised passenger track access contracts can be accessed on our website (http://www.rail-reg.gov.uk/upload/doc/sched7_apr04.doc).

³³ With on-train metering some of the system losses should still be apportioned to train operators as a certain level of losses is inherent in the operation of the train services. However, the greater degree of transparency requires calculation of any excessive/inefficient losses for which Network Rail should carry the costs in order to encourage them to minimise these additional losses.

Regenerative braking

- 4.29 In theory, the use of on-train metering would remove the need for a separate discount for the use of regenerative braking. In the absence of on-train metering, the current regenerative braking discount provides a reasonable approximation of the savings enabled by the use of regenerative braking. The arrangements could, however, be made more reflective of actual cost savings by using different discounts for different parts of the network.
- 4.30 As part of PR08, Network Rail is considering the cost involved in extending the availability of regenerative braking to parts of the network where currently, even if the rolling stock has the capability to operate the facility, the savings in energy cannot be generated.
- 4.31 ***Consultees are asked whether they consider on-train metering as a practical option, and, if not, to explain what obstacles exist and how these might be overcome.***
- 4.32 ***Consultees are also asked to identify any impediments to the further development of regenerative braking across the network.***

Other issues

- 4.33 It is possible that other changes to the current structure of access charges (track, station and depot) could facilitate or incentivise the promotion of positive environmental decision-making. For example, additional station long term charge income might be recoverable where Network Rail undertook positive environmental improvements to stations (e.g. the use of solar panelling). We are at early stages of our thinking in these other areas, but would welcome the views of consultees on whether there are issues that should be brought into this thinking.
- 4.34 ***Consultees are asked to identify other areas where our incentives framework and structure of access charges could promote positive environmental decision-making.***

Annex A: Consultation Questions

1. As well as welcoming comments on any aspect of the issues raised in this document, ORR would welcome the views of consultees on the following specific questions:
 - (a) Consultees are invited to comment on our proposed objectives and to say whether we should adopt any additional objectives in developing our role (paragraph 2.12);
 - (b) Consultees are also asked for their views on our prioritisation of the three pillars, and to provide their thoughts on the specific issues that they consider need to be addressed (paragraph 2.13).
 - (c) Consultees are asked to comment on the proposals outlined in chapter 3, and also on whether there are any others that we could add in order that ORR as an organisation can contribute as fully as possible to the achievement of the key sustainable development principles (paragraph 3.12);
 - (d) Consultees are invited to comment on whether the publication of KPIs would be beneficial in both encouraging environmental improvements across the industry and promoting the benefits of rail travel to the general public. Are there any other specific KPIs additional to those listed in chapter 3 that should be considered? In populating these KPIs, do consultees consider that the information that might be required is already available (to be produced either on a quarterly or annual basis) (paragraph 3.24)?
 - (e) Consultees are asked to comment on the way on the proposed ways of ensuring that appropriate KPI information is gathered, and provide suggestions of any possible alternatives. Who do consultees believe should collate and publish this information (paragraph 3.25)?
 - (f) Do consultees agree that the scope of the current ORR environmental guidance document should be widened to encompass sustainable development? Are there any additional issues to those set out in paragraph 3.27 that the revised guidance should cover? Are there any areas of the current licensing regime that are proving to be an

impediment to sustainable development, and in particular environmental issues, being taken forward (paragraph 3.29)?

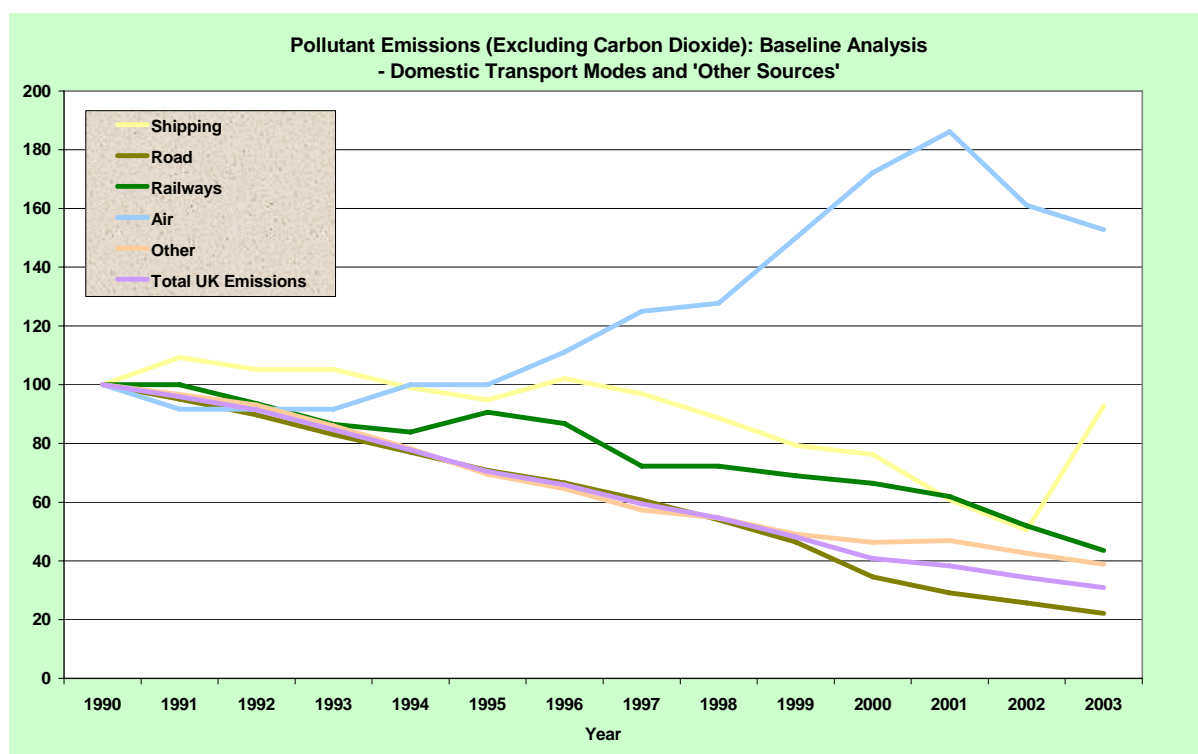
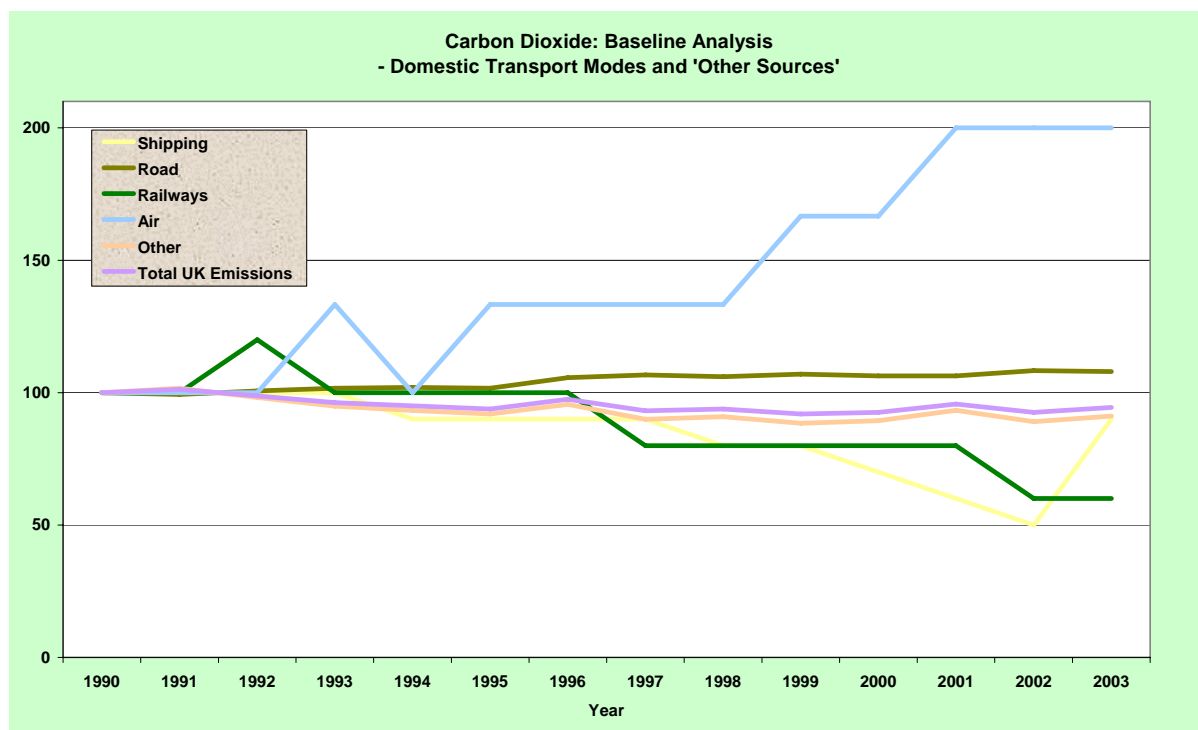
- (g) Do consultees agree with our proposals to ensure that Network Rail's Business Plan and the RUS process takes appropriate account of sustainable development issues (paragraph 3.35)?
- (h) Consultees are asked to comment on any specific issues that they consider should be included within the revised Part E of the Network Code (paragraph 3.40);
- (i) Consultees' views are sought on whether there is a requirement for greater ORR involvement in sustainable development research and, if so, whether the industry would be willing to fund this through the safety levy and/or licence fee (paragraph 3.48);
- (j) Consultees are asked to comment on the effectiveness on the aspects of the current incentives framework and structure of access charges that encourage positive environmental decision-making and wider sustainable development goals. Consultees are also asked to identify any areas where the current incentives framework or structure of access charges prevent decisions being made that would encourage sustainable development (paragraph 4.13);
- (k) Consultees are asked:
 - (i) to suggest which KPIs e.g. those areas set out in paragraph 3.17 or otherwise, might usefully form the basis for a financial incentive; and
 - (ii) to comment on the design of such an incentive, and whether any additional considerations should be included (paragraph 4.19);
- (l) Consultees are asked whether a further financial incentive is needed to encourage the use of lower mass vehicles (paragraph 4.20);
- (m) Consultees are asked to comment on the idea of an environmental charge and in particular to identify variables that might be used as the basis for the charge, and to say whether they agree that environmental charges should not be implemented in CP4 (paragraph 4.24);

- (n) Consultees are asked whether they consider on-train metering as a practical option, and, if not, to explain what obstacles exist and how these might be overcome (paragraph 4.31);
- (o) Consultees are also asked to identify any impediments to the further development of regenerative braking across the network (paragraph 4.32); and
- (p) Consultees are asked to identify other areas where our incentives framework and structure of access charges could promote positive environmental decision-making (paragraph 4.34).

Annex B: EU Sustainable Development Strategy – Key Challenges

| | EU key challenge | Implications for the rail industry |
|---|---|--|
| 1 | To limit climate change and its costs and negative effects to society and the environment. | Reduction of greenhouse gas emissions by 8% on 1990 levels by 2012. By 2010, 5.75% of transport fuel should be Biofuel, rising to 8% by 2015. |
| 2 | To ensure that transport systems meet societies economic, social and environmental needs whilst minimising undesirable impacts on the economy, society and the environment. | Achieving sustainable levels of transport energy use, and reducing greenhouse gas and other pollutant emissions. Improving economic and environmental efficiency and performance in the public transport system, and achieving a shift to more environmentally friendly transport modes. Reducing transport noise to minimise impacts on health. |
| 3 | To promote sustainable consumption and production patterns. | To achieve by 2010 an average level of Green Public Procurement equal to that currently achieved by the best performing Member States. |
| 4 | To improve management and avoid overexploitation of natural resources, recognising the value of ecosystem services. | Improve resource efficiency to reduce use of non-renewable natural resources. Halting the loss of Biodiversity and contributing to a significant reduction in such loss by 2010. Avoiding the generation of waste, promoting re-use and recycling. |
| 5 | To promote good public health on equal conditions and improve protection against health threats. | The integration of environmental and health aspects into transport policy decision-making, monitoring and impact assessment. |
| 6 | To create a socially inclusive society. | Significantly increasing the labour market participation of women, older workers and disabled persons. |
| 7 | To actively promote sustainable development worldwide. | No direct impact. |

Annex C: Sample Industry KPIs¹⁷



Note: Please refer to paragraphs 3.14 to 3.16 when reading these graphs.

¹⁷ Data taken from *Transport statistics Great Britain 2005*, DfT, October 2005.