

Building a sustainable environment

Stagecoach Group is committed to making continuing progress in improving the environmental management of its operations and helping to build a sustainable environment. Across our global operations, we provide support and training for our employees to ensure compliance with legislation, as well as effective waste management, and improved energy consumption and environmental performance.

Our Environmental Policy sets out our commitment to good environmental stewardship and we have put in place stretching targets to reduce emissions, cut water and energy consumption, minimise waste and identify opportunities for recycling.

Stagecoach has made further progress this year in improving the environmental management of our operations and helping to build a sustainable environment. We believe public transport can play a significant part in reducing pollution, cutting congestion and contributing to a higher quality of life in our communities. Stagecoach is also taking steps to ensure its operations are carried out in a responsible manner.

We have worked closely with consultants Arthur D Little to measure the environmental impact of our transport operations in the past 12 months. Arthur D Little have also assisted in setting new stretching targets as part of our commitment to good environmental stewardship. These key performance indicators cover reductions in emissions, lower water and energy consumption, minimising waste and identifying opportunities for recycling.

Our internal processes designed to track environmental data have been further strengthened this year and have extended the measurement of our performance to cover our operations in Canada . New Zealand operations, which were divested in December 2005, are not included in the data for the year ended 30 April 2006.

The table below outlines the Group's performance against a range of environmental performance indicators for the 12 months to 30 April 2006 and the corresponding data for previous years.

This reporting year we have made some modifications to our calculations in some areas to reflect more accurately the impact of improvements to our bus and train fleets on emissions per passenger journey. Specific notes on the changes are listed below.

	2003-4 ¹	2004-5 ¹	2005-6 ²
Direct emissions			
CO2 kg/ppj - bus	0.72	0.66	0.58
CO2 kg/ppj - train	0.61	0.58	0.07
CO g/ppj - bus	3.30	2.38	2.89
CO g/ppj - train	13.27	11.63	0.58
NOx g/ppj - bus	9.87	8.49	8.22
NOx g/ppj - train	59.69	52.34	2.62
PM10 g/ppj - bus	0.44	0.32	0.31
PM10 g/ppj - train	0.33	0.29	0.01
VOCs g/ppj - bus	1.17	0.91	1.05
VOCs g/ppj - train	1.72	1.50	0.08
Indirect emissions			
CO2 kg/ppj - bus	0.41	0.39	0.01
CO2 kg/ppj - train	1.28	1.20	1.37

CO2 tonnes - bus operations	1,918.18	1,842.74	0.00
CO2 tonnes - bus depots and offices	21,313.48	21,640.72	20,529.06
CO2 tonnes - train operations	190,230.34	207,461.35	222,407.61
CO2 tonnes - train depots and offices	14,990.99	15,336.77	15,352.57
CO2 tonnes - all depots and offices	36,304	36,977	35,882
Water consumption			
Water m3/ppj - bus	0.0012	0.0011	0.0005
Water m3/ppj - train	0.0020	0.0018	0.0018
Waste			
Vehicle maintenance waste kg/ppj - bus	0.005	0.005	0.002
Vehicle maintenance waste kg/ppj - train	0.038	0.035	0.006
Other waste kg/ppj - bus	0.025	0.022	0.002
Other waste kg/ppj - train	0.062	0.055	0.027
Total waste generated - tonnes	25,313.26	25,402.38	11,584.04
Recycling			
% recycled - bus	20.44%	31.88%	28.99%
% recycled - train	5.53%	6.18%	40.00%
% Maintenance waste recycled - bus	44.54%	46.88%	58.00%
% Maintenance waste recycled - train	12.13%	13.59%	0.00%
% Maintenance waste recycled - overall	25.98%	27.23%	29.00%

¹ [Notes to the 2003-4 and 2004-5 Figures](#) (PDF: 64.4KB)

² [Notes to the 2005-6 Figures](#) (PDF: 64.4KB)

Direct emissions

We have delivered further improvement in the direct emissions per passenger journey from our bus and train fleets. This has been achieved through our investment in new vehicles and rolling stock, as well as through the use of new fuels and cleaner technologies.

Stagecoach has ordered a number of new Euro 4 engined vehicles for our bus operations in the UK, which have the potential to deliver improved fuel consumption and engine reliability. The use of biodiesel has been increased to around 1,800 buses in the UK and we are continuing to use the Envirox fuel additive across our UK Bus fleet.

Stagecoach is also involved in a number of projects to fit exhaust gas recirculation systems to some of our vehicles in the UK. More than 1500 of our buses in the UK are now fitted with CRTs, a 24% increase from 30 April 2005. In our North American operations, we are the first company in New York to fit our buses for use with low sulphur fuel, which significantly reduces emissions. The Group has also introduced more accurate calculation methods to assess our performance in the area of direct emissions, particularly in our UK Rail division.

Indirect emissions

Indirect emissions from our bus operations on a per passenger journey basis have dropped significantly over the past 12 months. As well as being influenced by the growth in passenger volumes, this has been assisted in particular by ongoing efforts to reduce energy consumption at our UK Bus sites.

We are working with Manchester-based Vickers Electronic Limited to introduce a specialist Energy Management System, which is in use at more than 50 sites. As well as cost savings, the system is benefiting the environment. Consumption savings at 29 gas-fired Stagecoach sites are running at more than 11,000,000 kWh per annum, which represents an emissions reduction of more than 4,000 tonnes of carbon dioxide per year.

While indirect emissions per passenger journey and in total have increased in our rail operations, this reflects the continued introduction of Desiro trains. As well as offering a greatly improved travelling experience for passengers, these state-of-the-art trains use higher levels of electricity than earlier rolling stock.

Since 2003, the Group's indirect emissions from energy consumption at offices and depots have reduced by 14.4%.

Water consumption

Water consumption in our bus operations has reduced per passenger journey by more than 50%, assisted by the introduction of upgraded wash facilities, better wash management and initiatives to identify and repair water system leaks.

The water consumption at our rail operations on a per passenger journey basis has remained at similar levels to the previous year.

Waste

The Group is continuing to focus on improving the collection of data around the production of vehicle maintenance and other waste in its UK and North American operations.

South West Trains, for example, has introduced a complete waste management system called Garbology where pressure crushers are used to compress waste and maximise the space available for waste disposal. We are also reviewing what measures can be taken to increase the proportion of waste recycled from our bus and rail operations.

While waste recycled from our rail operations has increased from 6.2% in the 12 months to 30 April 2005 to 40.0%, in the 12 months to 30 April 2006, waste recycled from our bus operations has dropped from 31.9% in the 12 months to 30 April 2005 to 29% in the 12 months to 30 April 2006.

Training and best practice

Across our operations, we provide support and training for our employees to ensure compliance with legislation, as well as effective waste management, and improved energy consumption and environmental performance.

The environmental training programme at our UK Bus division has been fully revised. Around 200 depot managers, safety representatives and supervisors have been trained in the last two years, with all key personnel to be trained every three years on a rolling programme.

In Manchester, a campaign is currently underway on all new double deck vehicles to reduce engine idling time to a maximum of 15 minutes, after which the engine will shut down.

We have also continued our support for the road safety charity Brake and other organisations to benchmark and share good practice in safe driving and driving methods designed to improve fuel efficiency.

At South West Trains, Wimbledon Traincare depot has achieved ISO14001 accreditation and other units are currently being assessed by the British Standards Institute as part of our commitment to continuous improvement in environmental management.

Compliance and environmental incidents

We are pleased to report that there have been no notifiable environmental incidents (2005: zero incidents), no breaches in environmental obligations (2005: zero breaches), no enforcement notices (2005: zero notices), and no prosecutions (2005: zero prosecutions) during the year in our UK Bus, South West Trains, Supertram, or North American operations.

The Island Line rail franchise had no notifiable environmental incidents. One breach in environmental obligations was recorded in respect of a pest control issue raised by the Isle of Wight Council Environmental Health Department at the railway embankment on land near to Sandown Station. This was fully dealt with within the stipulated 14-day notice period.

Coach USA reported a few environmental clean-ups due to road accidents. These have been fully recorded and affected materials disposed of in line with relevant regulations.

Travel plans

In many areas, Stagecoach is working in partnership with major employers to help develop travel plans that reduce the dependence of employees on the car to get to work.

Commitment to future progress

Stagecoach has made further improvements and investment in the area of environmental sustainability over the past year, however we recognise that we can do more. We want to build on the progress we have made and, as part of our commitment, we have set new stretching environmental targets across our business.

Progress against targets

Zero breaches in environmental obligations, enforcement notices or prosecutions (Each year)	Confirmed for UK Bus, South West Trains, Coach USA, Coach Canada, and Supertram. Island Line had one breach in environmental obligations, received from the Isle of Wight Council Environmental Health Department in respect of a pest control issue at the railway embankment on land near to Sandown Station. This was fully dealt with within the 14 day notice period.
Zero environmental incidents (Each year)	Confirmed for UK Bus, Coach USA, Coach Canada, South West Trains, Island Line and Supertram.
Achieve a continued reduction in direct emissions to the atmosphere through: Continued upgrade of the fleet to meet latest emissions standards (April 2005)	UK Bus now have 10 hybrid (Euro V or greater) buses in service. 1223 Euro III buses added to the UK Bus fleet since 2003.
Use of latest technologies e.g. CRTs, fuel additives, alternative vehicle fuels and fuel efficiency products/methods (April 2005)	1503 buses in the UK now fitted with CRTs, a 24% increase from 2004-5. Roll out of the Envirox fuel additive across the UK Bus fleet was completed in mid 2005. 10 hybrid buses now in service in the UK.

Driver training (April 2005)	Driver training package fully revised. Trials being under taken in Manchester with vehicle management system, which highlights excessive braking and poor fuel economy by bus drivers (from 2004-5).
90% of vehicle washes to be fitted with reclaim/recycle units (April 2006)	UK Bus achieved this target in 2003-4 with 92% of vehicle washes fitted with reclaim units.
5% reduction in indirect emissions from energy consumption at offices and depots (April 2006)	Overall reduction so far (2003 to 2006) is 14.4%. Reduction achieved in 2005-6 was 3%.
5% reduction in all wastes generated and 80% of maintenance generated waste being recycled (April 2006)	% Maintenance waste recycled has reached 29% overall. Reduction in waste achieved, but not clear to what extent this is linked to more accurate reporting.
To improve the quality and accuracy of the environmental data gathered resulting in external verification of 2003-4 environmental performance data (September 2004)	UK Bus emissions have been calculated based on the proportions of different types of bus in service (pre-Euro, Euro I, Euro II, Euro III) which allows a much more accurate calculation of emissions. Supertram have improved waste monitoring and now publish figures on general waste. Waste calculations have improved for South West Trains and Island Line, using more specific factors from DEFRA and SITA to estimate weight to volume ratios.
To implement an environmental management training program for all UK Bus depot managers (April 2005)	Environmental training programme fully revised - c.200 depot managers, safety reps and supervisors have been trained in the last two years, with all managers, reps and supervisors to be trained every three years on a rolling programme.
To achieve ISO14001 accreditation for South West Trains (April 2007)	Wimbledon Traincare Depot has just obtained ISO 14001 accreditation. British Standards Institute are currently undertaking a programme of ISO 14001 Accreditation Assessments at Farnham, Fratton, Bournemouth and Salisbury Traincare Depots with the aim of these depots being ISO 14001 accredited by October 2006.

NOTES TO THE 2003-4 AND 2004-5 FIGURES

1. Emissions for NZ ferries are not included as no emissions factors are available.
2. Bus and train emissions factors from NAEI.
3. Coach USA emissions factors from Test results from the Northeast Advanced Vehicle Consortium (NAVC) Heavy Duty Vehicle Testing Project.
4. Gas conversion factors from DEFRA Guidelines for Company Reporting on Greenhouse Gas emissions.
5. Effects of Enviros fuel additive not taken into account, as only affects part of 2004-5 year.
6. UK Bus PM10 emissions take into account CRTs fitted - results in 90% reduction in PM10 (manufacturers figures).
7. Electricity conversion factors from DEFRA Guidelines for Company Reporting on Greenhouse Gas emissions.
8. Coach USA figures for electricity, gas and water use are extrapolated from data for a proportion of the depots.
9. Vehicle maintenance waste includes tyres, batteries, oil, scrap metal etc.
10. Other waste is all remaining waste, including consumer waste.
11. No waste data are available for Coach USA, and no maintenance waste data are available for Island Line.
12. No recycling figures are available for Coach USA or Island Line.
13. Recycling figure for Supertram is an estimate.