Meeting our responsibilities

Health, safety and environment report 2003
How are we meeting our broader responsibilities?
We are committed to being responsible members of society. Our Restoring Success initiative, which was launched in the second half of 2003, reinforces this and promotes health and safety as our number one priority. We have made significant steps to improve our health, safety and environmental performance, but we recognise that further work is required if we are to achieve our targets.

We encourage feedback on this report and on where and how we can make improvements. Please contact us by email at feedback@corusgroup.com

Company profile
Corus is an international metals group that manufactures, processes and distributes steel and aluminium products. In addition, Corus provides related services in design, technology and consultancy. With sites and offices around the world, Corus employs just under 50,000 people.

Further information is available at www.corusgroup.com
This page highlights our main achievements in health, safety and environmental performance as well as aspects of our business that could still be improved.

Further details, particularly on our progress towards achieving the strategic targets and long-term goals set out in our previous environment report and on our new or updated health, safety and environmental targets, are provided later in the report.

Main achievements

• We have reduced the frequency of our lost time injuries from 15.0 per million hours worked in 2000 to 7.5 in 2003.

• We have raised the profile and importance of health and safety to a very high level across the Company.

• We have increased the number of our sites certified to ISO 14001 from 50% in 2000 to 83% in 2003.

• We have significantly reduced our overall emissions to air and releases to water across the Group since 1999.

• We have reduced the amount of material we landfill by 35% since 1999.

• We have set up an internet-based supplier and contractor assessment system to evaluate and improve the environmental performance of our supply chain.

Main areas for improvement

• The number of fatalities at our sites is unacceptable and we are taking action to urgently address this situation.

• Our lost time injury frequency can be improved further – our target for 2004 is 5.0.

• We will develop additional health and safety related key performance indicators.

• Certification to ISO 14001 is a fundamental aspect of our management system – our target is to have 95% of our sites certified by the middle of 2006.

• Our levels of compliance with concentration-based emission limits has deteriorated – we have set an improvement target of 99% compliance by the end of 2005.

• Our understanding of the environmental and health impact of our emissions can be improved further. This is an ongoing process.

• We aim to reduce our waste to landfill by a further 10% by the end of 2005.

• We will continue to improve our energy efficiency and reduce our greenhouse gas emissions in line with our voluntary agreements and the EU Emissions Trading Scheme.
I take great pleasure in presenting our first combined corporate health, safety and environment report.

Our commitment to health, safety and the environment is beyond doubt. We have significantly improved our health, safety and environmental performance over the last few years and details are provided within the report. Furthermore, we have identified ongoing key performance indicators to monitor our progress. Nevertheless, improving our performance in all three areas remains a priority for the Company and we have set challenging new or updated targets, covering health and safety as well as environment.

Regrettably, however, there have been a number of accidents leading to fatalities and other serious injuries in recent years at our sites, including an explosion at no. 5 blast furnace at Port Talbot in November 2001. Our primary objective following these accidents has been to take appropriate action to ensure that such situations cannot arise again.

More generally, we have implemented a number of initiatives to improve our overall health and safety performance, including safety tours that I and the executive committee have carried out to demonstrate leadership. This is starting to pay dividends, but we recognise that we still have a long way to go. Through Restoring Success, our objective is world-class performance and we are committed to taking the appropriate actions to achieve this. We recognise, however, that this is a process of continuous improvement.

Within our production processes, we have reduced our emissions to air and discharges to water; and have reduced the amount of waste we produce. Furthermore, we recognise that climate change is a significant global issue and we are contributing to tackling the problem by reducing our emissions of greenhouse gases such as carbon dioxide and perfluorocarbons (PFCs).

We are also focusing our attention on developing products which either have a better environmental profile, for example stronger, lighter, steels for transport applications that use less energy in use; or which have inherent environmental advantages, such as reusability in construction and recyclable packaging.

Philippe Varin
Corus and corporate social responsibility

We have started to address corporate social responsibility and we have now developed broad CSR principles. These include our approach to health, safety and the environment, which is the main focus of this report. We recognise that we have further work to do in this area.

Our CSR business principles

Social responsibility
We aim to carry out our business as a responsible member of society. This includes observing the laws of the countries in which we operate, supporting fundamental human rights in our business practices and having proper regard to health, safety and the environment. Community involvement, educational initiatives, retraining, economic regeneration and charitable donations are examples of how and where Corus proactively addresses wider issues in society.

Environmental protection
We consider care for the environment to be essential both in terms of our duty to society and to ensure the continuity of our business. We are committed to protecting the environment by minimising the impact of our operations and our products through the adoption of sustainable practices and through continuous improvement in environmental performance and control.

Commercial and economic prosperity
We need a strong financial base in order to be able to fulfil our social and environmental responsibilities and to ensure the sustainability and continuity of our business. We recognise that the involvement and full commitment of our employees is an essential element in our commercial success, and therefore our economic prosperity.

As a result, we aim to promote the development and best use of our human resource through, for example, investment in training and effective communications.

Corporate governance and business integrity
All business transactions on behalf of Corus are reflected accurately and honestly in the Company accounts in accordance with established practices and these are subject to independent audit and review. Furthermore, we condemn corrupt and fraudulent practices and require transparency, integrity and honesty in all aspects of our business.
How we manage our responsibilities

We have an established system which allows us to manage our health, safety and environmental responsibilities effectively.

**Accountability**

Within Corus, health and safety performance and protection of the environment is the responsibility of management, employees, contractors, service providers and suppliers.

Line management, supported by experts qualified in relevant aspects of health, safety and environment, ensures that priorities are defined, objectives are specified, adequate resources are made available to meet these objectives, actions are implemented and progress is monitored and reviewed. A prime objective is to create a positive attitude towards health, safety and the environment throughout the Company. This is achieved by defining health, safety and environmental responsibilities at all levels and by providing appropriate and effective education and training. Business units in each division manage their affairs under the umbrella of the Executive committee, which establishes policy, sets corporate standards and reviews performance in relation to health, safety and environmental issues across the Group.

Each business unit formulates plans to meet the Group’s health and safety and environmental policies; implements effective systems to identify, assess, monitor, control and minimise health, safety and environmental risks; and instigates and encourages action to make improvements.

A Board Health, Safety and Environment (HSE) committee assists in the task of corporate governance, reviewing operational performance,
We provide health, safety and environmental training.

Management systems
To implement our health and safety and environmental policies, Corus business units have management systems that cover quality, health, safety and the environment. These systems focus on managing and minimising the effects of our operations and are largely certified in accordance with the international quality and environmental management standards, ISO 9001 and ISO 14001. In our previous report we set ourselves the target of 95% certification to ISO 14001 of our European manufacturing operations by the end of 2002. To date, 83% of operations have been certified by independent verifiers. While we didn’t achieve the target, this is a substantial increase compared to 50% three years ago. The 95% target is recognised as being challenging and we have retained it as an improvement target for the Group to be achieved by the middle of 2006.

Our committees

**Executive Committee**
- Philippe Varin
  - Chief Executive
- David Lloyd
  - Finance Director
- Stuart Pettifor
  - Chief Operating Officer
- Staf Wouters
  - HR Director
- Richard Reeves
  - Company Secretary
- Rauke Henstra
  - Division Director – Strip Products
- Scott MacDonald
  - Division Director – Distribution and Building Systems
- Gerhard Buddenbaum
  - Division Director – Aluminium

**Board HSE Committee**
- Maarten van Veen
  - (Committee Chairman)
  - Non-Executive Director
- Anthony Hayward
  - Non-Executive Director
- Eric van Amerongen
  - Non-Executive Director
- Also in attendance:
  - Philippe Varin
    - Chief Executive
  - Stuart Pettifor
    - Chief Operating Officer
  - Richard Reeves
    - Company Secretary
  - Stan Booth
    - Director Health and Safety
  - Bill Brignall
    - Director Engineering and Environment
  - Paul Brooks
    - Group Environment Manager
How are we improving health and safety?

We are taking action to improve health and safety performance in all aspects of our operations. We have introduced initiatives such as Executive committee member safety tours and cross-business unit assessments. We have also established health and safety related key performance indicators and improvement targets.
Health and safety

Policy statement
We believe that all our activities can be undertaken safely and we will never compromise safety.

We will conduct our business in a way that ensures the health and well-being of our employees, contractors and any person affected by our activities.

We know that continuous improvement of our health and safety performance is essential for a successful Company.

Everyone in Corus has responsibility for their own and others’ health and safety, but overall accountability rests with management.

We encourage a health and safety culture in Corus.

Policy principles
The principles which demonstrate how we implement our policy are:

(1) Leadership
Lead by example
People at all levels in Corus have responsibility for their own health and safety and should set an example for others. Management is accountable for health and safety, and managers will demonstrate leadership of health and safety through personal example.

(2) Hazards, risks and control measures
It’s worth not taking the risk
We will identify the hazards and risks associated with our activities starting with our major risks. We will put in place appropriate control measures and challenge them in the context of change, so that we aim for continuous improvement.

(3) Health and well-being
Working for a healthy future
We will promote and improve the health and well-being of all Corus employees.

(4) Competence and behaviour
Understanding is the key to safe behaviour
We will ensure that all our employees are trained so that they are professionally skilled and qualified for their jobs and thereby can contribute to an improved health and safety performance. We will select contractors who can demonstrate competence and effectiveness.

(5) Incident analysis and prevention
It could have been avoided…
try telling the kids that
We will ensure work-related incidents and near-misses are reported, investigated and analysed to prevent recurrence. Our investigations will focus on root causes and recommendations will be shared and implemented across the Company.

(6) Sharing and learning
I wish I’d said something…
I feel so responsible
Everyone in Corus is responsible for sharing good practice as well as learning from near-misses. Sharing experiences with others can help prevent incidents. We all have a duty to intervene.

(7) Contractors and joint ventures
A good relationship is based on trust
Our health and safety standards apply equally to contractors and Corus employees. We believe our joint venture companies should aspire to the Corus health and safety standards.

(8) Monitoring, audit and review
There’s always room for improvement
We will establish systems for tracking our performance. We will regularly conduct internal and external audits of our risk control measures and management systems. We will monitor behaviours at all levels to ensure we create a successful health and safety culture in Corus.
Performance
Our primary key performance indicator is Lost Time Injury Frequency (LTIF). Significant progress has been made, as shown in Figure 1, with our mean LTIF reducing from 15.0 (per million hours worked) in 2000 to 7.5 in 2003 (compared to a target of 7.4). In order to improve further, we have set a challenging target of 5.0 for 2004. Separate LTIF targets are also agreed with each business unit. Achieving these targets at business unit level contributes to achieving the overall Company target. Numerous initiatives are underway to further improve performance and some of these are illustrated in the following case studies.

However, as shown in Figure 2, the improvement in our safety performance over the past three years has been overshadowed by an unacceptable number of fatalities. The Company deeply regrets this situation and we are committed to taking the action needed to prevent such accidents from occurring again.

We are working to create a positive health and safety culture where every employee and contractor approaches each task and activity with safety in mind. Our primary aim is to eliminate risks. Where we cannot do this, we aim to minimise, reduce or control any risks to employees, contractors and others affected by our activities by, as far as is practicable, adopting physical control measures.

Figure 1  Lost time injury frequency – Corus Group employees

Figure 2  Fatal accidents – Corus Group

We aim to minimise, reduce or control any risks to employees and contractors.
Case study
Chief Executive’s health and safety award

Each year, submissions are invited from teams, departments, sites or businesses within Corus for the CEO’s health and safety award for initiative and endeavour in improving health and safety. The 2003 winner is due to be announced later in 2004. The 2002 winner was Corus Tubes Oosterhout, with commendations for Corus Special Strip Trierer Walzwerk and Corus Strip Products IJmuiden.

The primary focus of the Oosterhout entry was on safety culture as a driver for individual behaviour. The plant safety committee succeeded in motivating and mobilising the whole workforce and involving everyone in the project. As a result, a wide range of activities – from addressing specific problems (e.g. through machine guarding) to implementing organisational changes (such as reviewing/improving safe working procedures) – contributed to a change in the mindset of those working at Oosterhout. The entry provided evidence of improved safety performance and also demonstrated a clear link between safety and manufacturing performance.

The Trierer Walzwerk entry described the development of a health and safety management system based on the new international OHSAS standard, which is similar to ISO 14001. This led to one of the first formal certifications in Germany. The most encouraging part of the entry was the demonstration of leadership and commitment of management to safety.

One of the main risks during the reline of blast furnace 6 at IJmuiden was the perceived sense of urgency in completing the project. This problem was recognised early on and careful preparation and co-ordination made the project a success, with a previously unmatched level of safety performance. An introductory video, shown to all participants in the project and specially developed to overcome language problems, supported the entry.
Case study
Behavioural audits at Corus Tubes, Hartlepool

Behavioural auditing, which puts the focus on the way people do their job, has been implemented at Corus Tubes, Hartlepool. The auditors observe people and fill in a form covering five main categories: reaction (the change in behaviour made when a person sees an auditor approach); position (do they put themselves in a safe position? e.g. avoiding inhaling fumes or tripping hazards); PPE (safety equipment as worn); tools and equipment; and procedures and general housekeeping.

The emphasis is on the positive, with good safety behaviour noted and praised. When approached, the person may be asked to do a mental risk assessment of the task in hand. This can be particularly effective with experienced people, for whom hazards can become accepted as part of the norm. In a co-operative approach which has been well-received, improvements are jointly agreed.

In the period March-December 2003, 132 audits were carried out which identified a total of 303 areas of concern. Many of these were addressed and dealt with on the spot. A further 52 were reported as near misses, at which point they went into the existing near-miss reporting system to close the loop. Lost time injury frequency at Hartlepool improved to a record low of 6.5 in 2003.
We have benchmarked Corus against other companies to determine the best way to record occupational health statistics in parallel with accident statistics. The only immediately available information is for overall sickness absence. While this is an imperfect measure of the health of the workforce, it is nevertheless the most readily available and will allow comparisons to be made both internally and externally. A standardised protocol for collecting sickness absence data has therefore been developed and a baseline figure of 4.4% for Corus as a whole has been generated for 2003 (see Figure 3).

Figure 3  Sickness absence
– Corus Group employees

Monitoring the respiratory health of employees
How are we improving our environmental performance?

We believe that respect for the environment is critical to the success of our business and our aim, therefore, is to continuously improve our performance. For example, we have established voluntary agreements to improve energy efficiency and to reduce our emissions of greenhouse gases. Furthermore, 83% of our manufacturing operations are now certified to the international environmental management standard ISO 14001.
Environment

Policy statement
We are committed to minimising the environmental impact of our operations and our products through the adoption of sustainable practices and continuous improvement in environmental performance.

Policy principles

Compliance – to meet the requirements of relevant legislation in the countries and regions in which we operate.

Management systems – to implement effective environmental management systems and to ensure the environmental awareness of our workforce, encouraging every employee to act in an environmentally responsible manner.

Continuous improvement – to improve the environmental performance of our processes and products through research and development of new technologies, preventing and reducing emissions and releases, minimising waste and controlling noise.

Sustainable development – to contribute to sustainable development by using energy, water and raw materials more efficiently, thus optimising our use of natural resources.

Product stewardship – to promote the recovery, recycling and reuse of our products and to work with our customers to understand the environmental effects of our products throughout their life cycle.

Monitoring & reporting – to monitor/audit environmental performance and to report progress on policy objectives and improvement targets on a regular basis.

Suppliers & contractors – to encourage suppliers and contractors to behave in a responsible manner and to maintain sound environmental practices.

Local communities & biodiversity – to respond to the concerns of local communities and other interested parties on environmental issues and to respect the general environment and wildlife habitats in and around our sites.

Performance

Overall data for Corus Group is based on (i) that which is submitted for the UK pollution inventory and (ii) equivalent emissions data supplied to the authorities in the Netherlands, Germany and other countries.

Releases to the environment from our smaller sites are typically <1% of the total emissions for Corus. As a result, in order to reflect the most significant environmental impacts of our operations, information on emissions from smaller sites that is not readily available is not included in the aggregate data.

Compliance
Environmental performance in the UK has been primarily measured in terms of compliance with discharge concentration limits. Annual mass emission limits are not yet in common use. In the Netherlands the reverse is the case, with environmental performance being primarily measured via compliance with mass emission limits. In Germany, both concentration and mass emission limits are specified. The compliance data shown in Figure 4 and reported on page 14 reflects the situation in each country where data is available and comparable.

Corus IJmuiden and Corus Primary Aluminium, Voerde have maintained compliance since 1999. With the
exception of fluoride emissions, for which cost effective solutions are being evaluated, Corus Primary Aluminium, Delfzijl has also maintained compliance.

In the event of significant or extended non-compliance, we investigate the cause and take action to remedy the situation. However, the nature of operations in Corus is complex and a few incidents have resulted in legal proceedings against the Company. In recent years the Dutch government has been applying a more stringent enforcement policy, which is reflected in the number of prosecutions affecting our operations in the Netherlands. Since our 2000 report, Corus IJmuiden has been fined a total of approximately EUR114,000 (£76,000) in four prosecutions, in each case for a combination of relatively minor non-compliances and infringements which had occurred over an extended period. Corus Delfzijl was fined EUR1,500 (£1,000) for a minor non-compliance with a water permit. We have also received a small number of enforcement and improvement notices, primarily in the UK, all of which have been complied with and discharged. In the event that we are prosecuted or enforcement action is taken against us, our primary objective is to learn from this experience and to take appropriate action to minimise the likelihood of any recurrence.

### Emissions to air

Greenhouse gas emissions (primarily CO$_2$ and PFCs), particulates (including PM10s), dioxins, lead, fluoride, NO$_x$ and SO$_2$ are potentially our most significant releases to air. However, environmental impact studies carried out for our sites have shown that our operations generally do not have a significant impact. Nevertheless, our objective is to further reduce emissions where it is necessary, practical and cost-effective to do so.

The case studies and other examples included in this report demonstrate this commitment. We do, however, recognise that we can improve further and we have set ongoing improvement targets in this area.

Table 1 comprises aggregate data for our more significant releases to air. As a result of more comprehensive monitoring and more rigorous calculations/estimations, we are able to give more accurate data in this report than in previous reports. Emissions have generally reduced

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**Figure 4** Compliance with discharge concentration limits

<table>
<thead>
<tr>
<th>Year</th>
<th>Liquid effluents</th>
<th>Emissions to air (spot samples)</th>
<th>Emissions to air (continuous monitoring)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1999</td>
<td>95%</td>
<td>98%</td>
<td>98%</td>
</tr>
<tr>
<td>2000</td>
<td>96%</td>
<td>99%</td>
<td>98%</td>
</tr>
<tr>
<td>2001</td>
<td>99%</td>
<td>98%</td>
<td>99%</td>
</tr>
<tr>
<td>2002</td>
<td>99%</td>
<td>98%</td>
<td>97%</td>
</tr>
<tr>
<td>2003</td>
<td>99%</td>
<td>96%</td>
<td>96%</td>
</tr>
</tbody>
</table>

Our overall compliance levels have deteriorated since 1999. As a result we have set an improvement target in this area (see page 31).

We quantify the environmental impact of our emissions through comprehensive monitoring.
compared to 1999 (see Figure 5). This is due to targeted capital expenditure, improved monitoring and also to a reduction in output. Emissions and releases in 2003 were generally slightly higher than in 2002, which was a year of very low production. We quantify the environmental impact of our emissions either using extensive monitoring networks or by incorporating release data into sophisticated computer dispersion models that predict pollutant concentrations in the areas around our sites. This technique is particularly useful where there are other sources of pollutants in an area or where air quality standards may be exceeded.

The UK National Air Quality Strategy (NAQS) sets objectives for ambient air quality for various pollutants, which must be met by specified dates.

<table>
<thead>
<tr>
<th>Substance</th>
<th>1999</th>
<th>2003</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carbon dioxide*</td>
<td>32,500,000</td>
<td>28,400,000</td>
</tr>
<tr>
<td>Perfluorocarbons (aluminium only)</td>
<td>12.3</td>
<td>10.4</td>
</tr>
<tr>
<td>Particulates (including fugitive emissions)</td>
<td>18,500</td>
<td>12,600</td>
</tr>
<tr>
<td>Dioxins</td>
<td>45g</td>
<td>29.4g</td>
</tr>
<tr>
<td>Polycyclic aromatic hydrocarbons</td>
<td>7.5</td>
<td>4.8</td>
</tr>
<tr>
<td>Benzene</td>
<td>130</td>
<td>63</td>
</tr>
<tr>
<td>Non-methane volatile organic compounds</td>
<td>1,700</td>
<td>1,140</td>
</tr>
<tr>
<td>Oxides of nitrogen</td>
<td>32,500</td>
<td>26,000</td>
</tr>
<tr>
<td>Sulphur dioxide</td>
<td>40,000</td>
<td>25,500</td>
</tr>
<tr>
<td>Carbon monoxide</td>
<td>552,000</td>
<td>366,000</td>
</tr>
<tr>
<td>Fluorides</td>
<td>206</td>
<td>147</td>
</tr>
<tr>
<td>Arsenic</td>
<td>0.76</td>
<td>0.34</td>
</tr>
<tr>
<td>Cadmium</td>
<td>1.03</td>
<td>1.09**</td>
</tr>
<tr>
<td>Chromium</td>
<td>6.3</td>
<td>6.0</td>
</tr>
<tr>
<td>Copper</td>
<td>5.4</td>
<td>4.7</td>
</tr>
<tr>
<td>Lead</td>
<td>78.9</td>
<td>62.4</td>
</tr>
<tr>
<td>Mercury</td>
<td>0.43</td>
<td>1.10**</td>
</tr>
<tr>
<td>Zinc</td>
<td>93.9</td>
<td>44.3</td>
</tr>
</tbody>
</table>

* Direct emissions only (not comparable to EU ETS allocations).
** The apparent increases compared to 1999 for cadmium and mercury are due to improved monitoring.
Following the tragic accident at Port Talbot in 2001, Corus decided to rebuild no. 5 blast furnace. The new furnace was built as a near-replica of its sister furnace no. 4, with state-of-the-art environmental control. The new furnace includes a number of environmental improvements over the previous no. 5 furnace, including:

- Full casthouse fume extraction, incorporating a bag filter plant – this has reduced dust and PM10 emissions, improving air quality both inside and outside the plant.

- Variable speed drives – the bag filter plant incorporates a variable speed drive system, improving energy efficiency and reducing greenhouse gas emissions.

- Closed circuit cooling – the previous open-circuit system has been replaced with a closed system, reducing the amount of water used.

- Fully condensing slag granulation – a new slag granulator has been installed to replace the slag pelletiser, reducing emissions of H₂S, SO₂ and any odour. The slag is made into cement, which itself reduces the need for quarried limestone.

His Royal Highness the Prince of Wales officially opened the furnace on 3 February 2003.

In general these objectives are met around our sites. The main exception is at Port Talbot, where an air quality management zone has been declared for PM10s by Neath-Port Talbot Borough Council. As a result, we have been working with the local authority and others to identify the primary sources of the PM10s, which are influenced by many factors including traffic and natural sources such as sand/salt as well as industrial emissions. Alongside this ongoing work, the installation of casthouse fume extraction and abatement on the newly rebuilt no. 5 blast furnace at Port Talbot (see case study) has reduced our emissions significantly.

To determine the air quality in the area immediately surrounding IJmuiden, Corus and the provincial government for North Holland have a monitoring
network. The provincial government has permanent measuring stations in residential suburbs in IJmuiden and in Wijk aan Zee, to measure SO₂, NO₂, CO, H₂S, PM10s and other compounds. In addition to the measuring stations operated by the provincial government, Corus has another two measuring stations of its own. Generally, our impact on local air quality has been shown to be low, compared to background levels.

In order to investigate dioxin releases from our processes, a trace organics analysis laboratory was established in the 1990s. This laboratory has enabled us to develop a greater understanding of the sources of dioxins, their mechanisms of formation and the environmental impact of steel industry emissions. As a result, an inventory of sources has been compiled which shows that iron ore sintering and electric arc furnace steelmaking processes are the only significant sources of dioxins in our plants and that these emissions do not have a significant environmental impact. Nevertheless, considerable effort has gone into developing methods for preventing or minimising dioxin formation at source. This work has led to the development of a patented urea-based suppression technique for the sintering process, which can reduce emissions by up to 50%. While this technique is very promising, further trials are required to ensure that there are no adverse environmental or operational effects before it can be considered as proven technology. However, installation of a demonstration plant is one of our new improvement targets (see page 31).

**Discharges to water and water consumption**

We use a large amount of water, although this is mainly for non-contact cooling purposes where there are no significant environmental implications. We are continually developing techniques for reducing water use, recycling water and improving the quality of our discharges to ensure that they meet the limits set by the regulatory authorities. Wherever feasible, we try to prevent releases to the environment.

Quantities of the most significant pollutants discharged to water by Corus are listed in Table 2 and are shown relative to 1999 in Figure 6.

Our water consumption is extremely difficult to quantify, as some is used for once-through direct or indirect

<table>
<thead>
<tr>
<th>Substance</th>
<th>1999</th>
<th>2003</th>
</tr>
</thead>
<tbody>
<tr>
<td>Suspended solids</td>
<td>3,500</td>
<td>1,400</td>
</tr>
<tr>
<td>Arsenic</td>
<td>1.27</td>
<td>0.44</td>
</tr>
<tr>
<td>Cadmium</td>
<td>0.14</td>
<td>0.05</td>
</tr>
<tr>
<td>Chromium</td>
<td>2.01</td>
<td>1.34</td>
</tr>
<tr>
<td>Copper</td>
<td>1.18</td>
<td>1.17</td>
</tr>
<tr>
<td>Lead</td>
<td>4.64</td>
<td>1.97</td>
</tr>
<tr>
<td>Mercury</td>
<td>0.06</td>
<td>0.03</td>
</tr>
<tr>
<td>Nickel</td>
<td>1.79</td>
<td>1.81*</td>
</tr>
<tr>
<td>Zinc</td>
<td>8.18</td>
<td>21.05*</td>
</tr>
</tbody>
</table>

* The apparent increases compared to 1999 for nickel and zinc are due to improved monitoring.
cooling, some is recycled and reused in minimum-loss systems and some is used in cascade systems where the water from one process becomes the feed water for another. Typically we use between 5 and 10 cubic metres of water per tonne of steel at our steelmaking sites, but this can be higher or lower depending on the availability of water of sufficient volume and suitable quality at each site. Much of this water is of course directly returned to the environment after it has been treated and cleaned.

**By-products and waste**

Our processes generate a range of by-products, most of which have valuable applications (Table 3). Only those materials for which no practical use exists at present and which therefore have to be discarded are regarded as waste.

**Internal waste minimisation and recycling**

Where possible, we prevent and minimise waste generation. Unavoidably produced materials containing iron and/or carbon are recycled directly back into the process, e.g. at the sinter plant or coke ovens, thus reducing the amount of raw materials required. Some materials, however, contain impurities or are in a physical form that makes direct recycling impossible. We have developed techniques to process and recover many of these materials, e.g. oxide briquetting using a molasses binder and subsequent recycling via the steel plant at Scunthorpe. As a result, we have achieved a high level of recycling and reuse of process residues and by-products (see Figure 7).

**Waste disposal**

We have reduced the amount of material we send to landfill (see Figure 8). We expect to achieve further reductions as a result of continued efforts to develop new recycling routes and alternative applications for previously landfilled materials.

**Radioactivity in scrap**

Despite strict regulation and control of radioactive sources, there have, nevertheless, been occasions when radiation has been detected in steel scrap received at our sites. As a safeguard, we have installed highly effective detectors to identify sources in incoming scrap (these have been upgraded as a result of an improvement target in our previous report, see page 30). These detectors have reduced to a very low level the likelihood of radioactive materials being inadvertently melted. We also encourage suppliers to install detectors at their premises. When radioactivity is detected it is usually low level and of a natural origin. All

<table>
<thead>
<tr>
<th>By-product</th>
<th>Application</th>
</tr>
</thead>
<tbody>
<tr>
<td>Granulated blast furnace slag</td>
<td>Cement industry</td>
</tr>
<tr>
<td>Air cooled blast furnace, EAF &amp; BOS slag</td>
<td>Civil engineering and agricultural fertiliser industries</td>
</tr>
<tr>
<td>Tar</td>
<td>Chemical industry</td>
</tr>
<tr>
<td>Benzene/toluene/xylene</td>
<td>Chemical industry</td>
</tr>
<tr>
<td>Ammonium sulphate</td>
<td>Artificial fertiliser industry</td>
</tr>
<tr>
<td>Sulphuric acid</td>
<td>Artificial fertiliser industry</td>
</tr>
<tr>
<td>Iron oxide</td>
<td>Electronics, cement industry and paint industries</td>
</tr>
<tr>
<td>Ferrous chloride solution</td>
<td>Water treatment, effluent and dye industries</td>
</tr>
<tr>
<td>Zinc and tin dross</td>
<td>Non-ferrous metal recovery industries</td>
</tr>
</tbody>
</table>

**Figure 7   Recycling/Reuse**

(%, by weight)

<table>
<thead>
<tr>
<th>Year</th>
<th>95%</th>
<th>90%</th>
<th>85%</th>
<th>80%</th>
</tr>
</thead>
<tbody>
<tr>
<td>1999</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>2000</td>
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</tr>
<tr>
<td>2003</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(1) That which is not reused or recycled is mostly landfilled, with a small amount incinerated.
(2) Of that which is reused/recycled, around half is reused in our own processes and half is sold or reprocessed elsewhere.
finds are reported to the respective regulatory authorities and arrangements are made for safe disposal. Many plants have also installed detection equipment for their products. We market a derivative of the incoming scrap detection equipment as Redeem: a ‘dirty bomb’ detector for use in sensitive locations.

Noise
Excessive noise from our operations can be a nuisance to our neighbours and we therefore take a proactive approach to monitoring and controlling noise from both new developments and existing operations. At IJmuiden, for example, a noise management plan requires that periodic measurements are undertaken in the community. A noise zone has also been established around the site and for those homes in the immediate vicinity, a noise reduction programme has been implemented.

Resource use/energy
Our resource use is shown in Table 4. Our energy consumption in the production of steel is shown in Figure 9. Our energy consumption in primary aluminium production remained broadly constant between 1999 and 2003 at around 16 kWh/kg. As detailed elsewhere in this report, our aim is to reduce energy consumption and raw material use where it is necessary, practical and cost-effective to do so. For example, energy efficiency at IJmuiden has been improved following commissioning of our direct sheet rolling plant. This integrates the casting and rolling processes so that steel is cast into thin slabs, which are then directly rolled to thin sheet (1.25mm thick). This eliminates the need for reheating and significantly reduces energy consumption.

Combating climate change
Climate change is one of the most important issues facing the world today. We recognise that the steel and aluminium industries are significant contributors to man-made greenhouse gas emissions, as the manufacture of steel produces carbon dioxide ($CO_2$) and the manufacture of primary aluminium generates both perfluorocarbons (PFCs) and $CO_2$. Corus, therefore, has a contribution to make in reducing emissions wherever practical and cost effective. In response to this challenge we are continuing to improve our energy efficiency and both our $CO_2$ and PFC emissions have been significantly reduced. We believe, however, that a global problem requires a global approach involving all countries. Introducing emissions trading in some countries but not others, for example, will distort international trade and may lead to increased production of steel.
or aluminium in countries with a higher level of CO₂ emissions.

We have made a voluntary agreement (covenant) with the Dutch government to benchmark our energy efficiency against world-best standards. As a result, we are committed to becoming one of the world leaders in terms of energy efficiency as soon as is reasonably achievable, and no later than 2012, at both IJmuiden and Delfzijl (in the comparable technology class). In the UK we have negotiated an agreement with the government to reduce total energy consumption by 11.5% compared with 1997 levels by 2010 (already achieved). Furthermore, in conjunction with the European primary aluminium industry, we have voluntarily agreed to significantly reduce our PFC emissions.

In addition to these improvements, we are also working with other steelmakers in Europe on a major research and development project (ULCOS-Ultra Low CO₂ Steelmaking) to identify and prioritise low carbon emission iron/steelmaking processes that could go forward for semi-commercial scale pilot tests.

**Sustainability and product stewardship**

We are committed to incorporating the principles of sustainable development into all aspects of our operations.

Steel and aluminium are two of the world’s most recycled materials, with, for example, around 40% of the world’s production of ‘new’ steel made from recycled steel (approximately 380 million tonnes per year). Much of the steel and aluminium in use today will therefore be reused and recycled in the same and different applications in the future. Steel and aluminium products play a role in everything we do in modern day life. So, although the production of steel and aluminium consumes resources and energy, both materials make a major contribution to our quality of life.

All Corus steel and aluminium products are recyclable. They also contain significant quantities of recycled material, ranging from typically 20% for blast furnace route steel to 100% for secondary aluminium and electric arc furnace route steel. We encourage, promote and assist in the return of steel and aluminium for recycling and we also actively encourage customers to use our products sustainably. As a result, the metals used in vehicles and construction are now largely recycled, as are the metals used in other sectors, such as packaging.

Steel has a high strength to weight ratio and excellent mechanical properties. Aluminium can be used to provide lightweight solutions, conserving both raw materials and energy. By using these metals, either individually or in combination, to develop products which are lighter, stronger and, most importantly, consume less energy when they’re used, we make a very positive contribution to achieving sustainability.
In order to improve the overall sustainability of the Corus operations at IJmuiden in the Netherlands, a strategic study has been initiated which will take a long-term perspective and which will examine what opportunities and threats there may be in making the steel production chain more sustainable, using tools like life cycle assessment (LCA).

A group was set up in 2002 to implement the project. The results from the study will comprise a vision and strategy for sustainable operations and more detailed plans for sub-projects (for example, sustainable energy, stakeholder dialogue, health and safety in the working environment and new applications for steel). An external project group with representatives from national and provincial government, together with environmental organisations, has also been appointed to supervise the study.

Case study
Strategic study on sustainable operations at IJmuiden
Ultra-light vehicles
We are helping the automotive industry build cars that are not only safer for passengers and pedestrians but which are also affordable, fuel efficient and environmentally friendly.

Take, for example, the Ultra Light Steel Auto Body – Advanced Vehicle Concept (ULSAB-AVC) project. Begun in 1999 by a global steel industry consortium, including Corus, this $10 million research programme explores new vehicle concepts, building on previously successful ultra-light steel initiatives for the body structure, closures and suspension systems. It demonstrates the potential of combining new steels with the latest manufacturing and joining technologies.

The ULSAB-AVC project shows that structurally efficient design in a steel-intensive car can significantly enhance passenger and pedestrian safety while achieving major reductions in fuel consumption and CO₂ emissions without compromising vehicle performance or manufacturing cost. The ULSAB-AVC vehicle is around 200kg lighter than a typical C-class vehicle, with a kerb weight of 933kg rather than 1,150kg. Results from the ULSAB-AVC study show that diesel vehicles can achieve a fuel consumption of 3.2 litres/100km (88 mpg in the UK) and CO₂ emissions of 86g/km over the New European Driving Cycle (NEDC). Petrol vehicles can achieve a fuel consumption of 4.4 litres/100km (64 mpg in the UK) and CO₂ emissions of 106g/km. It is a great example of what you can do when you combine modern steel technology and efficient vehicle design. Further details can be found at www.ulsab-avc.org.

Greener fuel tanks
To help vehicle manufacturers develop emission-free fuel tanks that meet future environmental legislation and recycling targets for end of life vehicles, we have developed Neotec. A lead-free metallic (tin/zinc alloy)
coated steel, Neotec has a number of advantages over permeable plastic fuel tanks. It is significantly easier and less expensive to recycle, particularly when plastic is impregnated with fuel. Given the recycling targets in the EU End of Life Vehicles Directive and probable new environmental legislation requiring vehicles to have zero fuel evaporative emissions, there has never been a better time to switch from permeable plastic to recyclable steel fuel tanks. We have already had a very positive response from the industry, with Neotec being used by MG Rover and Ford.

**Stronger, lighter, easier to recycle**
We are constantly looking to deliver better solutions for the automotive industry. Corus Aluminium Rolled Products at Duffel, Belgium, for example, have developed a number of new products. These include Superlite, a higher strength (compared to conventional aluminium) aluminium alloy; Innerlite, a lightweight product developed specifically for inner panel applications; and Ecolite, which is lightweight but also uses the same alloy as other panels and therefore can be recycled more effectively and efficiently. These product developments have been possible thanks to a EUR50 million (£34 million) investment at Duffel in a unique continuous annealing line, which incorporates inductive heating and other features.

**Towards a completely recyclable car**
We are able to help our automotive customers make the most of highly recyclable steel and aluminium to meet ever-tougher recycling targets. By 2006 at least 85%, and from 2015 at least 95%, of the mass of end of life vehicles will need to be recycled or reused, in line with the EU End of Life Vehicles Directive. The Directive also restricts the use of heavy metals such as lead, mercury and cadmium. Our automotive products comply with these restrictions and we provide declarations to this effect to our automotive customers where necessary.
Why steel is good for construction

Steel buildings are more adaptable than those made using other materials. Steel frames can be adjusted, extended, unbolted and reconnected, modified, repaired, reused, or recycled as necessary.

The environmental advantages of using steel in construction are:

- 100% recyclability
- minimum use of materials
- clean and dust-free fabrication and erection
- minimum site waste
- ability to fabricate off-site in a controlled environment
- adaptability and flexibility over the lifetime of a building
- effective end of life options such as refurbishment, dismantling and reuse or recycling.

These environmental advantages tend also to create commercial advantages – minimum site waste, for example, means lower site costs.

Sustainable solutions – the City of Tomorrow™

We develop and promote sustainable products, systems and solutions through our City of Tomorrow initiative. Our modular buildings and Kalzip® Nature Roof™, for example, are part of our work for the City of Tomorrow, which gives different Corus businesses a common framework for action, based on the need for sustainable urban development.

The initiative provides a platform for partnerships to develop the knowledge base needed to identify best practices and opportunities for innovation and business development.

A modular approach to high quality buildings

In line with our commitment to innovate on behalf of our construction customers, we have set up Corus Living Solutions – a new business focused on modular high quality buildings.

The benefits of this approach include:

- Reduced site complexity and risk – there are fewer deliveries and tradesmen on site, resulting in less noise and disruption to the surrounding area, with tidier sites and potential for improved health and safety performance.

- Quicker construction – build programme times are reduced by typically 20-50%.

Far left: Steel frames are adaptable and recyclable

Left: Corus Living Solutions modules at Ashorne Hill Conference Centre
• Reduced environmental impact – energy efficiency in use is high, waste volumes are reduced and there are recycling opportunities within the factory. Furthermore, ongoing maintenance is lower compared with conventional housing and at end of life the modules can be relocated rather than demolished.

The modules are manufactured at Shotton in North Wales on a semi-automated production line. Engineering excellence is applied to the construction with a structured and repeatable process that builds in quality using a team-based approach with multi-skilled operators. The light steel frame system is made up of cold formed galvanised steel sections to create highly insulated and therefore energy efficient structural modules. This allows flexible room configurations including kitchens and bathrooms. The modules have a 60-year design life and meet UK building regulation requirements.

Innovative solutions for multistorey homes and offices
We have developed a more resource-efficient flooring system for multistorey buildings. Called Slimdek®, it allows the integration of structural and service zones in a building. This minimises construction depth, so that for a given height more floors can be included without affecting the dimension of the floors themselves. We are also developing products that reduce the need for air conditioning systems and increase energy efficiency by using natural ventilation to cool office blocks.

Green on the outside
Kalzip® Nature Roof™, our aluminium roof system, provides a safe and solid basis for landscaped roofs and garden roof features. Over 50 Nature Roofs have been installed to date. They look good, provide habitats for insects/birds, improve thermal and acoustic performance, consume CO₂, reduce rainwater run-off and are recyclable. Furthermore, we offer energy generating photovoltaic systems that are fully compatible with Kalzip.

Insitë™ into life cycle assessment
Corus Colors have developed Insitë to explain life cycle assessment and to put Corus Colors’ products, which are strong in terms of both durability and extended life, into context. Other Insitë documents are planned.
Making lighter cans
We are continuing to work with our packaging customers to make cans lighter but no less strong. For example, by improving process technology, we have developed a product that is 45% lighter than conventional cans of 25 years ago. Lighter cans consume less raw material and help reduce the impact and cost of transport.

Taking a broad approach to recycling in the Netherlands
In December 2002, the Dutch government and representatives from industry signed a third packaging products covenant (a voluntary agreement, with a recycling target of 80% for metal packaging, which is expected to be achieved). The covenant also contains a new requirement: to reduce the number of cans and bottles which end up as litter by 80% by the end of 2005. If this goal is not met, a deposit system on cans and bottles might be introduced.

We consider deposits on cans to be impractical and eco-inefficient because of the inconvenience for consumers, the high costs involved and the limited benefits to the environment. A broader approach is required and we therefore contribute in diverse ways to initiatives under the Nederland Schoon, the ‘Keep the Netherlands Clean’ campaign. For example, we promote anti-litter messages on our delivery vehicles and we have developed and supported education packages on keeping beaches clean and recycling for primary schools.

We also contribute to public awareness of the recycling of metal packaging in the Netherlands through our involvement with the SKB, the Dutch Foundation for Metal Packaging Recycling.

Improving recycling infrastructure in the UK
To promote the further development of recycling steel packaging in the UK, we set up Corus Steel Packaging Recycling (CSPR). As a result, steel packaging recycling rates increased to 44% in 2003 from 42% in 2002 (30% in 1999). During 2003, Corus supported over 35 recycling projects in the UK using the revenue derived from the sale of Packaging Recovery Notes. All of these projects were designed to improve the recycling infrastructure for the collection of steel cans, benefiting 54 local authorities and over one and a half million households.

The key to CSPR’s continuing success in helping to increase steel packaging recovery and recycling in the UK has been the targeted approach of its regional recycling development team. This team works closely with many local authorities and independent collectors across the UK to develop systems to increase recovery of steel cans from the domestic waste stream. They concentrate funds where financial support would not
otherwise be available, where there is the greatest potential in terms of recovery volumes, or where there is an opportunity to expand existing recycling schemes to include steel cans. Take, for example, Premier Waste Ltd, who operate the kerbside recyclable materials collection system for 595,000 households in the north east of England on behalf of six local authorities. CSPR have provided Premier Waste with a high performance can sorter at their Tyne Dock recycling facility. As a result, around 500 tonnes of steel cans each year can now be recycled.

The CanRoute network, which provides secure local markets for regional collectors of steel cans, is a vital part of CSPR’s commitment to developing the UK’s recycling infrastructure. The network of 13 regional steel can collection centres recorded deliveries of 13,312 tonnes of steel packaging from kerbside and bring schemes in 2003, representing a 124% increase compared to 2001. Since CSPR launched the scheme in June 1999, Corus’ CanRoute centres have diverted 36,836 tonnes, or approximately 900 million steel cans, from landfill into our steel plants for recycling.

Space-saving Le Carré square cans developed by Corus are 15% lighter than conventional cans.
We play an important role in the communities in which we operate, where we often provide most of the local employment. Our responsibilities therefore go much further than ensuring that the environment in these areas is not adversely affected by our operations; we also actively participate in community initiatives and are committed to making a positive social contribution, including retraining and assisting with economic regeneration where appropriate.

Corus is often an important driver for economic development in the regions in which we operate. For example, by restructuring its operations, Corus IJmuiden has been able to devote a 100 hectare area adjacent to the main Corus site to the renewal of regional economic development at the IJmond Business Park. In addition, our product and process innovations, research centres and the continuing education of employees all make a valuable contribution to the development of the knowledge economy.

In the UK, we have continued to use landfill tax credits to finance local community projects. This has enabled us to contribute towards a number of wide-ranging initiatives. For example, £8,000 was donated to improve the Garden City community playground close to Corus Colors at Shotton and more than £90,000 was donated by Corus Construction and Industrial to schools in North Lincolnshire and on Teesside to improve disabled access and to fund nature gardens, ponds and other eco-projects. £10,000 was also donated to Lindsey Lodge Hospice in Scunthorpe for landscaping.

Other community initiatives include the Port Talbot centenary of steelmaking celebrations in 2001 and an ‘Adopt a School’ project at Corus IJmuiden, where operating units or departments adopt a local school or college and support these schools with projects, guest lectures, opportunities for work placements, assignments, tools and resources.
Biodiversity
We work with wildlife organisations, schools and educational establishments to assess opportunities for providing green initiatives, landscaping and habitats such as ponds, wetlands and meadows at many of our plants, which are often ideal locations for promoting biodiversity. As a result, there is now a wide range of fauna and flora on our sites, including some rare species. For example:

- Corus Scunthorpe has provided a specially-built nesting site for visiting sand-martins. Together with on-site contractor Heckett MultiServ, a purpose-built area has been created and an estimated 150 pairs nested at Scunthorpe last year. As a result, Corus and Heckett MultiServ have received awards from the Campaign to Protect Rural England (CPRE).

- Corus Port Talbot is working with local partners in a new joint venture, the Green Park Weir project, to preserve the River Afan’s fish population. Green Park Weir diverts water from the River Afan through an open canal into the dock. The weir spans the full width of the river, providing water to the steelworks and maintaining the water level in the dock. At low to moderate river flows, the bulk of the water passes via the docks feeder into the docks, leaving only a small flow through which the fish pass, and out to sea. During the migration of young salmon, many thousands of the fish are ‘lost’ to the docks. This is thought to be the single largest constraint to migratory fish populations in the River Afan. Corus, the Environment Agency, the Afan Valley Angling Club, and Associated British Ports have worked together to finance and install a new £100,000 fish screen.

Wildflowers growing at Corus in Teesside
## Summary of previous targets and achievements

<table>
<thead>
<tr>
<th>Target</th>
<th>Commentary</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reduce mean lost time injury frequency to 7.4 per million hours worked in 2003.</td>
<td>Substantially achieved, our lost time injury frequency was reduced to 7.5 per million hours worked in 2003.</td>
</tr>
<tr>
<td>Undertake appropriate risk assessments for any potentially contaminated land at all European sites under Corus ownership by the end of 2001.</td>
<td>Largely achieved, risk assessments have been carried out for the majority of our sites in Europe and in North America. The remainder, which are mainly very small sites, will be addressed on an ongoing basis.</td>
</tr>
<tr>
<td>Fully evaluate the potential for the suppression of dioxin emissions from the iron ore sintering process by the end of 2001.</td>
<td>Achieved, trials have been carried out at Scunthorpe. Potential cross-media impacts from the use of urea, such as increased particulate emissions, will be assessed along with any long-term corrosion problems in a demonstration plant (see future targets).</td>
</tr>
<tr>
<td>Quantify the emissions associated with our transportation of materials and people by the end of 2001.</td>
<td>Achieved, we estimate the CO₂ emissions associated with the transportation of our raw materials and products by rail and ship/barge to be 2,600,000 tonnes/year. We estimate the CO₂ emissions associated with the transportation of our products and people by road to be 80,000 tonnes/year.</td>
</tr>
<tr>
<td>Increase the amount of steel packaging waste recycled in the UK by 20%, compared to 1999 levels, by the end of 2001.</td>
<td>Achieved, 278,000 tonnes were recycled in 2001, which compares with 225,000 tonnes in 1999, i.e. a 23.5% increase. 290,000 tonnes were recycled in 2002, i.e. a 30% increase compared to 1999.</td>
</tr>
<tr>
<td>Achieve 95% certification to ISO 14001 for all Corus European manufacturing operations (excluding interim mergers and acquisitions) by the end of 2002.</td>
<td>Partly achieved, 83% of our European manufacturing operations are currently certified to ISO 14001, which is a significant improvement compared to 1999.</td>
</tr>
<tr>
<td>Audit all major suppliers and contractors by the end of 2002 and set improvement targets for those not meeting ISO 14001 or equivalent standards.</td>
<td>Achieved, we have set up an internet-based supplier and contractor environmental assessment system.</td>
</tr>
<tr>
<td>Reduce waste to landfill by 10% from 1999 levels by the end of 2002.</td>
<td>Achieved, we landfill 696,000 tonnes in 2002 compared to 1,196,000 tonnes in 1999, a reduction of 42%.</td>
</tr>
<tr>
<td>Install, where necessary, enhanced incoming scrap and product radiation detection equipment at all steelmaking sites by the end of 2002.</td>
<td>Achieved, improved detection equipment has been installed where necessary at our steelmaking sites and at our primary aluminium plant at Delfzijl.</td>
</tr>
<tr>
<td>Identify and assess, where necessary, our contribution to ambient air concentrations of fine dust particles (PM10s) and evaluate options for improvement by the end of 2003.</td>
<td>Achieved, impact assessments have been carried out for our major sites. A number of improvements have been made, including the installation of fume extraction at Port Talbot no. 5 blast furnace (see page 16).</td>
</tr>
<tr>
<td>Reduce emissions of perfluorocarbons from the primary aluminium production process by 50%, compared to 1990, by the end of 2005.</td>
<td>On target, –</td>
</tr>
<tr>
<td>Reduce total energy consumption in the UK by 10%, compared to 1997, by 2010 and become one of the world's top steelmakers and primary aluminium producers in terms of energy use in the Netherlands by 2012.</td>
<td>On target, our ongoing target has been partially revised.</td>
</tr>
</tbody>
</table>
Future targets

- Reduce mean lost time injury frequency to 5.0 per million hours worked in 2004.
- Achieve at least 99% compliance with formal regulatory emission limits for both emissions to air and releases to water by the end of 2005.
- Achieve 95% certification to ISO 14001 for all Corus European manufacturing operations (excluding interim mergers and acquisitions) by the middle of 2006.
- Reduce total energy consumption in the UK by 11.5% compared to 1997, by 2010 and become one of the world’s top steelmakers and primary aluminium producers (in the comparable technology class) in terms of energy use in the Netherlands by 2012.
- Reduce emissions of perfluorocarbons from the primary aluminium production process by 50%, compared to 1990, by the end of 2005.
- Install a demonstration plant for the evaluation of the suppression of dioxin emissions from the iron ore sintering process by the middle of 2004.
- Identify and assess our contribution to ambient air concentrations of fine and ultrafine dust particles (PM2.5s and PM0.1s) and evaluate options for improvement where necessary by the end of 2006.
- Reduce the number of complaints from the public related to our activities by 10% compared to 2003 by the end of 2006.
- Reduce waste to landfill by 10% from 2003 levels by the end of 2005.
- Carry out life cycle studies to ensure that LCI (life cycle inventory) data to the factory gate is available for at least 70% of Corus products by the end of 2006.
Validation objectives and method
Enviros has conducted an independent validation of the Corus HSE report to provide assurance on the completeness, transparency and accuracy of the report and to review systems for data collection. Enviros has not carried out a formal verification of qualitative statements and quantitative data. The validation was undertaken through interviews and telephone discussions with staff responsible for collating the data on which the report is based.

Accuracy and completeness of the report
The systematic framework for gathering and reporting regulated HSE information on which the report is based was found to be robust. The minor contribution from non-regulated data is collected in a less rigorous way, making assumptions where necessary to ensure completeness of the data sets.

The new system for collection of 2004 data should improve the quality and consistency of data collection and the transparency of the audit trail. We commend this development and encourage Corus to maximise the coverage of the new system.

Corus have continued to extend their environmental management system (EMS) programme with ISO14001 coverage now at over 80% of their European operations. The important target to audit all major suppliers and contractors with respect to EMS has been achieved. This gives confidence that the non-regulated environmental aspects are also well controlled within these operations.

The report has evolved from a purely environmental report to a HSE report and the link into social aspects of Corus operations is being developed, with acknowledgement of the need to address corporate social responsibility (CSR).

The highlighting of case studies and market sectors illustrates Corus’ application of its HSE credentials. It is inevitable that some significant aspects are under-represented, for example, the full range of environmental monitoring undertaken site by site, and commitments to the communities affected by recent closures.

Recommendations for future reports
It is acknowledged that Corus has undergone considerable structural change since the last reporting period and this makes it difficult to compare year on year data.

Presentation of data trends for future reports would be clearer if environmental performance indicators were normalised, for example, presented per tonne of product output rather than totals. This would allow benchmark comparison across the industry sector, and make improvements, such as those in waste reduction, clearer.

We recommend that key performance indicators, both regulatory and non-regulatory, are further developed to ensure that all relevant measures of environmental performance are included. For example, updates of the report should show data trends for non-regulatory data streams linked to the EMS aspects, such as those relating to transport. We would also like to see Corus set a new target in support of recycling steel packaging waste to demonstrate their continuing work in this area.

Corus has committed to identify additional health and safety key performance indicators for 2004. This is welcomed to give a fuller picture of the health and safety performance of Corus including contractors.

In the context of a trend towards sustainability and CSR reporting, Corus should consider how to achieve a greater engagement of stakeholders to help define future reporting strategy.

Peter J Young
Managing Director
Enviros Corporate Division
BOS: Basic Oxygen Steelmaking
Benzene, Toluene & Xylene: By-products from cokemaking
CO: Carbon monoxide
CO₂: Carbon dioxide, a gas released in combustion and other industrial processes, which contributes to the enhanced greenhouse effect
Covenant: A formal agreement between government and industries in the Netherlands
CPRE: Campaign to Protect Rural England
CSPR: Corus Steel Packaging Recycling
CSR: Corporate social responsibility
Dioxins: A group of organic compounds formed in industrial and combustion processes
Dross: Secondary products from galvanising and other metal coating processes
EAF: Electric Arc Furnace
EMS: Environmental management system
EU: European Union
Ferrous chloride solution: Residual material from the steel acid-pickling process
Fluorides: Fluorine-containing compounds
Fugitive: Releases from non-stack sources
Greenhouse gases: Gases which contribute to global warming
Heavy metals: Metals such as cadmium, copper, mercury, nickel, chromium, lead and zinc
H₂S: Hydrogen sulphide, an odorous compound
IISI: International Iron and Steel Institute
ISO14001: International environmental management system standard
Key performance indicators: Parameters which are important indicators of how well we perform
Landfill Tax: A UK tax on materials which are landfilled
LCA: Life cycle assessment, a method of identifying the environmental impact of a product. The whole life cycle of a product is considered
LCI: Life cycle inventory, a part of LCA
LTIF: Lost Time Injury Frequency, number of lost time incidents per million hours worked
NEDC: New European Driving Cycle
NO₂: Nitrogen dioxide, one of the oxides of nitrogen
NOₓ: Oxides of nitrogen, compounds that contribute to acidification
OHSAS 18001: International occupational health and safety system
PAHs: Polycyclic aromatic hydrocarbons, a collective term for tar-like compounds
PFCs: Perfluorocarbons
PM10: Fine particulate matter less than 10 microns in diameter
PM2.5: Fine particulate matter less than 2.5 microns in diameter
PM0.1: Ultrafine particulate matter less than 0.1 microns in diameter
Slags: Secondary products from ironmaking and steelmaking
SO₂: Sulphur dioxide, a compound that contributes to acidification
SSSI: Site of Special Scientific Interest
ULCOS: Ultra-Low CO₂ Steelmaking
ULSAB-AVC: Ultra Light Steel Auto Body – Advanced Vehicle Concept
Urea: An ammonia-based compound, which is often used in fertilisers.
VOCs: Volatile organic compounds, such as solvents

We encourage feedback on this report and on where and how we can make improvements. Please contact us by email at feedback@corusgroup.com

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