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# Industry as a partner for sustainable development

## Iron and Steel

International Iron and Steel Institute (IISI)

Developed through a multi-stakeholder process facilitated by:



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In a multi-stakeholder consultation facilitated by the United Nations Environment Programme, a number of groups (including representatives from non-governmental organisations, labour unions, research institutes and national governments) provided comments on a preliminary draft of this report prepared by the International Iron and Steel Institute (IISI). The report was then revised, benefiting from stakeholder perspectives and input. The views expressed in the report remain those of the authors, and do not necessarily reflect the views of the United Nations Environment Programme or the individuals and organisations that participated in the consultation.



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## Executive summary

The International Iron and Steel Institute (IISI) prepared this report to communicate sustainable development activities of the world steel industry in preparation for the United Nations World Summit on Sustainable Development scheduled for Johannesburg, South Africa. This report forms part of an effort coordinated by the United Nations Environment Programme, Department of Technology, Industry, and Economics, to contribute to the World Summit with a series of sectoral reports whereby international sectoral industry organisations take stock of progress towards sustainable development and outline future challenges. Additional and updated information on sustainable development in the world steel industry will be available through the IISI Web site at http://www.worldsteel.org.

Steel is a material used to build the foundations of society. It is an iron-based material containing low amounts of carbon and alloying elements that can be made into thousands of compositions with exacting properties to meet a wide range of needs. Steel is truly a versatile material. The value of steel produced annually is easily over USD200 billion. Thus steel finds its way into the world economy.

Steel is an essential material for society and an essential material for sustainable development for people to satisfy their needs and aspirations. Steel is a part of people's everyday lives, in both the developed and developing world. It is used in providing transportation such as automobiles and railroads, building shelters from small housing to large multifamily dwellings, delivering energy such as electricity and natural gas, producing food with tools like tractors and hoes, supplying water with pumps and pipelines, and enabling healthcare with medical equipment. Steel is produced worldwide. Over 96% of world steel production in 2000 was produced in 36 countries. China was the largest steel producing country in 2000 with 127.2 million tonnes. Two other nations produced over 100 million tonnes of steel in 2000 – Japan at 106.4 million tonnes and the United States at 101.5 million tonnes. Together, these three nations account for almost 40% of world steel production. If consideration is extended to the top ten steel producing nations, just over 70% of world steel production is accounted for. The top 20 steel producing nations produced almost 87% of the world's steel in 2000.

While China is the world's largest producer of steel, it is also the world's largest consumer of steel with an apparent consumption of 141.2 million tonnes. The United States ranks as the second largest consumer of steel at 115.0 million tonnes, followed by Japan at 76.1 million tonnes. The top ten nations accounted for almost 69% of steel consumption in 2000, while the top 20 nations made up 83% of world steel consumption.

Looking at the trends in steel consumption, China shows the greatest increase from 1990 to 2000 with in increase of almost 10%. Other countries in Asia accounted for the second largest increase with 5.7%, while the NAFTA trading area demonstrated the third largest increase with 4%. The greatest decrease in steel consumption occurred in the former USSR, registering a 14% decrease.



The world steel industry is characterised by companies that traditionally formed to serve local and national markets, giving rise to a fragmented industry comprised of many companies around the world. The top 20 steel companies account for about 32% of world steel production. In comparison, the top eight vehicle manufacturers account for 67% of world vehicle production while the top three iron ore companies bring about 70% of world iron ore production to market.

In 2002, steel companies are facing their most severe economic challenge in recent history. Earlier this year IISI issued a call for an immediate start of inter-governmental negotiations on steel. A positive response from governments led to the convening of a high level meeting of the OECD in September. Governments from around the world met again in December 2001 to report back on the results of discussions that they have held with their individual industries. new methods of working. The result has been a dramatic improvement in the performance of steel products, and a related reduction in energy use and consumption of raw materials in their manufacture.

Steel products are providing solutions to sustainable development. The ULSAB-AVC (UltraLight Steel AutoBody – Advanced Vehicle Concepts) Programme is a design effort to offer steel solutions to meet society's demands for a safe, affordable, environmentally responsible range of vehicles for the 21st century. ULSAB-AVC, the latest in a series of environmentally-centred initiatives by an international consortium of sheet steel producers, promises that steel can be an environmentally optimal and most affordable material for future generations of vehicles. The programme supports this offer by demonstrating the application of new steels, advanced manufacturing processes, and innovative design concepts.

ULSAB-AVC will present advanced vehicle concepts that help automakers use steel more efficiently and provide a structural platform for achieving:

- anticipated crash safety requirements for 2004;
- significantly improved fuel efficiency and reduced climate change emissions;
- ontimised environmental performance

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