



We are continuing to be a leader in terms of seriously considering the future of the Earth and improving our environmental technologies.

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Chairman of the Environmental Committee and Executive Vice President

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Applying Japanese energy saving technologies to countries around the world

It has recently become possible for us to directly feel the changes that are occurring in the environment, and it is clear that the prevention of global warming is an issue that must be addressed by the entire world. I believe that the Japanese steel industry will play an extremely large part in these efforts.

It is said that by the year 2050, when the world's population will have increased to 9 billion people, the amount of steel required annually per person will be 200 ~ 400 kg on average. It is estimated that the amount of steel produced will be three times larger than it is now, rising to 3.6 billion tons. Recent years have seen amazing economic growth by the BRIC*1 nations and other countries. In order to reduce CO2 emissions resulting from the production needed to meet the growing demand for steel,

actions by individual countries will not be enough to achieve significant results. The worldwide steel industry must work together to address this problem, including cooperation not only among the major emitter countries, but also the newly emergent nations.

Currently, the steel industry in Japan has developed a steel production process that uses the least amount of energy, and therefore is emitting the least amount of CO2 of any country in the world. Large effects in reducing CO2 can be achieved by expanding the use of these process technologies to the rest of the world. Sumitomo Metals is participating in a broad range of environmental preservation projects, including the Asia-Pacific Partnership (APP)*2 and is leading the world in terms of technology while working for CO2 reductions on a global scale.

*1 BRIC: The four emergent economies of Brazil, Russia, India, and China.

*2 Asia-Pacific Partnership (APP): A system for working to prevent global warming in each industrial sector. Participating nations are Japan, the U.S., Australia, China, India, South Korea, and Canada. For details, please see pages 12 and 39.



New Blast Furnace (Wakayama)



Eucalyptus Forest (Brazil)

Environmental Improvement Activities of the Sumitomo Metals Group

Sumitomo Metals has enacted complete energy saving measures in the equipment and production processes at all of our works, achieving a 20% reduction in the amount of CO2 emitted per ton of crude steel from fiscal year 1990 levels.

At present, we are updating the aging blast furnace and coke furnace at our Wakayama Steel Works. We are taking this opportunity to make further improvements by actively incorporating equipment for saving energy and protecting the environment.

We are also developing products that will contribute to reductions in CO2 emissions. The result from an investigation of our entire product lineup has shown an annual reduction in CO2 emissions of approximately 200 million tons.

CO2 reductions are also being achieved through the development of longer-lifetime steel products and through their use by customers. For example, if a product lasts twice as long even if it is a little more expensive, then the required number of products is halved, reducing CO2 emissions from production by 50%. We are using a flexible approach to new ideas for technology development, and aiming at large-scale reductions in CO2 emissions.

We are also continuing a variety of community activities, tree-planting programs involving our employees and the public, and promoting the use of the Environmental Household Account Record (with approximately 7,000 participating households), as well as conducting other activities that can be experienced close at hand. These activities are described in detail in this report.

Technology Development Focused on 10 and 20 Years in the Future

Sumitomo Metals is developing a range of technologies aimed at further reducing environmental impacts. This is because we believe that technology is the mother of civilization, and the resulting problems in our civilization can best be solved by technology. Our steel production process operates with an energy efficiency that is in the top class worldwide. In order to achieve further CO2 reductions, an entirely new process will be necessary. We

therefore have embarked on the development of a revolutionary new process through the COURSE50*3 project to develop technologies for an environmentally friendly steel production process.

We are proceeding with the construction of a blast furnace that incorporates completely new ideas. The blast furnace currently under construction by our company in Brazil uses charcoal from eucalyptus trees as the reducing agent. Eucalyptus absorbs CO2 as it grows, and because the amount absorbed cancels out the CO2 emissions of the blast furnace, the net amount of CO2 emitted by this furnace will therefore be zero. Recent improvements through plant breeding have accelerated the growth rate of eucalyptus trees, further improving the efficiency. Additional progress on this approach may one day lead to zero-CO2 blast furnaces operating in Japan as well.

Beginning in 2030, the equipment that is now being updated at the Wakayama Steel Works and other works will begin a new phase of updates. The level of environmental technology that can be incorporated at that time will depend on the technology development carried out over the next 10 or 20 years. Sumitomo Metals is continuing to accept new challenges as we work to improve our world-leading technological capability, and will continue to be a leader in environmental technologies.

Action Guidelines for the Global Environment

Sumitomo Metals and its affiliated companies hereby establish these action guidelines to instill an awareness of the importance of preserving the global environment during the conduct of business activities and to fulfill its corporate social responsibilities:

- Develop a structure that promotes environmental preservation;
- Preserve the environment through our business activities;
- Promote measures to prevent global warming;
- Promote resource conservation and recycling;
- Promote social contribution and international cooperation through our products; and,
- Educate human resources.

*3 COURSE50: A project involving collaboration between the government, universities, and industry, aiming at drastic reductions in CO2 emissions from the steel production process by 2050. For details, please see pages 11 and 38.