

The Kyoto Protocol and Related Efforts of Our Company

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○ Facts on the Effectuation of the Kyoto Protocol

In 1972, the Club of Rome presented the idea of “the limit to growth,” bringing global environmental problems into the world’s attention. The Club warned that if the rates of economic growth and population increase could not be controlled, mankind would face the depletion of natural resources, the deterioration of the environment, and a resulting catastrophe in a near future.

As public interest in global environmental problems grew throughout the world, the UN Conference on Environment and Development (Earth Summit) was held in 1992, and adopted an action plan called Agenda 21, which was designed to bequeath a productive and sound global environment to future generations of mankind.

Also, it is widely known that in September 1996, the ISO14001 “Environment Management System” was established as a follow-up to Agenda 21, in accordance with international trends toward a sustainable development.

Furthermore, the Framework Convention on Climate Change was adopted to control global warming. The Convention included the commitment of developed nations to reduce their emission of greenhouse gases to the 1990 level by 2000.

However, since the Convention was not vested with any legal binding power, developed nations failed to live up to their commitment, and their greenhouse gas emissions actually increased from the pre-Convention level. Accordingly, the 3rd Session of the Conference of the Parties to the UNFCCC (COP3) was held in Kyoto in December 1997 to define the new commitments of these nations for years after 2000. The adoption of the Kyoto Protocol was agreed upon during this Session.

On February 16 of this year, the Kyoto Protocol took effect as a result of ratification by Russia. This effectuation marked the start of full-fledged international cooperative efforts to reduce greenhouse gas emissions.

○ What Are Greenhouse Gases?

The average air temperature on the Earth is about 15°C. If there were no greenhouse gases on the planet, it would be an extremely cold, lifeless planet with an average air temperature of -18°C. In reality, sunlight is absorbed on the ground surface, and heat emitted in the form of infrared rays is absorbed by greenhouse gases. Then, the gases re-emit part of this heat, warming the ground surface and lower atmosphere. This mechanism keeps air temperature at a level that ensures the survival of life. Recently,

however, growing human activities, such as industrial development and deforestation, have resulted in the increased concentrations of greenhouse gases. This has led to a larger amount of heat absorbed by air, and hence to global warming, i.e. an increase in air temperature on a global scale.

The amount of greenhouse gases emitted by humans is 6.3 Gt/year (Gt = 1 billion tons), while the amount of these gases naturally absorbed by the environment is 3.1 Gt/year. This points to an increase of 3.2 Gt per year. As this figure suggests, greenhouse gas emissions must be reduced gradually to avert a critical situation.

As a result of the effectuation of the Kyoto Protocol, Japan needs to achieve a target apportioned to it, which involves reducing greenhouse gases 6% from the reference year of 1990 (or 1995 for HFC and other alternative CFCs) for over five years starting from 2008 to 2012.

The total amount of greenhouse gases (Kyoto 6 gases) emitted by Japan in 2003, as converted into CO₂, is 1,339 million tons. This represents an increase of 8.3% from the reference year (1990), or 0.7% from the previous year. Accordingly, Japan must achieve a 14% reduction from 2003 to meet its original target of a 6% reduction in the Kyoto Protocol.

○ Plan to Meet the Target in the Kyoto Protocol

In response to the effectuation of the Kyoto Protocol, the Japanese government published its Draft Plan to Achieve the Target in the Kyoto Protocol, as an additional measure for controlling the emission of greenhouse gases in the fields of industry, transportation and citizen life. Also, the Revised Act on the Promotion of Measures to Control Global Warming was enacted following the review of the Main Lines on the Promotion of Measures to Control Global Warming. The above-mentioned Plan was adopted at a Cabinet meeting in April this year.

In consequence of these developments, Japanese companies will prepare their respective plans to reduce greenhouse gas emissions. Generally, they are expected to make efforts to achieve targets set by the industrial organizations to which they belong.

At present, companies cannot possibly ignore the social trend toward the control of global warming. On the other hand, they may be able to create new business opportunities by identifying relevant realities, and implementing timely and appropriate measures.

○ Efforts of the Japan Association of Rolling Stock Industries

The Japan Association of Rolling Stock Industries, to which our company belongs, has committed itself to the following efforts, in line with the Kyoto Protocol and “Recent Trends Concerning Environmental Problems, and Related Efforts of the Japan Business Federation ” published by the Japan Business Federation:

[Basic efforts]

- 1) Harmonization of environmental efforts and economic activities
- 2) Promotion of technological innovation
- 3) Promotion of the participation of, and cooperation among, all parties; and securing of transparency and sharing of information to that end
- 4) Use of diverse policies and measures
- 5) Emphasis on the process of evaluation and review (PDCA)
- 6) Establishment of international means cooperation to control global warming

[Target in reducing greenhouse gases stemming from energy use]

A reduction of 8.6% for the industrial sector

Greenhouse gas emissions are expected to increase due to the expansion of production resulting from economic growth. An estimation shows that a reduction of 33 million tons from the figure for 2002 must be achieved through various measures.

○ Efforts of Our Company

The Kinki Sharyo company has long engaged in efforts for energy saving. Lately, it has established the following environmental policies to enhance its competitiveness in the international market, and develop into a company that is friendly to the environment, and its employees have been making concerted efforts for environmental conservation in line with these policies:

[Basic principle]

Our company implements continual efforts for environmental conservation and related activities for improvement, by establishing and reviewing its environmental objectives and goals, in all its activities including the design and manufacture of rail cars, and the manufacture of apartment house entrance doors.

[Policies on environmental activities]

1. All employees maintain a strong interest in environmental problems, take responsible actions in this regard, and endeavor to conserve the environment.
2. Our company efficiently uses natural resources and

energy for the manufacture and servicing of its products.

3. Our company observes laws and regulations related to the environment, and undertakes active efforts to reduce the loads on the global environment.

Our concrete efforts include the following:

* Energy saving: use of energy-saving ceiling lights, highly weather-resistant light galvanium steel materials for plant roofs, inverter-type air conditioners etc.

* Resource recycling: sorting and recovery of used paper (copying paper etc.), recovery and reuse of packing and curing materials, use of metal tote boxes (instead of wooden frames) for packing delivered products, reuse (as valuable resources) of discarded metal pieces through thorough sorting according to material type, etc.

* Efficient use of resources: reduction of paint loss by improving painting equipment; improvement of material yields by improving cutting systems; reduction of waste by using up auxiliary materials; disuse of paper by introducing purchase of EDI systems; reduction of the loss of electricity and water by implementing measures to prevent air and water leakage at plants; prevention of idling; etc.

As a result of these efforts, our company met its targets for 2004 on energy saving and efficient resource use. Also, we succeeded in achieving ISO14001 accreditation in November 2004.

We will continue our efforts for energy saving and efficient resource use, adhering to our corporate creed that says, “We will create good technology with creativity in order to realize a rich and comfortable human environment with faith and eagerness.” In so doing, we will offer train cars friendly to people and the Earth. Also, all our employees will observe relevant rules of society, and our company will strive to be a good corporate citizen mindful of securing a sound Earth for future generations.