

Speech at the STS Forum (Draft)

I'm Mimura of Nippon Steel.

It is a great honor to speak to distinguished audiences here because I firmly believe that only science and technology can save the world.

Today, I'd like to use this opportunity to talk about "Problems in the Kyoto Protocol and a Proper Framework for the Future."

1. Problems Inherent in the Kyoto Protocol

The Kyoto Protocol has been tremendously effective in that the global-warming issue is now receiving global recognition. Yet, despite the extensive efforts by participating countries, CO² levels of the entire world are expected to rise 40% from 1990 to 2010.

For the sake of formulating fair and challenging framework for the next Protocol, please let me try, at the beginning, to review what problems were in the Kyoto Protocol, adopted here in this very place of the Kyoto International Conference Hall, twelve years ago.

- ① Firstly, the main reason why the Kyoto Protocol was powerless in the global reduction of CO² is that non-participating countries in, or countries not assuming reduction obligations under the Kyoto Protocol, such as the United States, China and India, accounted for about 70% of the whole world.**
- ② Next, as another reason for this lameness of the Protocol, is that the reduction targets were politically decided in its process. In other words,
 - Energy-efficiency levels achieved until then,**
 - Future reduction potential, and**
 - The availability of technically and economically feasible means of reduction,**were not properly reflected on the targets, or the base year, namely year of 1990.**
- ③ Lastly, the Kyoto Protocol itself provided no incentive whatsoever to the promotion of break-through technological development in CO² reduction.**

2. Proper Framework for the Future

From this standpoint, a certain appropriate framework of the next Protocol seems to come into view.

- ① **The next Protocol, must be worked out on the major premise that the United States, China, India and other major CO² discharging countries participate in a responsible manner, rather than a mere extension of the Kyoto Protocol.**

Like industrially advanced countries, developing countries also are entitled to enjoy their economic growth. On the other hand, considering natural resources restraints and environmental problems, developing countries can no longer evade being confronted with the vital task of energy conservation.

Therefore, even developing countries also should be obliged to reduce CO² emission in a certain responsibility. It is strongly expected that all the major CO² emission countries, both advanced and developing countries, participate in the post KYOTO framework and tackle to accomplish economic growth and CO² reduction simultaneously.

- ② **By the way, CO² emission may be resolved into four factors: namely,**

“Population”

“GDP per head”

“Energy consumption per GDP”

“CO² emission per energy consumption”

In seeking a solution to the global-warming issue, we cannot sacrifice “population” and “GDP per head” because these are representing country’s “richness” in a way. Thus, the only means left to us is to improve “unit consumption of energy” and “consumption of CO² emission per energy.”

Improving “energy unit consumption” is synonymous with improving efficiency on the energy demand side, that is, energy saving. Improving “CO² emission unit consumption” means switching to energy producing less CO² emission on the energy supply side.

In international negotiations about the global warming issue, attention is focused on merely the size of figures of the reduction targets. But, I believe the basic attitude needed in fighting this issue is a technologically well-founded, long-term commitment.

That is, we should start discussions from those questions such as: specifically in what areas, by what energy-saving technologies and by what energy-saving equipment and facilities, in what time-frame, and approximately to what

extent emission reductions are possible.

3. How the World Steel Industry Proposes to Fight the Global Warming Issue

Now, I'd like to outline the two approaches being taken by the steel industries around the world in combating this issue and end my speech.

① First, the Global Steel Sectoral Approach.

This is an attempt by the World Steel Association, representing 85% of world steel production, to set the steel industry's energy-saving targets and achieve them through the transfer and spread of the existing technologies. This is a technology-based approach in order to estimate reduction potentials of the steel industries in the world by surveying the spread of energy-saving equipment at each of the steel mills. Also we are establishing a methodology of proper comparison of energy efficiency, information and data are now being gathered.

Furthermore, Japanese steel companies sent our energy-saving expert teams to China and India, and they suggested specific improvement measures through conducting detailed energy diagnoses, to six steel mills in those countries. Moreover, India have requested for the dispatch of expert teams to other mills.

② Second, development of break-through technologies.

For the present method of steel manufacturing, CO² emission is unavoidable, because we have to use coke for its chemical reduction process to derive pure iron from iron ore. This process is the most efficient, therefore, it has not changed for the past 300 years. But we, steel industry, are challenging to create an innovative manufacturing process. New process utilizes hydrogen instead of coke to reduce iron ore. If reduction is done by hydrogen, in place of the present coke, CO² will not be discharged. Eventually needed is a plentiful supply of CO²-free hydrogen. As intermediate technologies, however, there are plans to develop a technology for amplification of hydrogen of the coke-oven gas and a technology for reduction by hydrogen.

Another area of development is a technology for economical separation and recovery of CO² from the blast-furnace gas by using waste heat, now not utilized in an integrated steel mill.

What I would like to mention here is that it needs a long period of time and a huge amount of money to develop innovative technologies. However, steel industry has decided to establish a new technology for reducing CO² emission

by 30% by the year 2030 as a mid-term foreseeable target.

4. Concluding Remarks

Lastly, I firmly believe that environmental issues should be discussed in terms of a balance between the three “E’s” (Environment, Economy and Energy). 3E’s should not be discussed separately.

As you well know, CO² emission is the other side of energy use and is inseparable from the daily activity of human beings.

For this very reason, it would be enormously gratifying to me if you would share with me the importance of assuring the advancement of emission reduction, not by upholding politically ambitious target, or practically illusory targets, but by solid technology-based endeavors and framework that enables us to prompt technical innovation and promote prevailing those technologies worldwide to reduce CO² emission substantially.

Thank you for your kind attention.