

President's Message



In addition to helping to combat global warming by building the infrastructure for energy sources such as hydroelectric power and nuclear power, developing alternative energies, optimizing the transportation system, optimizing the planning and design of facilities, and extending the lifespan of structures, it is also necessary for the civil engineers to contribute to the realization of a disaster-resistant society that is prepared to deal with rising sea levels and increasingly severe weather patterns as a result of global warming. "JSCE Agenda 21" was adopted by JSCE in 1994, two years after the Earth Summit (United Nations Conference on Environment and Development) was held in Rio de Janeiro. This document includes the following statement regarding the principles of action to be followed by civil engineers with regard to issues of the global environment, including global warming.

JSCE Agenda 21

1. Recognition of Global Environmental Issues and Self-Development

First of all, we will respect interdependence and diversity in the earth's ecosystems, as a foundation for human life. In order to ensure the right of future generations and to share the earth's environment, we have to undertake development in keeping with the concept of sustainability. This means that we must switch from development based solely on short-term objectives, and must stop wasting resources and energy. It is also important to search for a new and more appropriate sense of value and lifestyle by understanding the need to change them.

Civil engineering projects can contribute greatly to the welfare of human beings and the global environment over generations. If the direction is inappropriate, however, they will result in destructive effects to the environment. Therefore, we have to recognize that civil engineers bear a great responsibility to contribute to global environmental issues. For large-scale civil engineering projects, in particular, it is necessary to understand that projects often have complex environmental and social consequences, and that, if short-term economic merits are pursued by ignoring the degradation of environmental quality, it will result in severe economic losses in the longer term.

With such understanding in mind, we have to pay attention to global environmental issues, collect the required data, support environmental education at various levels and promote our own enlightenment. In addition, we must understand that global environmental issues have complex relationships with a variety of fields. This should lead us to exchange options and collaborate with people from other fields and disciplines in order to achieve sustainable development.

The members of JSCE are expected to follow the principles shown below in undertaking civil engineering works:

We have to make efforts to minimize the consumption of non-renewable energy, and, at the same time, to recycle and reuse renewable resources such as wood. Furthermore, it is desirable to assess the environmental effects throughout all the stages of a project, from planning to maintenance, and to use the results as a basis to judge for the appropriateness of the project.

We should incorporate into the economic evaluation of projects, both losses due to the deterioration of the environment and the benefits produced by environmental improvements. Further, we should evaluate both sides of the effects of construction works on our society and historical heritage, and, if adverse effects are predicted, we will try to implement mitigative measures.

We will be honest in recognizing the environmental problems caused by construction works, and be serious in taking the relevant measures to prevent them. In addition to providing related information to the public, we will try to enhance the understanding, participation, and support of citizens with regard to civil engineering projects.

(Quoted from JSCE Agenda 21. The entire text may be viewed at <http://www.jsce-int.org/>.)

This is the final report of the Special Committee for Action Plans Against Global Warming, which was established by JSCE for the time period of FY 2007-2008. In accordance with the principles of action described above, the purpose of this report is to present an overview of the latest knowledge, especially in relation to civil engineering, concerning the predicted effects of climate change, rising sea levels, and so on, adaptation measures to reduce damage from those effects on aspects such as shore erosion and flooding, and steps to reduce greenhouse gas emissions as measures expected of civil engineers to mitigate global warming; and to delineate the future course of action to be taken by civil engineers with regard to global warming. It is my hope that not only JSCE members but everyone connected to civil engineering will recognize the important responsibility of the civil engineers to combat global warming, and that they will develop a keen interest and become actively involved in this endeavor.

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栢原 英郎

Hideo Kayahara, 96th President of JSCE