

Guidelines to Practice Under the Fundamental Canons of Ethics

CANON 1.

Engineers shall hold paramount the safety, health and welfare of the public and shall strive to comply with the principles of sustainable development in the performance of their professional duties.

- a. Engineers shall recognize that the lives, safety, health and welfare of the general public are dependent upon engineering judgments, decisions and practices incorporated into structures, machines, products, processes and devices.
- b. Engineers shall approve or seal only those design documents, reviewed or prepared by them, which are determined to be safe for public health and welfare in conformity with accepted engineering standards.
- c. Engineers whose professional judgment is overruled under circumstances where the safety, health and welfare of the public are endangered, or the principles of sustainable development ignored, shall inform their clients or employers of the possible consequences.
- d. Engineers who have knowledge or reason to believe that another person or firm may be in violation of any of the provisions of Canon 1 shall present such information to the proper authority in writing and shall cooperate with the proper authority in furnishing such further information or assistance as may be required.
- e. Engineers should seek opportunities to be of constructive service in civic affairs and work for the advancement of the safety, health and well-being of their communities, and the protection of the environment through the practice of sustainable development.
- f. Engineers should be committed to improving the environment by adherence to the principles of sustainable development so as to enhance the quality of life of the general public.

In November 1996, the ASCE Board of Direction adopted the following definition of Sustainable Development: "Sustainable Development is the challenge of meeting human needs for natural resources, industrial products, energy, food, transportation, shelter, and effective waste management while conserving and protecting environmental quality and the natural resource base essential for future development."

The Role of the Civil Engineer in Sustainable Development

ASCE Policy Statement 418

Approved by the Committee on Sustainability on June 17, 2004

Approved by the National Infrastructure and Research Policy Committee on July 20, 2004

Approved by the Policy Review Committee on July 23, 2004

Adopted by the Board of Direction on October 19, 2004

Policy

Sustainable Development is the challenge of meeting human needs for natural resources, industrial products, energy, food, transportation, shelter and effective waste management while conserving and protecting environmental quality and the natural resource base essential for future development.

The American Society of Civil Engineers (ASCE) recognizes the leadership role of engineers in sustainable development, and their responsibility to provide quality and innovation in addressing the challenges of sustainability. The ASCE Code of Ethics requires civil engineers to strive to comply with the principles of sustainable development in the performance of their professional duties. ASCE will work on a global scale to promote public recognition and understanding of the needs and opportunities for sustainable development.

Issue

The demand on natural resources is fast exceeding supply in the developed and developing world. Environmental, economic, social and technological development must be seen as interdependent and complementary concepts, where economic competitiveness and ecological sustainability are complementary aspects of the common goal of improving the quality of life.

Sustainable development requires strengthening and broadening the education of engineers and finding innovative ways to achieve needed development while conserving and preserving natural resources.

To achieve these objectives, ASCE supports the following implementation strategies:

- Promote broad understanding of political, economic, social and technical issues and processes as related to sustainable development.
- Advance the skills, knowledge and information to facilitate a sustainable future; including habitats, natural systems, system flows, and the effects of all phases of the life cycle of projects on the ecosystem.
- Advocate economic approaches that recognize natural resources and our environment as capital assets.
- Promote multidisciplinary, whole system, integrated and multi-objective goals in all phases of project planning, design, construction, operations, and decommissioning.
- Consider reduction of vulnerability to natural, accidental, and willful hazards to be part of sustainable development.
- Promote performance based standards and guidelines as bases for voluntary actions and for regulations, in sustainable development for new and existing infrastructure.

Rationale

Engineers have a leading role in planning, designing, building and ensuring a sustainable future. Engineers provide the bridge between science and society. In this role, engineers must actively promote and participate in multidisciplinary teams with other professionals, such as ecologists, economists, and sociologists, to effectively address the issues and challenges of sustainable development.