



Engage Engineers in Decision-making

Encouraging engineers to become actively engaged in the full range of decision-making processes, in addition to performing projects, can make projects more efficient and effective.

Frequently, engineers will limit their activities to providing technical advice or planning on projects. However, many vital projects face severe delays or cancellation due to opposition from well-intentioned non-governmental organizations or poorly informed politicians. Engineers can help direct the course of important projects-and foster sustainable development--by involving themselves in all stages of a project's decision-making.

Engineers can become involved in local and regional civic activities as volunteers where their knowledge may be vital to sound decisions. If planning studies on projects are properly evaluated, the engineers can seek out different stakeholders, identify their concerns, if any, and incorporate them into the project. Open discussions with concerned stakeholders can be very helpful even before project feasibility studies and environmental impact studies are completed.

As the project develops, the engineer should not shy away from public hearings and should be willing to get involved in resolving controversy. Even during construction and operations of completed projects, the engineer should be sensitive to concerns and disputes and offer to provide object advice whenever it would be constructive.

In a recent speech given in September 2001, Maurice Strong outlined what he believes must be achieved at the 2002 Johannesburg World Summit for Sustainable Development. Engineers can make major contributions to many of his points. His speech is available at <http://www.unu.edu/interlink/papers/Strong.doc> In addition, at the annual conference of FIDIC in 2000, Mr. Strong gave a speech that strongly supported engineers.

1972

United Nations Conference on Human Environment held in Stockholm

The first major meeting to look at how human activity was affecting the environment. The conference is rooted in the regional pollution and acid rain problems of northern Europe. This eco-agenda is opposed by the Group of 77 and the Eastern bloc. Nevertheless, it provides the first international recognition of environmental issues. The concept of sustainable development is cohesively argued to present a satisfactory resolution to the environmental vs. development dilemma. The conference leads to the establishment of numerous national environmental protection agencies and the United Nations Environment Programme (UNEP).

The Stockholm Declaration. A declaration highlighted problems of pollution, destruction of resources, damage to the environment, danger to species and the need to enhance human social well being. The conference acknowledged the need for countries to improve the living standards of their population and stated twenty six principles that would ensure the development was sustainable.

1984

- **Worldwatch Institute publishes its first State of the World Report.** The report monitors changes in the global resource base, focusing particularly on how changes there affect the economy. It concludes that "we are living beyond our means, largely by borrowing against the future."

1987

- **"Our Common Future" (Brundtland Report) published.** It ties problems together and, for the first time, gives some direction for comprehensive global solutions. It also popularizes the term "sustainable development".

1991

World Federation of Engineering Organizations (WFEO) meets in Arusha, Tanzania.

Adopted the Arusha Declaration (developed from a study of **Our Common Future**, the report of the **World Commission on Environment and Development**) and other documents.) *This declaration provided helpful guidelines that could be used by engineers in their projects.*

1992

Engineering groups thought Agenda 21 was weak on engineering. **World Federation of Engineering Organizations (WFEO)**, the **International Federation of Consulting Engineers (FIDIC)**, <http://www.fidic.com/resources/sustainability>) and the **International Union of Technical Associations (UATI)**, <http://www.unesco.org/uati>) decided to partner during the final meetings of the UN Delegation to the Rio Summit. They formed the **World Engineering Partnership for Sustainable Development (WEPSD)**.

United Nations Conference on Environment and Development (known as the Rio Earth Summit)

More than 100 countries participate. Several major agreements were made:
The Convention on Climate Change - limits emissions of the greenhouse gases carbon dioxide (CO₂) and methane (CH₄).

The Convention on Biological Diversity - gives countries responsibility for conserving species diversity and using biological resources in a sustainable way.

The Rio Declaration and the Forest Principles - sets out the principles of sustainable development and pledges to reduce deforestation.

Agenda 21 - a plan for achieving sustainable development in the 21st century. It proposes that poverty can be reduced by giving people access to the resources they need to support themselves. Developed nations agreed to assist others to develop in a way that will minimize the environmental impact of their economic growth.

Agenda 21 calls on countries to reduce pollution, emissions and the use of precious natural resources. Governments need to lead this change but emphasizes that everyone can play their part in tackling non-sustainable practices. In this way, local actions can lead to the solution of global problems.

1993

Eminent engineers, scientists and environmental non-governmental organizations meet at the United Nations headquarters to review high-priority needs and to possible action programs.

1. World Engineering Partnership for Sustainable Development (WEPSD) solidified and many engineering societies also formed environmental committees at both national and global levels.
2. Many engineering organizations developed environmental policies, codes of ethics and sustainable development guidelines.
3. Engineering groups contributed to the creation of the Earth Charter.
4. Engineers interacted with the **United Nations Commission on Sustainable Development (UNCSD)**.
5. Engineers worked with scientists to make major breakthroughs in computer technology and communication networks.
6. Educational programs were started to introduce sustainable development concepts to engineering students and practicing engineers.

1997

Rio+5 Conference

Governments met in Kyoto, Japan to once more look at the problem of global warming. Previous agreements had tried to limit emissions of carbon dioxide to the levels they were in 1990. Many countries had failed to achieve even this small reduction. The UK and Germany met these targets.

A new set of targets for the reduction of greenhouse gases was agreed. By 2012, emissions of six major greenhouse gases must be reduced to below 1990 levels for the target period 2008-2012.

World Federation of Engineering Organizations (WFEO) and International Federation of Consulting Engineers (FIDIC) collaborated in developing a report for the Rio + 5 conference, The Engineer's Response to Sustainable Development published by WFEO in February 1997

2002

World Summit on Sustainable Development (WSSD) held in Johannesburg, South Africa in 2002. "Rio+10"

The conference focused on poverty and the access to safe drinking water and sanitation. It agreed several aims, including:

- To reduce the number of people not connected to clean drinking water supplies from over 1 billion to 500 million by the year 2015.
- To halve the number of people without proper sanitation to 1.2 billion.
- To increase the use of sustainable energy sources and restore depleted fish stocks.

Many environmental groups protested at the lack of progress since the Rio summit in 1992. Politicians pointed out that the summit had moved on from issues like biodiversity and climate change to tackling poverty and poor living conditions.

Engineers and scientists agreed to be represented jointly at the WSSD. This includes the preparation of a joint paper entitled Role and Contributions of the Scientific and Technological Community to Sustainable Development

(Word, 95KB).

Summary of Engineers' Organizations: The primary global organizations representing professional engineers are the World Federation of Engineering Organizations (WFEO), the International Union of Technical Associations (UATI, <http://www.unesco.org/uati>), the International Federation of Consulting Engineers (FIDIC, <http://www.fidic.com/resources/sustainability>) and the International Council of Academies of Engineering and Technological Sciences (CAETS, <http://www.atse.org.au/international/caets.htm>). In addition, many engineers are employed by the companies that constitute the World Business Council for Sustainable Development (WBCSD, <http://www.wbcd.ch>).