

## The 1993 Blue Planet Prize: Its Two Awards

The Asahi Glass Foundation (Chairman, Hideaki Yamashita) has selected the winners of the 2nd Blue Planet Prize, a dual international award established in April 1991 by the Foundation to commend individuals and institutions whose achievements have contributed effectively to the solving of environmental problems.

*The Blue Planet Prize Academic Award*, which recognizes truly outstanding research achievements, is awarded to Dr Charles David Keeling, of the Scripps Institution of Oceanography at the University of California, San Diego. Dr Keeling has conducted pioneering research into atmospheric and oceanic carbon dioxide levels, as well as the global carbon dioxide cycle.

*The Blue Planet Prize Development and Implementation Award*, which acknowledges active involvement in, and exceptional contributions to, solving global environmental problems, is awarded to the International Union for Conservation of Nature and Natural Resources, today known more generally as IUCN: The World Conservation Union, an independent, international organization that has achieved eye-opening results in conserving Nature and biological diversity over some 45 years. In addition to world-wide public recognition, each winner receives ¥50 millions. Also, an awards ceremony and a symposium to commemorate the occasion is being held in Tokyo during 2–3 November 1993.

Dr Charles David Keeling was the first to realize the importance of the scientific measuring of atmospheric carbon dioxide levels. He began precise examinations in 1958, using non-dispersive infrared analysis at the Mauna Loa Observatory in Hawaii. Continuing his observations and analyses for over 30 years, Dr Keeling has now amassed a priceless body of data that is of great use to the scientists of the world. His careful, long-term measurements of atmospheric carbon dioxide levels constitute scientific data that are practically indispensable to discussions of the global warming problem today. Since 1968, Dr Keeling has been Professor of Oceanography at Scripps Institution of Oceanography, University of California at San Diego.

IUCN: The World Conservation Union was founded in 1948\* and strives to conserve Nature and biological diversity for future generations. This independent, international organization fulfills a leadership role in the formulation of solutions to environmental problems and methods for their implementation, as well as in the distribution of information based on scientific analysis and monitoring. IUCN is a union of over 770 corporate members, including 62 governments, some 100 governmental agencies, and over 600 nongovernmental organ-

\* As the International Union for Protection of Nature (IUPN). — Ed.



FIG. 1. Dr Martin W. Holdgate, Director-General (third person from left, standing in front), with some Staff of IUCN — The World Conservation Union — outside the main entrance to their new World Headquarters at Gland.

izations and affiliates from around the world. In addition, over 6,000 scientists and other experts participate in a volunteer network of commission members etc. spanning important conservation and development disciplines. IUCN's achievements include the formation of global conservation strategies; playing a major role in important international agreements, such as the World Heritage Convention (natural sites) and the Ramsar Convention (wetlands); planning and executing projects in cooperation with local governments; setting up and managing comprehensive environmental databases; and production of an extensive series of scientific and technical publications. IUCN headquarters are located in Switzerland at Gland in the Canton of Vaud. Dr Martin W. Holdgate is currently the Director-General (Fig. 1).

The selection process for the two award-winners began in August 1992, when approximately 2,200 nominators, 950 of whom were from 67 countries besides Japan, nominated 44 candidates for the Academic Award and 68 candidates for the Development and Implementation Award. In addition to holding a number of meetings of the Selection Committee, we solicited the opinions of overseas advisers, thus ensuring impartiality. The final results were decided at the Board of Directors' meeting in May, in consultation with the six directors of the Presentation Committee.

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## Fondazione ENI Enrico Mattei

Growing recognition of the importance of research in the environmental field led the ENI Group, the Italian public energy and chemical company, to establish in 1989 Fondazione ENI Enrico Mattei, a non-profit, non-partisan institution. Since it became operational in 1990, the Fondazione has pursued, as its main objective, research on the relationship between energy, the environment, and economics/economic development. The wide range of

activities undertaken so far share some common features. Thus they have an international dimension, as in 1992, out of about 140 specialists associated with our activities, 70% belonged to foreign universities and research centres or groups. Continuous cooperation between the Fondazione and foreign researchers is ensured, among other circumstances, through the organization of various conferences and workshops. In 1992, eight major meetings were or-

ganized, each gathering together more than one hundred experts. The Fondazione also hosts the Secretariat of the European Association of Environmental and Resource Economists (EAERE). The results of the Fondazione's research activities are presented and discussed during the meetings that we organize as well as at other international conferences.

The international dimension is also exemplified by active involvement of the Fondazione in such events as the Rio '92 UNCED 'Earth Summit' as well as several UN, OECD, and EC, working groups. Finally, communication with the international community is pursued through publications. The editorial activities include publication of books, working papers, and a quarterly *Newsletter* as well as articles in major national and international periodicals.

Another common feature results from the interaction between academic research, other research bodies (such as the Italian statistical office), private business, and public policy-making institutions among which are the Ministry of the Environment, the Ministry of Industry, and other national Ministries, as well as other bodies at the international level.

To date, the Fondazione has engaged in six main projects which are now briefly described. The project on Environmental Accounts involves the development of a

scheme of environmental statistics applicable at both the individual firm and national levels. The second project comprises widely-ranging research on Energy and Environmental Policies, which includes studies on international coordination of environmental policies for the protection of the environment at the global level, regulatory policies regarding transboundary pollutants, and the formulation of a model for the quantitative evaluation of the effects of energy and environmental policies on macroeconomic variables, energy markets, and pollution levels. Thirdly, the 'Mediterranean Countries' project is organized under the two main headings of energy *per se* and socio-economic aspects (such as migrations, trade, fiscal and budgetary policies, and changes in socio-political structures). A computer support system has been designed and implemented to assist researchers in the area of Environmental Impact Assessment. Two other major areas of research are waste management and sustainable development, which make up the total of six.

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### US National Pollution Prevention Center for Higher Education

**I**nnovative companies of today recognize the value and importance of pollution prevention. Preventing the creation of pollution at its source, rather than treating it further downstream, is more logical, efficient, and cost-effective, than past emphasis on end-of-pipe practices. The US Environmental Protection Agency (EPA) recognizes the effectiveness of pollution prevention; its administrator, Carol Browner, has targeted pollution prevention as a key environmental policy of the Agency.

#### *NPPC — a Collaborative Effort*

Prompted by a need expressed by a group of industrial leaders, the EPA created the National Pollution Prevention Center (NPPC) to foster pollution prevention within society's educational systems and ultimately throughout many other sectors of society. The EPA selected the University of Michigan in 1991 to serve as the base for the NPPC which will collect, develop, and disseminate, educational materials on pollution prevention for higher education. The NPPC represents a collaborative effort between various sectors of society — business and industry, government, non-profit organizations, and academia.

The NPPC defines pollution prevention as reducing hazardous or obnoxious waste generation *at its source, through careful use of materials and processes*. Included in this definition are resource and energy conservation as well. The NPPC's pollution prevention modules are based on the product life cycle framework. This life cycle framework considers the environmental consequences of all activities, from raw-materials' extraction to manufacturing, distribution, use-resource recovery, and disposal.

#### *Educational Resources Development*

The educational resources produced by the Center, called modules, describe core concepts in pollution prevention for a variety of disciplines. These sets of instruc-

tions and materials offer a spectrum of resources from which faculty members can draw information to help them to incorporate pollution prevention theory into their courses. Modules include, but are not limited to: annotated bibliographies, case-studies, engineering design problems, problem sets, journal articles, and a list of key personnel and programmes from around the world. In addition to this listing, module summaries also provide background information on pollution prevention, an overview of pollution prevention activities across disciplines, and details of the applications of pollution prevention to the module discipline.

The NPPC currently has module summaries available in accounting, business law, industrial and operations engineering, and chemical engineering. The Center is also working on modules in architecture, chemistry, civil/environmental engineering, corporate strategy, industrial design, operations management, and marketing. Examples of some of the documents which the Center has produced include a hazardous-waste minimization case-study at International Business Machines (IBM) which has proved useful for both corporate strategy and operations management courses. This case-study and accompanying teaching note together describe an IBM project to minimize the use of ferric chloride and develop a process to regenerate the ferric chloride solution in typewriter manufacturing. Another case that we have developed describes and discusses the joint McDonald's/Environmental Defense Fund (EDF) cooperative project on waste-source reduction at McDonald's. Case A addresses this project in general terms, while Case B focuses on McDonald's decision to change from polystyrene packaging to paper-wrap.

#### *Non-ozone-depleting Refrigerator*

In the field of Chemical Engineering, the NPPC has developed a design case which challenges students to use