THE ASAHI GLASS FOUNDATION
Bank of Tokyo Bldg 12F. 1-4-2, Marunouchi, Chiyoda-ku, Tokyo 100, Japan
Phone 03-3285-0591 Fax 03-3285-0592

1993 Blue Planet Prize: Announcement of Award Winners

Tokyo July 28, 1993 -- The Asahi Glass Foundation (Chairman Hideaki Yamashita) has selected the winners of the 2nd Blue Planet Prize, an international award established in April 1991 by the Foundation to commend individuals and institutions whose achievements have contributed to solving environmental problems.

The Blue Planet Prize Academic Award, which recognizes truly outstanding research achievements, was 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, was 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 for over 40 years. In addition to public recognition, each winner will receive ¥50 million. Also, an awards ceremony and a symposium to commemorate the occasion will be held in Tokyo on November 2 and 3, 1993.

Dr. Charles David Keeling was the first to realize the importance of scientific measuring of atmospheric carbon dioxide levels. In 1958, he began precise examinations using nondispersive 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 documentation of atmospheric carbon dioxide levels is scientific data indispensable to discussions of the global warming problem today. Since 1968, Dr. Keeling has been Professor of Oceanography at the Scripps Institution of Oceanography at the University of California, 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 members, including 62 governments, some 100 governmental agencies, and over 600 nongovernmental organizations and affiliates from around the world. In addition, over 5,000 scientists and experts participate in a volunteer network 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. Dr. Martin Holdgate is presently the director general, and Sir Shridath Ramphal is the president.

The selection process for the two prizewinners 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.

Dr. Keeling was chosen as the recipient of the Academic Award for the following reasons: (1) His research on the global warming is an often quoted, thoroughly researched and very distinguished achievement, and the quality of the data is unsurpassed. (2) A pioneer in the precise measurement of carbon dioxide gas levels, Dr. Keeling established the scientific methods used in such measurements and analyses. (3) The body of data scientifically collected by Dr. Keeling over a period of 30 years is priceless, and the single-minded perseverance and attainment of such an ambitious goal is valued. (4) We admire and respect the precision of Dr. Keeling's achievement in refining the atmospheric model.

IUCN – the World Conservation Union was chosen as the recipient of the Development and Implementation Award for the following reasons: (1) IUCN achievements in conserving nature and biological diversity, as well as developing strategies to solve environmental problems in many

locations worldwide, are recognized as the best in the field. (2) IUCN has played a major role in the development and operation of international treaties and legislation, such as those mentioned above, as well as CITES and the Biodiversity Convention. (3) IUCN publications such as the *Red Data Books*, which list species on the brink of extinction, and the *World Conservation Strategy* and *Caring for the Earth* are scientifically grounded and have greatly influenced governments and NGOs throughout the world. (4) IUCN maintains close working relationships with the United Nations system, national governments and NGOs, demonstrating true leadership while maintaining neutrality. IUCN has therefore won the trust and respect of the world community.

The Blue Planet Prize was established in 1991 by the Asahi Glass Foundation to symbolize our sincere appreciation and our common desire and recognition that environmental issues are primary among the world's present concerns. It is an international prize awarded to those individuals and organizations working to solve environmental problems. The Blue Planet Prize is the largest international prize recognizing environmental research and related activities and comprises two annual awards, the Academic Award and the Development and Implementation Award. The Academic Award recognizes outstanding research results, while the Development and Implementation Award endorses contributions to environmental conservation and raising environmental consciousness through practical programs and activities. Each award includes a certificate of merit, a commemorative gift and a supplementary prize of ¥50 million.

The Blue Planet Prize candidates have been selected from a group of nominees who have made significant contributions to the harmonious development of society and mankind with the global environment. Each year, prizewinners are chosen from candidates who have conducted influential research or implemented environmental actions such as conservation projects and awareness programs. The Blue Planet Prize is awarded in 1993 for the second time.

In case of further inquiries, contact:
Hiroya Hirano
The Asahi Glass Foundation
Bank of Tokyo Building 12F
1-4-2 Marunouchi
Chiyoda-ku, Tokyo 100 Japan
Tel. (03) 3285-0591 / Fax: (03) 3285-0592

Profile of the Winner of the 1993 Blue Planet Prize Academic Award

Dr. Charles David Keeling

Dr. Charles David Keeling is an earth scientist who has conducted pioneering research into carbon dioxide levels of the atmosphere and ocean, as well as the global carbon dioxide gas cycle. The first to recognize the importance of scientifically measuring atmospheric carbon dioxide levels, Dr. Keeling in 1958 began precise measurements using nondispersive infrared analysis at the Mauna Loa Observatory in Hawaii and started atmospheric observation at the South Pole. Continuing his research for more than 30 years, Dr. Keeling has amassed a great deal of useful data. This long record of atmospheric carbon dioxide levels has provided the international scientific community with an invaluable body of data that today provides the basis for an ongoing discussion of global warming.

Born in 1928 in Scranton, Pennsylvania, Dr. Keeling received his undergraduate degree from the University of Illinois. In 1954, he earned his doctorate from Northwestern University. Dr. Keeling joined the Scripps Institution of Oceanography at the University of California, San Diego, in 1956 and became the Professor of Oceanography in 1968, a title which he holds to this day.

Major Activities and Achievements

- 1979 Co-Convener with B. Bolin, University of Stockholm, Sweden
  Modeling of the Global Carbon Cycle
- 1981 Co-Convener with G. Pearman, CSIRO
  Meeting on Instruments, Standardization and Measurement Techniques for Atmospheric CO_2
- 1981 Co-Convener with H. Oeschger, University of Bern, and K. Hanson, NOAA
  Conference on Analyses and Interpretation of Atmospheric CO_2 Data
- 1984 Co-Convener with C. S. Wong, Institute of Ocean Sciences, Sydney, Australia
  Second Meeting of Working Group 75 on Oceanic CO_2 Measurements
- 1985 Co-Convener with U. Siegenthaler, University of Bern, Switzerland
  International Conference on Carbon Dioxide, its Sources, Sinks and Global Transport
  Guest editor of special issue of *Tellus*, which presented the results of this conference
- 1985 Co-Convener with C. S. Wong, Institute of Ocean Sciences, Sydney, Australia
  Third Meeting of Working Group 75 on Oceanic CO_2 Measurements
- 1987-89 Marine Chemistry Seminar Series Coordinator, SIO, UCSD

- 1989 Associate Editor of *Geophysical Monograph 55*, American Geophysical Union

- 1989 Member of Program Committee for Third International Atmospheric CO_2 Conference

- 1976-92 Scientific Director of the Central CO_2 Laboratory of the World Meteorological Organization

- 1988-92 Member of the CO_2 Panel of the Ocean Science Board of the National Academy of Sciences

Major Awards and Honors

- 1991 Maurice Ewing Medal, American Geophysical Union

- 1990 Fellow, American Association for the Advancement of Science

- 1986 Fellow, American Academy of Arts and Sciences

- 1980 Second Half Century Award of the American Meteorological Society

- 1969-70 Guest Professor at Zweiten Physikalisches Institut of the University of Heidelberg, Germany

- 1961-62 Guggenheim Fellow, Meteorological Institute, University of Stockholm, Sweden

Major Publications

- C. D. Keeling, "The Concentration and Isotopic Abundances of Carbon Dioxide in Rural and Marine Air," *Geochimica et Cosmochimica Acta*, Vol. 24, pp. 277-298 (1961)

- B. Bolin and C. D. Keeling, "Large-Scale Atmospheric Mixing as Deduced from the Seasonal and Meridional Variations of Carbon Dioxide," *Journal of Geophysical Research*, Vol. 68, pp. 3899-3920 (1963)

- C. D. Keeling and B. Bolin, "The Simultaneous Use of Chemical Tracers in Oceanic Studies II. A Three-Reservoir Model of the North and South Pacific Oceans," *Tellus*, Vol. 20, pp. 17-54 (1968)

- C. D. Keeling, "The Carbon Dioxide Cycle: Reservoir Models to Depict the Exchange of Atmospheric Carbon Dioxide with the Oceans and Land Plants," chapter 6 in *Chemistry of the Lower Atmosphere*, S. I. Rasool, editor, Plenum Press, New York, pp. 251-329 (1973)

- C. D. Keeling, R. B. Bacastow, A. E. Bainbridge, C. A. Ekdahl, Jr., P. R. Guenther, L. S. Waterman and J. F. S. Chin, "Atmospheric Carbon Dioxide Variations at Mauna Loa Observatory, Hawaii," *Tellus*, Vol. 28, pp. 538-551 (1976)

- W. G. Mook, M. Koopmans, A. F. Carter and C. D. Keeling, "Seasonal, Latitudinal, and Secular Variations in the Abundance and Isotopic Ratios of Atmospheric Carbon Dioxide 1. Results from Land Stations," *Journal of Geophysical Research*, Vol. 88, pp. 10915-10933 (1983)

• C. D. Keeling, R. B. Bacastow, A. F. Carter, S. C. Piper, T. P. Whorf, M. Heimann, W. G. Mook and H. Roeloffzen, "A Three-Dimensional Model of Atmospheric CO_2 Transport Based on Observed Winds: 1. Analysis of Observational Data," in *Aspects of Climate Variability in the Pacific and the Western Americas*, edited by D. H. Peterson, American Geophysical Union, Washington, D.C., pp. 165-236 (1989)

• M. Heimann and C. D. Keeling, "A Three-Dimensional Model of Atmospheric CO_2 Transport Based on Observed Winds: 2. Model Description and Simulated Tracer Experiments," in *Aspects of Climate Variability in the Pacific and the Western Americas*, edited by D. H. Peterson, American Geophysical Union, Washington, D.C., pp. 237-275 (1989)

• M. Heimann, C. D. Keeling and C. J. Tucker, "A Three-Dimensional Model of Atmospheric CO_2 Winds: 3. Seasonal Cycle and Synoptic Time Scale Variations," in *Aspects of Climate Variability in the Pacific and the Western Americas*, edited by D. H. Peterson, American Geophysical Union, Washington, D.C., pp. 277-303 (1989)

• C. D. Keeling, S. C. Piper and M. Heimann, "A Three-Dimensional Model of Atmospheric CO_2 Transport Based on Observed Winds: 4. Mean Annual Gradients and Interannual Variations," in *Aspects of Climate Variability in the Pacific and the Western Americas*, edited by D. H. Peterson, American Geophysical Union, Washington, D.C., pp. 305-363 (1989)

Profile of the Winner of the 1993 Blue Planet Prize Development and Implementation Award

IUCN – The World Conservation Union*

IUCN – The World Conservation Union is an independent, international membership organization committed to conserving the natural environment for future generations. Established in 1948, IUCN has achieved a leadership role in environmental conservation by offering practical solutions and policies based on results of scientific monitoring and analysis and field experience. The organization also actively disseminates important knowledge about the sustainable use of the world's natural resources. Its 773 members include 62 sovereign states, some 100 governmental agencies, and more than 600 nongovernmental organizations and affiliates. IUCN uses this influential network to help conserve biological diversity and promote the appropriate and wise utilization of global resources. These efforts are guided by the central idea that human society should develop in harmony with nature.

An unusual and powerful feature of IUCN is its Commissions, linking more than 5,000 scientists and experts from all over the world who volunteer their time to these unique groups, which focus on six major themes: species survival, national parks and protected areas, environmental law, ecology, environmental planning, and education.

IUCN's achievements include developing strategies for conserving the global environment; playing a major role in the development and operation of international treaties and legislation, such as those for the Biodiversity, the Ramsar (wetlands) and the World Heritage (natural sites) conventions; planning and executing projects in cooperation with individual governments; setting up and managing comprehensive environmental databases; and producing an extensive series of authoritative scientific, technical and practical publications such as the *Red Data Books*, *World Conservation Strategy* and *Caring for the Earth*. Thus, IUCN has attained outstanding results in a wide range of fields.

IUCN is headquartered in Switzerland. Dr. Martin Holdgate is presently the director general, and Sir Shridath Ramphal is the president.

---

* Formerly known as International Union for Conservation of Nature and Natural Resources

Major Activities and Achievements:

• **Strategy Development,** including

- **The World Conservation Strategy:** developed in partnership with UNEP and WWF, and launched in 1980, this strategy pioneered the concept of conservation as an essential foundation for development. It laid down three principles: ecological life-support systems must be maintained; genetic diversity must be preserved; and any use of species and ecosystems must be sustainable. Since 1980, the WCS has been tested by the preparation of national and subnational strategies in over 50 countries.

- **Caring for the Earth: A Strategy for Sustainable Living:** launched in late 1991 by the same partnership as the World Conservation Strategy, "Caring for the Earth" follows up but goes beyond the first strategy, detailing the principles and specific actions required to achieve a sustainable society. It now forms the basis for IUCN's worldwide program.

- Others include **A Strategy for Antarctic Conservation** (1991) and **Global Biodiversity Strategy** (with WRI, UNEP, FAO and UNESCO).

• **The Development and Operation of Conservation Treaties and Legislation** - IUCN has led in the development of the conventions on World Heritage, International Trade in Endangered Species (CITES), the Conservation of Migratory Species (Bonn), the ASEAN and African agreements on the Conservation of Nature and Natural Resources (Kuala Lumpur and Algiers) and the Convention on Wetlands of International Importance (Ramsar). IUCN continues to contribute actively to these, as well as to the development of the Biodiversity Convention and associated follow-up work.

• **Building Partnerships, Networks and Local Capacity** - IUCN is the only forum in the field of conservation and development where governments and non-governmental organizations may meet on an equal footing to discuss these critical issues. This cooperation goes beyond just discussion, into project design, pilot projects and on-the-ground fieldwork, in collaboration with members, helping them build the skills for sustainability. Additionally, IUCN groups over 5,000 voluntary experts in its six Commissions, linked to the main areas of its program. These evaluate conservation needs, priorities and opportunities, and prepare action plans on a scale the secretariat of IUCN alone could not hope to match. The Union also works closely with the UN system and the major multilaterals.

• **Providing International Forums** - IUCN's triennial General Assembly is probably the largest regularly held conservation and development meeting, giving members the chance to debate and agree on action on critical issues. The next General Assembly will be held in Buenos Aires in January 1994. IUCN organizes other important meetings, such as the once-a-decade World Congress on National Parks and Protected Areas (the fourth held recently in Caracas, Venezuela, in February 1992) and regular workshops on other issues central to the IUCN program.

• **Establishment and Management of Unique Databases** - particularly via the Environmental Law Centre in Bonn and (with UNEP and WWF) the World Conservation Monitoring Centre in Cambridge, U.K. These sources now include details of over 12,500 protected areas, over 80,000 species of plants and animals of conservation importance, over 800,000 details of trade in wild species and 31,000 laws and administrative instruments from around the world.

• **Production and Distribution of Authoritative Publications** - based on research, analysis and input from IUCN's international scientific networks, as well as empirical findings from field projects. Major titles and categories are mentioned below.

Major Publications:

• *The World Conservation Strategy* and *Caring for the Earth* (both with UNEP/WWF)

• *Global Biodiversity Strategy* (with WRI, UNEP, FAO and UNESCO) and *Global Biodiversity - Status of the Earth's Living Resources* (compiled by WCMC)

• The *Red Data Book* series, on the status and conservation needs of endangered species;

• The *UN List of National Parks and Protected Areas*

• Conservation Atlases, both technical (on tropical forests of the world, in association with publishers Macmillan) and popular reference (in association with publishers Mitchell Beazley) covering rain forests, oceans, deserts and wetlands of the world

• Handbooks, Management Guides and Environmental Profiles, across major themes and regions

Message from
Dr. Charles David Keeling

"I am deeply honored to have been chosen as the recipient of the second Blue Planet Prize Academic Award by the Asahi Glass Foundation. It is especially gratifying that my life work on atmospheric carbon dioxide should be honored by an organization that reflects the pursuit of applied chemistry, my chosen field of study.

"Indeed, I began my career as an inorganic chemist with no expectation that I would later on apply my knowledge of chemistry to environmental problems. I suppose that the Asahi Glass Company when they first applied chemistry to the manufacture of glass, likewise had no expectation that they would become interested in environmental issues or that they would create a Foundation dedicated to the earth's environment as a primary focus.

"A general interest in geochemistry first led me to study atmospheric carbon dioxide. Only later did I incidentally find that the concentration of carbon dioxide was increasing over our whole earth, year by year, and was becoming a serious problem needing attention beyond the purely academic pursuit of scientific knowledge. Very likely, those in the Asahi Glass Company who decided to create a foundation, and those in the Foundation who decided to create a prize for the study of environmental issues, similarly developed only gradually the concern that we now share, that peoples of all countries understand better how we are altering our planet on a global scale as world population and industrial activity increase.

"By its concern for the environment, Asahi Glass underscores how industry, as well as private individuals, is now joining in a worldwide effort to assure that our planet will permanently remain truly livable. It is with great pleasure that I accept your prize by joining you in trying to assist in this effort to preserve the Blue Planet."

Message from
IUCN – The World Conservation Union

"IUCN, The World Conservation Union, is immensely honoured and encouraged by this Award, and expresses its sincere thanks to the Asahi Glass Foundation for their confidence in the Union and its work. We admire your vision in recognizing the importance of the environment. By establishing this Award, you have given a lead to the corporate sector in Japan. We salute you, and thank you.

"IUCN is a unique organization. It was founded 45 years ago as a Union of States, Government Agencies, and international and national non-governmental organizations. Its Mission - to influence and guide societies throughout the world to conserve the integrity, productivity and diversity of nature and to use natural resources appropriately and sustainably.

"The Mission reflects the shared vision of our worldwide membership. We are champions of nature, because we believe that all species deserve respect, regardless of their usefulness to humanity. We seek to conserve the beauty and rich diversity of the natural world, that has inspired artists and poets for thousands of years, and is treasured in many human cultures. And we urge the conservation of nature because human life, and human development depend on the integrity and productivity of the natural world of which we are all part. We depend on nature for breathable air, drinkable water, food, medicines, and a mass of other products. We can and must ensure that where we use these riches, we do so sustainably, so that we do not deprive future generations of their inheritance.

"IUCN now works in over 100 countries. We have helped over 50 nations to prepare strategies for conservation and sustainable living. We work with and through our members to strengthen them as institutions and help them to achieve their own goals. Our voluntary network of over 5000 expert individuals, working with our professional secretariat, provides information, techniques and advice that can be applied by communities in all parts of the world.

"We are working increasingly closely with our members and partners in Japan - in Government, in the corporate sector, and in the non-governmental movement. We believe that we can help Japan as you come to grips with your own environmental challenges, turn your immense technological skills to the development of new and sustainable industrial processes, and extend your leadership and development assistance activities in South East Asia and more widely.

"This award will help us to strengthen our partnership with you in Japan, and to develop our work in South-East Asia. This action will be an important element in our wider endeavour to keep this planet, the only known abode of life in the Universe, clean, fertile, blue and beautiful.

"Thank you again for this honour, and for the opportunity of addressing you."