

FOR IMMEDIATE RELEASE June 18, 2009

### 2009 BLUE PLANET PRIZE: ANNOUNCEMENT OF PRIZE WINNERS

#### Professor Hirofumi Uzawa ( Japan )

As a theoretical framework for confronting environmental issues such as global warming, he has advocated the concept of Social Common Capital, which contributed to pioneering and highly original achievements from a very early stage.

#### Lord Nicholas Stern (U.K.)

Having reported the economic and social impact of and actions against climate change in *The Economics* of *Climate Change* with the approach of using cutting edge natural sciences and economics, he provided a clear cut polisy regarding the global warming, which has had a major impact on the world.

This year marks the 18th awarding of the Blue Planet Prize, the international environmental award sponsored by the Asahi Glass Foundation, chaired by Hiromichi Seya. Two Blue Planet Prizes are awarded to individuals or organizations each year that make outstanding achievements in scientific research and its application, and in so doing help to solve global environmental problems. The Board of Directors and Councillors selected the following recipients for this year.

#### 1. Professor Hirofumi Uzawa (Japan) Member of The Japan Academy Professor Emeritus, The University of Tokyo

Professor Uzawa has analyzed and tackled environmental issues from an economics perspective from an extremely early stage, and as a theoretical framework for confronting problems such as the global warming issue, he has advocated the concept of Social Common Capital, which contributed to pioneering and original achievements.

In addition, he has contributed to the peaceful resolution of the Minamata disease issue and the Narita Airport construction issue, and has been consistent in his work as an economist who confronts the real world with a sincere outlook. Professor Uzawa continues to sound the alarm with respect to contemporary economics and civilization and remains a major influence on both the international stage and in Japan.

#### 2. Lord Nicholas Stern (U.K.) Professor, The London School of Economics

Having analyzed the impact of global warming using scientific data and economic models, Lord Stern reported the economic and social impact of climate change and set out countermeasures in 2006 in the Stern Review, *The Economics of Climate Change*. He has shown that cooperation among countries around the world in swiftly implementing the countermeasures presented in the review would prevent and alleviate the enormous damage that might otherwise be incurred by climate change in the future. For global warming, he has educated not only researchers but also the general public on the basic principles of the actions required, which have been endorsed by cutting-edge natural sciences and economics. Further more, he has presented to governmental officials in a number of countries his clear-cut equity-based philosophy on global warming, making a significant impact on their commitments.

Both recipients will be awarded a certificate of merit, a commemorative trophy and a supplementary award of 50 million yen.

The commemorative lectures by the prize recipients will be held at the United Nations University (Shibuya Ward, Tokyo) on October 19 (Monday). The awards ceremony will be held on October 21, 2009 (Wednesday), at the Tokyo Kaikan (Chiyoda Ward, Tokyo).

\*This press release may also be viewed on our HP at www.af-info.or.jp. from 14:00, June 18, 2009. The photos of the recipients are available from the HP of the Asahi Glass Foundation.

# THE ASAHI GLASS FOUNDATION

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### Report on the Selection Process (18th Annual Prize, 2009)

A total of 800 nominators from Japan and 1,200 nominators from other countries recommended 119 candidates. The fields represented by the candidates, in order of number, were ecology (34), environmental economics and policy making (22), atmospheric and earth sciences (21) and Compound area (10).

The candidates represented 28 countries; 12 persons, 10 percent of the total, were from developing countries.

After individual evaluation of the 119 candidates by each Selection Committee member, the committee was convened to narrow down the field. The results of their deliberation were examined by the Presentation Committee, which forwarded its recommendations to the Board of Directors and Councillors. The Board formally resolved to award the Prize to **Professor Hirofumi Uzawa** and **Lord Nicholas Stern**.

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### Profile of the 2009 Blue Planet Prize Recipient

### Professor Hirofumi Uzawa (Japan)

In addition to the accomplishment of internationally cutting-edge research in the field of mathematical economics, Professor Uzawa has made a great impact from early on with his economics-based analyses and proposals for the issues on pollution and the environment. He has tackled the social cost of automobiles, urban problems, and global warming, and as a theoretical framework in confronting such issues he has advocated the concept of Social Common Capital, a pioneering and highly original achievement.

In addition, he has contributed to the peaceful resolution of the Minamata disease issue and the Narita Airport construction issue, and has been consistent in his work as an economist who confronts the real world with a sincere outlook. Professor Uzawa continues to sound the alarm with respect to contemporary economics and civilization and remains a major influence on both the international stage and in Japan.

#### **From Mathematics to Economics**

Professor Uzawa graduated from the Department of Mathematics at the University of Tokyo in 1951 where he continued to work as a special research student until 1953. At that time, he discovered the true nature of economics in the words of John Ruskin, "There is no wealth, but life." which was featured in the foreword to *Tale of Poverty* by Hajime Kawakami, and set out to educate himself about economics.

In 1956, a paper on decentralized economic planning written by Professor Uzawa caught the eye of Professor Kenneth Arrow at the Department of Economics, Stanford University, who invited him to be a research assistant. After becoming Assistant Professor at Stanford in 1959 and in 1960 at the Department of Economics of University of California, Berkeley, he was appointed Associate Professor of the Department of Economics at Stanford in 1961, and in 1964 became Professor at the Department of Economic growth resulting in his remarkable paper *On a Two-Sector Model of Economic Growth*, which covered the production sectors of consumer goods and investment goods in manufacturing equipments. During his time at the University of Chicago, Joseph E. Stieglitz and George A. Akerlof, later Nobel laureates in economics, were among the students attending his seminars in mathematical economics.

#### Departing from Mathematical Economics to A Theory of Social Common Capital

In 1968, Professor Uzawa accepted a position as Assistant Professor of the Department of Economics at the University of Tokyo and returned to Japan as protests against the Vietnam War in the United States turned violent. Then, the words of John Ruskin came back to him and he started to think about the concept of Social Common Capital or "how to incorporate the natural environment and the social environment in economic theory," renewing his resolution to study the "economics that value the human spirit," which later became his consistent set of beliefs. Even though he realized that "it would be a full-frontal critique of the work I had done so far," he nevertheless criticized the status quo of mathematical economics (neo-classical environment, nature, education and healthcare.

In this period, he also turned his attention to the issues of pollution worldwide following in the wake of industrialization and urbanization, taking a strong interest in the Minamata disease and immersing himself deeply in pollution and environmental issues. In 1972, he published for the first time the concept of Social Common Capital, which later became extremely important in thinking about global warming countermeasures. Social Common Capital refers to a natural environment and social infrastructure that enables the people living in a country or a specific region to enjoy a prosperous economy, develop a superb culture, and maintain in a sustained and stable fashion a society that is attractive on a human level. It has a strong connection to human life and existence, one might even say that it is a way of thinking that attempts to socially manage common assets including resources, goods, services and systems that are important for a society to function smoothly. As a result, Professor Uzawa constructed the theoretical foundation that lies behind the concept of the commons. The following three elements constitute Social Common Capital:

- 1. The Natural Environment: the atmosphere, water, forests, rivers, lakes, oceans, coastal wetlands, soil etc.
- 2. Social Infrastructure: roads, transportation facilities, water and sewerage, electricity and gas etc.
- 3. Institutional Capital: education, healthcare, finance, the judiciary, public administration and other systems

Each category must be managed and operated by professionals in accordance with professional standards and based on specialist knowledge.

Building on ideas based on the concept of the Social Common Capital, Professor Uzawa became involved in the pollution problems, authoring *The Social Cost of the Automobile* in 1974, which turned the focus on the extent of pollution and damage caused to the natural environment and the social infrastructure of the Social Common Capital by the use of automobiles. Next, he attempted to calculate the social cost of automobiles. He measured the cost of creating ideal roads that do not infringe on the basic rights of the community by rebuilding roads which had numerous defects such as the lack of separation between pedestrians and cars. Setting this value as the index, he calculated the necessary cost of converting road structures and found that the social cost per automobile per year was at minimum two million yen.

#### The Economics of Global Warming

Professor Uzawa also put his attention to the issue of global warming from an early stage. As well as participating in the first conference of economists on the topic of global warming in Rome in 1990, he authored The Economics of Global Warming in 1991 where he focused on the implications of global warming on 20<sup>th</sup> century civilization and proposed preventative measures. His understanding on global warming was that it was caused by the mass consumption of fossil fuel and logging in the tropical rainforests. And the global environment came under great stress as a result of the insatiable pursuit of "affluence" and material comfort of advanced industrial nations that have turned waste habit into a virtue. In contrast, in developing countries where poverty dominates and economic development is nowhere in sight, people are forced into a predicament where they cannot but destroy nature and pollute the environment in order to survive. Consequently, Professor Uzawa pointed out that rich and poor countries equally destroyed the global environment, inflicting damage that cannot be undone by future generations. On the other hand, Professor Uzawa also turned his attention to carbon tax, in a broad sense an environmental tax, which was an initiative developed among economists as an effective policy for preserving the stability of the natural environment far into the future and for preventing global warming. Professor Uzawa stated that from the viewpoint of fairness there were major problems with the intergovernmental terms for reducing total emissions of greenhouse gases by country, including the plan to reduce carbon dioxide emissions by 20% proposed at the international conference on atmospheric change held at the same time as the 1988 Toronto Summit in Canada. He has pointed out that, generally speaking, international agreements for

stabilizing the atmosphere were extremely lucrative for developed countries and, moreover, that their character was antisocial to the extent that countries that consume fossil fuels profit from them. He is an advocate of the carbon tax system as a measure for stabilizing the atmosphere that could actually be put into practice. On the other hand, an uniform carbon tax system was not only problematic from the viewpoint of international fairness, but as there was a risk of nipping economic development in the bud in the majority of developing countries, he proposed a "proportional carbon tax" according to per capita income in each country.

In addition, there was an inherent risk that the carbon tax itself would deter economic progress in developing countries and, even if the system of a proportional carbon tax is adopted, Professor Uzawa thought that it was not an effective strategy in resolving the North-South problem. Accordingly, he devised the concept of an international fund for stabilizing the atmosphere that would eliminate the economic disparities between industrialized and developing countries and act as an effective deterrent to global warming while stabilizing the atmosphere.

The principle behind the concept is that every government donates a fixed percentage of the silviculture subsidy deducted from the proportionate carbon tax revenues to the international fund for stabilizing the atmosphere. The fund distributes the contributions from each country to developing countries where the allocation is used for measures to protect the global environment such as protecting tropical rain forests, sustaining agricultural communities or developing alternative energies.

Professor Uzawa's concept of a proportionate carbon tax and an international fund for stabilizing the atmosphere that would protect tropical rain forests and facilitate the prevention of global warming has won the backing of many economists as an international concept that considers intergenerational and regional disparities, but it has not been accepted as policy yet.

#### A Message to the Contemporary Society

In recent years, Professor Uzawa has turned his attention to movements that aim to "rehabilitate human beings," referring to the "urban and natural renaissance" that is taking place in Europe, and he is engaged in the research to spark this trend in Japan as well. He favors removing the concrete that covers riversides and returning to the meandering rivers of the past, planting the periphery with local trees and shrubs, and preventing floods not by building dams, but by creating rich woodlands in the upper reaches of the rivers, which social wisdom have long employed to control the waters by means of "green dams" that use the storage capacity of nature.

Professor Uzawa discloses his perception of the relationship between human beings and nature as a form of culture whereby society should communicate by going beyond the generations, saying "The culture of original human society prevented the depletion of natural resources by means of a dialog with nature and accumulated knowledge about the natural environment within social norms designed for the survival of the society, and the culture (social system) also included transmission to the next generation."

Professor Uzawa points out that in modern times harmony between people and nature has collapsed and environmental destruction has advanced on a global scale because "modern science has played a major role in facilitating a lack of constraints on the exploitation of nature and ideas that place human beings in a position that is superior to nature." Global warming is a straightforward example. He stressed that we should recognize it is an extremely dangerous environmental change progressing on an unprecedented scale and that every effort must be made to tackle it now.

When considering institutional capital as social common capital, education and medical care assume the most important position. Education has the mission to promote both natural-born and acquired talent of each child as far as possible. On the other hand, medical care shall be performed based upon the professional medical knowledge to treat people who lose their regular functions through diseases or accidents. Those two functions are absolutely imperative to sustain the society that keeps each citizen to maintain dignity and to enjoy civil liberty. To live one's life in humane manner, I like to emphasize, those social common capitals play important part and shall never be controlled by mere market standards or bureaucrats.

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#### **A Paradigm Shift**

In the latter half of the 1960s, Professor Uzawa felt "the emptiness and limitation of economics that advances enquiries based on abstract concepts such as capitalism or socialism" and stemming from this, he searched for a new framework, arriving at the idea of the Social Common Capital. The concept of the Social Common Capital offers an important foundation for institutional and political analysis in order to draft and select policies. It is viewed as an engine (mechanism) that creates measures that point to new directions for resolving a range of issues.

Social Common Capital provides a more honest answer than the economic point of view to the enquiry that is the ultimate goal of economics, "what should be done to bring about a sustainable and stable society?" When its social and institutional implications are considered, Social Common Capital furnishes a paradigm that opens the way to a new age.

Today, when it is said anew that social stability is important, the concept of Social Common Capital is an important starting point for economics even as we consider what stability is and what should be done. The concept is a form of social management based on social standards and a way of thinking that emphasizes management systems on a foundation of professional ethics. It is a great achievement on the part of Professor Uzawa to have consistently advocated this concept, and based on the unshakeable conviction that social problems including environmental issues are "the issues that economics should be tackling," to have shown such vigor in protecting the fundamental rights of the citizenry, issuing warnings on global warming and proposing measures and policies. In the future, Professor Uzawa will surely continue to have a great impact both in Japan and on the international stage.

#### **Biographical Summary**

- 1928 Born in Yonago, Tottori Prefecture on July 21.
- 1951 Graduated from the Department of Mathematics, Tokyo University; Special research student from 1951 to 1953.
- 1956 Research Assistant, Stanford University; Assistant Professor in 1959.
- 1960 Assistant Professor, Department of Economics at the University of California, Berkeley.
- 1961 Associate Professor, Department of Economics, Stanford University

- 1962 PhD in Economics (Tohoku University), Thesis: "Studies of the General Economic Equilibrium Theory of Léon Walras"
- 1964 Professor, Department of Economics, University of Chicago;
- 1966 Fellow, Churchill College, Cambridge University
- 1968 Assistant Professor, Department of Economics, Tokyo University; Professor in 1969; Dean in 1980.
- 1989 Appointed Professor at the Department of Economics, Niigata University after retiring from Tokyo University; Professor Emeritus at Tokyo University
- 1994 Professor, Department of Economics, Chuo University (retired in 1999)
- 1999 Full-time researcher, The Institute of Economic Research, Chuo University; Adjunct Professor, Institute of Advanced Studies, United Nations University
- 2000 Professor, Research and Development Initiative, Chuo University
- 2003 Director, Research Center of Social Common Capital, Doshisha University
- 2009 Senior Fellow, Keiyu International Institute of Medicine

#### Awards

- 1983 Person of Cultural Merit
- 1997 Order of Cultural Merit

### Lord Nicholas Stern (U.K.)

Lord Stern released the Stern Review on the Economics of Climate Change on October 30, 2006, which discusses the effect of climate change and global warming on the world economy with the aid of recent scientific data and economic models, and has since published extensivery on the subject, including the Richard Ely Lecture at the American Economic Association (American Economic Review May 2008) and his recent book (entitled The Global Deal in the USA and A Blueprint For A Safer Planet, UK) To avoid the devastating effect of global warming, the Review made it clear that the world requires urgent action to implement global policies:

cooperation from all countries is crucial. The Review stresses the concept of equity, including, both the responsibility of developed countries to developing countries and intertemporal considerations, the responsibility of the current generation to provide a sustainable planet for future generations.

The Review was discussed at the Conferences of the Parties to the United Nations Framework Convention on Climate Change in 2006 and 2007 (COP12 and COP13) and received much public attention. Backed by the recent scientific data and economics, Lord Stern's work makes a significant contribution, not only through promoting the understanding of academic research, but also by informing the public about the potentially immense toll of global warming. The Review also had a significant impact on governments and policy makers by proposing viable policies to mitigate and adapt to climate change. Lord Stern continues to take every opportunity to discuss and influence policy makers across the globe, this includes assisting concerned parties to understand the consequences of global warming and understanding of the necessity of urgent action.

### **From Mathematics to Development Economics**

Lord Stern was born on 22 April 1946 in London UK. He earned his Bachelor of Arts degree in mathematics at Peterhouse, Cambridge, and his Doctor of Philosophy in economics at Nuffield College, Oxford. His experiences in Mexico in 1964, Turkey and Iran in 1966 and Ethiopia in 1967 generated a lifelong interest in development economics, and particularly with poverty and the study of the development process in low-income countries. From 1969, early on his career, he began research in development economics, based first in Kenya and then in India, including the Uttar Pradesh village of Palanpur which he has visited regularly since 1974, researching the economic transformation of the village and the close relationship between overcoming poverty and environmental issues and climate changes have been key issues for his work, including in the Stem Review.

He was a lecturer at Oxford University from 1970 to 1977, and served as a Professor of Economics at the University of Warwick from 1978 to 1987. He taught from 1986 to 1993 at the London School of Economics, becoming the Sir John Hicks Professor of Economics. From 1994 until 1999 he was the Chief Economist and Special Counsellor to the President of the European Bank for Reconstruction and Development. He was the Chief Economist and Senior Vice-President of the World Bank from 2000 to 2003 where continued his work on the problems of world poverty.

In 2003 Lord Stern became Second Permanent Secretary at H. M. Treasury, initially with responsibility for public finances, and head of the Government Economic Service. He led the writing of the Report of the commission for Africa 2004-5 and in July 2005 he was appointed by the UK government to conduct a review on the economics of climate change, which led to the publication of the Stern Review on 30 October 2006. The Review gained global media attention for its stark assessment of climate change and examination of comprehensive policies to prevent

the likely outcomes of unmitigated climate change. Lord Stern attended COP-13 in Nairobi in Kenya in 2006 and COP-14 in Bali, Indonesia (2007 United Nations Climate Change Conference) to promote the understanding of the Review worldwide.

In June, 2007 Lord Stern became the first holder of the I. G. Patel Chair at the London School of Economics and Political Science. In 2008 he was appointed Chair of the Grantham Institute for Climate Change and the Environment, and head of the newly created India Observatory within the Asia Research Centre at LSE. Sir Nicholas Stern became Lord Stern of Brentford in December 2007, appointed to the House of Lords.

### Measures proposed to deal with global warming

The Stern Review is the most comprehensive review on the economics of Climate change. The Review analyses the economic costs of climate change, the costs and benefits of actions to reduce emissions, and considers policies to address climate change. The Review provides clear conclusions concerning the consequences of unmitigated climate change: if we take no

action to control emissions and continue along a business as usual (BAU) pathway, we run severe risks of a transformation of the planet which would lead to large-scale migration involving hundreds of millions of people and global conflict. This is a challenge of risk management of the highest order of importance. Expressed in more narrow cost-benefit analysis terms the Review estimated total costs over next two centuries equivalent to at least 5% (up to 20%) of world GDP each year. \*1 Moreover, given the direct impact on the environment and human health, some recent scientific evidence suggests a disproportional share of the climate change burden will fall on the poor regions of the world.

By contrast, if we act now, the cost of action to avoid the most severe impacts of climate change are estimated at around 1% to \*2 of world GDP each year. New technologies and innovation can enable the world to avoid a climate disaster and maintain strong economic growth. Attempting to continue with high-carbon growth will not only severely damage the planet and humans and other life, it will stop or reverse growth.

To cope with the significant challenge of climate change, the Review concluded that a shared global perspective on the urgency of the climate change is required; long-term policy goals to address global warming, and an international approach based on multilateral frameworks and coordinated action, are essential to respond to the vast scale of the Challenge.

To control global warming, the Review examines national and international policies and indicates that four elements of policy are required. The first is carbon pricing policy worldwide, through taxation, emission trading or (an implicit price) regulation. The second is technology development policy, to encourage low-carbon and high-efficiency product technologies. Third is the policy to remove barriers to energy efficiency, and to inform and educate firms and individuals on possibilities. The fourth policy response is adaptation policy to deal with the climate change to which we are already committed.

An effective response to climate change will depend on creating the conditions for international collective action, for example effective policies to halt deforestation across the globe. After the release of the Review, Lord Stem has traveled extensively across the world to promote policy to curb emissions. \*3

Lord Stern argues that developed countries are responsible for the bulk of the current stock of greenhouse gases in the atmosphere. They are also richer and have better access to technology. Therefore, they have a responsibility to lead efforts to reduce emissions and to find ways of sustaining development in a more hostile climate. They must do this directly through their own action and providing finance, directly or through trading for action in developing countries. In

addition, given that developing countries will be responsible for the majority of the increase in greenhouse gas emission in the future, the sharing of low-carbon technology between developed countries and developing countries is an essential requirement of any effective policy response.

Preservation of the global environment is indispensable to sustain the development of the world economy and the future welfare of society. It is the responsibility of the current generation to hand a safe and sustainable planet to future generations. Stern's work, including in The Stern Review, clearly defines what must be achieved to fulfill our responsibility for avoiding a major climate disaster. If disastrous climate change does occur, the developing countries and the world's poorest will be hardest hit; to prevent this tragedy the world must act with urgency. The clear messages in Lord Stern's work concerning developing countries coincide with his profound understanding of the severe situation of poor people in developing counties and his serious concern over the bleak future in the case of climate inaction.

As an economist, Lord Stern has engaged in studies of economic development, economic theory, tax reform, public policy, the role of the state, and the economic transition from command to market economies. In the year 1974 and 1975, he spent 8 months in a rural village in north east India; and he wrote books about development of tea plantations in Kenya and agricultural change in India. In addition, he has written books on crime and criminal statistics in UK, financial affairs, public development, "A strategy for development "2002, "Growth & Empowerment: Making Development Happen" 2005, "A Blueprint for a Safer Planet" 2009, and over 100 published academic papers.

Lord Stern expressed the pressing situation of climate change as following:

"There is still time to avoid the worst impacts of climate change, if we act now, we act strongly and we act internationally." Already three years have passed since the Review was made public, urgent action to combat global warming is long overdue.

### **Biographical Summary**

Born April 22 1946

Bachelor of Arts degree in mathematics at Cambridge (1967), and Doctor of Philosophy in economics at Oxford (1971).

1970~1978 Lecturer in Economics, Oxford University Professor of Economics at University of Warwick 1978~1986 1986~1993 Professor of Economics at London School of Economics  $1994 \sim 1999$ Chief Economist and Special Counsellor to the President of the European Bank for **Reconstruction and Development** Chief Economist and Senior Vice-President of the World Bank  $2000 \sim 2003$  $2003 \sim 2007$ Second Permanent Secretary at H. M. Treasury, Head of the Government Economic Service, appointed to lead the writing of the Report of the commission for Africa 2004-5, conduct a review of the economics of climate change, which led to the Stern Review 2006: The Stern Review was released on 30 October 2006.  $2007 \sim$ I.G. Patel Professor of Economics and Government at London School of Economics, Director of the newly created India Observatory within the Asia Research Centre at LSE, and Chair of the Grantham Research Institute on Climate Change and the Environment. Lord Stern of Brentford, cross-bencher in the House of Lords

### Notes

- \*1: After the Review was published, scientists concluded that the capacity of the planet to absorb CO2 is less that the level assumed in the Review.
  Considering this fact, Lord Stern now warns that the impact of climate Change is much larger than the review predicted.
  Guardian 25 March 2008
- \*2: Lord Stern mentioned that the evidence now shows that climate change is happening faster than had been previously thought. Therefore emissions of greenhouse gases need to be reduced even more sharply. Owing to this increase in greenhouse gases, it will cost up to 2% of global GDP each year to address climate change. Guardian 26 June 2008, New Scientist 21 January 2009
- \*3: Detailed policy. Developed countries to reduce their greenhouse gas emissions by at least 80%, in order for the world to achieve an overall reduction in global emissions of 50% by 2050.

Substantial trade between countries, including rich and poor countries, in greenhouse gas emissions, to keep down costs and help finance climate investment in developing countries.

A major reform of the Clean Development Mechanism, a Kyoto protocol mechanism that allows developing countries to sell emission reductions, but does not penalize them for emissions themselves.

A programme, \$10-15bn per year, could stop up to half the deforestation. Urgent promotion of technologies such as Carbon Capture and Storage (CCS) is needed to curb the emissions from coal-fired electric power generation.

Rich countries honour 0.7% GDP in aid, by 2015 to developing countries for mitigating the impact of climate change.

Guardian 29 November 2007

### Remarks from the Award Recipients upon Notification of their Selection

#### Professor Hirofumi Uzawa

It is a great honor for an economist such as myself to know that my ideas on Social Common Capital have been met with such acclaim, and to have been chosen as the winner of the world's highest award for global environmental issues. At the same time, I am very aware of the responsibility that I now have, and I will always remember the emotions I am experiencing today as I continue to apply myself with renewed diligence to my research in the future.

Social Common Capital refers to a natural environment and social apparatus that enables a country or specific region to enjoy a prosperous economy, develop a superb culture, and sustainably maintain a society that is attractive on a human level, and one that is managed and operated in accordance with social criteria as a common asset for the entire community. It involves the vital activity of putting a value on the precious legacy that our ancestors have bequeathed us, and passing this legacy on to the next generation. Most importantly, not only is the natural environment indispensable to all living creatures; it also plays a critical role in economic, cultural, and social activity. I want to do everything in my power to ensure that we minimize the burden on future generations, by effectively applying the theory of sustainable economic development, centering on Social Common Capital, to resolve global environmental issues symbolized by global warming, the greatest challenge facing mankind.

### Lord Nicholas Stern

I am greatly honoured and moved by the award of the Blue Planet Prize for my work on climate change. I would like to thank the Asahi Glass Foundation and the selection panel for the prize. It is a particular honour for me because this is the first occasion when an economist or social scientist has been given the award rather than a natural scientist. This is a recognition that the management of climate change requires clear, strong and sustained economic policies, founded not only on the lessons from science, but also on sound economic principles and analysis. The next few years will determine whether we can rise successfully to the two defining challenges of our century: managing climate change and overcoming world poverty. If we fail on one of these challenges, we will fail on the other. It is a time when social scientists and natural scientists must get together to provide sound analysis and a strong sense of direction.

# Message to the Japanese public

# Professor Hirofumi Uzawa

It is a great honor to know that my ideas on Social Common Capital have been met with such acclaim, and to have been chosen as the winner of the world's highest award for global environmental issues.

Social Common Capital formulates the environment in a broad sense as an economic concept, and as such is the core concept for actually realizing sustainable economic development. I would do everything in my power to ensure that we minimize the burden on future generations, by effectively applying the theory of sustainable economic development, centering on Social Common Capital, to resolve global environmental issues, the greatest challenge facing mankind.

## Lord Nicholas Stern

The world has embarked on an unsustainable, high-carbon pattern of development. Unless we manage the transition to a low-carbon economy, we will so disrupt the planet that we will punish the world through the massive movement of people into extended conflict. On the other hand, the transition itself and the accompanying innovation and investments will launch a new period of strong growth. And low-carbon growth itself will be cleaner, more energy-secure and more biodiverse, since we must also stop de-forestation. Japan has been a world leader in new technologies and I am sure it will be a world leader in making this transition. This is urgent. We have no time to waste.