Closing Address for the 22nd World Gas Conference
by Hiroshi Urano, President of IGU, 2000-2003
June 5th, 2003

Excellencies, distinguished guests, ladies and gentlemen:

Now that we have successfully completed all of the planned Keynote, Strategic Roundtable and Technical Sessions in our Programme, as well as the International Exhibition, I'm very proud of what we have achieved together this week.

To plan and organize this Conference required enormous support, dedication and collaboration of many hundreds of colleagues from throughout Japan and overseas. Fortunately, we could draw on your apparently inexhaustible reserves of energy and enthusiasm for making the 22nd IGU World Gas Conference in Tokyo a reality – and a success.

We were particularly honored and delighted to have had such strong encouragement and participation by Their Imperial Highnesses the Crown Prince and Princess.

I would also like to thank our National Organizing Committee, including Chairman Anzai and his entire team for their dedication and hard work to make this Conference such a success.

Most importantly, I would like to thank ***you*** *– our IGU colleagues and friends. It is a great testament to the enormous vitality of IGU's voluntary spirit of collaboration that over 5,000 registered Delegates and Accompanying Persons could participate this week. Your strong and steady enthusiasm and support will, I'm certain, be remembered in Japan for many years to come.*

As I conveyed in my Opening Remarks on Sunday, we very much appreciate the strong cooperation and support we received from our friends and colleagues in the WHO SARS Affected Areas for our request for their voluntary withdrawal to ensure we could host this Conference as planned. Nevertheless, I was very pleased to see that our Chinese colleagues involved in the International Competition on Sustainable Urban Systems Design were not forced to withdraw entirely and that they could share their work and

discussions with us through a live teleconference from Shanghai. As a consequence, we were very fortunate that their important views and contributions on designing a sustainable city for a rapidly urbanizing population could also be reflected in the discussions of the other teams' projects. I know that the thrust of the challenges and opportunities for natural gas in a rapidly urbanizing 21st century Asia will ensure that we will be returning to this region through an array of IGU sponsored events in the very near future.

This Conference was built on an ambitious theme -- and "Catalysing an Eco-Responsible Future" will continue to be an endeavor forged on strategic interfaces between our industry and allied fields such as auto manufacturing, fuel cells for stationary and mobile applications, information technology & communications, and even urban architecture & design. This week, we have also built new partnerships with leading experts and policy makers from outside our industry that will be vital to the growing role of our industry as a protagonist in global primary energy supply and in developing solutions for the mitigation of global warming and possible climate change, as well as for achieving sustainable development in all regions.

The flexibility and adaptability of natural gas and its technologies offers enormous upside potential. Therefore, leaders in business and government everywhere will be seeking your advice and suggestions on how to realize this potential and IGU is dedicated to ensuring that the necessary know-how can be shared – for, I believe this is our duty and obligation to our neighbors and to future generations.

As an energy and environmental protagonist world-wide, our Union must be a credible representative for the full chain of our industry's supply and demand related technologies and activities. Therefore, we are developing new initiatives to harvest the expertise of our industry's leading suppliers, such as through their participation here and as Associate Members in our technical programme. We have been most fortunate to have received strong enthusiasm for this new initiative and I very much appreciate the generous participation of the leaders of BP, ExxonMobil, and the Royal Dutch/Shell Group for making our Keynote Sessions on "The 21st Century Energy Odyssey" a highlight of the Conference.

With regard to our reserve and resource base for today and the very long-term, we learned a great deal about how natural gas has turned the corner vis-à-vis oil to become

the prize for new and ambitious upstream projects; including those in Sakhalin and the Russian Far East, the Caspian Sea, and throughout the Middle East. For our long-term potential, methane hydrates could – with appropriate technologies – meet any of the demand profiles projected by our Global Energy Scenarios Project for the end of this century and beyond. This new work on the supply side potential of our industry is particularly vital -- for, our allies in fields such as urban architecture design have, because of the lack of studies to the contrary, had to assume natural gas reserves could not sustain the new cities they sought to envisage. Our work is now providing them with a valuable new perspective.

We also organized seven Strategic Roundtables – including two Leaders' Fora -- that provided innovative opportunities for leading business, government and policy experts to contribute and exchange views on challenging industry-wide and global themes at the interface between natural gas, the environment, the advent & potential of hydrogen technologies based on natural gas, and sustainable urban systems design. Through the planning and development of these ambitious interdisciplinary discussions, I know that our IGU colleagues also learned a great deal -- as did the experts from outside our industry who, in some cases, were surprised and encouraged to discover how interested our industry is in building new strategic interfaces and collaboration.

Very briefly, I would like to survey the titles of these Roundtables to underscore how interconnected our work is. From "Global Energy Scenarios" to "Building Market Options in a Dynamic Energy Environment" to "Energy Systems Revolution -- The Potential and Impact of Fuel Cells in the 21st Century" to "New LNG Markets" to Sustainable Urban Systems Design" to "Catalysing Asia's Energy Future -- Infrastructure for Sustainable Development" we certainly do have a 'tour d'horizon' of natural gas as a protagonist. Finally, in our Strategic Roundtable: "Perspectives and Challenges of Technologies for a Methane Age" leading policy and industry experts discussed the difficult challenges of how we could potentially achieve a Methane Age, as well as the policy and industry priorities that are involved and how the vital investment in R&D to sustain this can be ensured in an era of inexorable competition.

We were fortunate to have had the participation of a large number of experts from outside the gas industry. Moreover, I believe, that our three Special Projects this triennium; namely: i) "Global Energy Scenarios" ii) "Catalysing Asia's Energy

Infrastructure" and iii) "Sustainable Urban Systems Design" have proved to be an excellent and creative way to help our colleagues collaborate with experts in other fields.

With regard to our potential contribution to policy discussions, credible scientific working groups have, for years, sought more technical input and advice from the energy industry and we now have a much greater capacity to contribute to these discussions. For example, the IPCC assessments related to global warming scenarios are highly regarded. Still, IGU has a valuable role to play in assisting with the assessment – and potential diffusion -- of new technologies from methane hydrates to co-generation & integrated systems and fuel cells. Of course, we can also offer a great deal of experience in the areas of infrastructure development such as for pipelines and LNG. Gas-to-Liquids, or GTL, is just one of the many new fields that are growing so rapidly that the scenario writers will need to maintain much closer involvement with us if they are to stay abreast of these exciting breakthroughs.

Our Sustainable Urban Systems Design Project is another example of how IGU is building very constructive channels for meeting the tandem demands of urbanization and growth over the long run. Ultimately, the foundation of urban life support systems will need to be redesigned in this century -- if we are all to have the potential for living in a modern civilization. I also believe the diversity of proposals demonstrated here this week underscores another strength of IGU as a world-wide organization, for we are well-poised to share knowledge and experience that is tailored precisely to the unique characteristics of each particular location and environment. I believe the timing for our work in this field is particularly auspicious, for the need to develop such innovative solutions is receiving strong support in developed and developing regions alike.

The grand-prize winning entry from Team Canada received uniformly high praise from the judges for the excellent way it integrated community and society involvement in a feasible way. Moreover, it was applauded for the viable model it presented for how a successful city does not need to "colonize the rest of the world." I should also mention that the participation of distinguished experts from outside our industry has helped us to identify the need to focus on promoting new objectives such as maximizing resource productivity vis-à-vis mere labor or capital productivity. The international competition appears to have been a very rewarding & inspiring opportunity for outside experts to learn about our technologies and natural gas and – with the Demand for Urban Markets

in the 21st Century set grow – we have a mandate to provide leadership for this generation and the future.

Through our work leading up to this World Gas Conference, IGU has received numerous requests from a wide range of potential collaborators who would like to organize their own urban design projects. This has led me to conclude that there is a great need – still largely unmet – for developing practical prescriptions for achieving sustainability. It is also an area where no industry can impose its own ready-made blueprint; rather, interdisciplinary collaboration will be vital for success in this growing field with enormous potential for our industry and society.

Our ten Working Committees are at the heart of our work and their excellent contributions to our industry's advancement are remarkable for an organization that relies on completely voluntary participation and collaboration. Spanning the entire spectrum from upstream through downstream, their work is dedicated to solving such wide-ranging concerns as environmental quality, long-term security of supply, demand management, and the economics of developing countries and countries in transition. A vast treasure of today's state-of-the-art research and technology applications in these fields was presented in the form of papers and through Roundtable Discussions and, since no person could possibly absorb all of this, the human interaction afforded by the World Gas Conferences will become ever more vital to professionals seeking to stay abreast of their fields.

With regard to the International Exhibition, one of the highlights, in my view, was the vast array of exhibits on new fuel cell technologies that are close to commercialization. As far as I know, this Exhibition marked the first time anywhere of the demonstration of an integrated fuel-cell co-generation system that was actually connected to the city-gas distribution network. Here, the natural gas from the network was led to a reformer, which separated the hydrogen from the methane and supplied it to the fuel cell. The world's first commercial integrated co-generation fuel cell system will hit the market in Japan within the next two years.

Another example of a commercially viable fuel cell system that was demonstrated here is the fuel cell vehicle. These were demonstrated and operated along with hydrogen refueling stations – based on natural gas as the fuel -- and visitors were given an opportunity to participate in test drives. In the near future, the public at-large will also

be learning much more about the potential superiority of natural gas as a source of hydrogen for fuel cell technologies -- combined with the gas distribution network – because of the valuable environmental, technical and economic synergies of adopting natural gas as the hydrogen carrier.

What keywords or principles come to mind first in reflecting on this week's discussions and exhibits? In my case, I was strongly influenced by the integral role of "partnerships" and "alliances" – mainly for two reasons: first, they comprise the essence of what it will mean to 'Catalyse an Eco-Responsible Future' and second, they are central to a strategic environment in which we must build interfaces with other industries and fields to achieve the goal of mitigating the risks of climate change and the achievement of sustainable development for all.

Reformulating this, we might derive a fundamental principle, such as: "Building Strategic Partnerships & Alliances for Sustainable Development." Of course, building successful strategic partnerships is nothing new to the natural gas industry. For example, today's combined-cycle power generation technology – utilizing fundamental advances for the design of jet engines -- was developed through a partnership between the gas industry and the aerospace industry. Now, a similar partnership is being developed with the automotive industry through shared fuel cell technology and I'm confident our industries – and society at large – will gain from the accelerated developmental process and economic efficiencies that result.

Looking farther ahead, an even wider range of strategic alliances is likely to come into play. For example, with the growing recognition of the potential for sustainable urban systems design, many industries will want to pool their expertise to build new interdisciplinary solutions for achieving sustainable development.

Of course, it is vital to show the constructive role business can – and must – play to achieve this vast potential for society and future generations and I have no doubt IGU will play an even more important leadership role in the future.

While today marks the end of the 22nd World Gas Conference in Tokyo, it also marks the beginning of a new three-year term -- in which it is my pleasure to welcome your new IGU President.

From 2003 through 2006, the Netherlands will hold the IGU Presidency and, at our IGU Council Meeting held last Sunday, my close friend and colleague George H. B. Verberg of Gasunie was formally elected by the IGU Council as our new IGU President.

I'm sure many of you already know George very well for he has held a number of prominent leadership roles in our industry. He graduated with distinction in Economics from the Netherlands School of Economics of the Erasmus University, Rotterdam in 1970 and pursued further study in the United States at M.I.T. and the University of California at Berkeley. He joined the Netherlands Ministry of Education and Science in May 1971. In May 1974 he joined the Netherlands Ministry of Economic Affairs and held various key positions; including, General Economic Policy Director, Director-General for Trade, Industry and Services, and Director General for Energy.

George joined N.V. Nederlandse Gasunie in January 1988 and was appointed Commercial Managing Director in 1989. Since May 1992 he has served as the General Managing Director of Gasunie. Additionally, he has served as Vice-chairman of Eurogas, Chairman of the UN-Gas Centre Advisory Board, and as Vice-president of IGU.

In addition to being well known and respected as an international protagonist for the European gas industry, George also has a wonderful sense of humor and it has been my great pleasure to work with him throughout my term as president. Under his leadership, I have no doubt that IGU will sustain and build on the wide-ranging strategic alliances which we are forging and that he – with your strong support and collaboration -- will provide excellent leadership.

Thank you.