

The G8 Science and Technology Ministers' Meeting Chair's Summary

1. G8 ministers and the European Commissioner responsible for science and technology met for the first time in Okinawa on June 15 2008, together with ministers and senior officials from Brazil, China, India, Mexico, Philippines, the Republic of Korea and South Africa. This meeting was held with a view to providing appropriate inputs to the G8 Hokkaido Toyako Summit to be held in July 2008.
2. The meeting highlighted that science and technology is an important key to sustainable development all over the world and reaffirmed the importance of promoting science and technology cooperation based on international collaboration.
3. Discussions focused on the following three themes:
 - Approaches to the Solution of Global Issues through International Cooperation – Research and Development for the Realization of a Low-Carbon Society–,
 - Science and Technology Cooperation with African Countries and Other Developing Countries, and
 - Cooperation in Research and Development Resources.

The following is a summary of our discussions which we commend to our own communities and to other countries beyond the G8.

Approaches to the Solution of Global Issues through International Cooperation – Research and Development for the Realization of a Low Carbon Society–

4. We acknowledged the importance of new and innovative technologies that will enable substantial reduction of greenhouse gas emissions, in order to achieve a low carbon society. We further recognized the critical role that research and development, technology and innovation play in addressing long-term climate change and energy security goals. We reached a consensus to foster interdisciplinary science-based solutions for environmental and other challenges on a national and global scale paying attention to socio-economic aspects. We are committed to increasing investment in both basic and applied environmental and clean energy technology R&D, and the promotion of commercialization including through direct government funding and fiscal

measures to encourage private sector investment. We understand that making existing technologies more efficient may help mitigate greenhouse gas emission in the short term but that fundamental breakthroughs in science and technology will be essential to address greenhouse gas emissions reduction over the longer term. We supported an international policy dialogue and the exchange of information, acknowledging the effectiveness of each country formulating its own long-term R&D plan, with a view to conducting R&D more efficiently.

5. Moreover, we recognized the importance of promoting international research and development collaboration on all energy alternatives in order to develop new and sustainable energy solutions with innovative technologies such as fusion energy (ITER) and Carbon Capture and Storage (CCS), which involve technological and financial risks and require large investments of resources. Concerning biofuels in particular, we stressed the importance of promoting the development of next-generation technology for producing biofuels from non-food plant materials and inedible biomass, such as cellulosic ethanol and synthesis gas from waste. This should be a priority. We acknowledged the importance of promoting international collaboration over next-generation biofuels. In addition, we are committed to promoting joint R&D cooperation through existing frameworks and all other viable alternatives. We recognized the importance and urgency of enhancing the world-wide application and deployment of existing advanced technologies for mitigation of and adaptation to climate change, and we noted that it was important to share information, as well as to encourage the mutually agreed transfer and deployment of such technologies.
6. With a view to enabling a clear understanding of the mechanics of climate change, we pointed out the importance of global earth observation, projection and data sharing using the latest science and technology. We are committed to implementing efforts through the UN specialized agencies and programs (WMO, UNEP, IPCC) and the Global Earth Observation System of Systems (GEOSS).
7. We shared the view that it is important to provide a practical demonstration of the type of effective low carbon society that could be achieved, and of the extent to which greenhouse gas emissions could be reduced by the use of leading-edge technologies. We recognized the importance of each country

conducting demonstration projects such as the environmentally friendly city plans and sharing the results of these projects through international workshops. We also recognized the effectiveness of heightening the visibility of each country's leading-edge technologies and sharing this information.

8. We reaffirmed that scientific monitoring, assessment, information provision and the strengthening of research activities are significant in the field of scientific approach to biodiversity. It is noted that some countries expressed the plan to build upon the Millennium Ecosystem Assessment and the outcome of international mechanism of scientific expertise on biodiversity (IMoSEB) consultations to improve the interface between these activities and the public and policy makers. It is also noted that some countries called for actions to engage with the UNEP-sponsored process, including a dedicated conference.
9. The US called for the G8 to use a full range of policy and fiscal tools to catalyze private sector financing and developers of clean energy projects. The US suggested that the G8 consider a substantial collective target for such measures.

Science and Technology Cooperation with Developing Countries

10. We reached a consensus that the advancement of science and technology in developing countries is essential for their sustainable development and that it is important to promote science and technology cooperation between and among developed and developing countries. We acknowledged that collaborative efforts between developed and developing countries are critical to address global issues effectively. Such efforts should be reflected, as appropriate, in development and poverty reduction strategies and planning priorities. Especially for African countries, we confirmed the necessity of further enhancing science and technology cooperation and of our support.
11. We recognized the importance of developing countries' ownership of the development process, as seen in African countries in recent years, so that they are better able to take the initiative in solving problem for their own sustainable development. We also welcomed the sharing of good practice in cooperation between developed and developing countries, including through public-private partnership as well as technical training in innovative

technologies.

12. We recognized that there are certain priority research areas – such as developing sustainable supplies of water, food and energy, controlling infectious diseases, and conserving biodiversity – that are particularly important in developing countries. In order to address the recent global food price crisis, it is important to enhance agricultural productivity, improve nutritional value of staple crops, control plant pests and diseases, and restore and maintain soil fertility, while decreasing adverse environmental impacts of agriculture. Food security would also be improved by increased access to new agricultural technologies including biotechnology and post-harvest technologies. In order to develop sustainable supplies of clean water and energy, it will be necessary to strengthen long-term climate monitoring systems, which provide data necessary for mitigation/adaptation measures. It will also be necessary to improve capacity for biomedical and behavioral research in developing countries, particularly those in sub-Saharan Africa.
13. We recognized that educational and research capacity building is extremely important to enhance the problem-solving abilities of developing countries in overcoming development challenges, as is their participation in international cooperative efforts to address global issues. This is because it contributes to developing local human resources who can take the initiative in resolving their own problems and lead the growth of their communities. One practical approach to capacity building would be to further support collaboration of developing country researchers at research and training institutions in the G8 countries. To avoid brain drain, incentives that encourage and factors that hinder the return of those scientists and professionals into their home countries should be considered.
14. We also reaffirmed the necessity of implementing science and technology cooperation between developed and developing countries based on the latter's needs. We discussed the effectiveness of conducting joint research projects in institutions in developing countries to enable researchers from those countries to work together with scientists or researchers from developed countries. We supported the strengthening of such collaborative activities in training, research and development. Critical to the use of contemporary digital video conferencing and interactive software is the increased availability of affordable broadband access.

15. We reached a consensus that it is important to promote continuing policy dialogues and have discussions between developed and developing countries. These are vital to further enhance mutual understanding of science and technology policies and their implementation, promote their coordination in relevant areas, identify research topics of common interest and achieve mutually beneficial science and technology cooperation that takes the needs of developing countries into account. We acknowledged that a stock-taking process of the science and technology situation in Africa is necessary to share existing activities and experiences of G8 countries, identify possible fields of action and improve synergies. Therefore, we welcomed Japan's plan to hold a Japan-Africa Science and Technology Ministers' Meeting and a workshop on science and technology cooperation in global issues between G8 and developing countries, both of which are planned in October 2008. We also hope to continue policy dialogues in the future.

Cooperation in Research and Development Resources

16. We acknowledged the necessity of promoting international cooperation in large-scale research facilities through the exchange of relevant information, by allowing other countries access to such facilities in a proper way including wider access by industry, and by sharing information on plans to construct new large-scale research facilities in order to promote mutual international use by international groups or individuals to avoid international investment duplications and to facilitate cost sharing where appropriate.

17. In strengthening such international cooperation in large-scale research facilities available for international use, we reached a consensus to exchange information, such as accessibility, on existing large-scale research facilities and basic information, such as the scale, priority and schedule for future facilities in each country. In order to continue the dialogue for international cooperation on large-scale research facilities in the future, including discussion of different models for their operation and their use, we reached a consensus to set up an ad-hoc group of senior officials, composed of representatives of G8 members as well as other invited countries. We recognized that the work of this group should take account of the output of existing fora such as the OECD Global Science Forum. We welcomed the US invitation for a first meeting in Washington DC in September or October this year.

18. We also emphasized the importance of promoting the international mobility of human resources in science and technology to further the development of science and technology on a global scale. In this respect, we stressed that the international use of large-scale research facilities could contribute to facilitating the international mobility and capacity building of human resources in science and technology. We also recognized the importance of further discussions on the promotion of “brain circulation” in which G8 countries not only accept human resources from but also provide them to developing countries.

Future Process

19. Finally, through the discussions above, we recognized the important role that science and technology have to play in understanding the global issues facing our societies and in developing appropriate solutions to those challenges. We recognized the importance of the continuation of the various forms of collaboration between relevant organizations such as research councils. We welcomed Japan’s important initiative to collect and summarize the information on current major policies and programs of G8 and other countries on low carbon technology, cooperation with African countries and large-scale research facilities to further enhance international collaboration within a year. We appreciate the announcement of the forthcoming Italian Presidency of the G8 to convene a G8 Science and Technology Ministers’ Meeting in 2009.