

REINFORCEMENT OF SCIENCE AND TECHNOLOGY DIPLOMACY

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ABSTRACT

Science and technology hold the key to resolving many of today's most pressing global issues, especially building sustainable societies that maximize the earth's limited resources. In April 2007, the Council for Science and Technology Policy pointed out that Japan should take a new "science and technology diplomacy," perspective, one that seeks to capitalize on these areas in diplomacy. By doing so, and by reinforcing these activities, Japan should contribute to innovation throughout the world. The reinforcement of science and technology diplomacy is also important for a strategy for innovating Japan's social system, as described in the "The Innovation 25 Strategy." Strengthening science and technology cooperation with developing countries is a high priority in science and technology diplomacy. Research cooperation with developing countries on issues concerning environment at questions, water management, infectious diseases, and many others functions as a strategic perspective, and networks with the partner countries should be reinforced. To make it possible for young people from Asia and other parts of world to study Japan's environmental technology and policies, the government of Japan will establish and implement programs to develop those environmental leaders. Japan must change its traditional mind-set, and make use of the country's superior strengths in science and technology to take the initiative in solving worldwide problems that face the human race.

KEYWORDS

sustainable society, science and technology, diplomacy, innovation, international cooperation

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The Council for Science & Technology Policy
Government of Japan
Prof. Taizo Yakushiji
12th September, 2007

Council for Science and Technology Policy

1. Functions

The CSTP serves as a locus of knowledge and intelligence that assists the Prime Minister and the Cabinet on overarching matters relating to science and technology for Japan as a whole from a perspective one level higher than the ministries.

2. Mission

- Investigations and deliberations on the matters upon request from the Prime Minister
 - Basic policies and programs for comprehensive and systematic promotion of S&T
 - Guidelines on budgetary/personnel resources allocation in science and technology, and other matters of importance relating to promotion of science and technology.
- Evaluation of nationally important research and development related to science and technology

3. Membership

The CSTP is chaired by the Prime Minister and its made up of 14 members; Chief Cabinet Secretary, Minister of State for Science and Technology Policy, relevant cabinet members, executive members, and heads of relevant governmental agencies as designated by the PM.

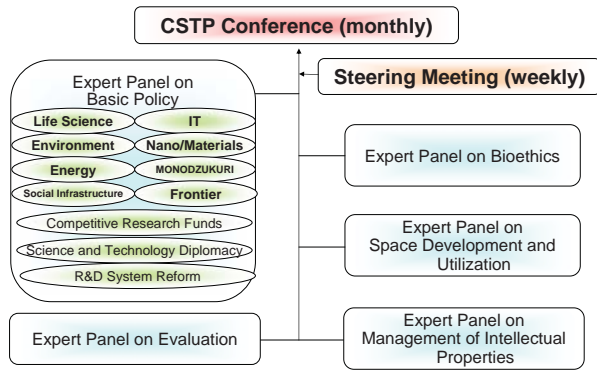
As of Sep. 2007

CSTP Executive Members (Appointed by the PM, approved in advance by both Houses of the Diet. Two-year term.)



Dr. Masuo AIZAWA (Part-time) Dr. Taizo YAKUSHIJI (Full-time) Dr. Tasuku HONJO (Full-time) Dr. Naoki OKUMURA (Full-time) Dr. Etsuhiko SHOYAMA (Part-time) Dr. Yuko HARAYAMA (Part-time) Dr. Michiko GO (Part-time) Dr. Ichiro KANAZAWA (Part-time)

Organization chart of CSTP



CSTP (Council for S&T Policy) Conference

- Held every month
- Member
 - Prime Minister (chair)
 - Relevant ministers
 - CSTP executive members
- Mission
 - S&T basic policies (Investigations and deliberations)
 - Resources allocation (Investigations and deliberations)
 - Nationally important R&Ds (Evaluations)



Image: CSTP Meeting, Sep. 2006

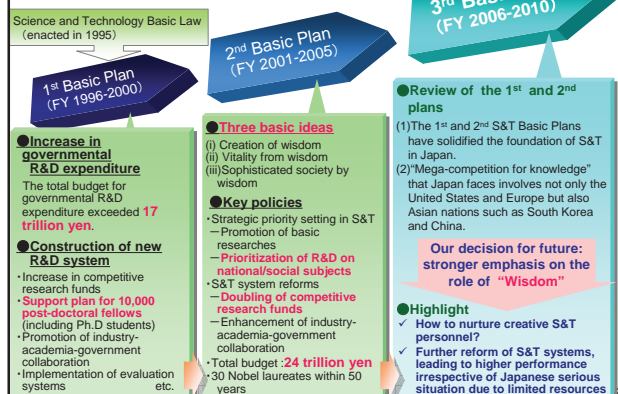


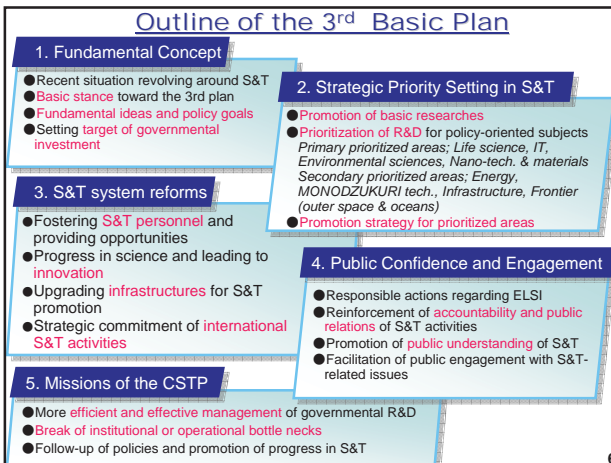
Prime Minister ABE listen to the explanation of the present status of global warming. CSTP meeting in May, 2007

Members of the CSTP

Chairperson	Mr. Shinzo ABE	Prime Minister
Cabinet Members	Ms. Fumio KISHIDA	Minister of State for Science and Technology Policy
	Mr. Kaoru YOSANO	Chief Cabinet Secretary
	Mr. Hiroya MASUDA	Minister for Internal Affairs and Communications
	Mr. Fukushima NUKAGA	Minister of Finance
	Mr. Bunmei IBUKI	Minister of Education, Culture, Sports, Science and Technology
Executive Members	Mr. Akira AMARI	Minister of Economy, Trade and Industry
	Dr. Masuo AIZAWA	President, Tokyo Institute of Technology
	Dr. Taizo YAKUSHIJI	Visiting Professor, Keio University
	Dr. Tasuku HONJO	Visiting Professor, Kyoto University
	Dr. Naoki OKUMURA	Former Representative Director and Executive Vice President, Nippon Steel Corporation, Ltd.
	Mr. Etsuhiko SHOYAMA	President, Chief Executive Officer and Director, Hitachi, Ltd.
	Dr. Yuko HARAYAMA	Professor, Graduate School of Engineering, Tohoku University
Sci.Council	Dr. Mitiko GO	President, Ochanomizu University
	Dr. Ichiro KANAZAWA	President of Science Council of Japan

Aiming to be an advanced science- and technology-oriented nation





Long-term Strategic Guidelines
 "Innovation 25"

Strengthening science and technology diplomacy

- Strengthening science and technology in cooperation with developing countries**
 To support developing countries for life and health maintenance (water and food issues, infectious diseases), and to provide technological support for economic development and for the issues of environmental technologies closely associated with conservation of ecosystem, a commitment will be made to develop mutual local networks of higher education and research institutions as a local base for cooperation toward joint research and human resources development and support will be given to the development of higher education/research institutions and research facilities and equipment, such as system to dispatch researchers who carry out cooperation activities in developing countries to conduct joint research and human resources development in an integrated manner.
- Transmission and demonstration of Japan's excellent technologies in science and technology to the world**
 - Active provision of Japan's excellent environment-related technologies in accordance with the needs of developing countries: for example, provision of data of advanced earth observation satellites, provision of prediction data on changes in climate and water conditions in the future obtained by the Earth simulator and other computer systems, and provision of disaster prediction
 - Support for the demonstration of Japan's prominent technologies to the world in the areas of environment, energy and water, such as reusable energy, water management, resource- and energy saving, capture and storage of carbon dioxide, waste management/3Rs (reduce, reuse, recycle), to be conducted in the most suitable conditions with the participation of industries, and dissemination of Japan's technologies to the world
 - Support for the establishment of stable and sustainable production and supply systems tailored to each region, avoiding the competition between food production and biomass production by, for example, developing monitoring technologies of food and biomass resources of the world, developing technology for effective energy generation from untapped resources, and cultivation of high biomass forage utilizing tropical plants

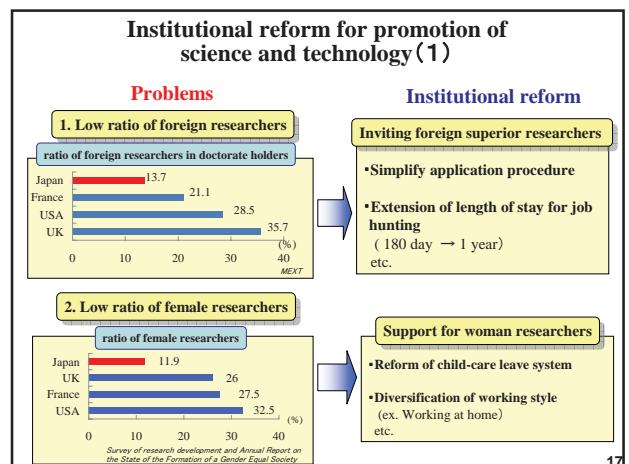
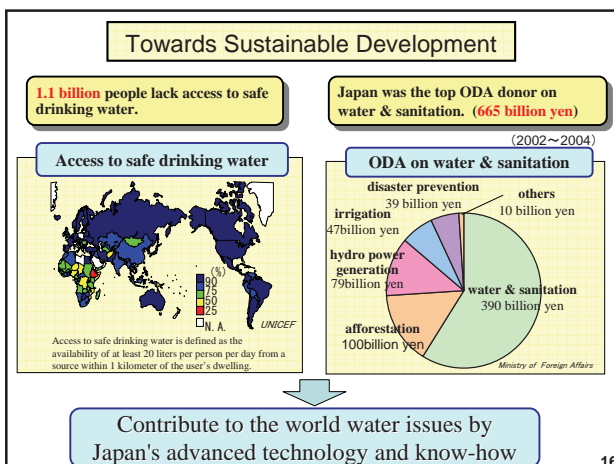
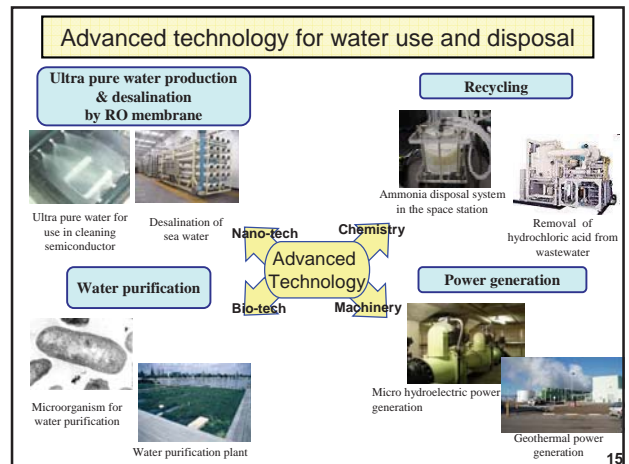
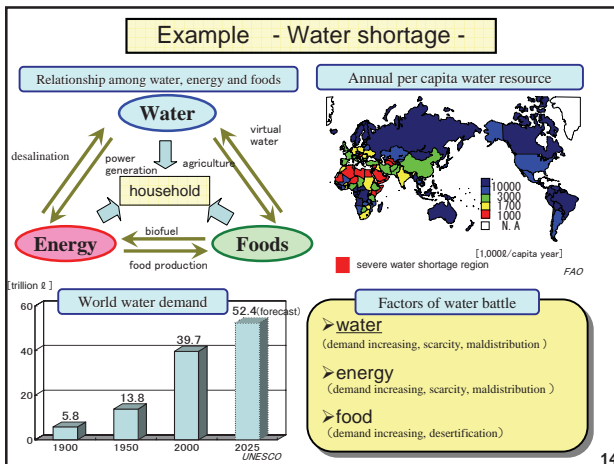
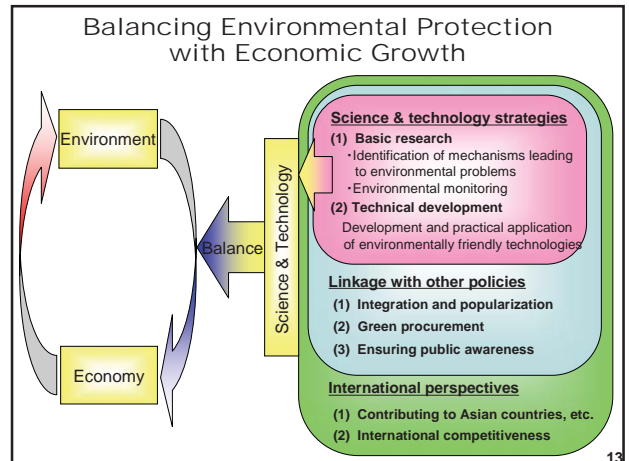
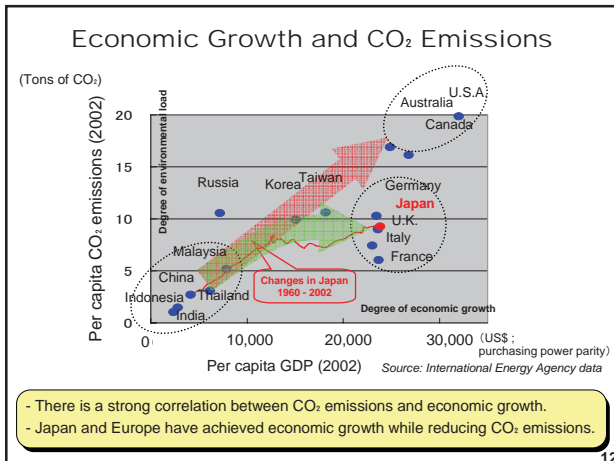
- International contribution in the form of, for example, technical cooperation utilizing Japan's knowledge and technologies concerning both mitigation and adaptation measures: including capacity development for research on impact on global warming or disaster-risk management in developing countries vulnerable to global warming, technical cooperation including development of human resources concerning adaptation measures, development and dissemination of new harsh-environment resistant varieties in Africa, etc., and stabilization of food supply/demand through greening of the desert
- Undertaking of initiatives for joint projects to promote eco innovation on an international scale, encompassing various areas ranging from technical issues to social systems, on the occasions of the OECD meetings, etc.
- Support of establishment of environment-conscious systems in Asia, etc**
 Discussions will be undertaken within FY2007 on specific environment /energy-related systems to be introduced and disseminated in Asia as an "Asian Standard", for example, Pollution Prevention Manager system, which was the foundation of the industrial development in Japan. The goal is to support sustainable economic development in developing countries, particularly in Asia and to improve environmental measures.
- Commitment to the initiative for addressing climate-change issues**
 At the bi-lateral summit meeting with China and United States, Japan proposed an issue of climate change as first priority which should be addressed with a top level leadership and agreed to strengthen the bi-lateral cooperation to solve this issue. To foster and proceed this movement, Japan will take initiative by using the various opportunities of international conference, such as summit meeting, proposing an prime minister's initiative "Cool Earth 50," a strategy to address this issue.
- Strengthening approaches to climate-change issues by environment/energy technologies**
 By promoting the activities of the Asia-Pacific Partnership on Clean Development and Climate (APP), in which main countries in Asia and Pacific regions participate, the public-private partnership focusing on energy technology will be built up and regional collaboration to develop, disseminate and transfer clean and efficient technology will be accelerated.

- Developing the world's environment leaders**
 In order to give young people of Asia and the world opportunities to learn environment technologies and environmental policies in Japan so that they can contribute to developing an environment-conscious economy and sustainable society after returning to their home countries, programs to develop environmental leaders will be formulated. This includes the acquisition of degrees from universities and practical experiences at research institutions through cooperation among competent authorities, and it will be done in partnership with international universities and industries under the leadership of the Japanese government.
- Strengthening cooperation in the field of advanced science and technology**
 Cooperation in the field of science and technology will be actively promoted by making the research activities of universities and public research institutions of Japan open to the world, and by collaboration with various "different" elements, such as the world's top level brains. Particularly, mutual use of advanced research facilities will be promoted by actively making those facilities in Japan open to the world. Acceptance and dispatch of researchers and joint research will also be promoted.
- Strengthening network of science and technology cooperation**
 Efforts will be made to provide support for international activities and strengthen the network with partner countries by significantly strengthening the functions of science and technology diplomacy of diplomatic establishments abroad, and soliciting and actively utilizing the cooperation of overseas centers of research institutions, including universities.
- Framework for promoting international joint research project**
 Discussions will be carried out on international and advanced research on the environment by actively making proposals from Japan, such as establishing an international framework to support international joint research projects contributing to solving common global issues.

Reinforcement of science and technology diplomacy (in 'Innovation 25 Strategy', represented on June 2007)

- Strengthen science and technology cooperation with developing countries, particularly in Africa
- Disseminate and demonstrate Japan's superior environmental technology to the world
- Foster world environmental leaders
- Strengthen cooperation in advanced science and technology fields
- Reinforce networks for science and technology cooperation



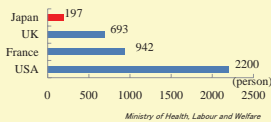


Institutional reform for promotion of science and technology (2)

Problems

30% of medicines which are best sales in the world market have not yet approved in Japan. (Problems of implementation for clinical research)

Number of officers for examination of medicine



Institutional reform

Promotion of comprehensive clinical research including clinical trial

- Increment in the number of officers for the examination
- Settlement of the standard for clinical research
- Incentive for enlarging the enrollment to clinical research etc

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Ethical Issues of Science and Technology

Hot Issues on Bioethics in Japan

Object	Scientific development	Issues
germ cell embryo	<ul style="list-style-type: none"> • in vitro fertilization • gene therapy • regeneration medicine (ES cells, cloning) • preimplantation genetic diagnosis • surrogate mother • assisted reproduction technologies (ART) 	<ul style="list-style-type: none"> • manipulation of beginning of life • manipulation of life • protection of embryos • selection of life (eugenics)
unborn body	<ul style="list-style-type: none"> • regeneration medicine (dead unborn baby) 	<ul style="list-style-type: none"> • utilization of dead unborn baby organs
human	<ul style="list-style-type: none"> • regeneration medicine (organ transplant) • genomic diagnosis (SNPs) 	<ul style="list-style-type: none"> • xenotransplantation • ethical issues in state-of-the-art medicine
animal	<ul style="list-style-type: none"> • animal experiments 	<ul style="list-style-type: none"> • animal welfare
plant	<ul style="list-style-type: none"> • genetically-modified organisms 	<ul style="list-style-type: none"> • influence on human, ecological system, and biodiversity

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