11

Latest Trends in United States Science and Technology Policy
Flash Report on 2002 AAAS Annual Colloquium
Impact of Terrorist Attacks on US Science and Technology Policy and Priority Targets for FY 2003

TOMOE KIYOSADA
General Unit

11.1 Introduction

On April 11 and 12, 2002, an AAAS (American Association for the Advancement of Science) colloquium, "Science and Technology in a Vulnerable World-Rethinking Our Roles") was held in Washington D.C. The said colloquium is held each spring, this year marking its 27th session, and as a conference on the theme of science and technology policy, it is the largest in the United States.

This year, a total of 500 or more persons participated, including Dr. John H. Marburger, appointed as Presidential Science Advisor in October, 2001; persons connected with the United States Government; researchers and managers from universities, research institutions and R&D companies; policy thinktank analysts; and also persons concerned with science and technology policy in foreign countries. Topics they discussed included 1. the desired state of science and technology policy following the terrorist attacks and 2. trends in the organization of the United States federal R&D budget for FY 2003.

This paper introduces the latest trends in United States science and technology policy, based upon details of discussions at the said colloquium and interview surveys with persons involved.

11.2 Science and technology policy after the terror attacks

11.2.1 Action by academia and bureaucracy

Since the terrorist attacks, the Bush Administration has been working on counter-terrorism measures as the top priority. Quick to respond on behalf of the scientific community was the National Academies[1].

(1) Response of National Academies

On September 20, 2001, National Academies announced to President Bush that it would pool together the resources of the scientific community to cooperate with measures to combat terrorism, as well as[2] set up an internal committee to study ways science can contribute to combating terrorism. Under the joint chairmanship of Harvard professor emeritus Dr. Lewis Branscomb and former National Cancer Institute (NCI) director Dr. Richard Klauser, the said committee is expected to submit a final report to the federal Government in summer, 2002. The committee held its inaugural meeting in September, 2001, and proposed to the federal Government that R&D of counter-terrorism measures be promoted across all agencies and departments.

(2) Establishment of Government Counter-Terror R&D Taskforces

In response to a proposal from the aforementioned Natonal Academies, Advisor Marburger set up five taskforces under the National Science and Technology Council[3] to promote R&D on counter-terrror measures.
Of the five taskforces, four are in charge of the following respective themes:

— Detection and treatment of biological and chemical substances
— Detection and treatment of nuclear substances
— Protection of vital infrastructure
— Research on terrorist psychology based on social science and human engineering

The fifth taskforce makes technical evaluations of counter-terror R&D proposals that each agency and department submits, and compiles them into a database.

Since counter-terror R&D covers many academic areas, it is hoped that construction of said database will avoid program overlaps between departments and agencies, and will contribute to increasing the efficiency of program design by each department and agency.

(3) Interim evaluation of Government Counter-Terror R&D Programs

Since the terrorist attacks, a few departments and agencies have made a tentative start on counter-terror R&D programs. In order to improve the efficiency of these efforts, Advisor Marburger commissioned the thinktank RAND, Inc., to conduct an interim evaluation of programs currently in progress. RAND, Inc., has compiled these programs into a common format spreadsheet, and is advancing preparations for the interim evaluation while clarifying program overlaps, gaps between related departments and agencies, and cooperative possiblities between departments and agencies.[4]

(4) Finding human talent

Since the terror attacks, the federal government has received numerous counter-terror R&D proposals from the general public. The National Coordination Office (NCO), which oversees the OSTP (Office of Science and Technology Policy) and the government's IT initiative, "Networking and Information Technology R&D", is gathering information on proposers of the aforementioned proposals and compiling it into a database. Under President Bush, who is enthusiastic about the new employment of private citizens necessary for counter-terror measures, each department and agency is using said database to gather the necessary human talent.

Table 1: Changes in R&D budget for counter-terror Measures

	R&D Budget for Counter-Terror Measures (in 100 million dollar units)	Percentage increase from previous year (%)
FY 2001	5.8	—
FY 2002	15	159
FY 2003	28	87

Source: AAAS Report XXVII: Research and Development FY 2003

11.2.2 R&D budget for counter-terror measures

Since the terror attacks, the budget for R&D of counter-terror measures has been increasing (Table 1).

In FY 2003, it is predicted that most of the budget for R&D of counter-terror measures will be allocated to NIH R&D on bioterrorism countermeasures.

11.3 Impact of terror attacks on universities

11.3.1 Impact on the internationality of universities

In an AAAS address, Georgia Institute of Technology President G. Wayne Clough pointed out that, "Since the terror attacks, examinations for visa issuance to foreign students have become rigorous. It is also causing obstacles to the promotion of international collaborative research." In addition, University of California at Santa Cruz President Greenwood noted, "Since the terror attacks, overseas students, Moslems in particular, have come under severe criticism, and many foreign students have returned to their home

countries."

Furthermore in the United States Congress, the enactment of a "Technology Talent Act" is being discussed, which supports students (restricted to US citizens and permanant residents) who study science and technology at university, and if said bill is approved, it is feared that the closed nature of universities to foreign countries will intensify.

11.3.2 The role expected of universities

Unlike a conventional war, a terror offensive involves many uncertain elements: who is the enemy? and from where and how will they attack? For this reason, universities are being counted on to research terrorist psychology, and collect, analyze and compile information on terrorism into databases. Expectations are also being placed in universities for R&D on anthrax and other vaccines; biometrics research, which increases the accuracy of personal verification; improving the accuracy of sensors that detect dangerous substances, and so forth.

In respect to this emeritus professor Branscomb notes in an AAAS address that, "Universities should aggressively advance R&D on counter-terror measures, and contribute to maintaining the solidity of US society. However, much of this R&D is highly interdisciplinary, and preparations for a method of evaluation are a matter of urgency."

11.3.3 Danger of becoming a source for providing terrorist techniques

In an AAAS address, Advisor Marburger pointed out, "while expectations are high in universities for counter-terror measures, there is a risk that universities will become a source for providing terrorist techniques such as biological weaponry."

In order to reduce this risk, the "USA Patriot Act" was established, which demands that universities and the National Center for Educational Statistics (NCES) provide personal data on researchers, when requested by the FBI, CIA, etc. Emeritus Professor Branscomb commented in an AAAS address that, ..while the method is effective in preventing terrorism, there is concern that the privacy of researchers is infringed upon."

11.4 Government R&D budget for FY 2003

11.4.1 Trends in budget organization

On February 4, 2002, President Bush announced the FY 2003 Budget Request (FY 2003 is October 2002 to September 2003). According to said Budget Request, the FY 2003 R&D budget will increase 8.6% over the previous year to 112 billion dollars, and showing conspicuous budget increases are the Department of Defense (DOD), up 9.9% from the previous year, and the National Institute of health (NIH), similarly up 16% (for more details on the FY 2003 Presidential Budget Request, see report in the forth issue of Science and Technology Trends — Quarterly Review: "The Trend of the R&D Policy in the U S - Transition of priority areas inof the R&D budget allocation of the federal government -").

11.4.2 Priority Areas for FY 2003

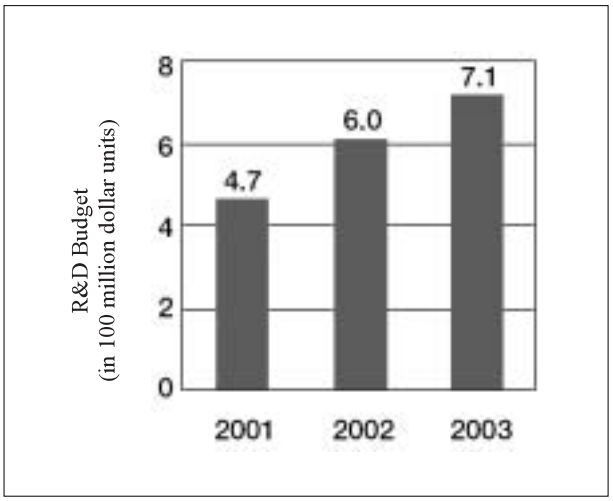
Priority areas for FY 2003 are nanotechnology and life science.

(1) Nanotechnology

The FY 2003 Budget Request demands an increase in the NNI budget compared with the previous year (Figure 1).

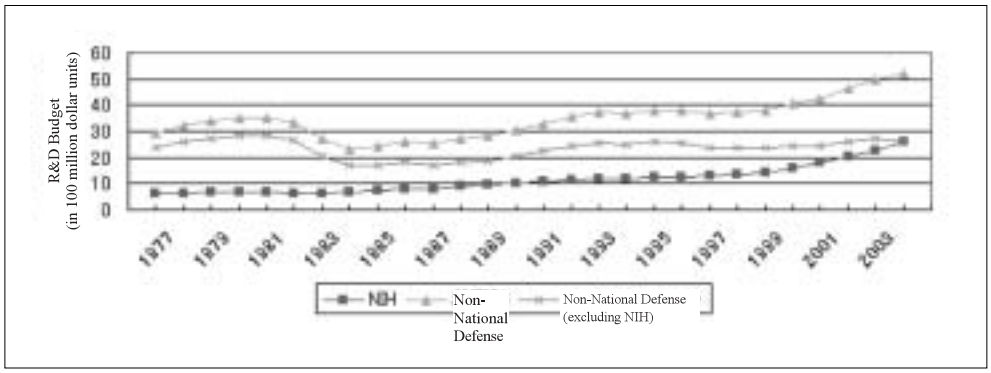
Furthermore, in an AAAS address, Advisor Marburger mentions promotion of the National Nanotechnology Initiative (NNI) as one of the priority themes of FY 2003 science and

Figure 1: Changes in NNI budget



Source: AAAS Report XXVII: Research and Development FY 2003

Figure 2: Changes in NIH share of non-national defense budget



technology policy. Specifically the FY 2003 Budget Request lists the following themes anew.

— Manufacturing processes on the nanoscale
— Detection and treatment of chemical, biological and nuclear bombs employing nanotechnology
— Development of measuring methods and measuring instruments for nanoscale

In addition said Budget Request also seeks reinforcement of standardization, development of human talent and cooperation between industry, academia and bureaucracy that has been tackled so far in the NNI.

And in the federal government, it is thought field concepts concerning "nano" are still in a fluid state. For example, the "N" that appears in the middle of NNI generally represents "Nano-technology," but the "National Nanotechnology Investment in the FY 2003 Budget Request by the President," announced by the NEST (Nanoscale Science, Engineering and Technology) working party[5] of the NNI secretariat, notes that it also may refer to "nanoscale science, engineering and technology." Advisor Marburger raises the concept of nanoscience, and comments that this is a domain comprised of organic nanoscience (biotechnology) and inorganic nanoscience (nanotechnology).[6]

(2) Life science

FY 2003 corresponds to the final year of the 5-year campaign to double the NIH budget that began in FY 1999, and precisely the same target is achieved by the FY 2003 Budget Request. Director Koizumi of the AAAS R&D Budget and Policy Program comments, "It is easy to gain the country's support for NIH. In particular the Federal Congress is holding off an election in fall of this year, so there is little possibility of reducing the NIH budget sought in the Budget Request; if anything they'll probably increase it."

Consequently, the share that NIH accounts for in the non-national defense R&D budget will increase (Figure 2), and a problem of balance between areas is occurring.

11.4.3 Problem of balance between areas

With the end of the campaign to double the NIH budget close at hand, there are calls from the NSF and some in Congress for a campaign to double the NSF budget, with an aim to increasing the budget for engineering and physics fields. However Advisor Marburger has expressed his opposition to said campaign to double the NSF budget, even while advocating the necessity of redressing the imbalance between areas[4].

Behind this is the Advisor's idea that, "The problem is not that if we increase the life science budget we should also increase the budget for physics areas in the same way. In the way that the development of IT is advancing genome analysis in leaps and bounds, and the development of nanotechnology is drawing out new functions from materials and has clarified the mechanism of new life phenomena, a variety of fields are developing while being intricately interwoven. Seen from such a viewpoint, it is important that we continue to aggressively invest in R&D for life science. Similarly, it is important that we make priority investment into nanotechnology and IT as well in the same way.

In regard to said policy, Director Peterson of SRI

International comments, "...it shows great foresight, and I am looking forward to future developments in science and technology."

11.5 Revision of government R&D management

The Bush Administration places importance on R&D management, and through the OMB (Office of Management and Budget) ordered every department and agency to i) develop criteria of R&D investment; ii) evaluate each R&D project using said criteria; and iii) reflect said evaluation results in the annual budget request.

President Bush already ordered the Department of Energy (DOE) to conduct this work in the National Energy Policy (NEP) announced in May, 2001, and the investment criteria of practical research and development that the DOE developed are also being applied by other department and agencies, and each department and agency is expected to independently develop investment criteria for basic research. The DOE's evaluation results were expected to be reflected in the FY 2003 budget request, but since the DOE took time in developing investment criteria of basic research, reflection of evaluation results was postponed until the FY 2004 budge request.

In respect to this, the National Academy of Sciences (NAS) gathered persons connected with the DOE and OMB, and persons of learning and experience from industry and academia, and held a workshop to discuss the development of investment criteria of basic research, and while participants supported OMB demands in general, they showed concern as to whether the effect of investment in long-term, high-risk basic research could be evaluated with simple criteria, and that perhaps it might kill off rudimentary research.

In an AAAS address, Advisor Marburger expressed enthusiasm for developing and setting in place evaluation criteria in order to effectively carry out peer reviews, which are used in the examination of each department's and agency's R&D projects, but fears are growing in the scientific community that "..setting detailed criteria in peer reviews will lead to the ruining of evaluations."

11.6 Conclusion

The impact of the terrorist attacks on United States science and technology policy is considerable, and a variety of counter-terrorism R&D programs are being planned and implemented, but they are quite complex and urgent coordination is being sought.

Furthermore for FY 2003, the Bush Administration is expected to prioritize nanotechnology and life science, and this trend is predicted to continue for the time being. However, if we consider the growing deficit economy, revising and increasing the efficiency of government R&D investment are necessary, and the direction of R&D management, on which the Bush Administration places great importance, will be watched with much interest.

References and notes

[1] Composed of researchers, etc., who represent the US scientific community.
[2] "Federal Research and Development for Counter Terrorism: Organization, Funding, and Options", November 26, 2001, CRS Report for Congress
[3] Committee that was set up in the White House. Mainly coordinates allocation of the federal government's R&D resources. Its members include the Vice-President, the President's Science Advisor, secretaries of departments and agencies connected with science and technology, directors of relevant bureaus, other White House high officials, and persons of learning and experience that the President has appointed.
[4] "Statement of The Honorable John H. Marburger, III, Director, OSTP", December 5, 2001, House Committee On Science
[5] Established under the NSTC
[6] "Speech of Dr. John Marburger; Science Based Science Policy", February 15, 2002, Boston, Massachusetts
[7] "University Research in the News", 02-04 February 8, 2002, Association of American Universities

(Original Japanese version: published in April 2002)

12

Outline of Drawing up the FY2002 Budget for Science and Technology — Technical and Social Aspects —

YOSHIKO YOKOO
General Unit

12.1 Introduction

Year 2002 is the second year for the Second Science and Technology Basic Plan (hereinafter, "Basic Plan"). As the newly established science and technology administrative system began running smoothly, the Japanese government started full-scale efforts to accomplish the Basic Plan.

In this report, I would like to overview how the government drew up the FY2002 S&T related budget by focusing on the activities of Council for Science and Technology Policy (CSTP). This is the first budgetary process under the new administrative structure and also regarded as the prototype for future budgetary processes. In addition, I would like to present an outline of the FY2002 S&T related budget.

12.2 Budgetary process under new administrative structure — activities of the Council for Science and Technology Policy

The CSTP council meeting submitted its recommendation number 1, "Comprehensive Strategy to Promote Science and Technology," in March 2001. Based on this recommendation, the Japanese government determined the Second Basic Plan.

After its establishment, CSTP holds monthly council meetings to discuss and decide important mattes for science and technology fields.

In this report, I would like to overview how the government drew up the FY2002 budget by focusing on CSTP's policy discussions and decisions.

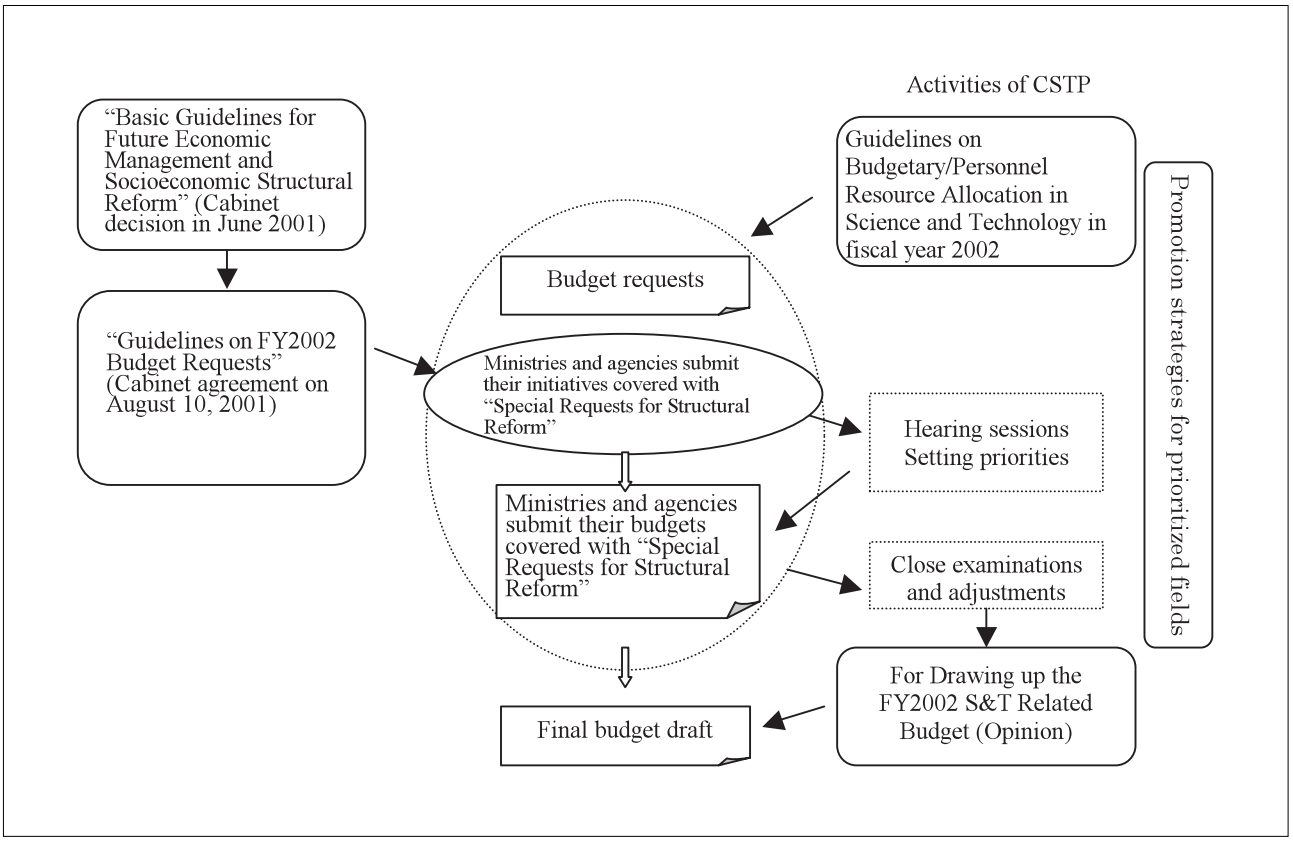
In drawing up the FY2002 budget, CSTP (i) examined promotion strategies for each prioritized area, (ii) proposed guidelines on budgetary/personnel resource allocation, and (iii) reviewed how the government actually incorporated CSTP's resource allocation guidelines into the related programs.

In May, the council meeting discussed important matters for the FY2002 budget. The council meeting also made two decisions: (i) CSTP would prepare the resource allocation guidelines well in advance so that ministries/agencies could request the budgets in line with it, and (ii) CSTP would evaluate budget requests of the related ministries/agencies, set priorities and ensure proper resource allocation in cooperation with Ministry of Finance.

Based on its council meeting's decision in March, CSTP established the expert panels to examine sectorial promotion strategies for prioritized fields described in the Basic Plan. These expert panels planned and examined projects for each prioritized fields and reported their findings to the monthly council meetings, mainly focusing on where the government should put more emphasis in each prioritized fields. The expert panels also surveyed and examined the resource allocation guidelines in cooperation with the expert panel on S&T system reformation and the expert panel on evaluation.

Based on these activities, the council meeting in July determined the "Guidelines on Budgetary/Personnel Resource Allocation in Science and Technology in fiscal year 2002" (hereinafter, "Resource Allocation Guidelines"),

Figure 1: Flowchart of budgetary process



which describes basic concepts for budget requests. "The Resource Allocation Guidelines" proposed more strategic fund allocation to prioritized fields mentioned in the Basic Plan, as well as more drastic system reforms to build proper environments that would create the highest-level R&D results in the world. Each of the related ministries and agencies was supposed to sufficiently incorporate the guidelines into their budget requests. CSTP also would work with the treasury authorities as necessary in the budgetary process.

In August, the government determined the "Guidelines on FY2002 Budget Requests" (Cabinet agreement on August 10, 2001). This Cabinet agreement approved "Special Requests for Structural Reforms" to prioritize budget allocation for seven important issues, such as policies for environmental problems, countermeasures for the aging society with fewer children, revitalization of local communities, urban regeneration, science and technology promotion, human resource development/education/culture, and for an IT nation. In terms of the special requests, CSTP decided to examine planned promotion initiatives based on "Resource Allocation Guidelines" and to review prioritized public investment initiatives from viewpoints of enhancing science and technology.

In September, after ministries and agencies submitted their initiatives covered financially with the special requests, the Minister of State for Science and Technology Policy and CSTP council members held hearing sessions and set priorities on these initiatives from the viewpoints of accomplishing the Resource Allocation Guidelines and structural reforms. After having examined other issues, the Cabinet Secretariat offered its final plan to the related ministries and agencies. Based on this final plan, ministries and agencies requested their budgets through Special Requests for Structural Reform.

Then, CSTP carefully examined its budget requests as a whole. Based on "Resource Allocation Guidelines" as well as "Promotion Strategy of Prioritized Areas" decided by its September council meeting, CSTP systematically sorted out the related initiatives and examined which initiative should be aggressively promoted or should be carried out in cooperation with other ministries/agencies. In November, the CSTP council meeting compiled "For Drawing up the

FY2002 S&T Related Budget (Opinion)," which describes important issues for budgetary process. According to this opinion, although the importance of science and technology was generally emphasized in the budget request process, the budget request failed to incorporate other important initiatives, such as greater fund allocation to national university/institutions. In addition, the opinion pointed out important matters for more strategic science/technology promotions and system reforms.

After such process, the government determined the FY2002 budget. As some policy initiatives might require comprehensive implementation, continuous examination and clear strategies, CSTP decided to keep track of and adjust the related initiatives in order to ensure consistency with the Resource Allocation Guidelines and Promotion Strategy of Prioritized Areas.

12.3 Outline of the FY2002 budget for science and technology

12.3.1 Total amount of budget for S&T

Budget for S&T refers to the national budget portion that contributes to science/technology promotion, such as expenses for research activities at universities, expenses for government research institutes (including independent administrative institutions and research institutes of public corporations), subsidies for R&D activities, grants/contract charges, and other necessary expenses for R&D-related administrative activities. (In this context, expenses mean all budgetary items, such as personnel cost, gratitude, travel expense, research expense, agency expense, equipment expense, facility expense, contract charge, subsidy and investment.) S&T promotion expenses refer to the general account budget portion that mainly aims at science and technology promotion. The budget for S&T is the sum of S&T promotion expenses, other R&D-related expenses in the general account budget (e.g., energy-related policy expense) and S&T-related expenses in special account budgets (such as the Special Account Budget for National Educational Institutions and the Special Account Budget for Electric Power Development Promotion Measures). The Ministry of Education, Culture, Sports, Science and Technology (MEXT) is in charge of compiling the S&T related expenditures.

The total amount of the FY2002 general account budget is ¥81 trillion (down 1.7% from FY2001). General expenditures are ¥47.5 trillion (down 2.3% from FY2001). Despite such tight budget, S&T promotion expenses reached ¥1.2 trillion (up 5.8% from FY2001) and enjoy significant growth. The total amount of the budget for S&T is ¥3.5 trillion, increasing by 2% from FY2001 (Table 1). The government allocated ¥2.7 trillion to the structural reform special requests for more strategic fund allocation. Out of this sum, the government allocated about ¥0.9 trillion to "Promotion of S&T, Education and IT." The S&T-related initiatives are as follows.

- Establishing top-level universities in the world: ¥18.2 billion
- Enhancing educational/research activities at private universities [new project due to amending the system]: ¥64.5 billion
- Promoting life science through the Protein 3000 Project: ¥20.5 billion
- Groundbreaking advanced medical

Table 1: S&T related expenditures in the FY2002 budget draft

(in ¥100 million)

	FY2001	FY2002	Increase / Decrease (%)
General account budget	18,376	18,513	0.7%
S&T promotion expenses	11,124	11,774	5.8%
Others	7,252	6,739	– 7.1%
Special account budgets	16,309	16,874	3.5%
Total	34,685	35,387	2.0%

Source: Press release from the Research and Coordination Division, Science and Technology Policy Bureau, MEXT

Table 2: Budget amount by ministry / agency

	Expenditure (in ¥100 million)	Percentage	Increase / decrease (%)
MEXT	22,644	64%	2.4%
METI	5,972	17%	6.4%
Defense Agency	1,435	4%	– 3.7%
MHLW	1,281	4%	3.4%
MAFF	1,224	3%	–0.1%
Total	35,387	100%	2.0%

Source: Press release from the Research and Coordination Division, Science and Technology Policy Bureau, MEXT

technology promotion R&D activities: ¥2.8 billion

— Developing/testing fuel cell technologies: ¥5.2 billion
— Nanotechnology comprehensive support project: ¥3.8 billion
— Creating industry-university and industry-government joint research activities: ¥5.0 billion
— Intellectual cluster formation project, etc.: ¥8.6 billion

12.3.2 Budget by ministry / agency

When we look at the budget amount for each ministry/agency, MEXT has ¥2.3 trillion and accounts for 64% of the total amount, followed by the Ministry of Economy, Trade and Industry (METI) at ¥597.2 billion, the Defense Agency at ¥143.5 billion, the Ministry of Health, Labor and Welfare (MHLW) at ¥128.1 billion, and the Ministry

Table 3: S&T related expenditures for each field

(in ¥100 million)

	Main policies	Related policies	Independent administrative agencies (for reference)	Competitive funds (for reference)	Total (for reference)	Percentage (main purpose)	Increase / decrease % (main purpose)	Increase / decrease % (Total)
Life science	1,663	254	635	1,815	4,366	11%	8%	4%
IT	1,155	677	292	332	2,456	8%	– 1%	– 2%
Environment	507	6,647	267	222	7,643	3%	33%	6%
Nano-tech/ materials	115	384	286	447	1,232	1%	58%	13%
Energy	6,841	42	59	92	7,033	45%	2%	2%
Manufacturing	26	376	21	170	594	0.2%	– 43%	– 1%
Social infrastructure	2,005	240	558	45	2,848	13%	– 4%	– 2%
Frontier technologies	2,780	341	5	58	3,184	18%	– 7%	– 7%

Source: Press release from the Research and Coordination Division, Science and Technology Policy Bureau, MEXT

(Notes) 1) After adjustments with the Cabinet Office, METX compiled these figures based on data submitted by the ministries and agencies.
2) "Main policies" column refers to expenses spent for research activities or other original purposes, except for the independent administrative agency and competitive fund expenses.
3) "Related policies" column refers to expenses spent for, if any, secondary research activities other than original purposes, except for the independent administrative institution and competitive fund expenses.
4) "Independent administrative agencies" column refers to expenses that MEXT calculated based on its questionnaire. With this questionnaire, MEXT asked independent administrative agencies to comment on their budget plan for each field. MEXT calculated these figures for your reference. (MEXT calculated FY2002 figures proportional to the FY2001 actual fund allocation.)
5) "Competitive fund" means expenses that qualify for competitive funds. MEXT calculated these figures based on the actual budget allocation in the immediately preceding fiscal year (FY2000 for this survey). MEXT calculated these figures for your reference.
6) Other than the funds mentioned above, there are ¥1,580 billion budget funds as expenses for cross-sectional projects, expenses that remain unallocated in the budgetary process as well as some expenses in the National Educational Institution Special Account Budget.

Table 4: Competitive funds

(in ¥100 million)

	FY2001	FY2002	Increase / decrease %
Total	3,265	3,446	5.5%
Grants-in-aid for Scientific Research	1,580	1,703	7.8%
Special Coordination Funds for Promoting S&T	343	365	6.4%

Source: "Outline of Expenditures in the FY2002 Budget," Ministry of Finance

of Agriculture, Forestry and Fisheries (MAFF) at ¥122.4 billion. In terms of an increase in ratio from FY2001, METI is the highest (up 6.4% or ¥35.9 billion) followed by MHLW (up 3.4% or ¥4.2 billion) and MEXT (up 2.4% or ¥52.3 billion). On the other hand, the Defense Agency has a smaller budget (down 3.7% or ¥5.5 billion). (Table 2)

12.3.3 Budgets for prioritized fields

Table 3 shows S&T related expenditures by each prioritized field stated in the Basic Plan.

The energy area has the largest budget (¥684.1 billion, 45%), followed by frontier technologies (¥278.0 billion, 18%) and social infrastructure (¥200.5 billion, 13%). When adding up the amounts in "related policies," "independent administrative agencies" and "competitive fund" columns, the environment area has the largest budget (¥764.3 billion, 26%), followed by energy (¥703.3 billion, 24%) and life science (¥433.6 billion, 15%).

Although nano-technology/materials only have a small budget (¥11.5 billion for main purpose and ¥123.2 billion in total), this area enjoys the significantly largest growth rate in main policies (up 58%), related policies (up 35%) and in total (up 13%). Main initiatives include MEXT's administrative cost subsidy for the National Institute for Materials Science (¥16.7 billion), METI's nanotechnology program (¥8.3 billion) and MEXT's nanotechnology comprehensive support project (¥3.8 billion). In addition, the environment field also enjoys a significant growth rate (up 33%) in its main purpose initiative expenses.

12.3.4 Competitive fund

Competitive funds increased to ¥344.6 billion, up 5.5% from FY2001. Out of the total competitive funds, Grants-in-aid for Scientific Research and Special Coordination Funds for Promoting S&T increased by 7.8% and 6.4%, respectively. (Table 4)

12.3.5 Industrial competitiveness enhancement and industry-university-government cooperation

The government allocated ¥338.4 billion to industrial competitiveness enhancement and industry-university-government cooperation for the FY2002 budget. This area enjoys significant budget growth, up 29% from FY2001.

Main initiatives include METI's industrial technology R&D contract fees (¥9.5 billion) and MEXT's industry-university-government cooperative innovation creation project (¥7.1 billion).

12.3.6 Regional science and technology promotion

In the FY2002 budget, the government allocated ¥68.8 billion to regional science and technology promotion. This area enjoys a 40% budget increase, which is larger than the industry-university-government cooperation field. Main initiatives include METI's regional emerging consortium R&D project (¥8.8 billion) and MEXT's regional science/technology promotion expenses (¥8.6 billion).

12.4 Conclusion

The Japanese government determined the FY2002 budget as mentioned above. As follow-up activities for the FY2002 budget, CSTP holds hearing sessions and compiles new findings concerning specific initiatives of the related ministries/agencies. Although this budgetary process would be the new model for drawing up S&T related budgets in the future, it is still necessary to carry out pre/post evaluations concerning a variety of research themes in the FY2003 budgetary process.

(Otriginal Japanese version: published in April 2002)