

Part II describes the measures taken to promote S&T (science and technology) in FY 2014 in accordance with the 4th Science and Technology Basic Plan (Cabinet decision, August 19, 2011). (Science and Technology Basic Plan, hereinafter: the Basic Plan).

## Chapter 1 Development of Science and Technology

### Section 1 The Science and Technology Basic Plan

Science and technology policy in Japan is promoted comprehensively and in a planned manner according to the Basic Plan implemented by the government every five years pursuant to the “Science and Technology Basic Law” (Law No. 130, 1995).

The environment, energy resources, food security and the spread of infectious diseases have become global issues. The Great East Japan Earthquake (GEJE) caused an unprecedented crisis for Japan and posed a great challenge to the rest of the world. These diverse global problems need to be addressed through the cooperation of all the countries in the world, and Japan should capitalize on its advanced S&T to take a leadership role in solving these problems.

Under these circumstances, the 4th Basic Plan presents five major goals that Japan aims at attaining through the following S&T policy objectives: 1) Reconstruction and revival from the disaster focusing on robust recovery from and reconstruction after the GEJE, 2) Promoting Green Innovation focusing on the environment and energy and 3) Promoting Life Innovation focusing on medical care, nursing care and health management. These policy objectives are defined as key factors for the sustainable growth and development of Japanese society for years to come. The Basic Plan also identifies Key challenges to the Priority Issues Facing Japan and states that efforts should be focused on these priority issues instead of specific limited S&T areas. It is also stated that science, technology and innovation (STI) policies including system reforms should be comprehensively implemented to address the priority issues in an integrated manner. Basic research and human resources development are another integral part of the efforts for addressing the priority issues; thus, the Basic Plan emphasizes the need for 1) drastic enhancement of basic research from a long-range perspective, 2) the development of young researchers who will play active roles in S&T research in future and 3) the development of an international-standard research environment and infrastructure. With the recognition that STI policies need to be developed and advanced in the social context, the Basic Plan underlines the importance of public participation in policymaking processes, the dissemination of information regarding S&T and reforms in the systems for promoting R&D. Regarding the investment in R&D, the Basic Plan aims at increasing the total amount of investment by the public and private sectors to 4% or more of the GDP, increasing government R&D expenditures to account for 1% of the GDP and increasing the total amount of government investment in R&D during the term of the 4th Basic Plan to around 25 trillion yen. (The amount of government investment was estimated on the assumption that government R&D expenditures account for 1% of the GDP and that the nominal growth rate of GDP would average 2.8% during the term of the 4th Basic Plan.) (Figure 2-1-1)

FY 2015 is the last year of the current 4th Basic Plan and the government is currently discussing the 5th Basic Plan (for details, see Section 2-2 of Chapter 1, Part I).

Part II summarizes the progress made so far in accordance with the 4th Basic Plan.

■ Figure 2-1-1 / The 4th Science and Technology Basic Plan Overview (FY 2011 - FY 2015)

I. Basic concept

1. The unprecedented crisis in Japan and changes in the world

Considering the Great East Japan Earthquake as a global issue, the government must work to deal with the earthquake and tsunami disaster by fully mobilizing every possible policy measure. Furthermore, Japan and the world have been in the midst of upheaval politically, socially and economically, and the expected roles of science and technology (S&T) are also changing considerably in those circumstances.

<The unprecedented crisis in Japan>

- Direct and indirect damage caused by the Great East Japan Earthquake, including the Fukushima Daiichi Nuclear Power Station accident
- An aging and decreasing population as well as a declining birthrate, plus a loss of social and economic vitality
- Long, downward trend of industrial competitiveness

<Changes in the world>

- Surfacing of global-scale problems, and heating up of competition for natural resources, energy and food, etc.
- Economic rise of emerging nations, and the advance of economic globalization
- Changing innovation systems, and the evolution of brain circulation

2. Positioning of the Basic Plan

The 4<sup>th</sup> Basic Plan is positioned as a basic policy for systematically and comprehensively promoting Japan's S&T policies, as a national strategy for the next five years, while giving greater depth and concrete form to the New Growth Strategy from a wide range of viewpoints and seeking greater coordination with other important policies.

3. Achievements and issues from the 3<sup>rd</sup> Basic Plan

There have been numerous successes since the 1st Basic Plan, such as an increase in research and development (R&D) investment and S&T system reforms. On the other hand, a number of issues have also surfaced.

- Individual achievements have fallen short of attaining social challenges
- Decrease in share of scientific papers of Japan, and remaining low in international ranking of the frequency of scientific paper citations.
- Slack government investment in recent years notwithstanding its upward trend
- Decrease in posts for young researchers in university. Obstacles to maintenance and management of facilities
- S&T has not always been fully understood and supported by the public.

4. Principles for the 4th Basic Plan

- (1) Target picture of Japan
  - (i) A nation achieving sustainable growth and societal development into the future, while accomplishing reconstruction and rebirth from the disaster.
  - (ii) A nation realizing a safe, full and high-quality life for citizens
  - (iii) A nation leading in the resolution of global problems such as large-scale natural disasters.
  - (iv) A nation maintaining S&T which forms the basis of its existence
  - (v) A nation continuing to create intellectual property and nurturing a culture of S&T
- (2) Basic principles for future S&T policies
  - (i) Integrated promotion of "science, technology and innovation (STI) policies"
  - (ii) Greater priority to "roles of human resources and their supporting organizations"
  - (iii) Implementation of the "STI policy created together with society"

II. Realization of sustainable growth and societal development into the future

1. Basic principle

STI will be strategically promoted aiming at reconstruction and revival from the disaster and realizing sustainable growth and societal development into the future.

2. Reconstruction and revival from the disaster

- i) Rebuilding and revival of industries in affected areas.
- ii) Restoration and renewal of social infrastructure.
- iii) Realization of safe living environments in affected areas.

3. Promoting Green Innovation

- i) Realization of a stable energy supply and lower-carbon energy sources usage
- ii) Improvement of energy use in efficiency and smartness
- iii) Development of lower-carbon technologies for social infrastructure

4. Promoting Life Innovation

- i) Development of revolutionary disease prevention methods
- ii) Development of new early diagnosis methods
- iii) Realization of safe and highly effective medical treatment
- iv) Improvement of Quality of life (QOL) for the sick, elderly and disabled

5. System reforms directed at promoting STI

- (1) Enhancement of the strategic systems for promotion STI
  - (i) Establishment of "STI Strategy Councils (tentative name)"
  - (ii) Enhancement of knowledge networks among industrial sector, academic sector and government
  - (iii) Creation of new places to promote collaborations among industrial sector, academic sector and government (Formation of centers of open innovation, etc.)
- (2) Building new systems for STI
  - (i) Improvement of circumstances for strengthening of supports of commercialization
  - (ii) Utilization of regulations and institutions to promote innovations
  - (iii) Building of regional innovation systems
  - (iv) Promotion of intellectual property strategies and international standardization strategies

III. Key challenges to the priority issues facing Japan

1. Basic principle

Priority issues to be addressed as a nation will be set, and the promoting measures aimed at achieving these issues will be focused on

2. Promoting measures for achieving the priority issues

- 1) Realization of a safe, affluent and high-quality life
- 2) Enhancement of industrial competitiveness of Japan
- 3) Contribution to the resolution of global problems
- 4) Promoting fundamental R&D of the nation's existence
- 5) Enrichment and enhancement of common bases for S&T

3. System reforms directed at achieving the priority issues

(Promoting activities based on the promotion measures listed in II.5)

4. Strategic development of international activities

- 1) Promotion of R&D aimed at resolving common issues across Asia ("East Asian Science and Innovation Area (e-ASIA) Initiative.", etc.)
- 2) New developments in S&T diplomacy
  - (i) Development of international activities capitalizing on Japan's strengths
  - (ii) Promotion of international activities for advanced S&T
  - (iii) Promotion of coordination and cooperation with developing countries for global-scale issues
  - (iv) Reinforcement of foundations for developing international S&T activities

IV. Enhancing basic research and human resource development

1. Basic principle

In addition to addressing the priority issues, initiatives also need to be enhanced for promoting basic research and human resource development

2. Drastic enhancement of basic research

- i) Strengthening creative and diverse basic research (Further expansion of Grants-in-Aid for Scientific Research, etc.)
- ii) Enhancement of world-class basic research (Formation of research-focused university groups, formation of world-class research centers, etc.)

3. Development of S&T-related human resources

- i) Development of human resources that can be actively involved in a variety of places
  - (i) Drastic enhancement of graduate school education (Creation of new places to dialogue between industrial sector and academic sector, establishment of the "Guideline for Promotion of Graduate School Education", etc.)
  - (ii) Support for doctoral course students, and diversification of career paths

- ii) Development of creative and outstanding researchers
  - (i) Creating fair and highly transparent evaluation systems
  - (ii) Improving the career paths of researchers
  - (iii) Promoting the active involvement of female researchers
- iii) Developing the new generation for future S&T activities

4. Formation of an international-standard research environment and foundations

- i) Improvement of R&D circumstances at universities and public research institutions
  - (i) Improving university facilities and equipment
  - (ii) Promoting development and shared use of advanced research facilities and equipment
- ii) Improving the intellectual infrastructure
- iii) Improving the research information infrastructure

V. Development of policy created together with society

1. Basic principle

In order to achieve "policy for society and the public", initiatives need to be developed for gaining public understanding, trust and support

2. Deepening relationship between society and STI

- i) Promotion of STI policy based on the viewpoints of ordinary citizens
  - (i) Encouraging public participation in policy planning and promotion
  - (ii) Addressing ethical, legal and social issues (ELSI)
  - (iii) Developing and securing human resources that link STI policy to society
- ii) Promotion of S&T communication activities

3. Promotion of effective STI policy

- i) Strengthening the policy planning and promotion function (establishment of the "STI Strategy Headquarters (tentative name)", etc.)

- ii) Enhancing the screening and allocation functions in the research funding programs
  - (i) Structural reform of research funds for the effective and efficient screening and allocation
  - (ii) Improvement and enrichment of the competitive fund systems
- iii) Enhancement of the R&D implementing system
  - (i) Reform of the R&D Corporations (Establishment of new system for national R&D institutions)
  - (ii) Improvements of systems for promoting research activities effectively
- iv) Establishing the PDCA (plan-do-check-act) cycle in STI policy
  - (i) Ensuring the effectiveness of the PDCA cycle
  - (ii) Improvement and expansion of R&D evaluation systems

4. Expansion of R&D investment

Increasing the combined public-sector and private-sector R&D investment to over 4% of GDP, increasing the governmental R&D investment to 1% of GDP which will bring the total amount of the governmental R&D investment to about 25 trillion yen

Source: Created by the Cabinet Office

## Section 2 Council for Science, Technology and Innovation Policy

The Council for Science, Technology and Innovation (CSTI)<sup>1</sup> in the Cabinet Office is positioned as a council that advances key policies toward vigorously promoting Japan's S&T policies under the leadership of the Prime Minister. The Council consists of the Prime Minister as the chairperson, related Cabinet members, expert members and others, who have the mission of overseeing the nation's S&T efforts and offering comprehensive and fundamental policy plans and general coordination (Table 2-1-2).

As of March 2015, CSTI had the Expert Panel on Science, Technology and Innovation Policy Promotion and four other expert panels that deliberate technical aspects of key issues (Figure 2-1-3).

A draft bill for the Act for Partial Revision of Act for Establishment of the Cabinet Office that stipulated the reorganization of the CSTP into the Council for Science, Technology and Innovation (CSTI) and the addition of affairs under the jurisdiction of CSTP and the Cabinet Office for enhancing the regulatory capabilities of the CSTP was enacted on April 23, 2014, and took effects on May 19 the same year (Figure 2-1-4).

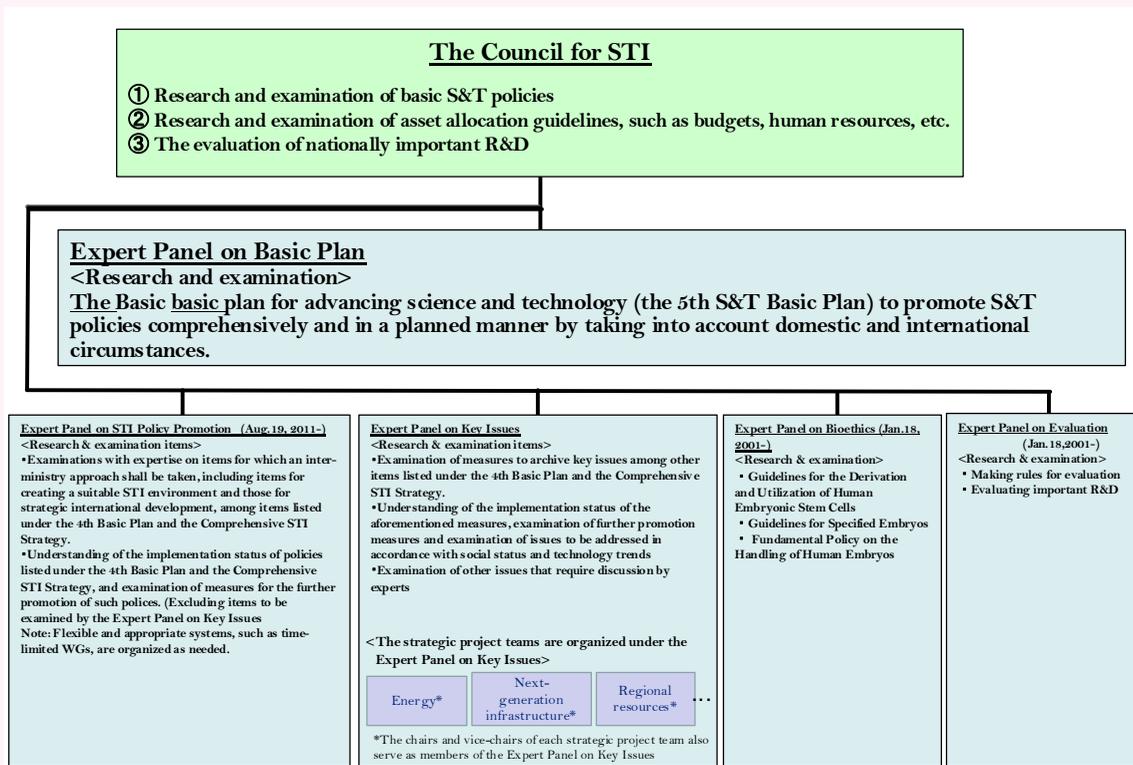
■ Table 2-1-2 / List of the CSTI Members

Cabinet members	Shinzo Abe	Prime Minister
	Yoshihide Suga	Chief Cabinet Secretary
	Shunichi Yamaguchi	Minister of State for Science and Technology Policy
	Sanae Takaichi	Minister of Internal Affairs and Communications
	Taro Aso	Minister of Finance
	Hakubun Shimomura	Minister of Education, Culture, Sports, Science and Technology
	Yoichi Miyazawa	Minister of Economy, Trade and Industry
Experts	Yuko Harayama (full-time)	Former Professor, Graduate School of Engineering, Tohoku University
	Kazuo Kyuma (full-time)	Former Senior Corporate Adviser, Mitsubishi Electric Corporation
	Takeshi Uchiyamada (part-time)	Chairman of the Board, Toyota Motor Corporation
	Motoko Kotani (part-time)	Director, the Advanced Institute for Materials Research (AIMR), Tohoku University
	Hiroaki Nakanishi (part-time)	Chairman & CEO, Hitachi, Ltd.
	Kazuhito Hashimoto (part-time)	Professor, Graduate School of Engineering, The University of Tokyo
	Toshio Hirano (part-time)	President, Osaka University
	Takashi Onishi	President of the Science Council of Japan (The head of affiliated institutions)

Source: Created by the Cabinet Office

<sup>1</sup> As a result of the implementation of the Act for Partial Revision of the Cabinet Office Establishment Act (Act No. 31, May 1, 2014), the Council for Science and Technology Policy (CSTP) was reorganized into the Council for Science, Technology and Innovation (CSTI).

■ Figure 2-1-3 / Organization Chart of the Council for Science, Technology and Innovation (CSTI)



Source: Created by the Cabinet Office

■ Figure 2-1-4 / The Act for Partial Revision of the Cabinet Office Establishment Act (Gist)

Based on the understanding that STI are necessary for the vitality and sustainable development of Japan's economy and society, and thus that the Council for Science and Technology Policy (CSTP) should be drastically strengthened as a headquarters that promotes STI, necessary measures are taken, including increases in the jurisdiction of the Cabinet Office and CSTP.

**[Reference]** Comprehensive Strategy on Science, Technology and Innovation (approved by the Cabinet on June 7, 2013) (Abstract)

The CSTP serves as the headquarters for advancing Japan's STI policies. Specific measures for drastically enhancing the CSTP as a headquarters need to be formulated so that the CSTP can more powerfully advance STI policies to make Japan the Most Innovation-friendly Country in the World.

**1. Enhancement of the Comprehensive Coordination Function for Promoting Innovation**

**(1) Additional affairs under the jurisdiction of the Cabinet Office and CSTP (related to Article 4-1 & 25)**

In addition to promoting STI, the Cabinet Office is required to formulate and coordinate plans for the comprehensive development of an environment that helps promote innovation through the practical application of R&D results. The CSTP is additionally required to conduct investigations and deliberations regarding important matters related to these plans.

Note: Promoting innovation means creating new value and significant and significant changes in the national economy and society through the following: the development and production of new products, the development and delivery of new services, the introduction of new systems for producing and selling goods, the introduction of new systems for delivering services and the introduction of new business management systems.

**(2) Renaming of the Council for Science and Technology Policy (CSTP (related to Articles 18 & 31)**

- 1) The name of the Council for Science and Technology Policy shall be changed to the Council for Science, Technology and Innovation (CSTI).
- 2) The term of office for the executive members shall be changed to three years from the current two years.
- 3) A provision shall be added to stipulate that executive members shall keep fulfilling their duties after the expiration of their term of office until their successors are appointed.

**2. Drastic Enhancement of the CSTP's Function for Advancing STI Policies**

To help enhance the role of the CSTP as a headquarters, the Cabinet Office engages in the following additional administrative work that is necessary for the drastic enhancement of the CSTP for advancing measures for STI (related to article 4-3).

- 1) Administrative work that is necessary to advance measures for the comprehensive development of an environment that helps promote innovation.
- 2) Administrative work that is necessary to formulate and advance the Science and Technology Basic Plan (the responsibility for this clerical work is transferred from MEXT).
- 3) Clerical work that is necessary to coordinate guidelines of relevant administrative agencies on S&T-related cost estimates (the responsibility for this administrative work is transferred from MEXT).

**3. Other**

- 1) Date of implementation: A date, prescribed in a cabinet order, that is no more than one month after the date of promulgation.
- 2) Other necessary provisions will be stipulated.

Source: Created by the Cabinet Office

## 1 Major Efforts of the CSTI in FY2014

In the CSTI, policies, budgets and systems were discussed for 1) The contribution to establishment of a “Comprehensive Strategy on Science, Technology and Innovation 2014 (‘Japan Revitalization Strategy’ revised in 2014)” (approved by the Cabinet on June 24, 2014), 2) Strategic policies of the government’s S&T budgets through the “STI Budget Strategy Committee “ and “Action Plans for Science and Technology Priority Measures (‘Action Plans’) and 3) The operation of the “Cross-ministerial Strategic Innovation Promotion Program” (SIP) and the “Impulsing Paradigm Change through disruptive Technologies Program (ImPACT).”

## 2 Strategic Prioritization in Science and Technology -related Budget

The CSTI takes the lead in determining activities of ministries and agencies to use government S&T budgets preferentially allocated to promising scientific fields and policies effectively by taking overall STI policies into consideration. The council opened the STI Budget Strategy Committee, which was chaired by the Minister of State for Science, Technology and Innovation Policy and comprised key officials of the ministries and agencies concerned, to ensure the implementation of the Comprehensive Strategy on Science, Technology and Innovation 2014 prior to making a budget request to formulate the science and technology budget in FY 2015 and based on discussions in the conference, formulated the “Guidelines for Resource Allocation, including the Science and Technology Budget” (“Guidelines for Resource Allocation”).

### (1) Guidelines for Resource Allocation, including the Science and Technology Budget for FY 2015 (approval and supplementary recommendation on July 17, 2014)

The CSTI decided on the Guidelines for Resource Allocation, including the FY 2015 S&T Budget and offered the guidelines to the prime minister and other ministers concerned. To ensure the implementation of the Comprehensive Strategy on Science, Technology and Innovation 2014, the Guidelines combine a system to steer policies relating to the approaches of ministries concerned according to the Action Plans with cross-ministerial and cross-sectoral SIP, preferentially assigned by the CSTI with a view to enhancing solution-oriented programs that encompass the process of undertakings from basic research to practical application and commercialization of research results.

### (2) The Science, Technology and Innovation Budget Strategy Committee

In compiling the budget for FY 2015, the STI Budget Strategy Committee, chaired by the Minister of State for Science and Technology Policy and comprising key officials of the ministries and agencies concerned, was opened (three times) base on the Comprehensive Strategy on Science, Technology and Innovation 2014. It adopted a process to prioritize the allocation of government S&T budgets from the budgetary request planning stage at ministries and agencies and determined resource allocation policies in the CSTI and toward the formulation of the S&T budget according to the results of coordination and discussions of the ministries and agencies concerned.

**(3) Determination of Measures for the Action Plans for Science and Technology Priority Measures FY 2015 (approval and supplementary recommendation on September 19, 2014)**

The CSTI urged ministries and agencies concerned to accelerate their efforts in their solution-oriented R&D to find solutions about the issues on policies listed in Chapter 2 of the Comprehensive Strategy on Science, Technology, and Innovation 2014 (i.e., I) “Realization of a clean and economical energy system,” II) “Realization of a healthy and active aging society as a global front-runner,” III) “Development of next generation infrastructures as a global front-runner,” IV) “Development of new industries utilizing regional resources” and V) “Early recovery and reconstruction from the Great East Japan Earthquake”) and stressed the importance of three cross-sectoral technologies, “ICT,” “nanotechnology” and “environmental technology” to find solutions on these issues. The council received proposals for related measures from related ministries and agencies, and capitalized on joint initiatives of ministries and agencies for eliminating measures that were duplicated among ministries/agencies as well as for making adjustments among multiple projects to rationalize the details of each project. Consequently, a total of 153 measures were selected for prioritized allocation of budgets.

**(4) Creation of Strategic Innovation Promotion Program (SIP)**

The CSTI founded SIP in FY 2014 to promote R&D that encompasses basic research as well as the practical application and commercialization of research results in industry-academia-government collaboration, mainly by ten program directors (PD) who play central roles in relevant issues. SIP is a national project, allowing the CSTI to perform the control tower function based on the Comprehensive Strategy on Science, Technology and Innovation and achieving science, technology and innovation through cross-ministerial and cross-sectoral management. It tackles ten world-leading topics to contribute to key social issues and revitalize the national economy. According to the CSTI guidelines, the budget for creating and promoting STI (i.e., the initial budget of 50 billion yen of the Cabinet Office for FY 2015) is intensively allocated to the implementation of the SIP. Health and medicine are promoted under the Healthcare Policy Promoting Headquarters founded pursuant to the Act to Advance Health and Medicine Strategy (Act No. 48, May 30, 2014).

**(5) Priority Measures and Packaging for Creating an Environment Suitable for STI in FY 2015 (approval and supplementary recommendation on September 19, 2014)**

Regarding the efforts by government ministries and agencies for the creation of an environment that helps to promote STI, the CSTI packaged related policies of the ministries and agencies concerned and presented special promotion items based on priority activities described in Chapter 3 of Comprehensive Strategy on Science, Technology and Innovation 2014 to enhance the synergistic effect and realize “the world’s most innovation-friendly country.” The CSTI received proposals on measures suitable for these policies from the relevant ministries and agencies and grouped 37 measures into three packages, “increased opportunities to challenge for young and female researchers,” “formulation of an innovation hub centering on R&D institutes” and “expansion of systems to provide active opportunities for challenges to venture companies and SMEs.” Of these, 20 measures were designated for special prioritized budget allocation.

## **(6) Promotion of the Impulsing Paradigm Change through Disruptive Technologies Program (ImPACT)**

The ImPACT program for high-risk, high-impact and innovative R&D was promoted to create STI that would bring significant change to industry and society if realized. The CSTI selected 12 program managers from applicants of public invitation, and gave them major authority and responsibility for planning, promoting and managing R&D. They started their work to implement R&D programs including providing workshops, assigning R&D institutes, and public invitation for R&D.

## **(7) Toward the Formulation of the Science and Technology Budget (approval and supplementary recommendation on January 13, 2015)**

The CSTI consolidated the key issues and notes when formulating the budget into “Toward the Formulation of the Science and Technology Budget for FY 2015” to acquire an S&D budget adequately reflecting prioritization, based on the resource allocation policy and offered it to the Prime Minister and other ministers concerned.

### **3 R&D evaluation Projects of National Importance**

#### **(1) Evaluation of Large-Scale R&D Projects (approved and notified on January 13, 2015)**

The CSTI reevaluated the large-scale R&D<sup>1</sup> “FLAGSHIP 2020 Project (post K computer development)” (renamed from “Exascale Supercomputer Development Project”), which had been subject to preliminary evaluation in FY 2013, on the items remaining to be resolved early and reported it to the Minister of Education, Culture, Sports, Science and Technology who supervises the project.

#### **(2) Follow-up of Preliminary Evaluation of Large-scale R&D Projects (November 2014)**

Correction of what had been highlighted in the preliminary evaluation in 2012 by the Export Panel on Evaluation at the CSTI for large-scale R&D projects “Development of basic technology for next-generation drug discovery for individualized medicine” and “Technological development for Innovative new structural materials, etc.” was confirmed and the notes were sent to the governing ministry METI.

#### **(3) Ex-post Evaluation of Large-scale R&D Projects (determined and notified on July 17, 2014 and January 13, 2015)**

The CSTI conducted an ex-post evaluation on the completed “Project for Realization of Regenerative Medicine” (MEXT) and “Regional Innovation Joint Creation Program” (METI) which had been subject to preliminary evaluation by CSTI and sent the evaluation results to the Minister of Education, Culture, Sports, Science and Technology and Minister of Economy, Trade and Industry who govern the project and program, respectively

<sup>1</sup> R&D projects allocated with the total national funds over 30 billion yen

## **4 Major Deliberations at Expert Panels**

### **(1) Expert Panel on Basic Policy**

The Expert Panel on Basic Policy was founded in October 2014 to research and examine the Basic Plan according to domestic and international circumstances for promoting S&D measures in a comprehensive and planned manner. The panel has already started researching and examining the 5th Basic Plan.

### **(2) Expert Panel on STI Policy Promotion**

The Expert Panel on STI Policy Promotion studies and analyzes matters relevant to the promotion of basic policies for S&T from the medium- to long-term perspectives. In April 2014, the panel conducted an expert investigation into an environment suitable for STI covered by the 4th Basic Plan and Comprehensive Strategy on Science, Technology and Innovation. In October the same year, it examined system reform, basic research and human resource development in the progress of the 4th Basic Plan following examination of task-achieving type policies by the Expert Panel on Key Issues (April 2014) as follow-up of the 4th Basic Plan.

### **(3) Expert Panel on Key Issues**

The Expert Panel on Key Issues was set up in September 2013 for the purpose of ensuring the promotion of solution-oriented policies in the 4th Basic Plan and for furthering the Action Plans specified by the CSTI. This expert panel is intended to use its expertise for investigating and examining the key issues that are listed in the 4th Basic Plan and the Comprehensive STI Strategy as issues that need to be focused on at present or to be more thoroughly dealt with in future.

To fulfill the mission of the Expert Panel on Key Issues, the expert panel provided three committees, “Committee on Energy Strategy,” “Committee on Next-generation Infrastructure Strategy” and “Committee on Regional Resource Strategy,” and three working groups, “Working Group on Environment,” “Working Group on Nanotechnology/Materials” and “Working Group on ICT” for a detailed investigation of the relevant fields in light of the challenges identified in Chapter 2 of the Comprehensive STI Strategy 2014.

### **(4) Expert Panel on Evaluation**

The Expert Panel on Evaluation conducted one case of reevaluation and two cases of ex-post evaluation of large R&D development projects and consolidated the evaluation results. It also conducted a follow-up of two cases of preliminary evaluation.

### **(5) Expert Panel on Bioethics**

The Expert Panel on Bioethics studied and examined emerging bioethical issues in response to recent advances in the life sciences. These issues include research on the creation of human embryos by utilizing germ cells derived from ES cells and iPS cells.

It also examined Ref. No. 3 “Guidelines on the Derivation of Human Embryonic Stem Cells” and No. 4 “Guidelines on the Distribution and Utilization of Human Embryonic Stem Cells” submitted by MEXT and MHLW to the CSTI in October 2014. These draft guidelines mainly aim to (i) enable the derivation (production) of human embryonic stem cells in Japan for medical (clinical) applications and (ii) allow basic

research institutions to supply human ES cells to organizations for clinical applications and the panel issued responses indicating the validity of both cases. The CSTI decided the draft guidelines were valid in November 2014.

### Section 3 Comprehensive Strategy on Science, Technology and Innovation

Science, technology and innovation are expected to be the catalysts that help revitalize the economy in Japan. There is no other option but to center efforts around innovation as the lynchpin to achieve sustainable development in future. Namely, Japan needs to become the most active innovation center in the world as well as the “world’s most innovation-friendly country”. In response, the Comprehensive Strategy on Science, Technology and Innovation 2014, established in June 2014, contains a long-term vision for overall STI policies and short-term action programs for realizing that vision (Figure 2-1-5).

Like the comprehensive STI strategy in 2013 for the socioeconomic stance of Japan to be achieved in 2030, the comprehensive STI strategy in this fiscal year also drew three shape of the economic society, “Economy that maintains world-top-class economic strength and develops sustainability” “Society where the people can enjoy prosperity, safety, and security” and “Economic society that harmonizes with the world and contributes to the progress of humankind” and indicated priority issues and approaches according to three strategic perspectives: “Smartization,” “Systematization” and “Globalization” for the following five targets which STI policies should first tackle:

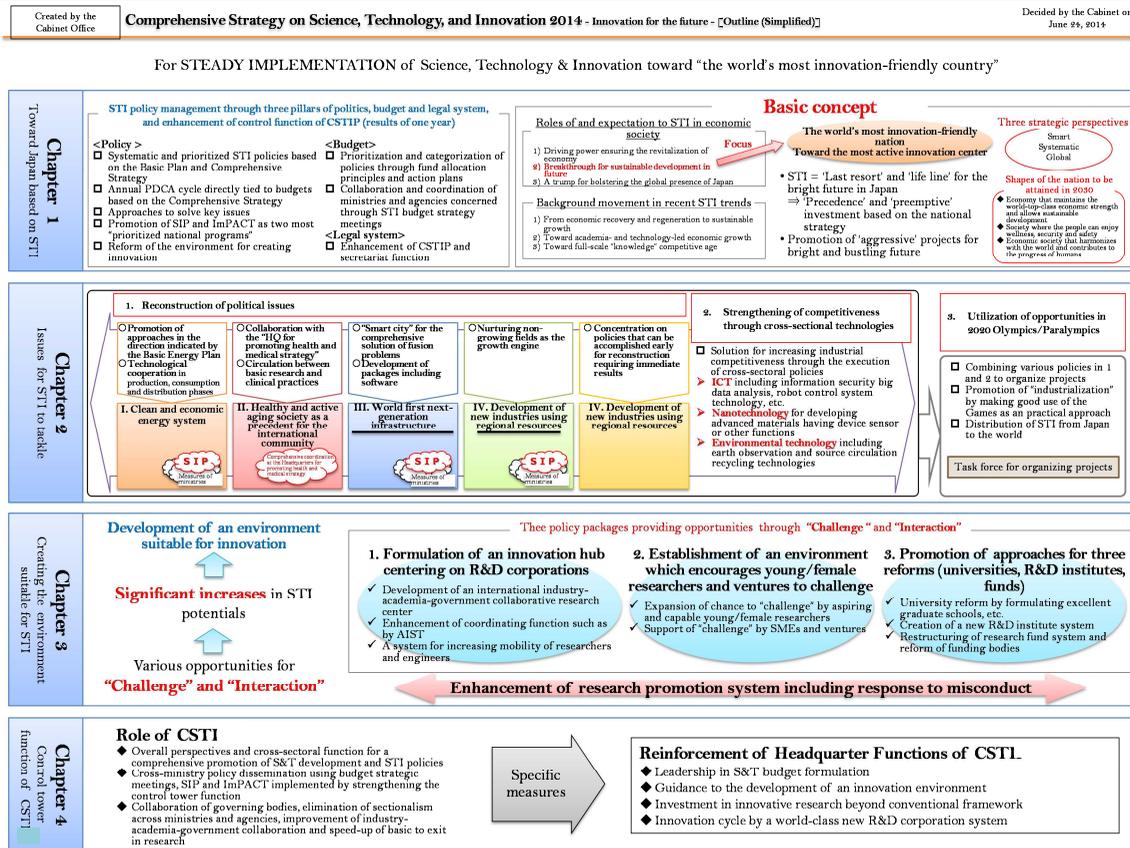
- (1) Realization of a Clean and Economical Energy System
- (2) Realization of Healthy and Active Aging Society as a Top-runner in the World
- (3) Development of Next-Generation Infrastructures as a Top-runner in the World
- (4) Fostering of New Industries by Utilizing Regional Resources
- (5) Recovery and Reconstruction from the Great East Japan Earthquake

This comprehensive strategy added the following three policy packages to three priority issues: “Fostering seeds of innovations,” “Activating innovation systems” and “Bringing innovations to fruition” which have been continued since 2013 to create an environment suitable for innovation by providing various opportunities for “challenge” and “interactions” and dramatically enhancing the STI potential:

- (1) Create innovation hubs centering on research and development corporations
- (2) Developing environment to allow young people and women, SMEs and venture
- (3) Promotion of approaches for three reforms, universities, R&D corporations and research funds

To implement the above, “Leading the S&T Budget Formation,” “Inducing the Development of Innovation Environment,” “Investing in Cross cutting Innovative Research for the Future” and “Realizing an Innovation Cycle through the World Highest Level New Research and Development Corporation System” were suggested as specific CSTI control tower functions.

■ Figure 2-1-5 / Outline of the Comprehensive Strategy on STI 2014



Source: Compiled by the Cabinet Office

## Section 4 Administrative Structure and Budget for Science, Technology and Innovation Policies

### 1 Administrative Structure for Science, Technology and Innovation Policies

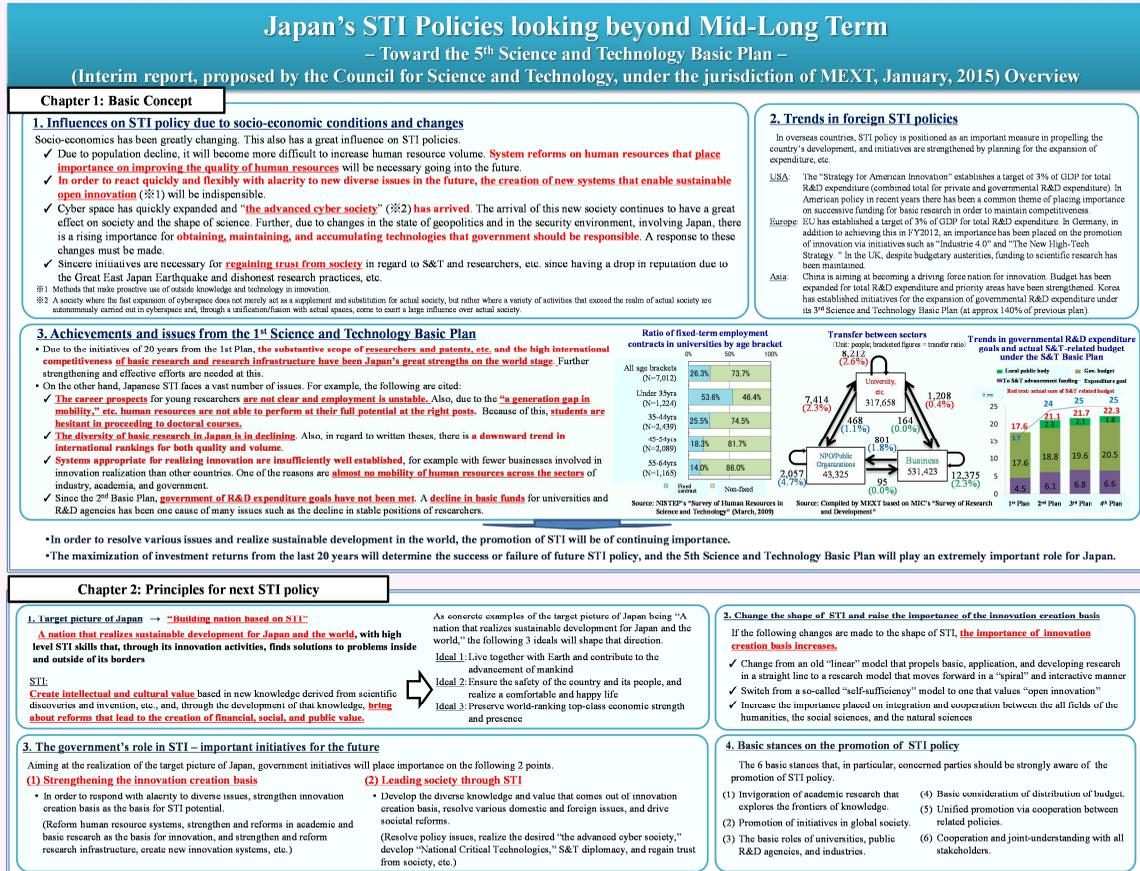
In the administrative organization of the government, the CSTI belongs to the Cabinet Office, which is responsible for the planning and general coordination of key national policies. The CSTI formulates recommendations on comprehensive strategies for promoting S&T and guidelines on the allocation of resources including budgets and personnel for S&T programs. On the basis of these recommendations and guidelines, relevant administrative agencies are supervising 1) research conducted at national experiment and research institutions, national R&D institutes and universities, 2) the promotion of research under various research programs and 3) improvements in the environment for R&D activities.

MEXT is responsible for the coordination that is necessary for developing specific R&D programs in diverse fields as well as for S&T-related administrative work of various administrative agencies. MEXT also takes the administrative leadership in comprehensively promoting the implementation of R&D programs in advanced, important S&T fields and the advancement of creative basic research. The Council for Science and Technology (CST), under the jurisdiction of MEXT, is engaged in investigations and deliberations regarding important matters related to the comprehensive promotion of S&T, following the

advice of the Minister of Education, Culture, Sports, Science and Technology, and also offers its views to the minister.

The CST founded a Special Committee on Comprehensive STI policy (general manager: Ryoji Noyori, President of RIKEN) in June 2014. The Committee investigated the 5th S&T Basic Plan (FY 2016 to 2020) implemented by MEXT to facilitate discussions in the CSTI and issued an interim report in January 2015 (Figure 2-1-6).

■ Figure 2-1-6 / Outline of Medium- to Long-term STI Policies in Japan



<p><b>Chapter 3: Strengthening the innovation creation basis</b></p> <p><b>1. Human resource system reforms</b></p> <p>(1) <b>Reforming career systems for young human resources</b></p> <ul style="list-style-type: none"> <li>✓ In order to clarify career paths, introduce, as a rule, a <b>tenure track system</b> in the employment of young university researchers; plan to expand the number of stable posts to which young people can aspire through <b>promoting the introduction of an annual salary system and changing to fixed-term employment systems for senior researchers</b>, and, establish the “<b>System for Distinguished Researchers (provisional name)</b>,” etc.</li> <li>✓ <b>Diversify career paths</b> by taking full advantage of matching opportunities provided through mid-to-long term internships, etc.</li> <li>✓ Improve financial support for doctoral students and create environments where young researchers can work and flourish, etc.</li> </ul> <p>(2) <b>Fostering human resources for STI</b></p> <ul style="list-style-type: none"> <li>✓ <b>Reforms to graduate school education</b> by improving doctoral course education through cooperation with industries; foster human resources related to STI that will bear responsibility for the future by <b>integrated reforms to high schools, university education, and university entrance selection systems</b>, etc., and, foster and secure technology experts, etc.</li> </ul> <p>(3) <b>Promoting active participation of a diverse range of human resources</b></p> <ul style="list-style-type: none"> <li>✓ <b>Promote the appointment of women as leaders</b>, create environments for the acceptance of foreign researchers, and support foreign exchange students, etc.</li> </ul> <p>(4) <b>Increasing mobility of human resources beyond organizational, sectorial, and national borders</b></p> <ul style="list-style-type: none"> <li>✓ <b>Proactively introduce new salary and employment systems</b>, such as annual salary system and cross-appointment schemes, and <b>improve support for young people working overseas</b>, etc.</li> </ul> <p><b>2. Strengthening the basis for innovation</b></p> <p>(1) <b>Promoting academic and basic research as the basis for innovation</b></p> <ul style="list-style-type: none"> <li>✓ As the government, <b>place importance on funding academic and basic research</b> that is not being implemented via the market principle.</li> <li>✓ <b>Reform and strengthen Grants-in-Aid for Scientific Research (KAKENHI) in order to meet the demands of society</b>; reform and strengthen joint usage / research system; promote Strategic Basic Research Programs effectively and efficiently through the setting of strategic goals grounded in evidence; and, establish world-level research centers, etc.</li> </ul> <p>(2) <b>Strategically strengthening the common basic technology, institutes/facilities, and information infrastructure that supports R&amp;D activities</b></p> <ul style="list-style-type: none"> <li>✓ Promote R&amp;D in common basic technology such as nanotech, photon and quantum, telecommunications, and mathematical sciences; establish shared-use and develop platform of institutes and facilities that are accessible to industry, academia, and government; equip institutes and facilities for universities and strengthen information infrastructure; etc.</li> </ul> <p><b>3. Creating innovation systems that enable sustainable open innovation</b></p> <p>(1) <b>Reforming industry-academia-government collaboration</b></p> <ul style="list-style-type: none"> <li>✓ Promote the transfer of people, things, money, and information between industry, academia, and government (<b>increasing mobility of human resources beyond sector boundaries, clarify research outcomes and needs</b>, etc.); <b>create new innovation systems that allow for swifter R&amp;D and societal implementation</b> through, for example, the building a “<b>collaboration platform</b>” where it is possible for knowledge, views, and ideas, etc. from industry, academia, and government to stimulate one another and work on strategic outcomes together; and, promote <b>regional creation through STI</b>, etc.</li> </ul> <p>(2) <b>Strengthening of support for commercialization and promotion of private businesses’ STI activities</b></p> <ul style="list-style-type: none"> <li>✓ Improve support for strong university-originated ventures creation; strengthen support for small and medium enterprises; give favorable tax treatment to private businesses working to implement R&amp;D, etc.</li> </ul> <p>(3) <b>Fostering and securing human resources that support innovation systems (“innovation promoting human resources”)</b></p> <ul style="list-style-type: none"> <li>✓ Foster and secure innovation promoting human resources such as program managers, research administrators, and technical support staff, etc.</li> </ul>	<p><b>Chapter 4: Leading society through STI</b></p> <p><b>1. STI through policy setting</b></p> <p>(1) <b>Responding to important societal issues</b></p> <ul style="list-style-type: none"> <li>✓ <b>Promote research on the 5 policy issues</b> (realization of clean and economical energy systems, realization of a healthy, long-living society as a driver of international society, etc.) in the Comprehensive Strategy on STI effectively as “<b>World-leading Strategies</b>”, which are recognizing Japan’s strengths and weaknesses and enhancing strengths and overcoming weaknesses.</li> </ul> <p>(2) <b>Reforms toward realizing the desired “the advanced cyber society”</b></p> <ul style="list-style-type: none"> <li>✓ <b>Set responding to the fast development of a cyber society as a new important policy issue.</b></li> <li>✓ Promote R&amp;D directed toward the creation of new cyberspace-based services; respond to the influence of cyberspace activities on actual society, such as cyber security; reform STI promotion methods, such as data science; and, foster and secure human resources; etc.</li> </ul> <p>(3) <b>Promoting “National Critical Technologies” that nation should take leadership</b></p> <ul style="list-style-type: none"> <li>✓ With consideration to changes in the security environment involving Japan, beginning with its posture in regard to geopolitics, acquire, maintain, and develop <b>technology as the basis of the nation’s existence</b> (“National Critical Technology”) and secure Japan’s independence and autonomy <b>in order to protect the security and safety of Japan and its people or to provide a driving force for the growth of the country.</b> It is necessary to consider the concretization of technologies and the promotion of strategies.</li> </ul> <p><small>Example of “National Critical Technologies”</small>      Observation, prediction, and countermeasures for natural disasters; high-performance computing; space exploration; next-generation aircraft; ocean resource surveying; data-driven material design; dynamic living systems science; AI; robotics; cyber security; and, advanced lasers, etc.</p> <p><b>2. Strategic deployment of S&amp;T diplomacy</b></p> <ul style="list-style-type: none"> <li>✓ Consider <b>international strategy based on cooperation programs for each different country</b>; restructure related projects can flexibly respond to international strategies.</li> <li>✓ <b>Build centers for innovation through international cooperation both within and outside Japan</b>; promote large-scale international cooperative R&amp;D activities; etc.</li> </ul> <p><b>3. Strengthening the relationship between STI and society</b></p> <p>(1) <b>Regaining trust from society</b></p> <ul style="list-style-type: none"> <li>✓ <b>Respond to misconduct in research</b>, response to ethical, legal, and social issues arising from S&amp;T; and, promote risk communication, etc.</li> </ul> <p>(2) <b>Development of S&amp;T created together with society</b></p> <ul style="list-style-type: none"> <li>✓ Promotion of involvement of a diverse variety of stakeholders in planning STI policy and carrying out S&amp;T activities; promotion of S&amp;T communication activities; and, promotion of <b>collaborative initiatives between the humanities, the social sciences, and the natural sciences</b>, etc.</li> </ul>
<p><b>Chapter 5: Optimization of capabilities for new STI creation</b></p> <p><b>1. Strengthening the functions of universities</b></p> <ul style="list-style-type: none"> <li>✓ In regard to national universities, consider how important funding targets are, that take into account the maximization of universities’ capabilities with reference to the distribution and evaluation of management expenses grants period for the 3rd Mid-Term target, starting FY2016.</li> <li>✓ <b>Shape “Excellent Graduate Schools (provisional name)”</b> with world top-class level educational and research skills.</li> <li>✓ Promote initiatives toward <b>strengthening IR function</b> in universities.</li> </ul> <p><b>2. Strengthening function of the National Research and Development Agency’s function as the “innovation hub”</b></p> <ul style="list-style-type: none"> <li>✓ With reference to its unique qualities, <b>strengthen the functions of the National Research and Development Agency as the “innovation hub” that acts as a driving force for new innovation systems.</b></li> <li>✓ In regard to initiatives such as create a <b>unique researcher evaluation system</b>; lead reforms in human resources systems; strengthen creation and use of intellectual property; <b>forming a place for the coming together of people, things, money, and information from industry, academia, and government</b>; promote initiatives through mid-to-long term goal setting and agency evaluations, through budget, funding allocation and project implementation, etc.</li> </ul> <p><b>3. Reforming distribution of budget</b></p> <ul style="list-style-type: none"> <li>✓ The government’s distribution of budget is based on the idea of <b>dual support by basic funds and competitive funds</b>. Plans will be made for the reformation and enhancement of both.</li> <li>✓ <b>Firmly set indirect costs at 30% against overall funding for competitive research funds.</b></li> <li>✓ Reform competitive funds from the perspective of <b>fostering young human resources</b>. (Promote labor expenditure on principal investigator, and improve perspectives on cultivating young human resources through examinations and evaluations, etc.)</li> </ul>	
<p><b>Chapter 6: Strengthening structures that promotes STI policies</b></p> <p><b>1. Strengthening policy planning and promotion capabilities</b></p> <ul style="list-style-type: none"> <li>✓ While managing its applicable policy areas, the Council for Science, Technology and Innovation will fulfill its leadership role.</li> <li>✓ Promote science for re-designing STI policy and consider structures for giving scientific advice, etc.</li> </ul> <p><b>2. Practical implementation of PDCA cycles in STI policies</b></p> <ul style="list-style-type: none"> <li>✓ Carry out sustainable upgrading and maximization of R&amp;D evaluation systems.</li> <li>✓ Introduce and establish R&amp;D program evaluation new systems, foster evaluation human resources and secure their career paths, etc.</li> </ul> <p><b>3. Expansion of governmental R&amp;D expenditure</b></p> <ul style="list-style-type: none"> <li>✓ Governmental R&amp;D expenditure goals have not been met since the 2<sup>nd</sup> S&amp;T Basic Plan.</li> <li>✓ <b>Under the 5<sup>th</sup> S&amp;T Basic Plan, governmental R&amp;D expenditure should be based on obtaining 1% of GDP; and total amount of the expenditure should be clearly published.</b></li> </ul>	

Source: Created by MEXT

Table 2-1-7 shows major reports from the Council for Science and Technology.

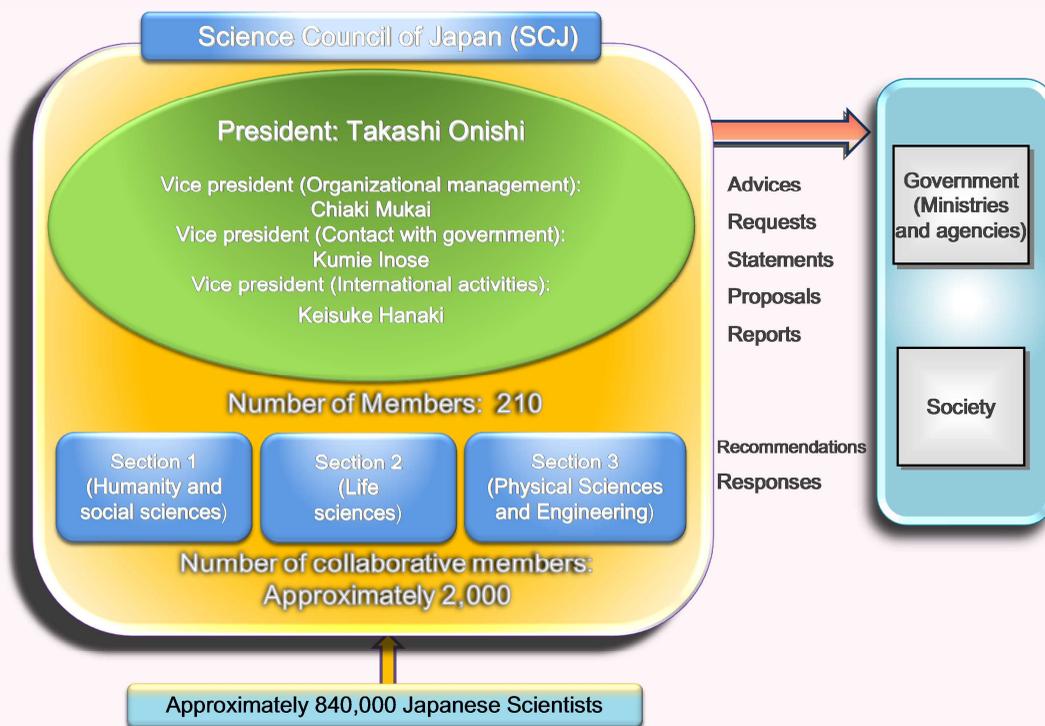
**Table 2-1-7 / Major Reports from the Council for Science and Technology (FY 2014)**

Date	Major Reports
April 10, 2014	<b>Subdivision on R&amp;D Planning and Evaluation</b> Measures to promote risk communication [The Committee for the Science and Technology for Safety and Security, and Social Linkage]
May 26, 2014	<b>Subdivision on Science</b> “Comprehensive deliberations on measures to promote academic research” (interim report)
August 27, 2014	Promotion of academic research in Japan and reform of Grants-in-Aid for Scientific Research (KAKENHI) (report of deliberations on the 7th Research Fund Commission) (interim report)
January 27, 2015	Measures for the comprehensive promotion of academic research (final report)
August 29, 2014	<b>Subdivision on Ocean Development</b> Results of the preliminary R&D evaluation concerning marine science and technology (August 2014)
August 31, 2014	Recommendations for promoting the Nankai Trough earthquake zone drilling project using the deep sea drilling vessel “CHIKYU”
November 2014	<b>Subdivision on Geodesy and Geophysics</b> Issues and response to volcanic observation and research in light of the Ontakesan explosion [Earthquake and Volcano Subcommittee]
February 9, 2015	<b>Technology and Research Foundation Section</b> Concept of a future professional engineer system (interim report)
August 28, 2014	<b>Advanced Research Infrastructure Commission</b> Mathematics innovation strategy
July 3, 2014	<b>Subcommittee on Industrial Collaboration and Regional Support</b> Function Enhancement of Universities in Industry-Academia-Government Collaboration for Innovation Creation - Development of Open Innovation Promotion Center, Development and Utilization of Human Resources for URA System - [Innovation Creation Function Enhancement Subcommittee]
August 2014	Future Regional STI - Toward STI-based regional creation and an affluent and active society in Japan - Report [Regional STI Promotion Committee]
July 2014	<b>Committee on International Affairs</b> Prioritized Activities in Future - International STI Strategy under turbulent global situations -
September 9, 2014	<b>Committee on Human Resources</b> The 7th Committee on Human Resources Recommendations (interim report)
January 27, 2015	The 7th Committee on Human Resources Recommendations
January 20, 2015	<b>Special Committee on Comprehensive STI Policy</b> Medium- to Long-term STI Policy in Japan - Toward Post 4th S&T Basic Plan - (interim report)

Source: Created by MEXT

In addition to the CST, the Science Council of Japan (SCJ), an organization that represents Japan's scientific community and has 210 members and about 2,000 associate members, is under the supervision of the prime minister. The SCJ is responsible for the following: 1) deliberations on key issues and recommendations to the government and the public, 2) the networking of scientists, 3) collaboration with international academic institutions and 4) the promotion of scientific literacy through education (Figure 2-1-8 and Table 2-1-9).

■ Figure 2-1-8 / Organizational Structure of the Science Council of Japan (SCJ)



Note: As of October 2, 2014  
 Source: Compiled by the Cabinet Office

■ Table 2-1-9 / Major recommendations SCJ (FY 2014)

Matters related to this White Paper	Recommendations	Date of issue	Gist
Recovery from and reconstruction after the Great East Japan Earthquake	Regeneration of coastal forests to formulate safe coasts for nurturing lives (recommendation)	April 23, 2014	Coastal forests were regarded as part of multifaceted protective mechanisms in the basic reconstruction concept and the need for coastal forests having high resilience with a disaster mitigation effect was recommended based on the strong correlation between microtopography (particularly dunes) and the residual ratio of coastal forests.
	Support for employment and industrial revitalization as part of continuous support of earthquake victims (recommendation)	September 16, 2014	The Great East Japan Earthquake had a significant effect on occupational conditions such as leave or absence from work and increase/decrease in working hours and problems persisted, even three years after the disaster. The recommendation therefore focused on the need for meticulous reconstruction policies according to regional and occupational regeneration issues.
	Long-term radioactive measures toward reconstruction (recommendation)	September 19, 2014	Five recommendations (e.g. "Need for long-term and cross-ministerial radioactive research and investigation system participated by experts) were made to emphasize the suitable roles of government and academia for long-term radioactive measures and for more effective means to reduce the effects of radiation exposure on health.
	Toward resilience against disaster (recommendation)	September 22, 2014	Development of a system for continuous risk monitoring and daily preparation for risks as well as mental restoration from disaster was recommended in light of the need for comprehensive approaches, including not only hardware aspects of improving protective measures, but also software and mental aspects for controlling vulnerability for disaster.

	Reconstruction of lifestyles and living for long-term evacuees in TEPCO Fukushima Daiichi NPS accident (recommendation)	September 30, 2014	While maximum possible protection from radioactive exposure is required during nuclear disasters, individual evacuation decisions should be respected. The recommendation addressed various institutional and political improvements and implementations in light of “multiple type reconstruction” to ensure diversified individual decisions.
Advancement of measures for solving key issues	Toward education and human resource development for sustainable future (recommendation)	September 11, 2014	Research concerning the global environment is being reorganized under the Future Earth initiative led by ICSU and ISSC. Improvement of education and human resource development for sustainable future is part of the emphasis in this initiative. The recommendation therefore addressed extensive restructuring of natural science, art and science and social science education.
	Future of nuclear energy utilization other than power generation (recommendation)	September 26, 2014	Radioactive rays and radioisotope are used in various areas, including medical care, agriculture and material production. The recommendation addressed efforts to raise national awareness of this fact by disseminating information and the need for R&D and human resource development to promote “nuclear energy utilization other than power generation.”
Enhancement of basic research and human resource development	Employment system of young researchers playing an active role to enhance research competitiveness of Japan (recommendation)	September 29, 2014	Graduate education has been improved to foster high-level S&T talents and although the number of graduates and doctoral degree holders has increased significantly, the employment of young researchers playing active roles in future science has recently declined. Under these circumstances, the recommendation addressed “the position of postdoc researchers in research” to resolve serious employment problems for young researchers.
	Recommendations on the 5th S&T Basic Plan	February 27, 2015	In light of comprehensive scientific developments, including arts and science, social and natural sciences, the recommendation addressed the 5th S&T Basic Plan in terms of the academic information base, human resource development, whole concept of universities, importance of basic research and other notes.
Increase in relations between society and STI	Increases in scientific research integrity (response)	March 6, 2015	Upon request from MEXT as to “Deliberations on Response to Misconduct in Research,” the response included the period and method of retaining experimental data according to the nature of research, issues of duplicated posting and authorship of papers and model rules for research misconduct in universities.

The Great East Japan Earthquake Task Force, founded under SCJ, presented its recommendations for the support of employment and industrial revitalization of afflicted areas in September 2014 as part of continuous support for earthquake victims and made proposals for long-term radioactive measures toward reconstruction. SCJ made proposals for education and human resource development for a sustainable future in September 2014 to establish a research system in Japan for the global implementation of an integrated global environment research program “Future Earth.”

In response to the “Deliberations on Response to Misconduct in Research” (July 24, 2014), requested by MEXT under circumstances of frequently discovered unauthorized use of research funds and forgery of research papers, SCJ summoned experts in various fields to discuss the period and method of retaining experimental data according to the nature of research, issues of duplicated posting and authorship of papers and model rules for research misconduct in universities and issued a response in March 2015.

## 2 Science and Technology-related Budgets

The S&T-related portion of Japan’s initial budget for FY2014 is 3.6513 trillion yen, of which 3.0474 trillion yen is appropriated for the general account budget and 603.9 billion yen is appropriated for the special account budget. The funds for promoting S&T, which represent the principal S&T-related expenditure in the general account, are 1.3372 trillion yen. The government also compiled a supplementary budget for FY2014 based on the Emergency Economic Measures for Expanding Virtuous

Cycles to Local Economies (Cabinet decision on December 27, 2014). The S&T-related portion of Japan's supplementary budget is 225.8 billion yen, of which 140.6 billion yen is appropriated for the general account budget (which includes 78.9 billion yen in funds for promoting S&T), and 85.2 billion yen is appropriated for the special account budget. Changes in the S&T budget (initial budget) are shown in Table 2-1-10 and the S&T budgets by ministry/agency in Table 2-1-11.

In Japan, multiple ministries and agencies implement S&T-related policies. To promote S&T efficiently and effectively by ensuring consistency nationwide, it is necessary to advance S&T-related policies in relevant ministries while making necessary adjustments, eliminating duplications of S&T-related measures among ministries/agencies and strengthening cooperation among ministries and agencies according to the guidelines set forth by the CSTI.

**Table 2-1-10 / Changes in Science and Technology-related Budgets**

(Unit: 100 million yen)

FY		FY 2010	FY 2011	FY 2012	FY 2013	FY 2014
Item						
S&T promotion expenditures (A)		13,334	13,352	13,135	13,007	13,372
	As a % of the previous FY	96.8	100.1	98.4	99.0	102.8
Other research-related budget (B)		17,197	17,213	16,728	16,571	17,102
	As a % of the previous FY	104.8	100.1	97.2	99.1	103.2
S&T-related budget included in the general account budget (C)= (A)+ (B)		30,531	30,565	29,863	29,578	30,474
As a % of the previous FY		101.1	100.1	97.7	99.0	103.0
S&T-related budget included in the special account budget (D)		5,359	6,083	7,063	6,520	6,039
As a % of the previous FY		98.3	113.5	116.1	92.3	92.6
S&T-related budget (E)= (C)+ (D)		35,890	36,648	36,927	36,098	36,513
As a % of the previous FY		100.7	102.1	100.8	97.8	101.1
General account budget of Japan (F)		922,992	924,116	903,339	926,115	958,823
As a % of the previous FY		104.2	100.1	97.8	102.5	103.5
General expenditure budget of Japan (G)		541,724	540,780	517,957	539,774	564,697
As a % of the previous FY		104.7	99.8	95.8	104.2	104.6

Note:

- 1) Initial budget amounts are shown.
- 2) Because of rounding, cumulative amounts in some columns may not equal the totals.

Source: Created by MEXT based on data from the Cabinet Office and MOF

Table 2-1-11 / Science and Technology -related Budgets of Each Ministry/Office/Agency

(Unit: million yen)

Item	FY 2013 (Initial budget)				FY2013 (Supplementary budget)				FY2014 (Initial budget)				FY2014 (Supplementary budget)			
	General account	S&T promotion expenditures	Special account	Total	General account	S&T promotion expenditures	Special account	Total	General account	S&T promotion expenditures	Special account	Total	General account	S&T promotion expenditures	Special account	Total
Diet	11	11	-	11	-	-	-	-	11	11	-	11	-	-	-	-
Cabinet Secretariat	608	-	-	608	107	-	-	107	610	-	-	610	83	-	-	83
Reconstruction Agency	-	-	601	601	-	-	381	381	-	-	404	404	-	-	-	-
Cabinet Office	142	125	-	142	-	-	-	-	740	721	-	740	9	8	-	9
National Police Agency (NPA)	20	19	-	20	8	2	-	8	21	21	-	21	0	0	-	0
Ministry of Internal Affairs and Communications (MIC)	495	415	-	495	15	10	-	15	493	406	-	493	8	-	-	8
Ministry of Justice(MOJ)	56	-	-	56	13	-	-	13	68	-	-	68	3	-	-	3
Ministry of Foreign Affairs (MOFA)	106	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ministry of Finance (MOF)	13	10	-	13	-	-	-	-	13	10	-	13	-	-	-	-
Ministry of Education, Culture, Sports, Science and Technology (MEXT)	21,826	8,757	1,325	23,151	2,017	1,269	46	2,063	21,917	8,483	1,202	23,118	856	448	-	856
Ministry of Health, Labour and Welfare (MHLW)	1,602	1,236	24	1,626	56	-	-	56	1,599	1,255	28	1,627	32	5	-	32
Ministry of Agriculture, Forestry and Fisheries (MAFF)	931	903	-	931	130	100	-	130	978	928	-	978	85	26	-	85
Ministry of Economy, Trade and Industry (METI)	1,308	1,017	3,904	5,212	942	772	537	1,479	1,286	1,004	4,110	5,396	294	273	836	1,130
Ministry of Land, Infrastructure, Transport and Tourism (MLIT)	503	268	186	689	36	32	13	49	729	281	4	733	18	13	-	18
Ministry of the Environment (MOE)	313	248	455	768	28	21	15	43	319	253	263	582	16	16	16	32
Ministry of Defense (MOD)	1,644	-	25	1,669	0	-	-	0	1,587	-	28	1,615	-	-	-	-
Total	29,578	13,007	6,520	36,098	3,352	2,206	992	4,344	30,474	13,372	6,039	36,513	1,406	789	852	2,258

Note: Because of rounding, cumulative amounts in some columns may not equal the totals.

Source: Created by MEXT based on data from the Cabinet Office.