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## MOST Formulates 13th Five-Year National Science and Technology Talent Development Plan

## China Issues 13th Five-Year National Nuclear Safety Plan and Vision 2025

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- MOST Convenes Briefing of CEM8 & MI-2

### Upcoming Event

- CEM8 & MI-2 to be Held in Beijing in June

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# MOST Formulates 13th Five-Year National Science and Technology Talent Development Plan

The Ministry of Science and Technology (MOST) formulated *the 13th Five-Year National Science and Technology Talent Development Plan* (hereinafter referred to as the "Science and Technology Talent Plan") and issued it on April 13th, 2017 in order to deliver *The Plan for Implementing the National Strategy of Innovation-driven Development and The 13th Five-Year National Plan on Science, Technology and Innovation*, to give top priority to talent resource development in science, technology and innovation, optimize talent structure, put in place a talent development and governance system featuring scientific standards, openness, inclusiveness and efficient operation to command an institutional advantage of equipping ourselves with internationally competitive innovation-driven science and technology (S&T) talents, and cultivate a team of innovation-oriented S&T talents with reasonable structure and fine quality on a large scale,

## ► 1.Objectives of the Plan

By 2020, it targets at forming a team of S&T talents with reasonable structure, fine quality and abundant vitality on a large scale, improving the systems of S&T talents cultivation and management, having an advantage of internationally competitive S&T talents in key areas and supporting the goals of building an innovative country and a moderately prosperous society in an all-round way.

Firstly, we must steadily expand our team of S&T talents. The number of China's R&D personnel (full-time equivalent) will register 4.8 million by 2020 from 3.71 million in 2014; that of researchers (full-time equivalent) will rise from 1.52 million in 2014 to over 2 million by 2020; that of R&D personnel input among 10000 employees will climb up from 48 in 2014 to 60 by 2020.

Secondly, we must significantly optimize the structure of science and technology talents. The proportion of basic researchers in R&D personnel will be around 7%. We also need to expand the scale of talents in key industrial fields and those interested in technology entrepreneurship and continuously increase the ratio of high-level innovative science and technology personnel in enterprises. We will refine the age structure and gradually reduce the average age of high-level science and technology personnel, in particular academicians. We will greatly raise the total number of scientists and engineers in remote and impoverished regions, bordering regions of ethnic minorities and old revolutionary base areas.

Thirdly, we must remarkably increase the input in development of S&T personnel. We will diversify the mechanism of investment in talents. The annual R&D expenditure per person will be raised from 370,000 yuan in 2014 to 500,000 yuan by 2020, further narrowing the gap with developed countries. By enhancing benefits from talent investment, talents will make greater contribution.

Fourthly, we must enhance the international competitiveness of S&T talents. A group of world-class scientists are emerging in basic research. Besides, we aim to have a group of pioneers in cutting-edge technologies and high technologies, a number of high-caliber engineering and technical personnel in key industrial areas and a team of innovative and entrepreneurial talents in the field of emerging technologies.

## 2.Overall Arrangement

Firstly, we will get straight the relationship between S&T talent development and economic and social development in order to prioritize the development of innovative S&T talents, highlight the importance of the highly educated, professional, top-notch and rare talents and speed up the strategic adjustment and optimization of S&T talent structure.

Secondly, we will reform and improve the talent development mechanism, implement major talent-related projects, accelerate the nurturing and introduction of excellent S&T talents, and emphasize the employment, follow-up support and service of introduced talents.

Thirdly, we will remove institutional obstacles of talent management to give my autonomy to S&T talents in scientific research, respect the rules of S&T development and talent cultivation, assess and incentivize talents engaged in various innovative activities based on categorized standards and fully motivate the innovative vitality of science and technology personnel, in particular the young and middle-aged.

Fourthly, we will boost the virtuous and orderly flow of S&T talents in accordance with market rules, optimize the distribution of human capital in S&T and explore a new-type of service model of science and technology talent and intelligence flow.

Fifthly, we will gradually cultivate a sound research ecosystem favorable for the growth and contribution of innovative science and technology talents. By relying on the strategy of “mass entrepreneurship and innovation”, we will actively push forward the effective translation of innovative results to guarantee the supply of human capital for the building of an innovative country.

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## ► 3. Key Tasks

1 **Accelerate the strategic adjustment of talent structure:**

build a team of high-level and innovative S&T talents; strengthen the development of industrial technology talents, science financing talents and S&T entrepreneurs; adjust and optimize the regional structure of talents.

2 **Vigorously nurture excellent innovative talents:**

introduce a new model of nurturing innovative talents; implement major talent-related projects; enhance the building of scientific and technological management, service and promotion talent teams.

3 **Prioritize the introduction of high-level innovative talents:**

facilitate the introduction of high-level talents in key areas from overseas; adopt a more open policy of introducing foreign talents; innovate the model of importing high-level talents from abroad.

4 **Create a favorable ecology for the entrepreneurship and innovation of science and technology talents:**

optimize the academic environment for scientific research; stimulate the entrepreneurship and innovation vitality of the society.

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## ► 4. Institutional Innovation

1

Improve the selection and employment mechanisms of science and technology talents:

secure employment independence of government institutions; improve the employment mechanism of international talents.

2

Improve the evaluation mechanism and incentives of S&T talents:

establish a reliable and standardized system of classified evaluation of talents; improve the evaluation procedure and mechanism; bring into being an income distribution mechanism and incentives that could reflect the added knowledge value.

3

Improve the mechanism of S&T talent flow and deployment:

establish and improve the two-way flow of talents; encourage talents to move towards grassroots and less-developed regions; facilitate academic exchanges of S&T talents.

4

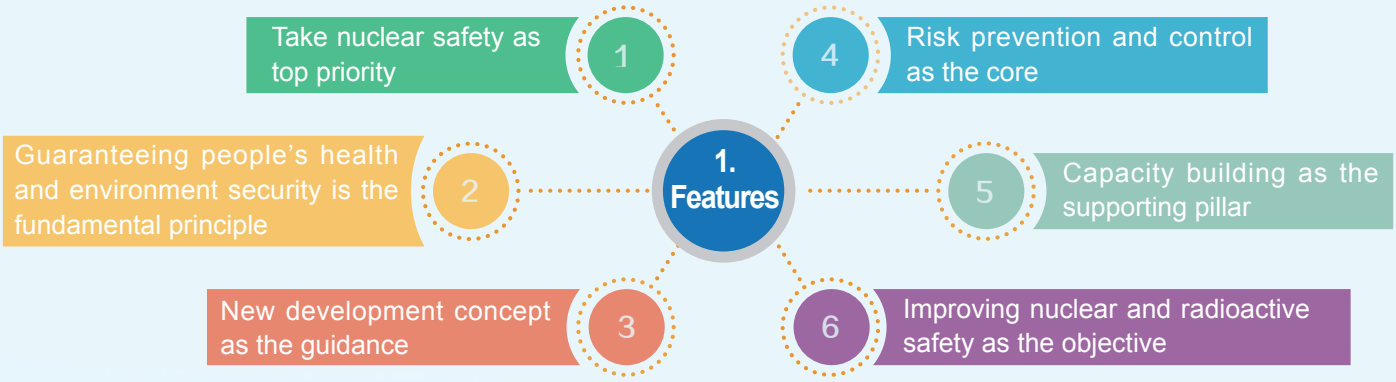
Innovate the mechanism of guaranteeing services for science and technology talents:

build a unified and open market of S&T talents; establish and improve the professional and industry-based public service system for S&T talents; and expand the new model of talent services.

(Source: Ministry of Science and Technology, April 13th, 2017)

# China Issues 13th Five-Year National Nuclear Safety Plan and Vision 2025

In March, 2017, the State Council approved *the 13th Five-Year National Nuclear Safety Plan and Vision 2025* (hereinafter referred to as the "Plan") which is an integral part of the top-level design for national security and ecological environment protection. It is a special plan designed to guide and enhance nuclear safety and the prevention and control of radioactive contamination and to guarantee safe and sound development of nuclear energy and technologies.




## ► 2. Contents

Six objectives refer to the improvement of safety levels in six areas, namely the safety levels of nuclear facilities, nuclear technology utilization equipment, radioactive contamination prevention and control, nuclear security, nuclear and radioactive emergency response, and nuclear and radioactive safety regulation.

Ten key tasks include maintaining high safety level of nuclear plants, reducing risks of research reactors and nuclear fuel cycle facilities, accelerating decommissioning of early nuclear facilities and disposal of radioactive wastes, reducing radiation accidents while utilizing nuclear technologies, guaranteeing radiation safety of uranium mining and metallurgy and mines associated with radioactivity, increasing reliability of the quality of nuclear safety equipment, elevating nuclear security level, stepping up emergency response to nuclear and radiation accidents, promoting research and development of nuclear safety science and technology and advancing modernization of nuclear safety regulation.

Six major projects include nuclear safety improvement, nuclear facility decommissioning and radioactive wastes disposal, nuclear security and anti-terrorism upgrading, nuclear accidents emergency response, nuclear safety science, technology and innovation, and capacity building of nuclear safety regulation.

Eight guaranteeing measures include improving laws and regulations, reinforcing policy support, optimizing systems and mechanisms, accelerating talent nurturing, underscoring cultural cultivation, boosting public communication, deepening international cooperation and improving the input mechanism.

## ► 3. Scale of China's Nuclear Energy and Technology and Overall Status Quo of Nuclear Safety

China is a large user of nuclear energy and technology. It has 35 nuclear power units under operation and 21 units under construction, ranking No. 1 in the world for the number of nuclear power units under construction. Besides, it boasts 19 research reactors, approximately 100 nuclear fuel cycle facilities, 67000 entities utilizing nuclear technology, 127,000 radioactive sources, 151,000 ray devices and additional 192,000 spent radioactive sources already stored. For over three decades, China has maintained good security status in the process of utilizing nuclear energy and technology, with no accident on or above level II. The nuclear power security has reached international level, with continuous decrease of the rate of radioactive source radiation accidents and good safety records of research reactors and nuclear fuel cycle facilities. In general, China has its nuclear and radiation risks under control and national radiation level has been maintained within the range of natural background fluctuations. No radioactive contamination accident has taken place. China has basically developed comprehensive capacity of accident prevention, contamination treatment, scientific and technological innovation, emergency response and safety inspection, effectively safeguarding nuclear safety, environment safety and public health.

## ► 4. China's Targets of Nuclear Safety and Radioactive Contamination Prevention and Control during the 13th Five-Year Plan Period

The Plan specifies targets of nuclear safety and radioactive contamination prevention and control during the 13th Five-Year Plan Period. By 2020, China will make marked headways in the security level of nuclear facilities under operation and construction; our nuclear power safety will be maintained at an international level; incidence rate of radioactive source radiation accidents will be further lowered; decommissioning of early-stage nuclear facilities and treatment of radioactive contamination will generate significant results; no radioactive contamination accident will ever occur; radiation environment will have good quality; our nuclear emergency response capacity will be boosted; nuclear safety inspection will be enhanced; and nuclear safety, environment safety and public health will be safeguarded effectively. The detailed targets include increasing the levels of nuclear facility safety, safety of nuclear technology application equipment, radioactive contamination prevention and control, nuclear security, nuclear and radiation emergency response and regulation of nuclear safety and radiation safety.

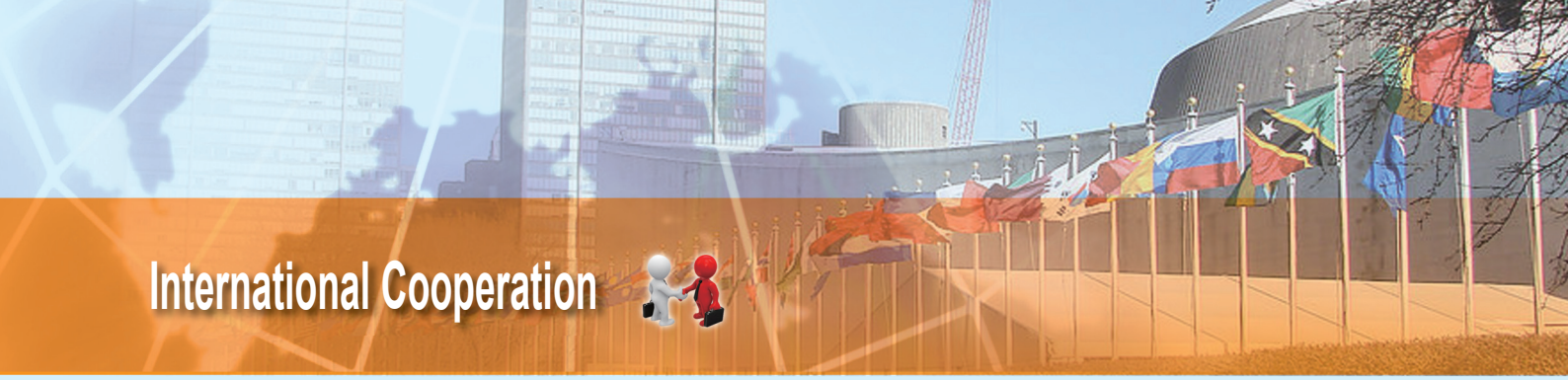
## ► 5. The Plan Proposes Measures to Enhance Regulation Capacity

Firstly, improve independent checking, calculation, testing and verification capacities by relying on the established national research and development bases of nuclear and radiation safety regulation technologies.

Secondly, improve instrument and equipment in local nuclear and radiation supervision stations and provincial-level regulating agencies to improve on-site supervision and law enforcement abilities.

Thirdly, improve national radiation environment monitoring network. Carry out capacity building respectively at central, provincial and key municipal levels and strengthen monitoring capacity building in key ports and bordering areas to ensure that regulation of nuclear safety enjoys development as nuclear energy and technology application undertaking advances, thus attempting to realize modernization of the nuclear safety regulation system and capacity by 2025.

（Source: www.gov.cn）



# International Cooperation

## Vice Premier Chairs 3rd China-Israel JCIC

Vice Premier Liu Yandong met with Israeli Prime Minister Netanyahu in Beijing on March 21st 2017 and co-chaired the third meeting of the Joint Committee on Innovation Cooperation (JCIC). Liu noted that since the JCIC was founded three years ago, the two sides have been focusing on innovation cooperation, building connections through personnel exchanges, deepening cooperation in all areas and made quite a number of achievements. Thanks to efforts from both sides, the China-Israel Innovation Center and the China-Israel Changzhou Innovation Park are up and running. The two countries have jointly funded nearly 50 R&D projects, and B2B partnerships are promoted across the board. All these lay a solid foundation for the friendship and pragmatic cooperation of the two countries. Liu also pointed out that this year marks the 25th anniversary of the establishment of diplomatic relations between China and Israel, the two sides share common interest in the strategic direction of innovation cooperation, and have common conceptual ideas, strong complementary and huge potential for cooperation.

Netanyahu said that significant progress has been made in many fields of the bilateral innovation cooperation. Israel is willing to work with China through close cooperation to enable greater accomplishments.

After the meeting, the two leaders witnessed the signing of 10 cooperation agreements on various fields.

(Source: Xinhua News Agency, March 21, 2017)

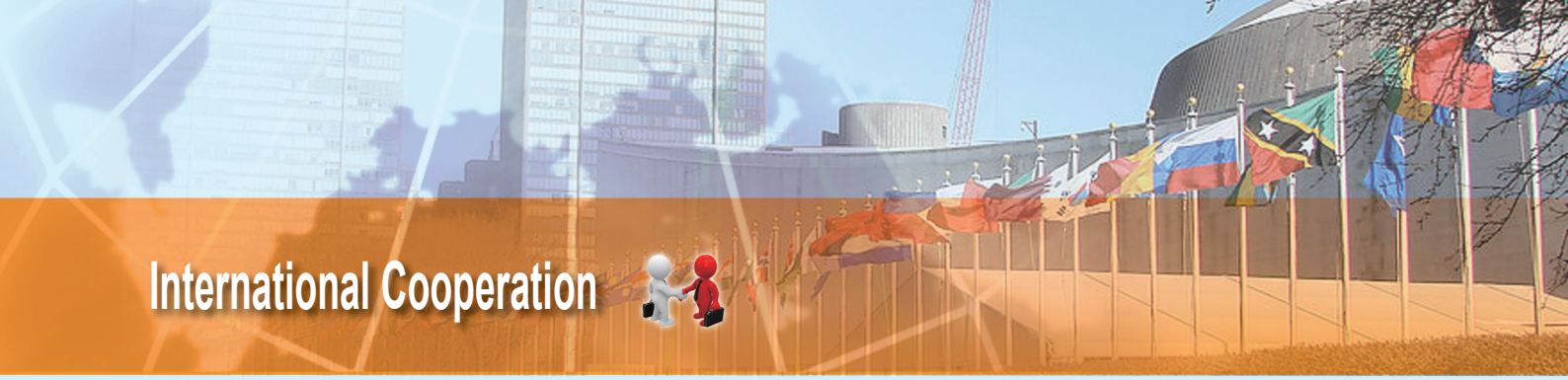
## 1st China-Belgium Innovation Dialogue Held

The China-Belgium Innovation Dialogue was a vice-ministerial mechanism initiated by the Chinese Ministry of Science and Technology and the Belgian Federal Science Policy Office. The first session was held in Brussels on March 30th, 2017. Huang Wei, Chinese Vice Minister of Science and Technology; Zuhal Demir, Belgian State Secretary for Science and Technology, and Qu Xing, Chinese Ambassador to Belgium, addressed the event. Also present were some 150 representatives from the two countries' central and local governments, universities, research institutes, high-tech parks, industry alliances, investment institutions, technology transfer institutions as well as innovative businesses.

The two sides discussed policies on science, technology and innovation (STI), reviewed best practices and had extensive exchanges on S&T personnel mobility and high-tech park cooperation. They signed a series of MOUs and agreed to strengthen practical STI cooperation.

The Dialogue is a high-level strategic event between the Chinese and Belgium central and local governments as well as their research institutes and enterprises. It presented a good opportunity for both sides to exchanges ideas about innovation policies and express intents of innovation cooperation.

(Source: MOST, April 1, 2017)



# International Cooperation

## 17th Sino-Finnish JCM Held on S&T Cooperation

The 17th session of the China-Finland Joint Committee Meeting (JCM) on Scientific and Technological Cooperation was held in Helsinki on March 27th, 2017. The Meeting was jointly presided over by Huang Wei, Vice Minister of Science and Technology of China; Permanent Secretary Jari Gustafsson and Under-Secretary of State Petri Peltonen of the Finish Ministry of Economic Affairs and Employment. Both sides reviewed the progress of bilateral cooperation in science and technology since the last JCM session, exchanged views about policy updates on science, technology and innovation, and discussed basic research and personnel exchanges, clean technology and smart city, ICT alliance, Arctic research, and agricultural R&D cooperation among others. Both sides reached agreement on an extensive range of issues related to the promotion of pragmatic cooperation in science and innovation. Representatives also witnessed the signing of a memorandum of cooperation between the Chinese Academy of Agricultural Sciences and the Natural Resources Institute Finland.

(Source: MOST, April 13, 2017)

## MOST Convenes Briefing of CEM8 & MI-2

A briefing on the eighth Clean Energy Ministerial (CEM8) and the Second Mission Innovation Ministerial (MI-2) was held on April 18th at the Chinese Ministry of Science and Technology (MOST). It was attended by nearly 30 foreign representatives from China-based diplomatic missions of CEM and MI members and relevant international organizations.

The briefing was chaired by Chen Linhao, Deputy Director General of the International Cooperation Department of MOST. Chen introduced the background, theme, preliminary agenda, side events, Innovation Theater and Technology Exhibition among other activities. He noted that China attaches great importance to these two ministerial meetings it sponsors, wishes representatives present at the briefing would facilitate the visits of invited ministers and officials to China, and welcomes the participation of relevant businesses and institutions in the aforementioned activities.

(Source: MOST, April 24, 2017)

## CEM8 & MI-2 to be Held in Beijing in June

The eighth Clean Energy Ministerial (CEM8) and the Second Mission Innovation Ministerial (MI-2) will be held at the China National Convention Center in Beijing from June 6 to 8, 2017.

Proposed by the U.S. Department of Energy in 2010, CEM aims to facilitate global transition to clean energy through sharing policies and best practices as well as proposing initiatives and actions. At present it has 25 members including China, Japan, the UK, the U.S. and the EU. The MI mechanism was jointly launched by leaders and representatives of 20 countries including China, U.S. and France during the Opening Ceremony of the 2015 Paris Climate Conference (COP21) in November 2015. It aims to double the governmental or government-guided R&D investment in clean energy within 5 years; and let the private and business sectors play a leadership role in the investment of clean energy. Wan Gang, Minister of Science and Technology of China attended the launch ceremony of MI on behalf of President Xi Jinping.

Under the theme of "tackling challenges through innovation, working together for a clean energy transition", major events include activities such as ministerial close-door meetings, high-level fora, exhibition, Innovation Theater, side events, and technical visits. The total attendance is expected to be about 600, including ministers and representatives from 26 members and 1 observer, relevant international organizations, and world renowned enterprises.

(Source: MOST, April 24, 2017)