



Science, Technology and Education News from China

Number 78 – December 2010

Please note that the previous newsletters can be downloaded from the website of the Embassy of Switzerland in China: www.eda.admin.ch/beijing¹. To subscribe/unsubscribe or send us your comments, please send an email with the corresponding subject to chenchen.liu@eda.admin.ch.

Introduction

The last newsletter for 2010 starts with an analysis of the recently released China R&D statistics, which offers insight on China's R&D landscape. Also in this month, International Energy Agency published World Energy Outlook 2010 with a special focus on China. World Health Organization hosted book launch for Chinese version of World Health Report 2010. In science, this month also sees the first Green Car Rating System in China and a new call from China's Science Ministry for "Thousand Talent Program."

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On behalf of the Science, Education and Health Section of the Embassy of Switzerland in China, best wishes to our readers for a happy, prosperous new year of 2011.

¹ Please click on the blue texts to activate the hyperlinks to either email addresses or related websites.



Policies

China Releases R&D Statistics 2009

On November 22, 2010, Chinese National Statistic Bureau, together with the Ministry of Science and Technology, the National Development and Reform Commission, the Ministry of Education, the Ministry of Finance, and the Commission of Science, Technology, and Industry for National Defence jointly released the **statistics for the second national R&D resources survey in 2009**. The first survey of this kind was conducted in 2000.

According to the survey, by the end of 2009, **a total of 2.29 million people are working full time in R&D related fields**, among them 50.3% are researchers. 7.2% of the R&D personnel's are in basic research, 13.8% in applied research and 79.0% in development².

China's total investment on R&D reached **CNY 580 billion** (USD 80 billion) in 2009, an all-time high and **fourth in the world** after the United States, Japan and Germany. The increasing funds reflect central government's determination in promoting the development of S&T, especially indigenous innovation. However, the ratio of **R&D investment against GDP still stood at 1.7 percent in China**, far behind 3 percent in leading countries across the world and also behind the 2 percent target for 2010, which was set by China at the beginning of the new Milenium.

Based on the statistics released, Chinese R&D activities still feature an **over-reliance on government support** and **top-down guiding approach**, a **definite priority on applied research and development over basic research**, and a **weak link** between public and private sector on R&D.

Out of the CNY 580 billion R&D budget, 4.7% goes to basic research, 12.6% to applied research and 82.7% to development. Industry spent CNY 377 billion (USD 57 billion) on R&D, government-affiliated research institutes spent CNY 95 billion (USD 8.7 billion), and universities spent CNY 46 billion (USD 5.17 billion).

Although statistics showed that industry is already the biggest investor on R&D, they also confirmed the **barriers to a more innovative industry**. The ratio of **R&D/revenue** in industry is as low as **0.7%**, with large enterprises slightly better off (0.9%). Only 8.5% of the enterprises in China are engaged in R&D, and among these 8.5%, **large and medium-sized enterprises, including State Owned Enterprises, are behind 85% of the industry investment in R&D**. Meanwhile, industry investment on R&D is mainly for product development (50.7%) and optimization (30.3%), seldom on research for new technology (2%).

Among other R&D players in the public sector, **research institutes are the best-funded group**. 323,000 researchers working for 3,707 government-affiliated research institutes could enjoy an average CNY 245,000/year support (USD 37,000), twice the amount for researchers in universities. Government is the biggest funding institution for research institutes. It contributes to 85.3% of the total R&D funding and 77.9% of their R&D project funding.

Statistics showed that Chinese **universities are at the center of R&D landscape**. Universities are active in both basic research and applied research, and are delivering far more output than research institutes with half of their funding. However, the impressive output might result from 1) the over-reliance on publications when pursuing academic titles has driven up the production of academic papers, 2) the more active university-industry cooperation on research has led to more visible results.

² According to the Statistics, development refers to the development of new products, facilities materials and services based on existing knowledge gained through basic and applied research, as well as the optimization of the above-mentioned products.



News

1. [iCET Launches China's First Green Car Rating System](#)

(Greencarchina.org, 06-12-2010)

The Innovation Center for Energy and Transportation (iCET) announced the release of a new website to rate and compare green attributes of different cars that are on the market in China. [...]

The goal of the project is to empower new car consumers by providing them with more choices and information and encouraging them to make environmentally-friendly, lower carbon decisions when purchasing a car. **In 2010, China overtook the United States to become the largest car market in the world.** And the rate of car sales is growing rapidly. China's vehicle sales will again grow 40% this year to reach 17 million units.

The Green Car Rating System methodology, developed jointly by iCET and VECC-MEP, is based on life cycle environmental impacts from the vehicle's use, the fuel cycle (production and distribution), and from vehicle manufacturing. Negative, environmental impacts from each stage can be broadly categorized by emissions of criteria pollutants impacting air pollution and human health and emissions of greenhouse gases contributing to global warming.

The website includes data for 88 car manufacturers and will continue to grow as new cars enter the Chinese market.

The Green Car Rating System is part of iCET's Low Carbon Transportation program, which focuses on: 1. Introducing best practices in low-carbon transportation policy to China by developing and promoting carbon emission calculation methodologies; 2. Training government officials in what low carbon transportation means; 3. Working with corporations to evaluate their products' greenhouse gas (GHG) intensities (and helping to find ways to decrease those intensities); 4. Introducing policies such as more aggressive fuel economy standards and low carbon fuel standards in China; and, 5. Generating and promoting information about "green" vehicles for the Chinese government and consumers.

2. [IEA Launched World Energy Outlook 2010](#)

(IEA, 17-11-2010)

The World Energy Outlook 2010 was presented by the International Energy Agency (IEA) in Beijing on November 17, 2010. It looks into the future of global energy landscape from 2010-2035 by taking into consideration both energy security and climate change. It predicts a **36% increase in global primary energy demand**, mainly driven by non-OECD countries. The demand for each fuel source increases while fossil fuel and oil remain dominant. Natural gas will play a central role in the next two decades at the annual growth rate of 1.4%. The use of nuclear energy increases from 6% in 2008 to 8% in 2035. Use of other modern renewable energy will triple, accounting for 14% of total energy demand by 2035.

China is top on the priority watch-list of *Outlook*. China overtook the United States in 2009 to become the **world's largest energy consumer**, after already becoming the **largest emitter of energy related CO₂**. Given its large population, rising and dynamic economies, rapid urbanization and still low per capita energy use, China's energy demand will continue to grow. China accounts for 36% of the global increase in primary energy use between 2008 and 2035, with its share of total demand jumping from 17% to 22%. China has also become a net importer of energy, relying heavily on international markets for oil (53% by 2009 to 84% by 2035) and natural gas. China's electricity demand will triple between 2008 and 2035, with China overtaking the United States in 2012 as the largest global consumer of electricity. Coal remains the cornerstone of the energy mix, although its share of generation drops from 78% in 2008 to 55% in 2035.

In response to the IEA analysis, Director General of Energy Research Institute of National Development and Reform Commission NDRC, Mr. HAN Wenke commented on the report for being comprehensive and informative. However, he also stated that the report **overlooked the interests of developing countries, failed to quote official Chinese sources and failed to cover the effort of Chinese government** in addressing energy efficiency and emission reduction in a more comprehensive way.



3. WHO Launches World Health Report 2010

(WHO, 29-11-2010)

China on November 29 helped to launch WHO's *World Health Report 2010*, a global report outlining how governments can strengthen financing to allow more people to use health services without risking financial ruin. The Report cites examples from China's health care reform, and, in turn, offers lessons from other countries that have successfully protected their population against the risk of medical impoverishment. The 2010 World Health Report entitled "**Health systems financing: the path to universal coverage**" was launched in Beijing by the World Health Organization, China's Ministry of Health and Peking University's China Center for Health Development Studies.

The World Health Report plays an important role in improving member states' policy research and promoting global health development, noted Vice-Minister of Health Chen Xiaohong at the launch. He added that the theme of this year's report has real relevance as it captures outstanding problems in current health development.

Dr Michael O'Leary, WHO's Representative in China, elaborated: "Around the world today, millions of people cannot use essential health services because they are unavailable or are too expensive. Millions more are pushed into poverty each year because they must pay for the health services they use at the time they receive them."

Recognizing these challenges, this year's World Health Report gives government's practical guidance on ways to finance health care. Taking evidence from China and around the world, it shows how all countries -- rich and poor -- can adjust their health financing mechanisms so more people get the health care they need without falling into poverty as a result of ill health.

(<http://www.who.int/whr/2010/en/index.html>)

4. China Renews Invitation to Technological Professionals

(Xinhua, 21-12-2010)

China's Ministry of Science and Technology (MoST) renewed its offer to fund overseas professionals who contribute to technology innovation projects for the country.

The MoST published instructions on how to apply for the government-run "Thousand Talents" funding program, which was unveiled in late 2008 to attract leading overseas professionals to work in China. Professionals with foreign doctoral degrees, aged up to 55, who had served as senior technology executives in world-renowned firms or professor-level experts at prestigious overseas universities or research institutes were eligible, said a statement from the ministry. The candidates should be able to resolve key technology problems or have developed innovative products with good market prospects in China's much-needed key science research areas.

A "Youth Thousand Talents" program is added in parallel to the regular program, with the goal of bring 2,000 talented young scientists back or to China in the following 5 years. This program is not limited to Chinese scientists overseas. Foreign experts are also welcome to apply for the program.

Application is open to scientists in natural sciences and engineering, less than 40 years old, have a doctoral degree in famous overseas university, more than 3 years of overseas research experience, and is holding a fixed teaching or research post at a famous overseas university/research institute/R&D center of enterprises when applying for the program.

The young scientists are expected to work fulltime in China in university or research institute (including former research institute such as Sunpu, CapitalBio). They will receive CNY 500,000 (USD 75,500) allowance and CNY 1-3 million (USD 151,000-450,000) research grant supporting 3 years of research. The application platform is jointly established by MoE, MoST, CAS, Chinese Academy of Engineering, NSFC and the Ministry of Human Resources.



5. **40 Million Foreigners Learning Chinese**

(China Daily, 13-12-2010)

More than 40 million foreigners around the world are learning Chinese, a senior official with the Confucius Institute Headquarters said at the organization's fifth annual conference in Beijing, which ended on Saturday.

This year, **40 new Confucius Institutes** and **97 Confucius Classrooms** opened worldwide, while eight countries also joined the program, Xu Lin, the headquarters' chief executive and director-general of the Office of Chinese Language Council International, or Hanban, told China Daily.

And more expansion is on next year's docket, she added. "We expect to dispatch 2,000 teachers and 3,000 volunteers from China, train 10,000 Chinese teachers and 10,000 local teachers, and release revised Standards for Teachers of Chinese to Speakers of Other Languages (TCSOL) next year," she said. [...]

A total of 322 Confucius Institutes and 369 Confucius Classrooms have been established in 96 countries and regions. Among them, 303 institutes and 265 classrooms are already operating, Xu said.

There were 360,000 registered students in 2010, which was 130,000 more than last year. More than 16,000 teaching programs and 8,000 cultural events attracted about 5 million participants in 2010, which was double last year's record, she said.

She also said the organization's teaching staff has been growing, with 4,109 teachers working on full-time or part-time bases, which was 1,000 more than last year. Half are from China.

http://news.xinhuanet.com/english2010/china/2010-12/13/c_13646566.htm

6. **China's Health Priority Shifts from Communicable to Chronic Diseases**

(Xinhua, 10-12-2010)

China's priority in the public health sector will shift from prevention and control of communicable diseases to treating chronic diseases during the next five years.

Li Bin, an official with the Ministry of Health, made the statement during a regular press conference at the ministry on December 10. Li said China had given priority to controlling communicable diseases during the 11th five year program (2006-2010), and the health authority will now focus on chronic diseases during the 12th five year program (2011-2015).

According to statistics from the ministry, cardio-cerebral vascular disease has become the major threat to the health of the Chinese public. The incidence rate of chronic diseases in China has reached 20 percent, which meant 260 million people have been diagnosed as suffering from chronic diseases.

It was also reported during the press conference that China had retrofitted toilets in 7.83 million rural households into more hygienic facilities as of the end of November this year.

http://news.xinhuanet.com/english2010/china/2010-12/10/c_13644345.htm



Events (January 2011– February 2011)

January 2011

Einstein Exhibition

Date: November 19th 2010 to February 27th 2011

Place: Guangzhou

Contact: Swissnex China

Contact: www.icmib.org/cfp.htm

World Universities Forum

Date: January 14th to 16th

Place: Hong Kong, China

Contact: Hong Kong Institute of Education

International Conference on Structures and Building Materials

Date: January 7th to 9th

Place: Guangzhou, Guangdong, China

Contact: <http://www.icsbm.org>

2011 International Conference on Information Systems and Computational Intelligence

Date: January 18th to 20th

Place: Harbin, Heilongjiang, China

Contact: Harbin Institute of Technology

2011 International Conference on Intelligent Computing and Information Science

Date: January 8th

Place: Chongqing, China

Contact: Control Engineering and Information Science Research Association

The 3rd IEEE International Conference on Advanced Computer Control

Date: January 18th to 20th

Place: Harbin, Heilongjiang, China

Contact: Harbin Institute of Technology

The 5th Annual China Rail World Summit 2011

Date: January 13th to 14th

Place: Beijing, China

Contact: China Decision Makers Consultancy (CDMC)

China Unconventional Gas Congress 2011

Date: January 20th to 21st

Place: Beijing

Contact: www.ugcongress.com

2011 International Conference on Information and Industrial Electronics (ICIIE 2011)

Date: January 14th to 15th

Place: Chengdu, Sichuan, China

Contact: www.iciie.org

2011 International Conference on Security Science and Technology

Date: January 21st to 23rd

Place: Chongqing, China

Contact: www.icsst.org

2011 International Conference on Medical Information and Bioengineering

Date: January 14th to 15th

Place: Chengdu, China

Cocktail Reception ZHAW (UAS Zurich)

Date: January 25th

Place: Shanghai

Contact: Swissnex China

February 2011

2011 3rd International Conference on Communication Software and Networks

Date: February 19th to 21st

Place: Yibin, Sichuan, China

Contact: <http://www.iccsn.org>

Asia-Pacific Conference on Qualitative Research in Web 2.0

Date: February 22nd to 23rd

Place: Macau, China

Contact: Merlien Institute

2011 Int. Conference on Manufacturing and Industrial Engineering

Date: February 22nd to 24th

Place: Haikou, China

Contact: <http://www.icmie.org>

Chinese New Year's Gathering

Date: February 24th

Place: Shanghai

Contact: Swissnex China

China Bio-Agriculture Industry Summit 2011



Schweizerische Eidgenossenschaft
Confédération suisse
Confederazione Svizzera
Confederaziun Svizra

Federal Department of Foreign Affairs

Embassy of Switzerland in China
Science, Education, and Health section



Date: February 24th to 25th
Place: Shanghai, China
Contact: IGVision International Corporation

Bio/Pharmaceutical Cold Chain China

Date: February 28th to March 1st
Place: tbc, China
Contact:

<http://www.pharmacoldchainchina.com>