



# Research and Environment News from China

## Number 28 – October 2006

Please note that the previous newsletters can be downloaded from the Website of the Embassy of Switzerland in China: [www.eda.admin.ch/beijing](http://www.eda.admin.ch/beijing). To subscribe/ unsubscribe or send us your comments, please send an eMail with the corresponding subject to [hang.gao@eda.admin.ch](mailto:hang.gao@eda.admin.ch).

### Introduction

Federal Councillor and Minister of Foreign Affairs of Switzerland, Mrs. Micheline Calmy-Rey, visited China from 26<sup>th</sup> to the 30<sup>th</sup> October, and, amongst others, signed a Memorandum of Understanding with the Minister of Education on educational exchange and cooperation, particularly the bilateral scholarship programme, cooperation on science and technology, study on language and culture, bilateral visits and exchange of higher education delegations, as well as vocational education delegation.

Besides, another 'E-waste Study Tour', mainly including experts from the Chinese Electronic Engineering Design Institute, was organised this month in Switzerland within Knowledge Partnership in E-waste Recycling in India, South Africa and China" programme, financed by State Secretariat for Economic Affairs (SECO). The latest sub-project in the China program is to support the establishment of the pilot e-waste recycling system in China, under the newly signed MOU between EMPA (Swiss Federal Laboratories for Materials Testing and Research) and NDRC (National Development and Reform Commission).

The project "Mapping Chemical Pollutants along the Yangze River (China) below the Three Gorges Dam (TGD)" has been approved recently by SDC (Swiss Agency for Development and Cooperation). The project is focused on the chemical analysis of geochemical parameters, anthropogenic organic trace contaminants, and trace metals transported in dissolved and particulate forms.

In the recent "Academic Ranking of World Universities – 2006", made by Shanghai Jiaotong University, ETH ranks the first in continental Europe.

In the second Inter-governmental Review Meeting (IGR-2) for the Global Programme of Action for the Protection of the Marine Environment from Land-based Activities (GPA), which was held in Beijing from Oct. 16 to 20, SEPA (State Environmental Protection Administration) expressed strongly that China is taking resolute steps to protect its vast marine environment and abundant marine resources. A "Beijing Declaration" has been approved globally.

### Science & Technology

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**Health**

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**Activites coming up soon**

November 28, 2006
<b>2006 Int'l Eco Exposition in Beijing</b>
Venue: Chinese Society for Environmental Science, CAST
Tel: 86-10-62210689 Fax: 86-10-62210728
Email: <a href="mailto:zotao78@163.com">zotao78@163.com</a>
November 2006
<b>Ecobuild Shanghai 2006</b>
<a href="http://www.greenshanghai.org">www.greenshanghai.org</a>
December 12 – 16, 2006
<b>The Eleventh Asian Technology Conference in Mathematics</b>
Hong Kong Polytechnic University, Hong Kong, Hong Kong



January 15-16, 2007
<b>The 4th International Workshop on Energy and Environment of Residential Buildings (IWEERB 2007)</b>
Venue: Harbin Institute of Technology
Contact: Mr.Zhi Weiluo
Tel: 86-0451-898 60889 Fax: 86-0451-8628 2123
E-mail: <a href="mailto:iweerb2007@hit.edu.cn">iweerb2007@hit.edu.cn</a>
April 23 – 25, 2007
<b>The 7th International Exhibition on Nuclear Power Industry</b>
Shanghai, China
May 20-23, 2007
<b>The 14<sup>th</sup> International Conference on Interdisciplinary Mathematical &amp; Statistica Techniques</b>
Shanghai, China
June 5 – 7, 2007
<b>The 11th International Electric Power Industry, Power Network Technology &amp; Power Supply Equipment Expo</b>
Guangzhou, China
June 5 – 7, 2007
<b>The 3rd International Renewable Energy &amp; Energy Environmental Protection Technology Expo\</b>
Guangzhou, China

### Environment-related international tenders and investment opportunities:

[english.cepi.com.cn/homepage/homepage.jsp](http://english.cepi.com.cn/homepage/homepage.jsp)

### Contact

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[www.eda.admin.ch/beijing](http://www.eda.admin.ch/beijing)

## Science & Technology

### China has world's second largest electric railway network

(2006-09-29, People's Daily online)

The extension of the electric railway between Hangzhou, the capital of Zhejiang province in China's east, and Zhuzhou city in Hunan province in central China, was recently completed. This now means that the total amount of electric railway line in China exceeds 24,000 kilometers, the second-largest network in the world behind Russia.

Electric trains have a high transport capacity, low operation costs and energy consumption, and are environmentally friendly.



The first electric railway was built between Baoji and Fengzhou, both located in Shanxi province in the northwest of China, in 1958. By the end of the 10th Five-Year Plan, the length of the line had exceeded 20,000 kilometers. There are currently 49 electric railway lines in use, which carry 43 percent of goods transported by rail, and accounting for 27 percent of the combined length of China's railways

A well arranged and standard electric railway operation network was established at the very beginning.

### **China, Japan, Korea promote robot technology**

(2006-10-10, People' Daily Online)

The first symposium on robot technology sponsored by China, [Japan](#) and Korea kicked off in [Beijing](#) on Monday, reported the overseas edition of People's daily on Tuesday.

Delegates from the three countries introduced their development strategy for robot technology as well as research findings. They also discussed advanced technology and reviewed communication and cooperation worldwide.

Proposals advocating communication, cooperation and development on robot technology have been singled by the three countries, with the aim being to accelerate harmony and progress in the world.

### **China spends a tenth of NASA budget on space activities: official**

(2006-10-12, Xinhua)

The Chinese government spends less than a tenth of NASA's budget on space activities, an official said Thursday in Beijing.

The proposed 2007 budget of the U.S. National Aeronautics and Space Administration (NASA) on civil space programs was nearly 17 billion dollars, while China's budget was less than one tenth of that figure, said Sun Laiyan, administrator of China National Space Administration.

As a developing country, China ensured its space activities served its economic and social development and science technology development, he said.

"In fact, we spend quite little on what we need to do," Sun said.

The Chinese government had altogether spent about 19 billion yuan (2.4 billion U.S. dollars) on the first five Shenzhou spacecraft.

The first "Shenzhou" unmanned experimental spacecraft was launched in 1999. Three more "Shenzhou" unmanned experimental spacecraft were launched in rapid succession. On October 15 and 16, 2003, it launched and retrieved "Shenzhou V", China's first manned spacecraft, according to the white paper "China's Space Activities in 2006" published by the government Thursday.

The government spent less than one billion yuan (125 million U.S. dollars) on the "Shenzhou VI" manned spacecraft last October, with two astronauts on board, Sun said.

He said the budget for the first stage of China's lunar exploration program was just over one billion yuan (125 million U.S. dollars).

China's first lunar-probe satellite to be launched next year, is part of the three-stage Chang'e Program which aims to place an unmanned vehicle on the moon by 2010. The project has a budget of 1.4 billion yuan (170 million U.S. dollars).

### **China-developed wireless technology gaining us in non-governmental sector**

(2006-10-13, Xinhua)

Despite failing to become the internationally recognized standard, China's home-grown wireless security technology appears to be gaining acceptance of China's non-governmental sector.



On the first day of the annual China Hi-tech Fair held in Shenzhen in south China's Guangdong Province, WAPI Industrial Alliance signed agreements with Shenzhen Convention and Exhibition Center, CERNET and ItopHome to promote the use of WAPI technology.

"This represents the technology's first breakthrough in the non-governmental market," said Li Jinliang, a telecom expert.

CERNET builds wireless networks for colleges, and ItopHome is a Chinese organization making standards for home wireless products.

New wireless networks built on campus by CERNET will adopt WAPI and the more than 200 members of ITopHome will also use WAPI in their wireless network products for home use such as refrigerators, TV sets and air-conditioners.

A survey with the Ministry of Education shows that only 15.1 percent of Chinese universities have built wireless networks on campus but 36.2 percent of the universities plan to build such networks.

The main reason WAPI was adopted was because it offered better security, said CERNET. ItopHome said the same. Home wireless networking is just beginning in China and security is especially important.

WAPI, which stands for Wired Authentication and Privacy Infrastructure, closed a security loophole that exists in the 802.11 standard of wireless local area networks (WLAN).

Developed by IWNCOMM, a private company in northwest China's City of Xi'an, WAPI attracted wide attention from both domestic and overseas IT markets for its sound security.

Currently many wireless products are based on 802.11 standards which is owned by Intel.

While China's WAPI effectively closed the security loophole in 802.11, it could not win wide application overseas, said Li, who is a member of the science and technology committee under the Ministry of Information Industry.

WAPI was selected as national standard in 2003. On Dec. 30 last year, China issued a circular, saying that government departments should give priority to products meeting national security standards when purchasing wireless network products, including computers, printers, telecommunications equipment, copy machines and projectors.

"The enforcement of government procurement will help the WAPI standard become stronger," said Li, adding that "its use in new areas this time means that non-governmental forces are promoting the spread of the technology."

### **China successfully tests new thermonuclear fusion reactor**

(2006-09-29, Xinhua)

[http://english.people.com.cn/200609/28/eng20060928\\_307241.html](http://english.people.com.cn/200609/28/eng20060928_307241.html)

### **Chinese scientists invent first cooking robot**

(2006-10-10, Xinhua)

[http://english.people.com.cn/200610/10/eng20061010\\_310456.html](http://english.people.com.cn/200610/10/eng20061010_310456.html)

### **Five scientists awarded China's highest aerospace honor**

(2006-10-11, People' Daily Online)

[http://english.people.com.cn/200610/11/eng20061011\\_310854.html](http://english.people.com.cn/200610/11/eng20061011_310854.html)

### **China to develop powerful carrier rockets of new generation**

(2006-10-12, People' Daily Online)

[http://english.people.com.cn/200610/12/eng20061012\\_311153.html](http://english.people.com.cn/200610/12/eng20061012_311153.html)

### **Chinese astronauts to realize extravehicular operations in five years**

(2006-10-12, Xinhua)

[http://english.people.com.cn/200610/12/eng20061012\\_311152.html](http://english.people.com.cn/200610/12/eng20061012_311152.html)



### **Scientific Researchers Get a Major Budget Boost**

(2006-10-13, Xinhua News Agency)

<http://www.china.org.cn/english/scitech/183871.htm>

### **Official: Students overseas to double by 2010**

(2006-10-17, China Daily)

<http://www.chinaembassy.org.nz/eng/xw/t276537.htm>

## **Energy**

### **New nuclear power plant to be built in central China**

(2006-10-26, People's Daily)

China will build a new nuclear power plant in Hunan Province with an investment of 60 billion yuan (7.5 billion U.S. dollars), a local government source said Wednesday.

The plant, designed with six nuclear reactors with installed capacity of 6 million kw, will be located at the Xiaomoshan Hill, Dongshan Township, Huarong County, Yueyang City, said the source with the Hunan provincial department of commerce.

The Xiaomoshan Hill, about 184 km south of the Hunan provincial capital of Changsha, was picked as the plant site in April last year by the State Power Design Institute and other authorities concerned, the sources said.

The project was approved by the State Development and Reform Commission in November last year and a feasibility study covering 26 subjects was then started, the source said.

So far 23 subjects in the feasibility have been completed and the remaining three are expected to be completed by the end of this month, he said.

A report on environment effect and another on security analysis will also be finished by the end of this month, he said.

The plant will be built in three phases and all the initial preparatory work has been going on smoothly, the source said. He did not give any other details.

China's power consumption has increased rapidly as a result of fast economic growth. The electricity consumption in the first quarter this year reached 624.98 billion kwh, a year on year rise of 11.81 percent.

Currently, China has nine nuclear generators in commercial operation with a total capacity of about 7 million kw.

China has decided to develop nuclear power projects in its inland regions and plans to increase the installed capacity to 58 million kw by 2020.

Source: Xinhua

### **China to increase input in alternative energy projects in next 5 years**

(2006-10-4, Xinhua)

The Ministry of Finance has decided to increase input in projects involved in developing bio-energy and other alternative energies between 2006 and 2010.

The move aims to ensure China's energy security as the country fears that the soaring world oil prices would have a negative impact on its economic growth, said sources with the ministry.



But the ministry did not elaborate on the investment figures, saying only that it would earmark more funds for bio-energy, solar and wind energy projects, as well as for coal-to-liquid fuel projects over the next five years.

The ministry has listed the development of renewable energy a top priority in the coming five years. It would also encourage consumers to save energy and make efforts to build energy reserves.

The problem of energy shortage has been plaguing China's fast economic development. In the first half of this year, China's economy grew year on year 10.9 percent.

Data showed that China's dependence on foreign oil reached 43 percent last year. Departments concerned forecast that China's oil consumption would hit 450 million tons in 2020, with 250 million tons to be imported from abroad.

## Environment

### Seas, rivers face serious pollution threats

(2006-10-16, Xinhua)

China will make an all-out effort to protect its marine environment, which is facing very serious pollution threats, said the country's top environment official Monday. "China is a country with huge marine resources, and its oceans and coastal regions are crucial parts of the country's economy," said Zhou Shengxian, director of the State Environmental Protection Administration (SEPA).

"But pollution control in and along China's rivers and seas is still under great pressure," Zhou said, adding that pollution originating on land had been on the rise for many years. Zhou made the remarks in Beijing at a five-day GPA workshop, a global UNEP (the United Nations Environment Programme) program on action to protect the marine environment.

"Marine environment crises occur regularly in China, and pollution is still very serious at the mouths of major rivers and some bays," Zhou said. Measures to clean up the environment will focus on northeastern Bohai Bay, the areas around the mouth of the Yangtze River and the southern section of the Pearl River in Guangdong Province, he said, adding that sewage discharge would be restricted in these areas.

The three key areas pinpointed by Zhou are close to China's three major economic engines -- the Bohai industrial belt, the Shanghai region, and the Pearl River Delta in Guangdong, bordering Hong Kong. Zhou took over the SEPA office last December after his predecessor Xie Zhenhua was sacked over a chemical spill that seriously polluted the country's northeastern Songhua River.

Cities along the river, including Harbin, capital of Heilongjiang Province and a city of more than 3 million people, were forced to temporarily shut down tap water. Russian environmental officials were then mobilized to join pollution control efforts as pollutants flowed down the river towards China's northern neighbor.

### Factories shut down

(2006-10-16, China Daily)

China has closed 213 factories in its inland provinces and autonomous regions over the past three years to reduce industrial pollution, according to the State Environmental Protection Administration (SEPA).

Another 873 factories in the provinces of Shanxi and Shaanxi, in the Inner Mongolia and Ningxia Hui autonomous regions were shut down pending renovations, according to the administration.

"The total investment in the renovation and construction of environmental protection facilities is 1.43 billion yuan (US\$181 million)," the administration said.

The statement said the three-year campaign, intended to reduce industrial pollution in the four provinces and regions, has affected 1,086 factories.



A total of 409 out of the 873 factories ordered to carry out reconstruction work have now resumed production after passing a government examination. The others are still closed.

The administration is urging local governments to step up supervision of the factories, saying that negligence has resulted in excessive industrial pollution.

It said that 40 government employees, who were involved in industrial pollution cases, received administrative sanctions during the campaign. Two were removed from their posts and another two are under judicial investigation.

### **Almost half of Chinese cities are relatively or heavy polluted**

(2006-10-24, People's Daily Online)

The air of 48.1 percent of Chinese cities is relatively severely polluted or severely polluted, mostly by grain-sized particles of dust.

It was predicted that by 2010 coal burning will produce more than 35 million tons of sulfur dioxide across China. The figure will reach 43.5 by 2020.

The sharp increase of soot and dust in the air will put greater pressure on the environment.

The State Environmental Protection Administration (SEPA) will establish a preventative control system for regional pollution, said Zhang Lijun, vice president of SEPA, at the ongoing International Seminar on Regional Air Quality Management.

SEPA will also strictly control the quantity of discharged pollutants, promote desulfurization at heat-engine plants and improve air quality, said Zhang.

The seminar kicked off in Beijing on Monday, sponsored by SEPA, the US Environmental Protection Agency and the European Commission DG Environment.

### **International co-op promotes environmental protection**

(2006-10-16, China Daily)

[http://www.chinadaily.com.cn/cndy/2006-10/16/content\\_708477.htm](http://www.chinadaily.com.cn/cndy/2006-10/16/content_708477.htm)

### **Polluted sea witnesses improvement**

(2006-10-16, China Daily)

[http://www.chinadaily.com.cn/cndy/2006-10/16/content\\_708474.htm](http://www.chinadaily.com.cn/cndy/2006-10/16/content_708474.htm)

### **MARINE protection Action**

(2006-10-16, China Daily)

[http://www.chinadaily.com.cn/bw/2006-10/16/content\\_708532.htm](http://www.chinadaily.com.cn/bw/2006-10/16/content_708532.htm)

### **China clamps down on industrial pollution**

(2006-10-16, China Daily)

[http://www.chinadaily.com.cn/cndy/2006-10/16/content\\_708475.htm](http://www.chinadaily.com.cn/cndy/2006-10/16/content_708475.htm)

## **Health**

### **New AIDS virus testing reagent for family use enters Chinese market**

(2006-10-25, People's Daily)



People are able to test whether they are infected with AIDS virus at home by using samples of urine or saliva, thanks to a kind of new AIDS reagent produced by Chinese enterprises.

Wang Youchun, an expert with the National Institute for the Control of Pharmaceutical and Biological Products, said at a recent AIDS forum held in Yichang, in central China's Hubei Province, that four Chinese enterprises have produced this kind of reagent.

"But the new reagent can not replace the traditional testing method using blood samples, as the accuracy of the new reagent is relatively low," Wang said.

Besides blood, AIDS virus can be tested in urine, saliva, tear, semen and vaginal secretion, said Wang.

Compared with traditional reagent, the new method is more safe and convenient, but not as accurate as the traditional one, Wang said.

If the test of the reagent is positive, more traditional tests of blood are also needed to confirm the result, Wang said.

The reagent is aimed at family use, and its price is higher than the traditional one, Wang added.

China had reported a total 144,089 people living with HIV by the end of last year, including 32,886 AIDS patients and 8,404 fatalities, according to China's Ministry of Health.

At least 650,000 people in China are estimated to be infected by HIV, many of whom, however, are still unaware of their situation, partly due to the lack of a testing service, experts say.