Introduction

The State Council published at the beginning of this month the medium- and long-term program of science and technology development, namely from 2006 to 2020. China’s objective is to have reached in 2020 the world’s 5th position of scientific and technical innovation. Therefore, the State Council will now allocate 2.5% of GDP to this field, instead of 1.23% in 2002 or 0.83% en 1999.

A detailed list of fields with strategic support has been published, and it clearly focuses on environment protection and sustainability.

11 industrial sectors’ innovation is considered a priority. Sectors of environment protection include waste treatment, waste water treatment, energy, and transport. Others are agriculture, communications, health, urbanization, manufacturing, public security, national defense.

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Activities coming up soon

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<tr>
<td>Asia Pacific Rail2006-8th annual meeting</td>
<td>13 - 17 March 2006</td>
<td>Shangri-La Pudong, Shanghai, China</td>
<td>Patricia Cheong</td>
<td>+65 6322-2766, +65 6226-3264</td>
<td><a href="http://www.terrapinn.com/2006/apr_CN/">Website</a></td>
</tr>
<tr>
<td>Shanghai-Hong Kong International Liver Congress 2006</td>
<td>25-28 March, 2006</td>
<td>Shanghai, China</td>
<td>Building 4, Room 303, Liver Cancer Institute and Zhong Shan Hospital, Fudan University, 136 Yi Xue Yuan Road, Shanghai 200032, China</td>
<td>86 21 64041990, 86 21 64037181</td>
<td><a href="http://www.livercongress.org/en/home.asp">Website</a></td>
</tr>
<tr>
<td>CHINA MED - International Medical Instruments and Equipment Exhibition</td>
<td>11-14 April, 2006</td>
<td>Beijing, China</td>
<td>Ryan Klemm, Senior Project Manager, Messe Düsseldorf North America, 150 N. Michigan Avenue, Suite 2920, Chicago, IL 6060, USA</td>
<td>312 7815180, 312 7815188</td>
<td><a href="http://www.mdna.com/shows/chinamed.html">Website</a></td>
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<tr>
<td>Agro Shanghai 2006</td>
<td>April 12-14, 2006</td>
<td>Shanghai Exhibition Center</td>
<td>Mr. Jin Sheng-ling, Exhibition Dept. of CCPIT Shanghai</td>
<td></td>
<td><a href="http://www.livercongress.org/en/home.asp">Website</a></td>
</tr>
<tr>
<td>The 7th China International Environmental Protection Exhibition and Hi-New Technologies Conference</td>
<td>April 28 - 30, 2006</td>
<td>Shanghai International Exhibition Center</td>
<td>Mr. Jiang Zhiyou</td>
<td>021-54592323, 021- 54253480</td>
<td><a href="http://www.mdna.com/shows/chinamed.html">Website</a></td>
</tr>
</tbody>
</table>
### 13-15 June, 2006

**Drug Discovery and Development China**

Shanghai, China  

**Contact:** Ms. Lynn Ng  
**Tel:** 65 68355107  
**Fax:** 65 67335087  
**Email:** Lynn.Ng@ibcasia.com.sg  
**URL:** [http://www.drugdisc.com/china](http://www.drugdisc.com/china)

### June 18 - 21, 2006

**International Symposium on Nanotechnology in Environmental Protection and Pollution**

Venue: The Hong Kong University of Science & Technology  
International Conference Center  
Clear Water Bay  
Kowloon, Hong Kong, P.R. China

### June 28-30, 2006

**Wind Power Asia 2006 - The 3rd Asian Wind Power Exhibition and Conference**

Venue: China World Trade Centre, Beijing, China  
**Tel:** 86-10-68360959, 68360575  
**Fax:** 86-10-68360949  
**Email:** marcowang@unique-expo.com

### October 23-25, 2006

**4th Food Science International Symposium**

Venue: Xiamen, Fujian, P. R. China  
**Contact:** Prof. Sun Shizhong  
**Email:** chnfood@chnfood.cn

### November 2006

**Ecobuild Shanghai 2006**

[www.greenshanghai.org](http://www.greenshanghai.org)

### January 15-16, 2007


Venue: Harbin Institute of Technology  
**Contact:** Mr. Zhi Weiluo  
**Tel:** 86-0451-898 60889  
**Fax:** 86-0451-8628 2123  
**E-mail:** iweerb2007@hit.edu.cn

### 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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Science & Technology

China to adopt wheel/rail technology in high-speed railways (People's Daily on line, 2006-1-24)

The China South Locomotive and Rolling Stock Industry (Group) Corporation (CSR), a major supplier for China railways, inked a developing agreement on financial cooperation on Monday with the China Development Bank. According to the agreement, the bank will provide a 15-billion-yuan developing financial loan to support CSR's researches on high-speed trains traveling at the speed of 200-300 kilometers per hour in the next three years. The CSR said it has started the production of 60 high-speed trains in the country, reports the Beijing Times on Tuesday.

This signifies that China will adopt "wheel/rail technology" and the "magnetic levitation" technology will be phased out thoroughly. China's high-speed trains, planned for many years, have passed the stage of planning.

The first batch of 120 high-speed trains has been put on order, said Zhang Xinning, spokesperson with the CSR in an exclusive interview with the Beijing Times' reporter. The CSR has received an order of 60 trains, which has been handed over to its subsidiary, CSR Sifang Locomotive and Rolling to build.

Zhang disclosed that China's high-speed trains will be more comfortable for passengers than the BSP passenger cars on the Beijing-Shanghai rail line. In addition to fast speed, the high-speed trains in the nation will be more comfortable and safer than those of other countries. It is more worth noting that the high-speed trains will have China's own brand. The CSR will import the technology from a Japanese company in manufacturing.

As a matter of fact, the 15-billion loan includes the import of the Japanese technology. In addition, the loan will also include the technological import of the CSR motor train sets traveling at the speed of 200 kilometers per hour, high-power electric locomotives and diesel locomotives.

China exports coal mining technology for the first time (People's Daily on line, 2006-2-8)

German coal mining solution provider DBT GmbH has acquired a Chinese coal mining technology for more than 15 million yuan. This is the first time that China's coal industry has exported mining technology.

China's Yankuang Group owns the intellectual property rights of the technology producing hydraulic support. Jin Tai, vice president of the company in charge of the development of the innovation, was honored an award at the Asia Mining Congress in Calcutta last year.

The deal licenses non-exclusive, non-transferable limited use of the longwall top coal caving (LTCC) technology to the German company.

Compared with conventional methods, the new support is featured with compact dimension, simple structure, better reliability, higher efficiency, faster mobility and easier automation. It has a longer loading lifespan than set by the European standard and brings 1.5 million tons of extra output to unit production.

DBT will offer 128 such supports to Australia to build the world's first longwall top coal face with this technology.

Foreign investors select China as research and development base (People's Daily on line, 2006-1-10)

Foreign investors are setting up an increasing number of research and development facilities in China, according to the Chinese Ministry of Commerce.

There are about 750 of these centers in China, mainly distributed in Shanghai, Beijing and Shenzhen where foreign investment is concentrated.

In response to China's hunger for advanced overseas technologies, many multinationals have re-deployed their global strategy and have made China one of their priority locations for R &D centers.

The ministry said the centers mainly focus on high-tech industries such as electronic and telecommunications equipment, manufacturing of transport equipment, pharmaceuticals and chemical materials.
Multinationals such as Microsoft, IBM, Motorola, Nokia and Toyota have all established R&D centers in China.

With the expansion of the China market, many multinationals have kept increasing investment in their China R&D centers. Statistics show that the investment of companies like General Motors, Philips, Motorola and Siemens to their Chinese R&Ds have all exceeded 10 million U.S. dollars.

These foreign R&Ds also employ a large proportion of Chinese talent. The ministry said high-school graduates and students, who have returned from overseas, have been the main target for recruitment.

The R&Ds also have close ties with Chinese universities and scientific research institutions, said the ministry.

Many centers have combined with Chinese scientific institutions to work on new products and technologies, with both sides reaping the rewards.

Economic observers said by attracting more and more localized foreign R&D centers, China can climb the hierarchy within the global economy and the technological innovation of Chinese companies can be improved.

**Maglev train to have test run in July**

(People's Daily on line, 2006-2-13)

A high-speed maglev train, to which China has its own intellectual property rights, will have its first test run in Shanghai this July, China News Service reports.

The train is undertaken by Chengdu Aircraft Industrial (Group) Co., Ltd. (CAC), which is affiliated with China Aviation Industry Corporation I (AVIC I).

The manufacturing of the components of the maglev train was started on Sept. 29, 2005. A hi-tech project in China's State "863" Program, the train is designed to run at 500km per hour with 90 passengers.

As a famous aircraft manufacturer in China, CAC is the only aircraft maker that has entered the sector of maglev transportation. The company funds the R&D itself and fully owns the intellectual property rights to the components of the train.

**China intends to push for GM crop studies**

(China Daily, 2006-02-14)

http://english.sina.com/technology/1/2006/0213/65342.html

**Environment**

**UN praises China for combating pollution**

(People's Daily on line, 2006-1-14)

China has made impressive commitment to monitoring the Songhua River pollution in a regular and systematic way and to sharing results and other information with neighbouring Russia and the United Nations Environment Programme, a UNEP report said.

The report, released on Friday, also praised a recently established joint monitoring programme between China and Russia, calling it "an encouraging step in further multilateral co-operation on shared water resources.”

UNEP said it was ready to assist Chinese authorities further in relation to both the current spill and with measures to reduce the risk of a similar incident in the future.

The report was completed by a four-person team of UNEP experts who visited Northeast China last month to examine the November 13 blast at the Jilin Petrochemical Corporation and its polluting effects on the Songhua River. In its report, the team called for knowledge gained from the incident to be incorporated into policy, legislation and enforcement.
The Songhua River merges with the Heilong River and forms a natural border with Russia, eventually flowing into the Sea of Okhotsk.

China and UNEP “have agreed to share this report with the relevant Russian authorities,” the Kenyan-based agency said in a news release.

The UNEP report described the chemical spill as “probably one of the largest trans-boundary chemical spill incidents in a river system in recent years.”

It stressed that the accident has “major trans-boundary and international significance” and suggested that both China and Russia provide access for “independent and impartial” sampling and chemical analysis of the spill.

But the UN report said that during the initial phase after the explosion, the government’s “communication and information sharing with the general public was not adequate.”

China to continue dealing with Songhua River pollution

The Chinese government will continue to deal with the water pollution of Songhua River in northeast China in three strategic phases, Zhou Shengxian, minister in charge of the State Environmental Protection Administration (SEPA), has said.

This is the latest official comment from China’s environmental watchdog regarding last year’s severe water pollution that caused a drinking water cutoff for several days in Harbin, the capital city of the northeastern Heilongjiang Province with a population of more than 3 million.

In the future, the government will continue monitoring the water quality of the Songhua River and the Heilong River on the Sino-Russian border. Sixteen monitoring points will be operational along the rivers, said Zhou.

Chinese scientists will conduct an environmental assessment on last year’s pollution incident, caused by an explosion of a chemical factory in Jilin City, Jilin Province, on the upper reaches of the Songhua River.

A five-year environmental protection plan will also be mapped out for promoting the harmony between social, economic development and the local environment in the Songhua River Valley. The focus will be placed on ensuring drinking water safety for big cities in the region, said Zhou.

Efforts will also be made to prevent any new incident of water pollution. Special attention will be paid to the monitoring of the quality of aquatic products from the river, he added.

Moreover, a long-term mechanism of environmental protection will be set up by forming special government task forces, rescue teams, platforms of laws and information, as well as headquarters in charge of handling emergencies and accidents. Special equipment and technology will also be developed for the purpose, Zhou noted.

China to see greater development of renewable energy

China will see a greater development and use of renewable energy in the years to come as the country has adopted policies to encourage greater efforts in this regard.

The Renewable Energy Law of China, which came into effect on Jan. 1 this year, stipulates that development and use of renewals such as solar energy are an area of priority for future energy development.

In accordance with the law, real estate developers are required to take the use of solar energy into consideration in designing and constructing buildings in order to provide application of solar energy with basic conditions.

The Chinese Ministry of Construction lays down a goal in an energy-efficient program for buildings of the 2000-2010 period stating the availability of solar panel heaters in Chinese homes should be between 20 percent and 30 percent.
Luo Zhentao, head of solar energy thermal application with the China Association for Renewable Energy in Rural Areas, contends with the promulgation of the above mentioned measures, which are sure to advance thermal application of solar energy, and it is also imperative for the central Chinese government to give tax preferential treatment to businesses engaged in converting solar energy into heat.

"Lowering the current 17 percent added value tax for thermal use of solar energy to six percent will help reduce operating cost for enterprises and encourage them to increase investment in technical upgrading," said Luo, who believed rural areas of the country would be a key region for the spreading of affordable home solar panel heaters in the future.

China now leads the world by production and application of solar panel heaters. It now has 2,000 businesses engaged in thermal application of solar energy and produced 75 million square meters of solar panel heaters, or 60 percent of the world's total.

With 75 million square meters of solar energy heaters, China is saved from burning 110 million tons of standard coal annually.

It is estimated that the Chinese market demand for solar panel heaters will rise to 300 million square meters by the year 2020.

Three Gorges power project generates 100 bln kwh of electricity

The China Yangtze River Three Gorges Project Development Corporation announced Friday its power plant has cumulatively generated 100 billion kwh of electricity by February 10 of this year.

The announcement was made by Li Yong'an, general manager of China Yangtze River Three Gorges Project Development Corporation.

The Three Gorges Power Plant, where turbo-generators with a combined installed capacity of 9.8 million kw are now operational, along with the Gezhouba Power Plant downstream of the Three Gorges power plant, are capable of generating between 240 million kwh and 250 million kwh of electricity daily, equivalent to 5 percent of the country's actual daily power consumption, according to Li.

Launched in 1993, the Three Gorges Project, including a 185-meter-high dam and 26 generators, is being built in three stages on the middle reaches of China's longest river, the Yangtze.

The gigantic, multi-functional Three Gorges Project is estimated to cost 180 billion yuan (approximately 21.7 billion U.S. dollars) and will have a combined generating capacity of 18.2 million kw.

According to a construction schedule, the Three Gorges Project will be able to generate 84.7 billion kwh of electric power annually when it is completed in 2009.

So far, construction has focused on the northern bank of the Yangtze, where all 14 turbo-generators had been installed and started power generation by September 16, last year.

Twelve more turbo-generators will be installed on the southern bank of the Yangtze. It is expected that the first generator on the southern bank of the river will begin power production in 2007.

China actively responds to climate change challenge

The year 2005 has marked the hottest year in the past 100 years with an average global temperature of 14.6 degree Celsius, 0.04 degree higher than the previous hottest year of 1998.

Although it's hard to predict what climate will be like in 100 years, scientists have discovered more evidence that over the past 50 years, global climate tended to become warmer and warmer. And the change has great to do with the increasing greenhouse emissions such as carbon dioxide, caused by the use of fossil fuels. Thus climate change is indeed an issue and needs great efforts to deal with.
China has responded positively to the challenge by taking a series of measures.

To slow down the pace of climate change and reduce the carbon dioxide emission, the United Nations (UN) has drafted the UN Framework Convention on Climate Change and passed the Kyoto Protocol a year ago. According to the Kyoto Protocol, by 2010, all the developed countries should reduce their greenhouse gas emissions by 5.2 percent on the basis of 1990. China has signed the protocol, but as a developing country, when China should shoulder this responsibility will be discussed in 2012.

Health

China makes debut export of human-use vaccines

Live hepatitis A vaccine produced by a biotech producer based in this capital of east China's Zhejiang Province has been given a green light to enter the Indian market, marking a debut export of China-made vaccines.

The hepatitis A vaccines independently developed by Chinese viruologists have been inoculated on 130 million persons in China, which has helped bring down the incident rate of the infectious disease by 20 percent every year in China during the past decade.

The Zhejiang Pukang Biotech Co. said on Saturday that the vaccines with complete domestic intellectual property right were ready for export to India, after they passed human test and the ensuing observation for three years in the country.

Although China announced that it has basically controlled the prevalence of hepatitis A, there are still 1.4 million people found infected with the disease globally.

Vaccines remain the most effective way to curb the spreading of hepatitis diseases. Pukang Biotech is exploring exports of the vaccines to Guatemala and the Philippines.

25,000 Chinese die of AIDS in 2005

An estimated 25,000 Chinese died of AIDS last year, according to an updated report on China's HIV/AIDS epidemic released here Wednesday.

Some 75,000 people were infected with HIV in China last year, said the report, jointly written by the Ministry of Health, UNAIDS and the World Health Organization (WHO).

"New HIV infections have primarily occurred among high-risk groups, including drug users, sex workers, clients of sex workers, men who have sex with men and partners of people living with HIV/AIDS," vice Health Minister Wang Longde said.

A relatively small proportion of new cases are associated with mother-to-child transmission, he added.

Of the estimated 25,000 AIDS deaths in 2005, approximately 10,000 occurred among former commercial blood and plasma donors.

"The other 15,000 people who died were mainly drug addicts in provinces and regions such as Yunnan, Xinjiang and Guangxi," said Wu Zunyou, a leading AIDS expert at the China Center for Disease Control and Prevention (CDC).

According to the report, as of late 2005, there were 650,000 people living with HIV/AIDS in China, 75,000 of whom have developed AIDS.

The new estimated figure is below the 2003 figure because the number of commercial blood sellers was overestimated in 2003, the report says.
**China to promote community health service** *(People's Daily on line, 2006-2-11)*

China is going to establish a new urban health service system on the bases of communities in order to make medical service easier and cheaper for local residents to access, said a health official Friday.

Community health service ensures basic medical service to the residents, especially the elderly, disabled people and patients with chronic diseases, the Health Ministry spokesman Mao Qun'an told a press conference.

So far, China has set up community medical service centers in 95 percent of its prefecture-level cities and 86 percent of districts under municipalities and county-level cities.

More than 3,400 community medical service centers and nearly 12,000 community clinics have been established, said Mao.

However, the current community health service is still insufficient to meet people's demand, the spokesman noted.

The State Council on Wednesday decided to ensure comprehensive community health service in all major Chinese cities by 2010. A work team will be set up by the State Council to lead the reform of the community health system.

Mao said the Ministry of Health will work out a guideline and relevant regulations in line with the goal set by the State Council, and train more doctors for community clinics.

He also urged social insurance departments to enroll qualified community clinics into medical insurance system, so that more people could access community health service instead of cramming into large hospitals.

**Rights of HIV/AIDS patients spelt out** *(People’s Daily on line, 2006-2-13)*

The rights and obligations of HIV/AIDS sufferers and efforts required at various levels to fight the disease were made public in a regulation released yesterday.

The Regulation on AIDS Prevention and Control, issued by the State Council on January 18, is due to take effect from March 1.

According to the regulation:

- No employer or individual can discriminate against people with HIV/AIDS or their relatives. Their right to marriage, employment, medical care and education are protected by law.

- For instance, no organization or individual can disclose the names, addresses work places of people with HIV/AIDS, or their relatives, without permission.

- At the same time, victims should fulfill a few obligations, including informing their sexual partners and doctors and taking necessary measures to prevent from infecting others. They face civil or criminal charges if they fail to do so.

- Governments above the county-level must lead the prevention and control of HIV/AIDS.

- Governments above the county-level must provide free anti-HIV/AIDS drugs for rural AIDS patients and underprivileged urban patients, and offer free treatment and consultation on prevention of the mother-to-baby infection for pregnant women.

"I am pleased to see the final report, which constitutes a crucial part of the country’s overall anti-AIDS strategy," Joel Rehnstrom, country co-ordinator of UNAIDS China office, told Xinhua News Agency.

According to latest estimates, China has 650,000 HIV/AIDS sufferers including 75,000 AIDS patients.

**China develops new HIV/AIDS test kit**
With only a drop of blood mixed with a small amount of medicine, the result of whether a person has been infected with HIV/AIDS virus will come out within half an hour. This is a new kind of test kit developed by Shanghai Kehua Bio-engineering Co., Ltd., one of the four HIV/AIDS testing suppliers in the world selected by Clinton Foundation.

According to reports, the number of people living with HIV/AIDS worldwide is 40 million, but 90% HIV/AIDS infectors do not know they have been infected with the virus due to lack of efficient diagnosis.

The invention of the new test kit makes the HIV/AIDS diagnosis fast and convenient.

Listed as a recommended product by the World Health Organization and United Nations Children's Fund, it will be exported to Asia, Africa, Latin America and part of Europe.

**Infectious diseases killed more last year**

Infectious diseases in 2005 killed almost double the number of the previous year, and authorities warned that the true figure might have been under-reported.

According to the Ministry of Health, contagious diseases killed 13,263 people across the country last year, a jump of 82 per cent from 2004.

HIV/AIDS has become the third deadliest communicable disease in China, even though tuberculosis (TB) still tops the list of the most fatal illnesses.

Rabies, hepatitis B and tetanus in new-born babies are also very dangerous and the five diseases accounted for 89 per cent of the figure that died last year.

More people contracted communicable diseases last year, about 4.4 million, mostly TB, hepatitis B, dysentery and sexually-transmitted diseases.

"The incidence of infectious diseases last year was higher because the reporting system has been strengthened at medical institutes and fewer cases were missed," Mao Qun'an, the ministry's spokesman told China Daily yesterday in a telephone interview.

"The reporting mechanism required by law and the adoption of the Internet for spreading information and other measures meant more cases were discovered," he said.

Under Chinese law, reports on the situation with 27 serious diseases, including HIV/AIDS, anthrax, rabies, TB and hepatitis, should be made public; and since 2004, the ministry has been updating the public monthly on its website.

**Chinese doctor finds new gene aggravating HIV/AIDS patients**

Professor Li Taisheng, AIDS Diagnosis and Treatment Center of Peking Union Medical College Hospital found the gene LA-Bw6/Bw6, the real cause Chinese HIV/AIDS patients' deterioration, Beijing Times reported.

Occurrence rate of HIV/AIDS carriers with the gene is much faster than those without the gene, according to the hospital.

The disease deterioration varies a lot among HIV carriers, the destructive power of the virus is irresistible for 95% of HIV/AIDS infectors. Infections, tumors and devitalization of the whole body will occur eight to ten years later after being infected with HIV/AIDS virus. On the contrary, less than 5% of HIV infectors can live like normal people in ten years after infection.

Professor Li's research will help give more concrete treatment for HIV/AIDS patients.