



Research and Environment News from China

Number 5 - November 2004

Please note that the previous newsletters can be downloaded from the Website of the Embassy of Switzerland in China: <http://www.eda.admin.ch/beijing>. To subscribe/ unsubscribe or send us your welcome, please send an eMail with the corresponding subject to ziwen.zhu@eda.admin.ch.

Introduction

This month, the newsletter includes a list of FP6 **open research calls**. Substantial FP6 funds are available to finance joint-research between Swiss, Chinese and European teams, in topics ranging from bio-technology to IT, from nano-technology to environment.

This month's highlights in Science & Technology is the very successful **Sino-Swiss Biotechnology workshop** that was held in Canton, jointly organized by **ETH**, the **China National Center for Biotechnology Development**, and the Science & Technology section of the Embassy of Switzerland and sponsored by the **Swiss State Secretariat for Education & Research (SER)** and the **Chinese Ministry of Science and Technology**. About 60 Swiss and Chinese researchers from all over both countries gathered to exchange ideas and discuss cooperation. Sino-Swiss cooperation in bio-technology is further demonstrated by an article on Novartis (see below), one month after Roche's inauguration of its Shanghai Research Center was reported on.

This month's highlights regarding China's environment is the publication of the drafted Renewable Energy law, one month after the draft Law on eWaste. Further important moves by the Chinese government is its signature of the Stockholm convention and its implementation of the Kyoto protocol.

The China Council on International Cooperation of Environment and Development, a high level international government advisory body, chaired by Vice-Premier Zeng Peiyan, held its yearly meeting with the Chinese government. This year's advice focuses on agriculture, and one Task Force financed by the Swiss State Secretariat of Economy (**SECO**) and co-led by the **International Institute for Sustainable Development**, produced a report "**An Environmental Impact Assessment of China's WTO Accession – An analysis of six sectors**" and related recommendations. The report, available with ziwen.zhu@eda.admin.ch and soon on www.eda.admin.ch/beijing, actually analysed at one shot the following sectors: Agriculture, Aquaculture, Forestry, Energy, Automobiles and Textiles. In a nutshell, key recommendations produced by that taskforce are an agricultural policy that integrates environmental and sustainability considerations, distinguishing between labour intensive versus resource intensive production (e.g. fruits and vegetables versus cereals), and integrating the trade dimension. Besides, the taskforce analysed opportunities that WTO membership creates for the Chinese government in terms of environmental standards. As an example, "In Europe and Japan, Euro IV or its equivalent has been applied. The price of such cars in the world market is comparable to the Chinese ones. Therefore, immediate enforcement of Euro IV would not create losses to the producers and consumers" (source: "An Environmental Impact Assessment of China's WTO Accession - An analysis of six sectors").

Sino-Swiss cooperation in the field of environment develops further with 3 new projects in Sichuan province financed by the **Swiss Agency for Development and Cooperation**: the sustainable development of Eco-tourism, the ecological environment of Yangzi river, and the water environment of the upper stream area of Min and Tuo Rivers (see below).



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Proton exchange membrane FC
 sci-tech investment growth
 carbon nanotubes
 Traditional Chinese Medicine, Novartis AG
 rice/OGM
 Anti-cancer vaccine
 magnetic train
 China-UK Cambridge Venture Park
 authorized anti-AIDS
 Traditional Chinese Medicine
 hybrid-powered cars
 ethanol fuel
 differential geometry, wolf price
 Treatment for Liver Cancer
 flight safety, biology, chemistry
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 Alcatel

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7. China still in urgent need of energy, transport: Official
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KEYWORDS

CDM EU-China energy, environment program
 persistent organic pollutants
 persistent organic pollutants
 energy
 energy
 energy
 energy, transport demand
 greenhouse gas emission
 environmental award
 hydropower, sustainable development
 Renewable Energy Law
 The Kyoto Protocol, China's actions
 Sino-Swiss cooperation programs
 Illegal Logging
 rural water quality
 first law on renewable energy
 greenhouse gas emissions



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|---|---|
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Activites coming up soon

March 23, 2005 - March 25, 2005
the 5th China Int.Electric Power Equipment& Tech Exhibition
City and Venue: Shanghai Exhibition Center, Shanghai, China
Tel: 86-21-54592323*332 Fax: 86-21-54253480
Email: Stanley@zhongmao.com.cn
Website: http://www.epetee.com/
March 29-31,2005
Water & Membrane China (Shanghai) 2005
Venue:Shanghai Exhibition Center, Shanghai, China
Contact: Julius Zhu, Grand Exhibition Services Co., Ltd.
Tel: +86-10-8401-8151 / 6405-9097 Fax: +86-10-8401-2838
Cell: +86-13901048399
Email: julius@grandexh.com / juliuszhu@vip.sina.com
Web: http://www.grandexh.com/
April 5, 2005 - April 7, 2005
The 5th China International Petroleum & Petrochemical Technology & Equipment Exhibition
City & Venue: Beijing Exhibition Center, Beijing, China
Tel: 0086-10-88414751, 68488273 Fax: 0086-10-88414752
Email: zw-sophia@china-zhenwei.com.cn
Website: http://www.cipe.com.cn/
April 20-22, 2005
The 6th China International Water Supply and Drainage and Water Treatment Technology and Equipment Exhibition
Venue: Shanghai Everbright Convention and Exhibition Center
Contact: zmes@zhongmao.com.cn http://www.wsdwtf-sh.com
April 20-22, 2005
The 6th China International Environmental Protection Technology and Equipment Exhibition
Venue: Shanghai Everbright Convention and Exhibition Center
Contact: Zmzl@sh163.net http://www.eptee.com
May 25-27, 2005



The 2nd China International Renewable Energy Equipment and Technology Exhibition and Conference
Venue: Beijing International Convention Center
Contact: qyic@163.net qyic2004@vip.bbn.cn qyic2005@vip.bbn.cn
Tel: 86-10-64290047, 64291832
Fax:86-10-84255706
September 25-29, 2005
7th World Congress on 3R (with Exhibition)
Venue: Beijing Friendship Hotel
Contact: Prof.Dr.Huizhou Liu
Tel: 86-10-62554264 Fax : 86-10-62561822
Email : hzliu@home.ipe.ac.cn

Environment-related international tenders and investment opportunities:

<http://211.147.20.16/bizchina/bidding.shtml>

<http://english.cepi.com.cn/homepage/>

Selected FP6 open research calls

FP6 is a program of the European Union –with the full participation of Switzerland- offering financing to research teams/networks in selected topics. Chinese research partners can participate in all projects and benefit too from the financing.

Please visit <http://www.eda.admin.ch/beijing> for more information or http://www.delchn.cec.eu.int/en/Science_Technology/FP6.htm for a complete list of open research projects with potential Swiss-Chinese cooperation.

We list below the list of currently open calls with details for *selected areas* which we believe represent interesting opportunities for cooperation between Swiss and Chinese researchers (source: http://www.delchn.cec.eu.int/en/Science_Technology/FP6.htm)

- **Life Science, Genomics and Biotechnology for Health** (next deadline November 2005)
- **Information Society Technologies** (IST 4 call: 1120 Meuro, deadline 22 March 2005)
- **Nanotechnologies, materials, production processes** (370 Meuro, deadlines 17 March and 15 September 2005)
- **Aeronautics and Space** (64 Meuro, deadline 8 December 2004)
- **Food Quality and Safety** (206 Meuro, deadline: 8 Feb 2005)
- Sustainable Development: **Surface Transport** (56 Meuro, deadline 8 December 2004)
- Sustainable Development: global change and **ecosystems** (no open call)
- Sustainable Development: **energy** (360 Meuro, deadline 8 December 2004)
- Citizens and Governance (120 Meuro, deadline 13 April 2005)
- Scientific Support to **Policies** (77.8 Meuro, deadline 1 February 2005)
- New and **Emerging Science and Technology** NEST (65 Meuro, deadline 13 April 2005)
- **International co-operation for Developing Countries** – INCO-DEV (60 Meuro, deadline 13 September 2005)

**Food Quality and Safety (206 Meuro, deadline: 8 Feb 2005)**

Area	Topic
Total food chain	increasing fruit consumption through a trans-disciplinary approach delivering high quality produce from environmentally friendly, sustainable production methods
	Improving quality and fostering innovation of European traditional food production systems
	improving the quality and safety of ready-to-eat products and semi-prepared foodstuffs by the exploitation of new and innovative technologies
Epidemiology of food-related diseases and allergies	Influence of diet and lifestyle on children's health
	developing a trans-European methodology to study food consumption
	health risks and benefits of increased global trade in foods and food ingredients
Impact of food on health	understanding consumer choices and dietary habits
	diet and cardiovascular disease
	improving patients' health through diet
	catering and eating out of home
Traceability processes along the production chain	chilled and frozen supply chain
	vulnerability of food and feed chains to dangerous agents and substances
Methods of analysis, detection and control	novel tools for harmonised risk assessment and risk communication
	advanced rapid, non-destructive and non-invasive techniques for screening of foods and feeds
	investigating the fundamentals of TSE enabling the rational development of detection and control strategies
Safer and environmentally friendly production methods and technologies and healthier food stuffs	Improving crops for quality and human health
	Novel processing methods for the production and distribution of high-quality and safe foods
	genomics and epigenetics to develop sustainable animal breeding strategies for improved long-term product quality and safety
	network on epizootic disease diagnosis and control
	sustainable aquiculture and honey production
	methods for the control of helminths in livestock
	efficient and stable biological containment systems for GM plants
	improved rabbit production
	rational use of water for quality and safe crop products
mycobacterium avium sub-species paratuberculosis diagnostics and control	
Impact of animal feed on human health	of aquaculture feeds of different origins on human food quality, safety and health
	development of alternative nutrients sources in livestock feeds
Environmental health risks	assessing the health impact of metals: sources, benefits and toxic effects
	developing biomarkers of exposure to chemicals and biomarkers of effects, using mother-child birth cohorts and biobanks
	assessing health benefits against potential effects of environmental contaminants in selected food groups
	risk assessment of non-dioxin-like polychlorinated biphenyls

Nanotechnologies, materials, production processes (370 Meuro, deadlines 17 March and 15 September 2005)

Area	Topic
Nanotechnologies and nanosciences	
1.1 Long-term interdisciplinary research	Towards "converging" technologies
	standardization for nanotechnologies
1.2 Nano-biotechnologies	Using nature as a model
1.3 Nano-metre-scale engineering techniques	Nano-tubes, -cones or -spheres
1.5 Applications in areas such as health and medical systems, chemistry, food	Nanotechnology-based targeted drug delivery



	Interaction of engineered nanoparticles with the environment and the living world
Knowledge-based Multifunctional Materials	
2.1 Development of fundamental knowledge	Interfacial phenomena in materials
	New generation of tools for advanced materials characterisation
	Methods of computational modelling of multifunctional materials
2.2 Technologies associated with the production, transformation and processing of knowledge-based multifunctional materials	Advanced materials processing
	Development of nanostructured porous materials
	Multifunctional ceramic thin films with radically new properties
2.3 Engineering support for materials development	Materials by design: multifunctional organic materials
	Materials for solid state ionics
New Production Processes and Devices	
3.1 Development of new processes and flexible, intelligent manufacturing systems	New production technologies for new micro-devices using ultra-precision engineering techniques
	Next generation of flexible assembly technology and processes
	New concepts for global delivery
	Roadmapping and foresight studies on the future of manufacturing
	Coordination of European Manufacturing Research
Integration of nanotechnologies, new materials, and new production technologies for more cost and eco-effective sectoral applications	
4. Multifunctional materials	4.1 Multifunctional material-based factory of the future
	4.2 New construction processes for high added value application
	4.3 Mastering “Industrial Biotechnology” – Environmental Technology for sustainable production of added value products
	4.4 Multi-functional technical textiles for construction, medical applications and protective clothing
	4.5 Simultaneous engineering & production of integrated high-tech components for European transport
	4.6 Biomaterials technologies for implants
	4.7 Nanotechnological approaches led by knowledge-intensive SMEs for improved security systems
Cross-priorities actions	
5. Other	5.1 Basic materials and industrial process research on functional materials for fuel cells
	5.2 Improved, energy efficient hydrogen storage systems especially for transport
	5.3 Cooperation with Third Countries in the field of nanotechnology, advanced multi-functional materials and new ways of production research

Scientific Support to Policies (77.8 Meuro, deadline 1 February 2005)

Area	Topic
Area-1 Sustainable management of Europe's natural resources	
Area-1.1 The modernisation and sustainability of agriculture and forestry (12 Meuro)	1. Trade and agriculture policies (WTO, etc.)
	2. Modelling tools for annual market projections
	3. Foresight analysis for world agricultural markets
	4. Mapping and foresight of the EU agricultural research capacity
	5. workshops and conferences
	6. arable crops
	7. Evaluation tools for EU agriculture payments
	8. new methods for calculation premia in the rural development measures
	9. Analysis of employment effects of the CAP reform



	10. <i>coordination</i>
Area-1.2 Tools and assessment methods for sustainable agriculture and forestry management (5 Meuro)	1. <i>organic wine processing</i>
	2. <i>non-food policy research</i>
	3. <i>alternatives for tobacco growers</i>
	4. <i>biological control agents</i>
	5. <i>fighting diabrotica virgifera</i>
	6. <i>methyl bromide – replacement</i>
	7. <i>strategic planning in the EU Forestry sector</i>
Area-1.3 The modernisation and sustainability of fisheries policies (16.3 Meuro)	1. <i>the dynamics of fishing capacity</i>
	2. <i>mechanisms of fish stock recovery</i>
	3. <i>performance evaluation of fisheries management regimes</i>
	4. <i>risk analysis applied in Fisheries Management</i>
	5. <i>coordination o fisheries research activities in West Africa</i>
	6. <i>operational management tools based on poor data availability</i>
	7. <i>catch estimation models</i>
	8. <i>development of operational indicators of welfare in farmed fish</i>
	9. <i>identification of suitable source strains for disease and stress resistance for common carp</i>
	10. <i>genetic impact on native aquaculture populations</i>
	11. <i>effects of anthropogenic factors</i>
	12. <i>reducing the impact of fisheries activities on benthic habitats</i>
	13. <i>specific support actions</i>
Area-1.4 New and more environment friendly production methods to improve animal health (1.9 Meuro)	1. <i>avian influenza</i>
	2. <i>swine influenza</i>
	3. <i>epizootic diseases of livestock</i>
	4. <i>infectious diseases of livestock</i>
Area-1.5 Environmental assessment (10.4 Meuro)	1. <i>risks of pesticides to surface and ground-water</i>
	2. <i>assessment of human health effects caused by bathing waters</i>
	3. <i>impact assessment of Community policies on biodiversity</i>
	4. <i>equivalent resource scaling approaches</i>
	5. <i>development of (Q)SAR methodologies</i>
	6. <i>common criteria and indicators for characterisation of soils</i>
	7. <i>assessment of the monetary values of environmental and resource costs for water services</i>
	8. <i>European analytical quality control scheme for water, sediment and soil analysis</i>
	9. <i>assessment of interactions between environmental stressors and effects on human health</i>
Area-1.6 Assessment of environmental technologies for support of policy decisions, fulfilling environmental legislation (1.1 Meuro)	1. <i>assessment of funding schemes for the development of environmental technologies in the framework of ETAP</i>
	2. <i>methodology for analysing the impact of environmental technologies on industrial competitiveness, trade and employment in the enlarged Union</i>
Area-2 Providing health, security and opportunity to the people of Europe	
Area-2.3 The impact of environmental issues on health (2.75 Meuro)	1. <i>coordination of biomonitoring activities in Europe</i>
	2. <i>regional networks in Europe on risk reduction of environmental health risks</i>
	3. <i>estimating the European disease burden related to environmental exposures</i>
Area-2.5 Comparative research of factors underlying migration and refugee flows, including illegal immigration and trafficking in human beings (4 Meuro)	1. legal and illegal immigration towards the EU
	2. <i>comparative examination different immigration policies with regard to their impact in the integration of immigrants</i>
	3. <i>integration of Female Immigrants in their Host Societies</i>
	4. <i>Migration Policy and Neighbourhood Policy</i>
Area-2.6 Means to anticipate crime trends	1. <i>measurement for obtaining comparable information on crime across 25 EU Member States</i>



	<ul style="list-style-type: none"> 2. <i>crime reduction strategies</i> 3. <i>analyze synthetic drug and cannabis use</i>
<p>Area-2.7 Issues related to civil protection and crisis management (2.75 Meuro)</p>	<ul style="list-style-type: none"> 1. <i>health and ecological implications of prophylactic or curative mass treatment of population with antibiotics, anti-virals, vaccines and other relevant chemical substances.</i> 2. <i>exchanging best practices between laboratories. risk containment</i> 3. <i>exchanging best practices between laboratories. laboratory protocols and practices</i> 4. <i>strengthening the co-ordination of research in the field of the biology of pathogens posing a possible bioterrorist threat.</i> 5. <i>strengthening the co-ordination of research in the field of the biology of pathogens posing a possible bioterrorist threat</i> 6. <i>enhanced collaboration between the societal players in the field of biosecurity</i> 7. <i>Science-Security Dilemma (SSD) and its implications for research on or with possible spin-offs to bioterrorism</i>
<p>Area-3 Underpinning the economic potential and cohesion of a larger and more integrated European Union</p>	
<p>Area-3.2 Tools for assessing sustainable transport and energy systems performance (6.5 Meuro)</p>	<ul style="list-style-type: none"> 1. <i>quality of transport services and infrastructure in the framework of the common transport policy</i> 2. <i>sustainability indicators and policy targets for transport</i> 3. <i>European best practise regarding national and regional transport modelling</i> 4. <i>decision-aid methods and tools for policy-makers</i> 5. <i>evaluation of the potential for reducing greenhouse gas emissions in electricity production by using the international Kyoto mechanisms</i> 6. <i>mapping of industrial RTD priorities in the field of electricity</i> 7. <i>international energy initiatives data development, validation and scientific monitoring</i> 8. <i>scientific consensus building conference related to the national allowances in the framework of the European greenhouse gas Emission Trading Scheme</i> 9. <i>social, economic, legal and regulatory implications of implementing CO2 capture and storage technology in the EU and at the world level.</i>
<p>Area-3.3 Global security analysis for transport and research relating to accident risks and safety in mobility systems (3.5 Meuro)</p>	<ul style="list-style-type: none"> 1. <i>to create a coordination action involving the significant number of interested parties</i>
<p>Area-3.4 Forecasting and developing innovative policies for sustainability in the medium and long term (3.8 Meuro)</p>	<ul style="list-style-type: none"> 1. <i>modelling air and climate change policies and scenarios for the EU and the world (including South and South-East Asia)</i> 2. <i>development of a forecasting framework based on robust and scientifically sound scenarios to support the EU Sustainable Development Strategy</i> 3. <i>provide local authorities and other urban stakeholders with access to good practice, knowledge, research results and training resources on urban environment issues.</i> 4. <i>methodology to assess the overall sustainability of new and renovated buildings.</i> 5. <i>guidelines and tools for signatories to the Aalborg+10 commitments agreed in June 2004.</i> 6. <i>macro and sectoral economic models aiming to evaluate the role of public health externalities on society.</i>
<p>Area-3.5 Information Society issues (1.9 Meuro)</p>	<ul style="list-style-type: none"> 1. <i>benchmarking the development of the knowledge society in EU Regions</i> 2. <i>new collaborative working environments</i> 3. <i>e-Inclusion and accessibility</i>
<p>Area-3.6 The protection of cultural heritage and associated conservation strategies (2.9 Meuro)</p>	<ul style="list-style-type: none"> 1. <i>analyse and detect frauds or copies to verify the authenticity of cultural heritage materials</i> 2. <i>methods and tools for identification and traceability of movable cultural goods</i> 3. <i>prevent cultural heritage from damages due to climate change and pollution</i>



	4. <i>sustainable impact assessment of protection and conservation treatments and their reversibility / retreatability for movable cultural heritage assets.</i>
	5. <i>consolidation and impact assessment of results achieved in EU research projects related to the movable & immovable cultural heritage in the context of a large European conference</i>

Science & Technology

Fuel-cell-driven vehicle makes new record in mileage

(CAS, October 10, 2004)

Supported by the National High-tech Development Program (or 863 Program) and the CAS Knowledge Innovation Program, CAS scientists have made significant progress in their studies into proton exchange membrane fuel cells (PEMFC).

Recently, a prototype PEMFC engine of 60 KW developed by researchers from the CAS Dalian Institute of Chemical Physics (DICP) has completed a roadway operation duration test. The driven mileage was 3,127 km, and maximum speed reached 72KW/h, making a new record in mileage for fuel-cell-driven vehicles in China.

PEMFC is regarded as a promising "Green Power" for the 21st Century for its high efficiency, zero emission and fast start-up at room temperature. It has wide applications in transportation, distributed power sources, mobile power sources and military use. DICP researchers began their work on PEMFC since the mid 1990s, and have received world-wide attention. They have filed for more than 40 patents, published more than one hundred scientific papers in the field, and developed a whole range of proprietary technologies related to PEMFC. As a key player in the field, the institute has participated in national "863 Program - Electric Vehicles Key Project, National "973 Program - Basic Research Project for hydrogen and fuel cells, and "CAS Key R&D Program"-Development of PEMFC Engine and Hydrogen Technology.

Sci-tech investment hits a new high in 2004

(People's Daily Online , October 22, 2004)

The statistic bulletin jointly published by National Bureau of Statistics, [Ministry of Science and Technology](#) and [Ministry of Finance](#) shows that China's sci-tech investment maintained rapid growth in 2003. The total expenditure of social scientific research and experiment development reached 1536.96 billion yuan, an increase of 25.2 billion yuan or 19.6% higher than that of last year. The proportion of R&D expenditure against the Gross Domestic Product (GDP) registered a record high of 1.31 percent in 2003.

Much support has been given to the cause of science and technology from national finance with the appropriated funds on the stable rise and the total funds allocated hitting 97.55 billion yuan. It is an increase of 15.93 yuan or 19.5% higher than that of last year and 3.96 percent of the nation's total financial expenditure.

The principal position of the enterprises' technological innovation was further consolidated. Among the total expenditure for social scientific research and experiment development, all enterprises' cost took up 96.02 billion yuan or 62.4 percent; the expenditure of state-owned scientific research institutions of independent accounting accounted of 39.9 billion yuan or 25.9 percent, while the expenditure of colleges and universities making up 16.23 billion Yuan or 10.5 percent.



Progress in one-dimensional carbon nanotubes studies

(People's Daily Online , September 3, 2004)

One-dimensional carbon nanotubes (CNT) have received considerable attention from researchers worldwide. It is not only because of their unique physical properties, but also their potential applications. Recently, researchers of the CAS Institute of Physics have made progress in their studies in the field.

In cooperation with a research group headed by Prof. Xu Ningsheng from Sun Yat-sen (Zhongshan) University, Prof. Wang Enge and his doctoral student Zhong Dingyong from the CAS Institute of Physics are conducting theoretical and experimental studies into physical mechanism responsible for initiating a vacuum breakdown process of a single carbon nanotube during field emission. They have developed a quasidynamic method to simulate the breakdown process and calculate the critical field, critical emission current density and critical temperature beyond which thermal runaway occurs before the CNT temperature reaches its melting point. This model is in good agreement with experiments carried out with a single CNT on a silicon microtip. The researchers have shown that thermal runaway is a mechanism responsible for initiating a CNT vacuum breakdown. The underlying physics is the inability of dissipating the heat generated in a positive feedback process. Critical conditions for initiating thermal runaway are dependent of structural and boundary factors. The calculated results are in good accordance with experimental findings. Their work was reported at *Phys. Rev. Lett.* 93,075501(2004).

In cooperation with Prof. Xiao Xudong and colleagues at the Hong Kong University of Science and Technology, Prof. Wang Enge and Guo Jianyong have carried out systematic studies into photoluminescence of single-walled carbon nanotubes by using near-field scanning optical microscopy (NSOM). They observed strong polarization of visible photoluminescence (PL) from the carbon nanotubes. By correlating with the absorption and Raman spectra, the researchers identify (3,3) and (4,2) tubes to be responsible for the PL peaks at 2.6 eV and 1.7 eV, respectively. The work was reported in *Phys. Rev. Lett.* 93,017402(2004).

Scientists target herbs

(China Daily, Shanghai Star, November 11, 2004)

As the innovation of new medicine becomes more difficult, and the cost of developing even one new drug skyrockets to nearly US\$1 billion, scientists are trying a different approach by beginning to study the effect of Traditional Chinese Medicine (TCM).

On November 1, the Swiss pharmaceutical company Novartis AG and the Shanghai Institute of Materia Medica (SIMM), under the Chinese Academy of Sciences, signed an agreement to continue their joint research to identify disease-fighting compounds found in natural herbs through the year 2007.

Under the deal, SIMM will provide Novartis with 1,500 kinds of medicinal compounds isolated from natural herbs for further screening. Novartis will also provide financial and technological support for the project.

During its previous three-year co-operation with Novartis, SIMM isolated more than 1,800 natural compounds from traditional Chinese medicines for treating a wide range of diseases in such fields as immunology, cancer treatment, central nervous system disorders and diabetes.

"The co-operation with SIMM improves our understanding of medicinal compounds isolated from natural herbs. It also enhances the exchange of knowledge between Novartis and Chinese scientists," said Daniel Vasella, Novartis' Chairman and Chief Executive Officer.

"One of China's advantages in drug innovation is its natural herb resources and the long history of Traditional Chinese Medicine, which may greatly save us time and cost in future drug development," said Shen Jingkang, Deputy Director of SIMM.

Early in the 16th century, Chinese doctor Li Shizheng researched nearly 2,000 kinds of plants, animals and minerals and recorded about 16,000 prescriptions for treating various diseases.

"Chinese have used such prescriptions for hundreds of years and found them to be effective. Modern scientists now want to continue the process of identifying and isolating the active compounds in herbal medicines," said Shen.



The co-operation with foreign pharmaceutical companies will also help modernize the field of Traditional Chinese Medicine, commented Yu Deming, executive chairman of the China Pharmaceutical Enterprises Management Association.

Chinese rice guru: new super rice strain to be widely planted in 2006

(People's Daily)

Yuan Longping, China's Father of Hybrid Rice, predicts his latest super-strain with augmented yields will be widely planted in 2006.

Yuan, in his seventies, made the remarks Monday at a celebration held in central China's Hunan in honor of the scientist's winning the World Food Prize in October for his outstanding work on hybrid rice.

With an experimental production capacity of 12 tons per hectare, the second-phase super-strain is expected to be promoted on a large scale in 2006, Yuan said.

If the strain is sown over 6.67 million hectares, with a conservative production of 9.75 tons per hectare, China will harvest 15 billion more kilograms of rice, enough to feed 30 million more people, Yuan said.

So far, hybrid rice covers 14 million hectares, nearly half of China's 27 million hectares of paddy fields.

The first-phase super-strain, with an experimental production capacity of 10.5 tons per hectare, was sown on just one million hectares this year.

A third-phase super-strain is also being developed with an experimental production capacity of 13.5 tons per hectare.

"We will try our best to work out the third-phase super strain by 2010," said Yuan.

"The cultivation of super hybrid rice is an effective way to provide enough food for Chinese, who make up one fifth of the world's population. However, it still takes time to turn experimental data into grain in peasants' barns," said Huang Peijin, a prominent Chinese agronomist.

Yuan developed the world's first hybrid rice variety in 1974, increasing rice output by 15 to 20 percent.

Anti-cancer vaccine enters clinical research

(China Daily, November 23, 2004)

A vaccine developed by Chinese scientists to restrain or even kill cancer cells was recently approved for clinical research at Shanghai hospitals.

The cancer vaccine seeks to trigger the body's own immune system to detect and kill cancer cells. The vaccine should particularly target liver cancer, the deadliest of all cancers that can kill an end-stage patient within 12 weeks, according to biologists with the Shanghai Zhangjiang Biotech Research Center.

"It's been patented in the United States and Australia," said a biologist with the center.

This is the first cancer vaccine independently developed by Chinese scientists to be patented abroad.

The vaccine has been approved by State Food and Drug Administration for clinical tests at several hospitals in Shanghai.

It will hopefully prolong cancer patients' lives by halting or even reversing tumor growth and has combined the advantages of a cancer vaccine and a monoclonal antibody, says Prof. Guo Yajun of the US University of Nebraska.

Guo also heads the international tumor research institute of the No. 2 Medical University of the Chinese People's Liberation Army, which has worked on the vaccine in collaboration with a Shanghai-based laboratory on animal cell engineering.



Cancer vaccine involves a technology to fuse the patient's own cancer cells with a strain of antigen cells. Clinical research conducted in several countries have proven such vaccines are effective in halting tumor growth, preventing relapse of cancer and overcoming the side-effects of chemotherapy and actinotherapy.

Cancer has become the biggest killer of China's urban dwellers, according to Sun Yan, an expert with Beijing Cancer Hospital affiliated to the Chinese Academy of Medical Sciences.

Ministry of Health statistics showed that the death rate from malignant tumors grew by 29.42 percent in the 20 years between the 1970s and the 1990s. The nation registered some 2 million cancer patients in 2000, with around 1.5 million dying of such illnesses in the same year.

Cancer prevention and treatment has become a global issue and has drawn the attention of worldwide health authorities, medical researchers and pharmaceutical producers.

Many world famous life science researchers and developers are co-operating with their Chinese counterparts in a bid to find the most effective anti-cancer medicines, said Sun.

Data from the State Food and Drug Administration indicated that the sales of anti-cancer drugs reached 1.2 billion US dollars last year and are expected to reach 1.7 billion US dollars next year.

Chinese doctors have successfully integrated traditional Chinese medicine with modern medicines in the treatment of cancer and that has shown satisfactory results.

Professor develops new magnetic train

(China Daily, November 23, 2004)

A Shanghai physics professor says he has the first magnetic train fully developed in China.

Wei Lehan, 66, a professor at Shanghai Normal University says the Magnetic Array Suspension (MAS) system he developed is the first in the nation with independent intellectual property rights.

A sample train, on show at the Sixth Shanghai International Industry Fair, attracted many professional visitors yesterday.

The train's technology is different from models used in Germany and Japan. The MAS train is powered by a combination of attraction and repulsion generated from permanent magnets both on the train and the tracks.

Building an MAS system, he said, would cost about 30 million yuan (US\$3.6 million) per kilometre, about one-tenth what the German technology would cost.

It would also save considerable amounts of land and energy.

"I am sure of the future success of this revolutionary technology, though there are many other non-technological obstacles," said Wei, driving visitors back and forth on his model.

Compared with the luxury maglev train running in Pudong from Longyang Station to Pudong International Airport, the train Wei has built with the help of two workers in five months looked shabby. It was poorly decorated and the control board was very simple.

The sample, 3.75 metres long and 1.4 metres wide, sits six people inside a silver and white train car.

When the train, powered by three batteries used for ordinary electric bikes, moves on the 11-metre-long tracks, it emits an uneasy noise.

"The tracks had to be cut into halves before being moved from the school here and the connection is not so smooth," Wei explained.

Said by Wei to "shame all other maglev experts in the world if successful," the technology was authenticated by the Shanghai Municipal Education Commission in late October.



Technology park venture operational

(China Daily, November 10, 2004)

The China-UK Cambridge Technology Venture Park Co Ltd was officially launched in Guangzhou, South China's Guangdong Province yesterday, a move which will smooth the way for Chinese firms to establish investment projects in Great Britain.

The firm, headquartered in the capital of the southern province, will be responsible for the construction of the China-UK Cambridge Venture Park, a scientific co-operation project between the Chinese and British governments, in Cambridge.

The China-UK Cambridge Venture Park is one of the few overseas venture parks permitted by the Ministry and Science and Technology.

The company will assist Chinese companies, especially high-tech firms, to invest in or promote their products and research and development in the UK and throughout Europe.

And it will help Chinese high-tech enterprises build up their global brand reputation and access markets in the UK and throughout Europe, while raising funds and introducing advanced technologies as well as intelligence into China, according to Cai Gangqiang, director-general of the Guangzhou Science and Technology Bureau.

The company will offer consultation services to Chinese enterprises ranging from venue selection, business, training, law, finance and technology to human resources.

He said that the Guangzhou municipal authorities will do their utmost to support the company and Chinese enterprises to the venture park.

Chris Wood, British consul-general in Guangzhou, considered the operation of the company timely, saying the facility will serve as an example and inspiration for further co-operation between British and Chinese enterprises in the future.

TCM holds promise in treating HIV/AIDS

(China Daily, November 23, 2004)

When Lai Zuqin, a traditional Chinese medicine (TCM) doctor in Southwest China's Yunnan Province, tried in the late 1980s to develop a treatment for a strange syndrome which had a combination of symptoms - coughing, headaches, nausea, diarrhoea and hair-loss - he did not expect to become the inventor of China's first authorized anti-AIDS TCM: the Tang Herbal Tablet.

In the early 1990s, he knew the disease was called AIDS and that AIDS was fatal for all.

But to his astonishment, some of his AIDS patients were able to check the development of their illnesses after taking his medicine.

The discovery led Lai to give up all of his clinical work and focus on researching a new medicine based on his prescription.

He was joined by Qi Jieyuan, a Beijing-based pharmaceutical firm, in the medicine's research and development.

It took Lai and the company 10 years to obtain final approval from the State Food and Drug Administration in April 2004.

Like Lai, when TCM doctor teams of the Chinese Academy of TCM were sent to Tanzania to help treat local diseases in the early 1990s, they also thought of TCM.

The only difference is that Lai and the company developed the TCM into a tablet, while doctors from the Academy insisted on using various prescriptions of herbs.



More choices

"Chinese doctors, with little knowledge about AIDS at that time, found many of its symptoms could be treated with TCM. Later, they developed some effective prescriptions against AIDS," said Wei Jian'an, deputy director of the Centre of HIV/AIDS Treatment under the Academy.

Wei joined a Chinese TCM doctor team in Tanzania between 1999 and 2000, and chaired the research into using TCM when he returned to Beijing.

On October 30, a TCM prescription - CATCM-II - developed by Wei and his colleagues and based on their experience in Tanzania, was ranked as a major scientific innovation by the Ministry of Science and Technology.

Yet CATCM-II and the Tang Herbal Tablet are only a small part of nationwide efforts to treat HIV/AIDS with TCM.

In March, SH - another TCM theories-based herbal medicine invented by Chinese researchers in Kunming, Yunnan Province - was approved by Thai drug authorities as a new drug.

She Jing, vice-minister of health and the director of the State Administration of TCM, said at a news conference last month that another two were undergoing clinical trials.

They are TCM, called Ke'aite, literally "the drug that overcomes AIDS," and Qiankunng, produced by the Chengdu-based Enwei Pharmaceutical Co Ltd.

On October 31, Ke'aite reportedly passed the first stage of the trials and was approved by the Drug Administration to launch clinical trial II.

Director of the research centre at Enwei said Qiankunng was in the third phase of a clinical trial and may get the approval from drug authorities within one or two years.

Major advantages

"All the development illustrates that TCM has great potential to deal with HIV/AIDS," Wei said.

The disease is a new one to human beings as far as studies go, but its symptoms are not.

TCM theories are based on the analysis of the whole human body at the onset of the virus or bacteria attacks from the symptoms. The prescriptions are then developed to improve bodily functions to fight attacks and relieve symptoms.

Jin Lu, executive director of the Hong Kong-listed Golden Meditech Co Ltd, said that 200 AIDS patients were treated with TCM during the three clinical trial stages of the TCM, alongside another 200 in five hospitals in Beijing and Kunming.

Golden Meditech acquired Qi Jieyuan in June this year after the latter obtained new drug licence for its Tang Herbal Tablet.

All of the 200 AIDS patients taking the tablet during this trial are still alive, and most of their clinical symptoms have been reduced or even disappeared.

Ninety per cent of them improved their CD4 - a major index used to evaluate immunology against HIV/AIDS - with 51 per cent of them increasing their CD4 by more than 30 per cent.

Wei says one major advantage of using TCM to treat AIDS is its fewer side-effects, early treatment and lower cost.

The commonly used cocktail therapy - using a combination of different AIDS drugs and antibiotics - can control HIV and prolong life for AIDS sufferers.

But doctors say the therapy also has strong side-effects such as anorexia, insomnia and hair-loss.

"In certain cases, some AIDS patients give up the treatments because of these strong side-effects," Jin said.

The cocktail therapy has very strict standards on when to start treatment. If it is too early, the virus might develop strong drug-resistance.



It is often difficult for AIDS patients to know when they contracted the disease, so many of them lose the best chance to receive treatment at the right time. But TCM prescriptions can be used at any time during the disease's development, Jin told China Daily.

TCM researchers say the cost of using CATCM-II and the Tang Herbal Tablet is no more than 3,000 yuan (US\$362.32) a year, and it could be lowered further when production costs are cut.

In contrast, using generic chemical medicines - such as Zidovudine, Stavudine, Didanosine and Zalcitabine - produced by Chinese drug makers for cocktail therapy - costs about 10,000 yuan per year (US\$1,210), including the drugs and necessary medical checks.

For some poor countries which do not have the capability of producing generic chemical medicine against AIDS at a low cost, the expenditure is much higher.

Thailand's drug authorities are fully supportive of the development of SH in a bid to meet the urgency for inexpensive AIDS drugs, according to Luo Shide, the inventor of SH and a professor at the Kunming Institute of Botany under the Chinese Academy of Sciences.

Developing SH

Luo has been researching AIDS medicine based on the combination of TCM theories and modern chemical techniques since the late 1980s, after he returned to China from Germany.

His method is to first determine and purify the vital elements of herbal plants recorded by classic TCM books that treat poisons, and then to combine them into dozens of TCM prescriptions. In the end, some of these prescriptions proved effective in significantly reducing HIV levels.

Luo said his research has not been done at the molecular level, however. It is still difficult to make sure exactly what a single herbal plant's chemical content is, let alone a compound consisting of 20 plants.

He did not receive any government or company's financial support on his work for the first eight years.

"At that time, it was widely considered that HIV/AIDS was not a big problem for China. And anyway, no one believed TCM could be really used to treat HIV/AIDS," Luo said.

In 1998, Luo's research made some major progress and the achievement was posted in his institute's newspaper.

"A visiting Thai public health official found the report and immediately contacted me," Luo said.

The Thailand Government decided to finance Luo's research and offer the necessary equipment for clinical trials to take place.

In China, encouraged by TCM's potential to treat AIDS, China's health authorities have launched a programme to offer free TCM-based treatments to AIDS sufferers.

So far, the programme, chaired by Wei, covers 2,300 patients across five Chinese provinces. The number may double over next year.

The Ministry of Health estimates there were 840,000 HIV/AIDS patients in China in 2003. Experts warn that without effective control measures, the number of HIV carriers may exceed 10 million by 2010.

Challenges remain

Despite the promises, David Ho at New York-based Rockefeller University and the inventor of cocktail therapy, said there was no compelling evidence published in internationally recognized journals that TCM actually enhances immunity.

"I see no reason why TCM would not have some benefits for the immune system or for stopping the spread of HIV. But these claims must be supported by scientific studies. Too few of them have been done properly," Ho says.

Wei and Jin say they have not published their clinical reports in international journals, partly because it is difficult to explain TCM in Western scientific jargon.

They also say their medicines are so far better at improving immunity than directly stopping disease progression.



Luo said TCM may not be powerful enough to kill the virus because many vital elements may be lost during the traditional processing methods.

Luo said some purification work has been done in the United States to insure better purification of active ingredients of TCM. Jin said her company has been negotiating with the World Health Organization and another South Asian country to perform wider clinical research there.

"Based on our current very limited knowledge of TCM at the molecular level, it is impossible for TCM to pass the evaluation process of the US Food and Drug Administration and the European Union's drug authorities," Jin said.

There are still few regulations on using traditional Chinese medicine to treat HIV/AIDS. Any search on the Internet for TCM and AIDS will come up with dozens of websites claiming effective treatments. Even Ke'aite is sold online, yet this is still undergoing clinical trials.

Wei admitted there was little national standardization in using TCM to treat AIDS. "To solve the problem, there should be some official indices to evaluate the true effects of TCM," Wei says.

Honda planning to build hybrid-powered autos

(China Daily, November 23, 2004)

Japan's Honda Motor Co is expected to soon start producing hybrid-powered cars for an oil-hungry China.

Honda's joint venture with Guangzhou Automobile Group in South China's Guangdong Province is considering making an Accord hybrid sedan, said Zeng Qinghong, executive vice-president of the venture.

"If costs of and demands for hybrid cars in China reach our requirements, we will start production soon," Zeng said.

He made the remarks yesterday at the opening of the seven-day Guangzhou International Motor Show. But he did not reveal specific plans for the production of the hybrid Accord.

General Motors, the world's No 1 automaker, and partner Shanghai Automotive Industry Corp signed a joint development and commercialization agreement on hybrid and fuel cell vehicles in China at the end of last month.

Toyota also clinched a deal with First Automotive Works Corp (FAW) in September to start to produce its Prius hybrid cars next year in Changchun, capital of Northeast China's Jilin Province.

Toyota will also introduce its hybrid engine technologies into FAW's own brand cars.

It is a pressing task to develop clean energy vehicles, such as hybrid cars, for China's auto industry as the nation is depending more heavily on oil imports as a result of its fast-growing economy.

However, there are many challenges that have to be overcome before realization of massive commercial production of hybrid cars, such as reducing costs and building the necessary infrastructure.

Zeng said the government should give subsidies to customers to lower the costs of using hybrid cars.

"Small cars that protect the environment will be the mainstream of the auto industry in China in the future," he said.

Earlier this month, Honda announced that it and Guangzhou Automobile will spend 2.2 billion yuan (US\$265 million) to build a new plant for their joint venture in 2006. The new plant will have an annual production capacity of 120,000 cars.

The venture now has an annual capacity of 240,000 units and makes petrol-engined Accord sedans, Fit compact cars and Odyssey commercial wagons.

Liaoning adopts ethanol gasoline

(China Daily, November 2, 2004)

SHENYANG: All automobiles in Northeast China's Liaoning Province must switch to ethanol fuel as of yesterday.

Only some special institutions, like the army and State strategic storage facilities, will be allowed to continue using pure fossil fuel, according to new provincial regulations.

All petrol stations and distribution units must replace normal gasoline with ethanol gasoline and supply ethanol gasoline only.

According to the regulation, the price of ethanol gasoline will match that of normal gasoline.

Anyone violating the regulation could be fined between 5,000 yuan (US\$600) and 30,000 yuan (US\$3,600).

"Ethanol fuel can play an important role in easing consumption of traditional petrol and protecting the environment," said a senior official from the Liaoning Development and Reform Committee.

Ethanol is a form of alcohol used as a petrol additive. It makes up 10 per cent of the fuel blend.

Liu Shuming, a professor from the Automobile Engineering Institution of Jilin University, said the blend could help reduce car emissions and remove deposits inside the engine.

"It can even expand the life of some major components of the automobile engine," said Liu.

Production and use of ethanol fuel is encouraged by the government, which hopes the product will help promote the country's energy, environmental protection and even, agricultural industries.

Five provinces - Jilin, Heilongjiang, Henan, Anhui and Liaoning - have switched to the mixture since 2000. And some cities in Hubei, Shandong, Hebei and Jiangsu provinces took part in this project since this February.

Some industry insiders said this alternative energy would then be applied nationwide in the future.

"I know it's good to use the blend in terms of environmental protection and energy security. But the performance ratio is the most important concern for us," said Wang Jian, a driver in Shenyang, capital of Liaoning Province.

Some experts said ethanol gasoline provides greater power and better acceleration to vehicles and its consumption is lower than normal gasoline under the same conditions.

But Dai Baoling, senior manager of the Jilin Ethanol Fuel Company, one of the major alcohol producers, said the blend would affect engine performance.

This was backed by Meng Fanlin, manager of the Shenyang Dual-fuel Vehicle Company.

The central government has designated four major ethanol fuel producers in Jilin, Heilongjiang, Henan and Anhui provinces as authorized suppliers.

Heilongjiang Province is planning to turn 345,000 tons of out-of-date grain into alcohol. And the output would meet the province's demand for one year, according to the local Ethanol Fuel Promotion Office.

It takes 3.3 tons of grain to produce one ton of alcohol.

Production of ethanol fuel may hit 10.2 million tons, accounting for one-fourth of the total petrol production by the end of 2005, according to the China Automobile Newspaper.

However, some experts argued that China's grain output could not meet the alcohol production demand. The Jilin Ethanol Fuel Company has been in the red since it started production in September of 2003, experts said.

Normal vehicles (including motorcycles) can adapt to ethanol gasoline directly without any reconfiguration, however, vehicles which have run for more than 30,000 kilometres will need to clean up their oil-supply system beforehand.

The United States and Brazil have used ethanol fuel for years. Brazil was the first country to make use of ethanol fuel a legal requirement in 1931.

Mathematician Shiing-Shen Chern Dies at 93

(Xinhua News Agency December 3, 2004)



Shiing-shen Chern (Chen Xingshen), a world-renowned overseas Chinese mathematician, 93, died of illness at his home at Nankai University in north China's Tianjin Municipality at around 7:15 PM Friday, the university announced.

Chern, a US citizen, is best known for his achievements in the study of differential geometry. He was born in 1911 in Jiaxing, Zhejiang Province, east China. He graduated from Nankai University in 1930 and received further education at Tsinghua University and the University of Hamburg in Germany.

He taught at several Chinese and US universities -- including Princeton University, the University of Chicago, and the University of California, Berkeley -- and is the only Chinese to win the Wolf Prize -- the most distinguished award in the international mathematics field.

The International Astronomical Union officially named asteroid No. 1998CS2 after the noted mathematician in November for his outstanding contributions to human society.

Researchers Develop Novel Treatment for Liver Cancer

(Xinhua News Agency December 4, 2004)



A study result of novel liver cancer treatment released by the University of Hong Kong (HKU) on Friday has shown that arginase is effective on suppressing cancer cell growth.

Assistant Dean (Research) of Faculty of Medicine of HKU Tung-ping Poon said that liver cancer is the second leading cause of cancer death in Hong Kong, and conventional treatments were found not effective for advanced liver cancer.

Conventional chemotherapy depends on drugs that are cytotoxic to cancer cells, but these drugs are also cytotoxic to normal cells, said Poon.

A study done by HKU and the Polytechnic University of Hong Kong found that arginine depletion in cancer cells resulted in inhibition of cell cycle and hence cancer cell proliferation, but did not result in significant adverse effects on the normal cells.

According to Poon, arginase was a naturally occurring enzyme that degrades arginine, with urea as an end-product. To further enhance the effectiveness of arginase, a Human Recombinant Arginase has been developed as a new drug to allow its therapeutic use in treating liver cancer.

Results in experimental research and pre-clinical studies done on rats and monkeys showed positive results that the new drug was effective in inhibiting the growth of human liver cancer and no observed side effects were found.

This is the first drug developed in Hong Kong that has been able to come to the stage of clinical trial. It has currently been synthesized in the Chinese mainland with quality compatible with the Chinese State Federal Food and Drug Administration's requirements for the Investigational New Drug Status for human trials.

A clinical trial in Hong Kong Queen Mary Hospital will start in December 2004.

New Technology to Strengthen Flight Safety

(China Daily December 2, 2004)



The nation's civil aviation sector is stepping up an informatization project and security to strengthen air transport controls to ensure flight safety and security, *China Daily* reported Thursday.

"By adopting biological sensing technology, chemical analysis and artificial intelligence, we are developing a type of security detector to be used in airports," said Huang Rongshun, vice-director of the Second Research Institute of the General Administration of Civil Aviation of China (CAAC).

In addition, an information security management system for airports has also been developed, Huang said, speaking at the Sixth Informatization Forum of CAAC yesterday.

According to CAAC's guideline for the 10th Five-Year Plan on informatization, the nation's air control system will be built into a more comprehensive network oriented to flying safety, efficient management and decision-making support, as well as serving air transport enterprises.

The system will ensure better flight plans, more timely flight intelligence, and better meteorological information supervision.

The guidelines also urged civil aviation enterprises to use information technology to modernize their operations and management.

Airlines and airport companies must heighten their informatization efforts to improve their competitive abilities in international markets, Ren Yingli, vice-director of CAAC's Department of Personnel and Education, said at the forum.

Meanwhile, e-business in the sector also needs to be widely promoted and a platform for air logistics information should be set up, he said.

In fact, the nation's civil aviation sector has injected a lot into informatization in recent years.

According to a survey conducted by Beijing-based CCID Consulting Company, the civil aviation industry will witness a 5-plus billion yuan (US\$600 million) worth of input in the information technology application before the end of this year.

The number has increased by 21 percent over last year. Most of the economic input focuses on hardware construction.

But Huang predicted that in the coming years, software development and applications will become the focus of increasing demand.

Surplus Corn Fuels Vehicles

(CRI November 30, 2004)



To meet the ever increasing demand for ethanol gasoline for vehicles in Northeast China's [Heilongjiang Province](#), officials are planning on transforming 345,000 tons of stale grain into the fuel additive.

The grain is out-of-date and inedible and had been kept in storage in numerous barns. Since November 1, all petrol stations in the province have been.

The normal cultivation of seed is ten years however the cultivation in space is quicker because the seed is changed genetically.



Only the United States, Russia and China are able to conduct agricultural research in space.

SARS Vaccine Good So Far: Expert

(Xinhua News Agency November 28, 2004)

Volunteers receiving severe acute respiratory syndrome (SARS) vaccine in a clinical test show no obvious signs of side effects so far, said Zhong Nanshan, an academican of the Chinese Academy of Engineering, at an international seminar held in Shanghai Saturday.

Zhong said that the results of the research will be released in January 2005 after researches determine the effectiveness of the vaccine.

From May to August this year, 36 volunteers received China's first SARS vaccine at another clinical test. Eighteen of them received an injection of low-dosage SARS inactivated vaccine while the other 18 received a high dosage. Except for symptoms of side effects of the drug such as fever and discomfort, volunteers showed no other adverse reactions and their health was in good condition.

The antibody in volunteers' blood serum has increased by various levels, but the effectiveness of the vaccine is yet to be verified, said Zhong.

Zhong said there is little chance of another serious SARS outbreak in China as long as labs and wild animals are managed correctly and the four "early" measures are enforced. The measures are: early detection, early report, early isolation and early treatment.

Beginning this year, the country has improved its management of labs doing SARS research, and banned the sales and consumption of civet cats, said Zhong.

China Builds Asia's Largest Solar Photovoltaic Station

(*People's Daily* November 25, 2004)

The largest solar photovoltaic station in Asia has been installed at Shenzhen's international horticulture and flower exhibition garden.

More than 100 deputies attending the eighth national photovoltaic conference visited the station on November 17.

With an investment of 61.88 million yuan (US\$7.4 million) by Shenzhen municipal government, the power station was started by Beijing Corona Science and Technology Co., Ltd under the [Chinese Academy of Sciences](#) from last February and put into operation in August.

Applying the the most internationally advanced technologies, the station has worked well till now.

With a total capacity of one MWp (Mega Watt peak), the station has a power generation ability of about one million Kilo-watt-hours and will remain competent for 20 years.

Experts say, the station is an example of success in China's photovoltaic endeavor and a milestone project in the nation's design and construction of large photovoltaic station.

Anti-cancer Treatment Begins Clinical Trials

(Xinhua News Agency November 23, 2004)

A treatment developed by Chinese scientists to control and even kill cancer cells has been approved for clinical research in Shanghai hospitals.



The therapy seeks to trigger the body's own immune system to detect and kill cancerous tissue. It may prove particularly useful in treating liver cancer, which can be especially rapid and lethal, according to biologists with the Shanghai Zhangjiang Biotech Research Center.

"It's been patented in the United States and Australia," said a biologist with the center, making it the first cancer treatment independently developed by Chinese scientists to be patented abroad.

It was approved by the State Food and Drug Administration for clinical tests in several hospitals in Shanghai.

It will hopefully prolong patients' lives by halting or even reversing tumor growth and has combined the advantages of a cancer treatment and a monoclonal antibody, says Prof. Guo Yajun of the US University of Nebraska.

Guo also heads the international tumor research institute of the army's No.2 Medical University, which has worked on the treatment in collaboration with a Shanghai-based laboratory for animal cell engineering.

The treatment involves a technology to fuse the patient's own cancer cells with a strain of antigen cells. Clinical research conducted in several countries have shown that such treatments can be effective in halting tumor growth, preventing relapse and overcoming the side-effects of other therapies.

Cancer has become the leading cause of death amongst urban Chinese, said Sun Yan, an expert with Beijing Cancer Hospital, affiliated to the Chinese Academy of Medical Sciences.

According to the Ministry of Health, the death rate from malignant tumors grew 29.42 percent in the 20 years between the 1970s and the 1990s. Around 2 million cancer patients were registered in 2000, with around 1.5 million dying in the same year.

Cancer prevention and treatment has become a global issue and has focused the attention of worldwide health authorities, medical researchers and pharmaceutical producers.

Many world famous life science researchers and developers are cooperating with their Chinese counterparts in a bid to find the most effective anti-cancer medicines, said Sun.

Sales of anti-cancer drugs were worth 1.2 billion US dollars last year and are expected to reach US\$1.7 billion next year, according to the State Food and Drug Administration.

Alcatel Wins 3G Network Contract from China Netcom

(CRI December 3, 2004)



French electronics and telecommunications company Alcatel says its Shanghai Bell unit has won a contract from China Netcom Group to provide a third generation, or 3G, field trial network in Beijing.

Upon completion of such a 3G pilot network, China Netcom will be able to test innovative high-quality voice, data and multi-media mobile services in true-to-life conditions in the capital city.

This agreement strengthens Alcatel's position in 3G technology in China. It has already successfully set-up a similar 3G trial network with China Telecom earlier in the year.

Environment

China and Europe Cooperate on Energy, Environment

BEIJING, China, November 3, 2004 (ENS) - China and the European Commission of European Union together announced €42.9 million energy and environment program in Beijing today to improve energy efficiency in China and combat climate change. The European Commission and China will each pay about half the costs of the program.

The announcement comes as the result of a weeklong visit by EU Commission Director-General of the Directorate for Environment Catherine Day to Beijing that ended Monday.

The five year EU-China Energy and Environment Program was jointly launched by the Chinese State Development and Reform Commission and the Delegation of the European Commission of European Union, according to the Chinese official news agency Xinhua.

The cooperative program covers energy saving projects and the development of renewable energy and natural gas.

These projects are part of the EU's effort to work with China to limit global warming.



Catherine Day is European Commission Director-General of the Directorate for Environment. (Photo courtesy [UN Economic Commission for Europe](#))

In the wake of Russia's decision to ratify the Kyoto Protocol, continued discussions between Europe and China are very important, said Day. "I am truly delighted that the Kyoto Protocol will now come into force, we have wind in our sails, and I am looking forward to fruitful discussions with our Chinese colleagues on the preparations for the climate change meeting COP10 in Argentina in December."

COP10 is the Tenth Conference of the Parties to the United Nations Framework Convention on Climate Change, under which the Kyoto Protocol was negotiated.

One of Day's goals for her time in China was to establish a framework for regulatory cooperation in the fields of environment and climate change.

Day also explored options with the Chinese authorities for intensified cooperation on the implementation of the protocol's Clean Development Mechanism (CDM).

CDM projects result in certified emission reductions for industrialized countries like those of the European Union created by reducing greenhouse gas emissions in countries without Kyoto emissions limits, such as China.

Day participated in a conference "Key vulnerable regions and climate change" on October 27 and 28 at the Sino-German Centre for Science Promotion in Beijing. The event was organized by the European Climate Forum and Potsdam Institute for Climate Impact in cooperation with several high level Chinese university research centers.

Addressing delegates to the conference, she said the European Union is keen to work with China on "changing our economies and our energy policies to fit with a more carbon constrained future."

"Part of our development aid programs here in China are now focusing on energy efficiency, the development of renewables and the use of natural gas," Day said. "We are also keen to pursue CDM projects in China, to link up on environmental technologies, R&D etc. We would like to share knowledge on the science of climate change, on how we are each developing policies and methods of measurement and monitoring. In short to have a real, working partnership with China in this crucial policy area."



The coal fired Shiheng power plant at the industrial city of Shandong was the first plant in \$2.2 billion Shandong Zhonghua Power Project. (Photo courtesy CLP Group)

China ranks the second in energy consumption in the world, and its energy efficiency stands at around 33 percent, 10 percentage points lower than the developed countries, said Zhao Jiarong, director of the department of environment resources conservation under the Chinese commission.

In 2003, energy consumption in China reached 1.68 billion tons of standard coal, 11 percent of the total consumption of the world, among which coal took up 67.2 percent, crude oil 22.7 percent, natural gas 2.8 percent and renewable energy 7.3 percent.

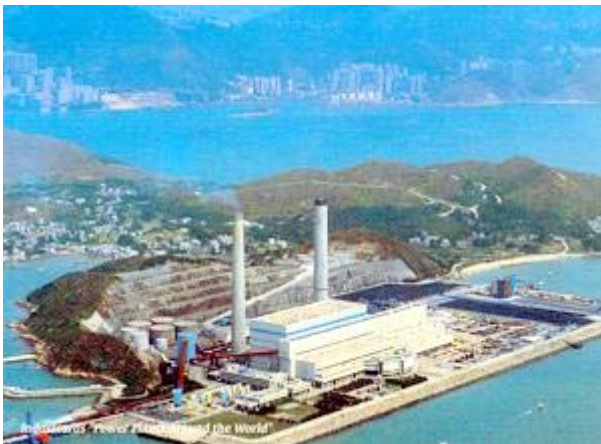
Zhao said the introduction of the EU-China Energy and Environment program is expected to draw energy-saving experience from members of the European Commission and promote the sustainable development in China.

The protection of natural forests and biodiversity as well as access to water are high priority issues on the binational agenda.

The European Commission sees China's participation as crucial to the greenhouse gas reduction process. "The only way forward will be through increased participation of all developed countries, while allowing developing countries to engage in the fight against climate change without compromising their sustainable development and their fight against poverty," she told the conference delegates.

She explained Europe's idea of bringing developing countries like China into the Kyoto process through a "staged approach," built around the idea that developing countries will not be asked to fully participate in terms of targets and timetables until after 2012, when the first Kyoto Protocol commitment period ends.

"Instead," said Day, "reflecting the fact that many developing countries are already taking action to combat climate change, they would give commitments of various kinds so that the actions which they take can be taken into account in the global fight against climate change."



The Lamma Island coal fired power plant provides much of the electricity used on Hong Kong Island via a undersea transmission link. (Photo courtesy Hongkong Electric Co Ltd.)

"The various stages could be based on different indices that could encompass per capita emissions, capacity responsibility, different transition periods for stabilizing emission," said Day. "Ideally, under such an approach all Parties would accept objective conditions that would define each country's specific contribution to multi-lateral efforts."

The European Commission is currently preparing for two new environment programs, the EU-China Biodiversity Program with a European contribution of 30 million euros, and the EU-China River Basin Management Program, with a European contribution of 25 million euros, Day said.

The EU is working with about 20 different international organizations in its Biodiversity Program, seeking to agree on concerted approaches to issues ranging from policy advice at a national level to the improvement of farmers' livelihoods and use of land in remote regions.

Both Europe and China have decided to adopt an integrated river basin management approach but practices for implementing this approach remain to be developed. "It's thus logical that we strengthen our relations in this field," said Day.



The River Basin Management Program will promote the implementation of integrated river basin management and regional development in the Yangtze and Yellow River Basins and facilitate adjustment of the overall policy framework.

Day also held discussions with international experts on agriculture and rural sustainable development during the 2004 Annual General Meeting of the China Council for Cooperation on Environment and Development. This high level nongovernmental advisory body works to strengthen cooperation and exchange between China and the international community in the field of environment and development.

New rules on organic pollutants kick in

(China Daily November 11, 2004)

The Stockholm Convention on persistent organic pollutants (POPs) comes into effect in China today.

Environmental officials and experts said China's national plan for implementing the convention will come out in 2006 and be put into practice as soon as possible.

China received US\$13 million from the Global Environment Facilities to develop the plan, said Zhang Qingfeng with the office for the implementation of the POPs convention.

The office, under the State Environmental Protection Administration, was officially set up in March following preparations that began last April.

Officials say a lack of funds and know-how will make it hard for China to meet the convention signed by 151 countries in May 2001.

The Stockholm Convention took effect on May 17 this year with 83 countries having ratified it so far.

The Standing Committee of the 10th National People's Congress, China's top legislature, ratified it on June 25.

POPs are highly toxic chemical substances that threaten human health and the environment, said Xie Shaodong, an expert with the department of environment sciences of the Beijing-based Tsinghua University.

The pollutants can enter the food chain and seriously damage human health, he said.

POPs can also move by air and water, causing global pollution.

Well-known POPs are DDT, widely used to combat malaria in Africa, and PCBs, used as electrical insulators in transformers, capacitors and other electrical equipment.

The convention aims to initially control 12 POPs, including nine pesticides PCBs, and two unintentional by-products -- dioxins and furans, which are generated during heating and incineration.

Zhang said it will be tough to educate the public on POPs, whose damage is prone to be ignored.

The current status of POPs in China is vague and the monitoring and evaluation system is not perfect, he said.

For example, records of PCBs have been lost in large quantity in the past years and it is hard now to find them.

There have been reports about pollution accidents occurring at sites where discarded electrical equipment with PCBs was once buried.

Zhang said China lacks techniques to phase-out some POPs.

The country is also short of funds for implementing the convention.

Zhang said US\$400 million will be needed just to eliminate PCBs in the country.

Efforts will be made to establish where and how POPs are produced, used, imported, exported, stored, and discarded as well as determining how they pollute and the damage they cause, Zhang said. Phase-out plans will then be developed.



A list and database of equipment with PCBs still in use or discarded will be created.

Such equipments will be gradually eliminated and all places that are polluted by PCBs will be cleared before 2008.

Major sources of dioxins and furans will be spotted and techniques and practices will be sought to reduce emissions.

Other measures will include strengthening research on POPs and setting up matching policies and standards to support the national implementation plan, Zhang added.

According to Luo Gaolai, vice head of the implementation office, China has taken a series of actions to control POPs.

Such actions include establishing a national task force on POPs and organizing a number of international forums.

International aid has also been sought.

Gao said China is working with countries such as Italy and Canada.

5 POPs still produced, used in country

China has five years to stop production of four pollutants targeted as part of international efforts to clean up the environment.

The Stockholm Convention lists 12 persistent organic pollutants (POPs) that should be eliminated to preserve the environment. Five of them are still produced in China.

The Stockholm Convention, signed by 151 countries and ratified by 83, aims to eliminate POPs, which are highly insidious pollutants.

In China, the convention took effect yesterday, but the country has applied for immunity which would allow it to continue producing DDT, hexachlorobenzene (HCB), chlordane and mirex for another five years, said Yue Runsheng, vice head of international co-operation under the State Environmental Protection Administration.

That would give China five years to stop production and use of the four.

China can apply for another five-year term, but no further exemptions are allowed.

The country has been making efforts to control the five pollutants, said an administration source.

DDT is mainly used in pesticides while small amounts are used in mosquito repellent, incense and some medical storage. There are two DDT manufacturers in China, with a total annual output of about 4,000 tons, said Zang Wenchao, of the administration's pollution control department. Only one company still produces about 2,000 tons of HCB every year, Zang said.

HCB is used to produce sodium pentachlorophenate, a medicine.

Chlordane and mirex are both used to kill destructive white ants and are more widely produced. There are nine chlordane manufacturers with an output of 500 to 800 tons per year, while up to 30 tons of mirex are put out by five producers.

Still other POPs listed in the convention for which China is not seeking immunity, may be harder to eliminate.

PCBs are one, particularly considering the amount in circulation is difficult to pinpoint because electrical components with PCBs are still circulating but no longer in production.

Zang said China stopped production years ago and most electrical equipments containing PCBs has been discarded. However, officials and researchers are not very clear of where such PCBs are and how much of them exist.

Another two, dioxins and furans, are inevitably generated by heating and incineration. They are mainly caused by the smelting industry, incineration of garbage, the paper making industry and the chemical industry.

Experts say to date there is no way to reduce and eliminate them.



5 POPs still produced and used in country

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China becomes the world's second largest power generation giant

(People's Daily)

Currently, China's installed generating capacity totals 400 million kw, making it the world's second largest power generation giant after the [United States](#). It is reported that over 70 percent of China's power generating facilities are fueled by coal, and the remaining are almost all hydropower installations. The power generation capacity of a nuclear plant is around 7 million kw. It is estimated that China's power generation capacity will reach 600-700 million kw by 2010, and 900-1,000 million kw by 2020.



Xinjiang emerging new energy base of China

(People's Daily)

A drilling rig at the Tarim Basin in northwest China's Xinjiang Uygur Autonomous Region. Xinjiang is expected to replace northeast China as the new energy base of China. It will supply over one fifth of China's total oil by 2010, including an output of 35 million tons and an import of 10 million tons of crude oil from Kazakhstan.

Two workers work on an oil rig at the Tarim Basin in northwest China's Xinjiang Uygur Autonomous Region, Nov. 9, 2004. Xinjiang is expected to replace northeast China as the new energy base of China.

A worker works on an oil rig at the Tarim Basin in northwest China's Xinjiang Uygur Autonomous Region on Nov. 9, 2004. Xinjiang is expected to replace northeast China as the new energy base of China.

Power demand to keep soaring in China next year

(Xinhua News)

State Grid Corporation of China predicts a rise of about 10.5 percent in China's electric power consumption and the country's electric power demand will skyrocket to 2.39 trillion kilowatt/hour (kwh) next year, an increase of 260 billion kwh from this year.

Information from the company's recent work meeting on China's power market analysis and prediction held in Luoyang, a historical city in central China's [Henan](#) Province, indicated this year's power consumption would pose a year-on-year rise of some 14.5 percent and the demand would increase to 2.16 trillion kwh, 273 billion kwh more than in 2003.

The electric power consumption across the country went up by 14.92 percent to reach some 1.57 trillion kwh in the first nine months of the year, with industrial businesses, service trade ventures, as well as urban and rural residents for use in daily life being the top three that had effected the most rises in power consumption.

China on the brink of AIDS outburst

(People's Daily on line)

Should an AIDS patient's unit and his closely-related ones be informed of his disease if he is confirmed? How do we protect patient's right of privacy? Prof. Xu Tianmin, president of sexology association of China and a member of expert panel of [Ministry of Health](#) discussed the ethical problems on AIDS prevention and treatment at the ceremony marking the 15th anniversary of sexology association of [Guangdong](#) Province.

HIV carriers rise by 40 percent annually

Up to April 2004, China has 840, 000 HIV carriers, and 80, 000 AIDS patients; it is estimated that a total of 160, 000 have died of the disease. China is ranked at NO.14 in the world and NO. 2 in Asia in terms of the prevalent AIDS tendency. The number of HIV carriers is increasing by 40 percent every year. China is at the brink of AIDS outburst. Last April, the State Council convened a national working conference, at which the input for AIDS treatment was increased with the AIDS report and management made standardized. In addition, some measures have been taken to tackle the AIDS, i.e. to promote the use of condoms at recreational venues in certain cities, and allow use of Methadone to replace intravenous injection of heroin.



Should we disclose AIDS patients if discovered?

Some ethical problems in AIDS prevention and treatment have caused controversy. Whether an AIDS patient owns right of privacy is a tough problem to handle, according to Prof. Xu.

Experts hold two types of opinions toward the right of privacy for AIDS patients. One group think relatives and close contacts of an AIDS patient ought to be informed without delay provided one is confirmed to be an AIDS patient, for AIDS is an infectious disease. Other experts argue AIDS patients are entitled to right of privacy too. Disclosing the disease to the public usually deals a heavy blow to the patients. In a province of north China, residents once wrote to authority a letter requesting it to expel the AIDS patient.

Prof. Xu thinks certain group people, e.g. relatives and close contacts of the patient ought to be informed. While the privacy of AIDS patients must be protected among the people who are irrelevant to the patient. The medical staff ought to keep patient's case history confidential.

Discrimination: The biggest enemy of AIDS prevention

A survey conducted in nine universities of five districts of [Hebei](#) Province found out that 40 percent of the students surveyed think HIV carriers and AIDS patients should be separated and centralized management ought to be adopted. [Cuba](#) is the earliest country in the world to adopt a centralized management of AIDS patients. There is an "AIDS village" in Bombay, [India](#) too. Some patients protest that loneliness is more dreadful than death.

The public still discriminate and isolate the patients, for they deem that AIDS is a punishment and retribution to promiscuity and bad behavior. They hold that AIDS patients should be separated just like leprosy patients, says Prof. Xu.

China still in urgent need of energy, transport: Official

(People's Daily on line)

China is still in urgent need of energy and transport, though the energy and transport supply have grown rapidly, said an official of the State Development and Reform Commission (SDRC) Saturday in [Shanghai](#).

Jia Yinsong, an official of the Economic Operation Department of SDRC said at the seminar on Chinese steel market that in the first 10 months this year, China's coal production was 1.285 billion tons, up 16 percent to the last same period. The country also has reserved 114 million tons of coal, up 4.2 percent to the beginning of this year.

But the capacity of state-owned coal mines have nearly saturated, and township-owned coal mines have become the major force for coal production, which caused huge resource waste, noted Jia.

During the January-October period this year, the country generated 1.74 trillion kwh of electricity, up 15 percent year-on-year. But the country's 24 provincial power grids were faced with electricity power limitation. China was in demand of 30 million kw of electricity power this summer.

He also noted that China produced 145 million tons of crude oil in the past 10 months, up 2.9 percent year-on-year. China imported 85.80 million tons of crude oil, up 36.2 percent to last same period. But China Petroleum Corporation and China Petro-Chemical Corp. have almost reached their refining capacity. The newly increased demand was solved by import.

During the first three quarters, China's railways carried 1.613 billion tons of cargoes, up 9 percent to the last same period. But the rail handling capacity only meet one-third of the country's coal transport demand.

Jia pointed out that though control measures on macro-economy have got efficient result, some in-depth conflicts and problems still existed, which have hindered the healthy economic development.

The bottle-neck limitation of energy and transport will still exist in 2005, noted Jia.

China reveals official greenhouse gas emission figures for first time

BEIJING (AFP) Nov 09, 2004 China on Tuesday officially revealed for the first time the amount of greenhouse gases it emits, as a UN official warned it could be the source of even more harmful emissions with its rapid development.

In a report China is required to submit as a signatory to the UN Framework Convention on Climate Change, it said it emitted 2.6 billion tons of carbon dioxide, 34.29 million tons of methane and 850,000 tons of nitrous oxide in

Only figures for 1990 or 1994 are currently requested to facilitate comparisons among countries, officials said at a press conference.

More recent emissions figures were not given but are believed to be much higher than those of 1994.

While China's emissions were relatively low per capita compared to other countries given its population of 1.3 billion, the total amount of pollutants makes it the second biggest emitter in the world after the United States.

"The issue is not the number. It's still relatively low per capita, but the volume is increasing rapidly," said Khalid Malik, the UN resident coordinator in Beijing, following the launch of the report, China Initial National Communication on Climate Change.

"China is accelerating rapidly. In the next years, it will become an increasing issue."

As China aims to quadruple its gross domestic by 2020, its energy consumption is expected to rise significantly. The country, meanwhile, still relies on fossil fuel for energy, rather than cleaner sources.

Unlike developed countries, China and other developing countries which have ratified the Kyoto Protocol are not required to reduce by 5.2 percent emissions of six greenhouse gases by 2008-2012 compared with their 1990 levels.

But Malik said China was key to efforts to fight global warming.

"China as the second biggest energy consumer in the world -- accounting for 10 percent of global consumption -- plays a key role in the international arena. ... China's active participation in combating climate change is of crucial importance," he said.

China's report reveals a similar picture to that of many other countries, indicating extreme weather caused by climate change will increase, resulting in more frequent droughts and floods.

Production of major crops could fall and the cost of future agricultural activity go up, it said.

Chinese officials said the government would step up efforts to raise public awareness on reducing emissions, but population growth, urbanization and economic growth would lead to more emissions.

"Greenhouse gas emissions by China will definitely be much higher in the future," said Gao Feng, deputy director-general of the foreign ministry's department of treaty and law.

"With population increase, per capita energy consumption will be higher."

The population is projected to increase by 300 million people by 2043.

Ford launches its fifth environmental award in China

(Voices of Grassroots)

27 th September, 2004, at the Great Hall of People, Ford Foundation had its fifth environmental award ceremony. One million rmb was awarded to 17 environmental organizations and individuals from China, including the volunteer group "Green River" that has been working in a demanding environment in Tibet, and Feng Yeting who has been working to prevent desertification for 20 years and many other people who have devoted their lives to environmental protection.



In the past 5 years, Ford Environmental Prize has received more than 1,300 applications and given more than a hundred prizes in Mainland China. It has become one of the biggest and most influential environmental prizes today. Ford Foundation's vice president and chief representative of Ford China Cheng Meiwei said "compared to the previous four years, the awards we gave this year are more scientific and the overall quality of the awarded projects are much higher than before. This shows that environmental awareness around the country is improving fast. Ford is hoping to make more effort in environmental protection and be a responsible corporate."

--Ford Foundation China

Statement from China's NGOs on the UN symposium on hydropower and sustainable development

(China Daily October 11, 2004)

Oct 29, 2004 Beijing

The UN Symposium on Hydropower and Sustainable Development, which is jointly organized by UN and Chinese government, was held in Beijing, China, providing a precious opportunity of communication for people from different sectors who are concerned with the issues of hydropower and sustainable development. As representatives of Chinese NGOs, we are honored to be invited to participate in the symposium. We are also pleased to note that five representatives of displaced people from Yunnan Province have also been invited to participate in this symposium and we consider this a positive step towards greater openness.

However, we regretfully notice that the organizer has failed to allocate adequate opportunities for the displaced people and NGOs to present their voices. The symposium was dominated by officials from governmental hydropower departments, technical experts as well as representative of hydropower developers who are closely associated with big hydropower development projects. Their views were largely uniform in stressing the important role of hydropower in economic development while little was mentioned about the potential acute threat that huge hydropower plants may impose on the ecology, social and cultural traditions in the affected areas. Very few practical solutions have been proposed to resolve the conflict between sustainable development and hydropower development and to solve the problems of displaced people who have become victims of hydropower development.

As many officials and experts have rightfully pointed out, China is becoming the center of hydropower development and has aroused increasing attention from the world. However, all participants who are concerned with sustainable development cannot neglect the social, economical and ecological problems that have repeatedly occurred amid the haze of hydropower development in China, especially those projects which have started without appropriate social and environmental impact assessments. Therefore, we would like to take this opportunity to state our principles and recommendations:

First, open-mindedly recognize and learn lessons from the mistakes of big hydropower projects, both domestic and international, in order to avoid committing the same mistakes in new development projects.

Second, a comprehensive plan of conservation and sustainable use of major watersheds in southwest China should be completed as soon as possible with the joint participation of all related governmental departments and multi-discipline research institutes. The priority conservation areas on China's major rivers should be set aside while useable area and "ecological capacity of development" should be identified with a scientific development outlook, which is emphasized by the national government.

Third, re-evaluate existing hydropower development plans in China and suspend certain projects that have aroused great public concern and recent controversy, such as the dam projects on Nu River (Salween River) and the Tiger Leaping Gorge.

Fourth, the current standards and implementation methods commonly practiced in resettlement of communities affected by hydropower projects must be improved. And the four rights, i.e., "Right of Access to Information, Right of Participation, Right of Decision-making and Right of Monitoring," that have been repeatedly stressed by the Chinese government, must be fully granted to the affected population.



Fifth, to curb the current craze by some hydropower developers to gain rights to develop projects in southwest China, we suggest that the Central Committee of CPC and the State Council organize a cross-sector meeting with participation by local government in those areas to discuss how to solve the energy shortage in a comprehensive, coordinated manner based on the scientific development approach.

Sixth, the new “Environmental Impact Assessment Law” and the “Temporary Regulations on Public Hearing of Environmental Protection Administrative Approval” must be implemented in order to regulate hydropower projects currently under construction, to realize the public participation in approval of important projects, and to ensure the accountability of government officials.

Law on Renewable Energy in Pipeline

China's continued power shortage is pushing the government to take additional action, including legislation, to promote the development of renewable energy.

State entities are drafting a law that will make it compulsory for power grid companies to buy electricity generated by renewable energy sources such as water, wind, solar, biomass, geothermal and oceans, and all end-users will share the costs, according to Li Junfeng, secretary-general of the Chinese Renewable Energy Association.

The draft is now being circulated among ministries and big state-owned corporations for review.

A revised draft will be submitted to the National People's Congress Standing Committee this month for discussion, Li told *China Daily*. Li hopes the law will be passed before May next year.

In June this year, a special conference was held to collect international opinions on the proposed law. The draft is also accessible on the Internet.

"We have spent a lot of time and energy learning from the successes and failures of our partners in Europe and around the world. We believe this law can start a renewable energy revolution in China," Li said.

China has been slow to develop renewable energies because they are more expensive than conventional energy sources. For example, it takes 0.35 yuan (4 US cents) to generate 1 KW/H of electricity from coal while wind-generated electricity costs about 0.50 to 0.60 yuan (6 to 7 US cents) per KW/H.

However, sharp increases in energy demands leave China no choice but to speed up the exploitation of renewable energy.

Last year, China's gross energy consumption reached the equivalent of 1.7 billion metric tons of coal, an increase of 13 percent over 2002.

"Soaring oil imports, wild fluctuations in international oil prices, the mounting costs of extreme weather events and heightened concern over energy security mean that China's commitment to renewables at this time is crucial," warned Steve Sawyer of Greenpeace International, during a four-day Forum on Wind Energy held earlier this month in Beijing.

"The potential to increase renewable energy production is vast," Li said. "Renewable energy is playing a growing role in the Chinese energy supply and has become a significant future energy source."

On June 30 of this year, the State Council approved a significant energy policy document: the Outline of China's Medium and Long-term Energy Development Program (2004-2020).

According to Li, China's goal to develop renewable energy is to increase its installed renewable energy generating capacity to 60 gigawatts by 2010, about 10 percent of the total power capacity, and 121 gigawatts by 2020, 12 percent of the total.

By 2020, China's gross energy consumption is estimated to reach 3 billion metric tons of coal equivalent per year.

Li said China's energy mix also needs restructuring. It depends too heavily on coal, which accounts for 67.1 percent of total consumption. Oil accounts for 22.7 percent, with 970 million tons imported.



At present, renewable energy only accounts for 5 to 6 percent of China's total power supply.

Environmental degradation also provides impetus to look to clean alternative energy sources.

"The impacts of climate changes on China are truly frightening, demanding urgent action. More than 60 percent of Chinese glaciers are anticipated to disappear by 2050, threatening the fresh water supply for more than 250 million Chinese," said Yu Jie, director of Greenpeace's Beijing office.

The Outline of China's Energy Program states that the government will "enhance environmental protection and strive to reduce the impact of energy production and consumption on the environment."

Gov't moves to comply with Kyoto

(China Daily November 18, 2004)

The international accord designed to cut emissions of greenhouse gases and eventually slow down the pace of global warming is finally expected to come into effect after a long time of brewing and trade-offs. The Kyoto Protocol becomes effective 90 days after Russian President Vladimir Putin signed on November 5 and handed the document to the United Nations, despite opposition to it from the United States, said Lu Xuedu, an official with the Ministry of Science and Technology.

Director-general of the Treaty and Law Department of the Ministry of Foreign Affairs Gao Feng said a new round of international talks on the issue will take place next year. Participants will talk about moves after 2012 when the protocol expires. Gao, who is also one of the Chinese negotiators on the climate change issue, anticipates that in the new round, developing countries such as China and India will be expected to come under some reduction obligations.

The promotion of the clean development mechanism (CDM) will be another major task in the new round of negotiations, Gao said. Under CDM, developed countries implement emission-reduction projects in developing countries - such as tree-planting and collecting methane gas - through financial and technical cooperation. They in return receive emission credits in proportion to the reductions achieved through the projects. The mechanism can help developed nations reach their reduction targets while transferring techniques and funds to developing countries.

China's actions

China is already taking concrete action to effectively reduce the consumption of energy, said Gao. As early as 1990, China set up a National Climate Change Co-ordination Committee to look at policy making and scientific research. The committee is currently composed of 15 government departments and institutions, with the National Development and Reform Commission, Ministry of Science and Technology, State Environmental Protection Administration and China Meteorological Administration as key members. China signed up to the United Nations Framework Convention on Climate Change in 1992 and announced its ratification of the Kyoto Protocol 10 years later. Earlier this year, a national office in charge of promoting CDM in China was set up and a regulation on management of clean development projects went into effect on June 30.

The main task at the moment, he said, is to carry out clean production - to encourage factories to use clean resources and raw materials, to save water and to recycle resources. He also urged governments at all levels to establish assessment criteria and scientific mechanisms and enact relative laws and regulations. International exchanges and co-operation have also been expanded in the past years, Lu said.

At the end of last month, a regional training workshop for officials, teachers and the media in the Western China area was held in Guiyang, Guizhou Province to assess the C5 research results. Provinces involved, including Hunan, Yunnan, Guizhou, Sichuan provinces and the Guangxi Zhuang Autonomous Region, pledged to work together in publicity and research.



New efforts

China is currently working on a national report on climate change, Lu said. He said it would be the first and most authoritative report in China. It will analyze the facts and figures of the current situation, the trend of change and adaptation measures to climate change in China and specify measures to deal with greenhouse gas emissions, said Lu, who is one of its key writers. It will also introduce the latest achievements of scientific research in China and suggest action to policy makers and the general public, he said. The report should be officially inaugurated early next year, when it will serve as a reference for local governments when drafting their socio-economic development plans for the next five years (2006-10).

Chengdu Business Newspaper, November 10, 2004

Invite European Experts to train Sichuan Officials

---Sino-Swiss cooperation programs will launch in Sichuan next year

(Chengdu Business Newspaper, November 10, 2004)

From next year, the Sichuan government will cooperate with the Swiss government on 3 major issues: the sustainable development of Eco-tourism, the ecological environment of Yangzi river, and the water environment of the upper stream area of Min and Tuo River. Sponsored by the Swiss government, the Swiss experts will do the research together with 24 experts and government officials from Sichuan province on the 3 major issues. This cooperation will not only train the Sichuan official, but offer more scientific advices to the economy and sustainable development of Sichuan province.

The Sino-Swiss cooperation program started in 1994, aiming at helping Chinese government do the public management reform, and offering rational suggestions. Next year is the first year this program starts in Sichuan Province. Mr. Zhaoxiaodong, the official in Sichuan government who is in charge of this program, said that the duration of this program is 3 years and the 3 major research issues have been confirmed. The development of Panda inhabitation, tour to farmers' home around Sancha Lake-Longquan Lake, and ecological environment protection and the protection of 4 world relics are also included in this cooperation program.

Greenpeacers in China and Australia Target Illegal Logging

BEIJING, China, November 18, 2004 (ENS) - Greenpeace is mounting a concerted campaign to stop illegal logging in Asia. The environment group held a press conference in Beijing on Tuesday to expose Asia Pulp & Paper's destruction of the forests in China's Yunnan province. And activists were arrested in Brisbane, Australia earlier this week for protesting illegal logging in Papua New Guinea.

Greenpeace filed an official report to China's State Administration of Forestry about the illegalities involved in the Yunnan logging situation, and urged the Chinese government to punish the responsible parties.

In 2002, Asia Pulp & Paper (APP) signed a memo of understanding with the Yunnan provincial government for its eucalyptus forest, pulp and paper integration project.

Within the year, APP enclosed a forest of 183,330 hectares in southern Yunnan province, and began logging in the region.



The hills of Yunnan have been stripped of their trees. (Photo courtesy Greenpeace China)

Confirmation comes from government reports, including an investigation report from the State Administration of Forestry in which the project is pronounced as problematic.

With no felling permit or other required approvals, APP continues to log the natural forest illegally, as Greenpeace has documented in two field researches in June and September.

Liu Bing, forest campaigner with Greenpeace China, said, "Yunnan is a world biodiversity hotspot. The project in question will wreak havoc on the local biodiversity, which will trigger a chain reaction in the neighboring areas, thus causing irreversible ecological disaster to the whole region."

In Papua New Guinea, illegal logging and human rights abuses are the subject of a Greenpeace campaign that links purchases of illegal timber by Australian consumers to forest destruction.

A timber company based in Brisbane is trading in illegal timber from Papua New Guinea (PNG), according to a local clan leader and Greenpeace Australia. The timber industry in PNG is responsible for environmental destruction, corruption and human rights abuses, both parties say.

Greenpeace activists stenciled the message, "Illegal timber destroys lives" onto piles of timber in the TLB timber yard Monday and held a banner reading "Corporate violations or human rights" across the front gates.

Five Greenpeacers were arrested. Two of them were charged after chaining themselves to TLB's front gates at Hamilton near the Brisbane wharves and another three were arrested for graffiti.

The federal Forestry and Conservation Minister, Ian Macdonald, says he agrees with Greenpeace on the issue. "On this issue I do agree with Greenpeace," he said on Monday.

"I do think some of the most important forests in the world are being destroyed through illegal logging and I do think we have to, through the world community, stop the destruction of these very special forests."

The Brisbane company is owned by Malaysian logging giant Rimbunan Hijau, which was the subject of a November 3 SBS Dateline program that focused on practices which abuse the human rights of indigenous landowners.

John Danaiye, a PNG clan leader and spokesperson for Musula and Iwatubu village clans, is taking Rimbunan Hijau to court claiming they have illegally logged his tribal land.



PNG clan leader John Danaiye speaks to the media in Brisbane. (Photo courtesy Greenpeace Australia)

He is in Brisbane to ask Australians to help save the forest of PNG. "Logging by Rimbunan Hijau has destroyed large parts of our traditional forests," said Danaiye. "They have ruined our rivers, hunting grounds and sacred sites. We get beaten and abused when we try to stand up for our rights."

Reports commissioned by the PNG government, the World Bank and nongovernmental organizations have documented the illegalities, environmental destruction, human rights abuses and corruption in the PNG forestry industry.

"I am here to let the Australian people know what's happening to my forest home, so that they know not to use disputed PNG timber in building their homes, said the PNG clan leader. "And to urge the Australian government to take action to stop stolen or illegal timber from entering Australian ports."

Greenpeace forests campaigner Katerina Lecchi said, "Illegally logged timber destroys lives. Australian based companies should stop supporting the trade in illegal timber and move urgently to certified sustainable sources of timber."

"Timber companies should check their sources and immediately stop importing and trading in illegal and destructive timber. They should source timber which carries reputable certification like the Forest Stewardship Council certification," said Lecchi.



Australian Forestry Minister Ian Macdonald (Photo courtesy Office of the Minister)

The Forestry Minister Macdonald also agreed with Greenpeace in February, saying, "I agree with Greenpeace that one of the most important forests in the world is being destroyed through illegal logging in Papua New Guinea."

But this time the minister only made the statement to urge Greenpeace to focus on PNG and leave Australian loggers alone. "I find it incredible that Greenpeace, other radical conservation groups and the Green Party continue to oppose sustainable forestry in Australia," Macdonald said.

"Australia has the best managed, most sustainable forests in the world. We carefully monitor and regulate all harvesting and strictly enforce environmental guidelines. Yet expansion of Australia's sustainable timber industry is thwarted by radical conservationists bent on a political agenda," said the minister.

"They have no real interest in the world environment. If radical greens were serious," the minister said, "they would be sitting up trees in PNG not stopping workers doing their lawful business in forests that are already 70 percent locked away in reserves."

"If Australia was self sufficient in wood and forest products," said Macdonald, "we would not have to consider imports from alleged dodgy operations."

Greenpeace Australia and other conservation groups have been protesting the logging of old growth forests in Australia's island state of Tasmania.

In November 2003, environmentalists from Australia, Japan, Canada and Germany set up a tree sit - dubbed the Global Rescue Station - a platform 65 meters above ground to protect the tallest hardwood trees on Earth from being pulped for paper.

Tasmania exports more logs and woodchips from native forests than all other Australian states combined.



Project to improve rural water quality Nine billion yuan budgeted to help 24 million people

(SCMP November 24, 2004)

A project with 9 billion yuan will be launched on the mainland to free 24 million people from water quality problems, says Li Yangbin, vice-director-general of the Ministry of Water Resources.

Speaking after a conference yesterday, Mr. Li said the project would target central and western regions. He said 34 per cent of those living in rural areas-about 300 million people-survived on water that did not meet national standards.

"It will be a long and arduous task to solve water-quality problems in rural areas. At the end of the project, we also hope to relieve 1.7 million people living in areas under the threat of [arsenic poisoning]," Mr Li said.

Water-quality problems include snail fever, or schistosomiasis, fluoride poisoning and arsenic poisoning. Fluoride poisoning is harmful to the teeth and bones, and arsenic poisoning can lead to cancer and death.

Mr Li said the ministry aimed to provide about 300 million people in rural areas with safe water by 2020.

The project, which starts this month and ends in 2006, is a cooperative venture by the Ministry of Water Resources and the State Development Planning Commission.

The central government will provide about 4.5 billion yuan in funding, with another 4.5 billion yuan coming from provincial governments and a one-off 200-yuan levy on peasant households.

The scheme would help peasants build pipelines if they lived within 40km of a water source, Mr. Li said. If water sources were too far away and the area had average annual rainfall of at least 400mm, the peasants would be assisted in building storage areas to collect rainwater.

Renewable energy law under consideration

(China Daily November 26, 2004)

China's first law on renewable energy is likely to debut in the second half of next year at the earliest, according to an official involved in its drafting.

This is part of the government's efforts to promote the share of renewable energy, such as hydropower, wind power, bio-mass and solar energy, in the total consumption mix to 10 per cent by 2020 from current figure of less than 1 per cent.

The government's effort to promote renewable energy comes as it endeavours to slow soaring demand for conventional fuels such as oil, gas and coal, which is hampering economic development.

The government also hopes that replacing some coal and oil consumption with renewable energy will cut pollution.

Wang Zhongying, director of the renewable energy development centre of the Energy Research Institute under the National Development Reform Commission, said the draft law is being circulated among ministries and major State-owned corporations for review.

A revised draft will be submitted next month to the Standing Committee of the 10th National People's Congress for its first reading, said Wang, who was involved in drafting the bill.

"According to normal procedures, the bill may be passed in the second half of the next year," said Wang.

According to the draft, the electricity generating capacity of renewable energy is expected to more than double to 120,000 megawatts by 2020.

The proportion of renewable energy in total electricity generation will increase from the current 8 per cent to 12 per cent by that time.



The capacity of small hydropower stations will more than double to 70,000-80,000 megawatts by 2020 from the current 31,000 megawatts. Small hydropower stations are those with a capacity lower than 50 megawatts.

The wind power capacity is expected to increase to 20,000 megawatts from 560 megawatts, while bio-mass will increase to 20,000 megawatts from the current 2,000 megawatts.

The capacity of solar energy is to rise to 1,000 megawatts from the current level of just 50 megawatts.

China largely relies on conventional energy to satisfy its consumption needs.

Coal now accounts for two-thirds of the total energy consumption mix with oil making up a quarter.

Renewable energy takes less than a 1 per cent of the total share mainly because it tends to be much more expensive due to higher production costs.

The costs of wind farms, for instance, would be twice as much as coal-fired power plants.

According to the draft, the government will impose higher electricity tariffs on renewable energy to cover their costs.

Grid companies are obliged to purchase all of their electricity from qualified renewable energy, and pass on the higher electricity price to the end users with some government subsidies.

Renewable energy producers may enjoy favourable policies such as tax cuts.

On the supply side, it is mandatory for large power companies to build some renewable energy capacity, said Wang.

Those failing to meet their quotas will be severely fined.

The government has also established special funds to support and promote the development of renewable energy technology.

But Wang indicated that it is likely that the draft bill will not be passed in its entirety.

Some analysts said a major difficulty is to convince grid companies to accept higher prices from renewable energy producers.

Wang said: "Promote the renewable energy is the responsibility of all of society. All have to share the costs."

Promoting renewable energy consumption is part of the government's medium and long-term energy development programme (2004-20).

Wang said it is important for the government to explore the renewable energy and prepare for a future in which conventional energy will run out.

"If we do not start out now, it is too late," said Wang.

"The potential to increase renewable energy production is vast, but only if it is supported by the government," Wang said.

Coal firm to reduce greenhouse emissions

(Shanghai Daily December 4, 2004)

A CHINESE coal production company said yesterday it will receive US\$19 million under a purchase agreement it signed with the World Bank to cap greenhouse gas emissions. The company promised to reduce carbon dioxide-equivalent emissions by 4.5 million tons in two decades. According to the agreement signed on Wednesday, Jincheng Anthracite Coal Group Co Ltd will capture coal mine methane and use it for power generation at the Sihe mine in Jincheng City in north China's Shanxi Province. The bank said this project will improve conditions at the mine for the current employees and create 60 new jobs for re-trained miners and additional specialist staff at the power project. The certified greenhouse gas emissions reductions generated by the project will be purchased by the



Prototype Carbon Fund, a public/private partnership made up of six governments and 17 private companies. The organization has authorized the World Bank to purchase greenhouse gas emission reductions from projects on behalf of the participants of the fund. The fund will buy 4.5 million tons of carbon dioxide-equivalent emission reductions during the project's 20-year lifetime. China depends on coal to meet more than 60 percent of its demand for energy. As coal mine methane is 23 times more powerful than carbon dioxide in affecting global warming, coal mines are listed among the world's largest greenhouse gas emitters. China's National Climate Change Coordination Committee has placed coal methane projects among its top four priority categories in developing projects under the Clean Development Mechanism of the Kyoto Protocol. The Kyoto Protocol will go into effect in February 2005 to limit climate altering greenhouse gas emissions.

Greenpeace says logging illegal

(China Daily November 17, 2004)

Greenpeace China says an Indonesian company is illegally logging parts of Yunnan Province.

The group said a large paper and pulp project by Asia Pulp & Paper Co Ltd (APP) in the Southwest China province could devastate natural forests.

The allegations were denied by APP sources yesterday, while Yunnan officials said the project is considered a "good one."

The international non-governmental organization called for a halt and reassessment of the project.

It urged APP, one of the largest pulp and paper group in Asia, to stop transforming natural forests into artificial ones and halt illegal logging.

Greenpeace China said it had forwarded its report to the department for forest management under the State Forestry Administration and other related Chinese authorities. It is expecting a response in 60 days.

But sources with the administration said yesterday no such report from Greenpeace had reached the department so far.

However, the department plans to pay close attention to the issue.

If illegal logging of natural forests does exist in Yunnan, local forestry authorities will be ordered to look into the case and punish those who break law, the sources said.

The project, agreed to in 2002 by APP and the Yunnan provincial government, involves 1.8 million hectares in the regions of Wenshan, Lincang and Simao.

According to the Greenpeace report, APP has been cutting trees in natural forests in the regions and planting non-native eucalyptus trees, which are used by the company to produce paper and pulp.

Xie Yan, from the Chinese Academy of Sciences, said eucalyptus trees consume a large quantity of water and are harmful to local biodiversity.

Liu Bing, Greenpeace China's forestry project deputy director, said more than 733,000 hectares of the planted areas were forests rather than deserted regions, as APP said.

But Nie Yuanfei, from the Policy Research Office of the provincial government, said most of the regions used in the project were deserted.

The provincial government strictly abides by national rules and bans cutting of natural forests, he said.

He said the project was carefully examined by experts.

A source with APP China denied Greenpeace's allegations, saying that the company is willing to discuss the issue with the organization.



He said that the total land area APP can use depends on agreements with local farmers and natural condition.

The source did say there may be some sporadic logging of natural forests by local farmers, who want to sell their contracted land to the company.

In late October, APP announced a moratorium on tree cutting in two strategic areas of Indonesia until conservation assessments were completed.

The company had been accused of illegal logging in Indonesia.

Beijing In Brief

Project for farmers

(China Daily November 17, 2004)

The Ministry of Agriculture and the Ministry of Science and Technology have started a project to help farmers use advanced technology to boost profits. Under the project, which will be carried out between 2005 and 2010, scientists will spread new farming skills and develop township enterprises, fully utilizing local resources, said a spokesperson from the Ministry of Science and Technology.

Environment award

Eight enterprises including Baver Wuxi Leather Chemical Co Ltd and Gold East Paper(Jiangsu) Co Ltd are awarded the Nation's First Group of Environment Friendly Enterprises. Establishing such enterprises will advance environmental protection in the future, said Xie Zhenhua, chief of State Environmental Protection Administration.

The award winners have all performed well in controlling pollution and saving energy.

Government mulls moving steel giant out of Beijing

(China Daily November 17, 2004)

Beijing is still considering moving Shougang Group - an iron and steel giant - out of the city as part of its efforts to fight pollution.

Vice-Mayor Ji Lin made the remarks during an inspection of the factory's boilers on Monday, local media reported.

Ji, along with Wang Jirong, vice-director of the State Environmental Protection Administration, looked at the city's sky from a high-rise building on Monday morning and found the industrial base in Beijing's western suburbs, where Shougang Group is located, bristling with chimneys belching out thick clouds of smoke.

The industrial base is the largest polluter in Beijing and local residents have long suffered from dirty air, said officials with the Beijing Municipal Environmental Protection Bureau.

"Shougang Group must be moved out of Beijing. The sooner the better. If not, the cost of pollution treatments will be much higher," said Wang.

"We should not take care of the interests of some heavy polluters at the expense of the overall health of more than 10 million people living in Beijing," Wang said.

The comments marked the latest commitment to solving the long-debated topic of the relocation of Shougang Group.

As early as 1999, a dozen deputies to Beijing's Municipal People's Congress, the city's top legislative body, said Shougang Group must be moved because it heavily pollutes both air and groundwater.

Late last year, Lu Hao, another vice-mayor of Beijing, said the Shougang Group would be entirely moved out by 2012.

Lu's remarks were the first official statement on the subject.



However, top leaders of Shougang - also known as Capital Iron and Steel - expressed three major concerns over any proposed moves.

The first one is the huge cost of the removal which is estimated at 40 billion yuan (US\$4.8 billion). The second is that Shougang's leaving would take away 2 billion yuan (US\$240 million) of fiscal revenue each year, and would impact the city's industries. And the third one is unemployment, since the removal would cause nearly 100,000 employees to become jobless.

Although the relocation is a complicated task, Shougang has gradually moved part of its plants out of Beijing.

The construction of a steel production base in neighbouring Hebei Province, with an annual production of 2 million tons, was finished in October.

And Shougang also cut its annual production to 6 million tons from 8 million tons last year and plans to cut a further 2 million tons before 2008 in a bid to reduce emissions.

Air pollution, which often shrouds Beijing in a soupy smog, is a key concern for decision makers.

Top priority being given to efficient hydropower

(China Daily October 30, 2004)

China will put priority on hydroelectric projects as part of its sustainable development strategy to reduce pollution resulting from burning coal, a government official said.

Addressing a United Nations symposium on hydropower and sustainable development which concluded on Friday in Beijing, Zhang Guobao, vice-minister of the State Development and Reform Commission (SDRC), made it clear that "China views hydropower as a clean energy source and an important part of overall energy strategy in the years ahead."

China's hydroelectric reserves stand at 700 million kilowatts, 40 per cent of the its total conventional sources of energy, according to the latest SDRC statistics.

Although China's hydropower exploitation potential ranks first in the world, its utilization ratio is still very low at 24 per cent, Suo Lisheng, vice-minister of water resources, said.

"In developed countries, the figure is often more than 60 per cent and even as high as 80 per cent," he said.

To meet the needs of China's developing economy in the next 20 years, power supplies especially hydropower will be developed rapidly, Suo confirmed.

During that process, however, authorities will be urged to take the environment into account, Suo promised.

Overall planning, design, operation and management of hydropower projects will be done in an environmentally friendly way, SDRC sources said.

Today, hydropower plants of varying sizes are in operation in some 140 countries, providing about one-fifth of global electricity supplies, Jose Antonio Ocampo, under secretary-general for Economic and Social Affairs (DESA) of the United Nations, said during a message to the symposium.

In more than 50 countries and regions, hydropower accounts for half or more of domestic electricity.

"Once built, hydropower facilities have low operating costs and a long service life, particularly run-of-river and reservoir projects where sedimentation is not a concern," he noted.

Current and projected high oil prices make it an important option, in particular for oil-importing developing countries.

If the electricity currently produced from the world's hydropower stations was to be produced from fossil fuels, the equivalent of an additional 4.4 million barrels of oil would be needed each day.

"Energy is also critical to eradicating poverty and improving human health and welfare," the UN official said.

Some 2 billion people throughout the world do not have access to modern energy services and the international community faces a great challenge in providing safe and clean energy to power economic development.



In this regard, the Johannesburg Plan of Implementation, adopted at the World Summit on Sustainable Development in 2002, calls for the diversification of global energy supply and increasing the share of renewable energy, including hydropower, according to the UN official.

Although the economic importance of hydropower plants cannot be underestimated, their construction also has brought inevitable negative effects on the environment, officials and experts admitted.

Large-scale hydropower projects usually force tens of thousands of locals to leave their homes to make way for construction, change river courses, cause sedimentation and water quality can deteriorate.

Plants may also change local climates, induce geological disasters and thus threaten the original ecological environment along river basins.

A mammoth dam project proposed by local authorities on the Nujiang River in Yunnan Province has been put on hold after concerns about its impact on the environment and biodiversity were raised.

As one of the best optional renewable resources of the world, hydropower will nonetheless continue to play a key role in promoting many countries' sustainable development, eradicating poverty and improving human life in the years ahead, many participants agreed.

However, its adverse impacts on environment must be mitigated. The issue has evoked increasing debate since the 1990s and has even slowed construction of some large dams since then.

The symposium has set out to examine issues related to hydropower development in the context of sustainable development with the objective of providing expert advice to assist governments in making informed policy decisions for the implementation of hydropower projects.

Jointly sponsored by UN Department of Economic and Social Affairs, the Chinese Government and the World Bank, the event has brought together about 400 officials, experts, and participants from China and more than other 30 countries to discuss how to use hydropower in line with sustainable development.

Sustainable agriculture termed key to progress

(China Daily October 30, 2004)

Senior officials and experts from home and abroad on Friday set out sustainable agriculture as a crucial factor for China's development as a whole.

"Currently, the top priority for the Chinese Government is meeting the daunting challenges of sustainable agriculture and rural development," said Paul Thibault, president of the Canadian International Development Agency.

Thibault is a vice-chairman of the Third Phase of the China Council for International Co-operation on Environment and Development.

The council, established by the State Council of China in 1992, is a high-level non-governmental advisory body that aims to strengthen co-operation and exchange between China and the international community on environmental and development issues.

The council opened its third meeting on Friday in Beijing. The theme of the meeting is "sustainable agriculture and rural development."

Shortage in resources, ecological damage and environmental pollution have become more and more noticeable in rural regions, said Minister of the State Environmental Protection Administration Xie Zhenhua.

Such problems have already been impeding the sustainable development of agriculture, Xie, who is also a vice-chairman of the council, said at Friday's opening session.

Nearly 70 per cent of China's population live in rural areas and the national goal of a well-off society won't be reached if rural people don't gain access to opportunities for greater incomes.

It will be meaningless for rural people's becoming more wealthy if the environment in rural areas is not improved at the same time, he added.



Thibault said the council sometimes tends to forget that its mandate includes both development as well as the environment.

But this year's report on agriculture and rural development, worked out by the council's expert team on agriculture and rural development, gives appropriate emphasis to the development side of the equation, he said.

"Environment and development are simply two sides of the same coin," he said.

United Nations Resident Co-ordinator and UN Development Programme Resident Representative Khalid Malik said sustainable agriculture and rural development coincide with China's goal of achieving a better society.

Although China is seen as a global manufacturing base now, whatever decisions are made regarding agriculture will affect more than half of China's population, he added.

The lead expert group of the council offered suggestions that the basic aims for China's rural development must be raising farmers' incomes, improving food security and protecting the environment and sustainable development.

Careful use of fertilizer urged

(China Daily November 2, 2004)

While few would question the need for chemical fertilizers in China, the real need is for its effective use to prevent environmental damage, experts say.

In the wake of a recent survey, which points to a lack of knowledge among the country's farmers, experts are calling for more education and environmentally-friendly farming.

"We can produce enough food to feed the country's growing population by improving soil fertility and plant nutrition with chemical fertilizers," said Cheng Xu, a professor with the China Agricultural University. "Otherwise, more land will be cultivated and the risk of erosion from wind or water increased."

However, chemical fertilizers are a double edged blade. If misused, they can severely harm the environment, Cheng said yesterday.

Agricultural experts participated in the annual meeting of the non-governmental advisory body China Council for International Co-operation on Environment and Development late last month in Beijing. Experts agreed that more than half of the nitrogen-based fertilizer used in China flies off with the wind or runs off when fields are watered.

The health of millions of people in 13 provinces and regions in the country has been threatened by fertilizer pollution, which mainly contaminates water sources.

A recent survey shows Chinese farmers still lack basic knowledge of how to use fertilizers effectively.

A survey released by the China Consumers' Association last week found that more than one third of surveyed farmers misuse chemical fertilizers, while even more lack basic knowledge about the product they are using.

Agronomists say different plants and crops need different fertilizing measures including deep ploughing after fertilizing and dissolving before applying.

And more than 45.9 per cent of respondents said they do not know about balanced fertilizing measures.

Balanced fertilizing, consisting of slow release of nitrogen, potassium and phosphorus, has been promoted by experts in rural areas in recent decades.

In Tongxiang of East China's Zhejiang Province, an eco-construction programme has been introduced to maximize use of resources and minimize pollution.



Pollution control calls for advanced techniques

(China Daily October 30, 2004)

By 2010, Shanghai will produce 20,000 tons of garbage every day.

That number is likely to grow by 7 per cent annually.

The recently released statistics point to an underlying environmental problem in China: Its garbage output.

Officials gathered yesterday for an annual environmental forum, a forum underscored by the reality that the world's most populous nation produces one quarter of the world's garbage. Most of the country's solid waste is buried, taking up land and harming the environment, said a report published by Outlook Weekly.

In comparison, developed countries incinerate garbage and use it to generate electricity.

China's top environment official vowed yesterday in Beijing that the country will strengthen international co-operation in environmental protection. The goal is to shore up the country's environmental techniques.

In international co-operation, the way of sustainable development chosen by each country, according to its own status, should be respected, said Minister of the State Environmental Protection Administration Xie Zhenhua.

Co-ordinated actions are needed to solve global and regional environmental issues, while at the same time diversified development in all nations should also be accepted, he said during the Fifth Green China Forum.

He said the world should stick to the principle of "developed and developing countries taking common but differentiated responsibilities" in addressing environment problems while developed countries should shoulder more responsibility in protecting the global environment.

Xia Guang, director of the administration's Policy Research Centre, said China should develop more international projects to inject foreign experience and funds into environmental protection.

Also at yesterday's forum, Pan Yua, vice-minister of the administration, said despite the country's economic achievements, it still faces serious pollution.

Some regions and people have become rich at the cost of the environment. "Environmental inequity aggravates social inequity," he said.

He called for a new national performance evaluation system, and the first step should be the establishment of a green GDP calculating system.

The green GDP calculating system deducts environmental costs and its results reflect the real level of the country's development, he said.

Other suggestions include readjusting the State land planning and implementing an ecological compensation system.

Energy conservation in focus

(China Daily November 11, 2004)

A dozen Chinese city mayors and their representatives came together to explore ways of tackling the traffic congestion and excessive energy consumption suffocating city development.

At yesterday's International Mayors Forum on Sustainable Urban Energy Development, the city fathers gleaned valuable experience from overseas experts and city governors about managing transportation systems.

Xu Kuangdi, head of the Chinese Academy of Engineering, yesterday urged city mayors to improve energy efficiency in buildings.

They consume 30 per cent of the total energy in China, a percentage in keeping with its increased urban acceleration.

But less than 5 per cent of new buildings in the country have adopted energy-saving designs and materials, said Xu.



The average energy consumption of buildings in China is up to three times that of those in developed countries. Should the current situation continue, China will not be able to meet energy demands, he said.

"The buildings, compared to the industrial and transportation sectors, have greater potential to save energy at lower costs," said Xu.

Even by replacing existing lights with energy-saving bulbs, China can save the equivalent amount of electricity generated annually by the Three Gorges Dam Project, the world's largest hydropower project.

Effective measures include adopting energy-conservation designs in new buildings, developing new materials to improve energy efficiency, imposing energy-conservation standards on home appliances, and promoting consumption of renewable energy, such as solar and wind power, said Xu.

Transportation is another topic high on the agenda of the two-day seminar. Mayoral representatives from Beijing, Shanghai, Kunming and Chengdu highlighted the Bus Rapid Transit system as an effective way to improve public transport, ease traffic jams and save energy.

The system, which combines the features of both rail and conventional buses, can move more people, with subway efficiency, at lower costs.

Environmental protection in need of serious reform

(China Daily November 18, 2004)

After a 15-day research tour along the Yangtze River, Professor Zhang Qi with the China Institute of Development warned the Yangtze will see a collapse of its ecological system in 10 years if timely measures are not taken to curb pollution.

After seeing factories pumping sewage directly into the river and officials who are expected to control the pollutants turn blind eyes to it, members of the research team could not hold back their surprise and bitterness.

Sponsors of the tour headed by the Chinese People's Political Consultative Conference called for special legislation to safeguard the river.

Among the numerous news about river and air pollution as well as the desertification of rich soil, this specific news stands to gain wide attention and cause huge concern.

The country's big rivers are among the first victims in the blind pursuit of economic prosperity.

The Huaihe River has been so seriously polluted that a 10-year programme to clean it has failed to meet its ambitious goal.

The Yellow River, the cradle of Chinese civilization, suffers from shrinkage of water supply due to exploitative diversions.

Now, it is the Yangtze River's turn. This river means much more than simply a means of transportation and a source of water. It has become a cultural icon after nurturing the nation for thousands of years.

If it is really going to "collapse" because of pollution as the expert predicted, the polluters would be killing a river in the geographic sense as well as the culture derived from it.

The central government has earmarked a huge amount of money to protect the environment. Various laws and rules on environmental protection have been worked out.

Yet there has not been a single river, pasture or forest that has been saved from pollution nor been restored to its original shape. We continue to hear bad news day after day.

The call for reforming the environmental protection system is more urgent than ever. Authorities are also changing strategies, like increasing fines for polluters and offering subsidies to localities who succeed in environmental protection.

But such laws, rules and innovations must be put into action as soon as possible instead of remaining on paper. If not, we may lose the battle.

First greenhouse emissions deal inked

(China Daily December 3, 2004)

China has signed its first agreement to sell greenhouse emission reductions to developed countries under a quota-trading mechanism of the Kyoto Protocol.

The World Bank and the Jincheng Anthracite Coal Group Co Ltd, in North China's Shanxi Province signed the agreement on Wednesday, said the bank's representative office in Beijing Thursday.

The bank signed it on the behalf of the Prototype Carbon Fund (PCF), a group made up of six governments and 17 private companies.

No details were released on how much money was involved in the deal.

In a first for the World Bank, it will act as trustee for the fund.

Under the agreement, the Jincheng company will capture coal mine methane and utilize it for power generation, instead of releasing the gas into the air. Money for adapting the facilities will be provided by PCF.

Methane affects global warming 23 times more than carbon dioxide.

The reduced amount of emissions in the Jincheng coal mine will be counted towards emission reductions from PCF members.

The arrangement is typical under the Clean Development Mechanism (CDM) of the Kyoto Protocol. It allows countries of the Organization of Economic Co-operation and Development (OECD) to fulfill some of their greenhouse gas emission-reduction commitments through supporting projects in the developing world.

For developing countries, they can try to use the Clean Development Mechanism to establish or improve projects for which they otherwise have funding.

Methane, which is released from coal seams during the mining process, causes explosions if it is allowed to build up.

Some Chinese mine operators currently use the cheapest methods to vent gas -- they release it into the atmosphere.

Under the new project, the Jincheng Coal Group will capture methane released by upgrading the mine with several new technologies to improve safety and efficiency. It will recover methane and process it into energy at a nearby power plant.

The project will create 60 new jobs for re-trained miners and additional staff at the power plant.

The project will serve as a model case for further promotion of CDM activities in China, said Sun Cuihua with the climate change office under the National Development and Reform Commission.

Jean-Claude Steffens, who chairs the PCF group, agreed. "I am certain that many other projects, within the PCF and outside, will follow this breakthrough," he said.

The Kyoto Protocol is the 1997 international agreement to limit climate altering greenhouse gas emissions.

To become effective, it needed the support of countries accounting for 55 per cent of emissions worldwide. Russia ratified last month, helping it cross line and ensuring it takes effect in February 2005.



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Appendix: background

This newsletter is motivated by the growing cooperation between Switzerland and China in the areas of Environment, Science and Technology.

At the end of 2003, both countries have signed a Memorandum of Understanding to strengthen scientific and technological cooperation in varied areas including medicine, biotechnology, nanomaterial, fuel cell, microsystems, environment protection, communication and information technologies, fine machinery. Implementation of this MOU requires increased contacts between Swiss and Chinese research teams, and ultimately joint research activities.

At the beginning of 2004, Switzerland has become a full participant in the European Union's FP6 large-scale research platform. On the other hand, China has an agreement with FP6 allowing its researchers to take part and contribute to research programmes. In practice, this also facilitates joint research between Swiss and Chinese researchers.

In the area of environment protection and sustainable development, Switzerland and China are actively cooperating with generous support of the Swiss government. In June, Switzerland has granted China a new mixed credit line allowing import of Swiss technology with a positive impact on the environment with a grant of the Swiss government.