



The Auto Project on Energy and Climate Change  
汽车能源与气候变化—中国项目

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## General Energy Issues

### Beauty in biomass

October 10 (China Daily) -- Thornton Group Asia took its first Chinese business steps in infrastructure. Now the strategic investment and advisory company has taken strides in the field of renewable energy.

Cooperating with the United States-based Caletta Renewable Energy, Thornton is prepared to partner with local Chinese governments to develop renewable biomass energy power plants.

That could be good news for Chinese businessmen who want funds to build biomass incineration power plants - they can provide local documents that an incineration power plants needs, while Thornton and Caletta help will help acquire funding and provide their management experience.

Thornton Group, established 20 years ago in the US, arrived in Asia in 2000. It was successful in building roads in Qinghai Province in Northwest China last year.

To establish renewable power at competitive prices processing biomass, renewable energy credits and tipping fees weigh heavily, and vary from city to city. A waste incineration power plant receives \$11 a ton for garbage from the Hangzhou municipal government, while in Shanghai it receives around \$30 per ton. Michale Lin, CEO of Thornton, says it is where the plant is located that counts.

"Long-term feed contracts and land agreements are the paramount factors that an applicant should consider," Lin says. "We also need that they have a power purchase agreement from the government. In America, 20-year feed contracts and power purchase agreements are usually needed, but in China, we can negotiate the years of contracts."

"We have cooperated with Caletta for many years in America. Caletta usually makes the preparations, choosing land and equipment, and then we render assistance in building government relationships and seeking financing. We assist Chinese partners in financing, while

Caletta can offer technology and management experience," he says.

"We need local partners to work together to build government relationships to get land permits, feed contracts and power purchase agreements."

Over 200 forms of biomass have been processed and more than 90 installations has been built worldwide by Caletta, according to a speech James J. Bulger, the Chairman of Thornton at a energy saving forum.

Currently they have four projects in the US that use materials ranging from tires, wood and refuse to generate electricity.

Caletta acquires financing from mainly from three sources, Bank of America, Lehman Brothers and The Hartford.

According to Caletta, renewable biomass energy power plants, which convert such material as municipal solid waste, wood and other organic resources into electricity, is the most widely used renewable energy source and the fourth-largest global energy source after the fossil fuels coal, oil and natural gas.

Such plants are credited with the reducing material in landfills and lowering greenhouse gas emissions, resulting in saving landfill space and slowing global warming and climate change. Caletta says those are the main reasons it focuses in particular on the development of biomass-generated power for electricity and heat.

Thornton covers wider fields. It is involved in industries that include infrastructure, transportation, energy and real estate in the US. Lin says they have a proprietary network of affiliates that includes senior US government officials, Fortune 500 CEO's, contacts in global banking, private equity and Chinese government organizations.

"Caletta only does business in the biomass in renewable energy field, but we do more. With our network, we can assist in financing and advising in other renewable energies, such as wind and solar." he adds.

## **PetroChina to invest US\$1.3b in new energy by 2010**

October 2 (China Daily) -- PetroChina, the country's largest oil and gas producer, will invest 10 billion yuan (US\$1.3 billion) in building facilities for new energy production by 2010, a senior company official said.

Hu Wenrui, vice president of PetroChina, told a recent forum that the investment is expected to reap three million tons of oil equivalent in new energy resources production capacity.

"This will help guarantee the energy safety of the fastest growing economy and the world's largest energy consumer only second to the United States," he said.

The oil giant's business on new energy sources covers non-conventional energy including coal-bed methane, oil shale, oil sands and renewable energy such as wind and solar power, bio- and geothermal energy.

PetroChina's output of coal-bed oil, fuel ethanol and biodiesel and that of shale oil and sand oil are expected to account for 40 and 20 percent respectively of the nation's total by 2010, Hu said.

He added the company will also take advantage of its resources, technology and funds to closely follow the latest developments in hydrogen energy and natural gas hydrate.

## **Biofuel expert allays food-shortage worries**

October 12 (China Daily) -- A biofuel expert yesterday rejected an international report claiming that China's plan to produce more biofuels could lead to food and water shortages in the country.

"The report misunderstands China's policy and situation in the area of biofuel production from corn," Li Shizhong, deputy director of the Institute of New Energy Technological Research at Tsinghua University, said. "China has long emphasized the use of non-staple food in making biofuel."

Only about 2 percent of the country's corn output, or about 3 to 4 million tons a year, is used to make ethanol. Much of the rest is used for animal feed.

In their effort to develop biofuel without harming the general food supply, the authorities have said they would shift from corn to sorghum, cassava and sweet potato for fuel production in the next five years.

Cassava and sweet potato are both high-yield plants, and, though edible, they are not used as a staple food. Their use as a raw material would not create any artificial shortages of food products.

The recently released Agricultural Biofuel Industry Plan rules out the expansion of grain-based ethanol production, specifically the corn- and potato-based versions.

Li's comments came in response to a report released yesterday by the International Water Management Institute (IWMI), which is based in Sri Lanka.

The report said plans by China and India to increase production of biofuel from irrigated maize and sugarcane would aggravate water shortages and undermine food output.

The report said China's goal of reaching 15 million tons biofuels by 2020, or 9 percent of the nation's gasoline demand, would mean increasing maize output by 26 percent.

"Biofuel production has serious implications for water, especially if corn and sugarcane are used," Charlotte de Fraiture, an IWMI expert, said during a telephone interview.

In response to Li's comments, Fraiture praised China's decision to shift the focus of its biofuel production policies to non-staple foods.

"I think China's efforts to ensure food security by shifting to non-staple foods and policy to cap further corn ethanol plants are very good," she said.

She said the two countries could focus on crops that need less water, such as sweet sorghum for ethanol and jatropha bush and pongamia trees for biodiesel. "There are many factors playing a role in designing a biofuel policy, of which, water is one aspect."

## Diesel supplies hit hard

October 25 (China Daily) -- Soaring global oil prices have hit supplies of oil products, especially diesel, in some parts of China.

"Wholesale prices of major oil products, especially diesel, and low-end gasoline products have risen to some extent. But the real headache is that even with rising prices, there is still not enough supply," said Yao Daming, an official with the Guangdong Oil and Gas Association.

Statistics from oilboss.cn, an oil retail information portal, show wholesale prices of oil products have risen by less than 100 yuan per ton for low-end gasoline and above 100 yuan for diesel. This price surge and tight supply has hit several areas, oilboss.cn data show.

"In Guangdong, with low inventory and expectations that the authorities may raise retail prices, the supply is really tight," Yao said, predicting the shortage will continue till the end of this year and early next year as demand for diesel picks up further and supply drops.

Retail prices of major oil products are tightly controlled by top economic planner the National Development and Reform Commission (NDRC) as they are seen as major components of inflation.

Niu Li, an economist with the State Information Center, affiliated to the NDRC, contended that given the current consumer price index (CPI), there is a possibility the authorities will raise local oil prices in line with the global crude levels.

The CPI eased slightly to 6.2 percent in September after surging to an 11-year monthly high of 6.5 percent in August.

New York's main futures contracts, light sweet crude for delivery in November, hit a record US\$90.07 a barrel last Friday.

## New law to promote energy conservation

October 24 (Xinhua) -- Under heavy pressure to harness rampant energy consumption, China's top legislature on Wednesday began deliberating a draft amendment to the law that

suggests work carried out by local government officials in energy conservation should be integrated into the assessment of their political performance.

The draft amendment to the Law on Conserving Energy, tabled to lawmakers for the second reading on Wednesday, bears several revisions and changes in wording from the first reading in June this year.

"The way in which energy saving goals are accomplished will be made a part of the performance rating of local governments and their leaders," says the draft amendment.

Local energy saving standards in the construction industry must be stricter than those set by the central government and industrial associations as energy saving on buildings is closely related to the local geographic situation, according to the draft.

Relevant local standards "must be sent to the relevant cabinet departments for the records," the draft added.

"Revising the current energy saving law is necessary and the draft amendment is basically practicable," said the legal committee under the National People's Congress in a written explanation.

Under a five-year plan to 2010, China pledged to cut energy consumption per unit of gross domestic product (GDP) by 20 percent, or four percent each year. But, the consumption actually fell by just 1.23 percent last year.

The draft, which almost doubles the articles of the original, details measures to avoid energy waste, improve energy efficiency and cut pollution emissions.

It says Chinese cities will gradually replace antiquated central heating with modern household heating systems that can be individually regulated.

Official statistics show that construction accounted for 27.5 percent of China's total energy consumption in 2005, transportation 16.3 percent and government buildings 6.7 percent.

China has built 1.06 billion square meters of energy efficient buildings, but the figure represents only seven percent of the total floor

space of existing buildings in urban China, statistics from the Ministry of Construction show.

Other energy-saving measures include strict control of the indoor temperature of public buildings and restrictions on decorative lighting for large buildings.

The State Council, the cabinet, in early June issued a circular, ordering the temperature of all air-conditioned public rooms in government buildings to be kept at no lower than 26 degrees Celsius.

The draft also says that the Chinese government encourages the development, production, selling and use of environmentally-friendly vehicles and new types of automobiles propelled by new clean fuel, in an effort to save energy and cut emissions.

The draft amendment is likely to be put to the vote at the five-day session.

## **Sustainable energy**

October 24 (China Daily) -- To quadruple its per capita value of the 2000 GDP by 2020, China must develop a sustainable energy system as soon as possible.

The report by the Chinese Academy of Sciences (CAS) that has set out a strategic plan for the development of China's energy industry until 2050 is not only farsighted but also urgently needed.

The new report argued that, to ensure the stable transition from the current fossil fuel-based energy system to a sustainable energy system, there should be no more than 50 percent increase in the total consumption of fossil fuels by 2050 as compared to that in 2005.

For a developing country like China that is undergoing fast industrialization and urbanization, the shift toward a sustainable energy future will be very difficult.

As the world's fourth largest economy, China has risen to be the single largest contributor to world growth now. But as a developing economy, the country's energy efficiency remains much

lower than that of developed countries. As a result, the country's robust economic growth is often associated with an ever growing energy need and increasingly serious environmental consequences.

The Chinese authorities are keen to address the country's energy needs in a sustainable manner. The government's vow to cut energy consumption per unit of GDP by 20 percent between 2006 and 2010 is just a part of the country's sustainable energy efforts.

Yet, the fact that China relies on coal for about 70 percent of its energy consumption indicates that the country still has quite a long way to go before it can develop a sustainable energy system.

The CAS report has come up with some important suggestions that are essential to China's energy sustainability.

For instance, it urged that the energy pricing system with due consideration of environmental cost and resource scarcity should be established, and measures such as favorable taxation and governmental subsidies be taken to encourage the development of clean energy sources.

Obviously, only with effective demand- and supply-side solutions can China accelerate its transit to a sustainable energy future.

Policymakers should make greater efforts to bring into place such measures to ensure its energy system can generally meet the domestic demands of economic development in coming decades

## **Garbage incinerator to power more Guangzhou homes**

October 23 (China Daily) -- Construction is expected to start by the end of the year on a massive below-ground garbage incinerator plant that will also generate electricity for Guangzhou, the capital of South China's Guangdong Province.

At a cost of 970 million yuan (US\$125 million), the Likeng Garbage Incineration Power Plant will be able to incinerate more than 2,000 tons of

domestic waste per day, almost one fifth of the city's total.

It will be also capable of generating 200 million kWh of electricity a year. The plant will be put into production by June 2009.

The project will adopt Danish clean garbage power transforming technology to reduce waste gas emissions.

Researchers have found that garbage shrinks 90 percent in volume and 80 percent in weight after being incinerated. Once incinerated, 2 tons of garbage can produce the same amount of energy as 1 ton of coal.

In addition, the residue can be used as environmentally friendly construction material. Garbage power, therefore, like solar and wind power, is an environmentally friendly means of power generation, experts said.

The location of the plant is in Baiyun District of Guangzhou, 23 km away from the main downtown area.

The first phase project commenced operations in October 2005, and has incinerated 1,040 tons of domestic waste a day and generated 130 million kWh of electricity a year, enough for 100,000 families.

The city government funded the first phase, and private enterprise is footing the bill for the second phase.

According to the city's environment and sanitation bureau, Guangzhou produces 11,000 tons of domestic waste per day. That figure is expected to increase to 13,000 by 2010. Most of the garbage is buried in three landfills on the outskirts of Guangzhou, a potential environmental stain on the city.

It is expected all three landfills will be full by 2010, highlighting the vital importance of this new incinerator facility.

There are more than 50 garbage-burning electricity plants across the nation, about 60 percent of which are in the Yangtze River Delta.

## Automobile and Transportation

### Green concerns keep many away from cars

October 26 (China Daily) -- Faced with consistent fuel price rises and the much-anticipated fuel tax, many Chinese have refrained from buying private vehicles.

According to a recent survey conducted by [www.chinadaily.com.cn](http://www.chinadaily.com.cn), 732, or 50.69 percent, of the 1,444 respondents said they will not purchase a car now, 231 gave no comment, while 481, or 33.31 percent, indicated they want to buy a private car.

Fuel prices have risen persistently both internationally and domestically, and the government is looking for an appropriate time to impose a tax on gasoline, diesel and kerosene to encourage energy conservation and reduce emissions.

Respondents, who chose not to buy cars, listed various reasons for their decision, which involved environmental protection, energy consumption, traffic jams, parking problems, improvements in public transportation, as well as low income.

"Not money, but environment," one respondent said, a view shared by many others.

China has about 50 million vehicles on its roads. Fuel consumption of vehicles accounts for a third of the total, and is estimated to rise to 57 percent by 2020. Vehicle emissions have replaced coal to become the main source of air pollution in some big cities.

A respondent called on people to use buses, the metro, bicycles or even walk. "I like walking, it would be better not only for the environment but for health too."

Key cities such as Beijing, Shanghai and Guangzhou have taken active measures to develop public transport. Metro fares in Beijing were cut by more than 30 percent this month while bus fares were slashed by more than 60 percent in January. A one-way metro ticket now costs only 2 yuan, about the price of a can of Coke, irrespective of the length of the journey.

Many respondents believe some buy cars just to show off. "I hate the idea of a car as a status symbol," said one participant. "Fuel prices, traffic jams and parking problems have to be taken into consideration when one plans to buy a car. In most cases, these disadvantages outweigh the advantages of owning a car."

But vehicle sales have risen fast in China. In the first eight months of this year, sales rose by a quarter, boosted by the rapid growth of the economy as well as new offerings and price incentives. It's estimated that full-year sales will exceed 9 million units, up from 7.22 million last year.

As the world's second largest consumer and the third biggest producer of cars, China is now reportedly the No 1 potential market.

Respondents who insisted on owning cars said they want cars for convenience and for practical reasons.

A respondent pointed out that his/her priority is convenience. "So it makes no difference if the oil price goes up a little."

Some participants' new houses are far from downtown Beijing, where they work, as houses are more affordable in these areas. So they want private vehicles for the daily commute. "Apartments in the city center are too expensive, which forced me to pick a suburban area," complained a respondent.

"It's more convenient to have your own car for short trips out of the city with family," said another.

Along with increases in disposable income and improvement in living standards, travel has become one of the major relaxation activities for Chinese, with the trend of self-driven tours to neighboring rural areas over weekends and holidays growing.

But some respondents confided they wanted their own car to fulfill their "dream".

"I have been dreaming of a car for many years. If I can afford it, why not?" said one.

## GM to open lab for green cars

October 30 (China Daily) -- US carmaker General Motors said yesterday it will open a research lab in Shanghai and work with its Chinese partner SAIC Motor Corp to develop cars powered by alternative fuels for the world's No 2 vehicle market.

The GM Center for Advanced Science & Research, to be part of a new \$250million GM campus in Shanghai, will look into developing alternative-fuel cars, including plug-in hybrids, bio-fuel and fuel-cell vehicles, Rick Wagoner, the group's chief executive officer, said at a press conference in Beijing.

The first phase of construction will be completed late next year, according to Wagoner. The center is expected to employ 1,500 engineers and scientists when fully staffed.

This plan will "accelerate research in the areas of energy-efficient and environmentally friendly automotive technologies, as well as alternative fuel pathways that are socially responsible, economically viable, environmentally sustainable, and technologically feasible", he said.

"We see China as being among the first markets and production sites for alternative propulsion systems - including the new flexible fuel, plug-in type of electric vehicles currently under development by GM."

SAIC President Chen Hong said the firm's production of electric-fuel hybrid vehicles under its own and GM brands and will reach 10,000 units by 2010.

The plan comes as fuel prices in China are expected to increase sharply following hikes in world crude prices and a widely anticipated fuel tax next year.

Many Chinese brands, including Chery, Geely and Chang'an, are also developing alternative-fuel vehicles.

Separately, GM and SAIC will jointly offer a \$5 million grant in the next five years to research clean energy with Tsinghua University, China's premier research institution based in Beijing, Wagoner said.

GM, one of the top two market leaders along with Germany's Volkswagen, said its China sales grew by 17.2 percent to 753,686 units in the first three quarters of this year.

Meanwhile, sales of all China-made vehicles surged by almost a quarter to 6.46 million units, according to industry data.

Wagoner said China will overtake the United States as the world's biggest vehicle market in the next decade.

### **Carmakers urged to adopt new fuels**

October 27 (China Daily) -- The auto industry must switch its attention from oil to alternative fuels if it is to help combat the global energy crisis and slow environmental deterioration, Chinese experts have said.

The development of energy-saving technologies has to be the priority for China's auto industry, which is expected to become the world's largest in 10 to 15 years, Zhen Zijian, deputy director of the New Energy Vehicle Key Project of the National Hi-Tech R&D Program, said.

"China's auto industry has attached great importance to the development of 'clean' vehicles using our own core technologies to give us a competitive edge," Zhen said.

The government has earmarked 1.1 billion yuan (\$147 million) for its clean vehicle project during the 11th Five-Year Plan (2006-10), up 220 million yuan on the previous five-year period.

The State Development and Planning Commission has also launched the New Energy Vehicle Production Access Regulation, effective from Thursday, to ensure the healthy development of the clean vehicle industry.

"We need to promote the development of clean vehicles with support from the government, private enterprises and research institutes," Zhen said.

Participants at the Clean Vehicle Innovation Forum, held on Friday in Beijing and sponsored by the Ministry of Science and Technology, agreed.

Professor Ouyang Minggao of the automotive engineering department of Tsinghua University, said: "New energy is the driving force for the sustainable growth of the auto industry and we need to form an innovation union of private companies, research bodies and universities."

China's clean auto research is currently being driven along three paths - hybrid, clean fuel and electric vehicles, Ouyang said.

The Zhejiang-based Geely Automobile, for example, which produces small cars, last year spent 30 million yuan on the development of a hybrid vehicle that combines a standard internal combustion engine with electric power.

Chery Automobile, one of the country's largest carmakers, began clean vehicle research in 2003.

Its hybrid vehicle, which the company claims uses up to 30 percent less gasoline than a standard car, will be launched early next year.

### **Hydrogen power**

October 15 (China Daily) -- In the competition to design cars that use clean energy, it is currently not domestic automakers that have developed the top innovative design, but an institute of higher learning that is leading the way - Tongji University.

Super 3, a hydrogen fuel cell sedan developed by Tongji, has proven that China's clean vehicle technology can compete globally with the best.

During last year's Challenge Bibendum organized by Michelin Group, the Super 3 fitted with a VW Santana 3000 car body won top marks in seven technical tests for fuel efficiency, exhaust and carbon dioxide emissions, and noise reduction in what is considered the largest and most credible event in the world promoting development of clean energy, road safety and fuel economy.

"We can say that China is advancing alongside the world's auto giants in the fuel cell vehicle industry. There's absolutely no difference," Wan Gang, former president of Tongji University and the current minister of science and technology, said during the event in Paris.

In fuel efficiency tests, the Super 3 took the lead, helping it rank third among all new energy vehicles including those made by auto conglomerates Volkswagen and Mercedes-Benz. The Super 3 consumes 1 liter of hydrogen per 100 km, equivalent to 3.13 liters of petroleum per 100 km.

It also took first place in noise reduction tests, putting its overall score on an equal footing with Mercedes-Benz, and surpassing General Motors, Ford and Nissan.

Today "the fuel cell vehicle is considered the inevitable trend in auto development for its use of hydrogen as fuel, high efficiency and zero emissions", says Yu Zhuoping, director of the Automotive Engineering College at Tongji University.

Nearly all automakers are engaged in the development of fuel cell and other clean energy technologies to decrease dependence on oil, reduce the pollution and ensure a sustainable development of both the automobile industry and society as a whole.

The Automotive Engineering College of Tongji University has undertaken research and development on fuel cell vehicles since 2000. Led by Wan, Tongji has led a series of national and Shanghai projects on new energy vehicles.

The university succeeded in developing the powertrain for fuel cell cars with home-made intellectual property.

Advancing the concepts of previous projects, Tongji recently developed a new generation powertrain and shared the design for the fuel cell cars Lingyu from Shanghai Volkswagen and the Shanghai model of SAIC Motors.

In addition to applying the powertrain system with dual power sources to autos, Tongji is co-developing a fuel cell city bus with SAIC.

"Next year, there will be 20 fuel cell equipped cars with the Passat car body serving the Beijing Olympic Games. And for 2010 Shanghai World Expo, we will cooperate with SAIC group to provide around 100 fuel cell VIP sedans, buses and sightseeing vehicles," says Yu.

He says that efforts are still underway to cut the cost of fuel cell technology, "a difficult bottleneck for all automakers worldwide".

"If the Super 3 can be put into commercial production, we want to lower the overall cost of a fuel cell vehicle to 350,000 yuan," Yu says, projecting that the date for that would be 2012.

He adds commercially produced fuel cell technology will make SAIC Motor's independent Roewe brand a top choice among drivers.

Late last year, Shanghai's first hydrogen station opened in Shanghai International Automobile City, which can supply three buses and 20 sedans a day with hydrogen extracted from the exhaust from industrial enterprises in the city.

### **Traffic policy needs to encourage car pools**

October 13 (China Daily) -- A fine of 20,000 yuan (US\$2,660) imposed on a man who gave a lift to hitchhikers touched off a debate on the phenomenon of car pools in urban areas.

The man in Hangzhou, capital city of East China's Zhejiang Province, gave a lift to several hitchhikers and asked them for 6 yuan for the oil his car would consume on the way to their destination. But he was stopped by police and fined 20,000 yuan for engaging in illegal passenger transport.

The Chinese equivalent of a car pool is a pinche, which is becoming more popular among urban car owners because it's the easiest way to save on the expenses of keeping a car as gas prices rise.

Surfing the Internet, websites can be easily found providing information for car pool opportunities and partners. If four people have the same route to work, expenses can be saved by sharing driving duties. Not only do car pools save costs, they also help the environment and help alleviate traffic congestion. The more people who car pool, the less carbon dioxide is emitted and less pressure is put on traffic congestion.

There are separate car pool lanes on many expressways in the United States, encouraging cars to carry as many people as the vehicle's capacity allows. The traffic laws there encourage car pooling, which is considered a way to save energy and reduce emissions.

China has no such policy and neither do we have separate car pool lanes on highways or expressways. But the number of people choosing to enter car pools is on the rise. This is a sign that consumers are being forced to be more pragmatic in the use of motor vehicles as the skyrocketing price of gasoline takes a toll on their wallets.

However, the policy is lagging behind. Traffic police in some locations even consider car pooling illegal and have published rules to prohibit it, reasoning that it infringes upon the taxi business. And those who share expenses for using a single car are penalized for engaging in an illegal passenger transport business.

There are indeed some drivers who make a living engaging in the business of unlicensed passenger transport. Traffic police call them *hei che* (black vehicles); *hei* literally refers to their unlicensed status. A crackdown on such vehicles is undoubtedly necessary because they do not pay business taxes and are trying to take away part of an already meager market share from taxi drivers.

But car pooling is totally different in nature from these illegal practices. The latter operates for profit and does infringe upon the taxi market, while the former is simply trying to spend less. For the latter, their cars are money-making machines while the cars for the former are just for transport.

It would be a shame if traffic police failed to tell the difference. The fact that they could hardly tell whether the driver is operating an illegal passenger transport business or not right on the spot might be the best excuse for police to impose a fine on innocent drivers.

But further inquiries could easily reveal whether the driver is operating illegally: those who are engaged in such businesses do not usually have fixed jobs since they have to drive their cars around and wait for customers. It is almost impossible for those with a fixed job to get involved in these unlicensed businesses - nobody would be silly enough to sacrifice their job for this risky venture with an unfix income.

The other argument police have to charge those who share the use of their cars is the fact that car owners charge those who ride in their vehicles. This is ridiculous - one of the motivations for car pooling is to reduce the cost

of keeping private cars. If sharing the costs of private cars by car pooling is deemed illegal, it would equate to an outright ban on car pools.

The only other explanation is that the police are imposing fines to make a profit.

As more and more car owners organize their own car pool teams or organizations, whether or not environmental concerns are taken into consideration in the making of public policy has become an issue.

A recent survey found that more than 90 percent of Beijingers support car pools. The belief that it is a practice good for car owners that helps relieve traffic jams. It is estimated that if just 1 percent of car owners give up driving their cars for public transport nationwide, 80 million gallons of gasoline will be saved.

From this point view, car pools should be encouraged rather than discouraged or banned. Specific measures such as having separate car pool lanes on highways need to be taken to encourage car pooling.

The large scale widening of urban roads to encourage motor vehicles while narrowing bicycle and pedestrian lanes in the past two decades has proven to be a big mistake as the guiding principle behind it does not conform to the people-oriented principle advocated by the central government.

The wider urban roads are, the more private cars drive them. Rather than alleviating traffic congestion, widened roads have actually aggravated traffic congestion while the increase of private cars has affected the smooth flow of public buses.

We need to avoid making the same mistake on the car pool question. Let the frugal and environmentally friendly practices play their role in reducing the number of private cars on the road while reducing carbon dioxide emissions.

### **Price wars break out in domestic car market**

October 10 (China Daily) -- A new bout of price battles in China's car market, the second-biggest in the world, has broken out following South

Korean carmaker Hyundai Motor Co's aggressive price cuts on its locally-made models last month.

Hyundai's joint venture with Beijing Automotive Industry Corp slashed prices of the subcompact Accent, the compact Elantra and mid-sized Sonata by 5,000 to 16,000 yuan to buck a downward trend in its sales this year.

Under attack from competition, January-to-August sales at the venture, which also makes the Tucson sports utility vehicle (SUV), plunged 20 percent from a year ago to 146,001 units, ranking eighth in the passenger car sector in China, according to industry data.

Hyundai's move has ignited a new round of price wars, which will be "awfully acute" this month, the seasonal peak car sales period in China, analysts said.

Hua Xue, chief executive officer of cheshi.com.cn, a Beijing-based portal tracking nationwide car prices, said: "Other carmakers will have to follow suit to lure increasingly sophisticated Chinese buyers."

As a result, domestic car prices will tumble by as much as 6.5 percent in December from January, a quicker pace than 5.6 percent last year, he said.

Prices in August dropped by 3.6 percent from January due to earlier price contests, he said.

According to market intelligence, Shanghai GM, a tie-up between General Motors Corp and SAIC Motor Co, will possibly launch a major price cut for the compact Buick Excelle - its best seller - to fight against the Hyundai venture.

Analysts said Shanghai GM, the third-biggest passenger car producer in China, will have to cut prices to achieve its lofty 2007 sales target as its growth this year has slowed sharply.

Sales in the first eight months hit 294,600 units, up 13.7 percent. The growth rate was 23 percent last year.

Shanghai GM said in the first half that it aimed to sell 480,000 vehicles this year, up from 400,000 units in 2006.

The Hyundai venture last month lowered its 2007 sales target from 310,000 units to 250,000 units.

A phalanx of other carmakers - such as PSA Peugeot Citroen's tie-up with Dongfeng Motor Corp, and Honda Motor Co's venture with Guangzhou Automobile Corp - are also suffering slower growth and difficulty attaining sales targets this year.

Although these carmakers have not announced official price cuts, their dealerships have already offered hefty incentives on plenty of models, such as the Buick LaCrosse, Honda Accord and Citroen C-Triomphe.

Yale Zhang, director of Greater China Vehicle Forecasts for US industry consultancy CSM Worldwide (Shanghai) Ltd, said price cuts are a "very swift way" to boost car sales in China where most car customers remain first-time buyers without strong brand loyalty.

"They will choose your products if you provide cheaper cars than your rivals. They have already got used to price cuts," Zhang said, adding that compact and mid-sized cars are the two most competitive segments this year.

There are plenty of all-new and facelift models on the block during the remainder of this year, which, he said, will force old comparable models to reduce prices to defend their market share.

For example, Ford Motor Co's joint venture with Chang'an Motor Corp last month unveiled a 2.3-liter new Mondeo sedan that will go on sale before the end of this year, retailing between 210,000 and 250,000 yuan.

Zhang estimates that passenger car sales in China, including sedans, SUVs and multi-purpose vehicles, will reach 5.2 million units, up from 4.1 million units in 2006. From January to August, sales surged by 27.2 percent to 3.37 million units, according to industry data.

However, Zhang Xin of Guotai & Jun'an Securities Co, said severe price contests will put cost-cutting pressures on carmakers that are also confronted with rising costs of materials, such as steel.

## Core competency powers leading truck maker ahead

October 23 (China Daily) -- China National Heavy-Duty Truck Group Co Ltd (CNHTC) has achieved dramatic growth in recent years.

Statistics show that the company's output of heavy-duty trucks reached over 60,000 units in 2006, 15.5 times that of 2001.

The firm demonstrated strong performance in the first half of this year, notching up sales of more than 52,000 units. The figure is projected to exceed 100,000 units for the year as a whole.

As the cradle of China's heavy-duty truck industry, CNHTC had its proudest moment when the first China-made truck with an eight-ton payload rolled off its production line in 1960.

Evolving from Jinan Automobile Works based in East China's Shandong Province, the State-owned group company was among the elite of China's heavy-duty sector in the 1980s, with a total staff of more than 100,000 and hundreds of branches covering 14 provinces and cities across the country.

Yet, the gigantic industrial player seemed to become clumsy when faced with a volatile market and was unable to respond immediately to market demand, so that it was soon mired in financial difficulties.

This prompted the embattled company to initiate a three-year turnaround plan in 2001, when it was burdened with a heavy debt of 12.97 billion yuan (US\$1.73 billion).

The turnaround plan, focusing on innovation in corporate structure, management, technology and culture, spun off some facilities and laid off a part of the labor force, affecting about 50,000 workers.

Through a series of comprehensive reforms and restructuring, CNHTC managed to pull itself out of its difficulties, retrieving its leading position in market share in the nation's heavy-duty truck industry in 2005.

"Every member of CNHTC has cherished a desire to contribute to the rise of China's auto industry," said Ma Jichun, chairman of the board of directors.

## Technological edge

Looking back at the bumpy ride, executives of the company realized that weakness in research and development (R&D) capacity was one of the key factors that hindered the company's growth.

Technical staff were far less confident in technological innovation six years ago, preferring to depend on imported technologies instead. As a result, they hesitated to change even a single part of an imported auto model, recalled Zhu Ziquan, assistant to general manager of the company.

Thus, finding a way to sharpen its technological edge has long been a major concern of the company.

In recent years, CNHTC has invested more than 5 billion yuan in technological innovation, reaping a rich harvest as a result.

Its technical team has made the leap from mere absorption of imported technologies to independent innovation and creation.

CNHTC's product lineup has extended from 78 to 2,700 auto models, and the company has developed a portfolio of proprietary auto models such as Howo, Steyr King and Huanghe Prince.

The Howo series in particular, with more than 100 proprietary technologies, has attracted attention at home and abroad for its leading-edge technology.

It witnessed impressive sales of 10,000 units in its debut year of 2005, a feat that surprised industry insiders.

CNHTC has consolidated its position as the country's leading heavy-duty truck maker with the development of the premium Howo series and is taking the lead in promoting technological progress in the industry.

The firm has topped Chinese automakers in terms of patent number with more than 760 patents.

During a public appraisal last year, jointly organized by China Enterprise Reform & Development Society and the national committee for accreditation of independent innovation, two arms of the State-owned Assets

Supervision and Administration of the State Council, CNHTC was named one of the 10 best Chinese enterprises in terms of outstanding R&D capacity.

Backed by strong R&D, the company did not panic when two regular engine suppliers cut off supplies, but rather took the opportunity to extend its industrial chain to a new field: the heart of the automobile - its engine.

Within just eight months, CNHTC launched its own proprietary improved engine. "Thanks to our strong technological support and prompt response capability, we have been able to achieve a breakthrough in such a short period," said Wang Wenyu, vice-manager of the company.

In addition to an engine production base in Hangzhou, the company invested nearly 1 billion yuan in another engine production facility in Jinan, capital of Shandong Province, in 2006.

At present, the two production bases help CNHTC achieve an annual output of 200,000 auto engines.

### Brand building

"Brand strategy is a lesson we learned in the market," said Wei Zhihai, another vice-manager of the company.

To illustrate the point, he pointed out that CNHTC's heavy-duty truck sales were registered at 45,000 units in 2005, just 6,000 units less than the world's seventh automaker - MAN Group. Yet the difference in sales revenue between the companies was US\$3 billion.

"It's brand value that resulted in the huge difference," he said.

The market preference for branded products prompted CNHTC's decision to build its own brand - SinoTruk.

Over years of continuing efforts, SinoTruk, now worth 3.19 billion yuan, has been listed as one of China's 500 most valuable brands for three consecutive years, according to the latest release by the World Brand Lab, a China-based brand research institute.

Starting to venture into the international market in 2003, CNHTC exported more than 6,000 trucks to at least 50 countries and regions last year, an almost 150 percent jump over exports in 2003, gaining more than US\$200 million in foreign trade revenue.

This year, exports are projected to exceed 15,000 units worth US\$300 million.

CNHTC values its corporate responsibility. It set up a 10-million-yuan charity fund in May to help those in need and has sponsored a number of sports meets and energy-efficient projects in recent years.

## Oil and Gas

### Natural gas output set to soar by 2020

October 30 (China Daily) -- Natural gas output is set to almost triple by 2020 as the country's top producer steps up exploration and exploitation, a top expert told an energy forum in Beijing yesterday.

"Gas production will increase fast with the estimated 2020 production hitting 150 billion cubic meters (bcm)," Qiu Zhongjian, an academician at the Chinese Academy of Engineering, told the forum hosted by the China National Committee of World Petroleum Council.

Of the 58.6 bcm of natural gas extracted last year, PetroChina contributed 70 to 80 percent, said Jia Chengzao, vice-president of PetroChina and academician at the Chinese Academy of Sciences.

This year, PetroChina plans to prove 100 bcm of natural gas at Songliao Basin, where Daqing and Jilin oilfields are located.

PetroChina is confident of the appraisal results of its Sichuan Longgang Gasfield - whose reserves are believed to be the highest in the country - but Jia would not put a figure to it.

Also in Sichuan Province, the Guang'an region is believed to hold 1 trillion cubic meters of natural gas, Jia revealed yesterday.

"The potential is huge in Guang'an, with reserves in place reaching 145 bcm in 2006," he said.

In the Junger Basin, PetroChina has made its largest gas discovery in the Xinjiang Uygur Autonomous Region, with reserves in place of 170 bcm. The newly confirmed long-term resource volume of Junger is up to 500 bcm, Jia said.

For oil, Jia estimated reserves in place at Nanpu Oilfield in the eastern part of Hebei Province to be 2 billion tons oil equivalent in about five years.

The company's latest discovery in the Bohai Bay has combined proven, probable and possible reserves of as much as 1.18 billion tons of oil equivalent, the Ministry of Land and Resources certified last week.

PetroChina expects its oil output to stabilize at 107 million tons for this year, around the same as last year as new fields make up for depletion in older fields.

The country boasts extractable oil and gas reserves of 21.2 billion tons and 22 trillion cubic meters, Qiu said.

### **China completes tunnel for new west-east gas pipeline**

October 29 (Xinhua) -- YICHANG - Workers on Monday completed a tunnel under China's Yangtze River for a major gas pipeline that will run from the southwest province of Sichuan to Shanghai.

With a diameter of 3.08 meters and a length of 1,405 meters, the tunnel lay about 20 meters beneath the riverbed, connecting two wells on each bank in Yichang City, Hubei Province, said Liu Juzheng, head of the Hubei section of the Sichuan-Shanghai pipeline.

The 2,203-km pipeline, with the mainline extending 1,700 km, is another "energy artery" to fuel the booming but energy-insufficient east following the West-East gas project.

The pipeline is expected to channel 12.1 billion cubic meters of natural gas annually from Sichuan's Puguang field to central and eastern regions, including Chongqing Municipality, the

provinces of Hubei, Anhui, Jiangxi, Jiangsu and Zhejiang, and Shanghai.

The tunnel, which took 325 days to finish, is the first of five to cross under the Yangtze, which originates in Qinghai Province and empties into the East China Sea near Shanghai.

Industry experts say this new gas pipeline, with an investment of 62.7 billion yuan (US\$8.25 billion), offers an opportunity to the country's underdeveloped west to tap its advantage in resources for development.

The pipeline is scheduled to be finished by late 2010 and the gas is expected to help reduce carbon dioxide emissions by tens of millions of tons annually, said Chen Deming, Vice Minister of the National Development and Reform Commission (NDRC).

Proven reserves of the Puguang gas field stood at 356.1 billion cubic meters, according to China Petrochemical Corporation (Sinopec).

China's proven reserves of natural gas total 2.66 trillion cubic meters. The government has been promoting the use of natural gas to improve energy efficiency and cut air pollution.

Under an NDRC proposal on natural gas development, China aims to increase its natural gas pipeline network to 44,000 kilometers by 2010 to meet demand.

Although China's natural gas output will reach 94 billion cubic meters in 2010 from 58.6 billion in 2006, the country would still need imports to fill a gap of 16 billion cubic meters a year.

In Shanghai, demand for natural gas has soared from four million cubic meters in 2003 to 1.9 billion in 2005.

In 2004, China National Petroleum Corp (CNPC) opened its West-East gas pipeline, which runs more than 4,000 kilometers and channels 1.2 billion cubic meters of gas to Shanghai from the Tarim Basin in the country's westmost region of Xinjiang annually.

CNPC is to build a second West-East pipeline to carry gas imported from Central Asia to the Pearl River and Yangtze River deltas. Construction will begin in 2008 and gas supply in 2010. The designed annual production volume will be 30 billion cubic meters.

## Old oil

October 29 (China Daily) -- Geologic formations known as marine facies contain not only the fossils of mollusks and fish locked deep within, but often oil and gas as well, potentially in enormous amounts.

Formed in primeval oceans, ancient marine basins could yield major oil and gas reserves for Asia's top refiner Sinopec and the entire nation, say senior geologists who are preparing research and exploration efforts to find out more.

China's second-largest oil and gas producer China Petroleum and Chemical Corp, known as Sinopec, will fund extensive research and development to lay a solid technical foundation for exploration of the formations, say sources from a think tank affiliated with Sinopec.

"Marine facies contribute to the bulk of global oil and gas discoveries, but that is not the case in China due to historical reasons," Kang Yuzhu, a senior researcher with the Sinopec Exploration and Production Research Institute, tells China Business Weekly exclusively.

"That is why we have to make more effort in fundamental research."

Resources held in marine facies structures in China could total some 37 billion tons of oil equivalent, about one-third of the nation's total, according to Sinopec research.

Yet exploration of the formations has been modest, with less than 10 percent of resources thought to be held in marine facies discovered to date, Kang says.

Former marine basins in China have been proven to have the correct conditions for oil or natural gas reserves. But that was not thought to be the case several decades ago, shortly after the People's Republic of China was founded.

The nation's veteran geologists before said that China's marine basins were poor in oil and gas reserves. The discovery of the Daqing Oilfield in 1950s seemed to firmly back their analysis. Daqing, the nation's largest oilfield with reserves of more than 40 million tons, was not formed by an ocean millions of years ago.

It wasn't until Sinopec discovered the Tahe Oilfield in Xinjiang Uygur Autonomous Region that domestic oil companies began to realize the importance of marine formations.

It is estimated that half of Sinopec's reserves are located in marine facies, says Jin Zhijun, deputy chief geologist with Sinopec, agreeing with Kang.

"That is why we are leading nationwide research into marine facies oil and gas exploration. We undertake a long-term research program in close collaboration with academic organizations across the country, such as the China Academy of Science and leading universities as well," Jin says.

The research may require five to 10 years, he notes.

Sinopec will establish a number of laboratories to study marine reserve potential, Jin adds.

About 10 laboratories will be built requiring an investment of more than 1.5 billion yuan, an insider close to the research program tells China Business Weekly.

Research will cover marine facies blocks of Northeastern and Northern China, Hunan Province, Hubei Province, Xinjiang Uygur Autonomous Region and Sichuan Province, according to Kang.

Priority will be given to Xinjiang Uygur Autonomous Region, Erdos Basin and Sichuan Province, Jin says.

Tahe Oilfield in Xinjiang and Puguang Gasfield in Sichuan, both operated by Sinopec, have exploration discoveries that reinforce marine facies theories.

### Tahe and Puguang

Owned by Sinopec, Tahe Oilfield is the largest marine facies oilfield in China to date.

Sinopec says Tahe will become one of country's top oilfields in the future, a boost to the firm's upstream business and the nation's energy supply as a whole.

Proven reserves of the Xinjiang Tahe field could hit 1 billion tons of oil equivalent in three years as more exploration efforts are underway, Kang says.

Annual production of the oilfield is expected to be 10 million tons of oil equivalent by 2010, according to Kang.

That will make Tahe one of one of the nation's largest oilfields with total proven reserves of 2 billion tons, Kang notes.

"The overall resource volume of Tahe Oilfield could be as large as 4 billion tons oil equivalent," according to Kang. "Its proven reserves have increased by about 100 to 200 million tons annually since its discovery in 1998. In line with that growth rate, the cumulative proven reserves there could hit 1 billion tons by 2010."

The oilfield has current proven reserves of 780 million tons of oil equivalent.

Puguang Gasfield, the country's second-largest after Sulige, is also a marine facies field and may have more gas reserves, according to China's top industrial watchdog.

It is estimated Sinopec's Puguang field's proven gas reserves will grow by as much as 100 billion cubic meters (bcm) this year, expanding the total reserve figure to about 450 billion by the end of 2007, the National Development and Reform Commission (NDRC) said recently.

As exploration efforts deepen, the proven reserve of Puguang may hit between 550 to 580 bcm by 2008, according to the NDRC.

The Puguang field in Sichuan had an exploitable reserve of 356 bcm in 2006, the country's second-largest, according to the Ministry of Land and Resources. China's largest discovered gasfield, Sulige in the Inner Mongolia Autonomous Region, has proven reserves of 533.6 bcm.

PetroChina, the country's top oil and gas producer, also has potentially large marine-facies gasfields in Sichuan Province.

Sinopec's research on marine-facies will also fuel exploration and production by other companies, Jin says.

"Of course, marine facies fields still contribute a small part of total oil and gas the country produces every year. But it is the solution for the future," he adds.

## China's imports of gasoline hit 10-year high

October 22 (chinadaily) -- The National Development and Reform Commission (NDRC) has required China National Petroleum Corporation (PetroChina) and China Petroleum and Chemical Corporation (Sinopec) to implement national price policies to maintain stable oil prices, the Shanghai Securities News reported today, citing Cao Changqing, director of the NDRC's price department.

The international crude oil price recorded the year's new high of US\$78.4 per barrel last month. PetroChina and Sinopec, the two State-owned oil giants, therefore reduced production in their own oil refineries, causing some local private oil stations to sit idly.

However, the central government has demanded the oil giants operate at full capacity and control exports, in order to feed the domestic market.

"They are capable of guaranteeing the oil supply," Cao said.

Last week, the NDRC promised five million tons of oil annually to fill private pumps, and it also asked PetroChina and Sinopec to treat their own subsidiaries and private oil refineries equally and have no discrimination in supplying oil products.

As a result, the manufacturers' prices of 90-octane and 93-octane gasoline, as well as 0-octane diesel, declined by 20 to 40 yuan per ton in a number of Shandong Province's oil refineries, according to [www.oilboss.cn](http://www.oilboss.cn), one of the most authoritative websites on gas station and oil products distribution business in China.

## Major Xinjiang gasfield found

October 11 (China Daily) -- PetroChina has discovered another major gasfield in western Xinjiang, a source from the company's Tarim unit confirmed Wednesday.

"The gasfield, known as Dabei III, boasts an estimated reserve of as much as 130 billion cubic meters, and will serve as an important backup supply source for the west-east gas pipelines," he said on condition of anonymity.

PetroChina's Beijing office declined to comment but Xinhua quoted officials in the Xinjiang Uygur Autonomous Region as saying the Hong Kong and New York-listed giant had discovered 130 billion cu m of natural gas.

The discovery has the potential to be the third largest gas field in Xinjiang, after Kela II and Dina II Gas fields, said Dai Jinxin, a researcher with the Research Institute of Petroleum Exploration and Development affiliated with PetroChina, the country's largest oil and gas producer.

"Gas fields with reserves of more than 100 billion cu m are considered giant gas fields even globally," Dai said.

Kela II and Dina II gas fields have proven reserves of 250 and 170 billion cu m.

Since more exploration and evaluation are needed at the new field, it is too early to give any specific figures, the source added.

"We will drill more appraisal wells to determine the final reserve at a cost of around 200 million yuan (\$26.6 million)," the insider said. The field has an initial estimated daily output capacity of 286,000 cu m.

Although Xinjiang currently lags Sichuan Province in terms of annual natural gas production, the autonomous region has more reserves, Dai said.

Reserves in Xinjiang's Tarim Basin are expected to hit around 8 trillion cu m, compared with the Sichuan Basin's 4 trillion cu m, Dai told China Daily.

Xinjiang produced about 8 billion cu m of natural gas last year, while Sichuan's output was 15 billion cu m.

"Given that the transportation capacity of the west-east gas pipeline will increase this year and a second pipeline is being planned, the discovery in Xinjiang may turn out to be a shot in the arm to the country's natural gas industry," said Dai.

The first pipeline runs 4,000 km and has a capacity to pump 12 billion cu m of natural gas annually from the Tarim Basin to Shanghai. It began commercial operation in 2004 and the

transmission capacity is set to be raised to 14 billion cu m this year.

China National Petroleum Corporation, PetroChina's parent company, is planning the second west-east gas pipeline with an annual transmission volume of 30 billion cu m, on which construction will start next year.

The pipeline will transport gas from central Asian countries - including Turkmenistan - and Xinjiang to energy-thirsty eastern and southern China, including Shanghai and Guangdong Province.

According to BP energy statistics for 2006, coal accounted for 70 percent of China's total primary energy consumption; oil, 20.6 percent; natural gas, 2.9 percent; hydropower, 5.6 percent; and nuclear power, 0.7 percent.

The country plans to increase gas use to 5.3 percent of the country's total energy mix by 2010, according to the National Development and Reform Commission, the top economic planner.

### **Fuel oil futures price records**

October 20 (China Daily) -- Fuel oil futures contracts were pushed up high by the surging crude oil prices in the global market.

Prices of fuel oil futures for delivery in November on Shanghai Futures Exchange, SHFE, rose 0.51 percent to close at 3,723 yuan per ton on Friday. In the past several days, the fuel oil futures price has jumped a total of 2.8 percent, hitting the record high of 3,770 yuan on Tuesday.

After climbing an aggregate 10 percent in a week, the benchmark crude oil futures price on the New York Mercantile Exchange yesterday surged to a record high of \$90.02 a barrel before falling back slightly to \$89.28.

Traders attributed the latest price hike to renewed worries about widening supply gap and the further devaluation of US dollars.

Analysts said the worry about the declining stockpile of crude oil in world markets has intensified. Nagging Middle East tensions continued to support the upward trend and the

further devaluation of US dollars drove the price beyond the \$90 psychological barrier for the first time.

Cai Lei, an analyst at Great Wall Futures Co, said an increasing chunk of hedge funds capital have begun to seek refuge by buying crude oil, as the US dollar was expected to continue to decline. "The increasing need for heating oil as the winter approaches also help lift the oil prices," Cai added.

"The rising trend of crude oil will continue to be reflected in the fuel oil futures price on SHFE, as the domestic market is closely keeping pace with the global one," said Lin Hui, an analyst at a futures company of Orient Securities. But analysts said fuel oil futures in the domestic market would not see wide fluctuations because the prices of spot fuel oil products are controlled by the government.

It is widely expected by analysts that fuel oil futures in domestic market to hover around 3,700 yuan per ton in coming days.

Some analysts also expected that there would be a recovery in refining capacity in the global market, as world refiners are trying to bring new plants in operation next year. This could mitigate the increase in the prices of fuel oil and other downstream products, analysts said.

### **Fuel rationing spreads to gas stations across China**

October 31 (Agencies)-- Gas stations in parts of China are rationing and even halting diesel sales amid a fuel shortage triggered by a widening gap between soaring crude oil prices and government-controlled retail prices, the financial chief of China's biggest refiner said yesterday.

"Oil prices are rising but (domestic) oil product prices are kept low by the government. The impact on our refining operations is quite big," Dai Houliang, chief financial officer at China Petroleum & Chemical Corp, or Sinopec, said in a teleconference in Hong Kong to discuss the company's third-quarter results.

Dai said overall supplies in China were still stable, but that some areas might experience shortages.

He blamed rising demand as well as bad weather, which was preventing supplies getting to some areas.

"We will try the best to ensure a stable supply of fuel in the market, but it's a big challenge for us," he said.

Filling station operators in Shanghai confirmed they were reducing or halting sales due to the shortages.

"We have no diesel at all. I have no idea when the situation will return to normal. We're not getting any supplies from our company," said a staffer at the Sinopec Qibao gas station in western Shanghai.

The problem was especially acute in districts traversed by cargo trucks crossing the city to get to container ports along the coast.

With crude oil prices approaching US\$100 a barrel, some refineries in China have chosen to shut down for "maintenance" rather than continue operations, Shanghai Daily reported.

Light, sweet crude for December delivery fell back a bit yesterday after hitting a record trading high of US\$93.80 on Monday.

Local newspapers reported that filling stations have been rationing gas on an informal basis, allowing each customer only a quarter tank of diesel or less.

The worst shortages have been in south China's Guangdong and Fujian provinces, as well as eastern Zhejiang Province and central Henan Province, they said.

In 2005, fuel shortages that authorities blamed partly on tanker transport disruptions due to typhoons resulted in long lines at filling stations in southern China. The government ordered refiners to stop exporting fuel oil and meet domestic demand first.

Filling stations in Shanghai have also seen shortages of liquid petroleum gas (LPG), causing problems for those using LPG-fueled scooters and cars.

Dai's comment came after the company late on Monday posted a forecast-beating 5.5 percent rise in third-quarter net profit under international accounting standards, even though its refineries swung back to an operating loss.

Net profit totaled 13.63 billion yuan (US\$1.8 billion) over the three months ended yesterday, under international accounting standards, up from 12.92 billion yuan in the same period last year.

## Climate Change and Air Pollution

### Greater efforts needed to clear Beijing smog

October 11 (China Daily) -- It was meant to showcase the crystal clear air sports fans and athletes will enjoy during the Beijing Olympics.

But environment expert Yang Fuqiang fears the capital's air quality didn't improve enough during the Games test period.

"Pollutants caused by car waste dropped between 15 to 20 percent during the four-day car ban in August, but I am thinking about 50 to 60 percent decrease of pollutants for next year," said Yang, who has lived in the capital for 14 years.

Yang spent seven years in the 1970s and 80s in the capital as an energy researcher, and has lived here for another seven since 2000 as chief representative of the US-based Energy Foundation in Beijing.

"We wouldn't like the first Olympic experience most of us have to turn sour," he said. "We need stronger measures now, rather than regret afterward."

Beijing's fast-growing economy has partly come at the price of its ecology. Old-fashioned factories and thousands of new cars give citizens a hard time, leaving the skyline smoggy and regularly blowing sandstorms into town during the spring.

Measures to combat pollution began in 1998 when the capital realized the urgency of cleaning up the air, with the government alone spending 120 billion yuan (\$16 billion) in the intervening years on environmental work.

During the week-long National Day holiday that ended on October 7, countless drivers headed out of the city for countryside breaks. Statistics from Beijing's environmental bureau show air quality during the holiday was three times better than usual.

But for Zhang Lian, a 46-year-old cab driver, the difference passed unnoticed.

"Seven days don't make a big difference," he said. "If we can remove cars for a month or two, that would be quite something."

A more stringent plan shielding the Olympic city from major pollution before and during the Games is under final revision at the national and local environmental authorities, Beijing-based *Caijing* magazine reported in its latest issue. If the second draft gets the green light from the State Council, it will become the most serious move by China to guarantee air quality so far.

According to a draft released, Beijing will bring down coal use to 25 million tons a year from over 30 million, update energy-consuming production techniques at major polluting factories, and apply recycling procedures at over 1,000 gas stations throughout the city before officially opening the Olympic Village by the end of July 2008.

From July 24 to September 20, the city, which will have over 3.3 million vehicles on the road by then, plans to remove 70 percent of government vehicles and half the private cars. Chemical, steel and building materials plants will also suspend operations, while power generating plants will be forced to reduce coal burning during the 58-day Games period.

There is also an unprecedented plan for regional governments in neighboring industrial clusters such as Hebei and Shanxi provinces to join in measures ahead of and during the Games.

"I think the rules can be understood and carried out," said Yang. "After all, the purpose is for athletes to feel pleasant and comfortable to compete."

"We don't want athletes to be angry about Beijing's air and lower their expectations."

Beijing Yanshan Petrochemical Company, which provides about half of the city's 5 million tons of gasoline each year, will become the first and

only provider of gasoline under the EURO IV standard from next New Year's Day pending a government order.

If implemented, the move will cut 1,400 tons from the 180,000 tons of sulfur dioxide emissions which escape into the sky above Beijing every year.

The company is also proposing to the municipal government to install nitrogen dioxide control at their key production areas, said Ma Chenghua, a senior manager.

"Certainly we support the government plans because the Olympics is an exceptional event. However, although Beijing can stop steel production, it can't do without a minimum of gasoline needed to keep the city operating safely," he told China Daily.

It has been reported that power plants around the city are concerned about the impact of a 58-day suspension. But in the long term, another problem looms for the environment watchdog: catching up with what many other cities consider the starting line.

"In our current air quality index, nitrogen dioxide density is not considered a major factor and ozone air pollution is totally excluded," said Yang. "In western cities, where these things are measured, even unpleasant days are better than some of the best weather we have here."

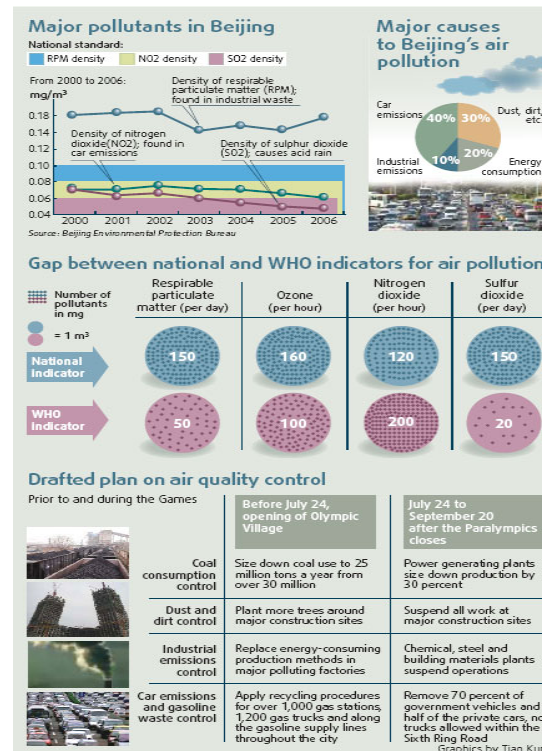
The environment expert said Beijing may need a little help from the weather to keep the air flowing during the Games.

We are completely confident that Olympic athletes will be able to take part in their competitions normally next August," Liu Qi, Beijing Party chief and head of the Beijing Olympics Organizing Committee told the Financial Times last month, citing the focus on implementing environmental rules instead of short-term measures.

"The main thing is to strengthen factories' management of gases and reduce emissions," Liu said.

Yang said he agreed with Liu's plan to develop more energy-saving technology and public transport.

"In the end, Beijing has a leading role to play and this is an opportunity to show the country that the government cares about the health of the general public as much as the health of international athletes coming for the Games," he added.



### Climate change and the right to develop

October 31 (China Daily) -- At the 15th Economic Leaders' Informal Meeting of the Asia-Pacific Economic Cooperation (APEC) held in Sydney last month, President Hu Jintao made proposals for tackling climate change, including ways to strengthen cooperation, pursue sustainable development and promote scientific and technological innovation. He stressed that "climate change is ultimately a development issue and it can only be addressed in the course of sustainable development".

Hu's speech was echoed and supported by developing countries in Southeast Asia.

The international community has long recognized the right of developing countries to development with regard to climate change. The United Nations Framework Convention on

Climate Change (UNFCCC) 1992 pointed out clearly that developed countries have contributed the biggest proportion of greenhouse gas emission historically and at present, the per capita emission of developing countries is still relatively low, the developing countries' emission quotas will be increased to meet the demand for their economic and social development.

As post-Kyoto Protocol negotiations continue, the right of development is being widely emphasized by developing countries, especially large developing countries like China and India. The Chinese government published its National Climate Change Program in June, which made it clear that climate change is ultimately a development issue.

Development is a necessary and irreversible process in human history. To a certain degree, climate change is irreversible too. This requires the international community to have a common understanding on emission reduction and development. Latest scientific research shows that global warming started as early as 500 years ago and human factors are not alone to blame. In such a situation, it is unreasonable to stress emission reduction while ignoring the right to development.

The fragility of developing countries shows the urgency to adapt to climate change and realize their right to development. Generally speaking, developing countries with underdeveloped economies are more vulnerable to the influence and damage of climate change. Take China for example, climate change has already caused obvious impacts on its agriculture, forests, water resources and coast areas. And the least-developed countries and small island countries are the most fragile ones.

The disparities and complementary relations between developing and developed countries have provided feasible and extensive prospects for cooperation in realizing the right of developing countries to development. Developed countries can cooperate with developing countries by helping the latter to reduce emissions. Such cooperation will help ease the contradiction between emission reduction and economic development. The Clean Development Mechanism advocated by the Kyoto Protocol has provided such a mode of cooperation.

The mechanism can help developed countries to fulfill their obligation in emission reduction and developing countries to realize their right to development. The trade in emission quotas can help realize both goals - emission reduction and development rights.

Another climate change issue which has emerged in recent years is how to guarantee the energy security of developing countries. Increased demand has led to high oil prices and developing countries have to depend more on coal, which leads to even bigger greenhouse gas emission. Past experience tell us that we cannot afford to pollute first and improve later. The most effective method to cope with climate change while guaranteeing the energy security of developing countries is to improve their energy utilization rate through technology.

One of the focuses of current negotiations is whether developing countries, especially large countries like China, India and Brazil, should shoulder the same responsibilities for emission reduction like the developed countries. This concerns the issue of giving priority to emission reduction or development.

The UNFCCC makes it clear that, on the bases of fairness, all signatory countries according to their common but differentiated responsibilities and respective capabilities, should protect the climate system in the interests of all human beings, and developed countries should take the lead in reducing emissions and helping developing countries. Developing countries should also make, implement, publicize and regularly update their national programs to address climate change. This is the well-known UNFCCC principle of "common but differentiated responsibilities", which sets out the major responsibilities of developed countries. The Kyoto Protocol has set the obligation of compulsory emission reduction according to this principle and has thus displeased some developed countries.

What is more, the UNFCCC said: "The extent to which developing country parties will effectively implement their commitments under the convention will depend on the effective implementation by developed country parties of their commitments under the convention related to financial resources and transfer of technology and will take fully into account that economic and social development and poverty eradication

are the first and overriding priorities of the developing country parties." This spells out the developed countries' responsibilities in promoting the rights of developing countries to development.

It is a pity that developed countries have shown insufficient sincerity and made inadequate efforts to fulfill the above obligations. The United States and Australia have rejected the Kyoto Protocol with the excuse that compulsory emission reduction will obstruct economic development and research conclusions about climate change still lack credence. So far developed countries have only committed \$182 million to the adaptation fund for all poor countries. The emergency programs of the least-developed countries alone will need \$1 billion to \$1.2 billion.

The author is an official with the Liaison Office of the Central People's Government in Hong Kong Special Administrative Region.

### **Potential of greenhouse gases tapped**

October 31 (China Daily) -- The government is determined to work with global partners to turn the demanding task of reducing greenhouse gas (GHG) emissions into lucrative business opportunities, a senior official said Tuesday.

Xie Zhenhua, vice-minister of the National Development and Reform Commission, said the country has already forged close partnerships with some developed countries for trading carbon dioxide and methane, the two major GHGs causing global warming.

"China faces arduous tasks in dealing with climate change but the potential for reducing greenhouse gases is tremendous; and so are business opportunities," said Xie, who is also the deputy director of the National Leading Group of Work Responding to Climate Change.

Xie's optimism stems from the fact that nearly half the country's coal mines have a high concentration of methane - most of it discharged as part of mine safety.

"But if technology, capital and environmental protection awareness are combined, we can make coal cleaner, reduce methane emissions and let methane serve as an alternative energy source," Xie told China Daily prior to the Methane to Markets Partnership Conference and Expo which opened yesterday in Beijing with more than 600 participants from 30 countries.

The three-day conference is an important component of the Methane to Markets Partnership, an international initiative launched in 2004. It is aimed at offering cost-effective technologies and information to improve methane recovery and use as a clean energy. About 20 countries, including China and the United States, have joined the partnership.

Methane is a potent GHG, 23 times more powerful than carbon dioxide, accounting for 16 percent of global GHG emissions from a variety of sources.

John Beale, deputy assistant administrator of the US Environmental Protection Administration, said nine of the top 10 methane-emitting countries have joined the partnership.

"We look forward to continuing to grow the partnership and several other countries have shown interest," said Beale.

To turn more emissions into alternative energy, Xie called for a stronger international partnership to remove technological and capital barriers that prevent the reduction of methane emission.

Huang Shengchu, president of the China Coal Information Institute, said the recovery of coal bed methane, which can greatly prevent coal mine accidents, can be quickly developed into a profit-making industry.

Annual coal bed methane emissions in China stand at 15 billion cubic meters as coal output has been increasing. In comparison, only about 3.2 billion cubic meters was vented from coal mine drainage systems last year. "In the past, we released methane for work safety consideration; now, we recover the gas for

purposes of safety, resources and environmental protection," said Huang.

### **Combating climate change: China goes offensive**

October 4 (Xinhua) -- Chinese President Hu Jintao and a group of other state leaders were pictured wearing open-necked shirts with short sleeves, rather than their normal jackets and ties when attending a high-profile conference at the Party School of the Communist Party of China Central Committee on June 25 of this year.

The less formal attire wasn't just for their own comfort. China's leaders are trying to set an example for all the office workers to dress in light, casual clothing in summer in order to reduce the use of air conditioners.

The State Council, or cabinet, ordered in June that air-conditioning units in most office buildings be set no cooler than 26 degrees Celsius. "As a developing country, China tries to shoulder more responsibilities in addressing the issue of climate change and reducing greenhouse gas (GHG) emissions," says Lu Xuedu, deputy director of the Global Environmental Affairs Office of the Ministry of Science and Technology.

In China's National Climate Change Program issued on June 4, the government pledged to restructure the economy, promote clean energy technologies and improve energy efficiency. With the new program, the nation has opted not to hide behind the fact that the Kyoto Protocol frees developing countries from the obligation to reduce GHG emissions, said Ma Kai, minister in charge of the National Development and Reform Commission.

### **An Imminent Threat**

"Climate change has begun to take its toll in China in recent years, and we shouldn't wait till it is too late to take action," says Lu Xuedu.

Since the mid-1980s, China has experienced 19 warm winters. In 2006, the average temperature for winter hit 9.92 degrees Celsius, the highest since 1951, according to statistics from the National Meteorological Center.

Lu points out that if climate change remains unchecked, the output of China's major crops including wheat, rice and corn will drop by up to 37 percent in the second half of this century. Global warming will also reduce the river levels, and lead to more droughts and floods. And water supply in western China will fall short of demand by up to 20 billion cubic meters from 2010 to 2030.

Climate change also presents a major threat to ecologically vulnerable areas such as the Qinghai-Tibet Plateau, says Qin Dahe, an expert in glaciers, who is also an academican of the Chinese Academy of Sciences (CAS).

"The glaciers on the plateau have been melting faster in recent decades," he said.

If the speed of the temperature rise fails to slow down, he warns, the total area of glaciers on the plateau will shrink to 100,000 square kilometers in 2030 from 500,000 square kilometers in 1995.

Since many major rivers in Asia come from the plateau, this shrinkage might result in water shortages for more than one billion people in Asia.

Liu Jingshi, a researcher with the Qinghai-Tibet Plateau Research Institute of the CAS, adds the plateau has also softened as global warming melts the permafrost.

Liu says that the melting permafrost has already flooded some of the Tibetan herdsman's families, and will become even more dangerous to them if the temperature continues to rise.

### **International Collaborations**

The per-capita emissions of greenhouse gas in China stand at 3.66 tons, less than one third the level of developed nations such as the Netherlands, said Foreign Ministry spokesman Qin Gang at a press conference in late June.

As a developing country, China is not obliged to meet targets set by the Kyoto Protocol, under which most industrialized countries are required to reduce gas emissions by an average of 5.2 percent below the 1990 levels from 2008 to 2012.

Despite low per-capita emissions, Qin says, the Chinese government has placed great emphasis on climate change and has employed effective measures to cut emissions and their negative impacts.

The spokesman called on the international community to strengthen cooperation and help more countries embark on the road of clean development that both protects the environment and eco-systems and ensures the fulfillment of their development goals.

"China is still in the process of industrialization, and has the potential to become one of the world's leaders in reducing GHG if proper technologies can be adopted before the industrial facilities are built," said Dr Jason Blackstock, a researcher at Harvard University.

He says that developed nations should also take the responsibility to help China and other developing countries by providing the advanced technologies needed for reducing GHG through international collaborations.

Finding Alternatives To actively address the issue of climate change, China released the National Climate Change Program.

It is estimated if all the objectives prescribed in the program are achieved -- on hydro and nuclear power generation, upgrading of thermal power generation, facilitation of coal-bed-gas development, the use of renewable energy resources such as wind power, solar power and terrestrial heat, forestation and energy-saving -- the world's most populous country will emit 1.5 billion tons less carbon dioxide by 2010 while still continuing to grow rapidly.

China also issued the General Work Plan for Energy Conservation and Pollutant Discharge Reduction, under which the government pledged to adhere to its plan for energy efficiency and to reduce major pollutant discharges by 10 percent by the year 2010.

The work plan criticized some government departments for their poor awareness of the importance of energy efficiency and pollutant reduction.

The central government will reform the mechanism of evaluating local governments and their leaders by including the implementations of energy-efficiency and emission-reduction tasks

into their performances, according to the work plan.

It also contains instructions to government departments to work out detailed measures for this reform. Units, branches and bodies of the central government are asked to take the lead in procuring energy-efficient, water-efficient and environment-friendly products, such as air conditioners, computers, printers and displays.

The state will encourage and direct financial institutions to enhance credit support for environment-protection and pollution-reduction projects. Preferential tax policies will be offered for such projects.

The government will also reform pricing mechanisms for resource products, such as refined oil, natural gas and electricity, and restrict exports of high-energy consuming and heavy-polluting products.

Energy use in high-energy consuming industries, such as steel, non-ferrous metals, petrochemicals and cement production, will be optimized to realize energy-saving targets.

The government has also taken action to reduce the use of fossil fuels. Non-fossil fuels will account for 30 percent of China's energy consumption in 2050, compared with the current 10 percent, says Yan Luguang, a researcher at the Chinese Academy of Sciences.

Even though China's per capita greenhouse gas emissions are lower than countries like the United States or Australia, its heavy reliance on coal makes it a major polluter and a major contributor to emissions that cause climate change.

By 2050, the burning of coal will account for a much smaller proportion in China's energy consumption compared with 70 percent now, says Yan.

Oil consumption would contribute around 20 percent of the total and reach 800 million tons in 2050, 75 percent of which would be imported from foreign countries.

As China's energy demands continue to grow, a sufficient oil supply is critical to the country's energy security.

The demand for natural gas, hydropower and nuclear power will grow and by 2050 solar energy, wind energy and biomass energy will account for 15 percent of the nation's total energy consumption. Scientific Support

Aiming for a green and hi-tech 2008 Olympics, China has designed the Olympic venues to be as environment friendly as possible, with "green" materials, and energy saving and water recycling systems.

The Olympic stadiums have also introduced solar and wind energy and other new energies, which are vital in reducing greenhouse gas emissions.

The Ministry of Science and Technology and 14 other government departments in June jointly issued a special action plan for science and technology for China to deal with climate change, providing scientific support to the National Climate Change Program.

China invested 2.5 billion yuan (330 million U.S. dollars) in the research and development for climate change control during its 10th Five-Year Plan period (2001-2005).

In the 11th Five-Year Plan period (2006-2010), says Minister of Science and Technology Wan Gang, the government will invest more in this field, with 4.6 billion yuan (610 million U.S. dollars) already put into a number of projects.

The nation must consider developing a "low-carbon economy" and a "carbon-absorbing economy", says Wan. A low-carbon economy is a low energy-consuming and low pollution-based economy.

Other methods, such as optimizing energy structure, improving energy efficiency and developing clean and renewable energy, should also be taken to deal with the climate change, he says.

### **Progress comes at a cost, but all is not lost yet**

October 26 (China Daily) -- Climate change, extinction of species and the challenge of sustaining a fast growing population are among the major factors threatening humanity's survival. This is what a new UN report released yesterday

says. Essentially, it paints a somewhat stark picture of our future and highlights the high price the Asia and the Pacific region is paying for its so-called progress in reducing poverty.

The well being of billions of people in the developing world is at risk, simply because it has failed to remedy "the relatively simple" problems that have been tackled elsewhere, says the report. Ecosystems and human health in the region continue to deteriorate because of environmental degradation and loss of natural resources driven by population growth and rapid economic development.

The warning is the latest in a series on the global environment outlook released by the UN Environment Programme (UNEP). Despite the bleak picture, the UNEP yet again says it doesn't want to present a "dark and gloomy scenario". Rather, it is a call to arms, for people to take more stringent action.

UNEP Executive Director Achim Steiner says that in the past two decades, the world's response to environmental issues has at times been "courageous and inspiring". But all too often it has been "slow and at a pace and scale that fails to respond to the magnitude of the challenges".

Progress has been achieved in cutting the production of ozone-layer damaging chemicals by 95 percent and creation of a greenhouse gas emission reduction treaty.

But some old issues remain and new ones are emerging: from the rapid rise of oxygen "dead zones" in the oceans, to the resurgence of new and old diseases linked partly to environmental degradation. The report emphasizes the potential impact of climate change, which is likely result in more severe droughts and floods. "The threat is now so urgent that large cuts in greenhouse gases by mid-century are needed," it says.

As a "global priority", climate change demands political will and leadership, says UNEP. Yet it finds "a remarkable lack of urgency", and a "woefully inadequate" global response. One such example is some highly polluting countries' refusal to sign the Kyoto Protocol, which among other things requires signatory nations to reduce emissions of greenhouse gases. The report says: "Some industrial sectors that were unfavorable

to the Protocol managed successfully to undermine the political will to ratify it."

A major meeting is expected to be held in Indonesia in December to begin discussions on a post-Kyoto Protocol treaty.

The Asia and the Pacific region, which is home to 60 percent of the world's population, is making "remarkable progress" in reducing poverty, says the UN report. The region's environmental protection measures, energy efficiency and drinking water provision have improved too in the past decade. Several countries have already achieved many of the Millennium Development Goal (MDG) targets and have set themselves new and more demanding goals, called MDG Plus.

But progress has come at a high cost. The report says: "Increases in consumption have contributed to the exponential growth in existing environmental problems. Serious challenges remain, including urban air quality, fresh water stress, agricultural land use (a threat to food security) and increased waste. The illegal traffic in electronic and hazardous waste is a new challenge affecting human health and the environment."

Environmental and economic policies have not been fully integrated, and that is a major obstacle in the path of an effective system of environmental management. The report says ecosystems and human health in Asia and the Pacific region continue to deteriorate, while population growth and rapid economic development causes more environmental damage and depletes natural resources further.

The air quality in the region is suffering serious damage because of growing energy needs and the "exploding" growth in the number of vehicles. In the 1990s, the number of cars and motorcycles in China and India rose by more than 10 percent a year.

Haze pollution from forest fires in Southeast Asia has worsened matters. Excessive use of surface and underground water, industrial pollution, and inefficient use of fresh water are responsible for the water crisis. There are also indications of unprecedented glacier retreats in the Himalayan-Hindukush region.

Southeast Asian countries have earmarked 14.8 percent of their land for protection, above the

world average of 12 percent for 2003. But elsewhere in the Asia and the Pacific region less than 10 per cent of land is protected.

Land sharks and the urbanization drive have caused arable land to shrink throughout the region, even though some countries appear to have taken counter-measures such as substituting new arable land for the degraded area.

The region has been the fastest developing in the world since the past two decades, imposing enormous pressure on the ecosystems such as mangrove forests and coral reefs. The newfound affluence of the region's peoples and their new lifestyles have changed consumption patterns, generating large quantities of waste. Unsanitary landfills contaminating the soil and groundwater are major causes for concern.

More than 90 percent of the 20-50 million tons of electronic waste that is generated every year across the globe ends up in Bangladesh, China, India, Myanmar and Pakistan. And Asian workers reportedly use "obsolete technologies to process 21st century wastes". Effective waste management strategies and systems are either completely lacking or else inadequate in many countries in the region, posing a serious threat to human and environmental health.

But the report also says technology can help reduce people's vulnerability. Humanity's future will be determined largely by the decisions individuals and society take now. "Our common future depends on our actions today, not tomorrow or some time in the future

### **Nation attaches importance to global warming**

October 22 (China Daily) -- China attaches great importance to climate change and has always been a responsible player combating global warming, delegates at the 17th Party congress said, ahead of a number of international meetings addressing the problem.

Party General Secretary Hu Jintao said at the congress that all countries "should assist and cooperate with each other in conservation efforts to take good care of the Earth, our only home".

For the first time the CPC has added global environmental issues to its political report at the congress, setting out the country's top priorities in the following five years. The Party leadership has also put domestic environmental protection and energy reduction high on the agenda.

Pledging cooperation on economic, social, cultural and environmental issues, Hu called on people to join hands and strive to build a harmonious world of lasting peace and common prosperity.

Congress delegates hailed Hu's speech as a new expression of the country's purpose to combat global climate change.

"China should actively take on the environmental protection issue and push forward on behalf of developing countries," said Pan Yue, congress delegate and vice-minister of the State Environment Protection Administration.

He said the impact of centuries of industrial development by developed nations needs addressing and barriers for the transfer of environmental technologies should be swept away.

The vice-minister added that the current energy and production and consumption structure needs restructuring on the basis of environmental protection. He said pollution had to be cut and China would be a responsible player in terms of managing climate change.

"Environmental protection is not only a key field where China can catch up and be integrated with the international community, but also a stage where China can put forward the concepts of a harmonious world and peaceful development," Pan said, on the sidelines of the congress.

Foreign Minister Yang Jiechi said China attaches great importance to a number of upcoming international conferences on combating climate change.

"China has always been in full compliance with the principles set out by the United Nations Framework Convention on Climate Change (UNFCCC) and the Kyoto Protocol," Yang said.

Under the principle of "common but differentiated responsibility", all countries have an obligation to protect the world's environment.

As each country is at different development stages, they share different obligations.

China, which has tens of millions of people trying to solve basic problems, has "survival emissions".

These are not in the same category as developed countries, which should take the blame for the majority of global warming because of their greenhouse gas emissions in the past 200 years, said Zheng Guoguang, director of the China Meteorological Administration (CMA).

China is best among all developing countries in terms of environmental protection, Zheng said. "We have started a national action plan and are committed to cut energy consumption even though there is no international obligation for us to do so," he said.

Zheng said China has always attached great importance to environmental issues and sent the biggest delegation to Intergovernmental Panel on Climate Change negotiations.

"China holds that all countries in the world should work together to address global warming, which is a foundation for our development and life," he said.

### **China: Help poorer nations with climate change**

October 20 (Xinhua) -- A senior Chinese official urged the international community in Washington to make greater efforts to help developing countries deal with climate change.

"Securing global energy safety and preventing global climate change has an important bearing on the national economy and people's livelihood in the world," Li Yong, China's vice finance minister, said at a ministerial meeting of the Group of 24 (G-24).

China believes that the international community should follow the principle of "common but differentiated responsibility" and make greater efforts to transfer technologies to the developing countries so as to help them improve their capacity for dealing with climate change, he said.

Li said that China supports the World Bank's new strategy which broadens and deepens the Clean Energy Investment Framework (CEIF).

CEIF should not only actively address climate change, but also aim to meet the increasing energy demand of developing countries, in particular low-income countries, he stressed.

In this connection, "we strongly call on the bank to expand its energy assistance to Sub-Sahara Africa in a more vigorous way," said the official.

"We encourage the bank to explore new financing mechanisms to mobilize sufficient financial resources and compensate for the developing countries' incremental cost of emission reduction," he said.

China supports the establishment of a long-term and reliable clean energy policy framework which reflects the principle of "common but differentiated responsibility."

Also, "we urge the bank to utilize its comparative advantages and explore the possibility of creating an international technology cooperation fund to help improve the access of developing countries to affordable and advanced environmentally-friendly technologies," Li said.

China will continue to join actively in the international cooperation in the field of climate change and commit itself to its cooperation with developing countries under the framework of South-South cooperation and improve jointly their capacity for dealing with climate change, the official said.

The G-24 was established in 1971 to coordinate the positions of developing countries on international monetary and development finance issues and to ensure that their interests were adequately represented in negotiations on international monetary matters.

China has been invited to attend its meetings since 1981.