2007

The Innovation Center for Energy and Transportation Annual Report

About *i*CET

The Innovation Center for Energy and Transportation (*i*CET) is a non-profit, non-governmental organization (NGO) registered in Beijing, China. We are dedicated to promoting clean, sustainable, low carbon policies and technologies for vehicles and fuels in China.

Our History

*i*CET's predecessor, the Auto Project on Energy and Climate Change (APECC), was established in Beijing in May 2004, with the goals of promoting improved fuel efficiency for the automotive fleet, raising awareness of clean vehicle policies and technologies, and reducing greenhouse gas emissions arising from the transportation sector. APECC was hosted by the Global Environmental Institute.

On August 9, 2006, APECC completed registration to become an independent, Chinese NGO with the name the Innovation Center for Energy and Transportation. The *i*CET office is conveniently located in the heart of Beijing's Central Business District. This is our first annual report! As a result, we will cover one and a half years of *i*CET's progress.

Our Approach

*i*CET pursues its goals through actively developing projects with different stakeholders, both inside of China and around the world. *i*CET's work falls primarily into the following three categories:

Policy Development and Advising

Providing expert advice and suggestions to the Chinese national and local governments on sustainable transportation, renewable energy, and energy-efficient, green vehicles; Providing policy research related to the reduction of greenhouse gas emissions from the transportation sector; Working with academic institutions to carry out research and study of environmental transportation issues.

Planning and Coordination

Organizing international conferences and workshops on climate change, energy and transportation policies, research, and development; Facilitating the exchange of ideas, cooperation, and coordination among various stakeholders, including central and local government bodies, the private sector, NGOs, academics and consumers.

Outreach

Using public media to educate governments and the public; Forming partners with other environmental NGOs and interest groups in China and throughout the world; Promoting environmental consciousness and a demand for green consumer products in China.

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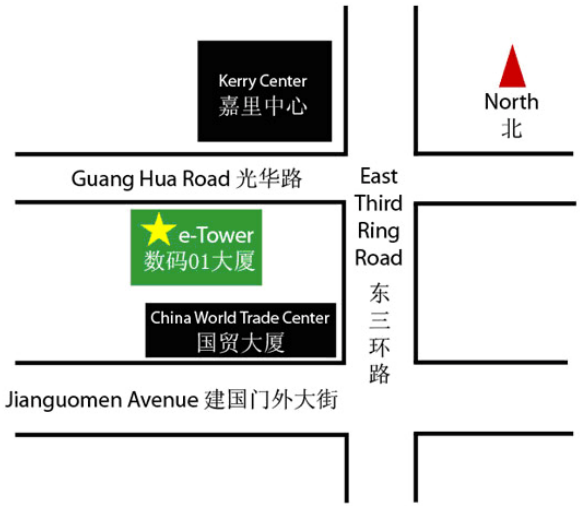

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Letter from Executive Director

Dear Friends and Supporters,

Energy security and climate change are two central challenges facing society in the 21st century. The international community is putting increasing emphasis on these issues, and developing a series of measures and agreements to respond to these crises. China has made great efforts to reduce greenhouse gas emissions in recent years, with the implementation of world-class fuel efficiency standards, the establishment of the Climate Change Coordination Office and the development of alternative and renewable sources of energy. However, China's population, rapid growth and its role as the "world's factory" ensure that environmental protection and sustainability will become increasingly important in the coming decades. Despite having relatively low per capita emissions, China is already the largest greenhouse gas emitting country in the world.

Although energy consumption is increasing in all sectors at alarming rates, the growth of China's transportation sector is particularly staggering: China's automobile sales approached 9 million vehicles in 2007, while annual growth rates have reached 25% or more. China is now the second-largest vehicle market in the world and is positioned to overtake the United States within 15 to 20 years.

At the same time, having experienced a steady increase in foreign oil dependence since it first became a net oil importer in 1993, China now imports greater than 50% of its petroleum, and this proportion increases annually. The transportation sector consumes at least 25% (and rising fast) of this imported oil. As such, it is critical for China to continue implementing progressive, energy-saving policies, including even more stringent fuel economy standards and Low Carbon Fuel Standards, for the transportation sector.

*i*CET's core mission is to promote clean and low carbon vehicles and fuels for China's transportation sector by working closely with our partners and stakeholders both inside and outside China. The world needs innovative energy and transportation solutions to tackle the unprecedented global crisis in climate change and energy shortage. Working together, I strongly believe that we can make a difference!

Sincerely yours,

Feng An
Executive Director
Innovation Center for Energy and Transportation

*i*CET Partners

Board of Directors

Mr. Hal Harvey, Environment Program Director, Hewlett Foundation
Dr. Fuqiang Yang, Vice President and Chief Representative, Beijing Office, Energy Foundation
Dr. Feng Fei, Director, Industrial Economics Research Department, Development Research Center (DRC), China State Council
Prof. He Kebin, Professor of Environmental Science and Engineering, Dean of Graduate School, Tsinghua University
Ms. Kate Blumberg, Research Director, the International Council on Clean Transportation (ICCT)
Prof. Dan Sperling, Director, Institute of Transportation Studies, University of California, Davis and member, California Air Resources Board (CARB)
Dr. Feng An, Executive Director, *i*CET

Sponsors

The Blue Moon Fund
The Hewlett Foundation
United Kingdom Foreign and Commonwealth Office Global Opportunities Fund
The Energy Foundation, China Sustainable Energy Program
Vehicle Emission Control Center (VECC), State Environmental Protection Administration (SEPA)
The Stern Review on the Economics of Climate Change

Project Partners and Advisors

Development Research Center, (DRC), the State Council
China National Institute of Standardization, Standardization Administration of China (CNIS-SAC)
Vehicle Emission Control Center, State Environmental Protection Administration (VECC-SEPA)
E4tech Ltd. (UK)
China Automotive Technology and Research Center (CATARC)
International Council for Clean Transportation (ICCT)
Global Environment Institute (GEI)

Acknowledgements

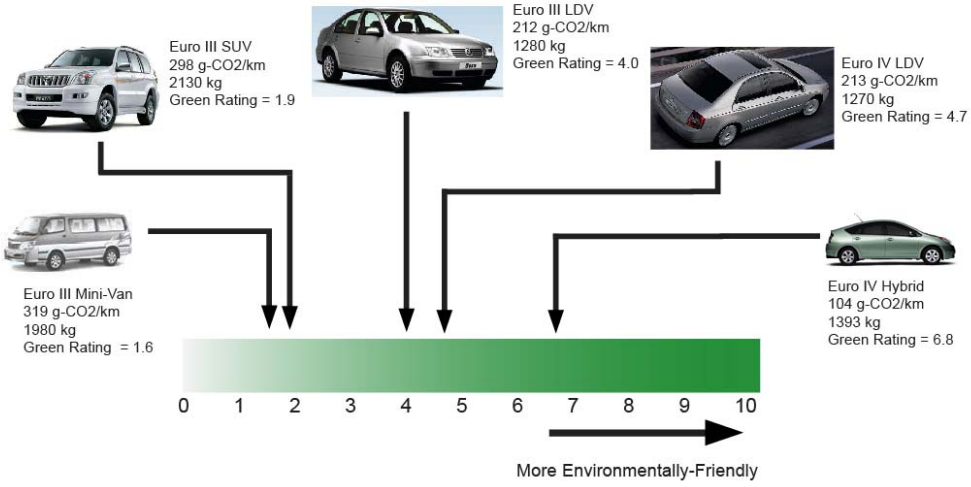
National Climate Change Coordination Committee, National Development and Reform Commission (NDRC N4C)
California EPA and California Air Resources Board (CARB)
United States Environmental Protection Agency (US EPA)
Environmental Defense
Pew Center on Global Climate Change
Tsinghua University
University of California Riverside
Natural Resources Defense Council (NRDC)
UNDP Climate Change Program

Project Highlights: Successes through the End of 2007

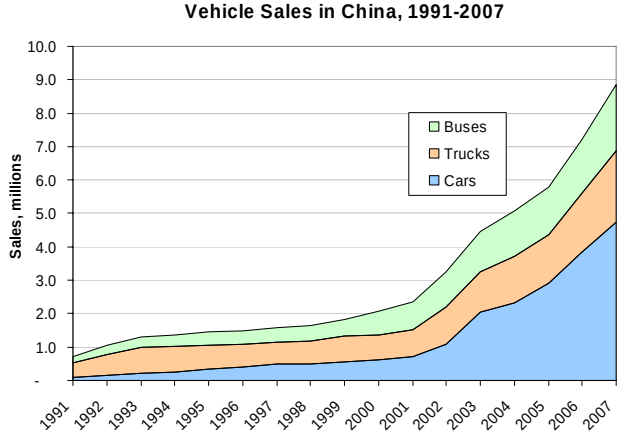
Our current projects focus on three areas: clean and energy-efficient vehicles, clean and low carbon fuels, and climate change. Brief descriptions of current key projects are given below:

Green Vehicles

Green Car Rating System: December 2005 – present. As part of our commitment to promoting environmentally-friendly vehicles in China, we have led the effort to develop a first-ever green car rating system in China by working closely with VECC-SEPA. The rating system is designed to give manufacturers, consumers, and policy makers an accurate and scientific method of differentiating vehicles based on their total environmental impact. After more than a year of technical methodology development, we achieved a major milestone in the summer of 2007 with the launch of VECC's consumer outreach website listing the Green Ratings of every passenger vehicle available in China. The project has also played an important role in raising awareness within top-level SEPA officials of progressive policies and strategies for controlling the life-cycle environmental impacts of vehicles.

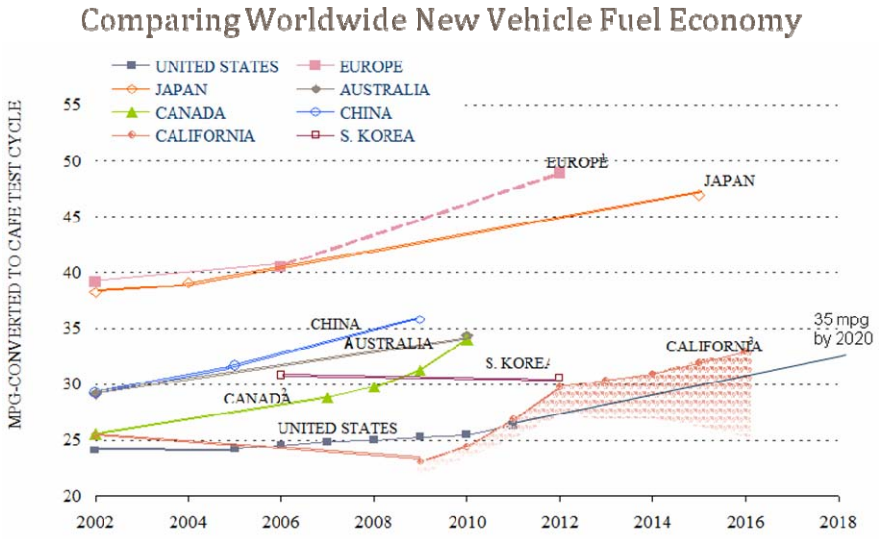


iCET-VECC's Green Vehicle Rating System is China's first and only environmental ranking system of vehicles.



2007 vehicle sales in China were 8.8 million, a 25% increase over 2006. China is now the second largest vehicle market in the world. (Source: CATARC Automotive Yearbook.)

Fuel Economy Standards: January 2005 – present. With support from the Energy and Hewlett Foundations, we have been working closely with the National Development and Reform Commission (NDRC), the China Automotive Technology and Research Center (CATARC), and Development and Research Center of Agricultural Vehicles to establish a series of fuel economy standards for passenger cars, light-duty commercial vehicles, and rural vehicles. In conjunction with these programs, we also assist CATARC, China Taxation Bureau, and Ministry of Finance on reforming vehicle excise and sales taxes, as well as tariff reform for importing energy-efficient and alternative-fuel based auto parts.



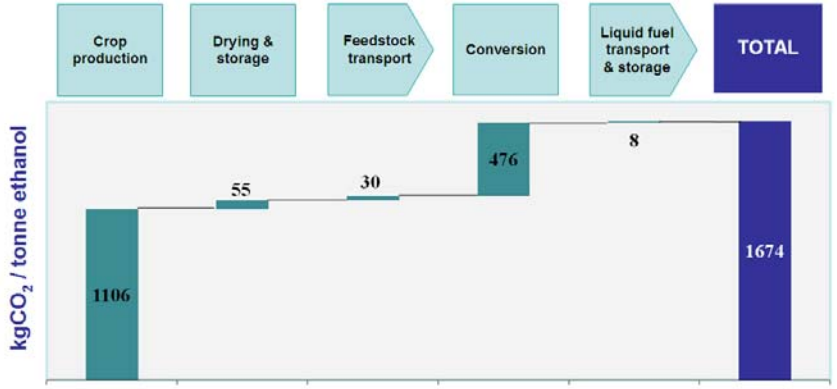
Research performed by iCET's Dr. Feng An shows that China's fuel economy standards are significantly stricter than the US's, but still lag behind Europe and Japan. (Source: Feng An, et al, Passenger Vehicle CO_2 and Fuel Economy Standards - A Global Update, ICCT report, 2007.)

As results of these efforts, China has recently adopted Phase I & II passenger vehicle (M-1 type) standards. The Chinese standards are based on 16 weight-bins and require every individual vehicle models to meet minimum fuel economy target, instead of fleet – average requirement by automakers as in other countries. The Phase II Standards, to be effective in 2009, are more stringent than the US Corporate Average Fuel Economy (CAFE) standards.

China last year also adopted a first-ever fuel economy standards for N-1 and M-2 type light duty commercial trucks (under 3.5 ton) and buses. The standards are based on vehicle weight as well as engine size. The Phase I Fuel Economy Standards for rural vehicles (including 3-wheelers and slow-speed 4-wheel trucks) has also been proposed, and currently under official review. The development of fuel economy standards for heavy-duty trucks is also underway, as well as feasibility analysis of Phase III & IV standards for M-1 type passenger vehicles.

Clean Fuels

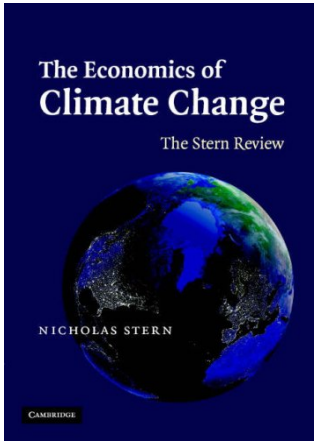
Low Carbon Fuel Standards: September 2007 – present. In September 2007, with support from the British government and the Energy Foundation, we initiated a major project to develop and implement Low Carbon Fuel Standards in China. Low Carbon Fuel Standards, which are currently being implemented in California and the European Union, represent the cutting edge of international transportation policy for both sustainable development and climate change policy. *i*CET has obtained strong support from some of the most powerful Chinese governmental agencies as well as international experts associated with energy and climate change research and policy. During the fall of 2007, we successfully initiated this project by hosting the First International Workshop on Low Carbon Fuels and Climate Change in China, and then working closely with our project partners to implement the recommendations made.



A Low Carbon Fuel Standard evaluates and compares greenhouse gas emission from all stages of fuel production, allowing for accurate differentiation between transportation fuels and fuel chains. (Example table courtesy of iCET's project partner E4tech.)

Climate Change

State Environmental Protection Administration (SEPA) Climate Change Capacity Building: June – January 2008. We researched and wrote a report for the People's National Congress and State Council on capacity building within SEPA to establish an office solely dedicated to addressing the China's relationship to climate change. Currently, Chinese governmental agencies, especially SEPA, lack the capacity to tackle the climate change challenge effectively. The report reviews international experiences of climate change policies and practices, analyzes China's current status, assesses the capacity gaps between SEPA and international environmental agencies, and designs strategies and specific measures that SEPA can incorporate to strengthen its ability to address climate change.



Policy Paper for the *Stern Review on the Economics of Climate Change*: In the summer of 2006, we authored a research paper to support the highly influential *Stern Review on the Economics of Climate Change*. Our paper, entitled "Climate Change Mitigation Strategies for the Transportation Sector in China," provides an overview of transportation energy use and demand in China and outlines a series of critical strategies for reducing greenhouse gas emissions from this sector. After completing the paper, we presented our conclusion to Sir Nicholas Stern, in person, at the British Embassy in Beijing.

In December 2007, iCET staff met with the Governor of Massachusetts, Deval Patrick (second from left), and the US Ambassador to China, Clark T. Randt, Jr. (second from right), to discuss potential US-China renewable energy partnerships.

Conferences and Outreach

On September 7, 2007, in Beijing, *i*CET hosted the ***First International Workshop on Low Carbon Fuels and Climate Change in China***. This landmark workshop was supported by the China National Coordination Committee on Climate Change, the State Environmental Protection Administration Vehicle Emission Control Center (VECC-SEPA), and the China National Institute of Standardization (CNIS); and sponsored by the British Foreign and Commonwealth Office, the Energy Foundation, and the California Environmental Protection Agency and California Air Resources Board (CARB).

Mr. Li Xinmin, Deputy Director, Pollution Control Department, SEPA, delivered opening remarks.

The workshop was designed to introduce the concept of Low Carbon Fuel Standards to a Chinese audience and discuss potential development and implementation in China.

The conference attendees included representatives from major relevant Chinese governmental agencies, project partners, and an international advisory committee including those who are doing research and development of the LCFS in the European Union and California.

Key speakers included Dr. Feng An, the Executive Director of *i*CET, Ms. Li Liyan, Deputy Director of the National Climate Change Coordination Committee of the NDRC; Mr. John Fox, First Secretary (Environment) at the British Embassy Beijing; Mr. Guo Hui, Deputy Director of The First Industry Department of the Standardization Administration of China; Mr. Li Xinmin, Deputy Director-General of Department of Pollution control, Chinese State Environmental Protection Administration; and Ms. Margret J. Kim, California Environmental Protection Agency China Program Director and Special Advisor.

International and local attendees learned and shared experience about Low Carbon Fuel Standards.

Additionally, we recently co-organized the ***2007 International Forum on Chinese Automotive Industry Development*** (IFCAID) from September 8-9, 2007, in Tianjin. The conference theme this year was "Environmental Protection, Energy Efficiency, Green Manufacturing," and featured VIP speakers Ms. Margo Oge of the US Environmental Protection Agency, Mr. Thomas Friedman, New York Times columnist and Pulitzer Prize winning author, Dr. Axel Friedrich of the Germany Environmental Protection Agency, and Mr. Zhang Guobao, Vice Minister of the NDRC. The forum was hosted by China Automotive Technology and Research Center (CATARC), Society of Automotive Engineers of China (SAE-China), China Association of Automobile Manufacturers (CAAM), China Automotive News and Tianjin Economic-Technological Development Area (TEDA).

iCET staff with Margo Oge, Director of US EPA Office of Transportation and Air Quality, after the IFCAID.

Thomas Friedman, New York Times columnist and Pulitzer Prize winning author, delivered at speech at the IFCAID. Afterwards, he and iCET Executive Director Feng An were interviewed by Xinhua News Agency.

The Auto Project on Energy and Climate Change (APECC)

Over the past three and a half years, we have prepared and distributed the APECC Newsletter, which is sent out monthly to hundreds of international professionals and subscribers. Since *i*CET was established, the APECC Newsletter has continued to keep its readers up to date with the most recent energy, environment, auto/transportation, oil/natural gas and climate change information in China. The newsletter is distributed by e-mail and also published online.

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

MONTHLY NEWS BRIEFING

http://www.autoproject.org.cn

AUTO/ENERGY/POLLUTION

Volume IV, Issue 12, December, 2007

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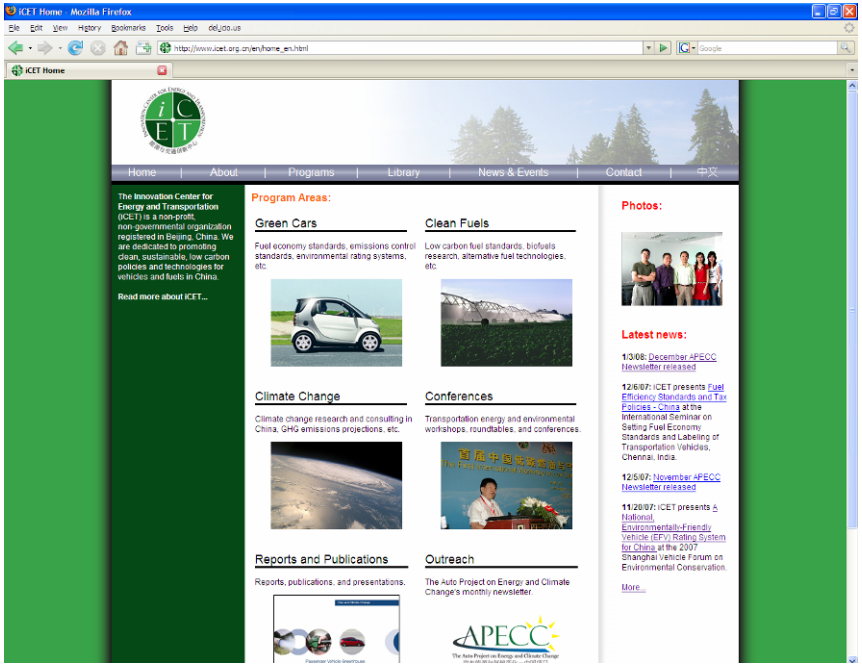


iCET Website

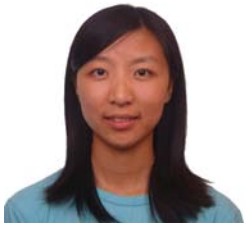
*i*CET website has grown into a valuable source of information not only about *i*CET activities and progress, but also for news, reports, and publications related to *i*CET's work.

*i*CET Staff

*i*CET has made great strides in in-house capacity building; we now have eight staff members. Current and former staff members are as follows:

Dr. Feng An, **Executive Director**. Dr. An is the founder of *i*CET and a world expert in sustainable transportation, fuel economy standards, and climate change. He has worked in numerous national and international-level institutions and founded several California-based companies to solve energy and transportation problems in the United States and China. In recent years, he has been actively involved in global automotive fuel efficiency and greenhouse gas mitigation programs in China, the United States, the European Union, Mexico, Brazil, and India. He also served as transportation consultant and advisor to the Hewlett Foundation's Latin America program, the Energy Foundation's China Sustainable Transportation program, the International Council for Clean Transportation, and the US Department of Energy Argonne National Laboratory. His work has been widely reported including by the *New York Times* and other international media. Dr. An received his PhD from the University of Michigan in 1992, and his MS from Tsinghua University in Beijing in 1986, both in Applied Physics. Dr. An has authored numerous publications and been frequently invited as a speaker at many international conferences.

Dr. Yufu Cheng, **Managing Director**. Dr. Cheng received his PhD from the University of California at Davis in 2003 in Environmental Science. He has over a decade of experience in conducting environmental protection projects, measuring CO2 emissions and global changes in different areas especially in China, the United States, Mexico, and the North Pole. He has worked with international collaborators in global changes and environment protection funded by USNSF, USDOE and NASA. He was an adjunct faculty of Biology and a research scientist at California State University, Los Angeles, from 2003 to 2006. He served as a committee member for Sino-Ecologists Association Overseas from 2004 to 2006. Dr. Cheng has authored many publications on greenhouse gas emissions, carbon balance, global changes, and environmental monitoring. He was invited to meet with US former Vice President Al Gore on August 12, 2007 to discuss the ways in which China will promote green growth while maintaining rapid development. He is a frequent reviewer for a number of international scientific journals.



Fang Fang, **Beijing Office General Manager**. Ms. Fang Fang obtained her Master's degree in Environmental and Development Economics from the University of Oslo in Norway in 2007, and Bachelor's degree in International Finance from Beijing University of Aeronautics and Astronautics (BeiHang University) in 2001. She has extensive experience in project management, having previously worked as a project officer in International Department, Ministry of Finance, P. R. China.

David Vance Wagner, **Program Manager and Auto Energy Analyst**. Holding a degree in Mechanical Engineering from Stanford University, Mr. Wagner specializes in environmental impacts of vehicles and fuels, and has extensive knowledge about environmental rating systems from around the world.

Lucia Green-Weiskel, **Project Officer, Climate Change Program** (part-time, US based). Ms. Green-Weiskel holds a BA in International Relations from Hampshire College and an MSc in Asian Politics from the School of Oriental and African Studies, University of London. She has worked as an environmentalist and as a journalist in the oil and natural gas industry.

Liping (Ellie) Kang, **Research Analyst**, with a Master's of Engineering degree from China Agricultural University, Ms. Ellie Kang is involved in biofuel technology and policies, especially related to sweet sorghum ethanol and low carbon fuel standards.

Former staff:

Fan Yue, **Former Managing Director** (March 2006 – November 2007). Ms. Fan Yue obtained her Master's degree in Environmental Science from Wageningen University in the Netherlands and has extensive work experience in environmental management and Clean Development Mechanism (CDM) projects with the Chinese government.

Alex Whitworth, **Former China Development Manager** (March 2006 – November 2007). Mr. Alex Whitworth is well versed in energy efficiency and renewable energy technologies, and has work experience carrying out environmental impact assessments throughout China. He holds a Master's degree in Environmental Engineering from Columbia University in New York.

Cheng (Chandler) Wang, **Research Analyst**, Mr. Wang Cheng holds a Master's of Engineering degree from the Chinese Academy of Sciences, and a Bachelor's of Engineering from Peking University. He is working on fuel economy standards and the EFV rating system.

Apple Wang, **Administrative Assistant**, Ms. Apple Wang holds a Bachelor's degree in Accounting from Tianjin University of Finance and Economics.

2006 – 2007 Financial Highlights

Over the past one and a half years, we have received funding from the following organizations:

Blue Moon Fund: $50k for establishing *i*CET (5/06-11/06);
Hewlett Foundation: $220k over two years (7/06-6/08), for establishing *i*CET, green car rating, conferences, and outreach;
Energy Foundation: $110k for green car conference, fuel efficiency projects, and SEPA capacity building report (7/07-12/07);
UK Foreign and Commonwealth Office Global Opportunities Fund: $400k over two years (9/07-8/09) for the Low Carbon Fuel Standards project; a large portion of the fund will go to our UK and Chinese partners.

We have also received some small grants from the UK's *Stern Review on the Economics of Climate Change*, VECC-SEPA, and Heilongjiang province.