



2013

The Innovation Center for Energy and Transportation Annual Report



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MISSION AND CORE STRENGTHS

iCET....Innovating for a Cleaner World

The Innovation Center for Energy and Transportation (*iCET*), a leading think tank in the areas of clean transportation, sustainable development, and carbon management, is an independent non-profit organization registered in Beijing and California. *iCET*'s mission is to strengthen international collaboration and provide decision makers at all levels with the urgently needed innovative solutions to solve the energy, environment, and climate crises that the world faces today.

iCET's Core Strengths

Independent * Practical * Innovative

Over the years, *iCET* has carved out a unique reputation as a leader in China's climate and sustainable development policies. We recognize the urgency of the sustainability problem, focusing on solutions for China. We are committed to the values and principles of innovation, sound scientific research, independence, practicality and integrity. *iCET*'s work falls primarily in the following four categories:

Identifying and Introducing International Best Practices

iCET identifies international best practices on sustainable development and climate change, assesses their suitability for use in China, and transfers innovative best practices into China.

Providing Expert Advice and Capacity Building

iCET provides expert advice on low carbon and sustainable development, conducts in-depth analysis and policy studies on improving energy efficiency and reducing emissions, and delivers capacity building programs on GHG and sustainability management. *iCET*'s passionate and highly-trained staff often publish and speak in both technical and policy areas.

Planning and Coordination

iCET organizes international conferences and workshops, and facilitates the exchange of ideas, cooperation, and coordination among various stakeholders, including central and local government bodies, the private sector, NGOs, academics and consumers.

Media Outreach

iCET uses public media to educate the public (for example our Green Car Rating program and various policy briefings), promote environmental consciousness, and create demand for green consumer products in China.

LETTER FROM THE EXECUTIVE DIRECTOR



Dear Friends and Supporters,

In 2013, air pollution in Chinese cities such as Beijing and Shanghai again reached record high levels. At the same time, the U.N. panel of experts says it is at least 95 percent likely that humans are the main cause of global warming. As iCET celebrates its eighth year as one of the first China-based NGOs to bring the climate and low carbon discussion to China, we are even more certain that now is the time to step up our efforts to fight this global environmental crisis together.

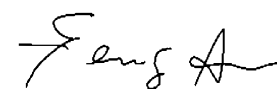
This last year, iCET has provided many fresh sustainable development solutions. I will provide only three examples here. The China Energy and Climate Registry, which remains the first non-profit carbon management platform in China, is now actively helping institutions across China build capacity to manage their own GHG emissions using its newest software. The US-China Clean Tech Center has organized major events for hundreds of Chinese stakeholders, including an event led by the Governor of Wisconsin, accelerating the adoption of new clean technologies. Of course, iCET continues its tradition of releasing a completely updated China Environmental Friendly Vehicles Ranking to promote the widespread adoption of cleaner vehicles in China. All of these achievements will help reduce the damage done to our environment.

2014 will see only similar trends of a warming planet and polluted environment. However, with your support and commitment, we see sunrises of hope in 2014: a continued increase in the number of Chinese businesses learning how to measure and manage their own emissions, even more successful international clean technologies being deployed in China, and millions of citizens in China making even more green-conscious decisions through our objective and scientific analysis.

It is your support to iCET that continues to help make progress for a cleaner world. As we see the

environment degrading before our eyes, we realize that our own lives depend on our relentless progress for a more sustainable future.

Sincerely yours,



Dr. Feng An

President and Executive Director

Innovation Center for Energy and Transportation

CLEAN TRANSPORTATION

Program Mission: The Clean Transportation Program (CTP) mission is to dramatically reduce oil dependence, mitigate GHG emissions, and improve urban air quality.

The CTP focuses on on-road transportation, and seeks to find comprehensive solutions to address transportation's fuel efficiency and carbon intensity from cradle-to-grave. The CTP is concentrated on pivotal transportation elements, and is specializing in both quantitative and qualitative work as displayed in the below figures.

iCET Clean Transportation Program work areas, approaches and tools:



iCET Clean Transportation Program 2013 outputs:

Projects' Types and Titles	Areas (need to have same order vehicle/fuel/system)			Approaches		
	Clean Vehicles	Sustain' fuels	Systems Innovation	Data/Tools	Policy/ Stand'	Implem' Plan
Taking new initiatives						
1 Analysis Report on Characteristics and Technologies Comparison of International Top Sales Passenger Vehicles	V			V		
Supporting policy-making processes						
2 Background Report on International Biofuel Sustainable Standards and Policies Development*		V			V	
3 U.S. Renewable Fuel Standard Implementation Mechanism and Market Tracking		V			V	
Monitoring and evaluation of policy implementation						
4 China Environmentally Friendly Vehicle Annual Report*	V			V	V	
5 China Passenger Vehicles Corporate Average Fuel Consumption Annual Report*	V			V	V	
6 Survey Report on Light-Duty Vehicle Fuel Consumption Labeling			V	V	V	

* On-going projects from previous years.

Note: the above numbering is not representative of iCET's priorities or level of development.

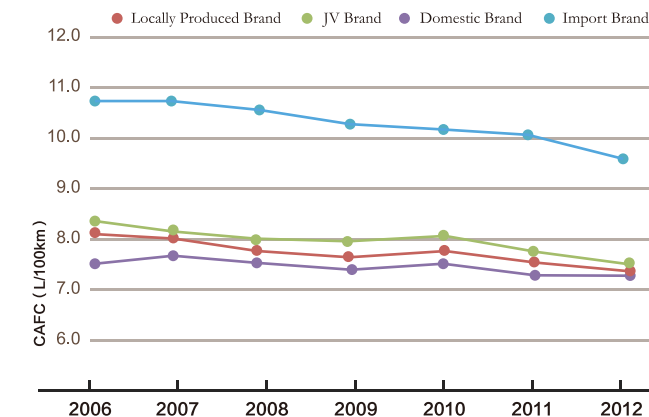
Clean Vehicles: Key Accomplishments in 2013

China's oil imports account for about 60% of national consumption. China oil imports are projected to become the world's largest in 2014. Furthermore, China's main transportation growth is from the private on-road transport sector, which currently accounts for as much as 50% of city pollutants and about 22% of city PM2.5. iCET has focused its work on the following fronts:

- Government – CTP continues to advise decision makers on fuel consumption standards and labeling systems; this year we've added an analysis on the impacts of new energy vehicles (NEVs) on corporate vehicle fuel consumption as well as the potential credits these NEVs could have gained.
- Consumers – CTP constantly updates its unique online Environmentally Friendly Vehicle (EFV) tools for providing quick comparisons of life-cycle energy use and emissions of all vehicle models in the Chinese market.
- Automakers – CTP continues to publish the annual automakers corporate average fuel economy (CAFE) analyses and rank the environmental performance of individual automakers. All of these efforts are aimed to spur the introduction of cleaner vehicles offered from automakers.



Box I: Annual CAFE trends by company type



Box II: iCET's China Environmentally Friendly Vehicle (EFV) Online Work

iCET has been focused on informing decision-makers, both private and public, of the environmental impacts of China's vehicles primarily through a free, user-friendly online tool.

www.greencarchina.org is promoted through our 62,127 members Weibo blog





Sustainable Fuels: Key Accomplishments in 2013

As vehicle fuels (both gasoline and diesel) are responsible for 60% of oil consumption and CO₂ emissions, as well as about 70% of China's annual oil demand increase, iCET has dedicated much of its work to curb conventional fuel demand by:

- Continuously shaping the “Low Carbon Fuel” institutional framework in China since 2007; this year we've participated in numerous government-led low-carbon fuels workshops.
- Providing measurement and comparison tools for mapping low-carbon fuels according to their GHG lifecycle and energy efficiency; this year we've focused on international bio-fuel sustainability evaluation techniques.
- Introducing international best practices and concepts to China's bio-fuel standards technical committees as a professional committee member; this year we've introduced the U.S. renewable fuel standards and regulatory mechanism.

Clean Transportation Research Publications in 2013

“Background Report on International Biofuel Sustainable Standards and Policies Development” (March 2013)

This study provides an overview of internationally advanced biofuel sustainability policies, standards, voluntary schemes, certifications and audits, with the aim of providing Chinese policy-makers with a set of regulations and standards that have proven to effectively advance sustainable biofuel development abroad.

“U.S. Renewable Fuel Standard Implementation Mechanism and Market Tracking” (May 2013)

This study is aimed at introducing Chinese stakeholders with the U.S. Renewable Fuel Standard (RFS), a state-of-the-art binding policy for promoting the utilization of biofuels in the road transportation sector for reducing the country's foreign oil dependency and greenhouse gas emissions.

“2012 China Environmentally Friendly Vehicle Annual Report” (June 2013)

This periodic report makes use of iCET's Environmentally Friendly Vehicle rating computerized tool to report on China's greenest cars in 10 different market segments. The 2012 report also includes trends identification based on three consecutive years of data collection and annual reporting.

“China Passenger Vehicles Corporate Average Fuel Consumption Annual Report” (June 2013)

This report tracks the corporate fuel consumption of 60 locally produced and 23 imported passenger vehicle models for shedding light on China's vehicles Corporate Average Fuel Consumption (CAFC) implementation status, highlighting CAFC trends and providing recommendations for setting effective standard targets and pathways.

“Survey Report on Light-Duty Vehicle Fuel Consumption Labeling” (July 2013)

Following the “Light vehicle fuel consumption labeling regulations” implemented early 2010 with the aim of strengthening energy conservation management of vehicles, this study traced regulatory uptake through quantitative study and indicated major implementation impediments through a qualitative study.

“Analysis Report on Characteristics and Technologies Comparison of International Top Sales Passenger Vehicles” (June 2013)

This report offers a quantitative analysis that exhibits and compares energy saving technologies available at four major vehicle markets (China, U.S., Europe and Japan) in order to capture vehicles' energy saving potential.

CARBON MANAGEMENT SOLUTIONS

Program Mission: The Carbon Management Solutions (CMS) Program's mission is to increase awareness in greenhouse gas emission data management, and provide expert carbon management services for governments, communities, business, as well as NPOs/NGOs in China.

Climate change is one of the world's greatest challenges and there is an urgent need for innovative solutions. The climate crisis not only requires the world to rapidly reform its existing business model but also foster new climate responsibility from ordinary citizens. With rapid economic growth, China is making unremitting efforts to address energy and environmental crises. However, in order to promote climate change legislation and the establishment of a national carbon market, building robust greenhouse gas management mechanisms are necessary.

iCET Carbon Management Solutions Program work areas and approaches



iCET Carbon Management Solutions Program Strategic Framework



China Energy and Climate Registry (ECR)

www.ChinaClimateRegistry.org

From the perspective of businesses and institutions, accurate accounting and monitoring of their emissions and energy use is the first and most fundamental step in emissions reduction and also carbon trading.

In early 2008, iCET initiated the China Energy and Climate Registry (ECR) project, aiming to help entities operating in China manage their energy consumption and greenhouse gas emissions. The ECR project has gained financial support from the Rockefeller Brothers Fund, Hewlett Foundation, the Energy Foundation and the Blue Moon Fund, and technical support from the Climate Registry (TCR). As the first voluntary online carbon registry in China, ECR has been officially launched in November 2013 with a brand new user interface, and it is open to all entities operating in China. All formally registered users gain free access to log-in information, demo video, and an operational guidebook on carbon accounting—the GHG General Reporting Protocol.



Key Accomplishments in 2013

- iCET has officially released in 2013 the most updated GHG General Reporting Protocol both in Chinese and English, making this the third version. The General Reporting Protocol makes international standards specific and feasible, and is a powerful user's guide that includes all information needed for any user to calculate and report emissions.
- In November 2013, the ECR Launch Press Conference was successfully held in Beijing. The ECR has now been specifically tailored for China by localizing internationally-established standards and methodologies. With a user-friendly interface, ECR provides a new and enjoyable experience in carbon management.



- iCET is working in partnership with China Youth Carbon Action Network (CYCAN) to promote ECR among university campuses. The purpose is to increase the awareness of carbon management among would-be business leaders and university students.
- NRDC, Tianjin TEDA Eco Center, China Youth Climate Action Network, Accenture Sustainability, Beijing Vedanta Investment Consulting Ltd, Greenfield Environmental Consultants Ltd, Global Environmental Institute, Beijing Forestry University, Fujian Metrology Institute, Fujian Huatuo Automation Technology Co., Ltd and Shenzhen Low-Carbon Development Foundation officially registered to become members of ECR.
- The Global Climate Registry Alliance (GCRA) continues to advance with interested regional members such as India. GCRA, which was launched at the Rio+20 in Brazil in June 2012 by The Climate Registry (TCR) (USA), iCET (China), and GVces (Brazil), acts as a global consortium of programs to manage and measure greenhouse gas emissions.
- Also, iCET has signed an MOU with the Shenzhen Low-Carbon Development Foundation. As a technical expert, iCET will cooperate deeply with Shenzhen and share our rich experiences to help them improve their own carbon accounting guide and online registry.

Carbon Cap-and-Trade Research

Since November 2011, the NDRC of China initiated carbon trading pilot programs in seven provinces and cities -- Beijing, Guangdong, Shanghai, Tianjin, Chongqing, Hubei and Shenzhen. Following, in 2013, Shenzhen, Beijing, Shanghai and Guangdong launched their carbon permits market one after another. Since 2012, iCET has investigated existing carbon trading systems in North America, especially California's cap-and-trade system, and summarized useful experiences that could be applied appropriately in China's market.

Key Accomplishments in 2013

■ “A Review on the Auction Mechanism of California's Cap-and-Trade Scheme” (April, 2013)

California's Cap-and-Trade Scheme officially started in 2013. It undoubtedly brings new light to a lagging international carbon market. Based on the last two auction results in early 2013, this report is to analyze and summarize relevant terms and conditions of auction mechanism, aiming to give China's pilot provinces and cities plenty of expert advice.

■ “2013 Work Plan of California's Cap-and-Trade Scheme”(July, 2013)

According to the timetable published on the ARB's website, this report gives a brief introduction on the work plan of California's Cap-and-Trade Scheme in 2013 in terms of offset program implementation, product-based benchmarks, allowance allocation, auction and trading requirements, and emissions leakage.

■ “Brief Introduction on the Cost Control Mechanism of California's Cap-and-Trade Scheme” (August, 2013)

This report compiles what was achieved from ARB's workshop held in June 2013, which discussed cost control related issues. We hope that the report will offer references for China's carbon market, as there still are not regulations and rules for cost control of the pilot cap-and-trade schemes in China today.





■ **“A Review on Offset Projects of California’s Cap-and-Trade Scheme” (November, 2013)**

Offset credits can be sold and used by a covered entity as a compliance instrument in California’s cap-and-trade scheme. The design of regulation -- such as requirements for compliance offset protocols, types of offset credits, offset credits creation process, requirements and processes for offset credits issuance, and so forth -- is crucial to a cap-and-trade scheme. This report therefore offers basic reference for the establishment of China’s carbon market.

■ **“A Review on the Electricity Sector of California’s Cap-and-Trade Scheme” (December, 2013)**

As a primary source of greenhouse gas, the electricity sector is one of the most regulated sectors and is a key participant of a carbon market. This report introduces the market structure and price setting of the electricity sector in China and the U.S., especially California, then further discusses the allowance budget, allocation mechanism, compliance regulation, revenue allocation and related impacts of the electricity sector in California’s cap-and-trade scheme. All the specific regulations to California’s electricity sector provide an excellent foundation to cap-and-trade pilots in China.

INTERNATIONAL CLEAN TECH COLLABORATION

The flagship program of our international clean technology collaboration program is the U.S.-China Clean Tech Center (UCCTC).

www.uschinacleantech.org

UCCTC’s mission is to provide U.S. firms a strategic launching pad where they can introduce their clean technology products and services in leading markets for clean technology. Besides the accomplishments listed below, iCET and its UCCTC program has explored many new ventures with Chinese entities, assisted in cementing several MOUs between U.S. and Chinese companies, and provided free consultation to many U.S. and Chinese partners. Here are some of UCCTC’s key 2013 achievements:

High-level events for associations and US states on US-China clean technology collaboration:

- UCCTC organized a Groundwater and Soil Remediation Trade Mission in July 2013 led by U.S. Deputy Assistant Secretary of Commerce to three Chinese cities over seven days. Working over six months, UCCTC recruited and set up over 100 total one-on-one targeted matchmaking meetings for 10 US companies. 100% of the U.S. company participants were satisfied with the trade mission’s quality and potential to support their export success and several companies have found Chinese partners following the trade mission.



- UCCTC organized the China-Wisconsin Clean Water Forum led by the Governor of Wisconsin in April 2013 and also led a delegation of Chinese partners to visit Wisconsin in October 2013. The Forum brought together leading scholars, policy-makers and business organizations within the water industry throughout China and Wisconsin. UCCTC will continuously assist Wisconsin companies to increase their collaboration opportunities in China.



- In October 2013, UCCTC co-hosted the 2nd US-China Clean Truck & Bus Summit in Shanghai. Building on the great collaboration of the first summit in Beijing in 2012, but with an expanding subject matter focus, the 2013 Summit explored topics in natural gas, electric, hybrid electric and clean diesel technologies in medium and heavy-duty vehicles and buses.
- In October 2013, UCCTC partnered with the State of California on a clean energy trade mission to China led by Secretary of the California Environmental Protection Agency.

In-depth assistance to several individual clean technology companies:

- Serve as a representative in China for several UCCTC VIP Members (small businesses) who want to find buyers and partners for their clean technology.
- Wrote an authoritative white paper/marketing paper on the measured energy efficiency savings from the technology of a US clean tech firm.

Host and Serve as Knowledge Expert for International Clean Technology Collaboration:

- As just some examples of presentations that UCCTC has done in the U.S., UCCTC hosted the “Clean Water Market Opportunities” webinar series with the US Department of Commerce, and served as speaker at Asia Pacific Business Outlook Conference on April 2013 and the “Picking the Right Global Markets” webinar on January 2013. UCCTC is consistently invited to speak in China.



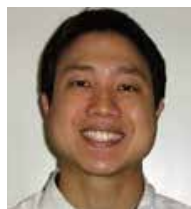
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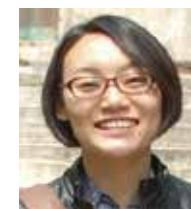
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China Automotive Technology and Research Center (CATARC)
China Automotive Engineering Research Institute (CAERI)
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The Climate Registry (TCR)
Green House Gas Management Institute (GHGMI)
Business for Social Responsibility (BSR)
E4Tech
China Youth Climate Action Network (CYCAN)
Shenzhen Low-Carbon Development Foundation

iCET is grateful for the generosity of sponsors and partners from around the world. As we grow and our projects expand from start-ups to full-fledged programs, we also need a commensurate increase in financial support. Please consider supporting iCET's work.