The **China–U.S. ZEV Policy Lab** was created to accelerate clean vehicle development and promote best practices and policy initiatives in China, California and the United States. This is a groundbreaking international collaboration between the China Automotive Technology and Research Center (CATARC) and the UC Davis Institute of Transportation Studies (ITS-Davis) and the campus’ China, policy, and plug-in electric vehicle centers. This alliance supports the expansion of the global market for zero emission vehicles (ZEVs) by providing research and intellectual support for the design of ZEV policies and the analysis of consumer markets.

Representatives of UC Davis and CATARC signed the agreement establishing this new research consortium at a ceremony attended by senior representatives of the California Air Resources Board and China’s National Development and Reform Commission, during the 2014 International Forum on Chinese Automotive Industry Development in Tianjin, China on September 6. The **China–U.S. ZEV Policy Lab** will strengthen cooperation between the U.S. and China in areas important to ZEV implementation, helping to bring about a more sustainable transportation system that provides clean, affordable mobility to the world. This cooperation resulted in China’s adoption of a California-style New Energy Vehicle Credit Policy in September 2017.

### Program Objectives and Research

Healthy development of China’s ZEV industry requires a sound and effective management system and a policy support system to regulate and guide the sector. The **China–U.S. ZEV Policy Lab** will conduct joint research, scholastic exchanges and training to support the ramp up of the ZEV market in China (including BEVs and PHEVs, as well as FCVs, consistent with “New Energy Vehicles”). As the important platform for U.S.-China ZEV policy exchanges and cooperation, the **China–U.S. ZEV Policy Lab** will aid successful implementation by addressing questions important to government and industry planners. This platform is now being expanded to include European countries so that we can achieve a synchronized expansion of ZEV market globally, with policies matching the new technology developments in autonomous vehicles and ridesharing services.

The core market research questions will include: What is the market for ZEVs in China, the U.S. and EU. What is the timeline to phase out ICE vehicles? Who will buy different types of ZEVs and why, and what will influence their purchase and use behavior? Policy research will emphasize policy homologation between China, the U.S. and EU, and among the provinces in China. Policy topics will include credit trading in China, California, and European countries, monetary and non-monetary subsidies and tax incentives, regulations, and policy evaluation. To aid industry planning, the **China–U.S. ZEV Policy Lab** will focus on fact-based, durable and integrated implementation strategies. Joint industry-government planning will be a primary emphasis.

The **China–U.S. ZEV Policy Lab** will also support the **International ZEV Alliance** to increase the coordination and scale-up of global ZEV development.

UC Davis brings pioneering leadership in studying consumer response to new technology to this new collaboration. The **China–U.S. ZEV Policy Lab** have conducted the first major public studies of
Chinese consumer response to advanced energy vehicles, providing critical insights into how ZEVs can be designed, marketed and supported with charging infrastructure to ensure their rapid success in China’s first, second, and third-tier cities.

**Brief Timeline Since Its Establishment**

**September 2014:** Creation of the *China–U.S. ZEV Policy Lab*. Dr. Alberto Ayala, Deputy Executive Officer of CARB, and Mr. Gang Li, Director of the Vehicle and Ship Department of NDRC, served as co-chairs of the Board of Advisors.

**August 20, 2015:** A China ZEV Policy Workshop was held at the 15th Biennial Asilomar Conference on Transportation and Energy, hosted by UC Davis. Key California officials, and officials from China’s Ministry of Industry and Information Technology (MIIT), NDRC, and Ministry of Finance (MOF) attended. After intense discussion, a consensus was reached that China should adopt the ZEV Mandate.

**January 2016:** Both the Minister of Finance and the EV 100 Chairman openly called for the adoption of China’s ZEV policy at the EV100 Meeting. Yunshi Wang spoke at the closed-door discussion.

**August 1, 2016:** Dr. Ayala co-chaired with Mr. WU Wei the ZEV Policy Lab Board of Advisors Meeting in Beijing. That evening, Dr. Ayala and Yunshi Wang had dinner with EV100 Chairman CHEN Qingtai and Executive Secretary ZHANG Yongwei and exchanged views on the two policy proposals.

**January 15, 2017:** CARB Vice Chair Sandy Berg, Dan Sperling, and Yunshi Wang met with Vice Minister Xin of MIIT and Chairman Chen of EV100 during the roundtable discussion at the EV100 annual conference in Beijing.

**June 6-7, 2017:** the ZEV Policy Lab arranged for Governor Brown and Chairwoman Nichols to speak at a conference and meet with a dozen Chinese EV company executives to welcome them to California.

**August 22, 2017:** A California-China-EU ZEV Policy Workshop was held at the Asilomar Conference grounds. Mary Nichols, Richard Corey, Steve Cliff, Mark Wenzel from CARB and William Todts (T&E) and Peter Vender (Netherlands Representative) discussed policy issued with the Chinese officials.

**September 5-6, 2017:** Dan Sperling, Yunshi Wang, and Margo Oge met with EU officials and advisors; we also met with the Representatives of European Member States at an informal lunch meeting hosted by the **Permanent Representation of the Netherlands to the EU**.

**September 28, 2017:** The “Joint Administration of Corporate Average Fuel Consumption and New Energy Vehicle Credit” Policy or NEV Credit Policy, was formally announced by MIIT. Yunshi Wang delivered the congratulations letters from Mary Nichols and Dan Sperling to Minister MIAO Wei.

**April 12th, 2018:** Yunshi Wang assisted in the Sino-Dutch round table on international cooperation on New Energy Vehicles Policies and presented Stientje van Veldhoven, Dutch State Secretary of Infrastructure and Water Management, with Dan Sperling’s new book, *Three Revolution—Steering Automated, Shared, and Electric Vehicles to a Better future*. 
June 19th, 2018: We hosted a workshop in Beijing on credit trading systems to invite experts on low carbon fuel standards, California Cap and Trade system, and a Tesla manager in charge of credits, to provide China’s policy makers with best practices and lessons-learned on those systems.

September 12th, 2018: The ZEV Policy Lab was formally expanded to be China-U.S.-Netherlands ZEV Policy Lab. California Governor Brown, Chinese Minister Xie, and Dutch State Secretary Veldhoven endorsed the signing of the MOU at the Global Climate Action Summit in San Francisco.

Participation

Companies and government agencies engaged in supplying and overseeing the use of vehicles and fuels will benefit from the valuable information and interaction provided by this new research consortium. They will benefit from early access to insights provided through briefings, technical papers, white papers, workshops, and conferences. And they will benefit from opportunities to interact with senior leaders and experts from industry, government, academics, and environmental NGOs.

The China-U.S. ZEV Policy Lab consortium has funding cycles corresponding to calendar years. Government and foundation sponsors will provide support to participate. ITS-Davis will invite sponsors to pledge support for two years to ensure strong research and outreach program start-up resources. Participation renewals for 2018 and 2019 will be requested on a calendar year basis. An up-front pledge for four years is encouraged, but not required.

Membership Benefits and Activities

Sponsors are encouraged to participate in all program activities listed below. The level of participation will be decided independently by each participant. Special strategies to address the strong interest of each sponsor can be developed on a case-by-case basis.

- **Board of Advisors.** The Board of Advisors, composed of officials from the government agencies in charge of ZEVs in both countries and relevant senior experts, will meet annually to provide guidance on the coming year’s research direction and goals.

- **Research Workshops.** Each year two high-level, invitation-only Sponsors’ research workshops will be held on critical technical and policy issues and topics. The events will take place in both China and California.

- **Research Reports.** Researchers will issue working papers and reports as work progresses. These reports will be provided immediately to Sponsors, often prior to publication.
• **Research Bulletins.** A quarterly e-newsletter and e-updates for Sponsors will highlight recent program news including research results, new projects, and events.

• **White Papers.** Concise explanations of program research and analysis will be posted on the password-protected website on a regular basis.

• **Public Outreach Activities.** On a periodic basis, special public process events will be held. These may include tutorial workshops for public agency leaders and staff, policy issue forums, and information-gathering sessions.

### Leading Government Partners

**National Development and Reform Commission** (NDRC) of the Government of the People's Republic of China, under the Chinese State Council, has broad administrative and planning control over the Chinese economy. The NDRC's functions are to study and formulate policies for economic and social development, maintain the balance of economic development, and guide restructuring of China's economic system.

**California Air Resources Board** (CARB) is the world’s leading decision-making body on clean vehicle policies. It has developed and implemented the Zero Emission Vehicle (ZEV) Mandate, vehicle greenhouse gas emissions regulations, vehicle pollutant emissions regulations, and regulations related to clean energy supply stations, helping to keep California at the forefront of environmental sustainability. ITS-Davis, along with the UC Davis Policy Institute for Energy, Environment and the Economy, provides important support to CARB’s sustainable transportation policies and regulations.

### About the Signatories

**China Automotive Technology and Research Center** (CATARC). Created by the Chinese government to manage its automotive industry and provide technical support to the government, CATARC acts as an independent, impartial institution. It advises on the formation of automotive standards and regulations; conducts product certification and testing; certifies quality control systems; carries out industry planning and policy research; provides information services; and conducts scientific research. CATARC has established world-class sector-oriented test laboratories and research institutes with outstanding and talented personnel specializing in automotive-related technology research.

**Institute of Transportation Studies at UC Davis** (ITS-Davis). The Institute is the leading university center in the world on sustainable transportation. With 60+ affiliated faculty and researchers and 120 graduate students, the Institute’s interdisciplinary scientific research and policy analysis provides critical support to California state and U.S. government policy development on advanced clean vehicles, fuels, and land use planning.

ITS-Davis established the **China Center for Energy and Transportation** (C-CET) in partnership with leading Chinese universities to specialize in China and transportation sector energy issues. C-CET, the only China research center on transportation and energy in North America, works closely with Chinese government agencies, top Chinese universities, and Chinese automotive companies on the rollout of China's new energy vehicles. The **UC Davis Policy Institute for Energy, Environment and the Economy** leverages world-class university expertise and engages directly with decision-makers to deliver credible, relevant, and timely information and analysis to inform better energy and environmental policy.
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