

# The International Council on Clean Transportation



2012 Annual Report

# Letter from the executive director

2012 was the first year of the ICCT's second decade. In 2011 we took a long look back on our origins, at what we'd accomplished in that first decade and what remained to be done. I encourage you to watch the [presentation](#) given by our founding chairman, Michael Walsh, to the Participants Council in March 2011, as well as the interviews we conducted at that meeting with many of our original participants, [here](#) and [here](#).

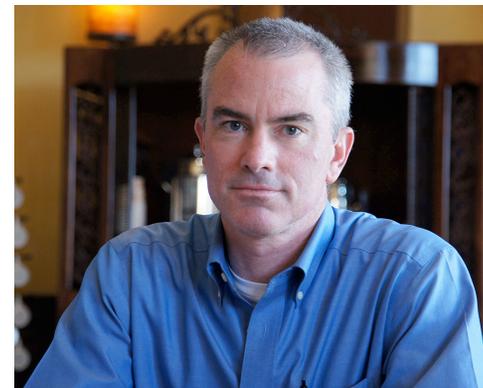
2012 was a year for looking ahead—toward our long-range goals for national and international policies that can deliver a cleaner, more efficient global transportation sector, and toward our long-range vision for ourselves as an organization.

We're gratified and encouraged by the global appetite for ICCT's technical and policy work. Our excellent relationships with government, NGOs, and other stakeholders, coupled with our proven expertise in major vehicle markets, continues to open doors. New partnerships and venues offer increasing opportunities to share our knowledge of and experience with global best practices in clean transportation policy where it is most urgently needed.

In short, the organizational momentum that we saw building up when we looked back over our first decade shows every sign of continuing through our second. 2013 looks to be another exciting year for the ICCT.



Drew Kodjak  
Executive Director



## Board of Directors

Daniel Greenbaum (chair)  
President, Health Effects Institute

Charlotte Pera  
Chief Executive Officer, ClimateWorks Foundation

Charles McElwee  
Vice President, Programs, ClimateWorks Foundation

Leonora Rojas Bracho  
Director General, Research on Urban and Regional  
Pollution, Instituto Nacional de Ecología

Michael Wang  
Manager, Systems Assessment Section, Center for  
Transportation Research, Argonne National Laboratory

Alan Lloyd  
President

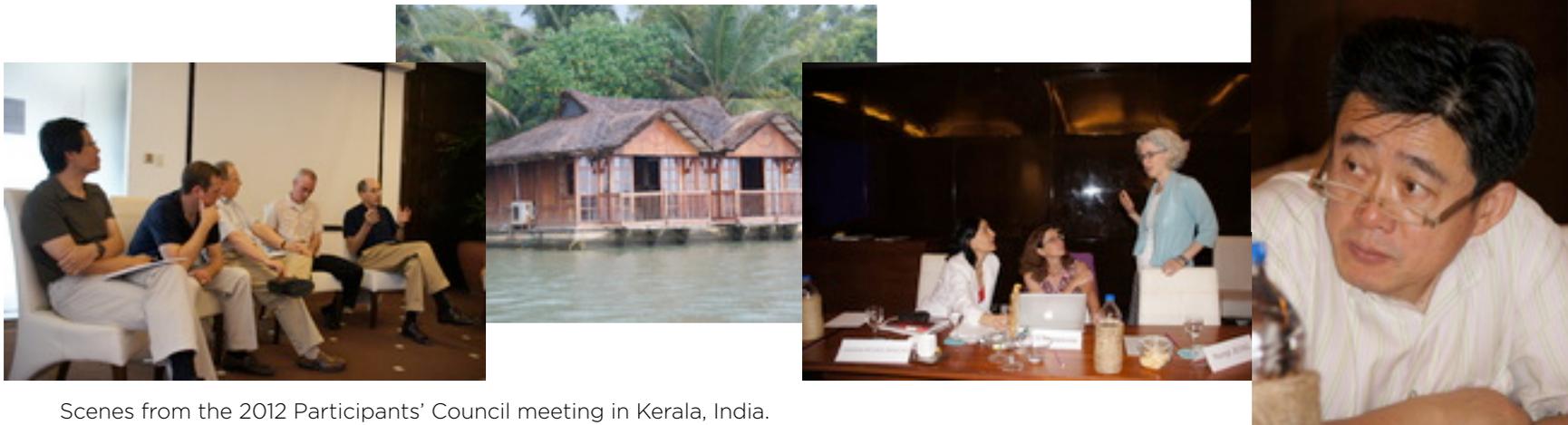
Drew Kodjak (ex officio)  
Executive Director

# History and mission

**The International Council on Clean Transportation** is the foremost independent technical research organization working on behalf of transportation air quality and energy efficiency regulators worldwide.

The ICCT was founded in 2001 as a counterweight to the influence of the global automobile and energy industries in policy debates over what standards should reasonably govern the manufacture and operation of cars and trucks, ships and planes—which together constitute not only a dynamic engine of economic prosperity and personal liberation but also a huge and deadly source of pollution. Its mission has been to provide reliable, independent technical expertise on vehicles and fuels to the public sector.

In the decade since its founding, the ICCT has grown to number nearly forty researchers and analysts who bring an integrated, comprehensive approach to driving effective policies for road, air, and maritime transportation at national and international levels.



Scenes from the 2012 Participants' Council meeting in Kerala, India.

# Highlights

## Policies

- In the **U.S.**, Tier 3 conventional pollutant standards were proposed that will reduce smog-forming gases and particulate emissions by about 70% in 2025, and enable advanced efficiency technologies by further lowering fuel sulfur limits.
- In **China**, the finalized regulation on calculating corporate average fuel consumption, e-drive vehicle credits, credit banking flexibility, and reporting for Phase 3 passenger car standard paved the way for smoother enforcement of the standard.
- In the **European Union**, CO<sub>2</sub> targets for both passenger vehicles and light-commercial vehicles cleared major hurdles when the European Parliament accepted proposals from the European Commission to set targets at 95 g/km and 147 g/km, respectively.
- **Canada** finalized Phase 1 heavy-duty vehicle standards, aligned with the U.S. standards, that will cut truck CO<sub>2</sub> emissions and fuel use by 6%–23% from 2010 to 2018. The Canadian regulation provides a model of program harmonization for Mexico, as well.
- **Mexico** set size-based, fleet-average standards for CO<sub>2</sub> emissions and fuel economy, based on the US standards, out to 2016. These are mandatory and averaged over the years 2014–2016, with additional credits provided for low leak and efficient air conditioning systems, advanced technologies, efficiency technologies, and early action in 2012 and 2013.

## Networks

The **Eighth Meeting of the ICCT Participants' Council** convened in November 2012 in Kerala, India. An invited group of twenty-one high-level government officials, researchers, and independent policy experts from Brazil, China, Germany, Belgium, India, Kenya, Korea, Mexico, Russia and the US met to share their knowledge and experience on the most pressing issues of transportation and environmental policy facing both developed and developing nations.

## Partnerships

The ICCT joined the **Climate and Clean Air Coalition to Reduce Short-lived Climate Pollutants** (CCAC) as a non-state partner organization. With the US State Department, Environment Canada, and the United Nations Environment Programme (UNEP), ICCT is the project co-lead for the CCAC's global effort to reduce fine particles and black carbon emissions from heavy-duty vehicles. ICCT work in China, Mexico and Indonesia, coupled with global programs promoting low-sulfur fuels and “green freight” technologies, are laying the technical and political groundwork for broad, coordinated policies to reduce emissions from new and in-use vehicles.

The ICCT also became a member of the **Global Fuel Economy Initiative**, joining the FIA Foundation, the International Energy Agency, the International Transport Forum, University of California—Davis Institute of Transportation Studies, and UNEP, in this collaborative effort to ensure a cohesive and effective global strategy promoting vehicle efficiency worldwide.

# Programs and regions

**ICCT's program teams work with key air-quality regulators and climate policy makers in the largest and most influential transportation markets worldwide, as well as in global multilateral venues.**

**The independence and technical credibility of ICCT's research, and the political and geographical diversity of our expert network, are our greatest strengths.**

**We aspire to be not only a vital information hub but also a uniquely reliable source of policy innovation.**

**The following pages offer just a snapshot of our wide-ranging activities in 2012.**

## **Spotlight: Short-lived climate pollutants**

Black carbon. Methane. HFCs. These short-lived climate pollutants—far more potent warming agents than CO<sub>2</sub> but persisting in the atmosphere for much briefer periods, sometimes as little as a few weeks—are a target of opportunity for climate policy. Initiatives aimed at controlling these pollutants promise more immediately achievable results than policies aimed at curbing CO<sub>2</sub> emissions, and a way to buy time.

From its beginnings the ICCT has been vigorously engaged in driving policies aimed at reducing black carbon, a main component of particulate emissions from diesel vehicles, and our work across the spectrum of SLCPs is growing. Our heavy-duty vehicles team is a partner in a year-long study to quantify methane emissions from the operation of natural gas fleet vehicles—data that's crucial to understanding whether and how much natural gas may reduce transportation's climate footprint. Staff from our marine and climate/health teams contribute to work at the IMO aimed at shipping emissions—particularly important as the Arctic, a region acutely vulnerable to black carbon emissions, opens to navigation and perhaps oil production—as well as national and regional efforts to halt the use of HFCs for air-conditioning systems in on-road vehicles.

In addition to our partnership with the CCAC, in 2012 we completed a project for the World Bank, "Reducing Black Carbon Emissions from Diesel in Developing Countries: Benefits for Climate Change and the Urban Environment," analyzing black carbon emissions and their impact, evaluating technologies, and offering policy recommendations and case studies for the developing world.

# Programs and regions

## Spotlight: CO<sub>2</sub> in Europe

For historical reasons, the European Union's vehicle pollution and efficiency standards furnish the pattern most often looked to in the rest of the world outside North America. 2012 was a critical year for securing Europe's continued progress toward cleaner and more fuel-efficient cars and trucks over the next decade.

In July 2012 the European Commission proposed a 2020 standard for passenger cars and light-commercial vehicles of 95 g/km, which would make the EU the global leader in fuel economy. That proposal faced stiff opposition from industry over the question of costs—opposition that was definitively countered through an extensive vehicle technology potential and cost analysis carried out by the ICCT, which became a central factor in the Commission's recommendation. While the EU Parliament did not formally move on the question by the end of 2012, the initial proposal was the crucial link in the chain.

2012 also saw the release of an analysis by ICCT Europe of "real-world" and CO<sub>2</sub> emissions in passenger cars, which documented the increasing discrepancy over the past decade between official numbers for fuel consumption and drivers' actual experience. An update in early 2013 showing that the divergence has reached nearly 25% drew sustained media attention for the first time to this issue, and promises to lead to changes in vehicle testing and in compliance measures to ensure that the progress made on paper through regulation translates into real gains for the environment.



The average discrepancy between type-approval and on-road CO<sub>2</sub> emissions from European passenger vehicles rose from less than 10 percent in 2001 to around 25 percent in 2011

# Programs and regions



## Spotlight: China's urban air

It's not possible to say exactly how bad the air was in Beijing in early January 2013. Researchers quantifying the health risks of ambient air pollution haven't had the opportunity to actually study the effects of such high concentrations because they just don't happen. Until they do.

But it is possible to say with confidence that improving air quality in Beijing—and Shanghai, and Guangdong, and Hong Kong (not to mention New Delhi, and Jakarta, and Lagos . . .)—starts with controlling emissions from motor vehicles. In China's cities, as in other parts of the world, ICCT staff are working with regulatory agencies and other stakeholders to translate global best practices for fuel

## *On Scale of 0 to 500, Beijing's Air Quality Tops 'Crazy Bad' at 755*

*—New York Times headline  
January 2013*

quality standards, vehicle efficiency regulations, scrappage initiatives, inspection and maintenance programs, compliance and enforcement measures, taxes and incentives, and other policy approaches into locally-tailored strategies.

But motor vehicles are not the whole story, even within the transportation sector. In China, as throughout the world, many of the biggest and densest urban areas are around ports—some of the world's busiest. A medium-size container ship is the equivalent of a small electric power plant, in terms of emissions; a single such ship may churn out enough particulate emissions in one day to match the pollution from a fleet of 7000 passenger vehicles in China over a full year.

Through events such as the workshop we hosted in December 2012 in Shanghai for regulators, port authorities, research institutes, and NGOs from China and abroad, as well as through direct technical assistance, ICCT staff are working to share international best practices in policy and technology for mitigating air pollution from port activities and vessels.

# Programs and regions

## Spotlight: Vehicles and fuels in India

More than 2.1 million deaths annually in East Asia are attributable directly to outdoor air pollution, of which vehicle emissions are a major source. India, one of the fastest growing vehicle markets in the world, is at the hub of this crisis.

India's last Auto Fuel Policy was finalized in 2003. The roadmap it established to progressively implement fuel quality and vehicle emission standards has had a steady and positive impact. But delay in setting a new roadmap since 2010 has allowed India to fall behind global trends and best practices.

In 2012, ICCT's India team began a year-long campaign to disseminate the findings of its comprehensive survey of the past, present, and potential future of India's vehicle emissions control program. The aim is to provide a firm analytical foundation for India's next Auto Fuel Policy, which will be finalized in late 2013.

The Energy and Resources Institute (TERI), led by Dr. Rajendra K. Pachauri, former chairman of the IPCC, is a central actor in advancing India's energy and environment policy discussions. ICCT and TERI have signed a three-year memorandum of understanding for research and policy development, outreach and communications, and awareness to leverage expertise and develop sound vehicle policies to improve air quality and reduce GHG emissions.

*Since 2003 India's vehicle population has nearly tripled, and is on track to reach 250 million by 2025.*



A webinar series, "[Clean vehicles and fuels in India](#)," is part of an outreach campaign in support of a new roadmap for national fuel quality and vehicle emissions standards.

# Selected 2012 publications

## Reports and white papers

The New Passenger Car Fleet in China, 2010

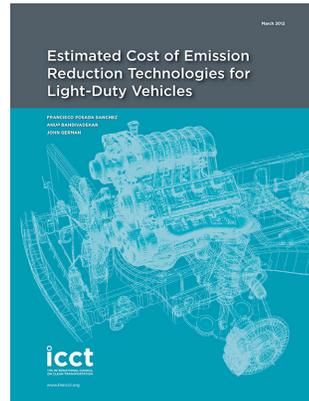
Global transportation energy and climate roadmap

Market barriers to increased efficiency in the European on-road freight sector

Technical and economic analysis of the transition to ultra-low sulfur fuels in Brazil, China, India, and Mexico

GHG emission reduction potential of light-duty vehicle technologies in the EU, 2020-2025

Urban off-cycle NO<sub>x</sub> emissions from Euro IV/V trucks and buses



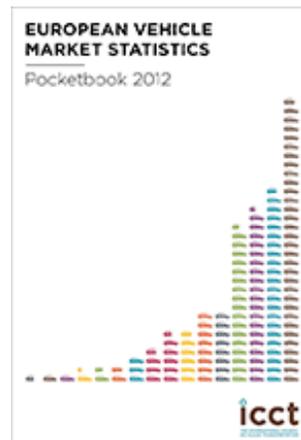
Light-duty vehicle technology cost analysis: European vehicle market

European Vehicle Market Statistics, 2012

Estimated cost of emission reduction technologies for light-duty vehicles

Emissions and fuel consumption reduction potential from two- and three-wheelers in India

Calculating electric drive vehicle GHG emissions



GHG reduction potential for heavy-duty vehicles in the EU

Historical analysis and projection of oil palm plantation expansion on peatland in Southeast Asia

## Policy updates, briefings, working papers

Costs and benefits of cleaner fuels and vehicles in India

Proposed amendments to EU Fuel Quality and Renewable Energy Directives

Certification procedures for advanced technology heavy-duty vehicles

Mexico light-duty vehicle CO<sub>2</sub> and fuel economy standards

EU 2020 CO<sub>2</sub> emission standards for cars and vans

The benefits of low sulfur fuels in India

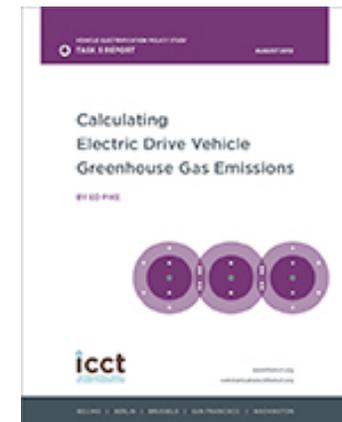
Discrepancies between type-approval and real-world fuel consumption and CO<sub>2</sub> values in 2001-2011 European passenger cars

In-use testing for CO<sub>2</sub> and fuel economy in the United States

Definition and measurement of marine black carbon emissions

Evolution of heavy-duty vehicle GHG and fuel economy standards

Biodiesel carbon intensity, sustainability and effects on vehicles and emissions



# Staff

## Drew Kodjak, Executive Director

Francisco Andrieu, accounting manager  
Alyson Azzara, Ph.D., researcher, marine  
Anup Bandivadekar, Ph.D., program director  
Gaurav Bansal, researcher, passenger vehicles  
Anil Baral, Ph.D., senior researcher, fuels  
Kate Blumberg, program director  
Christina Bowman, office manager, DC  
Sarah Chambliss, program associate, climate and health  
Oscar Delgado, Ph.D. researcher, heavy-duty vehicles  
Cristiano Facanha, Ph.D., lead, roadmap  
Sebastian Galarza, policy analyst, fuels  
John German, senior fellow  
Hui He, policy analyst, passenger vehicles  
Andrew Jens, finance director  
Fanta Kamakate, chief program officer  
Sarah Keller, office manager, SF  
Anastasia Kharina, program associate, aviation  
Irene Kwan, program associate, aviation  
Nic Lutsey, Ph.D., program director

## Alan Lloyd, Ph.D., President

Chris Malins, Ph.D., lead, fuels  
Josh Miller, program associate, roadmap  
Ray Minjares, lead, climate and health  
Peter Mock, Ph.D., managing director, EU  
Rachel Muncrief, Ph.D., lead, heavy-duty vehicles  
Elaine Olivares, program associate, heavy-duty vehicles  
Francisco Posada, Ph.D., researcher, passenger vehicles  
Dan Rutherford, Ph.D., program director  
Joe Schultz, communications director  
Stephanie Searle, Ph.D., researcher, fuels  
Zhenying Shao, program associate, roadmap  
Ben Sharpe, Ph.D., senior researcher, heavy-duty vehicles  
Jun Tu, Ph.D., researcher, passenger vehicles  
Diane Tworog, development manager  
Vance Wagner, senior researcher, heavy-duty vehicles  
Haifeng Wang, Ph.D., policy analyst, marine  
Zifei Yang, program associate, passenger vehicles  
Mazyar Zeinali, Ph.D., lead, aviation

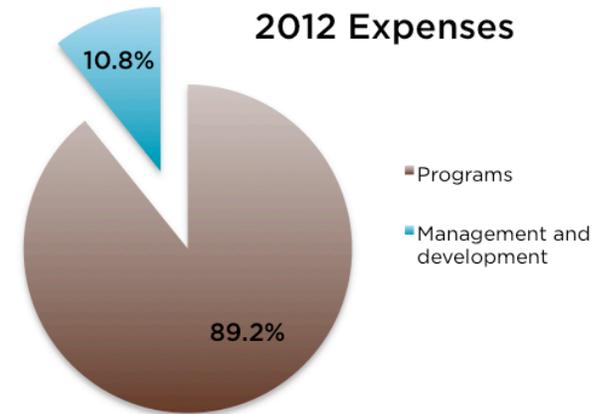
# Financials

## Balance sheet

|   | 2012        | 2011        |
|---|-------------|-------------|
| <b>Assets</b>                           |             |             |
| Cash and cash equivalents               | \$3,032,777 | \$1,725,028 |
| Property and equipment, net             | \$684,521   | \$753,920   |
| Other                                   | \$375,850   | \$1,985,189 |
| Total assets                            | \$4,093,148 | \$4,464,137 |
| <b>Liabilities</b>                      |             |             |
| Accounts payable and accrued expenses   | \$608,273   | \$621,834   |
| Other                                   | \$57,759    | \$448,699   |
| Total liabilities                       | \$666,032   | \$1,070,533 |
| <b>Net assets</b>                       |             |             |
| Unrestricted                            | \$2,128,097 | \$1,866,479 |
| Temporarily restricted                  | \$1,299,019 | \$1,527,125 |
| Total net assets                        | \$3,427,116 | \$3,393,604 |
| <b>Total liabilities and net assets</b> | \$4,093,148 | \$4,464,137 |

## Statement of revenues and expenses

|                            | 2012        | 2011         |
|----------------------------|-------------|--------------|
| <b>Revenue and support</b> |             |              |
| Grants and contributions   | \$9,150,891 | \$9,491,500  |
| Other                      | \$214,755   | \$490,617    |
| Total revenue and support  | \$9,365,646 | \$9,982,117  |
| <b>Expenses</b>            |             |              |
| Program services           | \$8,326,852 | \$8,552,978  |
| Other                      | \$1,005,282 | \$2,160,783  |
| Total expenses             | \$9,332,134 | \$10,713,761 |



## Funders and Partners

ClimateWorks Foundation  
 The William and Flora Hewlett Foundation  
 Stiftung Mercator  
 Rockefeller Brothers Fund  
 United Nations Environment Programme  
 Argonne National Laboratories  
 EU Directorate General for Climate Action  
 European 7<sup>th</sup> Framework Programme  
 Climate and Clean Air Coalition  
 World Bank  
 Energy Foundation  
 European Climate Foundation  
 China Sustainable Energy Program  
 Latin America Regional Climate Initiative  
 Shakti Sustainable Energy Foundation

# Participants Council 2013

Leonora Rojas Bracho  
Research on Urban, Regional and Global  
Pollution, Mexico

Adrian Fernandez Bremauntz  
Latin America Climate Foundation, Mexico

Thomas Cackette  
California Air Resources Board, U.S.  
(retired)

Krishan Dhawan  
SHAKTI Sustainable Energy Foundation,  
India

Yasuhiro Daisho  
Waseda University, Japan

Vadim Donchenko  
Scientific and Research Institute of Motor  
Transport, Russia

Andre Ferreira  
Instituto de Meio Ambiente Energia, Brazil

Axel Friedrich  
Federal Environmental Agency (UBA)  
(retired), Germany

Dan Greenbaum  
Health Effects Institute, U.S.

Hal Harvey  
Energy Innovation LLC, U.S.

Kebin He  
Tsinghua University, China

Youngil Jeong  
Korea Institute of Machinery and Materials

Yuefu Jin  
China Automotive Technology and  
Research Center

Rob de Jong  
United Nations Environment Programme,  
Kenya

Steve McCauley  
Environment Canada

Charlie Mcelwee  
ClimateWorks Foundation, U.S.

Mario Molina  
Centro Mario Molina, Mexico

Patricia Monahan  
Energy Foundation, U.S.

Mary Nichols  
California Air Resources Board, U.S.

Margo Oge  
U.S. Environmental Protection Agency  
(retired)

Philip Owen  
European Commission DG Climate Action

Charlotte Pera  
ClimateWorks Foundation, U.S.

Anumita Roychowdhury  
Center for Science and Environment, India

Joe Ryan  
ClimateWorks Foundation, U.S.

Bruno Soares  
Brazilian Agency for Industrial  
Development

Sanjivi Sundar  
The Energy and Resources Institute, India

Dagang Tang  
Ministry of Environmental Protection, China

Michael Walsh  
Founding Chair, ICCT, U.S.

Michael Wang  
Argonne National Laboratory, U.S.

Catherine Witherspoon  
ClimateWorks Foundation, U.S.



**WASHINGTON**  
1225 I Street NW, Suite 900  
Washington DC 20005  
+1 202.534.1600

**SAN FRANCISCO**  
One Post Street, Suite 2700  
San Francisco CA 94104  
+1 415.399.9019

**BERLIN**  
Neue Promenade 6  
10178 Berlin  
+49 30.847.129.102

[www.theicct.org](http://www.theicct.org)  
Twitter: @TheICCT