Addressing the Used Vehicle Market

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The Challenges We Face Are Immense
Outdoor Air Pollution Remains the 6th Leading Cause of Premature Death Worldwide

Global Ranking Of Health Risk Factors (2016)

Worldwide exposure to PM2.5 contributed to 4.1 million deaths from heart disease and stroke, lung cancer, chronic lung disease, and respiratory infections in 2016.

Ozone, another important component of outdoor air pollution, whose levels are on the rise around the world, contributed to 234,000 deaths from chronic lung disease.

Source: SOGA 2018
Comparison Of 2016 Annual Average PM$_{2.5}$ Concentrations To The WHO Air Quality Guideline

Source: SOGA 2018
Trends in population-weighted annual average PM$_{2.5}$ concentrations in the 10 most populous countries plus the European Union, 2010–2016.

Source: SOGA 2018
Climate Change is Real and Already Occurring – The Next 10 Years Will Be Critical

- Average Surface Air Temperature has Increased 1.8°F Since 1901
- Last Four Years Have Been The Warmest on Record
- Global Sea Level has Risen 7-8 inches Since 1900
- A Rise in Ocean Temperatures and Acidification, Atmospheric Water Vapor, Melting Glaciers, Diminishing Snow Cover and Shrinking Sea Ice has been Documented
- Incidence Of Large Forest Fires In Western US And Alaska Increasing
- Human Activity is Dominant Cause of Observed Warming

Source: Fourth National Climate Assessment, Volume 1, 2017
Vehicle Population Growth Has Been Remarkably Steady For Over 75 Years Making It An Important Pollution Source & Energy Consumer

![World Motor Vehicle Population Graph](image)
Annual Production of Cars, Trucks and Buses is Approaching 100 Million Units Adding to the Global Population Each Year

China is by Far The Largest Producer and Consumer in The World

In 2018, Total New-vehicle Sales In China 28.1 Million, Dipping 2.8 Percent From 2017
Diesel Fuel Consumption In Road Transport Has Grown Eightfold Since 1970.

Note Also the Rapid Growth In The Marine Sector in Recent Years


Future Growth in Road Vehicles and Especially Medium and Heavy Duty Trucks and Buses will be Mainly in Non OECD Countries

Source: ICCT Global Model
China Has Shown that Tight New Vehicle Standards Are Not Limited to the Rich Western Countries

NMHC/NMOG + NOx (g/km)

China has also revamped its entire compliance program with a great deal of attention and resources devoted to assuring in use compliance with standards.

Source: ICCT
China has also revamped its entire compliance program with a great deal of attention and resources devoted to assuring in use compliance with standards.
Historical Fleet CO₂ Emissions Performance And Current Or Proposed Standards Show We Are Making Progress in Addressing CO₂

*Note that Japan has already met its 2020 statutory target as of 2013*
In Many Countries Addressing Used Vehicle Imports Is More Important than New Vehicle Standards

China joining Japan, EU and US As Major Used Vehicle Exporter

Must Develop Global Best Practices in Exporting Countries and Importing Countries
Thanks Largely to PCFV Leadership
Many Countries Have Made Great Progress with Cleaner Fuels

• But Poor Quality Imported Used Vehicles Are Not Taking Advantage of Lead Free and Lower Sulfur Fuels with the Result That:
  – Air Quality Remains Poor
  – Fuel Consumption and GHG Emissions Remain High
  – Many Vehicles Are Unsafe
At Our Last Meeting A Work Group Was Formed To Address The Issue

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Our Workgroup Goals

Summarize A Menu of Potential Strategies that Importing and Exporting Countries Can Use to Address The Problem

Provide Case Study Examples of Actions Taken by Several Countries

Apply PCFV “Systems Approach” Which Matches Fuel Quality Progression to Maximum Feasible Vehicle Emissions Standards
Potential Strategies For Exporting Countries

• Roadworthiness Requirements
• Emissions Compliance
• End of Life Recycling
• Vehicle Age Limits and Mileage
• Aftermarket Support
Potential Strategies for Importing Countries

- Roadworthiness Policies
- Emissions Policies
- End of Life Recycling
- Vehicle Age Limits and Mileage
- Aftermarket Support
Recommendations

• Pursue a global voluntary agreement on cleaner and safer used vehicles with the aim of holding both exporting and importing countries accountable for the quality of used vehicles.

• Work with regional economic bodies on potential harmonization of used vehicle management policies and encourage free-trade agreements to meeting international environmental best practices and standards.

• Importing countries should link their vehicle import policies to the most stringent level possible based on the current or soon to be applied local fuel quality.
Recommendations (2)

• Improving fuel quality at the same time as introducing vehicle emissions limits on imported vehicles (especially regarding sulfur levels) must be a high priority. The target should be a maximum of 50 ppm and below sulfur in both gasoline and diesel fuel, and a minimum of Euro 4/IV or equivalent vehicle emissions standard.

• Importing countries should be encouraged to set minimum lubricants specifications that are consistent with the imported age of vehicles.
Recommendations (3)

- Importing countries should establish mandatory inspection and maintenance (I&M) programs for in-use vehicles. Controls on inspection and maintenance of both vehicles after import and the existing vehicle fleet are vital to producing the emission performance improvements delivered by supplying higher quality fuel.

- Importing Countries Should Seek agreements with auto manufacturing companies and their franchise dealers on offering after-market support for used imported vehicles.
Recommendations (4)

• Importing Countries should consider import policies to encourage importing low and zero emission (electric, hybrid and plug in hybrid) vehicles with a consideration of issues relating to end-of-life and recycling of batteries.

• Importing countries should be encouraged to periodically review their used vehicle import policies and fiscal measures to assure that only clean and safe used vehicles are imported.
Recommendations (5)

• Exporting countries should be encouraged to require vehicle inspection at the port of exit to verify safety and emissions performance. Many vehicles should already be equipped with onboard diagnostic systems which can easily be interrogated.

• Developing and transition countries should be encouraged to require vehicle inspection at the port of entry. Where such inspection capacity is lacking provisions should be made to require such verification before export.

• Seek the establishment of end of life recycling programs in conjunction with auto-manufacturers who can re-import components or precious metals recovered from end of life vehicles.
Thank You