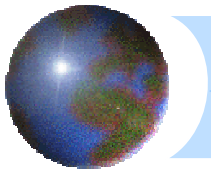


PCFV: The Auto Industry's Perspective

Ellen Shapiro

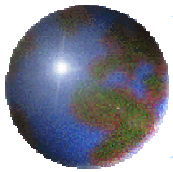
Alliance of Automobile Manufacturers

April 11, 2005



Overview

- ✚ Global auto industry issues and activities
- ✚ Auto Alliance role in Partnership for Clean Fuels and Vehicles (PCFV)
- ✚ First Success: Valve Seat Recession
- ✚ Substantive and process issues
- ✚ Comments on future



Alliance Members

BMW Group



PORSCHE

TOYOTA



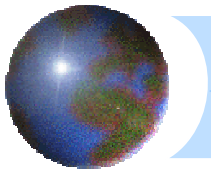
General Motors

mazda

DAIMLERCHRYSLER

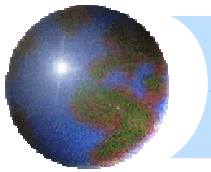


**MITSUBISHI
MOTORS**



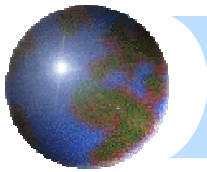
Global Alliance Activities

- UNECE Working Party 29: est. 1952 to harmonize vehicle standards
 - Historically: Europe and safety issues
 - Now adding test protocols & environmental issues
- Worldwide Fuel Charter: since 1998
- PCFV: since 2002
- Individual company activities



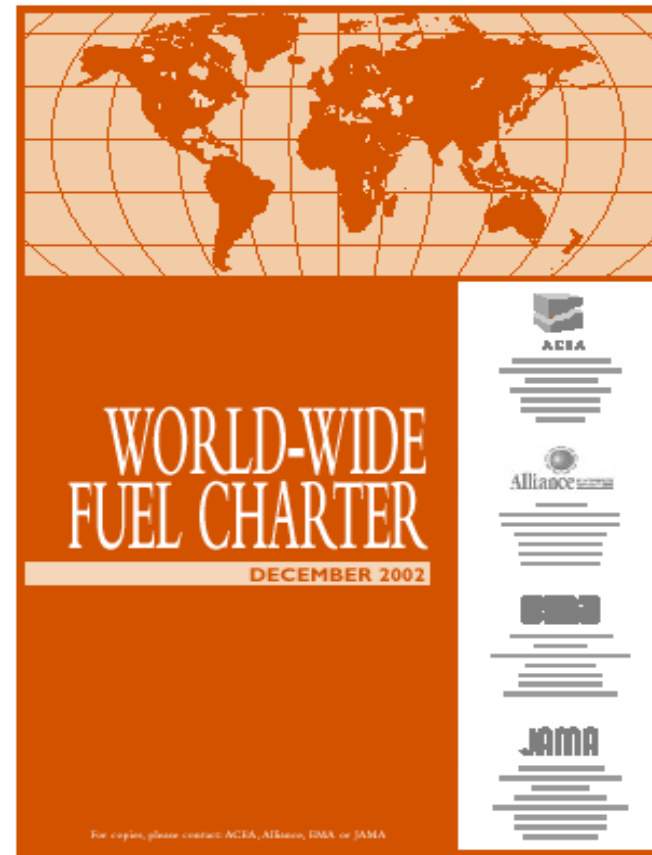
Global Needs

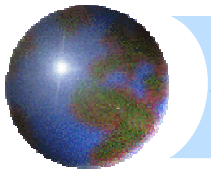
- ⊕ Developing countries: upgrade + expand vehicle fleets, reduce air pollution
- ⊕ Auto industry: harmonize vehicle designs to reduce costs, survive highly competitive markets
- ⊕ Fuel quality is key: vehicle + fuel = system
- ⊕ Many countries have extremely poor fuel quality
 - ⊠ Very high sulfur (>>1000 ppm)
 - ⊠ Ongoing use of lead and other metallic additives
 - ⊠ Fuel infrastructure often lacks integrity or security



Worldwide Fuel Charter

- Links fuel quality to vehicle emissions & technology needs
- Living document: created 1998, updated 2000 & 2002
- Alliance, ACEA, JAMA, EMA + 11 other automaker associations worldwide



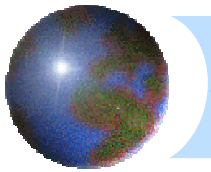


Alliance Role in PCFV

- ❁ What is a US trade association doing in a place like this?
 - ❁ Role differs from UNEP, EPA, IPIECA and others
 - ❁ No dedicated staff, in-house programs or on-the-ground projects
 - Individual companies may and do, however
 - ❁ Limited mission, resources and global reach

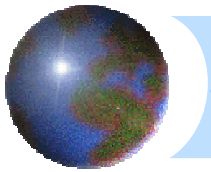
But,

- ❁ Experience with regulations and technical expertise
- ❁ Links to automakers globally
- ❁ Worldwide Fuel Charter



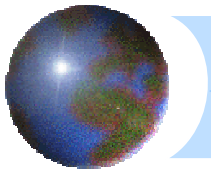
PCFV Mission Statement

- ❖ Role: *Developing programs or helping countries to develop programs?*
- ❖ Objectives: Clean fuels *concurrent with* clean vehicles?
 - ❑ Technology requires fuel before marketing
 - ❑ Non-technology options (e.g., I&M)
- ❖ Top auto goals: No lead, lower sulfur, cleaner (& harmonized) fleets



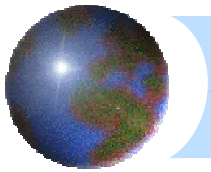
First PCFV Product: Guidance on Valve Seat Recession (VSR)

- Acknowledging concerns about VSR
- Searching for technical “truth”
 - Learning from country experiences
 - Literature review
 - Partner expertise
- Testing the PCFV decision process
 - Reaching consensus
 - Negotiating and approving the text
- Document released May '04, updated Dec '04



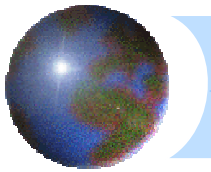
VSR Technical Findings

- Common wisdom: “high speed, heavy load”
- Findings:
 - Heavy engine load *not* a factor, notwithstanding repetition by numerous authors
 - Caused by valves rotating/vibrating in response to engine harmonics produced at high speeds
 - Much of the research had major weaknesses
 - No evidence of VSR in real world



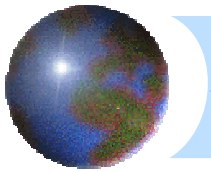
Partner (Alliance) Education

- ⊕ Varying rates of evolution in engine design by country and by manufacturer
- ⊕ Info on lead bans sometimes conflicting
 - ⊞ Law vs. real world
- ⊕ Metallic additives are confounding lead bans
- ⊕ Evidence of MMT's effectiveness as anti-valve wear additive is weak (Disclaimer: Auto view)
- ⊕ Some countries successfully converted to unleaded gasoline virtually overnight
 - ⊞ Factors: changing fuel market, infrastructure costs, consumer response



Lessons Learned

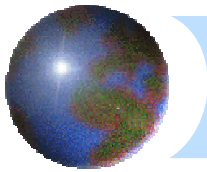
- It pays to re-read old research
- Group documents are extremely time-consuming
 - Require strong leadership
 - Require strong editing & negotiation skills
- WWFC input was critical and helpful
 - Evolution in engine designs
 - Lead ban history and implementation
- Countries are hungry for facts and guidance as they develop new fuel policies



Other PCFV Work Groups

Auto Alliance is also involved with:

- Reducing Fuel Sulfur
 - Great importance to automakers
 - Big impact on vehicle emissions and durability
- Octane-related issues
- Advisory Group (governance)
- Future: TBD
 - Resource constraints

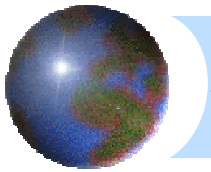


Process Issues

● Governance

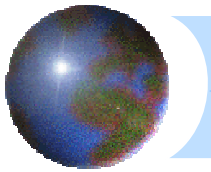
- Partnership balance
- Making decisions
- Developing and reviewing documents
- Meeting frequency
- Clearinghouse role
- Partner activities

● Logistics: meeting locations, communications



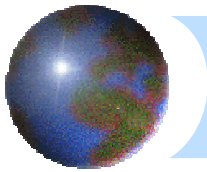
Comments on Future

- PCFV likely to focus more on vehicles
 - How to improve vehicle maintenance is an issue
 - Not a simple task—economic/cultural factors
 - Better fuel quality helps here, too
- Other possible issues
 - Maintaining integrity of fuel infrastructure
 - Public perceptions about fuels – e.g, belief that leaded fuel is better than unleaded



Closing comments

- Expertise, experience, information and communications links to automakers can make a difference
- PCFV provides rare opportunity for Alliance to help developing countries achieve cleaner vehicle fleets with cleaner fuels



For More Info

 www.autoalliance.org

