

Mobile Air Conditioning Climate Protection Partnership

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Partnership Mileposts

- 7/1999: Agreed at Phoenix Forum
- 9/1999: Announced at Earth Tech Forum
- 2/2000: Published Technical Consensus
 - <http://www.sae.org/calendar/pfa00/papers.html>
- 7/2000: Phoenix Workshop
- 10/30 to 11/1: Earth Tech Forum
- 11/1/00: Dinner Party at Steve's Home
- 11/2/00: Finalize Brochure

Financing

- SAE Expecting a total of US\$150,000+ from Environment Canada, U.S. Environmental Protection Agency and the United States Army
- Phoenix Conference has many sponsors
- Corporate Contributions needed for test stand

The Importance of Energy-Efficient Air Conditioning to Climate Protection

- Air conditioning is a source of greenhouse gas emissions--directly as refrigerants and indirectly from fuel burned
- Electric, hybrid, and fuel cell vehicles depend on efficient heating and cooling
- Partnerships can support wise choice and speed market transformation

Selection and Service of MAC Systems to Protect the Climate

- Customer Acceptance, Safety, Reliability
- Safe Service and Disposal
- Direct & Indirect Climate Impacts
- Environmental Cost-Effectiveness

Technical Perspective

- Existing and emerging systems optimized for low climate impact
- Each system designed to be safe and reliable
- The choice of refrigerant based on LCCP for optimized systems satisfying safety and reliability concerns

Persuasive Perspective

- Some government and environmental organizations oppose HFCs and advocate HCs or CO₂
- Industry concern is reliability and cost
- Overstatement of safety concern is counter-productive to industry credibility
- Stake-holders seek a practical solution

Designing Safe Systems for Flammable Refrigerants

- HC and HFC-152a are flammable
- Safety options include small charges, isolation valves, secondary coolant loops, leak detection, and ventilation
- Energy loss from secondary loops may be offset by advantages of liquid transfer

Designing Safe Systems for CO₂ Refrigerants

- Carbon dioxide is hazardous
- Safety options include small charges, isolation valves, secondary coolant loops, detection, and passenger compartment ventilation
- Quality components and service procedures can accommodate high pressure