

Presentation To The EPA Mobile Source  
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# **Some Considerations Regarding Biodiesel Fuels**

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# Engine Manufacturers Association

- EMA represents manufacturers of internal combustion engines, including mobile source compression-ignition engines using diesel fuel
- EMA works closely with EPA and CARB on regulatory and public policy issues



# Importance of Fuel Quality

- All fuels must meet quality, safety, and performance standards
- Engine makers assess impacts of fuel quality on engine performance and durability
- Use of biodiesel fuel is no different



# Importance of Fuel Quality

- Fuel properties affect engine:
  - Emissions
  - Performance
  - Durability
  - Efficiency
  - Customer Satisfaction



# Fuel Quality Improvements

- EMA supports efforts efforts to improve fuels that:
  - Reduce emissions
  - Improve engine performance, durability, and customer satisfaction
  - Achieve these objectives through conventional or alternate fuels



# Biodiesel Fuel Issues

- Technical issues
  - Fuel quality
  - Performance and operation
  - Emissions
  - Storage and handling
  - Warranty
- Public policy issues
  - Energy independence
  - Mandates and incentives
  - Cost



# Fuel Quality

- Fuel specifications critical to success
  - Worldwide Fuel Charter
  - ASTM
  - International standards
- Consistent quality regardless of source
  - Quality assurance efforts important
- Enhanced lubricity



# Performance and Operation

- Power output
  - Lower power output
  - Adjustment of power ratings
  - Illegal engine tampering question
- Engine component problems identified
- Fuel system manufacturers' position
  - Biodiesel blends < 5% are generally OK
  - Higher blends need evaluation





# Storage and Handling

- Long-term stability
- Cold weather operation
- Biological growth



# Warranties

- Addressed by each manufacturer
- Some manufacturers indicate that fuel does not affect OEM material and workmanship warranties
- Biodiesel supplier should warrant fuel quality



# Emissions

- Some reduction in PM and reactive HC
- Some increase in NOx
- Need to assess impact of biodiesel on
  - Ability to meet future emissions standards
  - Impact on high efficiency aftertreatment technologies needed to meet 2007 standards
  - Certification and in-use compliance
  - Health effects

# Public Policy Issues

- Energy independence
- Renewable fuels
- Incentives and subsidies
- Fuel cost
- Legislative and regulatory mandates



# Conclusions

- At a minimum, biodiesel must meet appropriate national and international fuel quality standards
- Several technical and quality issues regarding biodiesel use need to be resolved



# Conclusions

- Emissions reductions from biodiesel fuels alone will not be sufficient to meet stringent new EPA emissions standards
- Biodiesel provides some benefits in reducing PM and hydrocarbons compared to conventional diesel fuel
- More work is needed to determine impacts on certification, in-use testing, future technology, and health effects

# Conclusions

- Public policy makers should determine if incentives and subsidies are appropriate, but should not mandate the use of biodiesel fuel.