

**Developing a Strategic Plan for the
Internal Combustion Engines And Alternative Fuels (ICEAF) Committee
of the USDA Agricultural Air Quality Task Force**

Members

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For the purpose of refining the strategic plan for the 2006-2008 Internal Combustion Engine and Alternative Fuels (ICEAF) sub-committee of the USDA Agriculture Air Quality Taskforce, ICEAF members proposed 34 topics regarding air emissions from biofuel use and production. To narrow the focus of the ICEAF, a multi-criteria decision analysis process was utilized. Multi-criteria decision analysis is a strategy for prioritizing options when multiple factors are involved. The approach we used ranked the 34 topics according to the following criteria: air quality, greenhouse gas emissions, water quality, water use, economics, human health, national security and wildlife habitat. A scale of 1 to 5 (1 having the least impact, and 5 having the greatest) was assigned. All five committee members ranked the proposed topics with respect to air quality, and four members also completed evaluations for the additional criteria. Based on results from this evaluation, and decision was made to combine some of the proposed topics and the following work plan priorities emerged.

Priority 1: Evaluate the impact of agricultural biofuel production and use on air quality including multi-media impacts. Specific topics proposed include:

- Evaluate VOC, NO_x and odor emissions from ethanol and biodiesel production and use (including use in older engines)
- Evaluating the cost-benefit economics of biofuel production
- Evaluate the pros-and cons- for air quality
- Track DOE demonstration projects on cellulosic ethanol production, including anticipated air quality impacts
- Propose USDA/EPA workshop on biofuels and air quality and/or impacts on water quality
- Evaluate BMPs for reducing impacts
- Coordinate with CenSara/NACAA

Priority 2: Evaluate air emission (and multi-media) impacts from manure (and other agricultural by-products such as wood) to energy technologies such as gasification, pyrolysis, reburn (i.e. co-firing with coal), and digestion.

Priority 3: Evaluate options for improving IC engine performance with alternative fuels

- Improved emission standards with biofuels?
- Tier IV diesel engine performance
- Evaluate agricultural diesel engine retro-fits – investigate options for EQIP to fund