



Abstracts

**Session 6 – Environmentally Concerned Public Sector
Organization Panel**

DIESEL AND PUBLIC HEALTH

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Natural Resources Defense Council

It is clear that uncontrolled diesel exhaust is hazardous to public health, causing or exacerbating asthma and other lung diseases, cancer, and even premature death. New emission controls for diesel show the potential to dramatically cut pollution, but these technologies have yet to demonstrate their effectiveness over the long run.

There have been several preliminary studies evaluating the various toxic and smog-forming emissions from natural gas and diesel transit buses, with and without controls. While these early studies are too limited in scope to make definitive conclusions, they do highlight the potential emissions reductions from diesel vehicles. But these limited studies also present a lopsided view of natural gas and diesel bus emissions, testing today's natural gas technologies against tomorrow's diesel. In addition, the tests do not demonstrate that the diesel emission control technologies will function over the range of real-world driving conditions.

NONROAD DIESEL: THE NEXT PUBLIC HEALTH CHALLENGE

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Union of Concerned Scientists

Construction equipment, agricultural vehicles, and other non-road engines and vehicles release more toxic particulates than highway heavy-duty diesel vehicles. Yet these types of vehicles have historically received little regulatory oversight, and there are relatively few emission controls developed specifically for non-road equipment.

A new study by state air pollution officials indicates that 8,500 deaths per year could be avoided if the U.S. Environmental Protection Agency were to adopt a non-road diesel rule consistent with the current highway rule for heavy-duty diesel vehicles. California could avoid 770 premature deaths and over 16,000 asthma attacks per year through the harmonization of the non-road and highway standards. Reducing pollution from non-road diesel vehicles is the next public health priority.

ACHIEVING CLEAN TRANSIT IN CALIFORNIA

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In an effort to clean up California's transit buses, the California Air Resources Board developed the Transit Bus Rule, which gave transit districts the option of selecting two pathways: a diesel path and an alternative fuel path. The diesel pathway required transit operators to retrofit older buses with particulate traps, to purchase low-emission diesel vehicles in the future, and to conduct demonstration programs for zero-emission buses. In addition, diesel engine manufacturers committed to producing demonstration engines that could achieve significant reductions in nitrogen oxide and particulate emissions. Today, almost 3 years after the transit rule's initial adoption, the diesel fuel path has yet to live up to its full expectations in terms of emission benefits, creating numerous setbacks, while alternative fuel applications appear more and more to be the bridge to a zero-emission transit bus future.

BARRIERS TO LIGHT -DUTY DIESEL IN THE UNITED STATES

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Renewed interest in domestic light-duty diesel vehicles has re-sparked the “diesel debate” among industry, energy, and environmental communities. Prior limitations of diesel engines, such as inferior performance and exhaust issues, have seen significant improvements in recent years, while the 2004 introduction of Tier 2 /LEV II emission standards provides new technical and economic challenges to advanced diesel technology. Penetration levels of light-duty diesel in the United States will depend on both the industry’s ability to surmount these barriers and renewed consumer acceptance of the technology.

REDUCING PETROLEUM DEPENDENCE: DOUBTS ABOUT LIGHT-DUTY DIESEL

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Two state agencies, the California Air Resources Board and the California Energy Commission, are engaged in a legislatively mandated process to identify and recommend strategies for reducing the transportation sector's petroleum dependence. Diesel proponents have watched the process closely and contend that increasing the light-duty diesel fleet in California is a viable option for reducing petroleum consumption. However, there are enough concerns about light-duty diesel's costs, ability to meet emissions standards, and climate-forcing characteristics to raise questions about whether diesel is a reasonable petroleum reduction strategy.

PERSPECTIVE ON THE FUTURE DEVELOPMENT OF DIESEL EMISSION STANDARDS IN EUROPE

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The European emission standards have been reduced substantially by more than 90 percent during the last 15 years, and achieving the air-quality targets is in reach once EURO 4/5-vehicles will have penetrated the fleet around the year 2010. There are two key remaining tasks. First, diesel cars need to meet the same pollutant emissions as gasoline cars. Second, rather than just limiting the mass of particulate emissions, emissions standards should also account for the health impacts of the particulates.

The share of diesel cars in the fleet has been increasing to over 35 percent in Germany, highlighting the need for action to control diesel emissions. Although particulate traps have successfully been tested and retrofitted in heavy-duty vehicles in large numbers and some car types are in serious production with traps (210,000 sold in Europe until the end of 2002), the introduction of this technology or an equivalent technology with an efficiency well above 90 percent is still uncertain on a broad basis. Based on the boundary conditions given in Europe and in Germany, a proposal for the further development of emission standards for diesel passenger cars (EURO 5) and corresponding amendments for the EURO 5 heavy-duty engine standards is presented.

REDUCING HEAVY-DUTY DIESEL EMISSIONS -- PRACTICAL EXPERIENCE, FUTURE GOALS

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Northeast States for Coordinated Air Use Management

The Northeast States for Coordinated Air Use Management (NESCAUM) have been working on several fronts to study and reduce heavy-duty diesel emissions in the region, from both the highway and non-road sectors. NESCAUM is studying the pervasiveness of the use of diesel engines across non-road applications and the exposure of heavy- equipment operators to diesel exhaust.

On the technology side, NESCAUM is managing diesel emission control programs that involve long-haul trucking, construction vehicles, school buses, and sanitation trucks. Difficulties encountered in these projects range from the practicality of retrofit technology in cold weather applications to the availability of appropriate fuel. As retrofit technology becomes more accepted in on-road applications, the region is beginning to focus on methods to reduce emissions in the non-road sector, including construction equipment, stationary engines, and airport equipment. NESCAUM provides some of the reasons why these controls are necessary and examples of how these controls can be implemented.