

II. DIESEL

- A. Diesel vehicles and engines in use today are a principal source of urban air pollution and public health damage. Many studies show that diesel particulate is a cause of hundreds of thousands of premature deaths worldwide each year.
- B. Over the past decade, diesel technology has advanced tremendously, and the higher efficiency of diesel engines compared to spark-ignited engines can be an important advantage in reducing worldwide global warming and oil consumption.
- C. But even modern diesels produce significantly more NO_x and particulate pollution than their gasoline counterparts. This is a serious drawback to an otherwise promising technology.
- D. It is not necessary or desirable to “trade” higher NO_x and particulate pollution for the efficiency advantages of diesels. Cost-effective technologies exist, and more are emerging, that can reduce NO_x and particulate from new diesels to modern gasoline vehicle levels or lower. New vehicle emissions standards and diesel fuel quality specifications should be sufficiently stringent to take advantage of these advanced technologies.
- E. For passenger vehicles, future diesel standards should be equivalent to standards for comparable gasoline vehicles. Absent such equivalent standards, a shift to diesel should be discouraged by fiscal or regulatory measures to avoid worsening air quality problems.
- F. Standards for non-road vehicles and fuels should closely track on-road vehicle standards.
- G. Developing countries should move to world-class standards for all diesels as rapidly as possible.
- H. Particulate emissions standards should also cover gasoline vehicles. This becomes especially important as direct injection gasoline engines become more prevalent.
- I. Particle emission standards should be set such that PM filters are required because this technology has demonstrated very substantial reductions of the number of particles as well as the mass.
- J. Existing diesel engines last for decades and these aging engines are a huge pollution problem. Aggressive control measures are necessary to clean up these vehicles.

K. Retrofit and rebuild programs to reduce particulate emissions from older diesel vehicles—including cars, but especially trucks and buses—are being implemented successfully in several regions and offer great public health benefits at reasonable cost. The menu of options available to clean the old fleet includes:

1. Retrofitting on an aggressive schedule.
2. Repowering (exchanging an older engine for a new cleaner engine).
3. Retiring old engines and vehicles, including an effective scrappage program to avoid simply exporting dirty engines and vehicles to another location.
4. Improving vehicle maintenance.
5. Eliminating clandestine and illegal trucks.

L. Effective inspection and maintenance programs are necessary for long-term performance and to accelerate fleet turnover.

1. Better inspection tests are required for existing and new diesels.
2. For new vehicles, on-board diagnostics (OBD) and on-board monitoring (OBM) with real-time data logging are necessary.

M. As new vehicle standards are introduced, special attention must be paid to ensure that these vehicles are not equipped with defeat devices that prevent attainment of the same emission levels in-use as in the laboratory. Similar attention must be paid to prevent an aftermarket in defeat devices.

N. The contribution of diesel particulate to global warming should be further explored, and current science should be taken into account by policymakers in evaluating the life-cycle global warming benefits of advanced diesel vehicles. This requires a careful assessment of the carbon dioxide benefits on the one hand and the black carbon penalty on the other.