

REDUCING THE IMPACT OF DIESELS ON AIR QUALITY AND PUBLIC HEALTH

Tom Cackette
Air Resources Board (California)

With the emissions of cars and light-duty trucks approaching zero, the largest remaining source of smog-forming and toxic emissions is the diesel engine. Diesel engines emit substantial amounts of oxides of nitrogen (NO_x) and fine particles (PM) which contribute to respiratory disease and cancer. Diesel trucks, and off-road diesel equipment, contribute similar amounts of these two pollutants. Emission standards now in place will reduce the air pollution impact of diesels through 2020, but the remaining emissions are still sufficiently large to cause a public health threat. Like cars, diesel trucks and equipment need to strive

for near zero emissions. Emerging technologies such as NO_x catalysts and PM filters can reduce emissions another 90%, compared to today's engines. PM filters can also be retrofit to many existing engines, which will help accelerate progress towards a lower emission fleet. None of this can happen, however, until sulfur is removed from on and off-road diesel fuel. Complementing diesel clean-up technologies are natural gas engines, and in the near future fuel cells. Combined these technologies and cleaner fuels offer a pathway to greatly reducing the impact of diesels on public health.