



Cleaner Cars, Cleaner Fuel: EPA's Tier 3 Program

A COST-EFFECTIVE APPROACH TO REDUCING EMISSIONS AND PROTECTING PUBLIC HEALTH

In a May 2010 Rose Garden ceremony, President Obama announced his intention to update tailpipe emissions standards for cars, light trucks and sport-utility vehicles on the same schedule as the soon to be finalized fuel efficiency and global warming pollution standards.¹ Tailpipe standards to control smog-forming and particulate emissions from passenger vehicles are key to reducing the health impacts of poor air quality including asthma, respiratory problems, and premature death.

In late 2011, the U.S. Environmental Protection Agency (EPA) drafted the "Control of Air Pollution from Motor Vehicles: Tier 3 Motor Vehicle Emission and Fuel Standards" (the Tier 3 program), which reduces the amount of sulfur in U.S. gasoline and sets fleet wide emission limits on new vehicles. As of June 2012, the proposal has not yet been released for public comment.

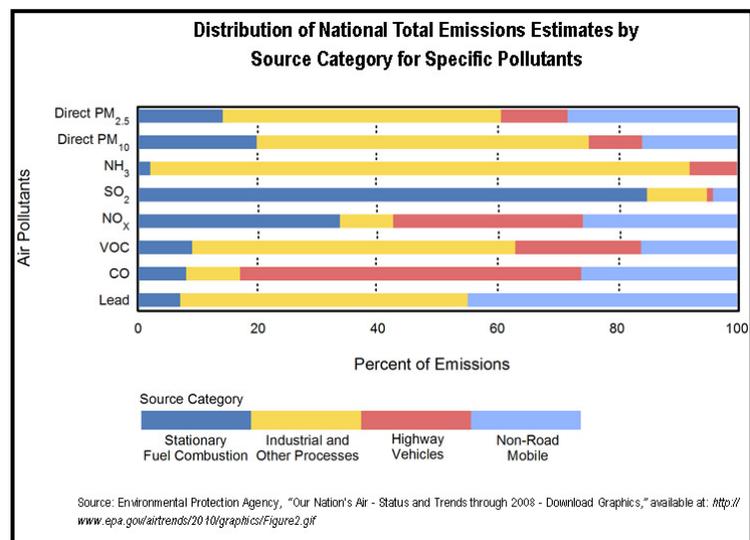
The Approach: Addressing Fuel and Vehicle Technology as One System

The Tier 3 program treats fuels and engines as a single system to be regulated together. Under the system approach, sulfur levels in fuel are reduced to allow for the introduction of improved catalyst technologies into the market. Since sulfur degrades the effectiveness of catalysts, lowering sulfur content will immediately enhance the performance of emission reduction technologies in the existing passenger fleet. The Tier 3 program is estimated to cost less than one penny per gallon of gasoline and approximately \$150 per new vehicle.²

Addressing the fuel and the engine at the same time results in more efficient and more economical vehicle emission reductions than could be achieved if the fuel and engines were regulated separately. The system approach has been successfully implemented in previous fuel and vehicle rules including the Tier 2 rule for cars, light trucks and sport-utility vehicles, and the diesel rules for trucks and buses, construction and other nonroad engines, and locomotive and marine diesel engines.

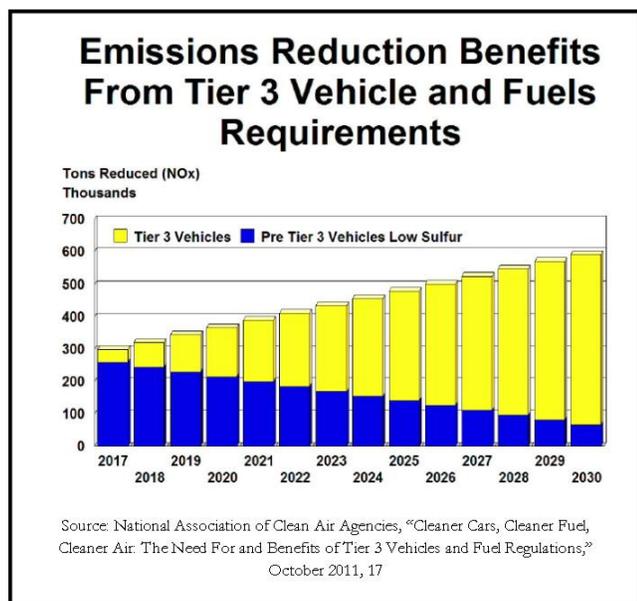
The Result: Immediate Reductions in Air Pollution Using Existing Technology

Millions of Americans breathe cleaner air as a result of the EPA's leadership in carrying out our nation's clean air laws. But, serious challenges remain. More than 1 in 3 Americans still live in areas where air pollutant levels exceed at least one of the health-based National Ambient Air Quality Standards (NAAQS). As the figure to the right demonstrates, passenger vehicles remain the second largest emitters of nitrogen oxides (NO_x) and volatile organic compounds (VOCs) in the U.S. – the primary pollutants that form smog. These vehicles also emit more than half of all carbon monoxide pollution and contribute to particulate matter emissions.



The Tier 3 program is expected to reduce the average gasoline sulfur concentration from 30 parts per million (ppm) to 10ppm -- which is consistent with the global trend to reduce sulfur in gasoline. The International Fuel Quality Center has recently ranked the top 100 countries based on sulfur limits in gasoline. The United States, at the current level of 30 ppm, is ranked 47th, behind Japan, South Korea, Turkey, Taiwan, Thailand, Chile and all of Europe. California already achieves the 10 ppm sulfur level and the Chinese cities of Beijing, Shanghai and Guangzhou are all moving to a 10ppm standard this summer.

The anticipated Tier 3 program has the potential to cut mobile source emissions of nitrogen oxides, carbon monoxide, and volatile organic compounds by 29, 38 and 26 percent respectively.³ These reductions translate into more than 400 avoided premature deaths and 52,000 avoided lost workdays each year.⁴ These benefits can



be achieved by taking advantage of improved vehicle emissions control technologies already in the marketplace and reducing the sulfur content of gasoline. As the figure to the left depicts, this decrease in sulfur content will improve the performance of catalyst technology operating on the existing fleet. As a result, in 2017, Tier 3 will reduce nitrogen oxide emissions by 260,000 tons, the equivalent to taking 33 million cars off our nation's roads.

Modest Cost for Big Benefits

These significant gains in air quality and the related public health benefits are achievable at a very modest cost. According to a study released by the National Association of Clean Air Agencies last fall, these benefits would be realized for **less than a penny per gallon of gasoline and approximately \$150 per new vehicle**

starting in 2017.

A new study by Navigant Economics finds that the installation of refinery equipment to reduce sulfur will generate 24,500 jobs over three years and the operation of these facilities will employ 5,300 workers. The same study concludes that these investments will add \$6.1 billion to the U.S. gross domestic product over the three-year investment period.⁵

¹ "Presidential Memorandum Regarding Fuel Efficiency Standards," May 21, 2010 available at <http://www.whitehouse.gov/the-press-office/presidential-memorandum-regarding-fuel-efficiency-standards>

² National Association of Clean Air Agencies, "Cleaner Cars, Cleaner Fuel, Cleaner Air: The Need For and Benefits of Tier 3 Vehicles and Fuel Regulations," October 2011, 2, available at: <http://www.4cleanair.org/Documents/NACAATier3VehandFuelReportFINALOct2011.pdf>, 13.

³ The previous version of this fact sheet incorrectly stated that these percentage reductions applied to gasoline vehicle emissions, rather than all mobile source emissions.

⁴ National Association of Clean Air Agencies, 2.

⁵ Schink, George R. and Hal Singer, "Economic Analysis of the Implications of Implementing EPA's Tier 3 Rules," June 14, 2012 available at: http://naviganteconomics.com/docs/061212%20Economic%20Analysis%20of%20the%20Implications%20of%20Tier%203%20Sulfur%20Reduction%20Final_embargoed%20copy.pdf, 5.

A fully referenced version of this fact sheet is available online at www.ucsusa.org.

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