Testimony on EPA's Heavy Duty Vehicle Standards

Comments by Gary E Timm

April 13, 2022

Good afternoon. I served in EPA for 38 years and retired in 2011. My first five years were spent in the Office of Mobile Sources shortly after the passage of the Clean Air Act (CAA). My later years were spent in EPA's Office of Toxic Substances and Pollution Prevention. One important lesson learned from my experience in the Office of Mobile Sources is the importance of technology forcing standards—not just locking in the best technology already in use, but forcing manufacturers to invent and adopt new technology to obtain the Clean Air Act's goals. It was this approach that introduced catalysts on light-duty vehicles to control HC, NOx, and CO. In the 1970's EPA's engineers embraced diesel engines for their superior fuel economy and lower emissions of criteria pollutants than uncontrolled cars. Remember those were the days of the "energy crisis." We were unaware then of the serious health consequences of particulates which CI engines emitted in substantial quantities. There is strong evidence from both epidemiology and animal studies of overt respiratory effects from short-term exposure to $PM_{2.5}$, including respiratory-related emergency department (ED) visits and hospital admissions and respiratory mortality. Longer term exposures have been linked to effects on lung development and asthma. Recently published scientific evidence further strengthens the conclusion that there is a causal relationship between both short- and long-term $PM_{2.5}$ exposure and cardiovascular effects such as reduced myocardial blood flow, altered vascular reactivity, myocardial infarctions, and cardiovascular mortality. Recent studies also indicate that long-term exposures may lead to effects on the brain that are associated with neurodegeneration (i.e., neuroinflammation and reductions in brain volume), as well as cognitive effects in older adults. In addition, positive associations between long-term exposure to $PM_{2.5}$ during the prenatal period and autism spectrum disorder (ASD) were consistently observed across multiple epidemiologic studies. PM is also regarded as a probable human carcinogen based on several lines of evidence including epidemiology and its physical and chemical properties. Thus, it is gratifying to see EPA taking action to further limit these and more realistic test procedures, without which new standards would have limited effectiveness. However, I am concerned that EPA's

proposal does not go far enough, and that more could be done to encourage the switch to EVs.

We are all familiar with the effects of climate change, which needs no repetition in my comments. We have experienced some and have witnessed others on television news. A new flagship UN report on climate change issued last week indicates that harmful carbon emissions from 2010-2019 have never been higher in human history. Scientists are arguing that GHG emissions need to peak by 2025 to limit global warming to 1.5 degrees, the goal of the Paris Accord, and that we are already perilously close to tipping points that could lead to cascading and irreversible climate effects. With the transportation sector being the largest single source of GHG emissions in the US, and the US the second largest contributor to GHG currently, it is appropriate that EPA use its authority under the CAA to address this contributor to climate change. We must look to administrative fixes, at least in the near term, because Congress lacks the political will to do anything meaningful on climate change. But, stronger GHG measures than those EPA has proposed should be promulgated. Remember the lesson learned with the original Clean Air Act that EPA's standards should be technology forcing. The current proposal does not do that.

Thank you for this opportunity to speak.