

NGVs: Economically and Environmentally Beneficial

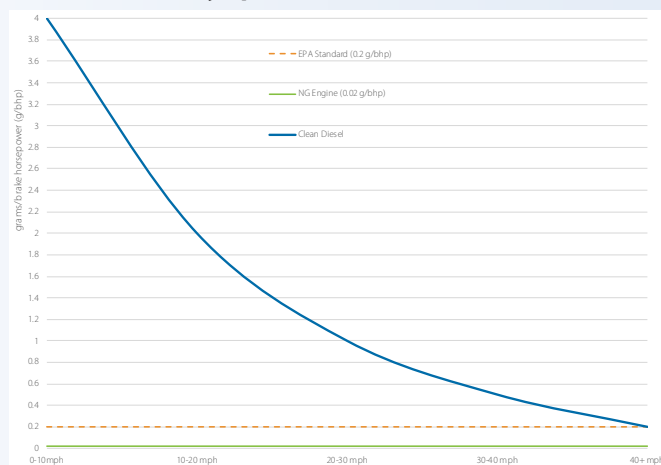
As illustrated in the previous section of this report (Figure P3), natural gas promises to deliver substantial economic value now and in the future relative to other transportation fuels. Natural gas engines also produce superior environmental performance (e.g., reduced greenhouse gas emissions) compared to gasoline and diesel engines. This is especially true for production of such pollutants as nitrous and sulfur oxides (NOx, SOx), which can cause serious health issues.

For instance, contemporary natural gas engines operate well below the EPA threshold for NOx emissions of 0.2 grams/brake horsepower (0.2g/bhp), even while idling. The newest diesel engine technologies only achieve the EPA standard when operating at about 40 miles per hour or more (see chart below). Given the stop-and-go driving patterns typical in urban areas, heavy trucks and buses operating with diesel engines consistently exceed the EPA threshold, often in areas where the most vulnerable populations live.

In addition to exceptional environmental performance, natural gas engine technologies are the most cost-effective means of reducing the criteria pollutant emissions from medium and heavy duty vehicles that typically operate in urban areas.

To promote the benefits of natural gas vehicles (NGVs), the Northwest Gas Association launched the Northwest Alliance for Clean Transportation (NW Alliance) in April of 2018. With a singular focus on advocating for increased use of natural gas in the region's transportation sector, the NW Alliance is primed to amplify and renew enthusiasm for NGVs in the Pacific Northwest. Attracting more than two dozen members in its first year, the Alliance has immediately become an impact player in alternative fuel conversations around the region. As the Alliance grows, so too will its ability to tell the story of how natural gas is an economic solution to our region's air quality issues. For more information, visit www.nwalliance.net.

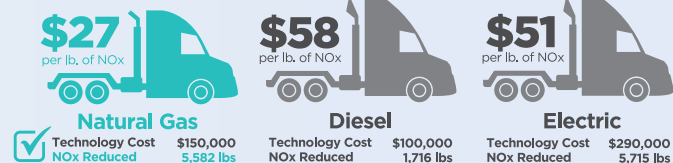
NOx Emissions by Speed



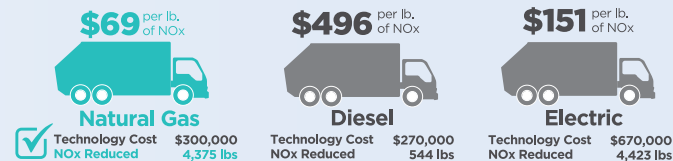
Source: Created by NWGA using data from California Air Resources Board: "In-Use Emissions Technology Assessment" (2014)

Infographic Courtesy of NGVAmerica

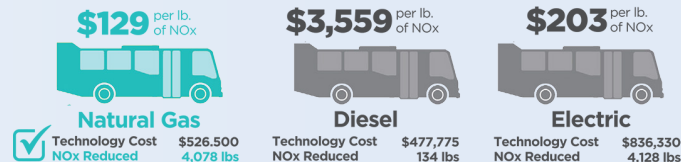
Short/Regional Haul Trucks



Refuse/Recycling/Waste Trucks



Transit Buses



*Emission comparisons are based on results using Argonne National Laboratory's HDVEC tool (<https://afleet-web.es.anl.gov/hdv-emissions-calculator/>) and include modeling of new low-NOx natural gas engines and the diesel in-use emissions option.