



December 19, 2017

Brett Rude  
Washington State Department of Ecology  
Air Quality Program  
300 Desmond Dr. SE  
Lacey, WA 98503

RE: Comments Regarding State of Washington Beneficiary Mitigation Plan

Mr. Brett Rude:

Thank you for the opportunity to review the State of Washington's Proposed Volkswagen Beneficiary Mitigation Plan. NW Natural is a natural gas utility headquartered in Portland, Oregon. Our company serves over 730,000 customers, including approximately 80,000 in Southwest Washington.

These funds provide a unique opportunity to address our region's air quality: Southwest Washington's air quality was identified as significantly impacted by diesel emissions, conditions exacerbated by its proximity to the Portland, Oregon, metropolitan region to the south, one of the nation's most polluted areas for nitrous oxides (NOx) and diesel particulate matter (DPM).<sup>1</sup>

That our region ranks among the worst in the nation is not a surprise, given the nexus of river traffic, large interstate highways, railroads, and airports; areas adjacent to freeways and shipping corridors are particularly vulnerable to the negative environmental and health outcomes because of their proximity to the use of heavy-duty vehicles, the sector responsible for a majority of these harmful air pollutants.

We acknowledge the real value of battery electric and hybrid vehicles, particularly for passenger vehicles and light-duty trucks. However, we're concerned the plan relies on technologies that are neither widely available nor cost effective for the heavy-duty transportation sector, the sector most responsible for harmful NOx and DPM emissions.

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<sup>1</sup> According to the U.S. Environmental Agency (EPA), the Portland-Vancouver-Beaverton MSA ranks among the top one percent of the nation's metro areas most at risk for diesel soot pollution and Clark County ranks second in Washington. In both Oregon and Washington, the lifetime cancer risk from diesel soot exceeds the risk of all other air toxics tracked by EPA combined. According to Washington's Department of Ecology, 70 percent of the cancer risk from airborne pollutants in Washington comes from diesel exhaust.



The plan omits vehicle types and alternative fuels that would provide immediate air quality benefits, such as vehicles that use compressed natural gas (CNG), liquefied natural gas (LNG), and renewable compressed natural gas (RCNG). Several fleets in our territory have transitioned to CNG and we've have had discussions with many fleet operators of transit buses, port vehicles and others to deploy these emissions-saving natural gas transportation solutions.

### **Near-Zero Natural Gas Vehicle Technology**

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Medium and heavy-duty natural gas vehicles equipped with near-zero emission engines produce 90 percent fewer nitrous oxide (NOx) emissions than even the cleanest diesel engines.<sup>2</sup> These vehicles also release zero smog-forming particulates produced by diesel exhaust. This near-zero emissions technology is being deployed nationally in solid waste fleets, transit buses, delivery trucks and other medium- and heavy-duty vehicles.

Assuming the cleanest-available technology for deployment, natural gas vehicles reduce NOx emissions at just one-half to one-third the cost of comparable diesel or electric models. For example, a CNG transit bus is 49% more cost effective than diesel at reducing NOx, and 52% more cost-effective than electric versions.<sup>3</sup>

### **Greenhouse Gas Reductions from Renewable Natural Gas (RNG)**

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Switching to RNG helps the state meet its commitment to reduce overall GHG emissions. Using RNG to replace diesel can reduce air pollution from trucks by 90 percent and GHG emissions by 80 percent – making it the lowest carbon fuel option for heavy-duty vehicles. In fact, RNG offers the lowest carbon intensity of fuel available today. Using RNG sourced from local feedstocks such as wastewater treatment facilities, dairies, municipal waste and landfills can in some cases create a carbon-negative fuel source.

RNG represents more than half of all natural gas vehicle fuel used in California. Municipalities struggling to manage significant air quality challenges such as Long Beach and Los Angeles have recognized the immediate low-carbon benefits of CNG and RNG vehicles as part of a holistic approach to cleaning up the transportation sector. Los Angeles County Metropolitan Transit Authority (LA Metro) operates the largest natural gas transit fleet in North America with more than 2,250 CNG buses, and now plans to transition to 100 percent RNG for its fleet fuel within five years.<sup>4</sup>

Currently, NW Natural is working in partnership with the city of Portland's Bureau of Environmental Services on what city leaders refer to as "Portland's largest climate action project to date": Capturing and conditioning biogas produced at the Columbia Boulevard Wastewater Plant. The biogas will be converted into pipeline-quality renewable natural gas (RNG) at the

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<sup>2</sup> These engines are also 90 percent below the EPA's current NOx emission standard of 0.2 g/bhp-hr NOx.

<sup>3</sup> NGVAmerica, Volkswagen Diesel Settlement Funding Opportunity: Natural Gas Transit Fleets, [http://www.ngvamerica.org/wordpress/wp-content/uploads/2017/06/NGVA-One-Sheet\\_Transit-Bus.pdf](http://www.ngvamerica.org/wordpress/wp-content/uploads/2017/06/NGVA-One-Sheet_Transit-Bus.pdf).

<sup>4</sup> NGVAmerica



treatment plant in north Portland, and will then be put on NW Natural's pipeline and compressed for use in heavy-duty vehicles.

The RNG made from Portland's plant will replace 1.34 million gallons of diesel fuel with enough natural gas to run 154 garbage trucks for an entire year. We look forward to the Columbia Boulevard wastewater treatment plant RNG project being the first of many regional sources of renewables that together will help drive us toward a low-carbon future.

## Fuel Resiliency

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Today's natural gas infrastructure offers a head start toward an increasingly distributed and resilient energy system. NW Natural's is one of the nation's tightest and most modern distribution networks. In addition to conventional natural gas and RNG from dairy farms, landfills, wastewater treatment plants and other sources, our pipelines are also pathways for other energy technologies now in development: biomass gasification of forestry waste, renewable-hydrogen-blended fuels, storage and delivery of excess renewable electricity through "power to gas" processes, and more.

A mix of low-carbon and low-emissions fleets and fuel sources provide increased resiliency for communities responding to, and recovering from, catastrophic events. For instance, roads that are impassable due to an extreme ice or snow event can strand communities reliant on fuel deliveries from trucks. However, a community with diversified fuel sources can rely on fuel delivered by pipeline in these instances. In this way, the natural gas pipeline infrastructure can help communities reduce carbon emissions, lower energy and transmission costs, and support diverse and innovative energy opportunities.

Taking into account the air quality benefits of CNG, LNG and RCNG listed above, and the principles guiding selection of eligible mitigation projects in Washington's plan,<sup>5</sup> we offer the following opportunities and clarifications.

- Alternate fuels available now and with proven emissions reductions should be eligible for airport and ground support equipment. Washington's Plan [p. 21] appears to exclude these options. We believe that this should be amended to include others available and qualifying for repowering or replacement.
- Projects which increase resiliency through local energy production/generation and distribution should be prioritized.
- The report cites [p. 13] that electric buses are 10% lower in fuel and maintenance costs. LA Metro has conducted similar studies, which found 14% lower fuel and maintenance compared to RNG. However, maintenance was reduced by just 4%, while overall costs,

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<sup>5</sup> Improve air quality for communities that have historically borne a disproportionate share of the air pollution burden in Washington; Maximize air quality co-benefits beyond nitrous oxide reductions; Maximize public health benefits. [Mitigation Plan, p. 12]



which include the much higher vehicle purchase costs, were 32% higher for electric fleets.

- The term “zero emission” is misleading – there are real emissions coming from power plants that produce electricity for these vehicles. Though Washington is fortunate to have significant hydro generation, non-renewable generation is still present.

Again, we appreciate the opportunity to respond to the state’s proposed plan, and we look forward to working with all stakeholders on a successful implementation that reduces risks to our communities in the most.

We can begin solving our region’s air pollution crisis today in the metro communities most impacted with heavy-duty natural gas trucks and fleets. And with renewable natural gas, we can make better use of resources that would otherwise go to waste.

Sincerely,

A handwritten signature in black ink that reads 'Bill Edmonds'.

Bill Edmonds

Director, Environmental Management and Sustainability

NW Natural