



To: Northwest Region Air Quality Permit Coordinator
Oregon Department of Environmental Quality (DEQ)
Via email to: NWRAQPermits@deq.state.or.us

Subject: Comments on proposed Standard Air Contaminant Discharge Permit for Columbia Pacific Bio-Refinery. Global Partners LP/Cascade Kelly Holdings, LLC.

June 5, 2020

Oregon Physicians for Social Responsibility (Oregon PSR) is a statewide organization of more than 2,000 health professionals and public health advocates working to protect human life from the gravest threats to health and survival, including environmental pollution. Oregon PSR, guided by the values and expertise of medicine and public health, has a 39-year history of advocating for environmental health for all Oregonians.

The proposed permit is a renewal of an air quality permit for storage and transloading of ethanol and crude oil, modified to include storage and transloading of renewable diesel as a new activity. The Port Westward facility is wholly owned by Global Partners LP, which acquired Cascade Holdings, LLC in 2013. In these comments the owner will be noted as Global Partners.

Global Partners also holds Standard Air Contaminant Discharge Permit number 05-0006-ST-01, approved until 2024 for the manufacturing of ethanol at the Port Westward site. Ethanol has not been manufactured at the site, however, since 2008. Global Partners' only current activity is the transloading of ethanol.

Oregon PSR concludes that the air quality permitting process has inadequately assessed:

- Air quality impacts on upstream and downstream communities.
- Mobile sources of air pollutants.
- Net impact on global greenhouse gas (GHG) emissions.
- Disproportionate impacts on low income communities and communities of color.

Oregon PSR further finds that:

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- The fragmented approach to the air quality permits has obscured the public's view of real and potential harms from Global Partners' operations.
- Global Partners has a long track record of air quality and safety violations.

Oregon PSR recommends that DEQ:

- Deny the permit for transloading of crude oil.
- Deny the permit for transloading renewable diesel until a more comprehensive environmental assessment can be conducted, to include net impacts on global greenhouse gas emissions of the renewable diesel, depending on feedstock involved.
- Track and report all mobile source emissions associated with the site, including cars, trucks, trains and barges.
- Track and report total toxic and GHG emissions from all activities at the site, in a manner accessible to the public.
- Track and report the relative contribution of each separate activity (for example: ethanol manufacturing, transloading ethanol, transloading renewable diesel) to the total toxic and GHG emissions in a manner accessible to the public.
- Track and report all upstream and downstream toxic impacts of each activity at the site as part of the permitting process, current and future.
- Require that annual reporting of actual GHG emissions from the site be included in Oregon's GHG Facility Emissions database.
- Conduct a lifecycle analysis of GHG emissions for each activity at the site as part of the permitting process, current and future.

DEQ has provided no summary inventory of toxic and greenhouse gas emissions for all activities at the site and no separate accounting of the relative contribution to the total toxic and GHG emissions of each separate activity. This fragmented approach to the reporting and permitting process had made it unusually and unnecessarily difficult for the public to grasp and evaluate the potential risks to human health and the environment from Global Partners' activities, both actual and potential.

Global Partners is not a reliable partner for our Oregon communities. Global Partners has been anything but transparent in their intentions and has a long track record of environmental violations. A report by the Center of Sustainable Economy¹ details fines totaling \$877,500 for violation of environmental safety laws in Massachusetts, Maine, North Dakota, and Oregon since 2005. Global Partners should not be permitted to piggyback new activities onto old permits in a way that circumvents public scrutiny and threatens the public interest.

Oregon PSR reminds DEQ that its mission is: "to be a leader in restoring, maintaining and enhancing the quality of Oregon's air, land and water."² Furthermore, DEQ itself defines its responsibilities as "protecting and enhancing Oregon's water and air quality, for cleaning up

¹ (Center for Sustainable Economy, 2019)

² (Department of Environmental Quality, n.d.)



spills and releases of hazardous materials, and for managing the proper disposal of hazardous and solid wastes.”³ Nowhere in the mission statement or set of responsibilities is the obligation to protect or facilitate corporate interests, especially when those interests are in real or potential conflict with the health and safety of Oregonians. Global Partners wishes for complete flexibility in what activities it pursues at Port Westward, but DEQ has no obligation to facilitate that flexibility.

Finally, Oregon PSR requests that DEQ consider seriously the benefits of prevention and the precautionary principle as well as the principles of environmental justice in its deliberations about this and other proposed air quality permits. Upstream impacts of Global Partners’ proposed operations would adversely affect the already seriously compromised regional air shed that includes the Portland metropolitan area⁴ and would have disproportionate impacts on already stressed and at-risk communities.

Crude Oil

In 2015 when oil prices plummeted, Global Partners suspended its crude oil transloading operation at Port Westward. It has not since been resumed.⁵ The expectation is that if market conditions permit, Global Partner will resume crude oil operations. Oregon PSR opposes the renewal of Global Partner’s permission to trans-load crude oil at the Port Westward for the following reasons:

- Transloading of crude oil was suspended at the site five years ago.
- Global Partners has positioned itself to trans-load a much more toxic grade of oil (tar sands) than the oil previously handled (Bakken).
- The current permit does not address the air quality risks of the heavier grades of oil.
- DEQ has not afforded the public sufficient opportunity to evaluate and comment on the transport, storage, and transloading of crude oil at the site, the upstream and downstream impacts of transloading crude oil, or the adverse impacts on total global GHG emissions.
- Global Partners has repeatedly demonstrated its willingness to violate the terms of air quality, water quality, and fire safety permits here and across the nation.

When Global Partners acquired the site at Port Westward they inherited a permit to manufacture and transload ethanol. Ethanol production however had been suspended in 2008 and has not since resumed.⁶ Instead, in 2012 Global Partners applied for permission to trans-load crude oil at the site. Claiming that the added impact of this activity was “incidental to

³ (Department of Environmental Quality, n.d.)

⁴ (Department of Environmental Quality, 2012)

⁵ (Global Partners, n.d.)

⁶ (Thompson, 2019)



the business, with minimal emissions”⁷, DEQ approved the new air quality permit with no public notice and no public input.

Within several months the local communities of Scappoose, St. Helens, and Rainier were astonished to observe mile-long trains carrying Bakken crude oil moving through their communities.⁸ By 2013 Global Partners was transloading 300 million gallons of crude per year, six times in excess of the 50 million gallons they were permitted to handle. In 2014 DEQ levied a slap-on-the-wrist fine for the violation.⁹ That same year DEQ approved a new air quality permit that allowed Global Partners to handle up to 50 oil trains per month at the site.

In 2017 Global Partners entered into a sales agreement with Portland General Electric (PGE) to purchase a number of its aging oil tanks at the site, a sale approved by the Oregon Public Utility Commission.¹⁰ Global Partners claimed they intended to refurbish the tanks for ethanol, but many observers feared the additional capacity would be converted to store crude oil. PGE has since opted to terminate the agreement it had made with Global Partners to sell the tanks.¹¹

Then in 2018 Port Westward commissioners approved a modification to Global Partners’ lease agreement to permit the transloading of heavier grades of crude.¹² The previous agreement only permitted crude with an American Petroleum Institute (API) gravity in the range of 30-44, consistent with “light” crude oil like the Bakken crude that Global Partners had been moving. The new agreement allows for lower API limits consistent with tar sands crude, which is a much more toxic product.

Tar sands oil, called bitumen, is highly viscous with the consistency of peanut butter. The crude oil itself contains high concentrations of polycyclic aromatic hydrocarbons, or PAHs, like benzo(a)pyrene, which are known to cause genetic damage, birth defects, hormonal disruption, developmental disorders, and damage to the kidney or liver. PAHs or their breakdown products can accumulate and remain in the environment for long periods of time.

Because the bitumen is so viscous, it cannot be forced through pipelines unless it is first diluted with various agents to render it into a liquid goo, called diluted bitumen or dilbit, for short. The diluents are known to include:

- volatile organic compounds, like benzene, toluene, and xylene
- heavy metals, like lead and mercury
- hydrogen sulfide

⁷ (Columbia Pacific Bio-Refinery Questions and answers, undated)

⁸ (Davis, Environment How oil trains showed up in Oregon without the public knowing about them, 2014)

⁹ (Davis, Oil train terminal near Clatskanie hit with \$117,000 fine by Oregon DEQ, 2014)

¹⁰ (Wagner, 2017)

¹¹ (Del Savio, Tank sale to Global fall through, Columbia County Spotlight, 2020)

¹² (Oil talks: Port approves Global Partners lease change , 2018)



The list of potential adverse health effects from exposure to dilbit is long and includes heart and lung disease, both acute and chronic, developmental problems in babies and children, low birth weight, and cancer, particularly lung and breast cancer and leukemia.

Perhaps the most dangerous chemical among these is hydrogen sulfide or sour gas. Material safety data sheets have this to say about hydrogen sulfide¹³ :

- It is extremely hazardous.
- At low levels of exposure it may cause irritation of the eyes and airways.
- At higher levels it causes coughing, headache, dizziness, nausea, and rapid loss of the sense of smell (which means the person affected is no longer aware of ongoing exposure).
- As little as 20 minutes of exposure to high levels can cause the lungs to fill with fluid, a potentially fatal condition.
- At very high levels, even very short exposures can cause cessation of breathing, loss of consciousness, and death.

The current air quality permit, however, only requires Global Partners to monitor for particulate matter (PM), sulfur dioxide (SO₂) nitrogen oxides (NO_x), carbon monoxide (CO), and volatile organic compounds (VOC). No requirements are laid out to assess emissions of heavy metals, PAH, hydrogen sulfide, or any of the other hundreds of chemicals included in dilbit.

The attempted purchase of the PGE tanks, Global Partners' plan to build four new 108,000 barrel tanks,¹⁴ and the successful modification of their lease agreement to handle very low grades of crude oil all signal Global Partners' intent to resume handling of crude oil, including tar sands oil, as soon as market conditions permit. Further noted is that the financial backers of Global Partners are heavily invested in Canadian tar sands oil developments.¹⁵

The current air quality renewal application does not adequately assess the risks of storage and transloading dilbit. Furthermore, the upstream impacts of the trains and the downstream impacts of the ocean-going barge traffic are not considered at all in DEQ's site-limited approach to permitting this hazardous activity. This is a serious disservice to those upstream and downstream communities and an abrogation of DEQ's responsibility to all Oregonians.

Renewable Diesel

A 2019 study by the California Air Resources Board showed that biodiesel and renewable diesel use led to the largest ever reduction in transport-related GHG emissions in the state.¹⁶ 100%

¹³ (Appendix P: Crude Oil Material Safety Data Sheets, 2011)

¹⁴ (Department of Environmental Quality, 2020)

¹⁵ (Center for Sustainable Economy, 2019)

¹⁶ (Biofuels International, 2019)



renewable diesel, i.e., not blended with petro-diesel, has been shown to reduce tailpipe emissions of nitrogen oxides (NO_x) and particulate matter (PM), both key pollutants that contribute to air quality degradation. In addition, GHG emissions of 100% renewable diesel are 50 to 85% lower than petro-diesel.¹⁷

Oregon PSR is concerned, however, that renewable diesel is not adequately defined in the permit, nor is the feedstock for this volatile organic liquid (VOL). The carbon footprint of renewable diesel, as well as the toxicity of its emissions, depend on a number of factors, most importantly, the feedstock from which it is derived. It can be made from waste and residue oils and fats such as cooking oil, or crop-based oils such as palm oil.¹⁸

Use of palm oil as a feedstock, however, results in significant net increases in global GHG emissions, primarily due to deforestation and burning, as illustrated in the chart below from the US Environmental Protection Agency.¹⁹ Palm oil plantations have been associated worldwide with habitat destruction, displacements of rural populations, and other human rights abuses.²⁰ It is unclear in this draft permit what renewable diesel is proposed to be transloaded at the Port Westward site and what feedstocks would be represented.

¹⁷ (Leonard & Couch, 2017)

¹⁸

<https://www.sei.org/featured/renewable-fuel-leader-neste-on-responsible-business-and-the-sdgs/>

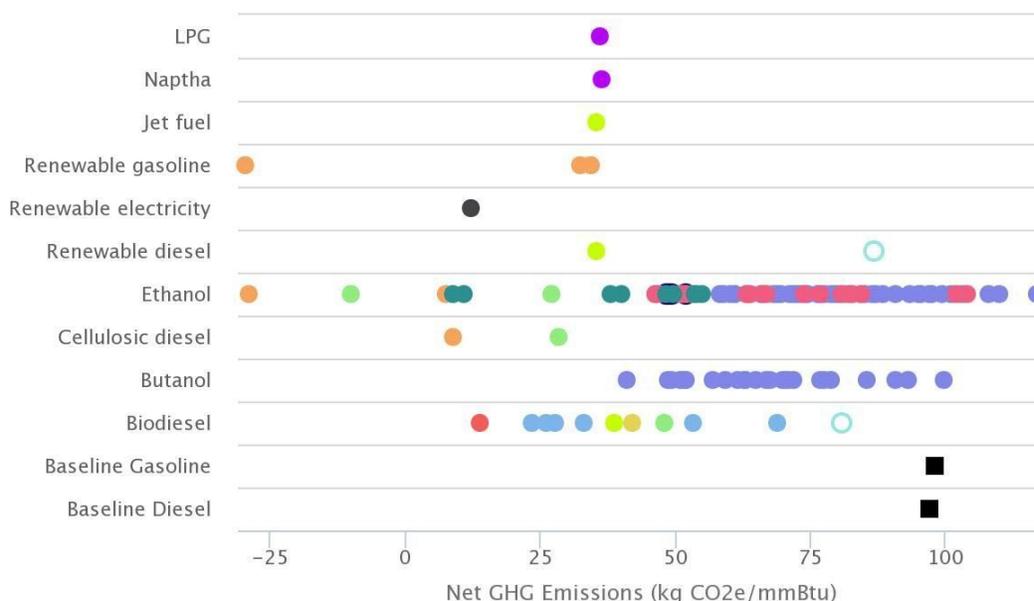
¹⁹ (US Environmental Protection Agency, 2020)

²⁰ (Kodas, 2014)



Lifecycle GHG Emissions by Feedstock and Fuel Type

(Click in the Legend to View Results by Feedstock)



Oregon PSR notes one additional health concern regarding renewable diesels. One renewable diesel derived from vegetable oil known as HDRD (hydrogenation-derived renewable diesel) or hydrogenated vegetable oil (HVO) has been found to be more compatible with existing diesel engines than other untreated biofuels. However, when used in marine vessels, there is little information on whether using HDRD would improve or exacerbate health effects near port areas. Shipping related particle emissions have been estimated to be responsible for 60,000 deaths per year.²¹ In fact, there is evidence that because of hydroxyl radical formation and concentration of metals in the HDRD, the concentration of particulate matter in the emissions of HDRD exceeds that of ultra-low sulfur diesel, currently being used to replace the heavier diesels being phased out in ocean shipping. These increases in particulate matter in emissions of renewable diesel indicate that switching to HDRD may result in particles that are as or more harmful to human health.²²

In general, the handling and storage of renewable diesel that meets ASTM 975 standards is the same as for petroleum diesel, including the needed protection from ignition sources. Tanks

²¹ (Kuang, 2017)

²² (Kuang, 2017)

used for transport and storage must be suitable for combustible liquids and precautions must be taken to prevent product spills on to the ground, into drains, and into surface and ground waters. In the evaluation of the impacts of new diesel formulations, material compatibility and storage stability are important considerations, but little information is available on pure renewable diesel materials compatibility.

Particulate Matter

Oregon PSR notes an increase in allowable emissions of Particulate Matter and Small Particulate Matter (PM2.5) with this permit. The source for this increase is not identified in the permit. The increase is of concern, because there is no safe threshold for exposure to particulate matter. Oregon PSR is also concerned that Global Partners would like to resume ethanol manufacturing on this site, because particulate emissions from this activity are 4 to 10 times higher than the transloading operation, depending on the size of the particulate matter.²³

Particulate Matter (PM), is composed of very small, solid and liquid particles, formed from the incomplete burning of fossil fuels, such as coal, diesel, gasoline, and biomass. Particulate matter is a key constituent of smog. Trains are a known source of diesel particulate matter pollution, but, as a mobile source, are not regulated by DEQ.²⁴ The increase in train traffic from a crude oil transloading operation at Port Westward through the Portland area represents a disproportionate hazard to low income communities and communities of color. (See below)

PM2.5 measures 2.5 microns in diameter or less; PM10 are particles 10 microns or smaller. PM consists of a complex mixture of Polycyclic Aromatic Hydrocarbons (PAHs), soot, black carbon, absorbed water, aerosolized sulfuric acid droplets, other acids, nitrogen, sulfur, organic material, metals, and other toxic substances. PAHs are absorbed by the sponge-like particles and carried by them deeply into the smallest compartments of the lung (alveoli) where they gain direct access to the bloodstream and may then contribute to various diseases in organs distant from the lungs, including the fetal placenta.²⁵

PM is associated with a host of adverse health effects including:²⁶

Cancer

- Increased biological markers associated with risk of lung cancer
- Exposure to ozone and pm correlated with development of and mortality from lung cancer
- Increased oxidative DNA damage predictive of cancer risk
- Increased rates of breast cancer

²³ (Department of Environmental Quality, 2019)

²⁴ (Green Energy Institute, 2019)

²⁵ (Oregon Physicians for Social Responsibility, 2015)

²⁶ (Oregon Physicians for Social Responsibility, 2015)



Cardiovascular

- Increased hospital admissions for serious cardiac arrhythmias
- Increased probability of admission for acute myocardial infarction
- Increased ischemic heart disease, arrhythmias, congestive heart failure
- Biomarkers associated with increased cardiac morbidity and mortality
- Increased hospital admissions and death from heart failure
- Increased risk of congenital cardiac anomalies in children

Cerebrovascular

- Increased hospital admissions for strokes
- Significant increase in stroke mortality associated with exposure to particulate matter
- Increased risk of stroke associated with combined exposure to particulate matter, black carbon, and nitrogen dioxide
- Increased risk of stroke and death from stroke for post-menopausal women
- Structural brain damage and cognitive deficits in middle-aged and older adults

Neurodevelopmental

- Increased incidence of autism spectrum disorder
- Increased incidence of behaviors associated with attention deficit hyperactivity disorder
- Lowered IQ
- Increased behavioral symptoms of anxiety, depression, social problems, rule breaking, and aggression

Pulmonary

- Decreased lung function
- Inhibited lung development in children and adolescents and measurable airway inflammation
- Increased asthma rates and worsening of preexisting asthma and chronic obstructive pulmonary disease (COPD), resulting in increased hospitalization

Other

- Long term exposure linked to decreased life expectancy from cardiopulmonary mortality
- Prenatal exposures linked to altered immune system development

Diesel Emissions

Oregon PSR is concerned about impacts of diesel emissions of added train traffic through the already compromised regional air shed of Portland. The permit would result in up to 50 unit



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trains per month²⁷ and would primarily roll through low income and people of color communities, whose interests are not assessed in the current air quality permit, and who already experience higher rates of air pollution in their communities.

In Oregon, diesel emissions cause more than four hundred deaths each year and 3.5 billion dollars in economic losses. In Portland, DEQ's environmental justice analysis demonstrated that there are disproportionate impacts from air toxics for minority and low-income populations.²⁸

The good news is that reducing diesel emissions does improve health. WHO has found that the lower the levels of air pollution, the better the cardiovascular and respiratory health of the population will be, both long- and short-term. A study in Tokyo in 2016 showed that in areas where diesel emissions were controlled, mortality from lung cancer, heart disease and stroke and the incidence of lung diseases was significantly lower than areas where diesel emissions were not reduced.²⁹

People with COVID-19 who live in U.S. regions with high levels of air pollution are more likely to die from the disease than people who live in less polluted areas, according to a new nationwide study from Harvard T.H. Chan School of Public Health.³⁰ They found that an increase of only 1 $\mu\text{g}/\text{m}^3$ in $\text{PM}_{2.5}$ is associated with an 8% increase in the COVID-19 death rate (95% confidence interval [CI]: 2%, 15%). In other words, a small increase in long-term exposure to $\text{PM}_{2.5}$ leads to a large increase in the COVID-19 death rate. To make matters worse, a new study out of Italy found the virus itself can travel long distances on tiny particles of air pollution, possibly helping to spread infection.³¹

Research analyzing new air pollution data from the Cleaner Air Oregon program shows people of color are more likely to live near Portland's biggest polluters. Portland State University master's degree students used Cleaner Air Oregon data to map the top 10 biggest industrial polluters in the Portland area along with Census data on who lives nearby.³² It's an ominous finding as data from across the country shows both that air pollution increases health risks from COVID-19 and that African Americans³³ and Latinos³⁴ are disproportionately affected by the virus.

²⁷ (Columbia Riverkeepers)

²⁸ (Department of Environmental Quality, 2012)

²⁹ (Yorifuji, 2016)

³⁰ (Wu, 2020)

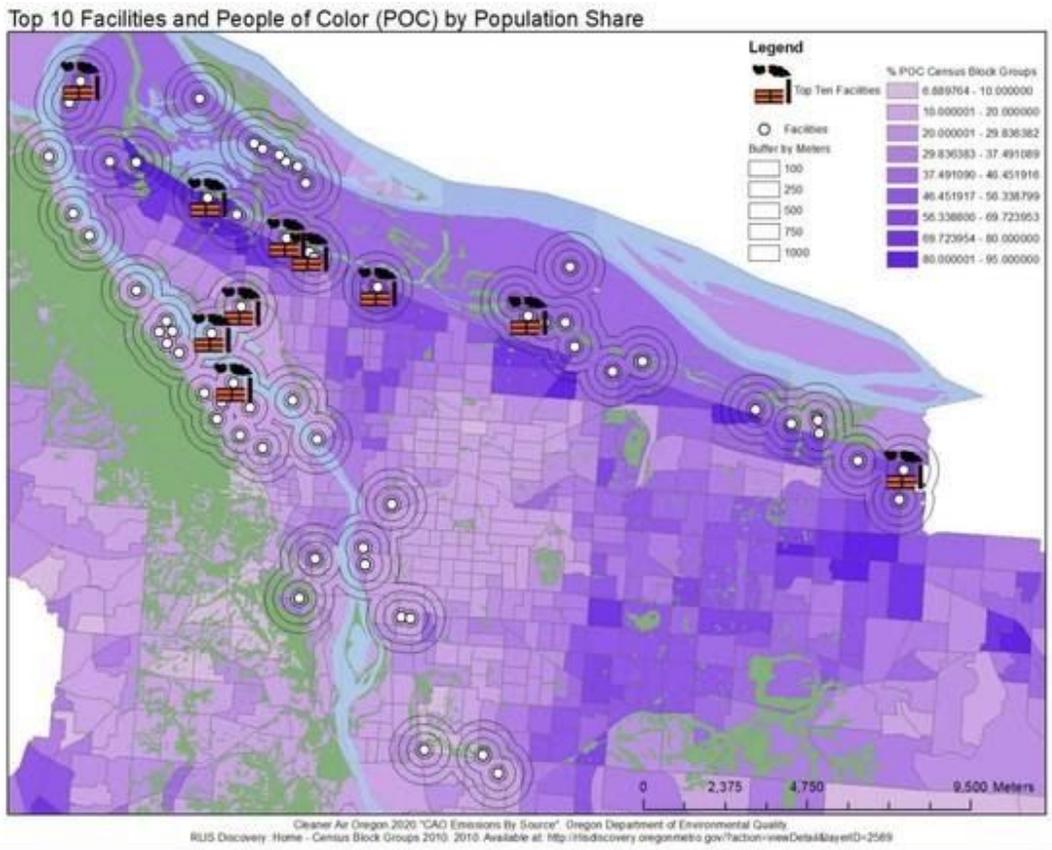
³¹ (Setti, 2020)

³² (Profita, 2020)

³³ (Aubrey, 2020)

³⁴ (Samayoa, 2020)





Courtesy of Portland State University

Greenhouse Gas Emissions

In March 2020 Governor Kate Brown signed Executive Order 20-04³⁵ which directed all state agencies to take those actions necessary to reduce GHG emissions toward meeting statewide goals of 45 percent below 1990 emissions levels by 2035 and 80 percent below 1990 levels by 2050. Renewal of this air quality permit flies in the face of that executive order.

Because the only activity currently in operation at the site is transloading of ethanol, *actual* greenhouse gas emissions, excluding unregulated mobile sources such as trains, trucks and barges, are relatively small and undefined by this permit. The proposed site-based limit is 74,000 tons per year, including potential site-based emissions from transloading crude oil and renewable diesel, neither of which is currently operational. For comparison, the PGE Boardman energy generating facility reported more than 2.6 million tons of GHG emissions in 2018.³⁶

³⁵ (Executive Orders, 2020)

³⁶ (State of Oregon, 2018)



If, however, ethanol manufacturing were to restart, as authorized by the Standard Air Contaminant Discharge Permit Number 05-0006-ST-01, allowable GHG emissions would be 667,800 tons per year.³⁷ This would place the facility among the top ten GHG emitters within the state. This figure does not include mobile emissions associated with the site, nor does it take into account a lifecycle analysis of ethanol production at the site which would produce a calculation of the net effect of the operation on global GHG emissions. This information is necessary for Oregonians to decide on whether to continue to support this industrial activity within our state.

Of much greater concern, however, is the potential for transloading of crude oil. The apparently small contribution this activity makes to GHG emissions, as reflected in this permit application, is a gross underrepresentation of the contribution to net global GHG emissions made by the extraction, transport, storage, and export of crude oil. Global Partners' apparent intention to transload lower grades of crude oil, including tar sands oil, only worsens this calculus. According to the Oil Climate Index, carbon emissions from oil-sand crude are 31% higher than from conventional oil.³⁸ In the context of the current global climate emergency and Oregon's recent climate executive order, this is not the activity that we should be permitting in Oregon.

Environmental Justice

As a leader in restoring, maintaining and enhancing the quality of Oregon's air, land and water, DEQ must consider the issue of environmental justice. According to the EPA, "Environmental Justice is the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies."³⁹

The proposed permit does not take into account the effects on safety and health of those living along the rail lines transporting crude oil or other products to Port Westward for transloading. Unit trains of 100 railcars carry these volatile organic compounds through Portland on the BNSF rail line through the industrial area of north Portland.

Concerned about the impact of oil trains running through its neighborhoods, Multnomah County's Office of Sustainability studied the risk of an accident involving oil trains, also called "bomb trains," on the surrounding communities and the disproportionate effect these trains would have on low-income communities and communities of color.⁴⁰ Some of the findings of this study (see map below) were the following:

- People of color are more likely to live within a half-mile of a rail line.

³⁷ (Department of Environmental Quality, 2019)

³⁸ (Carnegie Endowment, n.d.)

³⁹ (US Environmental Protection Agency, 2007)

⁴⁰ (Multnomah County, 2016)



Not addressed in the Multnomah County study is the risk of a derailment of a train carrying tar sands oil, currently permitted at Port Westward. A spill of tar sands oil, a much more toxic grade of oil, would be even more damaging to the surrounding community, releasing carcinogens such as benzene, heavy metals (lead, mercury) and hydrogen sulfide (H₂S). Even short exposures to H₂S can be fatal. Not only is tar sands oil more toxic but it is more difficult if not impossible to clean up.

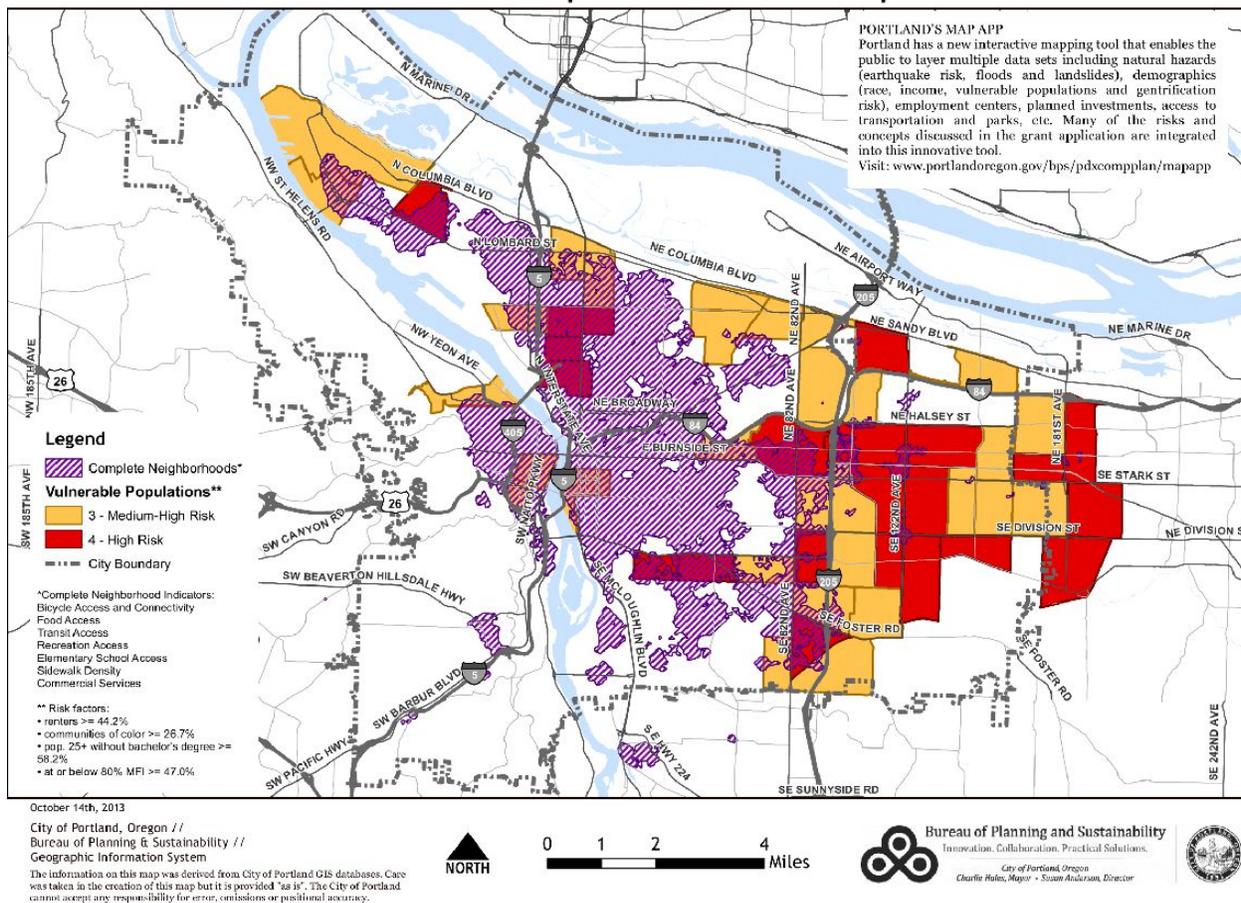
Multnomah County published their oil by rail study in January 2016 just months prior to the June 3, 2016 derailment of the Union Pacific oil train, carrying Bakken oil from North Dakota, in Mosier, Oregon, resulting in a fire which took more than 24 hours to extinguish. The question is not whether there will be a derailment resulting in fire, explosion and release of toxic air pollutants but when.

Communities in the industrial areas of North Portland and along Highway 30 are some of the most vulnerable communities in Oregon (see map below). This is the area along which BNSF trains transport ethanol, crude oil, and biodiesel to Port Westward. Communities with high concentrations of people of color also suffer some of the worst air quality, as measured by levels of diesel particulate matter, in the city.⁴¹

⁴¹ (Multnomah County Health Department, 2014)



Urban Resilience: Vulnerable Populations and Complete Communities



According to the Zapata, et.al. study of the communities vulnerable to climate change, the area of North Portland near Hwy 30 through which these trains run is in the top 10 and 25% of most vulnerable communities (see map above).⁴²

Adverse air quality impacts from train traffic and from the Port Westward activities will also fall heavily onto the residents of Columbia County, where Port Westward is located and along the rail routes, including communities of Scappoose, Rainier and St. Helens. This is a largely rural population of about 50,000 residents. The primary industries are wood products and paper manufacturing, trade, construction, and horticulture. The economy of Columbia County, OR employs 21.4k people. Government and government enterprises are the largest employers by payroll (2,200 people), followed by health care and social assistance. The largest industries in Columbia County, OR are Manufacturing (3,692 people), Health Care & Social Assistance (2,875 people), and Retail Trade (2,351 people), and the highest paying industries are Mining,

⁴² (Zapata, Liu, & Harris, 2017)



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Quarrying, & Oil & Gas Extraction (\$77,589), Utilities (\$69,333), and Manufacturing (\$60,986).⁴³
⁴⁴ Of note is that about half of those employed commute outside the county, most to Portland.

Total Payroll by Industry



	Employees	Location	Type
Fred Meyer	170	Scappoose	Retail
Armstrong World Industries	133	St. Helens	Flooring mfg.
Wal-Mart	129	St. Helens	Retail
Boise Cascade LLC	109	St. Helens	Paper mfg.
USG	97	Rainier	Dry-wall mfg.
Stimson Lumber	80	Clatskanie	Wood
Safeway	68	St. Helens	Retail
Dyno Nobel	60	Deer Island	Chemical mfg.
Teevin Bros. Land & Timber	55	Rainier	Logistics
Letica Corporation	52	St. Helens	Plastic mfg.
Avamere	52	St. Helens	Eldercare
Oregon Aero	50	Scappoose	General
Composites Universal	47	Scappoose	General
West Coast Shoe Factory	38	Scappoose	Footwear mfg.

Source: Columbia County Economic Team, City Business License Data
 Note: Public data is unavailable for companies located in unincorporated Columbia County.

In 2015, the Oregon Health Authority’s Climate Health Program published an assessment of population vulnerability and sensitivity to climate change, using social and demographic data. Their Social Vulnerability Index places the Port Westward facility and surrounding area at the

⁴³ (Columbia County, OR)

⁴⁴ (Columbia County Economic Team)



highest level of vulnerability, taking into account 11 indicators, including measures of demographics, socioeconomic status and health.⁴⁵

Most of Columbia County is also in their highest risk category for chronic disease as measured by BMI (body mass index), a marker for illnesses such as diabetes, cardiovascular disease, and depression. The indicator of isolated older adults (>age 65) and older adults (>age 65) indicates that this area is also at the highest level of risk. Unemployment (% of those 16 and older who are unemployed) also placed this area at the highest level of risk.

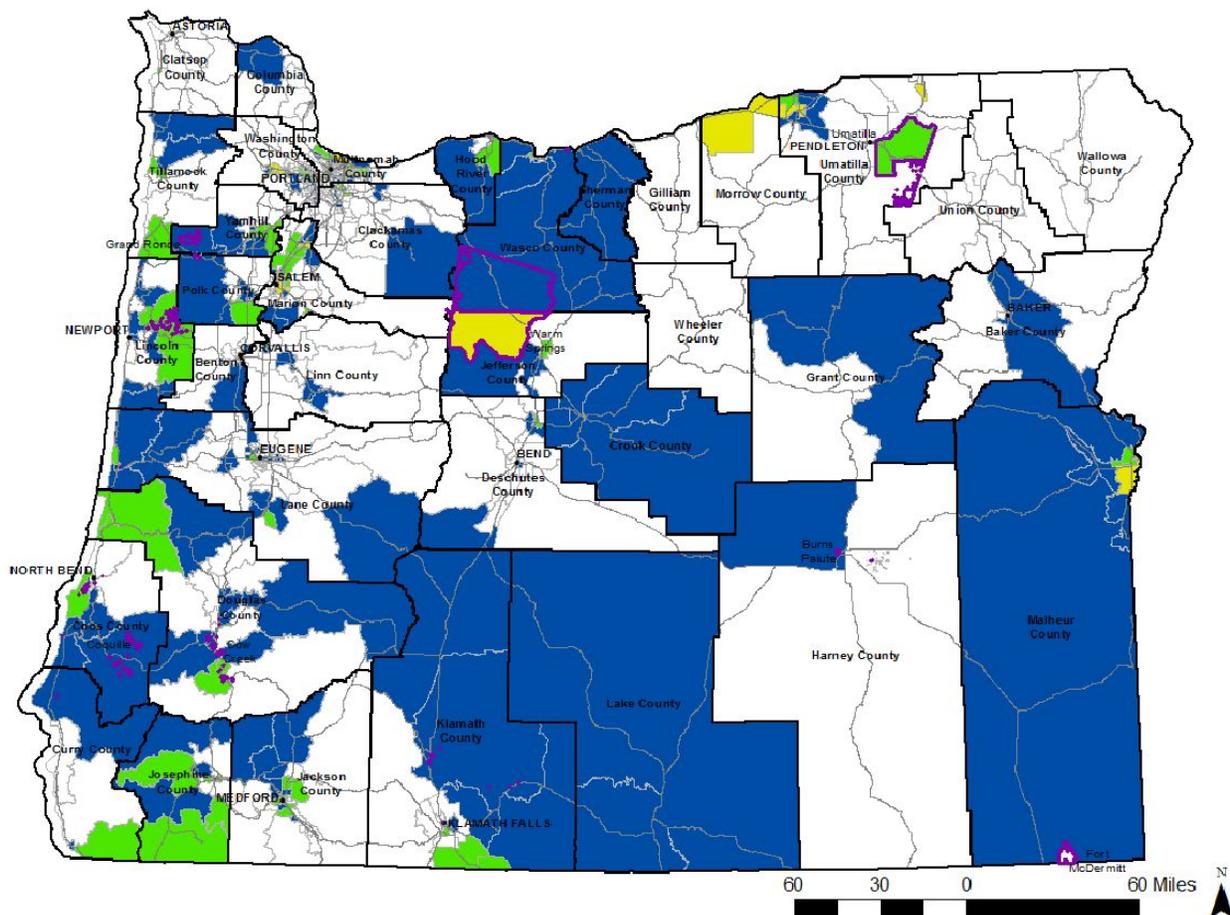
Zapata, et.al. in their report, “Findings Brief for Equity Considerations for Greenhouse Gas Emissions Cap and Trade Legislation in Oregon,” commissioned by the Coalition of Communities of Color, Oregon Environmental Council, and Portland State University Institute for Sustainable Solutions, in 2017, identified communities most vulnerable to climate change. The criteria they used were race (non-white), income (below 200% of poverty), education (% over 25 without a high school diploma), unemployment rate (%age >16 not employed), age (% over 65 or less than 10 years of age), cancer risk and respiratory hazard risk.

In the map below, blue areas represent the top 50%, green, the top 25% and yellow, the top 10% of census tracts most vulnerable to climate change. The area where Port Westward is located is in the top 50% (blue) of census tracts more vulnerable to climate change.⁴⁶

⁴⁵ (Oregon Health Authority, 2015)

⁴⁶ (Zapata, Liu, & Harris, 2017)





Below are tables of demographic data comparing Columbia County to Oregon. Of note is that Columbia County has a slightly higher percentage of residents over the age of 65 than in the state as a whole and the overall death rate is higher there as well. It is significantly higher for death from cancer and heart disease and higher for stroke, chronic lung disease, and suicide.

The Robert Wood Johnson Foundation's 2020 County Health Rankings ranks Columbia County 8th of 35 counties in Oregon for Health Outcomes (length of life and quality of life) and 11th for Health Factors which include health behaviors, clinical care, social and economic factors and the physical environment.⁴⁷ The physical environment includes air and water quality. Among the health factors, Columbia County has a higher incidence of obesity, 31% vs. 29% for Oregon and more physical inactivity 22% vs. 17% in Oregon. There are fewer primary care physicians 1 per ~3,000 vs. 1 per ~1000 in Oregon and similarly fewer dentists and mental health providers.

⁴⁷ (Robert Wood Johnson, 2020)



There are lower levels of air pollution 7.3 vs. 7.9 in Oregon, but a higher percentage of those with long commutes 60% vs. 29% in OR, exposing residents to higher levels of air pollution from particulate matter generated by transportation.

Demographics: Race, Ethnicity, Language (2017 Population Estimates)⁴⁸							
	% Non-Hispanic African American alone	% American Indian and Alaskan Native alone	% Asian alone	% Native Hawaiian/ Other Pacific Islander alone	% Hispanic or Latino	% Non-Hispanic White alone	% Who Do Not Speak English at Home
Oregon State	2.2%	1.8%	4.7%	0.4%	13.1%	75.8%	15.2%
Columbia	0.6%	1.5%	1.1%	0.2%	5.2%	88.5%	4.0%

Social and Economic Factors				
	Unemployment ⁴⁹	Median Household Income ⁵⁰	Persons in Poverty ⁵¹	High School Graduation ⁵²
Oregon State	3.9% 3.5% in March to 14.2% April	\$59,393	14.1	77%
Columbia County	4.9%/4.5% March 15.3%April	\$59,714	12.1	81%

⁴⁸ (US Census Bureau, n.d.)

⁴⁹ (State of Oregon Employment Department, n.d.)

⁵⁰ (US Census Bureau, n.d.)

⁵¹ (US Census Bureau, n.d.)

⁵² (Robert Wood Johnson, 2020)



Mortality ⁵³		
	Premature Age-adjusted Mortality*	Child mortality**
Oregon State	310	40
Columbia	330	30

*Premature age-adjusted mortality: Number of deaths among residents under age 75 per 100,000 population (age-adjusted) 2010-2013.

**Child mortality: Number of deaths among children under age 18 per 100,000, 2010-2013.

Morbidity and Mortality ⁵⁴					
	Premature Death*	Poor or Fair Health	Poor physical death days	Poor Mental Health days	Low Birthweight
Oregon	6,000	17%	4.2	4.8	6%
Columbia County	6,500	14%	3.6	4.1	6%

*Years of potential life lost before age 75 per 100,000 (age-adjusted)

Oregon: Age-adjusted Death Rate per 100,000, by County, 2000-2004 ⁵⁵								
	All Causes	All Cancer	Heart Disease	Stroke	Chronic Lung Disease	Diabetes	Homicide	Suicide
State Total	834.1	198.4	191.8	68.8	49.1	66.6	3.3	15.0
Columbia	940.3*	228.7*	214.1*	74.3	58.4	66.4	2.3	18.7

⁵³ (Centers for Disease Control and Prevention, n.d.)

⁵⁴ (Robert Wood Johnson, 2020)

⁵⁵ (Oregon Health Authority, n.d.)



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* Statistically significant difference

Conclusion

There are a wide range of serious issues with the proposed air discharge permit for Global Partners including an inadequate review of its facility's upstream health and safety impacts, unacceptable impacts to Oregon's low income communities and communities of color, and upstream GHG emissions. Permitting a facility to allow for the transloading of highly volatile crude oil is inconsistent with Governor Kate Brown's recent climate executive order and imperils the health and safety of communities in Columbia County and along rail lines feeding into the Global Partners facility. Better tracking and reporting of emissions is needed. No transloading of crude oil should be allowed, and the feedstock GHG impacts of renewable diesel must be assessed prior to permitting renewable diesel transloading at the facility. For all of these reasons, Oregon PSR urges denial of the Standard Air Contaminant Discharge Permit for Columbia Pacific Bio-Refinery.

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