



OWENS-BROCKWAY: AN ENVIRONMENTAL JUSTICE PROBLEM IN PORTLAND

Hazardous air pollution from a glass plant threatens the health of children and vulnerable community members in a racially diverse neighborhood



Owens-Brockway's glass facility. *Mason Trinca for Earthjustice*

Introduction

For many years, residents of Portland's Cully neighborhood have raised concerns about toxic air emissions spewing from the Owens-Brockway facility, located on NE Glass Plant Road in Northeast Portland. Owned by Owens-Illinois (O-I), this industrial plant manufactures glass containers for food and

alcohol, a process that entails melting down heaps of crushed-up recycled glass in giant furnaces.

While recycling glass does reduce landfill waste, sustainability should not have to come at the expense of human health. Owens-Brockway has and is creating

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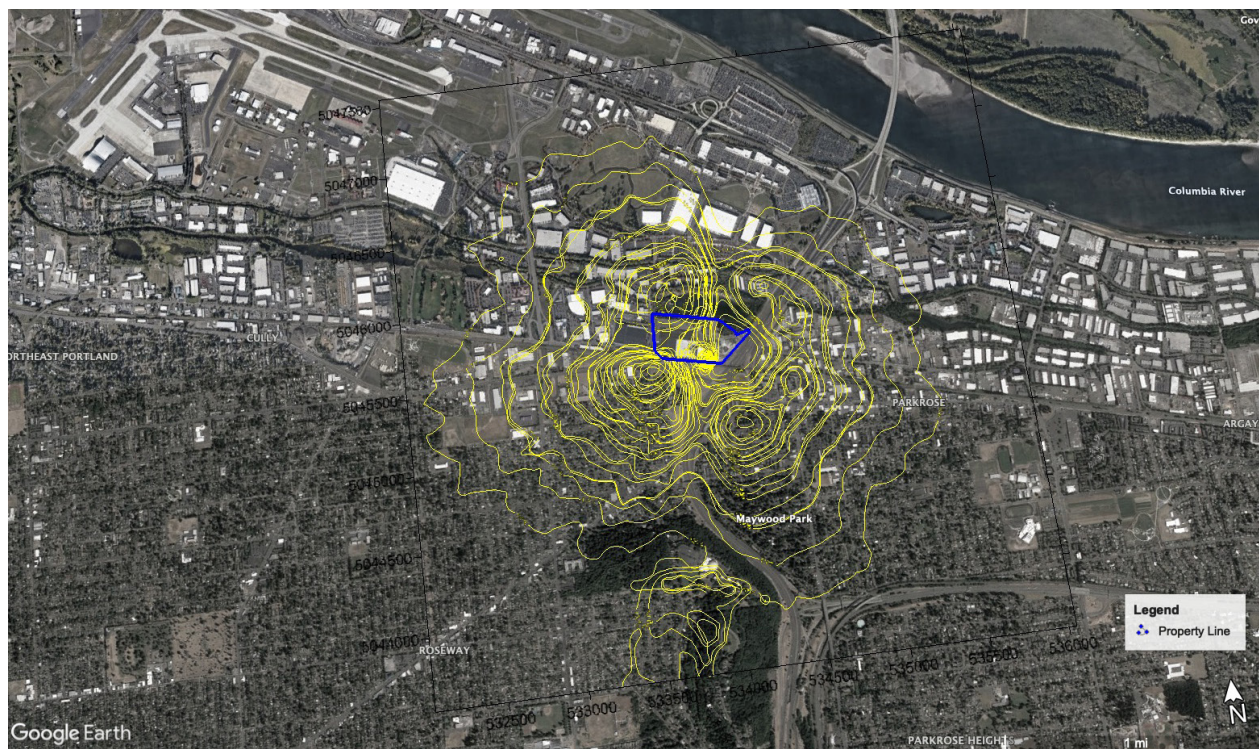
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an environmental hazard by emitting an array of harmful pollutants such as arsenic, lead, and sulfur dioxide into a community that is already overburdened by environmental harms. The plant recently retired one of its glass furnaces, resulting in a much-needed reduction in hazardous emissions. This is important progress, but Owens-Brockway nevertheless remains a significant source of lead pollution – and continues to release high amounts of respiratory irritants that cannot be adequately addressed unless the company installs pollution-control technology. To be a good neighbor, the facility operator should take the additional step of installing filters to clean the air.

The Environmental Protection Agency (EPA) defines environmental justice as the fair treatment and meaningful involvement in decision-making of all people regardless of race, color, national origin, or income. Under EPA's environmental justice guidelines, Cully is considered an "overburdened community."¹ More than 50 percent of residents in this area represent communities of color; more than a quarter are low-income; and all face an elevated risk of cancer from air toxics.²

Youth are especially vulnerable to respiratory illness associated with air pollution, and three public schools and a park with playground equipment and soccer fields are located near this industrial plant. For children who live, play, or attend school nearby, the simple act of stepping outside can become a health hazard.

This report aims to highlight new air-modeling findings from Todd Cloud, an air dispersion modeling expert commissioned by Earthjustice who spent more than two decades working as an industry consultant on issues related to the Clean Air Act before beginning to use his expertise to aid communities affected by pollution. This report also shares detailed information about how community members' lives are affected by air pollution in the neighborhoods surrounding this facility. It's meant as an informational tool to aid Cully residents, Portlanders, members of the media, regulators, elected officials, and Owens-Illinois corporate representatives in understanding the problem and determining how to better protect the health of this community.



An aerial map showing modeling of the potential emissions from the Owens-Brockway facility in Portland. Google Earth

1. EPA glossary, <https://www.epa.gov/environmentaljustice/ej-2020-glossary>. <http://npispublic.ceris.purdue.edu/ppis/product.aspx>
 2. To view data, visit <https://eiscreeen.epa.gov/mapber/>. Navigate to "Select Location;" "Enter a location or a latitude/longitude;" then enter "97220" and "Get Printable Standard Report." 97220 is the zip code for the Owens-Brockway facility. The process can be repeated for 97218, the Cully zip code.

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Owens-Brockway Releases High Quantities of Lead and Arsenic

Owens-Brockway’s most recently published air emissions inventory³ shows quantities of arsenic and lead released over the course of a year. These dangerous toxic releases are in addition to emissions of more than a dozen other toxics or heavy metals including

chromium, mercury, formaldehyde, copper, ammonia, hexane and other harmful substances. Additionally, in 2019 the facility emitted 38,655 metric tons of greenhouse gases – the pollution that drives climate change – according to the most recent available data.⁴

POLLUTANT	AMOUNT EMITTED PER YEAR	ASSOCIATED HEALTH CONCERNS
Arsenic and compounds	31 lbs	Long-term exposure can result in developmental effects, diabetes, pulmonary disease, cancer and cardiovascular disease.
Lead and compounds	167 lbs	Brain damage, reproductive problems, high-blood pressure, kidney disease and nervous disorders. There is no known safe level of human exposure to lead.

Table 1. Arsenic and lead emissions as reported in Owens-Brockway’s most recent air emissions inventory.

The Modeling Showed Dangerous Levels of Emissions for Respiratory Irritants

In addition to the toxic emissions listed above, several “criteria pollutants” – which are more strictly regulated by the Environmental Protection Agency – are also being emitted from the glass-manufacturing plant. These include nitrogen oxides (NO_x), sulfur dioxide (SO₂), and particulate matter (PM_{2.5} and PM₁₀). All are associated with respiratory illness, and a new air-modeling study⁵ by Todd Cloud, an expert air modeler retained by Earthjustice, demonstrates that the emissions from Owens-Brockway could cause or contribute to an exceedance of federal clean-air standards for two of these pollutants.

This study is the first time an air-modeling analysis has ever been conducted for Owens-Brockway, even though most industrial facilities are required to do them. That’s because Owens-Brockway, built in 1956, is “grandfathered in” under the Clean Air Act – and therefore exempt from clean-air standards passed in 1978.

While the Clean Air Act requires polluters to comply with modern air-pollution control standards when they modify their operations in a major way,

Owens-Brockway has not documented a major modification in 65 years, making it a relic of a past generation.

But even grandfathered facilities should not be allowed to cause or contribute to an exceedance of the federal ambient air standards. Cost-effective technologies exist that could reduce the pollution from Owens-Brockway. As part of the Regional Haze program, a program to improve visibility and air quality in national parks and wilderness areas, Owens-Brockway submitted a four-factor analysis that identified various cost-effective control strategies that could reduce the facility’s pollution.⁶ To date, however, Owens-Brockway has not acted to implement any of these control strategies.

Below is a chart showing National Ambient Air Quality Standards exceedances that Cloud’s modeling study predicted would be caused by Owens-Brockway’s emissions. Different ambient air standards apply for different time intervals, and Cloud’s modeling showed that Owens-Brockway could cause a violation of the standard associated with an hour of exposure to NO_x and SO₂.

3. The August 19, 2021 emissions inventory can be downloaded at <https://www.oregon.gov/deq/air/cao/Documents/Owens-081921EmissionsInventory.xlsx>.

4. Oregon GHG emissions inventory can be downloaded at <https://www.oregon.gov/deq/air/programs/Pages/GHG-Emissions.aspx> (see “2019 - Greenhouse Gas Emissions From Facilities Holding Air Quality Permits” at row 172 for Owens-Brockway’s GHG emissions).

5. Memorandum, <https://earthjustice.org/documents/report/owens-brockway-air-modeling-report-june-2021>.

6. O-I, Regional Haze Four Factor Analysis, <https://www.oregon.gov/deq/air/Documents/haze-Owens-Brockway-FFA.pdf>.

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POLLUTANT	POTENTIAL AIR EMISSIONS ⁷ (WHAT PLANT IS CAPABLE OF EMITTING, BASED ON 2020 DATA)	ACTUAL AIR EMISSIONS ⁸ (BASED ON 2020 DATA)	ASSOCIATED HEALTH CONCERNS
NO _x	196% of 1-hour standard, if only furnace D is running	162% of 1-hour standard, if furnace D only is running	Can aggravate respiratory diseases, particularly asthma, leading to symptoms such as coughing, wheezing or difficulty breathing. Longer exposures may contribute to the development of asthma and potentially increase susceptibility to respiratory infections. ⁹
SO ₂	155% of 1-hour standard, if only furnace D is running	124% percent of allowed emissions for 1-hour standard, if furnace D only is running	Can harm the human respiratory system and make breathing difficult, especially for people with asthma, particularly children. ¹⁰

Table 2. Modeling showed NO_x and SO₂ emissions exceed ambient air-quality standards.



Owens-Brockway’s glass facility. *Mason Trinca for Earthjustice*

7. *Id.* (Table 22).
 8. *Id.* (Table 16).
 9. EPA, Basic Information about NO₂, <https://www.epa.gov/no2-pollution/basic-information-about-no2>.
 10. EPA, Sulfur Dioxide Basics, <https://www.epa.gov/so2-pollution/sulfur-dioxide-basics#effects>.

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Elizabeth DeJesus Lopez and her children, Alex DeJesus Lopez, Archie DeJesus Lopez and Dafne Garcia DeJesus photographed at Cully Park.
Mason Trinca for Earthjustice

Community Profile: Elizabeth

Elizabeth DeJesus Lopez is a mother of three who has lived in Cully for 12 years. On many evenings and weekends, she brings her 12-year-old son to Cully Park for soccer practice. The park isn't far from the Owens-Brockway glass recycling plant, and DeJesus Lopez says she's often encountered brown smoke hanging in the air nearby. It's also close to a highway and other sources of pollution, so air-quality impacts can accumulate, particularly on hazy days. Since beginning to play soccer there, her son has started exhibiting signs of asthma, like shortness of breath. Mysterious rashes have also appeared on his skin. His teammates have experienced similar health issues. Once she learned more about air pollution through community organizations, DeJesus Lopez started to draw a connection between her son's health and the air emissions from

the glass-recycling plant. "When I would pick him up, he would be like 'Mom, I cannot breathe.' I decided to make him a doctor's appointment," she explained. "My doctor asked me if somebody was smoking inside the house." DeJesus Lopez says her household is smoke-free, and there is no history of asthma in her family. Nevertheless, her son's health condition has persisted, and she is concerned that this could be just the beginning. "If it gets worse, then I cannot be around my neighborhood," she says. DeJesus Lopez would like elected officials and state and federal agencies to do a better job regulating industrial polluters like Owens-Brockway. She would also like to see the company take action to reduce its air emissions. She believes neighborhood youth should be able to play soccer outdoors without having to suffer the effects of toxic air.

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Wendi Yah Canul with her children, Kiara Valle and Mario Valle, photographed at Cully Park. *Mason Trinca for Earthjustice*

Community Profile: Wendy

Wendy Yah Canul is raising four children in Cully, where she has lived for 15 years. She loves this neighborhood – but remains very concerned about air quality. Her youngest son, who is six, suffers from asthma and regularly experiences a runny nose and watery eyes whenever he spends time outside. She believes his symptoms are directly related to the toxic emissions from surrounding emitters including the Owens-Brockway facility, just eight blocks away. Wendy has noticed that when she puts her children into freshly washed clothes, they will continue to smell clean while they remain inside – but after stepping outside, their clothes will take on a foul-smelling scent. It's not exactly like wildfire smoke, she

says, but more like a noxious chemical smell. Her children have been exposed to fire smoke, too, including from a nearby industrial fire several years ago originating at a different facility that triggered health impacts. With wildfires looming as a more consistent and uncontrollable form of air pollution across the region, she says air quality concerns from the Owens-Brockway glass plant are even more pressing. Wendy's children all attend school in Cully, and she says she knows other parents in the area whose children are battling similar health problems. She has noticed that her youngest son's symptoms flare up only when he goes outside, so she seeks to limit his time outdoors, regularly calling him back inside.

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Community Demands

Cully is one of the most diverse communities in Oregon, home to low-and-middle income families, newly arrived refugees, long-term elderly residents, new homeowner families, and BIPOC communities. Residents in the surrounding area face elevated health risks due to hazardous pollutants – but stronger pollution controls can help address these dangers. Portland, like many U.S. cities, has a long-standing history of racist housing and land use practices that created and reinforced racial segregation and inequities. Exclusionary zoning, racially restrictive covenants, and redlining are early examples of this, with their effects still visible today. These discriminatory practices have all played a role in shaping the city’s urban form—and in exacerbating inequities along lines of race and class.¹¹

Cully community members and Portland-based organizations have called on Owens-Brockway

to find solutions for cleaner air, such as installing pollution-control technologies that could significantly reduce hazardous emissions.

“Owens-Brockway’s lack of preventative actions and refusal to install filters to reduce multiple pollutants of concern could easily be interpreted by many as systemic environmental racism that is rooted in placing dangerous industries near marginalized populations, including children and teachers at nearby public Title One schools, while ignoring the real health consequences from the facility’s pollution stream and emissions,” community groups wrote in a recent letter.¹²

Owens-Illinois must take care of the air-pollution problem it is creating in Cully. Until then, environmental justice will remain out of reach in Portland.



Kiara Valle and Mario Valle, photographed at Cully Park. Mason Trinca for Earthjustice

11. Please see “Historical Context of Racist Planning: A History of How Planning Segregated Portland,” by Portland Bureau of Planning and Sustainability. <https://www.portland.gov/sites/default/files/2019-12/portlandracistplanninghistoryreport.pdf>

12. Community Input Regarding Owens-Brockway’s Title V Violation, https://earthjustice.org/sites/default/files/files/community_ltr_to_owens_re_1mil_fine_-_revised_formatting_002.pdf.

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