Industry stack emissions health risk ranking procedures - Multnomah, Washington, and Clackamas Counties

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"Prioritization Risk Values" reports all DEQ 2016 Emissions Inventories and also includes cancer and noncancers per million people roughly estimated per chemical by DEQ . This was never released to the public but provided to Portland Clean Air from our successful information request, available here: portlandcleanair.org/files/portland_clean_air/deq_emissions/output_data/Prioritization%20Risk%20Values.xlsx

Source testing is happening now for many industries and those results will be more accurate than DEQ CAO 2016 Emissions Inventories.

To determine relative risk, we used DEQ "CAO Facility Call-in Prioritization Details" which scores each industry in Oregon using Prioritization Risk Values, available at: www.oregon.gov/deq/aq/cao/Documents/CAOFacilityCall-inPrDetails.XLSX

We used column "risk screening percentile" which totals cancer and noncancer health effects for each industry. We did not use the column "score" which weights risk screening percentile based on estimated nearby population.

This was entered into a Google map here: www.google.com/maps/d/drive?state=%7B%22ids%22%3A%5B%221YAqIEB5a_2QFql7NzdJQVN89rWGm3_MY%22%5D%2C%22action%22%3A%22open%22%2C%22userId%22%3A%22104756617504915800982%22%7D&usp=sharing

I manually removed all industries except for one county and labeled based on "risk screening percentile" to provide industry health risk ranking by county.

Multnomah County is here: www.google.com/maps/d/drive?state=%7B%22ids%22%3A%5B%221JZsuvJg1ukHN4dH4CJxUceiFd8FGy1fC%22%5D%2C%22action%22%3A%22open%22%2C%22userId%22%3A%22104756617504915800982%22%7D&usp=sharing

Washington County is here: www.google.com/maps/d/drive?state=%7B%22ids%22%3A%5B%22120rI99nkU9FDTzu4PGSzmuNKSkdRGJ1p%22%5D%2C%22action%22%3A%22open%22%2C%22userId%22%3A%22104756617504915800982%22%7D&usp=sharing

Clackamas County is here: www.google.com/maps/d/drive?state=%7B%22ids%22%3A%5B%2219RRAh7D-6IDyoNsArNK92UX8iLqvTydm%22%5D%2C%22action%22%3A%22open%22%2C%22userId%22%3A%22104756617504915800982%22%7D&usp=sharing

The final ranking report for Multnomah County is here: http://portlandcleanair.org/files/reports/Portland%20Stack%20and%20Diesel%20Booklet%20Color.pdf

Since this map was made, Owens Brockway took it green glass furnace offline ending hexavalent chromium emissions, its main risk driver. We haven't recalculated their ranking but it now far lower down the list. More info here: www.oregonlive.com/business/2019/10/glass-bottle-maker-owens-brockway-will-lay-off-97-portland-workers.html

The final ranking report for Washington County is here: http://portlandcleanair.org/files/HAW%20ranking.pdf

Washington County was altered to exclude Bonita Packaging which went out of business and sold its machinery to another industry who is far less dangerous to human health. DEQ lacks jurisdiction on airports so did not include Hillsboro Airport in its reporting. We did. When we made the Washington County Google map we listed Hillsboro Airport as the most dangerous air polluter using EPA NEI 2014, released Feb. 2018 available at: http://portlandcleanair.org/files/data/emis_sum_fac_7439.xlsx

In April 2020 we corrected our inclusion of Hillsboro Airport by making a spreadsheet of only lead emissions from "Prioritization Risk Values." The largest is lead emitter included is Georgia-Pacific Toledo emitting 572.80 pounds of airborne lead annually with a noncancer chonic and acute combined risk of 99.44 per million people. That is a ratio of approximately .173 noncancer health effects risk per million per pound of airborne lead. EPA 2014 NEI released in 2018 reported annual lead emissions for the Hillsboro Airport to be 1,211 pound per year. Using the ratio above, this is 209.5 noncancer health effects per year. This placed Hillsboro Airport at 4th most dangerous industrial air polluter after T5@Portland with 386.7 per million with cancer and noncancer combined.