Calculation of statistics for a search

When an EC3 user defines performance specification, geographical or other filters in EC3 and searches for EPDs matching the search criteria, EC3 returns the statistics for that specific search. The set of matching EPDs counts toward the generated boxplot and statics as follows:

1. For each product EPD, use the Uncertainty Adjusted GWP value
2. For each industry EPD, use the uncertainty factor for industry EPDs to generate a range of 13 data points based on a lognormal distribution with the 15% top and bottom deleted.[1]
3. Combine (1) and (2) into an ordered list, and find quintiles, interpolating linearly between the closest two data points when necessary.
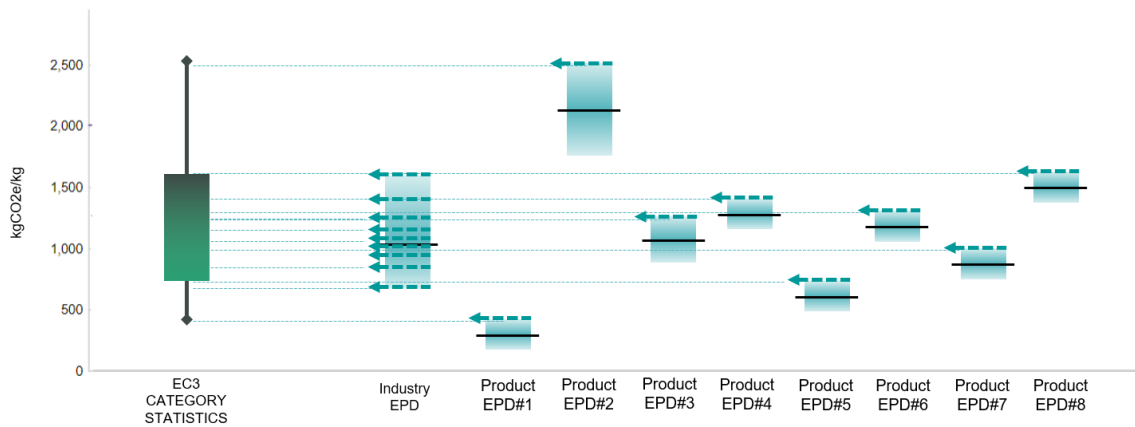

Figure 1 - Combining Industry and Product EPDs in search statistics. (for illustration only)

This approach ensures that categories with only a few Product EPDs show a range of potential GWPs that reflect the industry, and not just a small subset of manufacturers with EPDs that may be anywhere in the range of impacts for that industry as a whole. In categories with no Industry EPDs, or many more product EPDs than Industry EPDs, the Product EPDs start to hold more weight. Note that this approach is necessary because of the diverse nature of categories that EC3 holds (some categories have no Industry EPDs and others have multiple) and the global nature of some categories (i.e., products in categories that are globally traded) where multi-regional searches may include Industry and Product EPDs from many regions.

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[1] Points are generated for percentiles spaced 5% apart, totaling 21 points. We trim any datapoints above 80th or below 20th percentiles (i.e., 0, 5, 10, 15, 85, 90, 95, 100th percentile points), ending with 13 datapoints that contribute to the search statistics for each Industry EPD.