

DATE: Jan 28, 2022

TO: Ms Katie Wolt, Rulemaking Lead
Washington Department of Ecology

RE: Comment on draft rule WAC 173-446a: Criteria for EITE's

As a retired climate scientist, I write to urge Ecology to revise the definition of “emissions’ intensity” that is expressed in Eqn 040-1. In the current draft, this equation expresses a *mass-based* metric NOT an *intensity* metric. This distinction is important to both science and policy-making and should not be muddied by the Ecology rule. Moreover, because the Climate Commitment Act (CCA) itself distinguishes between mass-based and intensity-based metrics, defining “intensity” in mass-based units is likely to cause confusion, if not legal difficulties, during implementation of this law. Recognizing Ecology’s time constraints, I offer two possible solutions below.

For context, let me argue briefly for the importance of the word “intensity” as used in climate science and climate policy-making. This term refers to carbon emissions *per unit product* or *per unit product value*. For manufacturing industries, the intensity concept (expressed as tons of CO₂e per ton of product) reveals, for example, the inherent climate impact of different methods of production. In terms of broad national policy, the intensity concept (expressed as emissions/GDP¹) allows the public and policymakers to distinguish between climate goals and economic goals - that is, both can be pursued as long as emissions intensity goes down at a sufficiently rapid rate.

The word “intensity” is defined and used correctly in RCW 70A.65.110(3)(b)(i) “For the purpose of this section, “carbon intensity” means the amount of carbon dioxide equivalent emissions from a facility in metric tons divided by the facility specific measure of production including, but not limited to, units of product manufactured or sold, over the same time interval.”

Moreover, the CCA specifically (and correctly) distinguishes intensity-based metrics from mass-based metrics - to wit: RCW 70A.65.110(3)(b)(ii) [*italics added*] “If an emissions-intensive and trade-exposed facility is not able to feasibly determine a *carbon intensity* benchmark based on its unique circumstances, the entity may elect to use a *mass-based* baseline that does not vary based on changes in production volumes. ... if a facility elects to use a *mass-based* baseline, it may not later convert to a *carbon intensity* benchmark during the first three compliance periods.”

The CCA directs Ecology to adopt “objective criteria for both emissions' intensity and trade exposure for the purpose of identifying emissions-intensive, trade-exposed manufacturing businesses” [RCW 70A.65.110(2)]. Thus, the CCA uses a slightly different term in this mandate - “emissions intensity” as opposed to “carbon intensity”. However, these terms are logically synonymous, since the “emissions” in question are, in fact, emissions of “carbon”. This mandate, however, does present one obvious difficulty for Ecology: The CCA appears to define “carbon intensity” with respect to the specific products of each industry, whereas Ecology must come up with an objective criterion that will apply to any and all industries. I offer two potential solutions: I urge you to adopt (1), but if that is not possible, then please at least adopt (2) to avoid muddying the concept of “intensity”.

1 For example, the U.S. Energy Information Administration uses “Carbon intensity (economy)” as a leading parameter in its reports and defines this quantity as “The amount of carbon by weight emitted per unit of economic activity—most commonly gross domestic product (GDP) (CO₂/GDP).” [EIA 2019 report, p. 18, available at: https://www.eia.gov/environment/emissions/carbon/archive/2019/pdf/2019_co2analysis.pdf].

(1) Define “emissions intensity” as a facility’s carbon emissions divided by its gross revenue over the same time period. Since facility revenue constitutes a “measure of production,” that would be consistent with the CCA definition of “carbon intensity” in RCW 70A.65.110(3)(b)(i). Under this approach, the next challenge is to identify a suitable threshold value that would qualify a given facility as “Emissions Intensive”. It might be possible to find appropriate threshold values in other carbon markets (e.g. California or European Union), but I have not been able to find any such precedents and I realize that Ecology staff has very limited time to research this matter. Therefore, I would recommend that Ecology use the formula suggested in the written comments by Mike Ruby, which is pegged to the facility’s B&O tax. Under this formula, the Emissions Intensity Threshold (EIT) would equal a facility’s B&O tax rate divided by the Emissions Containment Reserve Trigger Price (ECRTP), which will be established by Ecology in WAC 173-446-340. Using this threshold, a facility qualifies as emissions intensive if the cost of complying with the CCA would be equal or greater than its B&O tax burden. This is a logical threshold, well-suited to Washington State businesses. For your convenience, I have calculated what the threshold would be as a function of ECRTP in Table 1, below. Note that the final column of Table 1 shows the inverse of the threshold, which has units of (\$revenue)/(tonCO2 emitted) - a much easier number to grasp. Thus, for example, if the value of ECRTP is \$50/ton, then a firm would have earn revenue of less than \$22,523/ton to qualify as emissions intensive.

2. Alternatively, if Ecology concludes that the most appropriate and practical criterion is a mass-based metric (e.g., 25,000 MT CO2e/year as in the current draft rule), I strongly urge you to adopt language clarifying that the quantity defined in Eqn 040-1 is a mass-based metric, not a true “intensity” metric. For example, add the italicized words below into the language of paragraph (2)(b)(i) so that it reads:

“(i) Emissions' intensity of the facility. (Note: For practical reasons, Ecology is using a mass-based criterion in this section, not to be confused with “carbon intensity” as defined in RCW 70A.65.110(3)(b)(i).)”

Thank you for the work you are doing and for considering this comment.

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Table 1: Emissions Intensity Threshold (EIT) as a function of Emissions Containment Reserve Trigger Price (ECRTP)

ECRTP (\$/tonCO2e)	B&O tax rate	EIT (tonCO2e/\$)	1/EIT (\$/tonCO2e)
\$10	0.00222	0.000222	\$4,505
\$20	0.00222	0.000111	\$9,009
\$50	0.00222	0.000044	\$22,523
\$100	0.00222	0.000022	\$45,045
\$200	0.00222	0.000011	\$90,090
\$500	0.00222	0.000004	\$225,225
\$1,000	0.00222	0.000002	\$450,450

NOTE: The value of ECRTP will be set by Ecology Rule WAC 173-446. In the current draft (dated Jan 4, 2022) the initial value for 2023 has not been set [see WAC 173-446-340(1)]. The value for future years will increase annually by 5% plus inflation [see WAC 173-446-340(2)].