**GHG Reduction Estimate Method**

The Port utilized data available from the U.S. Department of Energy[[1]](#footnote-0) regarding heavy-duty truck fuel consumption and the U.S. Environmental Protection Agency[[2]](#footnote-1) regarding estimated idling reductions to develop the GHG emission reduction estimate of the proposed truck staging and calling center.

**Measure Implementation Assumptions**

Based on routine observations from its harbor operators and tenants, the Port established a baseline 1.5 hour average idling time for heavy-duty trucks at the Madison Harbor. The Port assumes that through collaboration with operators and tenants during the design and implementation of the facility, truck drivers will utilize the truck staging and calling center rather than idling on the shoulders of Bissell Street. The Port will create a 5-minute idle time policy and clearly post signs in the truck staging and calling center to advocate adoption. This, paired with the operation efficiency of utilizing the staging and calling center, will lead to decreased idling and associated emissions.

**GHG Reduction Estimate Assumptions**

The U.S. Department of Energy estimates that an idling heavy-duty truck consumes 0.8 gallons of fuel per hour. Data provided by the Madison Harbor operator, who contributes to the most idling truck activity at the southern portion of the property, indicate an average of 1,197 trucks per month utilize the harbor, and during peak season, idle for approximately 1.5 hours. The U.S. EPA Greenhouse Gas Equivalencies Calculator estimates that 0.8 gallons of gasoline emits 0.007 metric tons of Carbon Dioxide.

**Reference Case Scenario**

The reference scenario used to calculate emissions reductions is a “business as usual” scenario, with no measure implemented and truck activity continuing as it is today. According to the U.S. EPA and Port Everglades Partnership: *Emissions Inventories and Reduction Strategies*, the fuel efficiency effect of fleet turnover outweighs the increase in truck activity in future years, so no growth was projected in this scenario. The BAU does not assume effects from any non-CPRG federal incentives.

**Measure-Specific Activity Data**

Construction of the truck staging and calling center will include a gate system and communication system which will enable the Port to track the number of trucks using the facility and how long they wait at the facility. This will enable the Port to calculate emissions.

**GHG Emissions Reduced**

The truck staging and calling center will reduce emissions by allowing the Port to safely initiate a five-minute idle policy and through operational efficiencies. According to the U.S. EPA and Port Everglades Partnership: *Emissions Inventories and Reduction Strategies*, a five-minute idle policy can lead to a 25 to 75 percent reduction in idling time. America’s Central Port has assumed a conservative 25 percent reduction for this calculation. The Port Everglades report also claims that operational improvements can cause a five to 10 percent reduction in idle time. America’s Central Port assumed a 5 percent reduction.

Utilizing current truck activity data, fuel consumption rates, and emission conversion sources described above, the Port estimates an emissions reduction of 108.6 metric tons of CO2 from 2025 to 2030 and 832.5 metric tons of CO2 from 2025 to 2050.

1. Source: https://afdc.energy.gov/files/u/publication/hdv\_idling\_2015.pdf [↑](#footnote-ref-0)
2. Source: https://nepis.epa.gov/Exe/ZyPDF.cgi?Dockey=P100UKR2.pdf#page=85 [↑](#footnote-ref-1)