



Preliminary Draft Emissions Inventory Estimate for Marine Ports

Background

The objective of this document is to provide a rough estimate of the baseline emissions of nitrogen oxides (NO_x) in 2023 that could be affected by any potential port-specific facility-based measures. The estimated emissions values described in this document are not intended to be final values used for the State Implementation Plan or for regulatory purposes. Instead, they are intended only as a point of reference to guide future strategies, policies and/or rules aimed at reducing emissions from port-related activities in the Basin. More detailed emissions inventories for this facility category will be developed in future public processes for any specific measure that will be used to obtain SIP credit (such as a regulation, MOU, etc.) and for future Air Quality Management Plans.

NO_x Emissions Inventory for Commercial Marine Ports

The estimate presented here relies on the substantial work that has previously been conducted to estimate port-related NO_x emissions, including the most recent emission inventory reports prepared by the Ports of Long Beachⁱ and Los Angelesⁱⁱ and work performed by CARB staff for the 2016 Air Quality Management Plan (AQMP) emissions inventoryⁱⁱⁱ. The table and chart below provide a summary of the overall NO_x emissions inventory for the following source categories: ocean going vessels (OGV), commercial harbor craft (HC), cargo handling equipment (CHE), locomotives, and trucks.^{iv}

Methodology for Estimating 2023 NO_x Emissions from Commercial Marine Ports

Cargo Handling Equipment

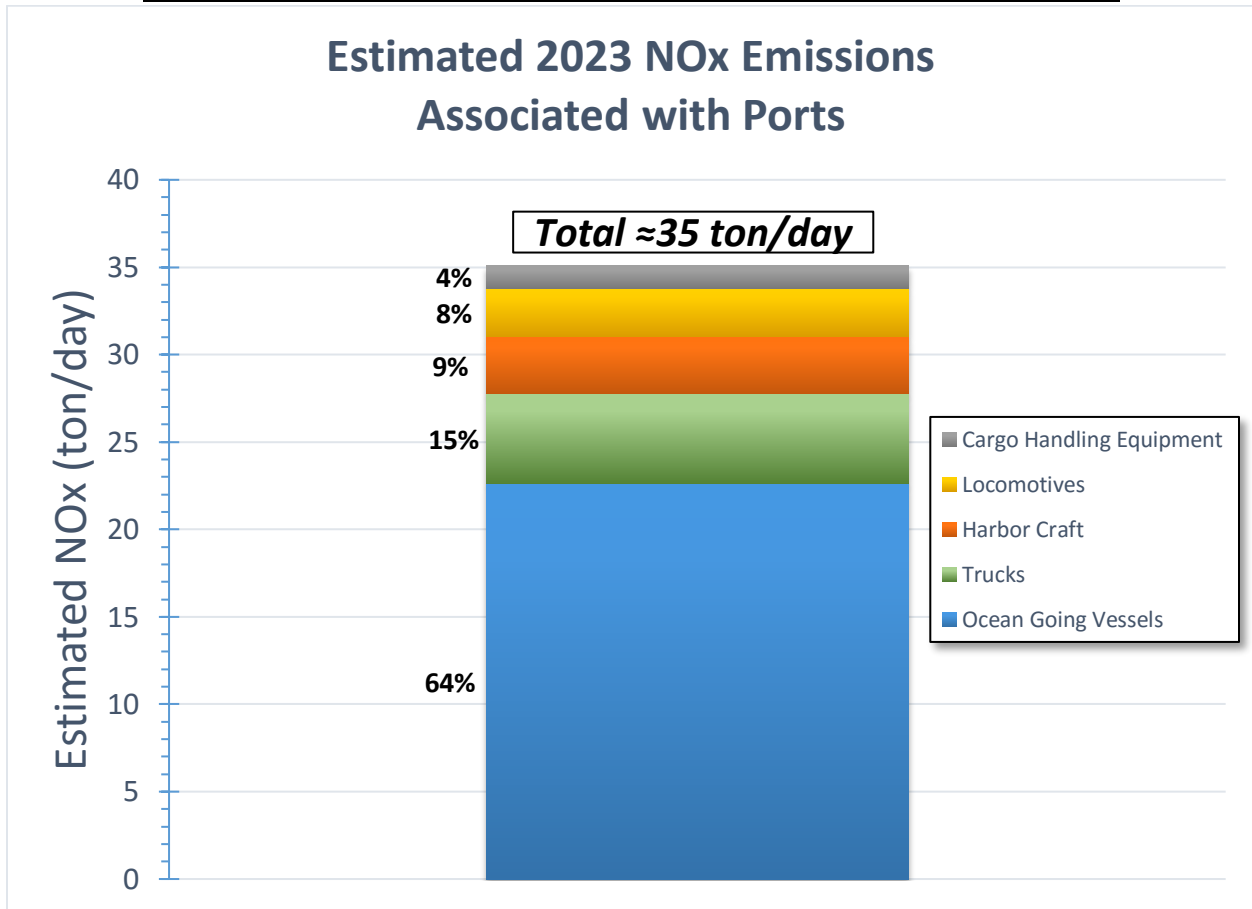
The 2023 NO_x emissions inventory for CHE are derived directly from values calculated by CARB for the 2016 AQMP.

Ocean Going Vessels, Harbor Craft, Locomotives, and Trucks

Emission estimates for these three vehicle types use a combination of data available in the ports' inventories and emissions estimates from the 2016 AQMP inventory. The ratio between the ports' calculated emissions and the AQMP emissions for the entire air basin for each vehicle type were calculated for 2016 (the most recent year available from the ports). These ratios were then applied to basin-wide AQMP estimates for each vehicle type to estimate emissions in 2023.



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Vehicle Type	2023 NOx (tons/day)
Cargo Handling Equipment	1.3
Locomotives	2.8
Harbor Craft	3.2
Trucks	5.2
Ocean Going Vessels	22.6
Total	~35

ⁱ <http://polb.com/environment/air/emissions.asp>

ⁱⁱ https://www.portoflosangeles.org/environment/studies_reports.asp

ⁱⁱⁱ Available here: <https://www.arb.ca.gov/app/emsinv/fcemssumcat/fcemssumcat2016.php>

^{iv} A spreadsheet with summarized calculations is available at: <http://www.aqmd.gov/home/library/clean-air-plans/air-quality-mgt-plan/facility-based-mobile-source-measures/commercial-marine-ports-working-group>