

THE GREEN GATEWAY



Questions and Answers about the Seattle-Tacoma Green Gateway and the Port of Seattle Carbon Footprint Study for the Asia to North America Intermodal Trade

Q: Why did the Port of Seattle conduct this analysis?

A: The study is part of a broader effort by the Port of Seattle to quantify and reduce air emissions from its operations, improve efficiency and competitiveness and keep costs low. Throughout government and industry there is growing demand to reduce the carbon footprint of supply chains, and we wanted to compare the carbon emissions of cargo moving through Seattle and Tacoma with that of other ports. For several years it has been our goal to have the best environmental performance of any U.S. Port.

Q: What are [Herbert Engineering](#)'s qualifications?

A: Herbert's areas of expertise include ship design, marine transportation systems, and analysis of the environmental impacts of ships and shipping. The study is well within the firm's scope of work and knowledge.

Q: Does this study oversimplify the issue?

A: The study is intended to be a high level analysis of the carbon footprint of certain origin/destination pairs. While operational differences at ports may have minor effects on the results they do not significantly alter the findings.

Q: What makes Seattle/Tacoma the Green Gateway to North America when some other West Coast ports have nearly the same carbon footprint per container?

A: West Coast ports, especially Seattle and Tacoma, have the lowest carbon footprint among the ports and routes examined by the study. While the differences among West Coast ports are minor in some instances, the findings show that in most cases Seattle and Tacoma have the lowest carbon footprints, even among West Coast ports. An analysis that took port operations into account confirmed the study's findings. Our success in reducing emissions from a number of maritime sources, along with lower carbon emissions for most of the routes covered by the study, combine to make Seattle/Tacoma the low-carbon corridor. The study may be useful to shippers who want to reduce the carbon footprint of their supply chains. To maintain this advantage, the ports will have to continue to reduce carbon emissions.

Q: What is the basis of the CO₂ emissions factors?

A: The emissions factors used in the study are from the [International Panel on Climate Change](#) (IPCC) and the Puget Sound Ports Maritime Air Emissions Inventory.

Q: Recognizing that there are no established international standards for vessel capacity and utilization, what was the basis of Herbert's assumptions?

A: Utilization is largely a factor of loadable cargo capacity and stated TEU count. While the stated capacity gives one value, the loadable capacity is often much smaller. This is due to limits on stack height based on particular cargo weights, and stability and strength limits of ships. Previous studies lead us to believe that 90% of loadable capacity is a reasonable assumption. The study considered ship sizes that are currently used or will soon be used in the Asia-North America trades.

Q: How were the vessel transit routes and distances calculated?

A: Herbert Engineering used an average distance/route for the port pairs. The information source is [National Imagery and Mapping Agency](#) document *Distance Between Ports*, 2001.

Q: Each carrier has different services and routings for trans-Pacific trades. Does the study account for that fact?

A: An average distance/route was used to simplify the analysis and allow for an apples-to-apples comparison between ports.

Q: Don't most ships stop at multiple Asian and North American ports, rather than just go directly from one port to another and back?

A: Yes, but much of the cargo in Asia is transloaded and consolidated at the hubs of Singapore, Hong Kong and Shanghai before heading to the U.S., so the data are valid for the trans-Pacific portion of the journey as well as the rail transit to the inland U.S. destinations.

Q: Did this analysis consider the effects of weather on rail emissions?

A: No, it does not account for delays or rerouting due to weather impacts.

Q: How were rail grades handled?

A: Some accounting for rail grades is included in the load factor for locomotives. The load factor is based on locomotives operating throughout the U.S. on different grades, curvatures, weather conditions, etc. A sensitivity check was done to verify the influence of the added 30 percent fuel consumption for the West Coast ports due to higher mountain passes.

Q: There are a lot of other carbon footprint analyses out there. Why is this one better?

A: This is the only carbon footprint analysis we know of that compares port origin/destination pairs and inland transportation to the same destinations.

Q: Is the Seattle/Tacoma carbon footprint advantage just the result of geography?

A: It's no accident that [Seattle](#) and [Tacoma](#) are major ports and leaders in reducing air emissions. Geography was a factor in the emergence of the Puget Sound ports, and it plays a role in making us the low-carbon corridor between Asia and 180 million American consumers. But we're not relying on geography alone. We and our partners have made significant progress in reducing emissions from ships, cargo-handling equipment and trucks. The goals established by the Northwest Ports Clean Air Strategy will keep us pushing for air emissions reductions for years to come, and our commissions and executives are committed to remaining on the forefront of efforts to make the industry cleaner.

Q. Has the study been reviewed by outside experts?

A. A number of people in the maritime and transportation industry, as well as several local officials and academics, have reviewed the study. Like the Puget Sound Air Emissions Inventory and the Northwest Ports Clean Air Strategy, this study is a groundbreaking document. It demonstrates the ports' commitment to accurately measuring and reducing maritime air emissions. It also provides a baseline for gauging success. The Port of Seattle is working with members of the [World Ports Climate Initiative](#) (WPCI) to develop guidelines all ports can use to measure the carbon footprint of their operations.

Q. What are your next steps? Now that you've shown that Seattle-Tacoma is The Green Gateway, what will you do to ensure you can keep that title?

A. It's clear that standing still is not an option. We'll continue to work toward meeting the short-term and long-term goals of the Northwest Ports Clean Air Strategy. We'll continue to work with our partners to reduce emissions from ships, cargo handling equipment, trucks and trains and we'll continue to encourage and reward innovation. That's one of the most important benefits of the cooperative approach we've taken and the performance oriented goals in the Northwest Ports Clean Air Strategy: The Strategy identifies the emissions reduction targets, but it doesn't prescribe the method for hitting the targets. That means we and our partners can try multiple approaches and find methods that meet environmental and business needs.

For more information, contact:

Charla Skaggs, Port of Seattle
206.728.3235 or skaggs.c@portseattle.org

Mick Shultz, Port of Seattle
206.728.3091 or shultz.m@portseattle.org

Tara Mattina, Port of Tacoma
253.428.8674 or tmattina@portoftacoma.com

