



World Ports Climate Initiative Carbon Calculator

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Alliance of the Ports of Canada, the Caribbean,
Latin America and the United States

**AAPA Harbor, Navigation, & Environment
Seminar Meeting**

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Port of Los Angeles

Origins of the Port's Carbon Calculator



- Climate Change Issues Reach Ports
 - ✓ 2006 Global Warming Solutions Act (AB 32) is Signed
 - ✓ Mid 2007/08 IAPH Houston & Dunkirk Resolutions
 - ✓ Mid 2008 C40 & WPCI
- Early 2008 Port Customers & BCOs Express Interest in GHGs – Static Calculators (Route Analysis)
- POLA Expanded Emissions Inventories 2006 – 2008
- WPCI Carbon Footprinting for Ports
- POLA Develops Dynamic Calculator Tool



Carbon Calculators Railroads Have Them



ABOUT PROSPECTIVE CUSTOMERS MARKETS & SERVICES CUSTOMER TOOLS INVESTORS MEDIA SUPPLIERS COMMUNITIES EMPLOYEES & RETIREES CAREERS

BNSF RAILWAY LOGIN PRICES

BNSF Railway Carbon Estimator Entry Worksheet

[Home / Feedback](#)

Company Name:

	Shipment #1	Shipment #2	Shipment #3
Step 1: Commodity			
* Commodity Group:	<input type="text" value="Intermodal"/>	<input type="text" value="Intermodal"/>	<input type="text" value="Select One"/>
* Commodity Type:	<input type="text" value="Containers"/>	<input type="text" value="Containers"/>	<input type="text" value="Select Commodity Group"/>
* Tons per Unit:	<input type="text" value="14.9"/>	<input type="text" value="14.9"/>	
Step 2: Rail Volume			
* Number of Rail Units:	<input type="text" value="1,000"/>	<input type="text" value="1,000"/>	
Step 3: Geography / Mileage			
Origin:	<input type="text" value="LOS ANGELES, CA"/>	<input type="text" value="LOS ANGELES, CA"/>	
Destination:	<input type="text" value="ATLANTA, GA"/>	<input type="text" value="CHICAGO, IL"/>	
* Miles:	<input type="text" value="2,566"/>	<input type="text" value="2,192"/>	
Step 4: Comparable Truck Volume			
* Equivalent Trucks Required:	<input type="text" value="1,000"/>	<input type="text" value="1,000"/>	
Detailed Truck Performance Assumptions			
Use BNSF Default Assumptions?	<input type="text" value="YES"/>		
* Indicates required values			
<input type="button" value="Calculate"/>			
	Shipment #1	Shipment #2	
Your Carbon Footprint and Comparison			
Estimated Rail Carbon Footprint (Metric Tons CO ₂ equivalent):	1,834.4	1,652.5	
Estimated Long-Haul Truck Carbon Footprint (Metric Tons CO ₂ equivalent):	5,117.4	4,371.5	
Using a carload or intermodal rail solution instead of truck only would reduce this shipment's estimated Carbon Footprint by:	62%	62%	



ABOUT AAR FREIGHT RAIL WORKS OPERATIONS MEMBERS LOGIN

ASSOCIATION OF AMERICAN RAILROADS

SAFETY ENVIRONMENT ECONOMY INITIATIVES IN CONGRESS NEWS & EVENTS RESOURCES

Carbon Calculator

What's the most environmentally friendly way to transport goods? The answer is freight rail. The EPA estimates that every ton-mile of freight that moves by rail instead of by highway reduces greenhouse emissions by two-thirds. But what does that really mean? Our easy-to-use carbon calculator will estimate the amount of carbon dioxide that can be prevented from entering our environment just by using freight rail instead of trucks. We'll even tell you how many seedlings you'd need to plant to have the same effect.

Carbon Calculator ASSOCIATION OF AMERICAN RAILROADS

Step 1: Choose the number of train cars
10 50 100 150

Step 2: Choose a route between cities
Origin:
Destination:

Step 3: Choose a commodity
Select one:

Carbon Calculators

Shippers Have Them



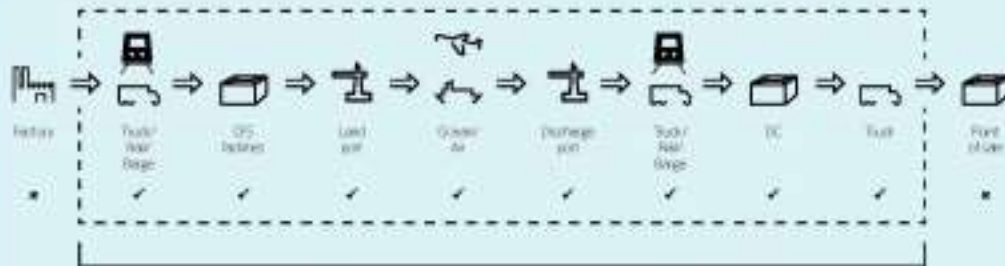
We take it personally

Calculate the CO2 emissions in your supply chain with our end-to-end carbon calculator, which includes the following transport modes:



Maersk Line Carbon Footprint Calculator

Calculate your carbon footprint from door-to-door transportation services



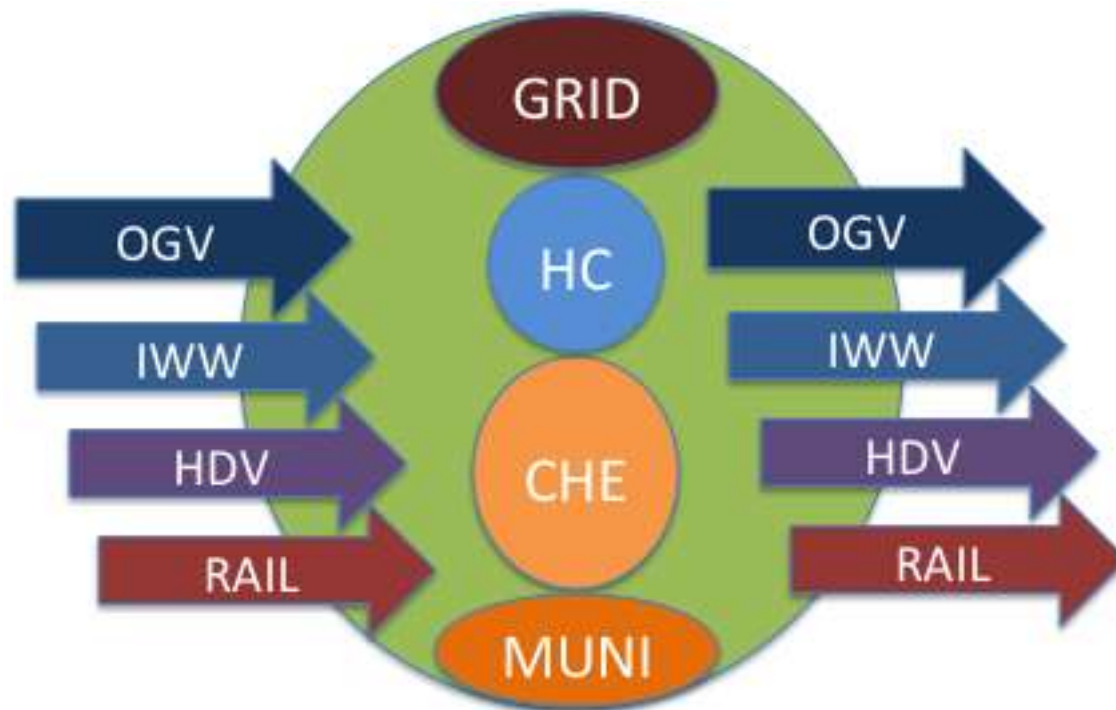
SUPPLY CHAIN MANAGED BY MAERSK LINE



Carbon Calculators

Why Would a Port Make One?

- Ports Are Primary Nodes in Logistics Chain
- Understand the Complex Relationships Between Modes
- Ports Can Assert Influence/Collaborate with Operators to Reduce Carbon Footprint
- Screen/Assess Their Carbon Footprint





Carbon Calculators

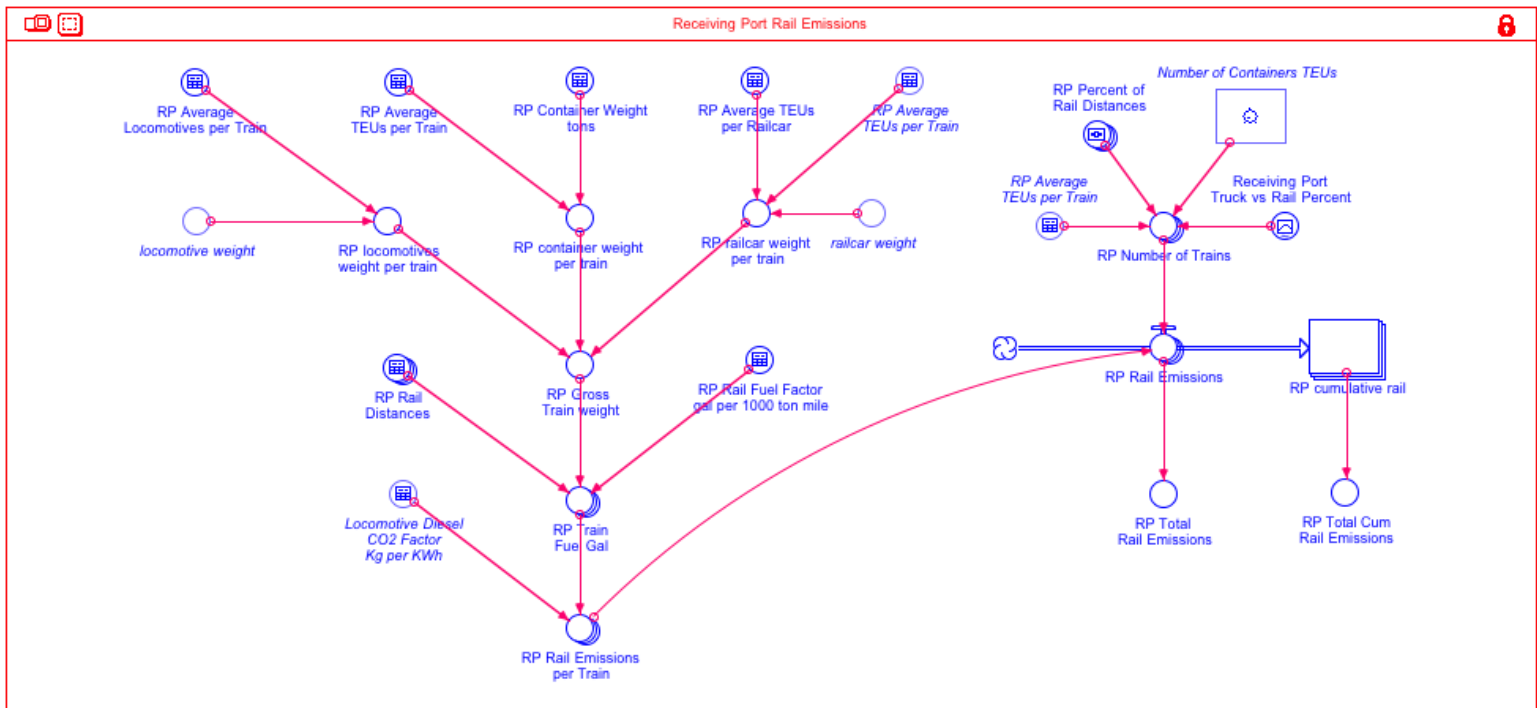
Why Did POLA Make One?

- POLA Has Been Collecting Data & Estimating Emissions Since 2001
- POLA Has Developed a Comprehensive Environmental Data System to Query Data
- Full Understanding of Calculator Methods & Assumptions
- Identify GHG Reduction Opportunities in Port
- Respond to Management & Customer Questions
- Support Member Ports through WPCI



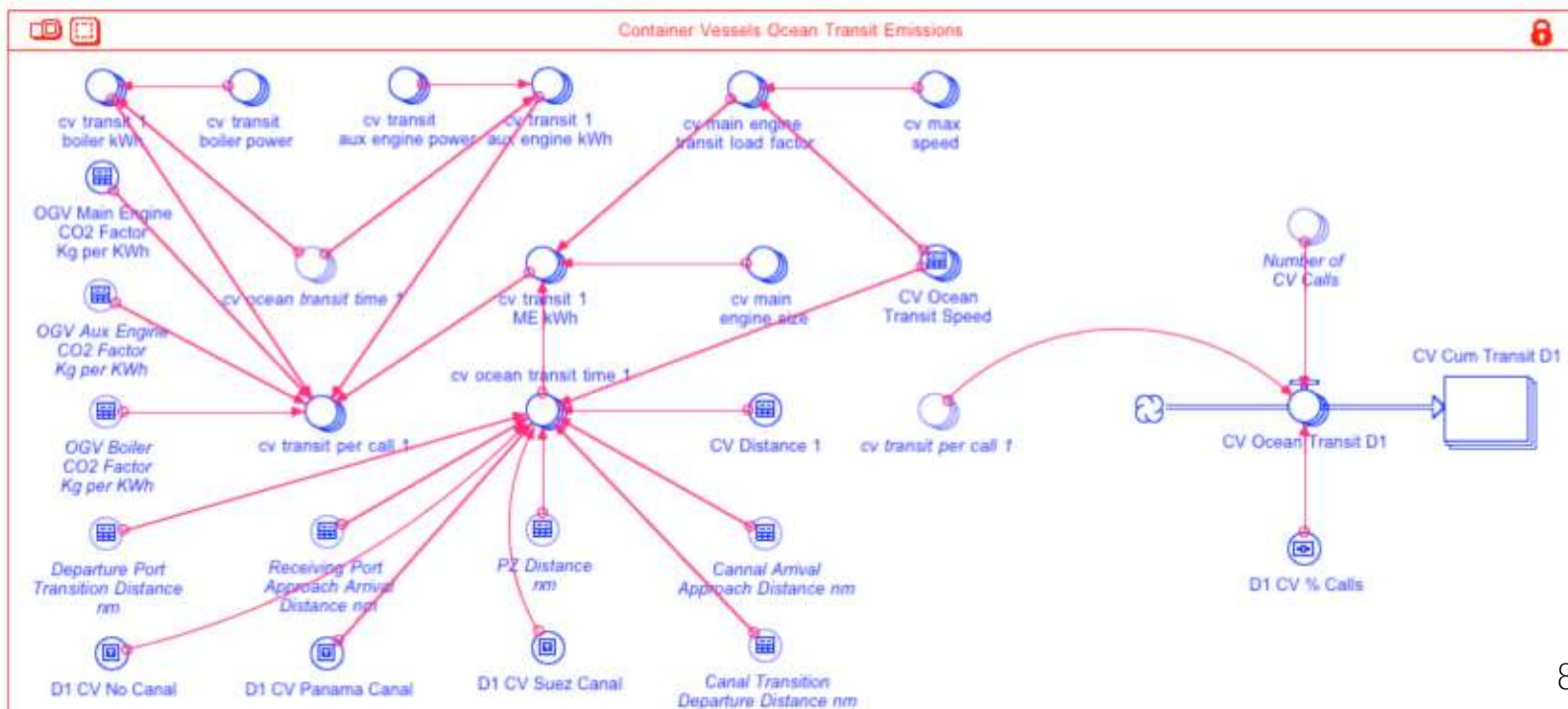
Dynamic Carbon Calculator Highlights

- Developed Highly Dynamic Scenario Model Using iThink Logic Platform
- Includes Full Logistics Chain
- Evaluates Container & Noncontainer Cargoes
- Adaptable to Ports, BCO, Shippers, Terminals, etc.



Dynamic Carbon Calculator Highlights

- Dynamic Ship Capacity Settings
- Any Route/Any Where Capabilities
- Includes Suez & Panama Transit Profiles
- *Includes Dynamic Growth Forecasting*
- Easily Expandable & Adaptable



AIR



Dynamic Carbon Calculator Highlights

- Uses Data/Assumptions Taken From Actual EIs
- Does Not Replace Emissions Inventories
- Displays Results Real-Time & Web-Based Version

Containers and Vessels Specifications

Number of Containers TEUs

Growth Rate

Non-Container Vessel Annual Calls

Ship Calls[cruise]	256
Ship Calls[general cargo]	77
Ship Calls[auto carrier]	69
Ship Calls[bulk general]	135
Ship Calls[bulk heavy load]	2

Container Vessels Utilization Percent

CV Utilization Percent[Container 1000]	80
CV Utilization Percent[Container 2000]	80
CV Utilization Percent[Container 3000]	80
CV Utilization Percent[Container 4000]	80
CV Utilization Percent[Container 5000]	80

0 100%

15

Percent of Container Vessel Types[Container 1000]

0 100%

6

Percent of Container Vessel Types[Container 2000]

0 100%

8

Percent of Container Vessel Types[Container 3000]

0 100%

34

Percent of Container Vessel Types[Container 4000]

0 100%

21

Percent of Container Vessel Types[Container 5000]

0 100%

10

Percent of Container Vessel Types[Container 6000]

0 100%

5

Percent of Container Vessel Types[Container 7000]

0 100%

1

Percent of Container Vessel Types[Container 8000]

0 100%

0

Percent of Container Vessel Types[Container 9000]

0 100%

0

Percent of Container Vessel Types[Container 10000]

Allocated: 100

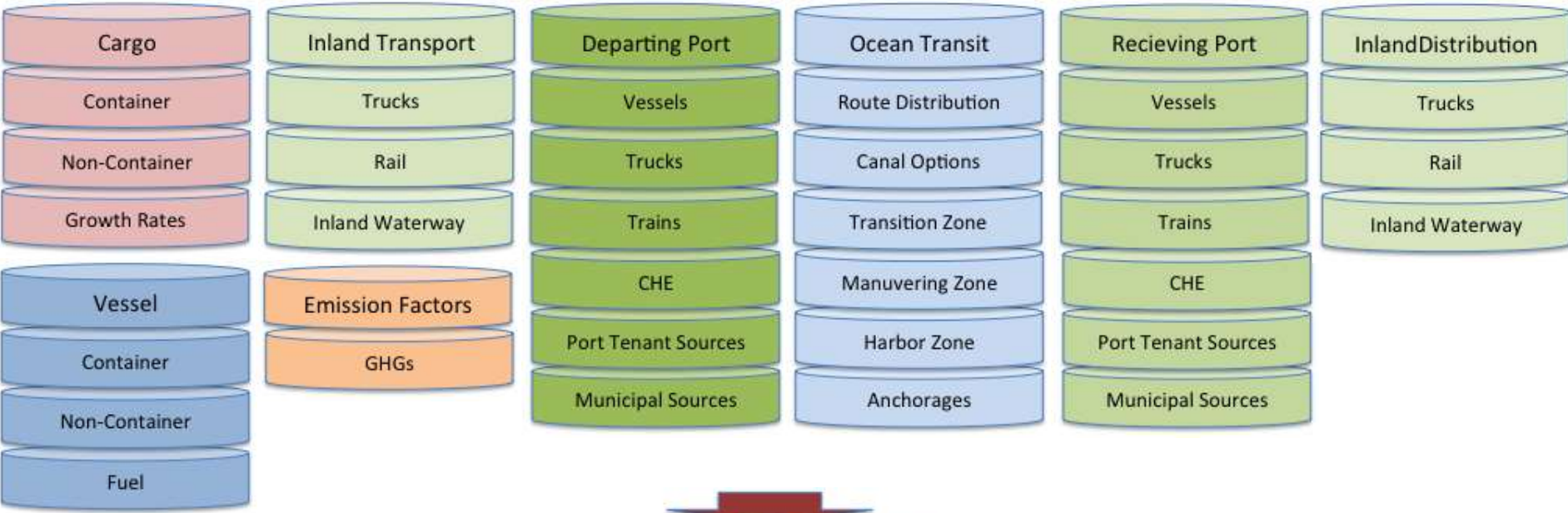
Unallocated: 0

AIR

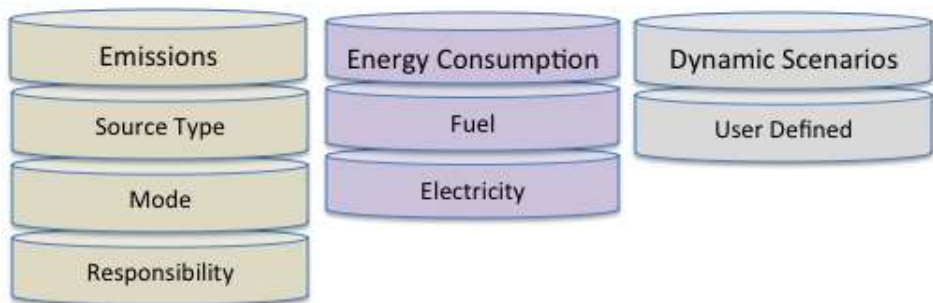
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Dynamic Carbon Calculator Highlights

Enter Parameters



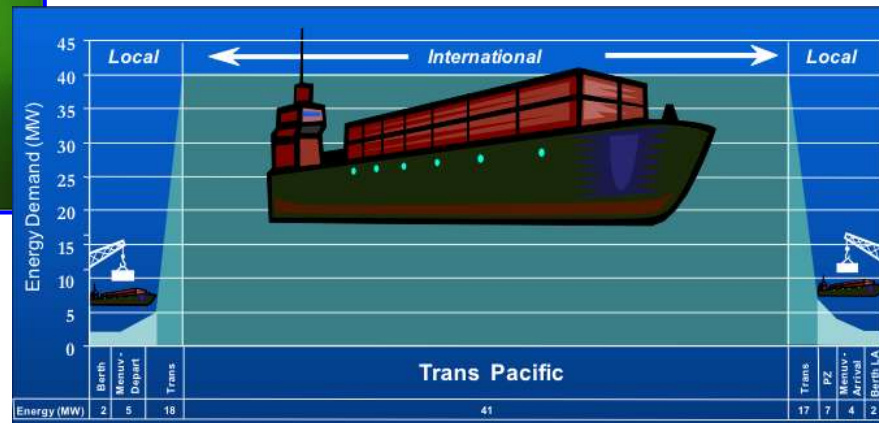
Generate Reports



Dynamic Carbon Calculator

Next Steps

- Engage POLA Marketing Group
- Engage WPCI Carbon Footprinting Workgroup
- Discuss Further with Interested Parties





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