

Measuring Environmental Performance

Stephanie Jones Stebbins, Port of Seattle



Pier 90/91



Pier 86



Pier 66



Terminal 46



Terminal 30

Terminal 18

Terminal 5

T- 5 On-Dock Rail

T-18 On-Dock Rail

BNSF (SIG - North)

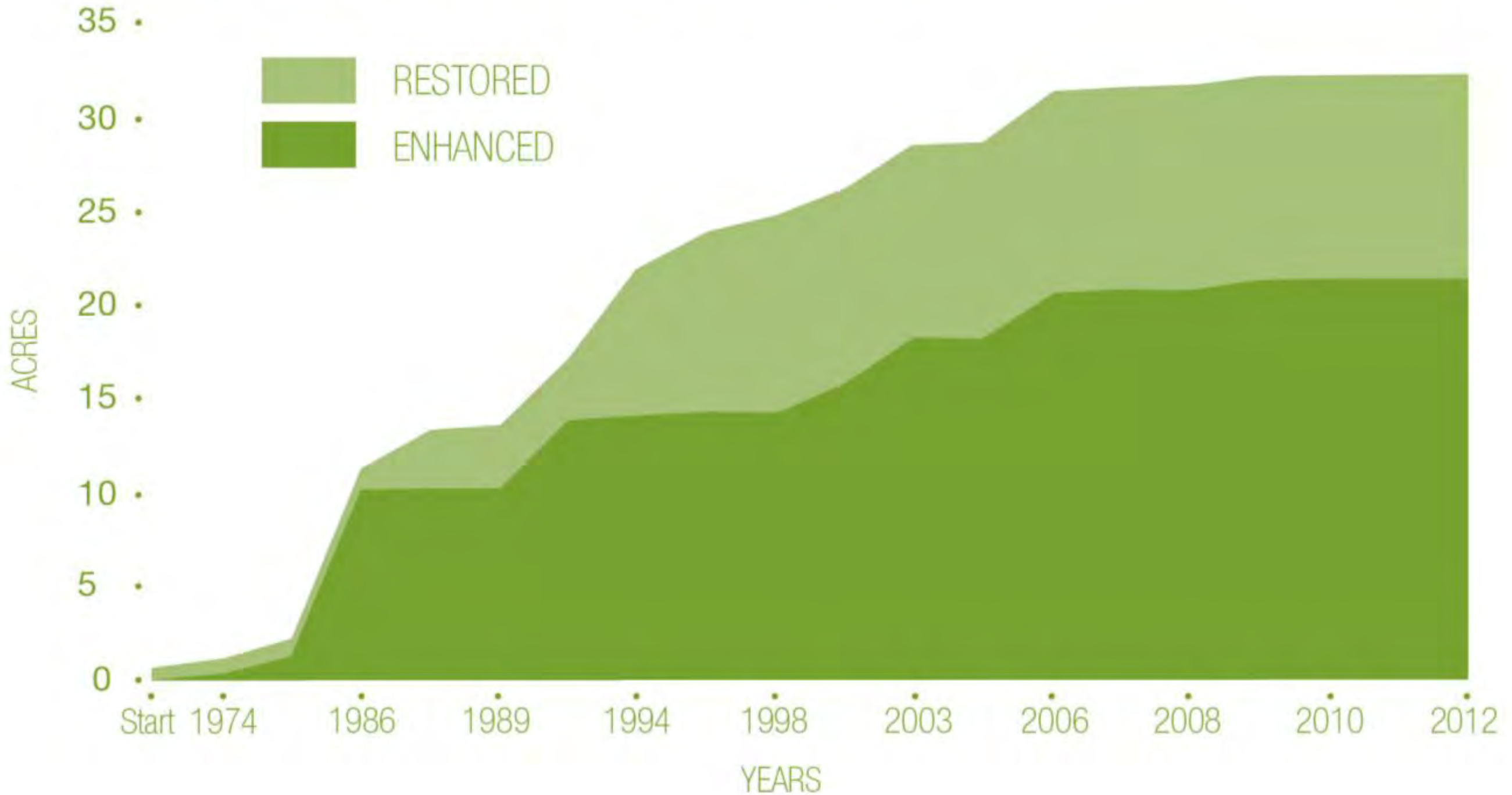
BNSF (SIG - South)

UPRR (ARGO)

- Measuring Environmental Performance
 - History at the Port of Seattle
 - Measuring our own performance
 - Quarterly Environmental Metrics
 - Emissions Inventory
 - Metrics for competition and collaboration
 - Supply Chain Carbon Footprint

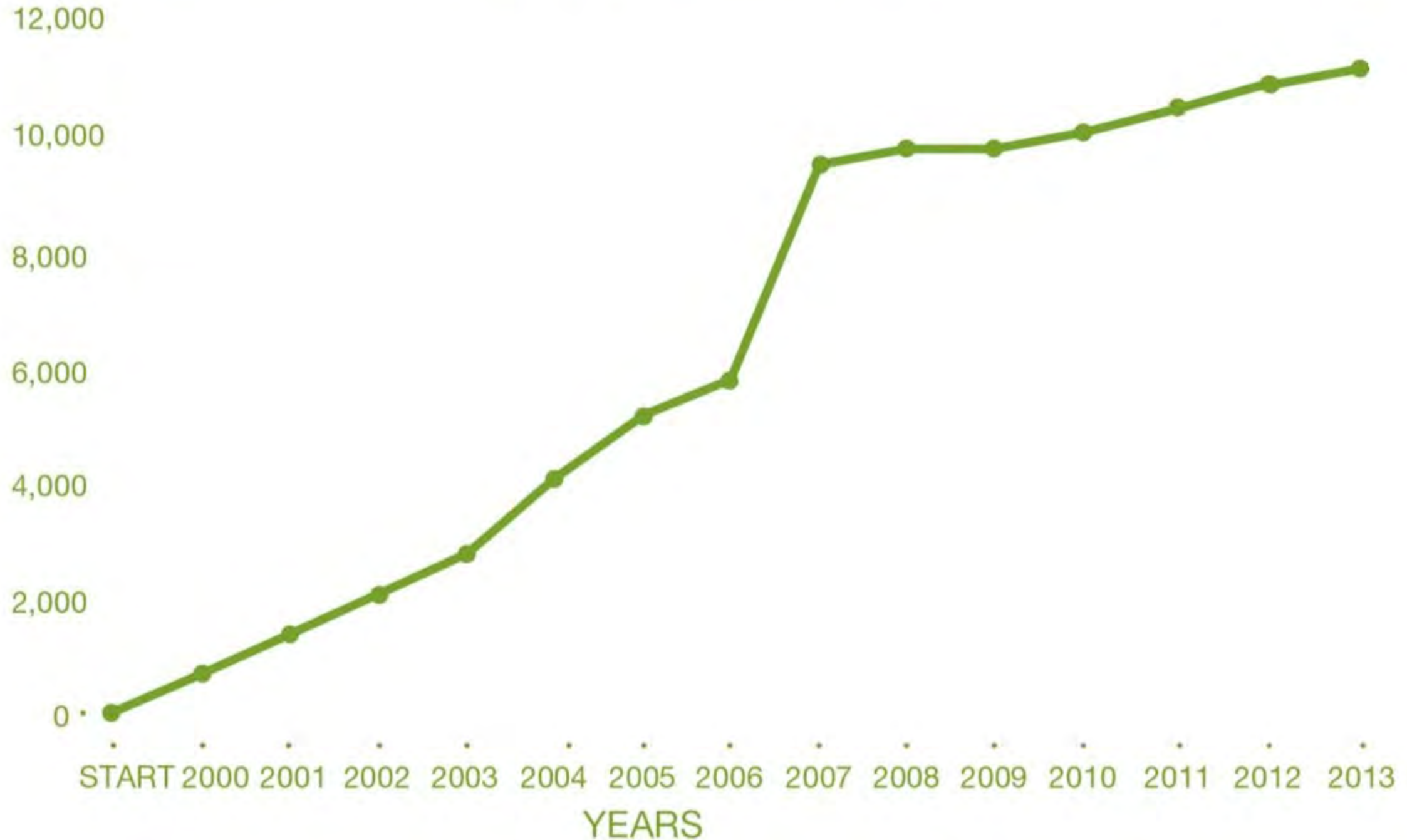


FISH HABITAT AREA SUMMARY



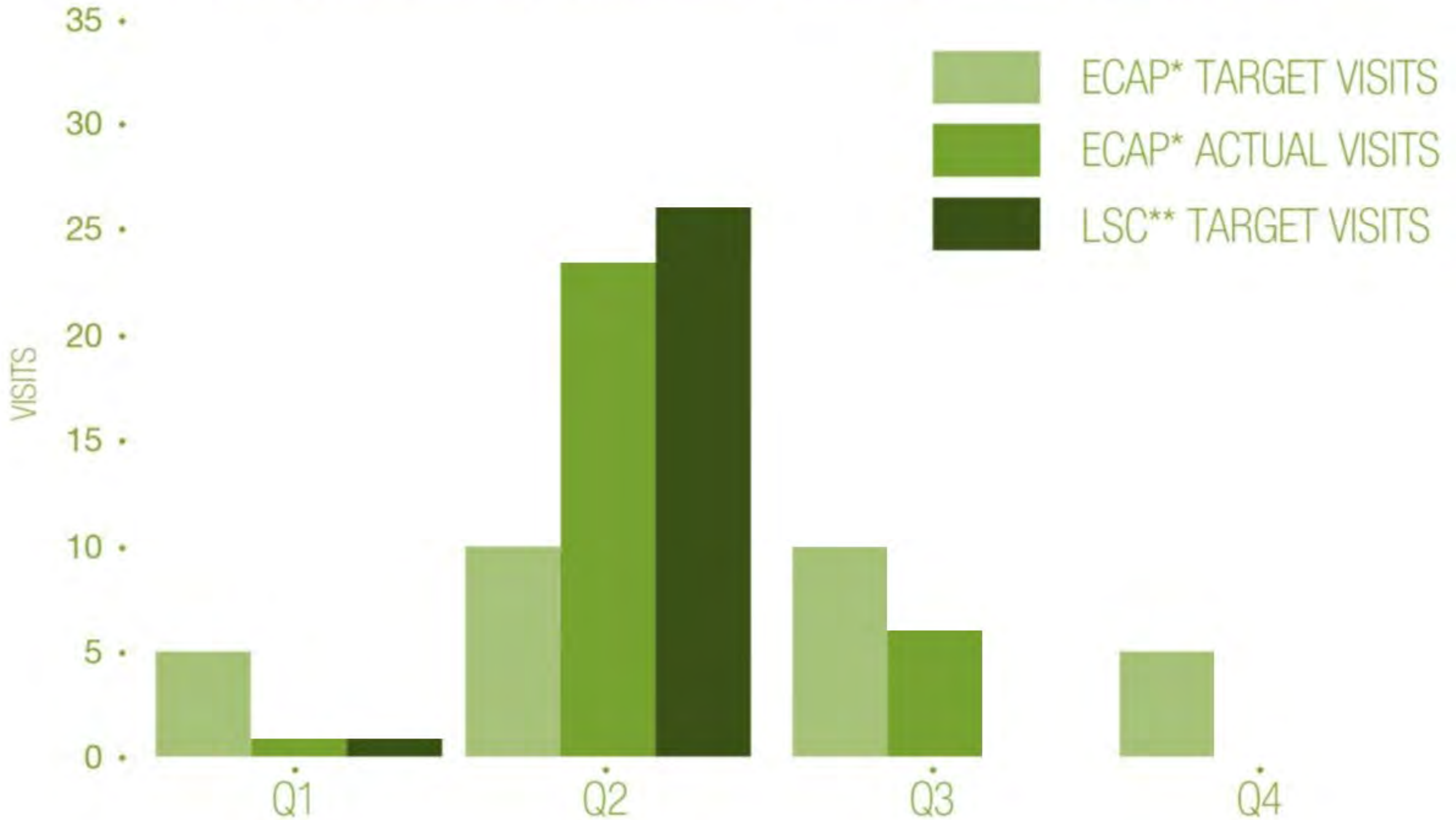
CREOSOTE-TREATED PILE REMOVAL

(Cumulative number of piles removed)



Annual Environmental Report Metrics

2013 Environmental Compliance Assessment Program Visits



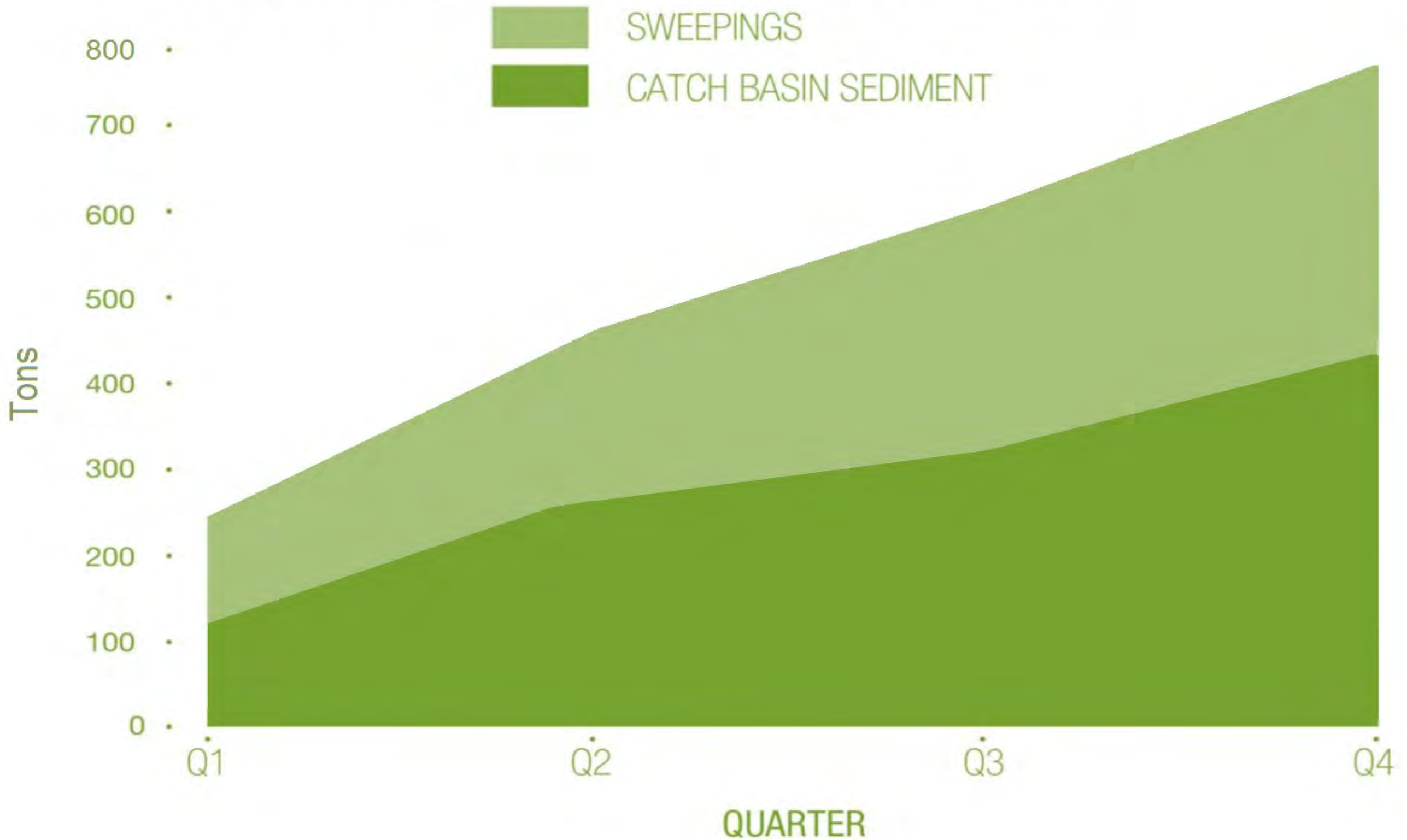
*Environmental Compliance Assessment Program

**Local Source Control



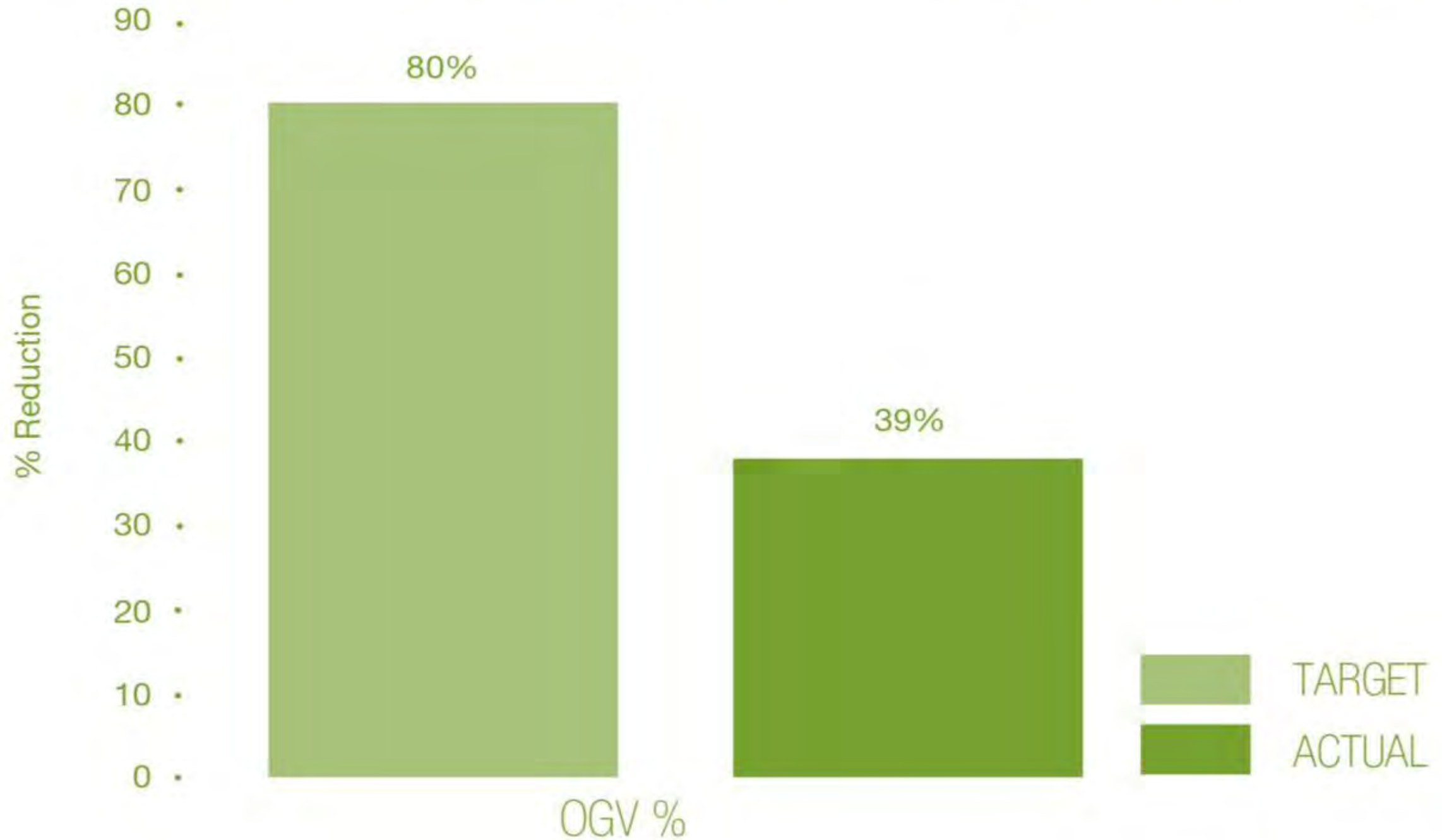
Annual Environmental Report Metrics

2013 STORMWATER SEDIMENT SUMMARY



Annual Environmental Report Metrics

2013 Ocean Going Vessel % Meeting Emission Targets

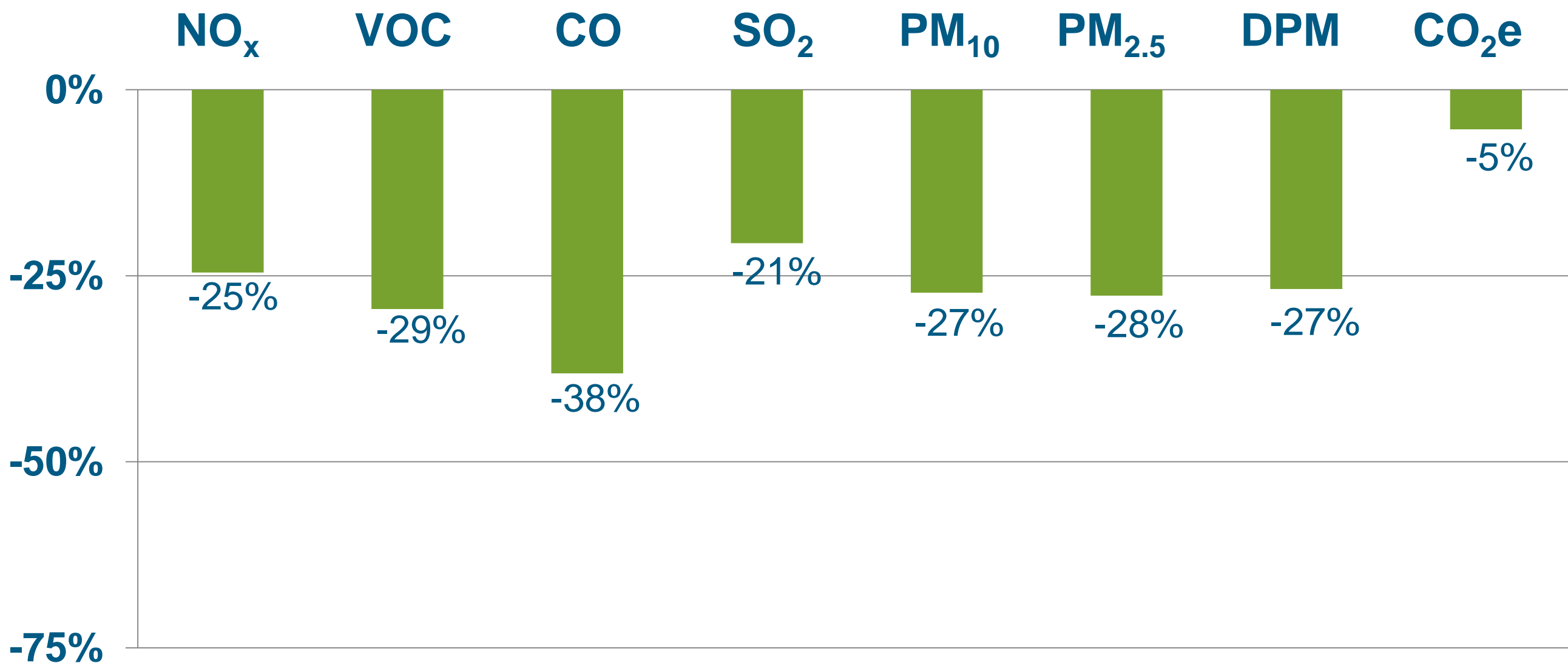


Inventory

- Inventories completed for 2005 and 2011
- Coordinated with similar effort in Canada
- Northwest Ports Clean Air Strategy built on results



Port of Seattle Emission Reductions Airshed - 2005 – 2011



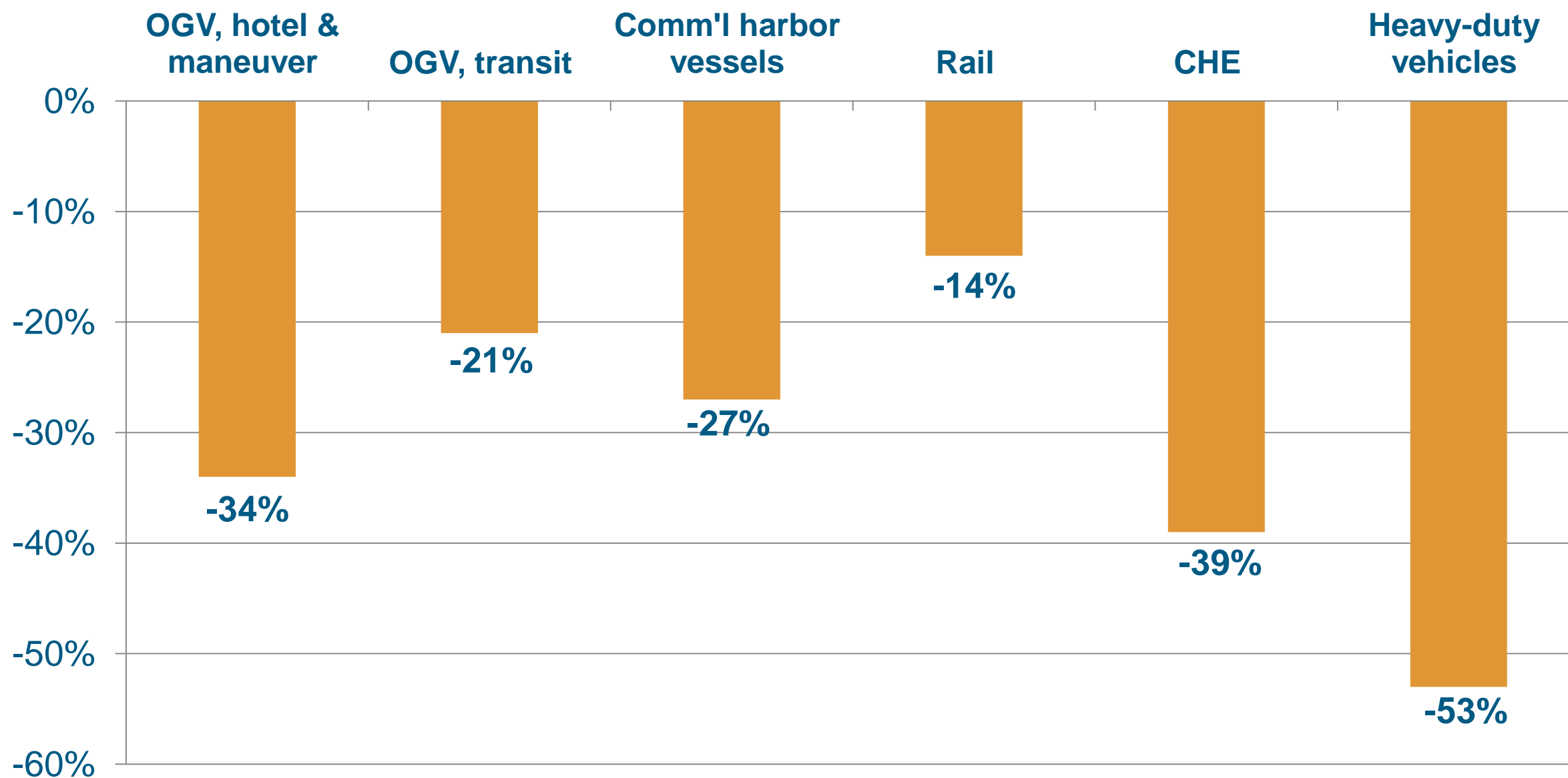
Absolute Emission Reduction



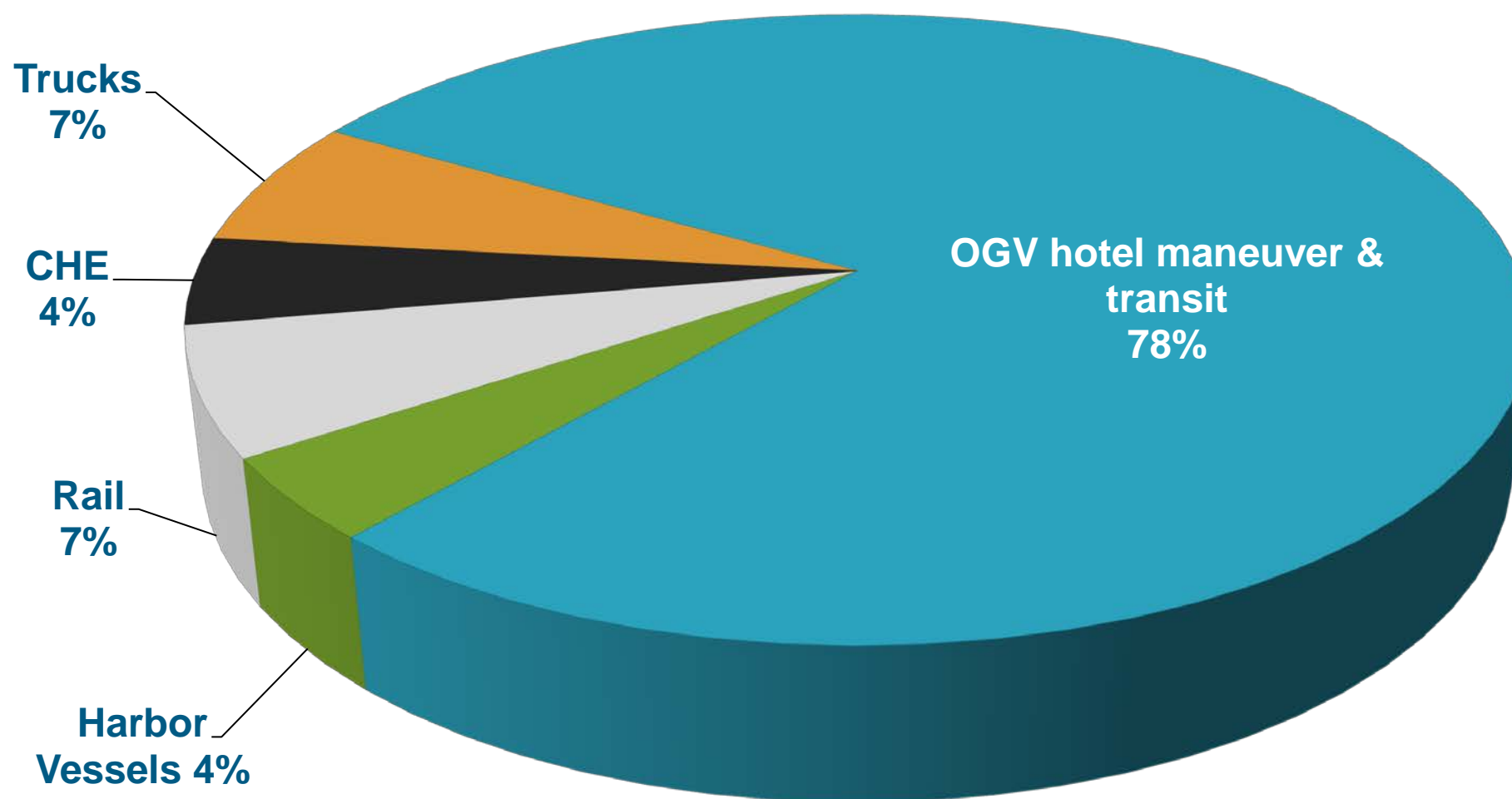


Port of Seattle Emission Reductions

DPM - Airshed



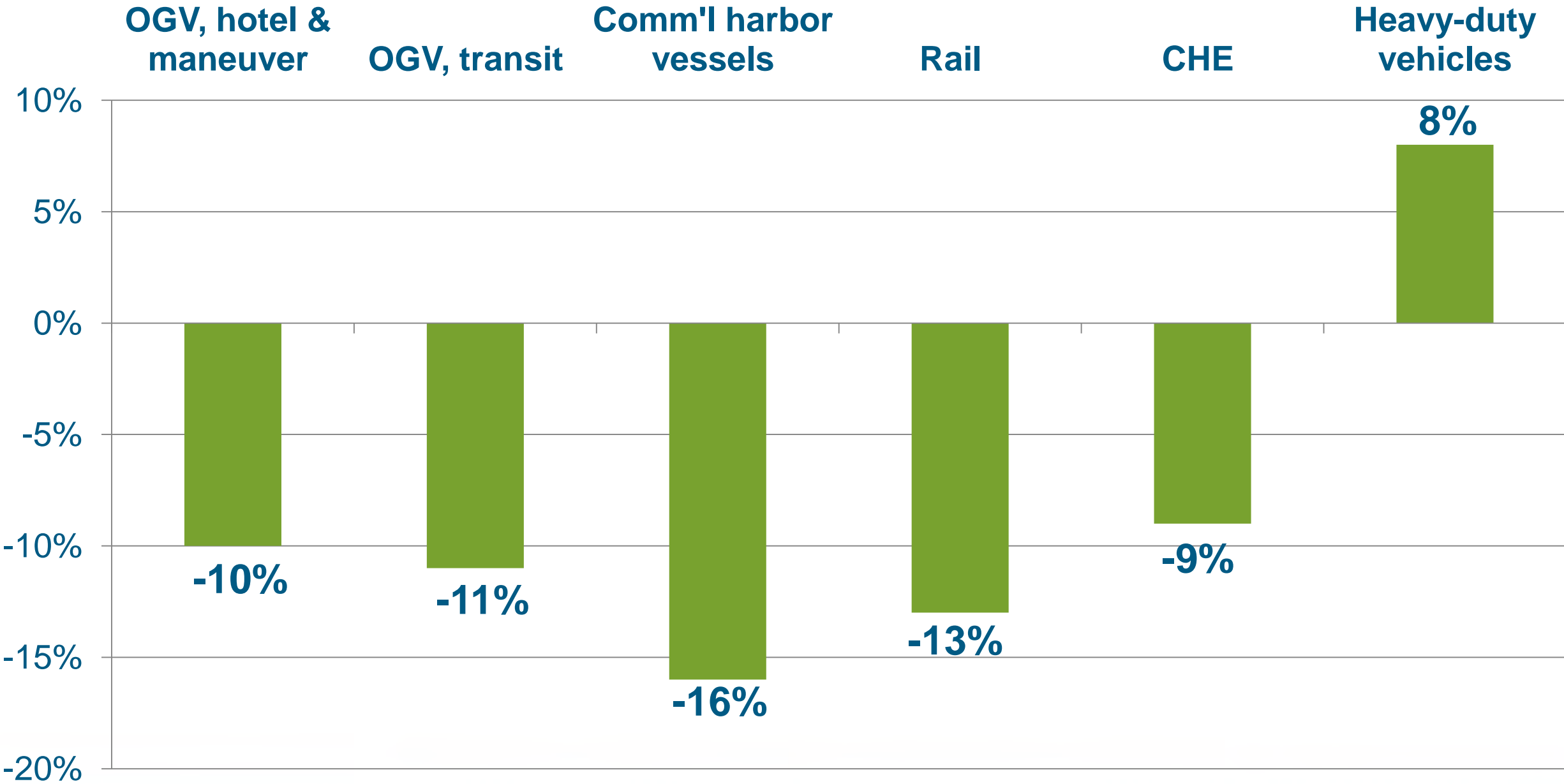
Diesel Particulate Matter 2011 Emissions Sources



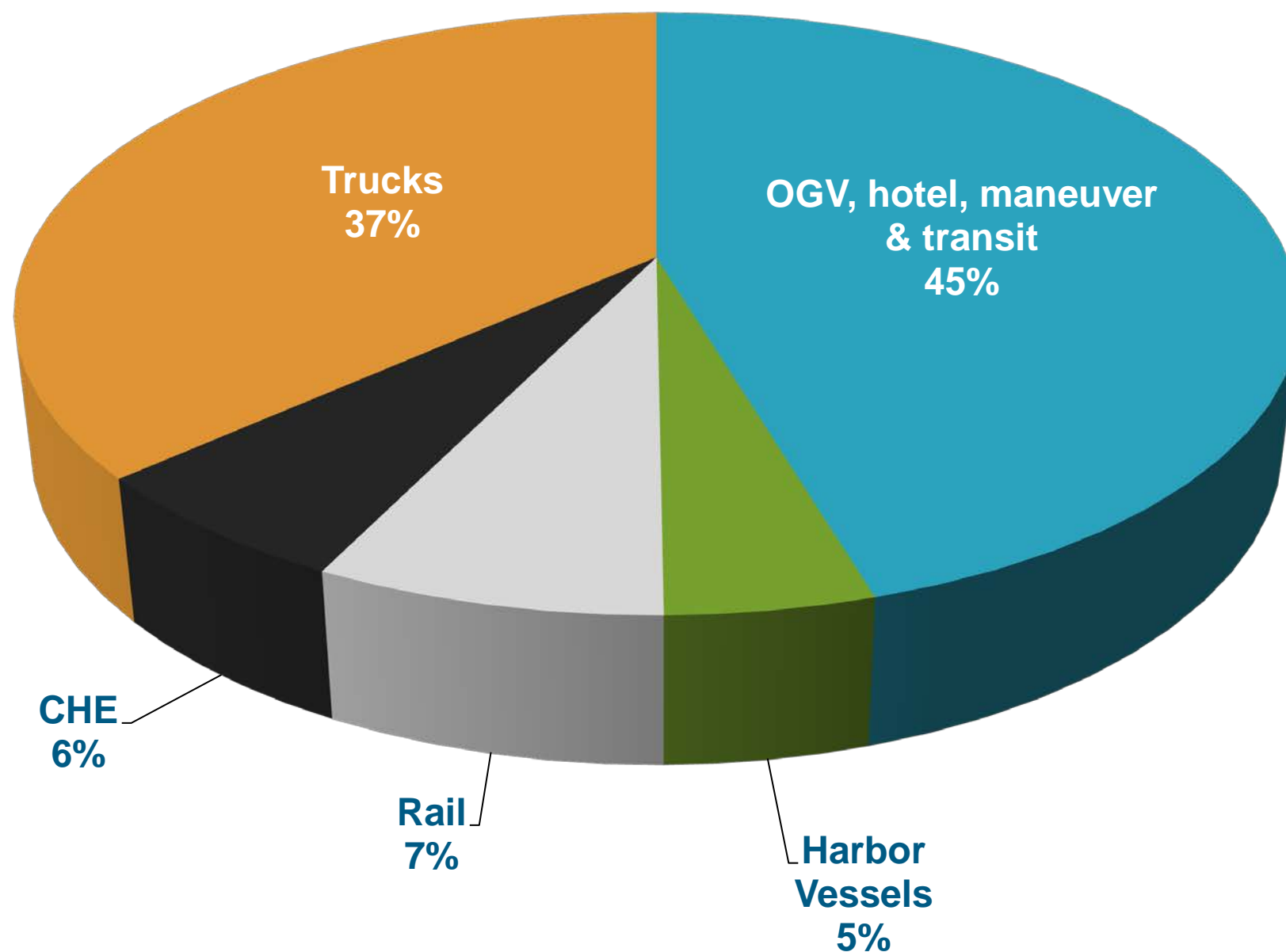
Port of Seattle – Airshed



Port of Seattle Emissions Reduction Greenhouse Gasses - Airshed



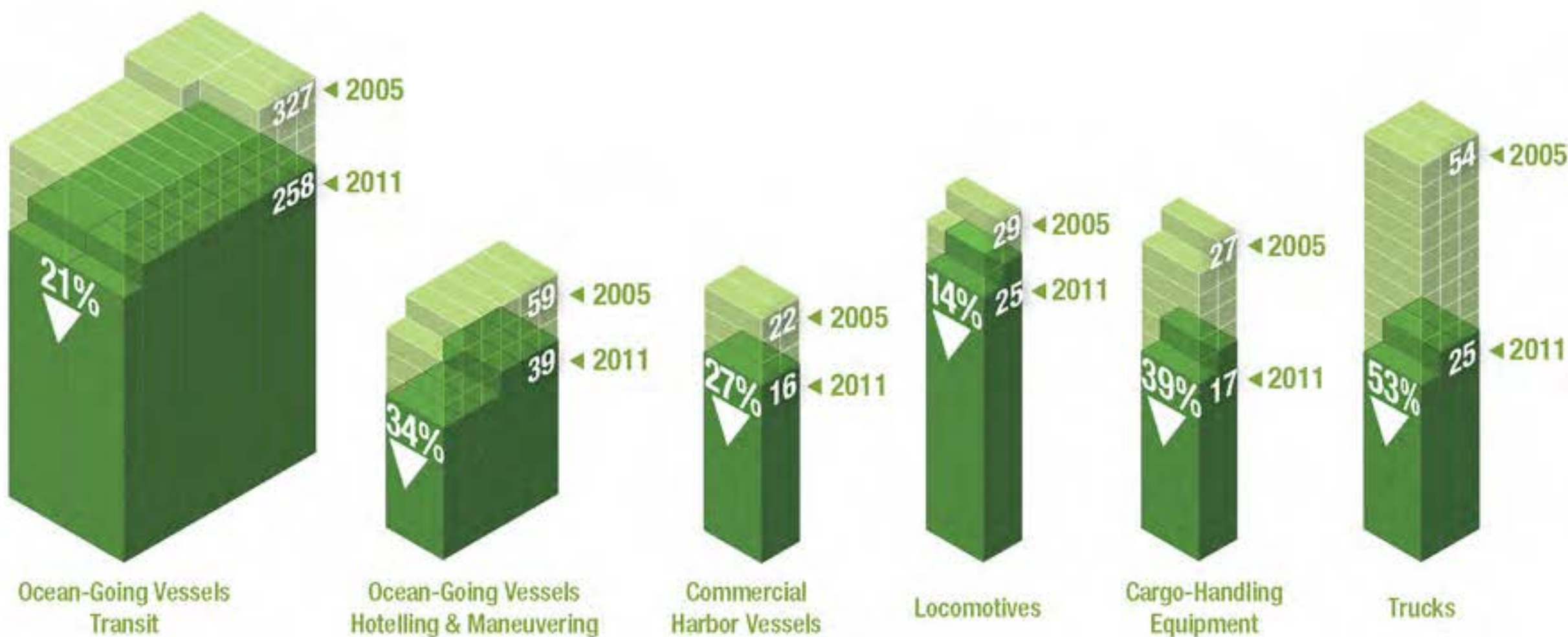
Port of Seattle Greenhouse Gas Emissions Airshed -Sources



Port of Seattle Airshed

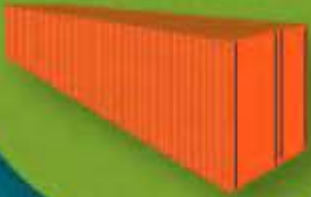
Port of Seattle Emission Reductions

DPM – Airshed - 2005-2011



1 MT CO₂e = burning 112.46 gallons of gasoline

40' Container
From Shanghai



Port
of Seattle

3.22 MT/FEU = 360.1 gallons of gasoline

Columbus

Green Gateway Advantage

Save .864 MT CO₂e/FEU = burning 97.2 fewer gallons of gasoline in your car.

Panama
Canal
/Norfolk

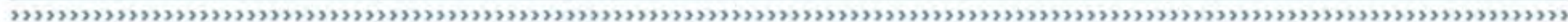
4.08 MT/FEU = 458.8 gallons of gasoline

*Example based on
8,500 TEU Vessel
at Design Speed

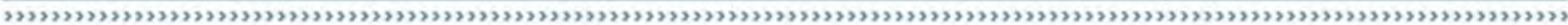
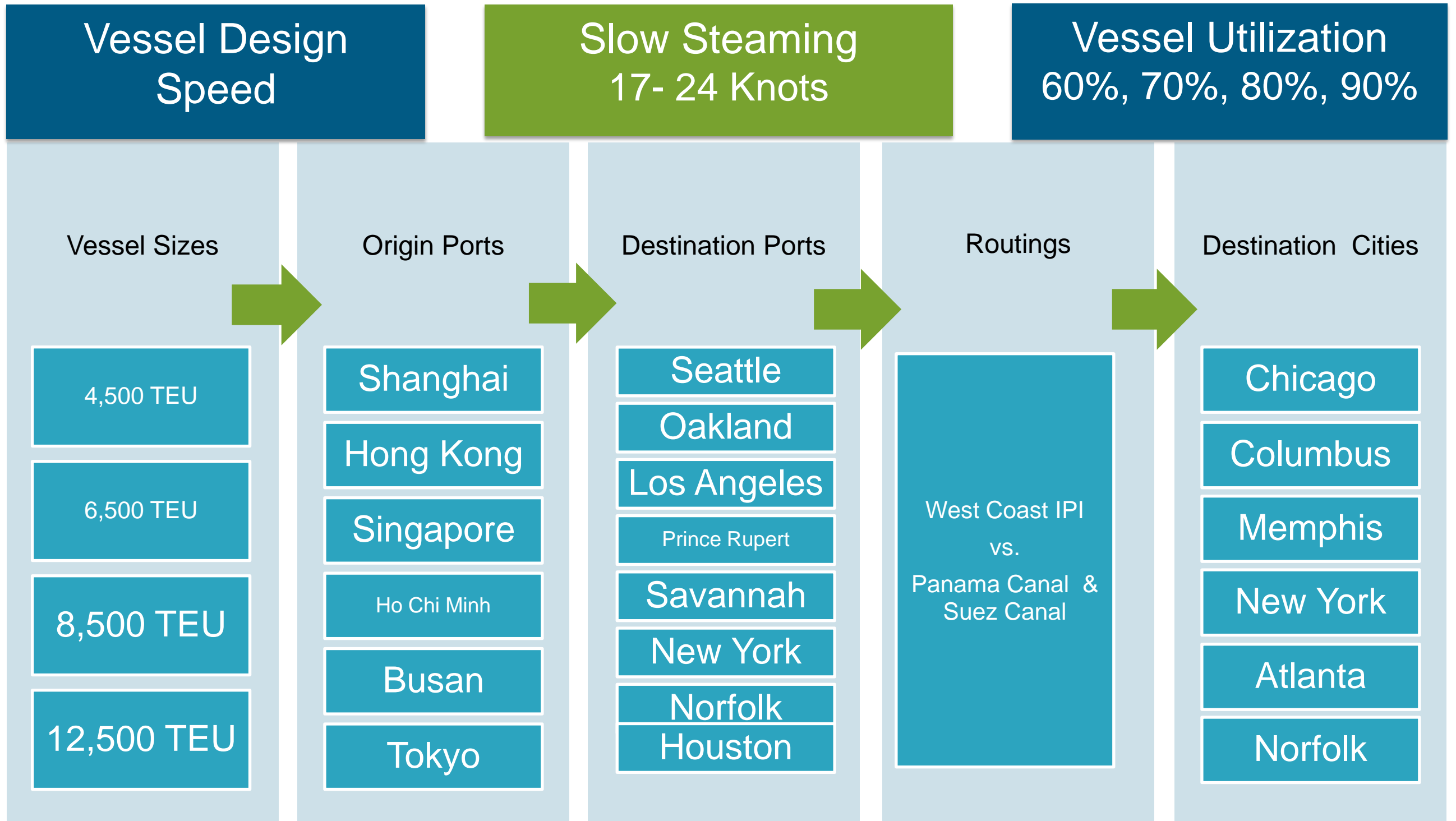
THE GREEN GATEWAY

Carbon Footprint Study Asia to North America: West Coast Advantage

* Herbert Engineering Corporation, 2011



Study Overview



Green Gateway Carbon Calculator



<http://www.portseattle.org/seaport/cargo/CarbonCalc.shtml>

Carbon Calculator

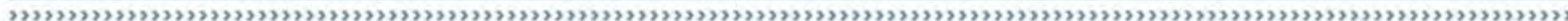
Carbon Calculator data results are derived from the Carbon Footprint Study for the Asia to North America Intermodal Trade paper by the Herbert Engineering Corp.

[Remove All Rows](#)

A canal must be chosen for East Coast and Gulf ports.

Origin Port	Dest. Port	Canal	Final Dest	TEU	Speed (Knots)	Vessel Utilization	Ocean CO ₂ e (t)	Rail CO ₂ e (t)	Total CO ₂ e (t)	Total CO ₂ e/TEU (t)
Shanghai	Seattle	No Canal	Chicago	8500	DS	80	5944	3877	10067	1.532
Shanghai	Savannah	Panama	Chicago	8500	DS	80	11898	1903	14047	2.138
Shanghai	Norfolk	Panama	Chicago	8500	DS	80	12152	1762	14160	2.155
Shanghai	New York	Panama	Chicago	8500	DS	80	12373	1674	14293	2.175

[Add a Row](#)





Port 
of Seattle®

THANK YOU!