

Item No.: 7b Supp **Amended**  
Date of Meeting: December 4, 2012  
**Amended on November 30, 2012**

# Recommended Goals for Clean Truck Program



Port of Seattle  
*Where a sustainable world is headed.™*

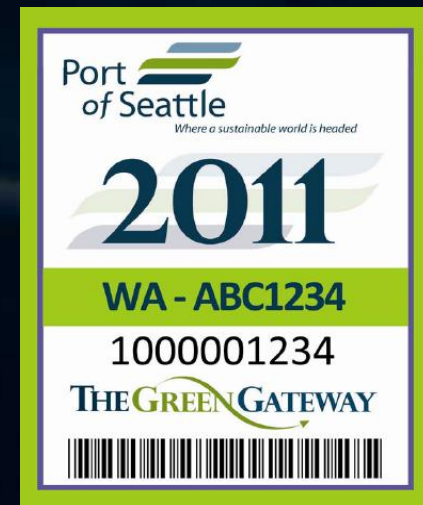


# Briefing Overview

- Status of Clean Truck Program
- Commission Motion to Accelerate Seaport Clean Air Goals
- Stakeholder Outreach
- Assistance to Truckers
- Alternative Technologies
- Clean Truck Program Phase 2 options

# Trucks Implementation Success

- 100% of drayage trucks met or exceeded the mandatory 2010 performance measure
- ScRAPS
  - 280 drayage trucks removed
  - Ended January 2011
- Drayage Truck Registry
- Launching RFID





# 2011 Puget Sound Maritime Air Emissions Inventory results

- Airshed-wide DPM from trucks calling at Port of Seattle decreased 53% from 2005 levels.
- Trucks accounted for 7% of Port of Seattle's 2011 airshed emissions of DPM.

# Clean Truck Program Milestones

## **PHASE 1: MY 1994 or newer engines**

**12/31/2010:** 100% of trucks must have model year 1994 engines

## **PHASE 2: MY 2007 or newer engines (in current NWPCAS)**

**12/31/2015:** 80% of trucks must have model year 2007 engine

**12/31/2017:** 100% of trucks have model year 2007 engine

## **Possible PHASE 3 (under discussion): MY 2014 or newer engines**

**12/31/2022 or later:** 100% of trucks have model year 2014 engine

# Trucking Industry Concerns

- Lead time to comply
- Cost of trucks
- Supply of trucks/drivers
- Equity in program administration
- Need for financial incentives & other support
- Consistency with Port of Tacoma requirements



# Nov. 28<sup>th</sup> Port Trucker Meeting



## Issues Raised at Port Trucker Meeting

- Can't afford to buy newer truck
- Loss of work makes it even more unaffordable
- Port requirement will increase demand/cost of trucks
- Need financial incentives to help upgrade trucks
- Need longer timespan to utilize existing trucks
- Trucks are only 7% of Port's diesel particulate matter emissions



# Help for Truckers

Financial incentive such as ScRAPs

Information and referral

- loans
- small business assistance
- individual development accounts
- job retraining & job searching



# Age Distribution of Trucks\*

Truck call frequency:	at least 1/month	at least 1/week	at least 1/day	at least 3/day	at least 5/day
Number of trucks	3,461	2,493	1,038	262	62
% with pre-2007 engines	93%	95%	100%	100%	100%
Median model year truck	MY 2000	MY 1999	MY 1999	MY 1998	MY 1998

\* Based on 2011 data from T18

# Technology Options to Meet 2007 Engine Equivalency Requirement

Type	Estimated Costs	Comments
Diesel powered truck MY 2008+	\$45,000 - \$125,000	Proven technology
Repower existing truck, replace with newer diesel engine	\$65,000	Proven technology
Install DPF retrofit on existing engine	\$25,000 - \$30,000 + \$300/cleaning	Not recommended for trucks with short duty cycles
Repower existing diesel truck with CNG engine	\$ 80,000 - \$ 95,000	New comparably-sized engine to be available in 2013; range/fueling limitations; fuel costs about \$1 - \$2 less per gallon than diesel
CNG engined truck 2007 or newer	\$100,000 - \$180,000	Range/fueling limitations; fuel costs about \$1 - \$2 less per gallon than diesel



# Emerging Technologies That May meet Requirements in Future

Type	Estimated Costs	Comments
Engine retrofit with CNG dual fuel kit	\$35,000	Not yet demonstrated to be equivalent to MY 2007 emission standards; increased maintenance costs to maintain both fuel systems
Engine conversion to CNG engine	\$ 45,000 - \$55,000	No certified product for Class 8 engine; not yet proven to meet MY 2007 emission standards
Diesel-electric hybrid retrofit or new build	\$30,000 – 160,000	Unproven in drayage duty cycle; maintenance needs unknown; not proven to meet MY 2007 emission standards
Electric		Unknown; more testing needed

# Implementation Options for Phase 2

**OPTION A:** Voluntary soft target at end of 2015

**OPTION B:** All trucks meet 2007 emission standards by end of 2015 with exceptions based on financial need (2-year grace period for demonstrated need, which expected to be older trucks)

**OPTION C:** All trucks meet 2007 emission standards by end of 2015 with exceptions based on age of truck (2003 engines + get 2-year grace period)

**OPTION D:** All trucks meet 2007 emission standards by end of 2016

**OPTION E:** All trucks meet 2007 emission standards by end of 2015

# Context

- From 2018 onward, all options will result in same dramatic emission reductions from trucks
- From 2015 onward, ECA will reduce ship emissions by 74%



Questions?