

# SmartWay Transport Partnership

## Overview

US Environmental Protection Agency  
August 2011

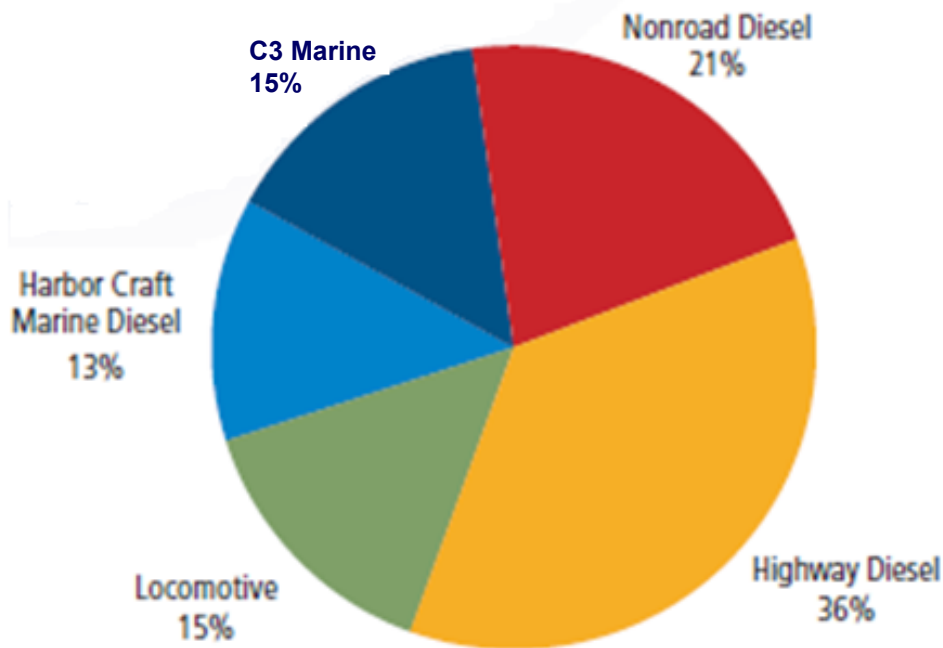


# Outline

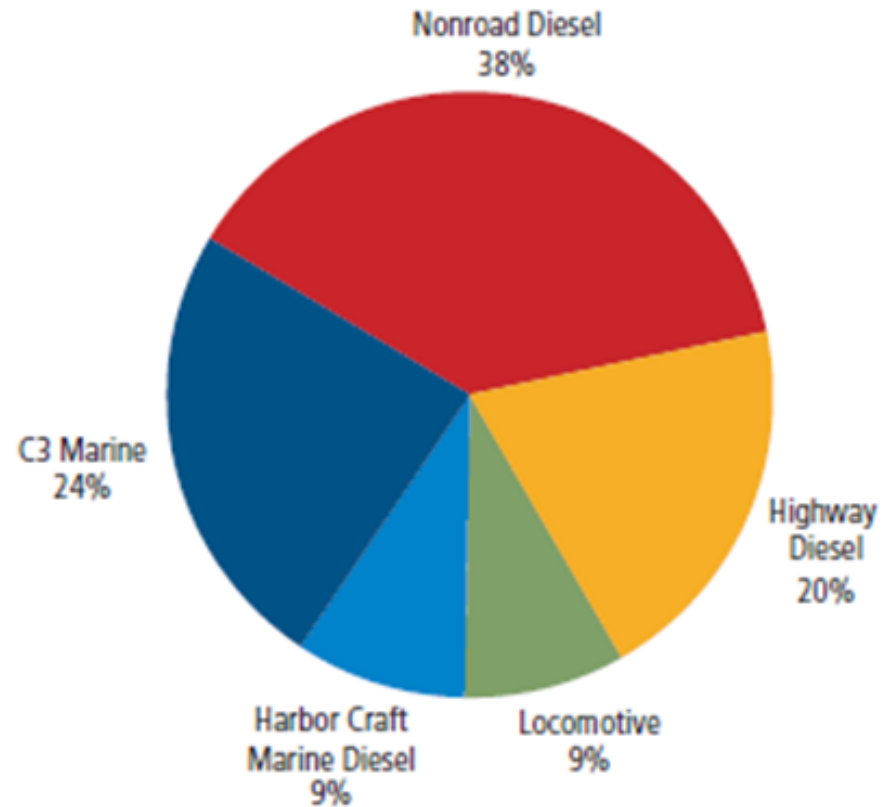
- Drivers and Challenges
- SmartWay Overview
- Program Enhancements
- Public Service Campaign
- Globalizing the SmartWay Template
- Appendix: SmartWay Technologies and Practices

# U.S. Transportation Diesel Emissions

## NOx Mobile Source Diesel Emissions

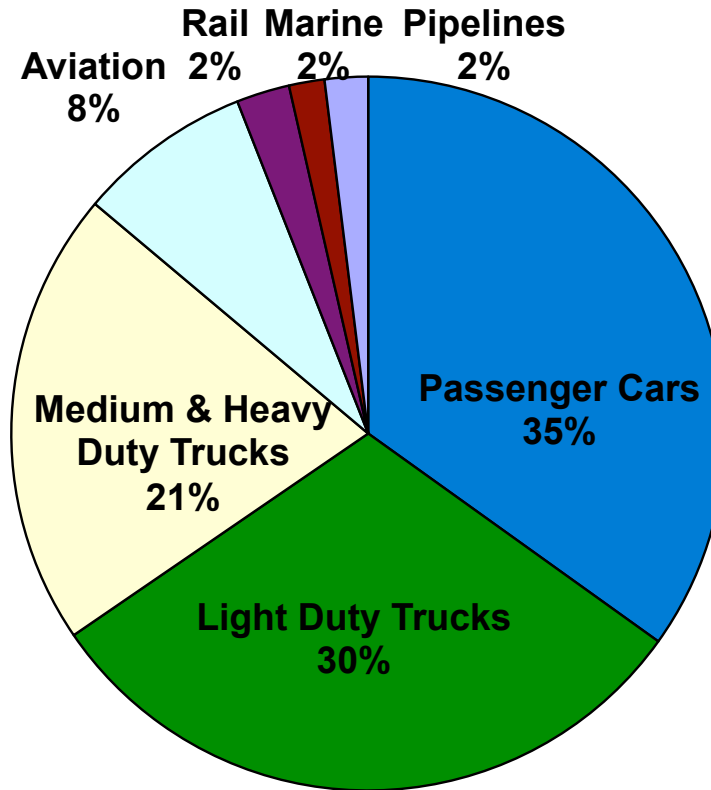


## PM2.5 Mobile Source Diesel Emissions



Report To Congress: Highlights of the Diesel Emission Reduction Program, National Clean Diesel Campaign. EPA-420-R-09-006, August 2009

# U.S. Transportation GHG Emissions



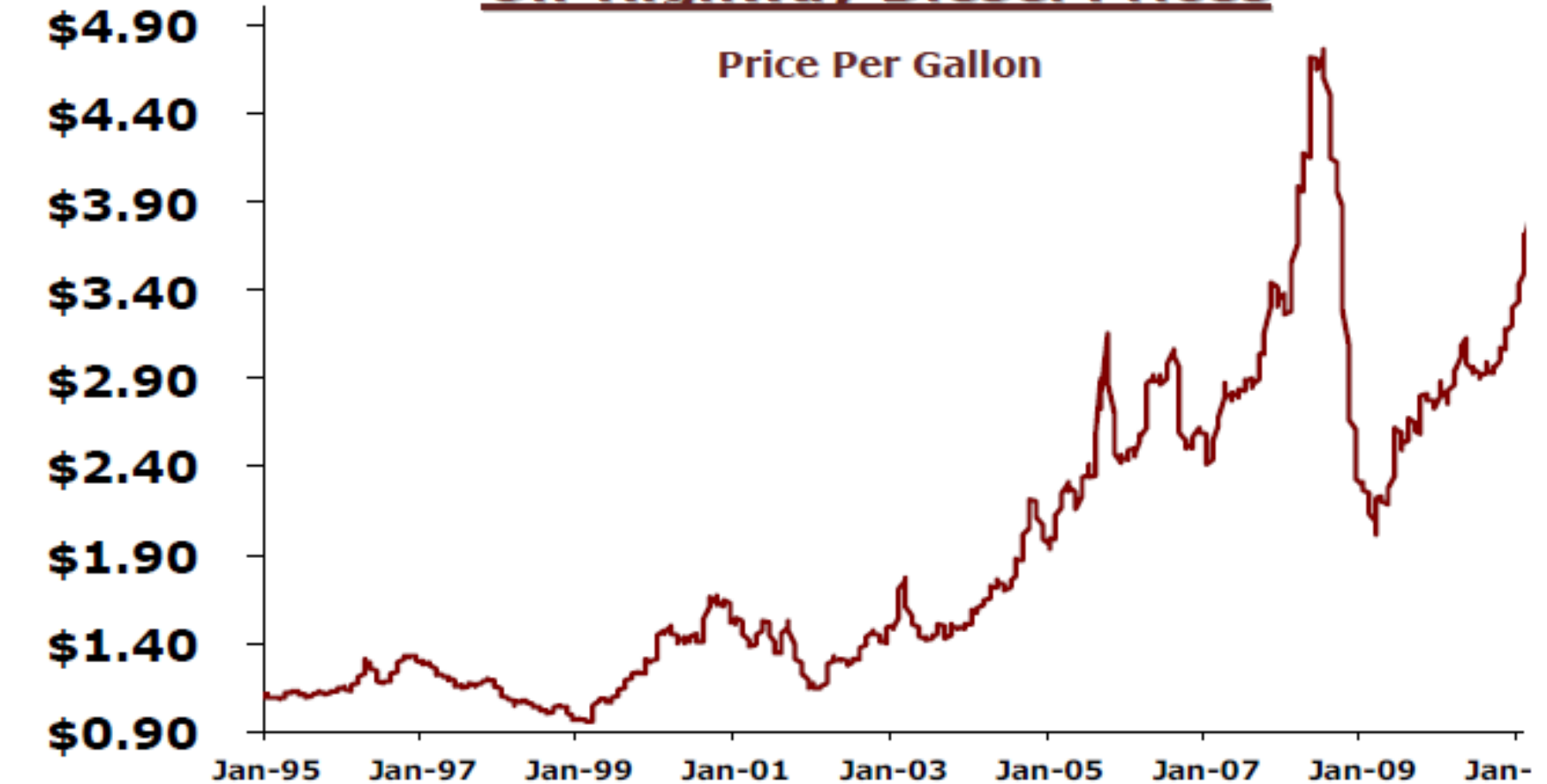
GHG (1,820 mmt CO<sub>2</sub>-eq, 2009)

DRAFT INVENTORY OF U.S. GREENHOUSE GAS EMISSIONS AND SINKS: 1990 – 2009  
FEBRUARY 2011

# Business Case for Freight Sustainability

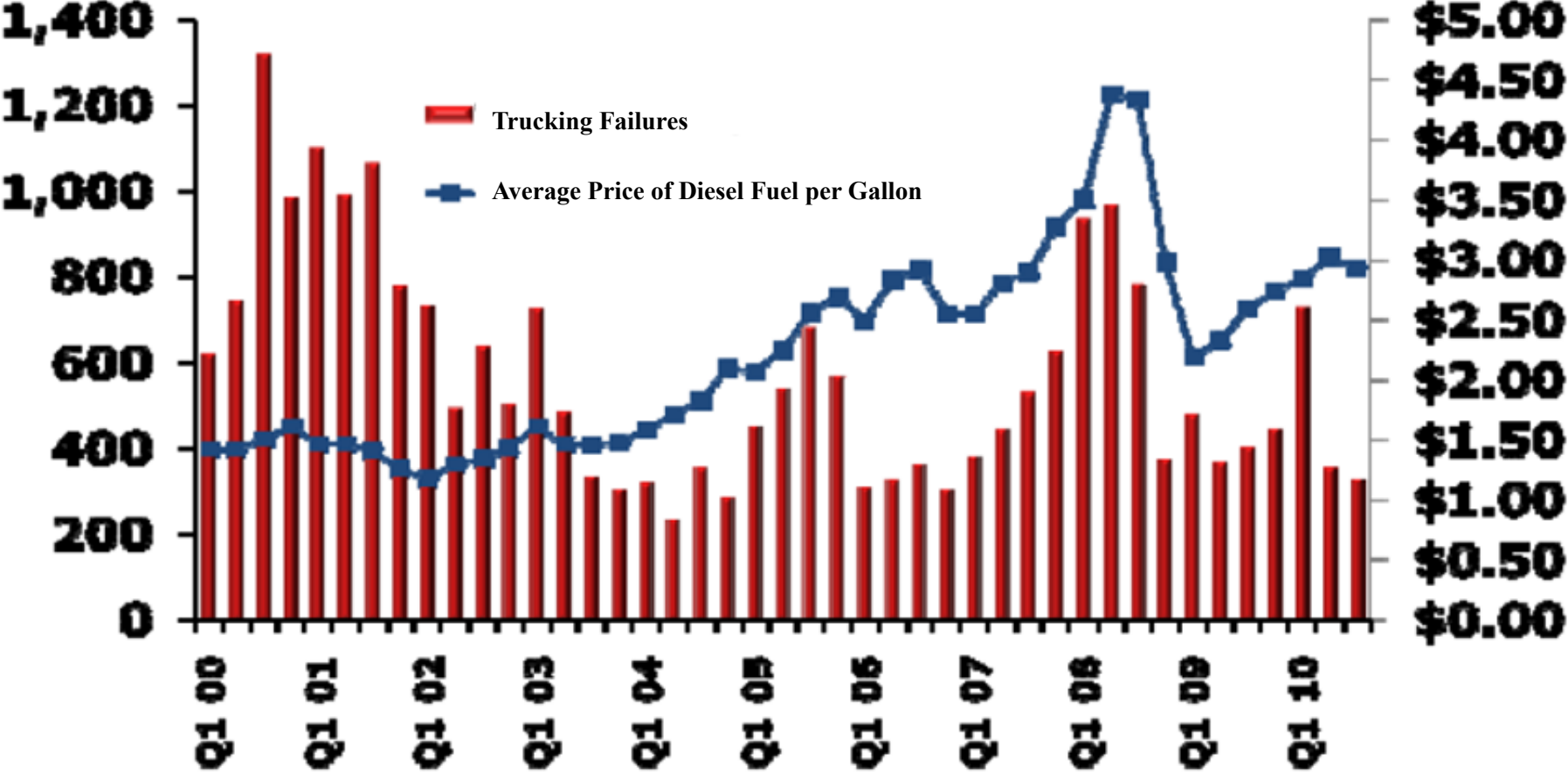
## On-Highway Diesel Prices

Price Per Gallon



Source: Energy Information Administration

# Trucking Failures vs Diesel Prices



Sources: Avondale Partners and Energy Information Administration

# SmartWay Program Components

## Partnership

- Assess, benchmark and track emissions of carriers, shippers, and logistics companies
- National idle reduction program
- New carbon assessment tools
- Partner support
- GHG and fuel savings

## Technology Program

- Test program
- SmartWay Tractor/Trailer
- SmartWay-verified technologies
- Test methods

## Finance Program

- Innovative finance programs (grant programs, banks, retailers)
- SmartWay Finance web site

## Light Duty Vehicles

- SmartWay certified vehicles
- Preferential leasing, purchasing
- Consumer education

## Outreach and Education

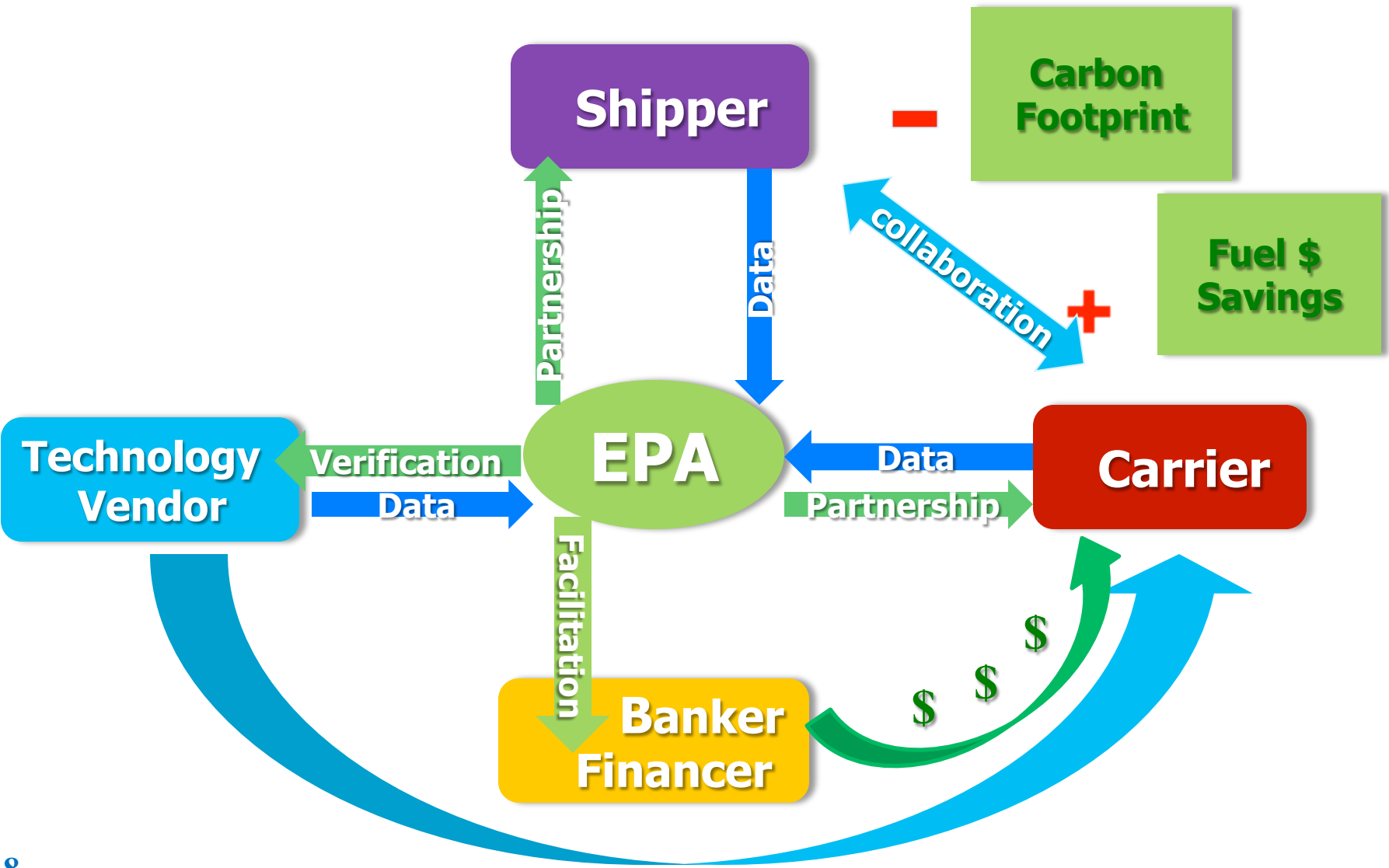
- Partner recognition - SmartWay web site, logo, and awards
- Partner education – webinars, fact sheets, e-update, web site, workshops, events
- Innovative pilot programs
- Brand marketing – PSAs, media campaigns, events

## International Activities

- Conferences, training, workshops
- Replicate public/private partnership
- Pilot projects
- Global supply chain



# How Does The Partnership Work?





# SmartWay Partner Results

## 2, 900+ Partners

- All 100 largest truck carriers and 1K+ medium-small carriers
- All Class 1 Rail lines
- Major logistics firms
- Fortune 500 (and Fortune 50) shippers from every sector

## Since 2004, SmartWay Partners saved

- 16.5 million metric tons of CO<sub>2</sub>
- 235,000 tons NO<sub>x</sub>
- 9,100 tons PM
- 5 million barrels of oil imports
- 6.1 billion dollars in fuel costs
- Equivalent to taking over 3 million cars off the road for 1 year

# Why is SmartWay successful?

## Shippers:

- Top of the supply chain, drive marketplace demand
- Give preferred status to SmartWay Carrier Partners
- Get better data to improve their own shipping operations
- Modify logistics operations to improve efficiency & reduce emissions, for example:
  - Inter-modal Shipping
  - Full Truck Loads
  - Warehouse Improvements
  - Idle-Reduction at facilities
- Get recognition and PR value with SmartWay brand

## Carriers:

- Gain competitive advantage:
  - Preferred status, plus
  - Fuel efficiency, savings
- Reduce emissions
- Integrate fuel saving technologies and strategies into fleets, such as:
  - Idle Reduction
  - Improved Aerodynamics
  - Efficient Tire Systems
  - Driver Training
  - Renewable Fuels
  - Advanced Lubricants
- Get recognition and PR value with SmartWay brand

# Why is the Supply Chain Important?

- Businesses are under increasing pressure and scrutiny to reduce their carbon footprints
  - Shareholders, stakeholders, and customers are demanding companies to do more (e.g. CDP, SEC)
  - Business case for supply chain sustainability increasingly evident
    - rising/volatile energy costs
    - customer demands
- More businesses are addressing their global supply chain footprint and goods movement emissions
  - Supply chains do not end at Nation's ports & borders
  - Need to understand each mode:
    - cargo vessels, ports, drayage, rail, trucks, air cargo
  - Need to quantify, baseline, and report emissions

# SmartWay Tractors and Trailers

Specifications include 2007+ engine, idle reduction, low rolling resistance tires, and aerodynamic equipment


**-10% to 20% reduction in fuel use, relative to a comparable truck without these fuel-saving features**

**- Limited to the equipment & truck types that EPA tests**



# SmartWay Finance Center – For Smaller Fleets, Owner Operators

SMARTWAY FINANCE CENTER Call 1-877-767-8875 | Log-In |



Home Introduction About Us Lenders Vendors Contact Us

- Truck Owners (+)
- Truck Stops (+)
- Locomotives (+)
- SmartWay Certified Cars (+)
- Marine Vessels (+)
- Non-Road Equipment (+)


**Get a fast loan quote Now – truck , trailer, & equipment loans and leases**

**Start Your Loan Application Now:**

① Loan Type

② Amount \$

③ Location



# Public Service Campaign for Shippers



**YOU'RE A CLICK AWAY  
FROM A SMARTER SUPPLY CHAIN**



Logistics managers are constantly looking for ways to reduce costs for their customers through customized solutions. SmartWay<sup>™</sup> Transport Partnership is one smart money-saving program grounded in innovative business strategies and new technologies. SmartWay Transport is about streamlined logistics operations that reduce fuel costs while reducing greenhouse gases and other emissions.

To find out more about this collaborative program, please call 1-734-214-4767 or visit [www.epa.gov/smartway](http://www.epa.gov/smartway).



An innovative program from the U.S. Environmental Protection Agency

Ad Concept 2.23.07



# Public Service Campaign for Carriers (TV, Radio, Print)

## These Manufacturers Are Hauling The Best Logo In The Business







Introducing SmartWay Certified Tractors & Trailers  
From These Manufacturers

Tractor makers:

-  Freightliner
-  International
-  Kenworth
-  Mack
-  Peterbilt
-  Volvo

Trailer makers:

-  Great Dane
-  Trailmobile
-  Utility
-  Wabash



# Public Service Campaign for Consumers

(TV, Radio, Print)



**Reflects Well On You.**

Driving a vehicle that is fuel-efficient, produces fewer greenhouse gases, and can save you money reflects well on its owner—especially these days, with growing concerns about climate change. The U.S. Environmental Protection Agency makes it easy to identify environmentally friendlier cars and trucks. Just look for the SmartWay® leaf. SmartWay will help change the way America drives.

For more on SmartWay certified cars and trucks, leaf through our website at [www.epa.gov/smartway](http://www.epa.gov/smartway).





**Reflects well.**  
(And helps keep the air clean, too.)

Let's face it, any time your fleet can boost fuel efficiency by 10 to 20%, it reflects well on you and your bottom line. U.S. EPA certified SmartWay Tractors and Trailers allow you to do just that. You can also display the SmartWay certification mark, a symbol of environmental distinction, which also reflects well on you. The SmartWay leaf indicates to both industry and the public that you operate the cleanest and most efficient trucks and equipment available today.



To learn more, visit [epa.gov/smartway](http://epa.gov/smartway)





# Package Labeling Pilot Program



**HP consumer electronics are carried exclusively by SmartWay Carrier Partners**

# SmartWay Passenger Vehicles



U.S. ENVIRONMENTAL PROTECTION AGENCY

## Green Vehicle Guide

Share

Recent Additions | Contact Us | Search: All EPO This Area  Go  
 You are here: EPA Home > Transportation & Air Quality > Green Vehicle Guide > Basic Search Results

Home - Basic Search | Advanced Search | Compare | Complete Guide

### Basic Search Criteria

Year: 2011  
 State: Michigan  
 SmartWayTypes: Smartway Vehicles Chosen

Click arrow to sort

Definitions | New Search | Advanced Search

Model	Engine	Fuel	Trans	Drive	Air Pollution Score 10 = Best	Fuel Economy (mpg) City / Hwy	Greenhouse Gas Score 10 = Best	SmartWay	Compare
<a href="#">CHEVROLET HHR</a>	2.2L 4cyl	Ethanol/Gasoline	Automatic	2WD	Ethanol 6 Gasoline 6	16 / 22 22 / 30	Ethanol 6 Gasoline 6		<input type="checkbox"/>
<a href="#">CHEVROLET HHR</a>	2.2L 4cyl	Ethanol/Gasoline	Manual	2WD	Ethanol 6 Gasoline 6	16 / 23 22 / 32	Ethanol 6 Gasoline 6		<input type="checkbox"/>
<a href="#">CHEVROLET HHR</a>	2.4L 4cyl	Ethanol/Gasoline	Manual	2WD	Ethanol 6 Gasoline 6	16 / 23 22 / 30	Ethanol 6 Gasoline 6		<input type="checkbox"/>
<a href="#">CHEVROLET HHR Panel</a>	2.2L 4cyl	Ethanol/Gasoline	Automatic	2WD	Ethanol 6 Gasoline 6	16 / 22 22 / 30	Ethanol 6 Gasoline 6		<input type="checkbox"/>
<a href="#">CHEVROLET HHR Panel</a>	2.2L 4cyl	Ethanol/Gasoline	Manual	2WD	Ethanol 6 Gasoline 6	16 / 23 22 / 32	Ethanol 6 Gasoline 6		<input type="checkbox"/>
<a href="#">CHEVROLET HHR Panel</a>	2.4L 4cyl	Ethanol/Gasoline	Manual	2WD	Ethanol 6 Gasoline 6	16 / 23 22 / 30	Ethanol 6 Gasoline 6		<input type="checkbox"/>
<a href="#">CHEVROLET Malibu</a>	2.4L 4cyl	Ethanol/Gasoline	Semi-Automatic	2WD	Ethanol 6 Gasoline 6	15 / 23 22 / 33	Ethanol 6 Gasoline 6		<input type="checkbox"/>

# SmartWay Passenger Vehicle

SmartWay on EPA's Green Vehicle Guide website



Automakers promoting their SmartWay vehicles:

- General Motors
- Ford
- Chrysler
- Hyundai
- Kia
- Mazda
- Nissan
- Subaru
- Volvo

An advertisement for the Mazda 3. It features a silver Mazda 3 sedan on the left. To the right of the car, the text reads "It's All GREEN!" in large, bold, black letters. Below that, "mazda 3" is written in a stylized, italicized font. Underneath, it says "Low Emissions!" and "Low Price!". At the bottom, there is a blue banner with the text "BILLION MAZDA" in white. Logos for Mazda and "US EPA Certified SmartWay" are also present.

An advertisement for the 2009 Nissan Altima Hybrid. The top section has a green background with the text "Lasting Quality. For a Lasting Environment." Below this, it says "The 2009 Nissan Altima Hybrid" in large, bold letters, with "Quality Tested. Clean Driving." underneath. A photograph of the silver Altima Hybrid is shown, with a magnifying glass effect over the rear wheel. The bottom section lists savings: "\$1500 Oregon residential energy tax credit", "\$2350 Federal Tax Credit", and "+ \$2000 Nissan Cash Back", totaling "Up To \$5850 Total Savings". The "US EPA Certified SmartWay Elite" logo is also visible. At the bottom, it says "Nissan Delivers VISIT YOUR ANYTOWN NISSAN DEALER TODAY." and "100 Main Street, Anytown, USA (800)999-1412".

Banks and credit unions offer discounted loans for SmartWay vehicles

# Partner Case Studies



## Intermodal conversions:

- Over 40,000 shipments via intermodal
- Savings of 124,703 tons of CO<sub>2</sub>
- Savings of 11.2 million gallons of diesel fuel



Shifted notebooks from air to sea and truck to rail on domestic shipments

- Saved 7,500 tons of CO<sub>2</sub>

# Partner Recognition

- Partner logo earned by top-performing SmartWay Partners
- SmartWay Annual Awards recognize the “best of the best”
- SmartWay partners compete seriously for recognition



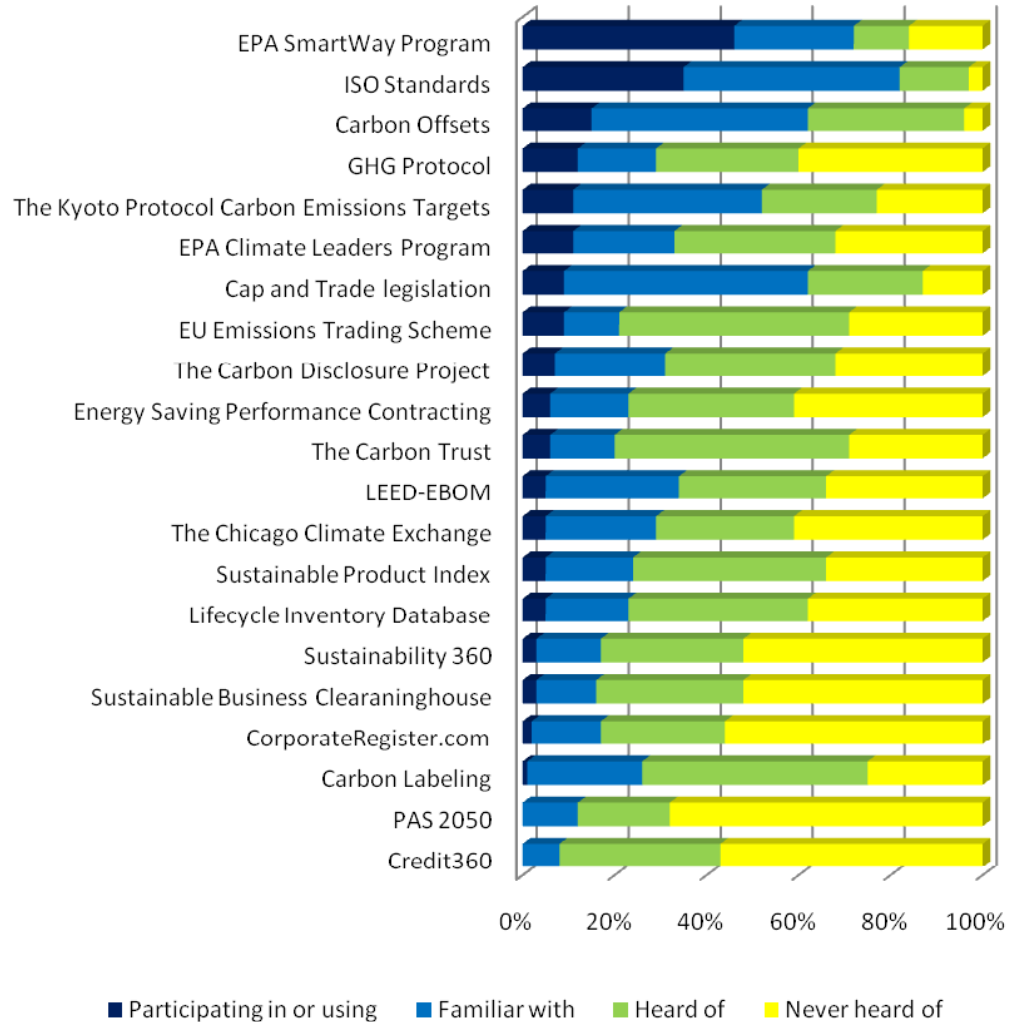
# SmartWay Industry Awareness



**Survey of supply chain executives shows SmartWay as leading industry sustainability program**

*- Eye For Transport, June, 2010*

## 3PL Awareness of Green Programs



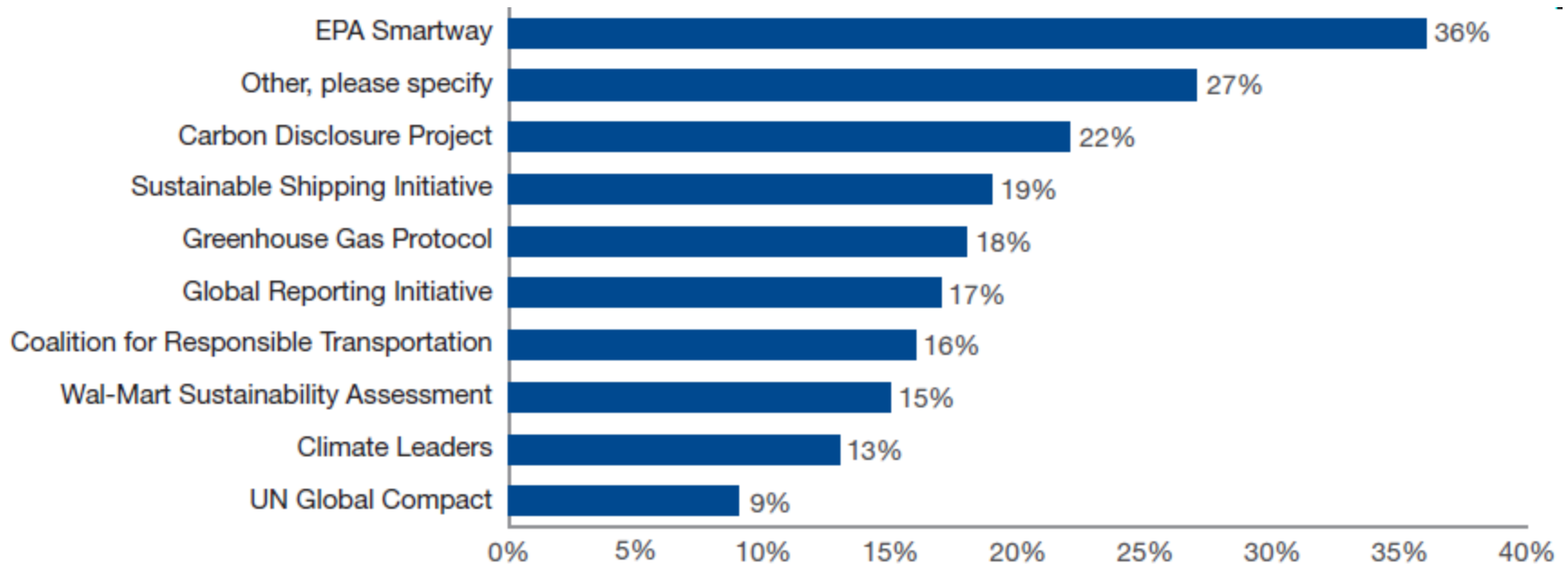


# SmartWay Industry Awareness



## Survey of 200 shipping executives shows SmartWay as leading industry sustainability program

- Environmental Sustainability Benchmark Study: Leaders Prepare for the "Greening" Supply Chain, *Feb, 2011*



# International Interest in SmartWay

SmartWay International Summit - December, 2008

- Thirteen countries participated

“SmartWay” sister program developments

- Mexico launched Transporte Limpio
- Canada harmonizing Fleet Smart to SmartWay
- France, EU, Australia SmartWay platforms

**FleetSmart**

Commission for Environmental Cooperation

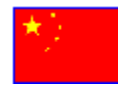
- Recommending strengthening and harmonizing N. American programs to share data & emission factors



World Bank and Clean Air Initiative-Asia

- SmartWay technologies used for Green Truck Pilot Project in Guangzhou
- Guangdong Demonstration project to enhance logistics, financing and capacity building

Green Freight China Program – National program development







**[www.epa.gov/smartway](http://www.epa.gov/smartway)**

**[smartway\\_transport@epa.gov](mailto:smartway_transport@epa.gov)**

**SmartWay phone center (734) 214-4767**

# **APPENDIX:**

# **SmartWay Technologies & Strategies**

# Advanced Truck Stop Electrification





# Advanced Truck Stop Electrification

## Night Light

Lighted On/Off Button for the screen, so you can find it easily in the dark

## 120V ShorePower

Inside and Outside your cab for appliances, block/fuel heaters and other accessories

## Internet

High-Speed Ethernet Port for Internet on your Computer - Wireless Internet also available

## Central Heat & Air

Thermostat controlled filtered air flow, recycled from your cab

## Card Reader

Slide your member Card and follow instructions

## Built-In Touch Screen Computer

Control your "Home-On-The-Road" and surf the Internet

## Help

Available 24x7. On-Screen Context-Sensitive Help or dial 611 from your cab phone or 800-738-7024 from any phone

## Go Buttons

One-Touch Access to Main Functions

## USB Ports

Use a keyboard, mouse or other USB devices

## Telephone

Plug in a regular phone for incoming and outgoing calls

## Television

Connect your TV with standard COAX cable for Premium Satellite TV



# Idle Reduction Technologies

## For Trucks and Locomotives

### Average fuel savings   Emissions Controlled

Trucks:	1 gal/hr	CO <sub>2</sub> , NO <sub>x</sub> , and PM
Rail:	4 - 12 gal/hr	

- Automatic Shut-Down/Start Up System
- Battery Powered Systems
- Diesel Driven Heating System
- Auxiliary Power Unit/Generator Set
- Truck Stop Electrification



# Low Rolling Resistance Tires

## Single Wide Base and Improved Duals

### Average fuel savings   Emissions Controlled

Trucks:     4 - 5%

CO<sub>2</sub>, NO<sub>x</sub>

- Single-wide tires
  - Reduced rolling resistance
  - Reduced weight
- Low rolling resistance dual tires





# Wheel and Tire Inflation Improvements

## Aluminum Wheels, Tire Pressure Monitoring and Inflation

### Average fuel savings   Emissions Controlled

Trucks:     3 - 5%

CO<sub>2</sub>, NO<sub>x</sub>

- Tire pressure monitoring and inflation
  - Ensure appropriate pressure for efficiency
  - Reduced maintenance and extended tire life
- Aluminum wheels save weight and inertia energy



# Trailer Aerodynamics

## Average fuel savings   Emissions Controlled

Trucks:     5%

CO<sub>2</sub>, NO<sub>x</sub>

- Trailer Fairings, Side-skirts
- Nose Cone and Trailer Tail



Enclosed Auto Trailers



# Exhaust After-Treatment Devices

## Average fuel savings   Emissions Controlled

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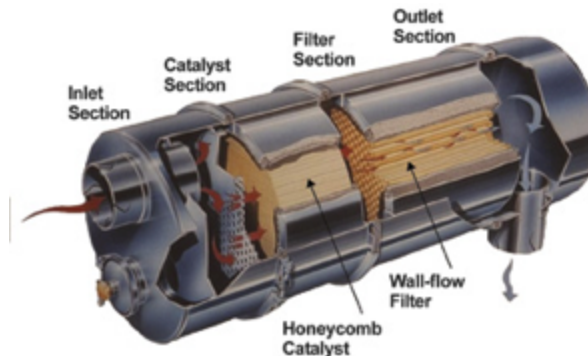
PM

### Diesel Oxidation Catalysts

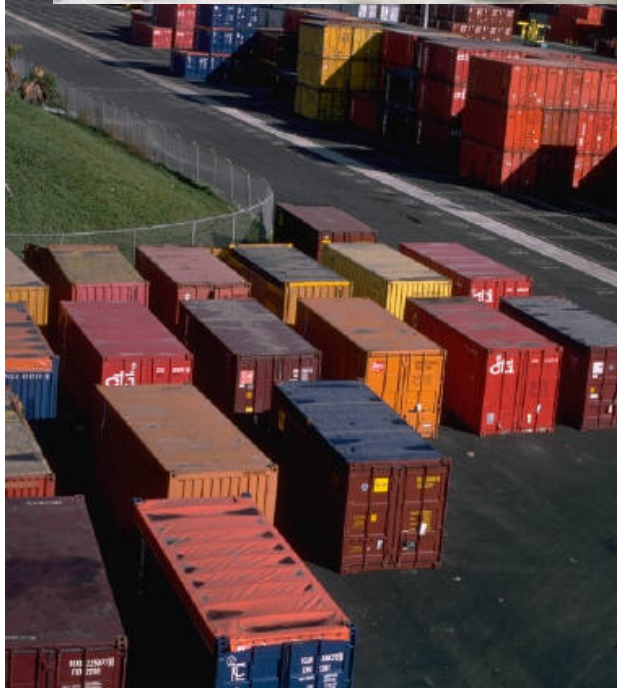
- Estimated cost: \$1,000
- Reduce PM by 25% – 40%

### Particulate Matter Filters

- Estimated cost \$6,000
- Reduce PM by 80% – 90%



# Intermodal Shipping





# Operational Strategies

Appian Logistics Software - Last Position

Dispatch Payroll Activity Customer Service Admin Logout

Home >> Device Last Position Map

Map Satellite Terrain

Filter Search Auto Refresh

From: 07/22/2010 To: 07/22/2010 Submit

All devices

Show Traffic information

Seq	Dev_ID	Drv_ID	Drv_Name	Rt#	Trk_ID	Last_Pos	Heading	Speed	GPS Trail
1	SONNY	HDL2	HDL 2	HDL2	HDL2	07/22 14:17	na	0	View
2	DARYL	DARYL	DARYL	DARYL	DARYL	07/22 14:28	East	46	View
3	BOB	BOB	HDL BOB	BOB	BOB	07/22 14:27	West	6	View
4	JMT	JMT	JIM THOMPSON	JIM	JMT	07/22 14:27	West	94	View
5	JAME	JAME	JAME APPOSITE	JAME	JAME	07/22 14:05	East	0	View
6	AL	AL	AL	AL	AL	07/22 14:27	North West	0	View

3 device(s) found



Order list : C:\VALSCLNT\LISTS\LOAD1 Container 1 / 1

File Modify View Options ?

Container Type: 20' Sea Cont

Total weight : 21480.1 lb

Total items : 105

Load length : 234.000 In

Utilized : Volume Weight

86.66 % 67.13 %

CoG.: 133.625 49.125 51.000

Axle Pos.: 228.000 12.000

Axle Wt.: 12095.0 9385.1

Order list

No.	OrderNo	City	Qty
1	sample		30
2	sample		12
3			1