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
- C3 Marine 15%
- Harbor Craft Marine Diesel 13%
- Locomotive 15%
- Highway Diesel 36%
- Nonroad Diesel 21%

PM2.5 Mobile Source Diesel Emissions
- Nonroad Diesel 38%
- C3 Marine 24%
- Highway Diesel 20%
- Harbor Craft Marine Diesel 9%
- Locomotive 9%

U.S. Transportation GHG Emissions

GHG (1,820 mmt CO2-eq, 2009)
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?

Technology Vendor

Verification Data

Facilitation Partnership

EPA

Shipper

Data

Carrier

Fuel $ Savings

Carbon Footprint

Banker Financer

Partnership Data

$ $ $
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 CO2
- 235,000 tons NOx
- 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
Get a fast loan quote Now – truck, trailer, & equipment loans and leases

Start Your Loan Application Now:

1. Loan Type: SELECT

2. Amount $: 0

3. Location: Select Location

www.smartwayfinancecenter.com
Public Service Campaign for Shippers
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.

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.

US EPA Certified SmartWay®

To learn more, visit epa.gov/smartway
Package Labeling Pilot Program

HP consumer electronics are carried exclusively by SmartWay Carrier Partners
# SmartWay Passenger Vehicles

- **Chevrolet HHR**
  - 2.2L 4 cyl | Ethanol/Gasoline | Automatic | 2/WD | 16/22 | 22/30 | ▶️
  - 2.2L 4 cyl | Ethanol/Gasoline | Manual | 2/WD | 16/23 | 22/32 | ▶️

- **Chevrolet HHR Panel**
  - 2.2L 4 cyl | Ethanol/Gasoline | Automatic | 2/WD | 16/22 | 22/30 | ▶️
  - 2.2L 4 cyl | Ethanol/Gasoline | Manual | 2/WD | 16/23 | 22/32 | ▶️
  - 2.4L 4 cyl | Ethanol/Gasoline | Semi Automatic | 2/WD | 15/23 | 22/33 | ▶️
SmartWay on EPA’s Green Vehicle Guide website

Automakers promoting their SmartWay vehicles:
- General Motors
- Ford
- Chrysler
- Hyundai
- Kia
- Mazda
- Nissan
- Subaru
- Volvo

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 CO2
• 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 CO₂
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

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- **Participating in or using**
- **Familiar with**
- **Heard of**
- **Never heard of**
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

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
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.

**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.

**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.
Idle Reduction Technologies
For Trucks and Locomotives

**Average fuel savings**  **Emissions Controlled**

- **Trucks:** 1 gal/hr  **CO₂, NOx, 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%  CO₂, NOₓ

- 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**
Trucks: 3 - 5%

**Emissions Controlled**
CO₂, NOₓ

- 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%  CO₂, NOx

- Trailer Fairings, Side-skirts
- Nose Cone and Trailer Tail
Exhaust After-Treatment Devices

Diesel Oxidation Catalysts
- Estimated cost: $1,000
- Reduce PM by 25% – 40%

Particulate Matter Filters
- Estimated cost $6,000
- Reduce PM by 80% – 90%

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Operational Strategies