



First working session on voluntary public private sustainable freight transport partnerships in Europe

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The US EPA Smartway Program

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Smartway

What is SmartWay?

- The SmartWay Transport Partnership is an innovative voluntary collaboration between the U.S. Environmental Protection Agency (EPA) and the freight industry to increase fuel efficiency while significantly reducing greenhouse gases and air pollution.
- Started in February 2004
- Over 1400 partners enrolled in a span of five year
- By 2012, this voluntary partnership between various freight industry sectors aims to reduce between 33-66 million metric tons of carbon dioxide (CO₂) emissions and up to 200,000 tons of nitrogen oxide (NO_x) emissions per year. At the same time, the initiative will result in fuel savings of up to 150 million barrels of oil annually.



Learning from Smartway

- **Partnership Categories**

- ✓ Carriers
- ✓ Shippers
- ✓ Logistics
- ✓ Rail

- **Partners use models to:**

- ✓ Benchmark freight operations
- ✓ Measure transportation footprint
- ✓ Identify technologies & strategies to reduce emissions
- ✓ Track emissions reductions and project improvement

Equipment Manufacturers

- ✓ SmartWay certified cars and trucks



Smartway – how does it work - Carriers

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



Smartway – how does it work – Performance scores

- Performance Scores per company are published on the Smartway website
 - 1.25 - Outstanding environmental performance
 - 1.00 - Very good environmental performance
 - 0.75 - Good performance – common standard
 - 0.00 - Behind schedule in submitting required materials
- These scores indicate the relative fuel efficiency and environmental performance of the Carrier and Logistics partners. SmartWay Truck Carrier and Logistics Company Partners can and do improve their score by adopting various fuel-efficiency and emission control technologies, policies, and strategies for their fleets.
- Higher scores make carriers more attractive to a prospective Shipper Partner.



Smartway – how does it work e.g. Carrier

“Celadon Trucking Services is proud to be a SmartWay Transport”

Celadon has earned a Shipper Index Factor of 1.25. A SIF of 1.25 represents outstanding environmental performance and serves as confirmation that Celadon is utilizing most of the commercially available fuel saving strategies and is actively evaluating the latest emerging technologies.





Smartway – how does it work e.g. Carrier

To achieve this level of success, Celadon has made the following equipment changes:

- Installed auxiliary air heaters on all trucks
- Installed ambient air temperature sensors to overrides the engine's ability to run between the ambient of 70–20 degrees F;
- Equipped trucks and trailers with the most fuel efficient duals,
- Accelerated new truck purchases:
- Recalibrated new engines to produce less than 30 grams of NOx at an idle
- Shortened trailer to tractor gaps to minimize aerodynamic drag;
- Use of synthetic lubricants in all transmissions and differentials to minimize friction;
- Reduction in maximum road speed for the entire fleet;
- Conversion of trailer fleet to lightweight, high cube, 53' plate trailers;
- Reduced fleet idle time by 15% during 2007 calendar year;
- Introduced use of biofuels in fleet.



Smartway – how does it work e.g. Carrier

Celadon has made progress in reducing CO₂ emissions and increasing fuel efficiency:

- CO₂ emissions per truck declined 40% from 252.3 tons in 2005, to 152.0 in 2007;
- CO₂ emissions per mile declined 26% from 1,639.7 grams in 2006, to 1,220.6 in 2007;
- Overall PM emissions declined 19% from 64,977 tons 2005, to 49,786 in 2007;
- PM emissions per mile declined by .2713 grams in 2005, to .1693 in 2007;
- Overall NO_x emissions declined 25.2% from 2,212 tons in 2005, to 1,284.6 tons in 2007;
- NO_x emissions per mile declined by 9.24 grams in 2005, to 1.47 in 2007;
- Fuel efficiency improved by 25% from 5.2 MPG in 2005, to 6.5 in 2007.



Smartway – how does it work - Shippers

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 Docks
- Get recognition and PR value with SmartWay brand





Smartway – how does it work e.g. Shipper

- HP today announced that it is the first company to receive approval from the U.S. Environmental Protection Agency (EPA) to have the agency's SmartWay logo displayed on a selection of its consumer product packaging for the compliance of its surface transportation network.
- In order to display the SmartWay logo, HP must certify its service transportation carrier network is using 100 percent SmartWay compliant carriers.



Smartway – how does it work – e.g. Manufacturer

“We’re No. 1: Navistar is First OEM with Dual EPA SmartWay Certification

Not only do we build environmentally friendly vehicles, we also use greener practices to move our materials. Continuing to lead the industry in environmental responsibility, Navistar recently became the first Original Equipment Manufacturer (OEM) to earn certification from the U.S. Environmental Protection Agency (EPA) as both a SmartWay Transport Partner and a SmartWay Manufacturer”



Smartway – how does it work - Financing

- Many transport companies lack the capital to invest in innovative technologies
- SmartWay is working with states, local energy offices, private financial institutions to create innovative financing strategies:
 - Low interest loans
 - Tax credits for innovative fuel saving and emission control products
 - Federal and state grant programs
 - Energy saving performance contracts



Smartway – how does it work - Tools

- Fleet Performance Model for Carriers
- Fleet Short Version for small Carriers
- Fleet Performance Model for Shippers and Logistics Companies
- Savings Calculator
- Interactive mapping tool
- Loan calculator

The screenshot shows a Microsoft Excel spreadsheet titled "Fleet Efficiency Evaluation". The spreadsheet is divided into sections for "Straight Trucks" and "Combination Trucks". Each section has columns for "Total # of trucks", "Average Miles per truck per year", "Total Miles", "Total Fuel Consumption (Gallons)", "Average payload (tons) per trip", "Average idling hours per truck per year", and "Total idling hours". The data is organized into rows for "Short Haul" and "Long Haul" operations, with sub-rows for "Diesel", "Gasoline", and "Alternative Fuel". A "Totals" row is provided at the bottom of each section. The "Totals" row for Straight Trucks shows 10 trucks, 100,000 miles, 1000 gallons of fuel, 100 tons of payload, 1000 hours of idling, and 1000 total idling hours. The "Totals" row for Combination Trucks shows 10 trucks, 100,000 miles, 1000 gallons of fuel, 100 tons of payload, 1000 hours of idling, and 1000 total idling hours.

		Total # of trucks	Average Miles per truck per year	Total Miles	Total Fuel Consumption (Gallons)	Average payload (tons) per trip	Average idling hours per truck per year	Total idling hours
Straight Trucks								
Short Haul	Diesel			0	0			0
	Gasoline			0	0			0
	Alternative Fuel	1	10000	10000	0	0	0	0
Long Haul	Diesel			0	0			0
	Gasoline			0	0			0
	Alternative Fuel	1	10000	10000	0	0	0	0
Totals		10	100000	100000	1000	100	1000	1000
Combination Trucks								
Short Haul	Diesel			0	0			0
	Gasoline			0	0			0
	Alternative Fuel	1	10000	10000	0	0	0	0
Long Haul	Diesel			0	0			0
	Gasoline			0	0			0
	Alternative Fuel	1	10000	10000	0	0	0	0
Totals		10	100000	100000	1000	100	1000	1000



Smartway – next steps

A “Smarter” SmartWay

SmartWay 1.0

- Domestic ground freight, i.e., trucking and rail
- Non-dimensional partner scoring process
- Detailed technology survey for carrier scoring
- Carbon footprinting limited to default national averages
- US-based, outbound operations covered

SmartWay 2.0

- Multimodal operations, including maritime, short sea, air cargo, drayage, port, etc.
- More transparent and granular carbon-based scoring, plus criteria pollutants, NOx, PM
- Streamlined, performance based scoring based on actual miles, fuel, volume
- Carbon footprint based on provider and modal choices
- Globalized SmartWay program quantifies supply chain emissions





Smartway – more info



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