Moving Freight Sustainability Forward

While Reducing Costs and Enhancing Energy Security

US Environmental Protection Agency

SmartWay Workshop

Nov 13, 2013
Today’s Discussion

- Drivers for freight sustainability
  - Environmental & Economic Drivers
  - Marketplace changes and challenges

- Corporate Citizenship and Carbon
  - Public awareness
  - Business case for freight sustainability

- SmartWay Value Proposition
  - SmartWay structure and partnership process
  - Data quality and confidentiality
  - Benefits and value of SmartWay
Transportation in U.S.:
- Over 1/4 total GHG emissions;
- About 2/3 petroleum-based fuel use.

In Transport Sector:
- Freight accounts for over 25% of all fuel consumed and GHGs emitted.
- Freight is fastest growing source of transport GHGs.

2011 Data - Inventory of U.S. Greenhouse Gas Emissions and Sinks (EPA 2013)
SmartWay Drivers: Energy use by Heavy Duty Trucks

Percent of Energy Used by Mode -- Transportation Sector (million barrels per day oil equivalent)

- Light-Duty Vehicles
- MD/HD (commercial, bus, freight)
- Rail
- Marine
- Air
- Other (military, pipeline, etc)

U.S. DOT RITA, Volpe Center
SmartWay Drivers: Heavy Duty Truck Freight Tonnage

Million Metric Tons of Freight - 2011

Trucking carries most freight tons

Total: 17.6 billion tons

US DOT Freight Facts and Figures 2012
SmartWay Drivers: Economic Impacts of Freight

- Freight transportation is cornerstone of U.S. economy
  - Trucking & rail deliver goods and materials that drive economic growth and development
  - Domestic commodity and consumer goods shipments
  - Exports and Imports
  - Freight system moves:
    - 17.6 billion tons of freight per year
    - 48.3 million tons of freight daily
    - 57 tons of freight per person each year
    - $16.8 trillion worth of freight yearly
    - $46 billion worth of freight daily

- Transportation logistics costs $836 billion (5.4% of GDP)
SmartWay Drivers: Energy Challenges

Source: U.S. Energy Information Administration
2012 WAS THE SECOND MOST EXTREME YEAR ON RECORD FOR THE NATION

RECORD HEAT ACROSS THE U.S.
STATE-BY-STATE TEMPERATURES IN 2012

ALSO IN 2012:

WARMEST YEAR ON RECORD FOR THE U.S.

356 RECORD HIGH TEMPERATURES TIED OR BROKEN IN THE UNITED STATES.

APPROXIMATELY ONE-THIRD OF THE U.S. POPULATION EXPERIENCED 100° TEMPERATURES FOR TEN OR MORE DAYS.

DROUGHTS, WILDFIRES, AND FLOODS ARE ALL MORE FREQUENT AND INTENSE

PRECIPITATION WAS 2.57 INCHES BELOW THE 20TH CENTURY AVERAGE.

15TH DRIEST YEAR ON RECORD

WILDFIRES BURNED MORE THAN 9.3 MILLION U.S. ACRES
SmartWay Drivers: Changing Needs of Industry

- **Customer and Consumer awareness**
  - Demanding corporate citizenship and accountability

- **Investor, Lender and Insurer requirements**
  - Assessing climate risk and business opportunities

- **Rising and volatile energy prices**
  - Fuel and driver wages continue to be largest cost centers for truck carriers: 62% of operating costs in 2011

- **Globalization of supply chains**
  - Increasing global opportunities and global competition
  - Other countries’ carbon reporting requirements

ATRI: An Analysis of the Operational Costs of Trucking: A 2012 Update
SmartWay Addresses Today’s Challenges

- Public-private partnership with freight sector
  - Market based, voluntary and no cost
- Provides information to help industry improve performance, save fuel and reduce costs
  - Standardized tools, data and information to help measure, benchmark, report and improve supply chain performance
- Market incentives and recognition for top performers

**Primary goal:** Move more ton-miles of freight with less emissions, and less energy, at lower cost

**How:** Accelerate adoption of advanced technologies and operational practices in the freight supply chain
SmartWay Snapshot Today

- Since 2004, SmartWay has grown to about 3,000 partners with broad freight industry support
  - Top 100 U.S. truck carriers
  - All Class 1 rail lines
  - Fortune 500 shippers from every major business sector
  - Major logistics firms

- SmartWay Carriers:
  - Operate 8% of freight trucks on the road
    - 663,000 class 4 – 8 trucks
  - Account for 22% of total trucking miles
    - 49 billion miles annually
Significant SmartWay Results

- Since 2004, SmartWay Partners saved:
  - 28 million metric tons of CO₂
  - 478,000 tons NOx
  - 65 million barrels of oil
  - 22,000 tons PM
  - $8.1 billion dollars in fuel costs

- Equivalent to taking over 5 million cars off the road for 1 year

- Reduced dependence on petroleum

- Strengthened freight sector & U.S. economy
How Does SmartWay work?

- Measure Supply Chain Footprint
- Benchmark Performance
- Innovate Operations
- Report Results
- Improve Efficiency
SmartWay Carrier Benchmarking

15 Carrier Categories
- (TL, LTL, Refrigerated, Tanker, etc.)

8 Emission Metrics

SmartWay Carrier Rating
Pollutant Specific Performance Levels

Quintile Rankings
(ex: Truckload CO₂ g/mile)

- Top 20% TL Dry Vans: 1550 g/mile
- Second 20% TL Dry Vans: 1650 g/mile
- Middle 20% TL Dry Vans: 1750 g/mile
- Fourth 20% TL Dry Vans: 1850 g/mile
- Bottom 20% TL Dry Vans: 1950 g/mile
Benchmarking Carrier Performance

- Analytics developed from data collected within SmartWay
- Powerful tool to help carriers to improve efficiency
**SmartWay Trends, Indicators, and Partner Statistics (TIPS)**

**This Week in SmartWay TIPS**

Posted June 4, 2013

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**Average % Capacity Volume Utilization by SmartWay Fleets, by Class**

- Class 2B: 66%
- Class 3: 73%
- Class 4: 76%
- Class 5: 77%
- Class 6: 74%
- Class 7: 75%
- Class 8A: 80%
- Class 8B: 85%

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**About TIPS**

TIPS (Trends, Indicators, and Partner Statistics) is a source of leading freight movement industry indicators and quick facts about current SmartWay Partner performance metrics. More about TIPS.

**What's New in TIPS**

- Average Percent Capacity Volume Utilization for SmartWay Fleets, by Category
- Average Percent Capacity Volume Utilization for SmartWay Fleets, by Class
- Average Percent Capacity Volume Utilization across SmartWay Class 8B Fleets
SmartWay for Performance Reporting

Step 1 - Complete the Shipper Tool

Step 2 - Generate SmartWay Data Reports

Step 3 - Use results in:
- Benchmarking and Operations
- Environmental Reporting
- Carbon Disclosure Submittals
- Shareholder Response
MAKING SUSTAINABILITY A WAY OF DOING BUSINESS

"Development that meets the needs of the present without compromising the ability of future generations to meet their own needs." United Nations-sponsored Brundtland Commission Report

Shipping and storing product more efficiently

Improving our global transportation and distribution network so that we move products and raw materials more efficiently saves truck fuel, cuts carbon dioxide emissions and reduces traffic.

Sustainability is at the present within the sphere of human possibility. It’s about conduct that’s environmentally responsible. It’s all about choices.

As a food company, we have a responsibility to consider and make good choices about the way we use the earth’s resources.

The demand for food is growing. Food poverty is growing. And so are the number and size of the environmental threats to our way of life.

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Change is necessary. It’s necessary if we are to meet the challenges of the future. It’s necessary if we are to meet the challenges of the future.

Better World Snapshot

As members of the U.S. Environmental Protection Agency’s SmartWay™ Transport Partnership, we’ve reduced truck idling, lowered our corporate speed limits, equipped our trucks with fuel-saving technology and adopted other strategies that enable our trucking operations and those of our freight carriers to use less fuel and emit fewer greenhouse gases. In 2009, we were one of just five consumer products companies to earn the SmartWay Excellence Award.

Better World Snapshot

Shipping and storing product more efficiently

Improving our global transportation and distribution network so that we move products and raw materials more efficiently saves truck fuel, cuts carbon dioxide emissions and reduces traffic.

Since 1993, we’ve shipped coffee beans to our Berlin, Germany, roasting plant by rail rather than truck. That’s reduced fuel consumption by 60 percent, eliminated 100,000 truck transports, cut 18 million miles (28 million kilometers) and eliminated carbon dioxide emissions by two-thirds, or 2,300 tons (2,000 metric tons).

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You are here: EPA Home » Transportation and Air Quality » SmartWay
» SmartWay Technology Program—About the SmartWay Technology Program

SmartWay Technology Program

About the SmartWay Technology Program

EPA’s SmartWay Technology program develops test protocols, reviews strategies and verifies the performance of vehicles, technologies and equipment that have the potential to reduce greenhouse gases and other air pollutants from freight transport. The program establishes credible performance criteria and reviews test data to ensure that vehicles, equipment and technologies will help fleets improve their efficiency and reduce emissions.

SmartWay Verified Technologies

EPA has evaluated the fuel saving benefits of various devices through grants, cooperative agreements, emissions and fuel economy testing, demonstration projects and technical literature review. As a result, EPA has determined the following types of technologies provide fuel saving and/or emission reducing benefits when used properly in their designed applications:

- Idle Reduction Technologies
- Aerodynamic Technologies
- Low Rolling Resistance Tires
- Retrofit Technologies
Driver Training Web Portal

Welcome to the SmartDriver Web Portal for Highway Trucking. This program is designed to give you tools and tips for saving fuel on the road.

Fuel costs are one of the largest expenditures for fleets (and for owner-operators). In fact, fuel costs are the biggest expense after labour costs. As a driver, you have a significant role to play in reducing these costs through energy-efficient driving practices.

This program is designed to give you tools and tips for saving fuel on the road.

http://fleetsmartlearning.nrcan.gc.ca/Saba/Web/Main
SmartWay Excellence Award

- Recognizes top 1% of all partners
- Award based on environmental performance
- Recognizes large & small partners
- Includes additional criteria important to program
  - data quality
  - brand visibility
- CSCMP
  - Oct 22, 2013
  - Denver, CO
TO REDUCE THIS...

AND SAVE THIS...

Partner with SmartWay®

SmartWay Transport Partnership is the smarter way to ship goods. With enhanced tools and user-friendly reporting systems, the SmartWay program can help your company put its best foot forward to reduce its carbon footprint, improve its bottom line, and better manage its global freight supply chain. This innovative public-private collaboration helps your company increase operational efficiency, incorporate sustainability, and gain a competitive edge. Drive over to epa.gov/smartway to learn more.

Any way you ship it, move it the SmartWay.

The UnSmart Way.
Keep on doing what you're doing.

SmartWay.
If you ship food or beverages, join the SmartWay® Transport Partnership. It gives you user-friendly tools and streamlined reporting systems to help you increase operational efficiency. So for everything you ship the SmartWay, you improve your bottom line, gain a competitive edge and better manage your global freight supply chain. And by incorporating sustainability and reducing your carbon footprint, you put your best foot forward: you're seen as an even better corporate citizen. More than 3,000 companies have already joined SmartWay. It's an innovative public-private collaboration that benefits everyone. Now that's smart.

To learn more, scan this QR code or drive over to: epa.gov/smartway/forshippers

Any way you ship it, move it the SmartWay.
Our SmartWay program works with our partners to reduce carbon emissions and fuel consumption throughout the transportation supply chain. Read about how this program is helping Stanley Black & Decker, a SmartWay partner, achieve their sustainability goals and #ActOnClimate.
Power of Social Media: Examples

The Home Depot @HomeDepot
We were recently honored with @EPA’s 2013 #SmartWay Excellence Award. Learn more about our environmental efforts here: thd.co/zHMUTS

Penske News @PenskeNews
Penske Logistics awarded SmartWay Excellence Award by U.S. @EPA ow.ly/q4bzu #CSCMP2013 ow.ly/i/3uUVD

Brenda Griffin @Brenda_Griffin
Lowe’s Sweeps EPA Honors For Environmental Leadership: Today, Lowe’s received the 2013 SmartWay Excellence Award...
bit.ly/1bSQ6oq

AIN News Desk @CargoNews1
#transport Con-way Inc. Earns Three 2013 SmartWay Excellence Awards from the U.S. Environmental Protection Agency htl.li/2AXoCU
A Smart Move

Privately held IKEA, a global retail player with some 300 stores in dozens of countries, treats its sustainability efforts seriously. From buying and building wind farms to adding rooftop solar arrays on its stores, IKEA's goal is to use 100 percent renewable energy in its operations.

Maintaining inventory levels translates to low prices, which helped propel the retailer to its status as a home furnishings world leader. More than 1,000 suppliers in 55 countries create proprietary products for IKEA, which has been working to reduce shipping costs and emissions in its complex supply chain.
Brand Promotion by Partners

- SmartWay Partners using **brand** to showcase SmartWay **commitment & participation**

- Advertising
- Apparel (hats, t-shirts, uniforms)
- Briefings and presentations
- Business cards
- Company web site
- Company e-mail signatures
- Educational materials
- Letterhead and stationery
- Posters, internal signage
- Promotional items, Brochures
- SmartWay Designated truck labeling
New Logo Policy for Partners

- Partner Logo now available to All Partners
  - Extends logo access to all participating companies who are “partners in good standing”
    - All partners gain ability to better promote their commitment and participation in the program
    - All partners will have the opportunity to better promote the SmartWay brand/program
    - Logo policy is consistent with other EPA Partnership programs, which provide a logo to all participants

- Superior environmental partner performance indicated by SmartWay Excellence Award
**Partner Spotlights**

**SmartWay Helps Tyson Foods Drive Out Miles, Tackle Greenhouse Gas Emissions**

Tyrson Foods, Inc., Springdale, Ark., one of the world's largest processors and markets of chicken, beef, pork, and the second largest food production company in the Fortune 500 and a member of the S&P 500. Tyson produces a wide variety of protein-based food products for retail and food service accounts throughout the United States and in more than 110 countries, earning annual sales of more than $37 billion. Tyson employs about 150,000 people worldwide.

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**Company Message**

“We’re serious about our responsibility to the environment, which is why we joined the SmartWay Transport Partnership. The framework enabled us to evaluate, measure and reduce the environmental impact of our traditional operations, which has allowed us to improve fuel usage, greenhouse gas emissions, and improve our operational efficiencies.”

— Kevin J. Igli, SVP and Chief E

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**Why Tyson Foods joined SmartWay**

Tyson has been a long-time supporter of SmartWay’s goals, and joined the partnership in order to improve its environmental footprint. The company has used SmartWay tools to accurately measure carbon emissions.

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**Stanley Black & Decker Uses SmartWay Tools to Reduce Freight Footprint**

Stanley Black & Decker is a diversified global provider of hand tools, power tools, related accessories, mechanical access solutions and electronic security solutions, healthcare solutions, engineered fastening systems, and more. Learn more at www.stanleyblackanddecker.com.

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**Company Message**

“At Kimberly-Clark, we see SmartWay as both good environmental policy and good business sense. The transportation strategies that SmartWay recommends are saving us fuel, lowering our carbon footprint, and making a big difference in bringing us closer to our sustainability goals.” — Staci Chrisman, Transportation Manager

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**Why Kimberly-Clark joined SmartWay**

Kimberly-Clark is committed to sustainability in all areas of its business, including the delivery of its products. Joining SmartWay provided the company with a great opportunity to reactivate engagement and influence its role in the company’s sustainability plan.

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**Penske Logistics**

Penske Logistics is a multi-faceted network of services, including dedicated, expedited, contract, and expedited services. Penske Logistics offers services to a broad range of industries, including retail, manufacturing, wholesale, publishing, healthcare, and transportation, and is headquartered in United States.

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**Company Message**

“We see Penske Logistics as a partner that can optimize food supply chains, which allows us to reduce our carbon footprint.”

— Mike Schueller, President, Penske Logistics

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**Why Penske Logistics joined SmartWay**

Penske Logistics is a long-time partner with SmartWay, and has played a key role in the company’s efforts to reduce greenhouse gas emissions. The company has used SmartWay tools to improve fuel efficiency and reduce emissions in its fleet operations.

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**Company Profile**

**Stanley Black & Decker, Inc.**

Stanley Black & Decker is a diversified global provider of hand tools, power tools, related accessories, mechanical access solutions and electronic security solutions, healthcare solutions, engineered fastening systems, and more. Learn more at www.stanleyblackanddecker.com.

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**Stanley Black & Decker 2010-2011 SmartWay Emissions Reductions**

<table>
<thead>
<tr>
<th>Mode</th>
<th>2010 (CO2 Emissions)</th>
<th>2011 (CO2 Emissions)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Truck</td>
<td>19,848</td>
<td>19,692</td>
</tr>
<tr>
<td>Multi-modal</td>
<td>16,233</td>
<td>17,304</td>
</tr>
<tr>
<td>Logistics</td>
<td>16,575</td>
<td>18,810</td>
</tr>
<tr>
<td>Total</td>
<td>46,658</td>
<td>46,008</td>
</tr>
</tbody>
</table>

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**Company Profile**

**Transportation Partnership**

Transportation Partnership is a national coalition of freight transportation companies committed to improving the efficiency of the nation’s transportation system. Learn more at www.transportationpartnership.org.
SmartWay Value Proposition

- Standardized approach to assess supply chain efficiency and emissions
  - For any business that ships, carries or receives goods
  - Adopted by industry leading corporations
- Designed with and for the freight sector
  - Delivers solutions to marketplace needs and challenges
  - Voluntary and no-cost
- Proven marketing benefits
  - Shippers identify greener carriers
  - Carriers gain competitive advantage for leading shippers
- Credible, neutral data oversight
  - EPA oversees data quality assurance and control
- Strengthens brand equity to investors, customers
  - Carbon assessment, corporate responsibility
For more information:

www.epa.gov/smartway
smartway_transport@epa.gov
Buddy Polovick 734-214-4928
SmartWay Helpline 734-214-4767
Simple, free, annual process

1. Go to www.epa.gov/smartway
2. Identify your partner category (shipper, carrier, etc.)
3. Download SmartWay tool for your category(ies)
4. Follow instructions and user guide(s)
5. Input data on fleet and/or freight operations
6. Submit to EPA
7. EPA reviews and registers your company
8. Use SmartWay data, info, resources to improve
9. Compete for awards, showcase your leadership
10. Update data on annual basis
Carriers Input Detailed Information

- Short Haul vs. Long Haul
- Fuel types and gallons used
- Particulate Matter Reduction (pre-2006)
- “Cube Out” Percentage
- Model year and truck class
- Miles (revenue and empty)
- Average Payload (Tons) – Cargo Weight Only
- Average Capacity Volume (Cubic Feet)
- Percent Capacity Utilization (Excluding Empty Miles)
- Road Type / Speed Categories
- Average Annual Idle Hours per Truck
How do Carriers Benefit from Completing SmartWay Tool?

Reports Generated by Tool Data Give Snapshots of the Status of Your Operation; for Example:

- *Year-to-Year Comparison Report*
  - Helpful in identifying changes since last reporting period, determining trends in activity and performance over multiple years
  - Helps identify strategies that work and areas for improvement

- *General Information Report*
  Displays general information entered for each fleet, including commodities, short /long haul percentage, cube-out percentage, # trucks by class and engine model year

- *Fleet Characterization Report*
  Displays data entered to characterize each fleet, including fleet names and identifiers, for hire/private designation, operation categories, body types

- *Activity Information Report*
  Displays data on activity information of each fleet, including total, revenue, and empty miles driven; average payload; average capacity volume and volume utilization; road type/speed categories; annual idle hours per truck
Shippers Input Essential Information

- Official company name for SmartWay website
- Points of contact for communication
- NAICS code(s)
- Full list of all SmartWay carriers utilized
  - All truck, rail, multimodal and logistics providers
- Activity data for amount of freight, distance shipped
  - Total miles contracted and/or ton-miles contracted by SmartWay carrier and non-SmartWay carrier category
  - Freight characterization (avg density, avg payload)
- Mileage and ton-mileage data recommended
  - Flexibility for other data types
- *Optional* data on operational, mode shift strategies
SmartWay Data Integrity and Quality

- **Goal:** Ensure data submitted by SmartWay partners are accurate and secure

- Credibility and integrity of program rests on integrity and quality of the tools, data and data processes
  - Data quality enhances results, brand credibility

- Rigorous data protection part of Partner Account Management process
  - Partner data stored in secure database
  - Partner data never disclosed (unless permitted)
  - Carrier ratings/factors based on bins (not actual)
  - Partner data aggregated for total program results
SmartWay for Carbon Reporting

Step 1 - Complete the Shipper Tool

Step 2 - Generate SmartWay Data Reports

Step 3 - Use results in:
- Benchmarking and Operations
- Environmental Reporting
- Carbon Disclosure Submittals
- Shareholder Response
## 15.1

Please provide data on sources of **Scope 3 emissions** that are relevant to your organization.

<table>
<thead>
<tr>
<th>Sources of Scope 3 emissions</th>
<th>metric tonnes CO2e</th>
<th>Methodology</th>
<th>If you cannot provide a figure for emissions, please describe them</th>
</tr>
</thead>
<tbody>
<tr>
<td>Business travel</td>
<td>30086</td>
<td>Footprint for air travel provided by FCM Travel Solutions, modeled by The Carbon Neutral Company</td>
<td>FCM total of 24069 mT air travel adjusted upward to account for 20% of air travel booked out of network.</td>
</tr>
<tr>
<td>Business travel</td>
<td>1099</td>
<td>Footprint for car rental, provided by FCM Travel Solutions, modeled by The Carbon Neutral Company and Greenboard Technology</td>
<td>FCM total of 1044 adjusted upward to account for 5% of car rentals booked out of network.</td>
</tr>
<tr>
<td>Upstream transportation &amp; distribution</td>
<td>727363</td>
<td>Footprint for inbound and outbound North America freight within the now combined distribution network of EPA SmartWay Transportation Partnership modeled with the EPA SmartWay tool</td>
<td>SmartWay total of 665,613 tons converted to metric tons and adjusted upward to account for 17% of transport out of network.</td>
</tr>
<tr>
<td>Upstream transportation &amp; distribution</td>
<td>10982</td>
<td>Footprint for inbound EMEA road transport within the now combined distribution network</td>
<td>Default emission factor of 1946 g CO2/mi from the most current EPA SmartWay modeling tool.</td>
</tr>
<tr>
<td>Upstream transportation &amp; distribution</td>
<td>30123</td>
<td>Footprint for inbound EMEA sea transport within the now combined distribution network of business platforms, using a default emission factor of 1623 g CO2/mi from the EPA SmartWay modeling tool</td>
<td>Default emission factor of 548.7 g CO2/mi from the EPA SmartWay modeling tool.</td>
</tr>
</tbody>
</table>
SmartWay for Carbon Optimization

Step 1 - Complete Shipper Strategies analysis

Step 2 - Generate SmartWay Data Reports

Step 3 - Use results in:
- Performance tracking
- Progress reporting
- Case Studies
For more information:

www.epa.gov/smartway
smartway_transport@epa.gov
Buddy Polovick 734-214-4928
SmartWay Helpline 734-214-4767