

# Affiliate National Conversation with Trucking Sector

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## Attention All Truck Fleets! New EPA-Designated and Verified Products

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Kathleen A. Martz  
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## Dennis Johnson

Dennis is the Technology Assessment Center Director in EPA's Transportation and Climate Division. Dennis has been with EPA for over 30 years and has worked on a wide range of programs related to mobile sources, testing, emissions and improving fuel economy. As the TAC Director, Dennis leads a team responsible for, among other things, SmartWay Technology Verification, research and testing.

Dennis has a Bachelor of Science in Mechanical Engineering from Old Dominion University. Prior to joining EPA, Dennis worked in manufacturing and construction.

Dennis has been around trucks and trucking his entire life with his father having been an owner operator as well as driving for regional and long haul fleets.



## Sam Waltzer

Sam is an Mechanical-Aerospace Engineer currently serving as the SmartWay Technology Team Leader within EPA's Technology Assessment Center. Sam leads the development and implementation of the SmartWay-designated Tractor and Trailer programs. His scientific research has focused on his technical specialty, heavy-duty vehicle aerodynamics and fuel efficiency.

Prior to joining EPA, Sam was an air quality environmental consultant. He continues to serve as an Army National Guard Officer.

Sam is based in Washington, DC, at EPA's national Headquarters.



## Kathleen A. Martz

Kathleen is an Environmental Protection Specialist currently serving as National Regions Manager and Affiliate Program Co-Manager on SmartWay's Product Development and Implementation Team. Kathleen initiated SmartWay's expansion into Canada and contributed to the program's data quality protocols.

Prior to joining EPA, Kathleen held a number of positions with companies in industry, including a major supplier to the heavy-duty industrial sector.

Kathleen is based in Ann Arbor, Michigan at EPA's National Vehicle and Fuel Emissions Lab.

# Today's Agenda

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-  Affiliate Program
-  EPA SmartWay-Designated Day Cabs
-  EPA SmartWay Retread Performance Targets

# But first, a word or two about...

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...your webinar host, the EPA SmartWay Affiliate Program

-  The Affiliate Program is a program *within* SmartWay:
-  A market-driven global sustainability program with over 3,000 business partners

# And then, “Thank you!”

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To all of our Affiliates and, all of our SmartWay Partners

# EPA's Technology Assessment Center



 Combines SmartWay and National Clean Diesel Campaign verification programs.

-  Primary goals:
- Help fleets find technologies that work.
  - Evaluate technologies for potential use in clean diesel grants.

-  Verification of technologies
- *Technologies* range from emission controls to fuel-saving equipment
  - *Applications* ranging from on-road to rail and marine



# SmartWay Technology Programs



- SmartWay-designated Tractors & Trailers use *verified* components
- SmartWay-*verified* Technologies
  - Aerodynamic Devices
  - Idle reduction systems
  - Low rolling resistance tires (new and retread)
- Research to support
  - Protocol development
  - Confirmatory testing
  - "Myth busting" to address industry concerns



# SmartWay-Designated Tractors



Day and Sleeper Cabs can qualify now!

Class-8 tractor with aerodynamically integrated high-roof

EPA-certified engine

SmartWay-verified low-rolling resistance tires

Aerodynamic body including:

- bumper,
- mirrors,
- tank fairings,
- side-extending fairings.

SmartWay-verified idle reduction system (optional)



# SmartWay-Designated Trailers



53-foot box trailers, vans and reefers

Use SmartWay-verified tires and aerodynamic devices

Aerodynamic device verification bins:

9% fuel savings  
5% fuel savings  
4% fuel savings  
1% fuel savings

SmartWay-verified low-rolling resistance tires

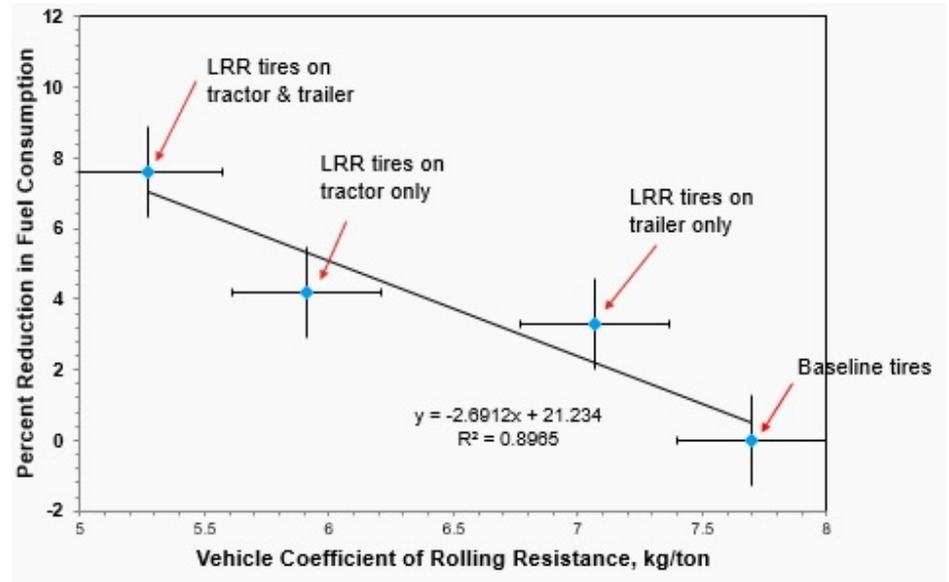
SmartWay Trailer –  
aero devices total 5%

SmartWay Elite Trailer –  
aero devices total 9%+

# Low RR Tires

- Verified low-rolling resistance tires for each axle position
- New and retread tires
- Dual and single wide
- Manufacturer and EPA testing
- Updating retread protocols

## Fuel Savings vs. Rolling Resistance



# SmartWay Tire Verification



## Tire Performance Targets (New)

(Rolling Resistance Coefficient in kg/ton)

ISO 28580 and SAE J1269

|                               | Steer | Drive | Trailer |
|-------------------------------|-------|-------|---------|
| J 1269 Application Test Point | 6.6   | 7.0   | 5.5     |
| J1269 Test Point 2            | 6.7   | 6.9   | 5.5     |
| J1269 5 point average         | 6.9   | 7.0   | 5.6     |
| ISO 28580<br>(2 meter drum)   | 6.5   | 6.6   | 5.1     |

## Retread Performance Target (Interim)

(Rolling Resistance Coefficient in kg/ton)

ISO 28580

|                  | Drive | Trailer |
|------------------|-------|---------|
| Test Casing      | 7.2   | 6.0     |
| Alternate Casing | 6.5   | 5.4     |



# Retread Protocols

- Original 2012 Interim Protocols
- Treads are tested on casings
- Duals and single wide treads
- EPA testing treads and casing combinations
- Proposing new retread protocols
- Tire manufacturer engagement
- Timing

| Target Values                             | Steer | Drive | Trailer |
|---|-------|-------|---------|
| New Tire                                  | 6.5   | 6.6   | 5.1     |
| Current Dual Retread with Yokohama Casing |       | 7.2   | 6.0     |
| Current Alternate Casing                  |       | 6.5   | 5.4     |
| Proposed Retread Targets                  |       | 6.6   | 5.1     |
|   |       |       |         |

# SmartWay Technology Resources



🌿 Web: <https://www.epa.gov/verified-diesel-tech>

🌿 Email: [Tech\\_Assessment@epa.gov](mailto:Tech_Assessment@epa.gov).

🌿 What's there?

- Lists of verified products
- Research papers
- EPA Technology Bulletins

A screenshot of the EPA SmartWay website. The page is titled "Verified Technologies for SmartWay and Clean Diesel". It features a navigation bar with "Environmental Topics", "Laws &amp; Regulations", and "About EPA". A search bar is visible in the top right. The main content area includes a large image of a road stretching into the distance under a blue sky, with the text "Reducing Harmful Diesel Emissions" and a link to "Learn how using retrofit technologies reduces important pollutants." Below this, there are two columns of content: "SmartWay Technologies" and "Clean Diesel Technologies". The "Clean Diesel Technologies" section includes a sub-section titled "List of Verified Technologies" with a bulleted list of items such as "Aerodynamic Devices", "Clean Diesel and Marine Technology", "Low Rolling Resistance New and Retired Tire Technologies", "Idle Reduction Technologies for Trucks and School Buses", and "Locomotives". There is also a "Related Topics" section with links to "SmartWay Program", "Clean Diesel Program", "EcoInnovation", "State and Local Transportation", "Heavy Duty Regulations and Standards", "Fuels Registration, Reporting, and Compliance Help", and "CAQS Verification".

# Questions?



# Thank You !

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SmartWay website: <https://www.epa.gov/smartway>  
SmartWay Hotline: 734-214-4767

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

Dennis Johnson-Director, EPA SmartWay Technical Assessment Center  
Sam Waltzer-EPA SmartWay Technical Assessment Center  
Kathleen A. Martz, National Regions and Affiliate Program Co-Manager



# Appendix Slide



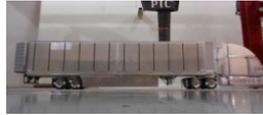
# SmartWay-Verified Trailer Aerodynamic Devices

## Test Methods

New Track Test



Wind Tunnel



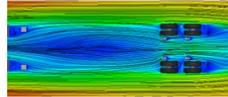
Choice of 2014 test method for verification and option to supplement with additional test methods

Web table indicating all methods used to verify a device

Coastdown



CFD



## Types of Devices

Side Fairings (skirts)



Rear Fairings (tails)



Front Fairings (nose devices)



Other Fairings (under trays, gutters)

## Aero Device Performance Bins



**9% or more** fuel savings

**5%** (5.0 – 8.9) fuel savings

**4%** (4.0 – 4.9) fuel savings

**1%** (1.0 – 3.9) fuel savings

## Trailer Designation Levels

SmartWay Trailer

(5% fuel savings from aero)  
(1% fuel savings from tires)

SmartWay "Elite" Trailer

(9% fuel savings from aero)  
(1% fuel savings from tires)