



EPA's SmartWay Fleets Overview

*Presented at
CAA Advisory Committee - MSTRS*

June 12, 2002

*Robert Doyle, Attorney-Advisor,
Certification and Compliance Division,
Office of Transportation and Air Quality*



EPA's SmartWay Program

- **Modeled after ENERGY STAR[®]**
 - **Recognized by 30-40% of US population**
 - **Label provides easy identification of energy-efficient products**
 - **3,000+ partners**





SmartWay Overview

- **A voluntary partnership with private and public fleets**
- **Fleet must meet voluntary performance goals to become an EPA SmartWay partner**
- **Identifies cleaner transportation options**
- **Identifies top environmentally performing companies**



Truck Fleet Industry Profile

Emissions & VMT

- **Carbon emissions from trucks are expected to increase from 87.2 MMTCE in 2000 to 122 MMTCE by 2020 (a 2% increase per year)**
- **Trucking fleets annually contribute 28% of US mobile source NO_x emissions**
- **Trucking fleets annually contribute 20% of US mobile source PM emissions**

US DOE Annual Energy Outlook, 2000

SmartWay is based on Partnerships

Engine & Vehicle
Manufacturers

Providers of Goods
and Services

Federal
Government

FLEETS

State & Local
Governments

Truck Stops and
Travel Centers



Performance Measures

- Currently developing draft measures
- We are leading with Fleet performance goals
- EPA has proposed some options to potential partners and solicited feedback
- EPA, after evaluating comments received, may modify the current proposed performance measures



Performance Measures for Fleets

- Fleets owners must demonstrate over a 3 year rolling average:
 - 10% improvement in CO₂ emissions OR
 - 30% improvement in PM emissions and 20% improvement in NO_x emissions



Other Performance Measures

- 1) Providers of Goods and Services:
 - must ship 25% of goods by SmartWay fleets on 3 year rolling average
 - must qualify its own fleet as a SmartWay fleet
 - must maintain 2% per year CO₂ reduction by operations under its control (e.g., idling reduction at loading docks)



Other Performance Measures

- 2) Engine Manufacturers
 - must certify engines to various combinations of emission performance levels representing significant increases over the applicable model year criteria standard
- 3) Vehicle Manufacturers
 - must use SmartWay engines and various other enabled and fixed features in the freight trucks and buses they produce



Other Performance Measures

- 4) Truck Stops
 - EPA examining if a set of performance measures for truck stops would be useful (e.g., minimum % of truck bays would employ TSE or minimum % of spaces designated “NO IDLE” zones)



Control Strategies for Fleets

- CO₂:
 - Increase use of aerodynamic devices and less resistant tires (e.g., automatic tire inflation and wide-base tires)
 - Increase driver training; reduce highway speed
 - *Idling control technologies - TSE and APUs*
- NO_x & PM
 - PM filters w/ ULSDF
 - Diesel Oxidation Catalysts
 - Alternative fuels
 - *Idling control technologies - TSE and APUs*

Potential CO2 Reductions by 2010

	Combination	Single-Unit	100%
Tractor Aero Features (Non-Van Trailer)*	3.50%	-	0.36
Tractor Aero Profile (Van Trailer/Body)*	3.60%	5.10%	0.79
Improved Trailer Aerodynamics*	3.80%	-	1.9
Wide-Base Tires	2.60%	-	2.3
Automatic Tire Inflation Systems	0.60%	0.60%	0.7
Tare Weight Reduction	1.80%	-	0.8
Low-Friction Engine Lubricants	1.50%	1.50%	1.5
Low-Friction Drive Train Lubricants	1.50%	1.50%	0.51
Idling Reduction (Direct-Fire Heater)	4.30%	-	1.29
Idling Reduction (APU)	8.10%	-	2.9
Idling Reduction (automatic engine idle)	5.60%	-	1.55
Idling Reduction (IdleAire)	11.10%	-	3.88
Idling Reduction (electrical plug-in)	11.10%	-	3.88
Speed Reduction (70 to 65 mph)	6.00%	6.00%	0.9
Speed Reduction (65 to 60 mph)	7.60%	7.60%	3.9
Driver Training and Monitoring	3.80%	3.80%	1.8
Total Maximum Benefit**			18.2

Strategies to Achieve Annual 3% CO₂ Reduction

- Fleet H_o (100 trucks, line haul operations)

Strategy A:

- 55 trucks reduce their idling by 50% using TSE:

$$(50 \times 11.1\% \times .5) \quad \underline{\text{Total} = 3.05\%}$$

Strategy B:

- 60 trucks with auto tire inflate (60 x .6%) = .36%
- 35 trucks with wide based tires (35 x 2.6%) = .91%
- 35 trucks speed redux 70-->65 (35 x 6%) = 2.21% Total=3.37%

Strategy C:

- 60 Trucks driver training & monitoring (60 x 3.8%) = 2.28%
- 25 trucks van aero profile (25 x 3.8%) = .95 Total= 3.23%



Potential Incentives

- Voluntary Mobile Source Emission Programs
- Supplemental Environmental Projects
- State Efforts
- CMAQ



Voluntary Mobile Source Emission Programs

- Designed to encourage innovations
- Rewards risk-taking by allowing SIP credits when criteria are met
- 3% of total emissions maximum allowable
- State responsible for ensuring that reductions actually occur



NO_x Credits for TSE?

- Currently, truck idling emissions are not directly accounted for in our MOBILE models.
- We are looking at these models to determine if the truck idling emissions can be accounted for indirectly in current inventories
- If we can determine this, we will develop a method for issuing NO_x credit for reduced truck idling



Supplemental Environmental Projects

- Result from environmental enforcement lawsuits
- Voluntary effort on the part of the company
- Mitigates the fine/penalty
- Suits should be air related for HDD proposals



State Efforts

- For reduced truck idling projects:
 - Georgia tax credit of 10% of purchase price and installation costs of anti-idling technology
 - Equipment must be from GA Regional Transportation Authority approved list
- EPA is working with states to begin an Interstate Corridor Project to include idle reduction technologies at key locations along major interstates



CMAQ

- CMAQ provides funding, through DOT passing through the state agency, for transportation-related projects that reduce emissions
- TSE projects may be eligible for CMAQ funding, if the particular requirements are met