GHG-II Legislation
The Impact on Your Trailer Operations

Jim Sharkey
Sr. Director, Global Sales & Marketing
Pressure Systems International
PSI Overview

- Introduced ATIS 22 yrs ago
- Privately held
- Based in San Antonio
- Exported to over 42 countries
- Produce the Industry Leading Meritor Tire Inflation System
  - MTIS by P.S.I.
- Shipped 1 Millionth Kit
GHG -2 Rulemaking Finalized
August 16, 2016 (1,692 pages)
Rule Signed – Not Yet in Register

EPA
US Environmental Protection Agency

NHTSA
www.nhtsa.gov

SmartWay
Transport Partnership
U.S. Environmental Protection Agency

Transportation.gov
U.S. Department of Transportation
4 Regulatory Categories

• Combination Tractors
• Trailers
• Heavy Duty Pickup Trucks & Vans
• Vocational Vehicles

Reduce GHG emissions by 28% (below 2005 level) in 2025 and 80% reduction by 2050
Effective CY2018

- Increase in stringency
  - 2021
  - 2024
  - 2027
- Starts with **Calendar Year**
  - Transitions to **Model Year** by 2021
  - Cannot include two “Jan 1’s”
- Final 2027 trailer standards between 3% and 9% improvement over 2018 baseline depending on specific trailer type
Box & Non-Box Trailers included in Rulemaking

- Non-Box includes:
  - Tankers
  - Flatbeds
  - Chassis

Allows for exclusions for highly specialized applications – primarily mileage based
Available Technologies

• Box trailers – Flexible Approach to Include
  • LRR Tires
  • ATIS or TPMS
  • Aerodynamics
  • Lightweighting

• Non-Box trailers (Tankers, Flatbeds, Chassis)
  • LRR Tires
  • ATIS/TPMS

G.E.M. Model
Tire Pressure Solution Market Today

• Estimate that over 55% of all new trailers built in NA today have a tire solution
  • Automatic Tire Inflation (ATIS)
  • Tire Pressure Monitoring (TPMS)
  • Tire Equalization (for duals)
  • Tire Sealing Technologies
  • Nitrogen
Choosing the Right Technology

• North American Council for Freight Efficiency
  • Partnered with Carbon War Room to create “Trucking Efficiency”
  • Provides ‘Confidence Reports” on various technologies that claim efficiencies, including GHG-II solutions

• Excellent independent resource on the general technology
  • Not brand bias

• Referenced 141 times in the GHG-II ruling
Confidence Reports

Complete, unbiased review of available technologies for fleet confidence to adopt.

- Tire Pressure Systems
- 6x2 Axles
- Idle Reduction
- Transmissions
- Engine Parameters
- LRR Tires
- Lightweighting
- Downspeeding
- Maintenance for FE
- Determining Efficiency
- Trailer Aerodynamics
- Tractor Aerodynamics
- Lubricants
- Platooning
- Engine Accessories

www.truckingefficiency.org
GHGp2 Regulations

Technology Adoption - Tire Pressure Systems

2016 NACFE Fleets

EPA GHGp2

Technology Adoption:
- Tire pressure inflation - trailer
- Tire pressure inflation - trailer (trend)
- GHG Tire pressure inflation - tractor
- GHG Tire pressure monitoring - tractor
- GHG Tire pressure monitoring - tractor (trend)
Tires & Tire Inflation

- Low rolling resistance (LRR) tires (SmartWay verified)
- Spec tire inflation on tractors (1.0% improvement)
- Spec tire inflation on trailers (1.2% improvement)
  - If spec TPMS – 1.0% improvement on trailers
- Projected Adoption rates on Trailers
  - 100% ATIS in 2018 and beyond
- Projected Adoption Rates on Tractors
  - 2021 – 20% ATIS / 20% TPMS
  - 2024 – 25% ATIS / 50% TPMS
  - 2027 – 30% ATIS / 70% TPMS
What about LRR Tires?
67” Dynamometer at 50 mph
Laboratory Rolling Resistance

- SAE Test Procedure
  - J1269
- Test run at a load of 4,250 lbs
  - Loaded trailer tire (17,000 lbs/axle)
    - 70 psi (80.5 psi Hot)
    - 80 psi (92.0 psi Hot)
    - 90 psi (103.5 psi Hot)
    - 100 psi (115.0 psi Hot)
Trailer Tires – Run at STL
SmartWay Verified Technology
(295/75R22.5 LR G)

• (3) New SmartWay Verified LRR Tires
• (1) SmartWay Verified Retread
Rolling Resistance (Lower is Better)
Enforcement

- Not clear at this time
- This will become defined
- Significant penalties for non-compliance on the part of the fleet
  - Removal of tire system
  - Not replacing LRR tires with qualified replacements

Users may not “Remove or Render Inoperative” such devices under a civil penalty of $4,454 “for each engine or piece of equipment in violation” – 40CFR1068(b)(1).
Changing out 8 tires with unqualified retreads with no TPMS monitors in place could result in a $71,264 fine.

Courtesy of TTMA
Key Points

• The OEM’s are responsible for meeting the requirements

• GHG-II uses the G.E.M. (Gas Emission Model) to determine carbon credits for each technology
  • Applies only to vans/reefers - options

• ATIS and TPMS must have a way to validate the operation of the system
  • Common ATIS systems have an indicator light
Key Points

• Some OEM’s will get a one-year delay
  • Small companies (<1K employees)
  • Must ‘catch up’ in 2019

• Additional plate to identify GHG-II level compliance

• Will allow for new technologies to be added
  • What will be available 5 years from now?
The Good News

• These technologies can and do save money
• Most technologies have already been in use for years and are proven
  • Various system suppliers have payback calculators
  • Allow for variable inputs
Thank you!