Regulation to Reduce Greenhouse Gas Emissions from Vehicles Operating with Under Inflated Tires

Board Hearing

March 26, 2009

Air Resources Board

California Environmental Protection Agency

Overview

- Regulatory Development/Outreach
- Background
- Proposed Regulation
- Benefits
- Costs
- Proposed 15 – Day Changes
- Summary/Recommendation

Regulatory Development/ Outreach Update

- Individual Meetings with Stakeholders
- Website and List Serve Notices
- Workgroup Meetings
- Public Workshop
- Staff Report Released February 5, 2009

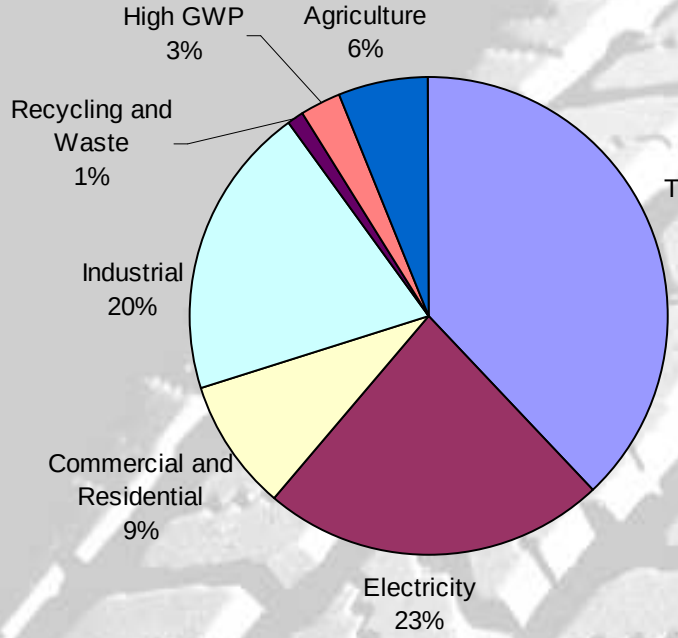
Background

- AB 32 – California Global Warming Solutions Act
- Early Action Measures
- Discrete Early Action Measures
- Proposed Regulation for Vehicles Operating with Under-Inflated Tires

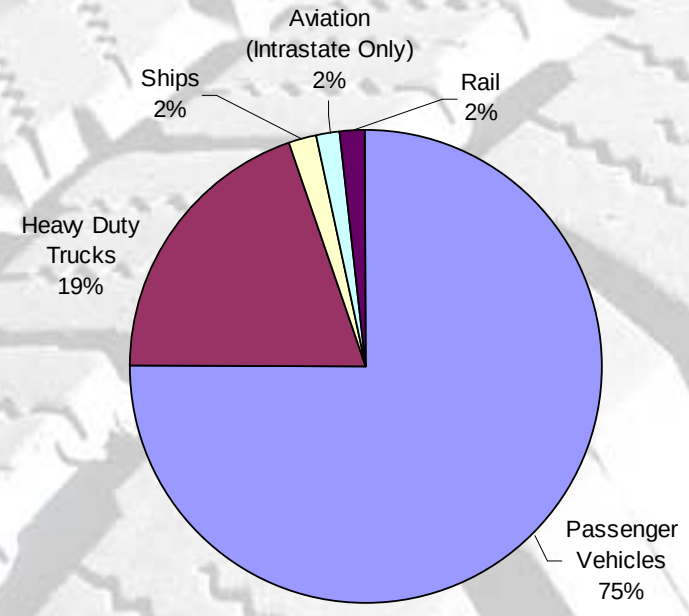
Vehicle Examples

Vehicle Categories	Example Vehicles
Passenger Cars (All)	Toyota Camry, Ford Focus, Chevrolet Cavalier, Volkswagen Beetle
Light-Duty Trucks 1 (0 – 3,750 LVW)	Ford Ranger, Toyota Tacoma, Chevrolet Colorado
Light-Duty Trucks 2 (3,751 LVW– 5,750 LVW)	Ford F150, Chrysler Town and Country Van, Nissan Murano
Medium-Duty Vehicles (5,751 LVW– 8,500 GVR)	GMC Yukon, Dodge Ram 1500, Ford Expedition
Light-Heavy-Duty Trucks 1 (8,501 GVR – 10,000 GVR)	Ford F-350 Crew Cab, Chevrolet Silverado 3500, Dodge Ram 2500 Mega Cab

Transportation Sector
(Emission Inventory)



California GHG Emissions Sector 2002 – 2004 Average



Transportation Sector GHG Emissions 2002 – 2004 Average

Percentage of Vehicles with Under Inflated Tires

Severely Under Inflated Tires	~20%
Moderately Under Inflated Tires	~33%

- **<u>Severely Under Inflated -</u> greater than 6 psi below the vehicle manufacturer's recommended pressure**
- **<u>Moderately Under Inflated -</u> between 1 and 6 psi below the vehicle manufacturer's recommended pressure**

Proposed Regulation

Staff Report: Initial Statement of Reasons For Proposed Rulemaking

Proposed Regulation for Vehicles Operating with Under Inflated Tires

Applicability

- All Passenger Vehicles
- Automotive Service Providers
- Enforceable – July 1, 2010

Exemptions

- Automotive Service Providers Not Involved In Vehicle Service and/or Maintenance
- Unsafe Tires
- Nitrogen Filled Tires

Requirements

- Check and Inflate Service
  - Indicate on invoice
- Equipment Requirements
  - Tire gauge
  - Tire inflation reference resource

Enforcement

- ARB Will Enforce the Regulation
  - Audits
  - Consumer complaint investigations
- Partnership with the Bureau of Automotive Repair and Local Agencies
- Automotive Service Providers will be Accountable for Non-Compliance
- Education And Outreach
  - Email reminders
  - Technical bulletins

Benefits

Projected Statewide CO_2 Emissions Reductions

Year	Total CO2 Emission Reductions (MMTCO2E)
2010	0.9
2020	0.6

Health Benefits

- Health Effects Avoided:

  Cumulative

  ~50 Premature deaths

  ~900 Cases of asthma-related and lower respiratory symptoms

  ~70 Cases of acute bronchitis

  ~5,600 Work loss days

  ~33,000 Minor restricted activity days

Additional Benefits

- Fewer Waste Tires
  - Prolong tire life by 1,600 to 7,800 miles
  - Reduction of 700,000 waste tires annually

Regulation Costs

Estimated Costs

- Labor Cost
  - ~$2 per visit
- Capital And Operating Cost
  - ~$60 To $70 per facility per year
- Total Annual Cost
  - ~$100 million per year
- Costs Likely to be Passed on to the Consumer.

Calculated Net Savings

- Average Annual Benefit $340 Million
  - $250 million/yr – Reduced fuel consumption
  - $90 million/yr – Prolonged tire life
- Overall Annual Savings Per Vehicle = $8

Summary of Cost Effectiveness

Year	Total Annual Savings from Proposed Regulation (2008 dollars)	Total Annual Costs (2008 dollars)
2010	$370 million	$95 million
2020	$310 million	$111 million
Average Annual Savings	**$340 million**	**$103 million**
Net Savings $320 per MTCO2E		

15 – Day Changes

- Tire Pressure Service Only Required Once in a 30 Day Period.
- Address Issue Pertaining to the Service Providers' Role in Implementing the Check and Inflate Requirement.
- Minor Administrative Updates.

Alternatives Considered

- Consumer Education/Outreach Program
- Nitrogen Inflation
  - Lower permeability than air
  - Requires additional capital investment
- Tire Pressure Monitoring Systems
  - Would alert vehicle owners of under inflation condition
  - Requires additional capital investment
- All Alternatives are Less Cost-Effective
- Excellent Resources to Assist Consumers in Maintaining Proper Tire Pressures

Ongoing Efforts

- Working with the California Energy Commission on the Development of a Permeability Standard for All Tires Sold in California.

Summary/Recommendation

- Staff Recommends the Board Adopt the Proposed Tire Pressure Regulation.