

VEHICLE EMISSIONS LABELING WORKSHOP



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California Air Resources Board

Public Workshop – Sacramento, CA

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Today's Agenda

- ◆ Legislation AB1229
- ◆ Existing Smog Index Label
- ◆ Proposed Recommendations
- ◆ Label Design
- ◆ Q/A and Further Discussions

Legislation

- ◆ AB 1229 (Chapter 575, Oct. 6, 2005)
 - AB 2557 (Sep 2006)
- ◆ Health and Safety Code: 43200, 43200.1
- ◆ Global Warming and Smog Indices for Vehicles

AB 1229

Summary

- ◆ Revise existing Smog Index Label to include information on the emissions of global warming gases
- ◆ Applies to 2009+ MY vehicles sold in CA
- ◆ Includes:
 - All passenger cars
 - Light duty trucks 8,500 lbs. GVWR or less
 - Medium duty passenger vehicles 10,000 lbs. GVWR or less

AB 1229

Summary Continued

- ◆ Revised Label shall include:
 - Smog score
 - Global warming score } Ave, Best, Specific Vehicle
 - include upstream emissions
 - Brief explanation of both scores and how motor vehicle use contributes to global warming
 - Use of at least one color ink in addition to black
 - Scale to represent all vehicles within MY

Smog Index Label

- ◆ Found in section 1965 (LEV II regulation)
- ◆ Measures the following vehicle emissions:
 - Exhaust NMOC
 - Exhaust NOx
 - Evaporative HC
- ◆ Compares these values to a “base vehicle”

Smog Index Label

$$\text{Smog Index} = \frac{\text{NMOG+NOx+HC (vehicle being certified)}}{\text{NMOG+NOx+HC (base vehicle)}}$$

Sample Smog Index Label

SMOG EMISSIONS INFORMATION

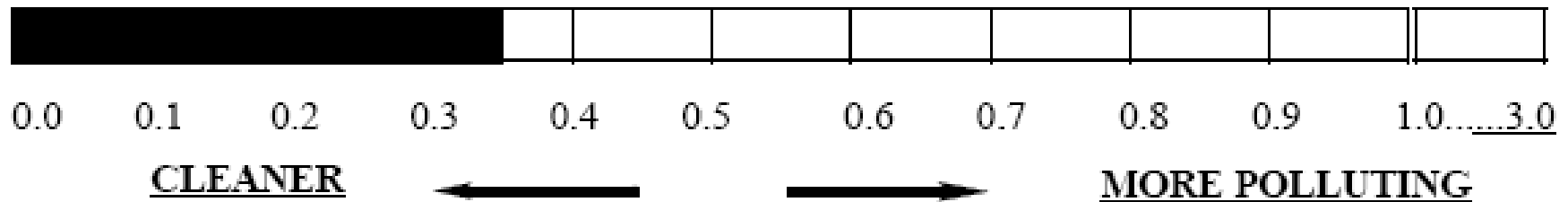
The Smog Index of this vehicle is

0.34



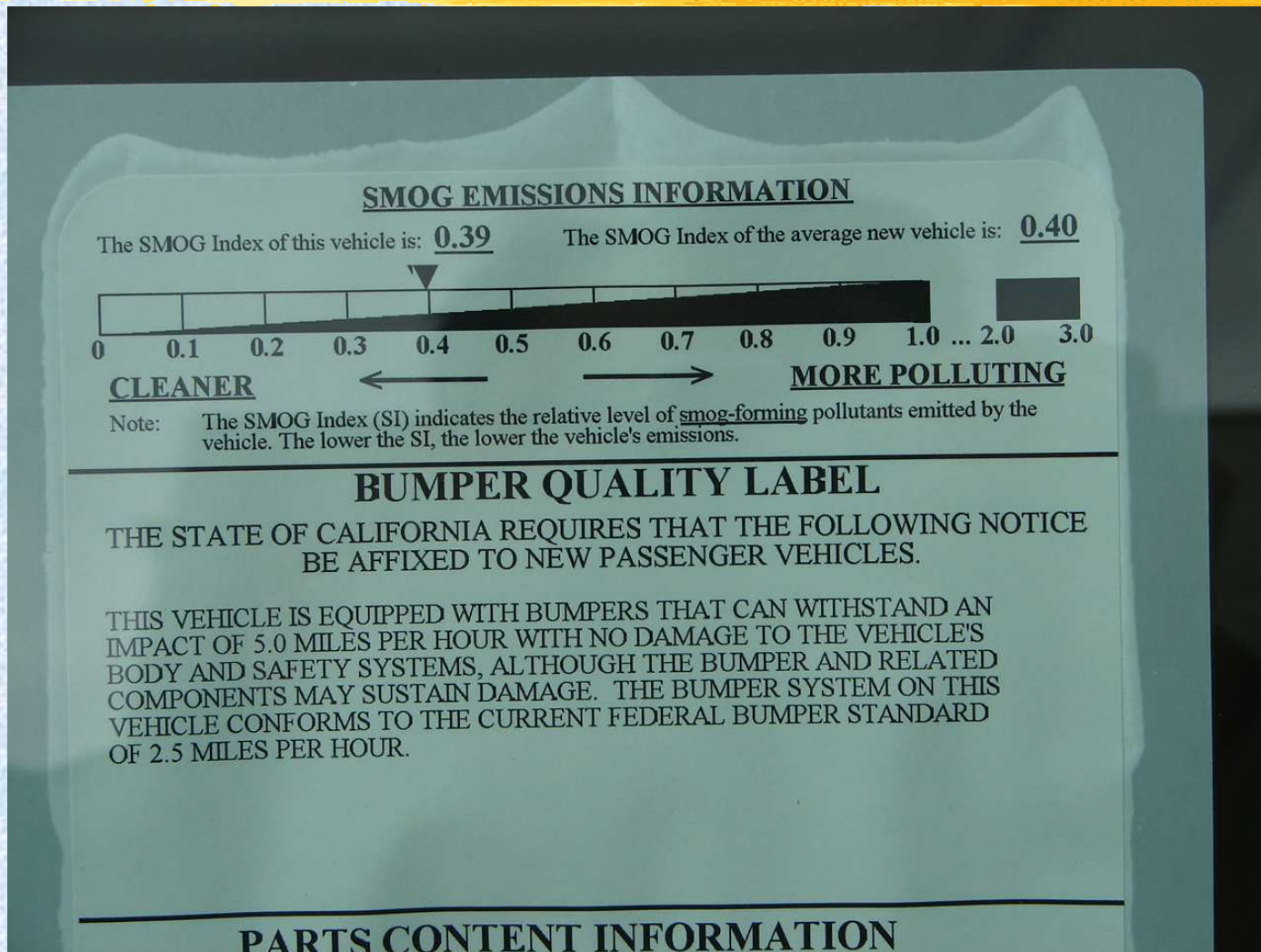
The Smog Index of the average new vehicle is

0.52



Note: The Smog Index (SI) indicates the relative level of smog-forming pollutants emitted by the vehicle. The lower the SI, the lower the vehicle's emissions.

Examples

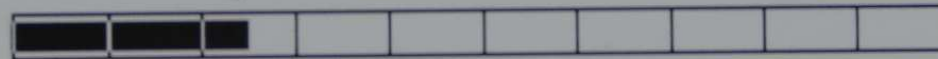


Examples

SMOG EMISSIONS INFORMATION

The Smog Index of this vehicle is.....: 0.50

V



0.0 0.2 0.4 0.6 0.8 1.0 1.2 1.4 1.6 1.8 2.0

Λ

The Smog Index of the average new vehicle is: 0.58

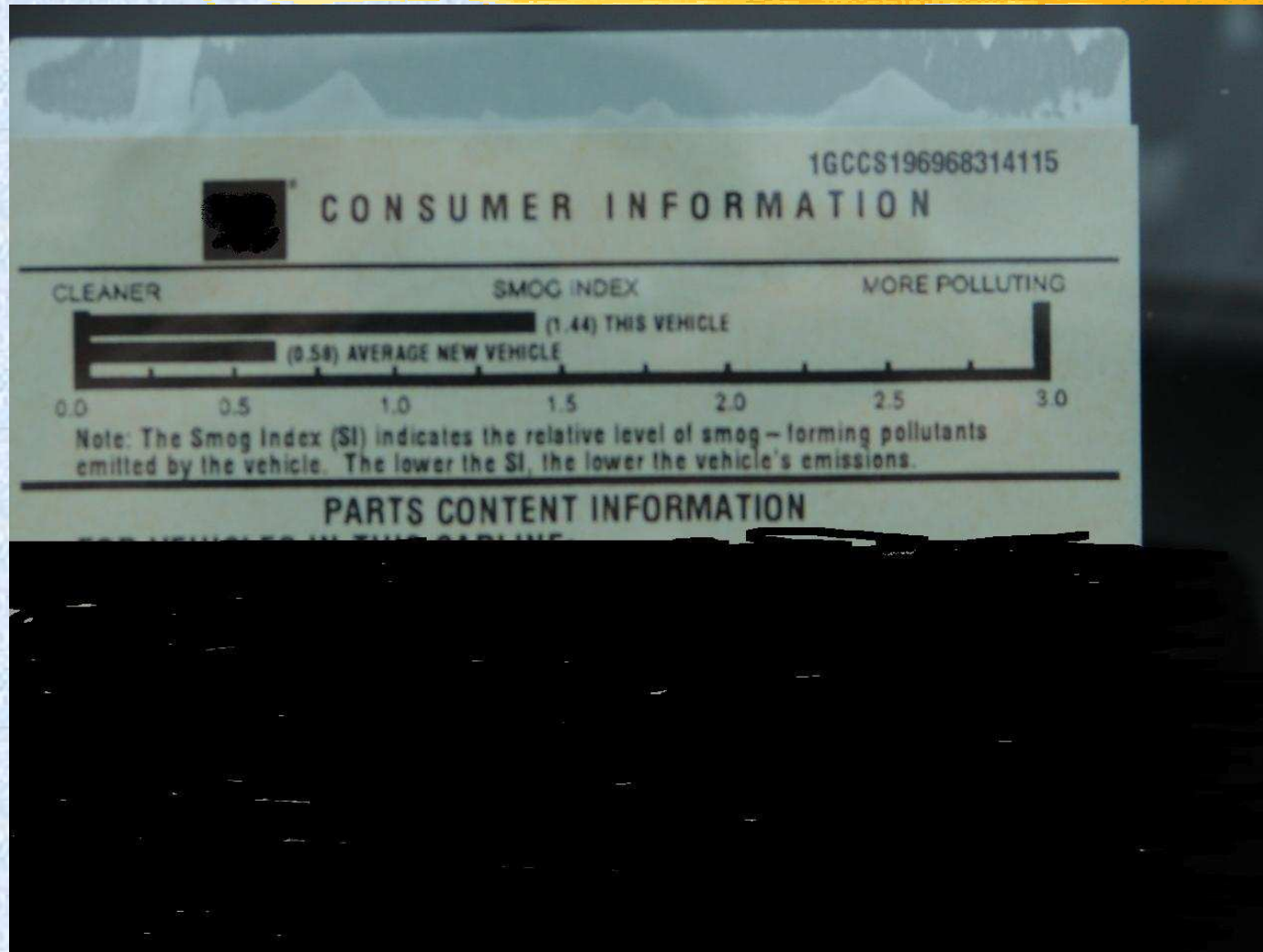
<< CLEANER

MORE POLLUTING >>

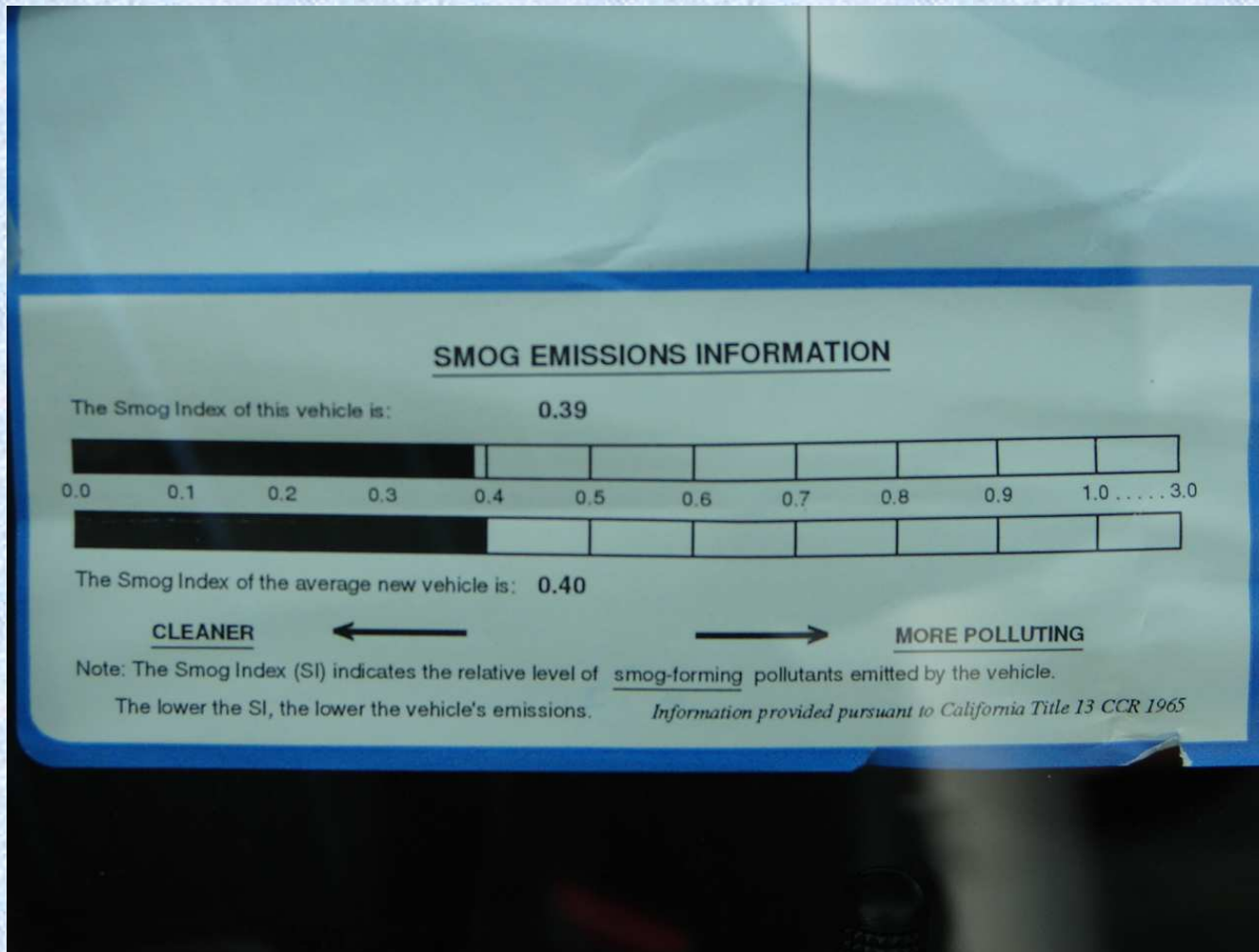
Note: The Smog Index (SI) indicates the relative level of smog forming pollutants emitted by the vehicle. The lower the SI, the lower the vehicle's emissions.

PARTS CONTENT INFORMATION FOR VEHICLES IN THIS CABLINE-

Examples



Examples



Proposed Recommendations

- ◆ Work with US EPA and adopt relevant portions of Green Vehicle Guide label concept for use in California
- ◆ Extensive market studies and consumer acceptance already performed
- ◆ Use simple 0-10 scales for both smog and global warming indices
- ◆ Identify cleanest vehicles with “SmartWay” logo

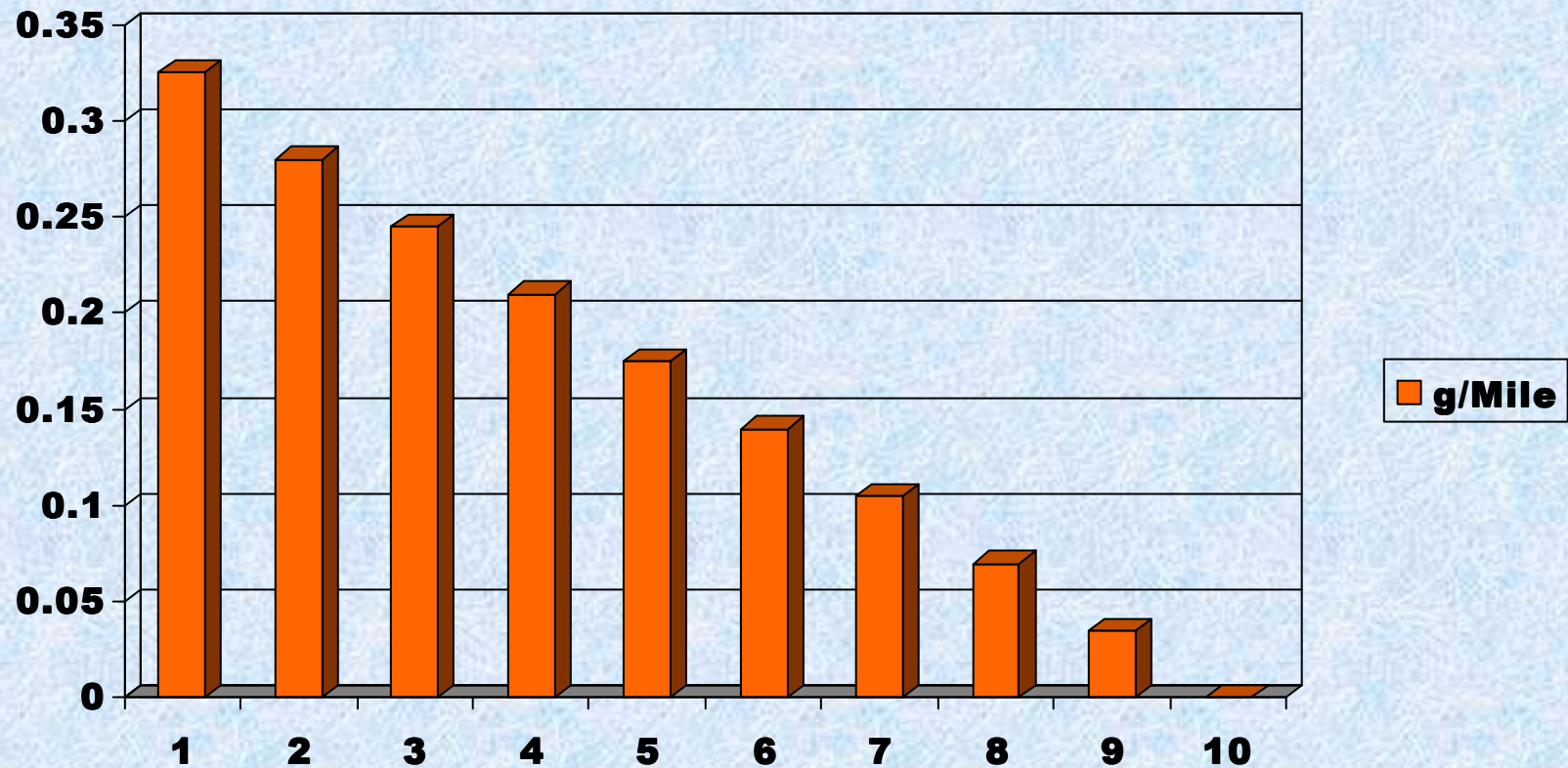
Proposed Recommendations

- ◆ Provides consistency between CA and US EPA labeling
- ◆ Use one scale for all PCs, LDTs and MDPVs

Comparison of 2009 California LEV II and Federal Emission Standards (bins) (NMOG+NO_x - g/mi at 120,000 miles)

Emission Category/Bin	NMOG+NO_x
ZEV	0.00
Bin 1	0.00
PZEV	0.030
SULEV	0.030
Bin 2	0.030
Bin 3	0.085
Bin 4	0.110
ULEV	0.125
LEV	0.160
Bin 5	0.160
LEV (option 1)	0.190
Bin 6	0.190
SULEV (MDPV)	0.200
Bin 7	0.240
Bin 8(a)	0.325
ULEV (MDPV)	0.343

Proposed Smog Index Score



Proposed Smog Score Comparison

(NMOG+NO_x - g/mi at 120,000 miles)

Emission Category/Bin	NMOG+NO _x	Proposed Score
ZEV	0.00	10
Bin 1	0.00	10
PZEV	0.030	9.5
SULEV	0.030	9
Bin 2	0.030	9
Bin 3	0.085	7
Bin 4	0.110	6
ULEV	0.125	6
LEV	0.160	5
Bin 5	0.160	5
LEV (option 1)	0.190	4
Bin 6	0.190	4
SULEV (MDPV)	0.200	4
Bin 7	0.240	3
Bin 8(a)	0.325	1
ULEV (MDPV)	0.343	1

Global Warming Score

- ◆ New for California
- ◆ Challenge is to find CO2 data from all sources
 - Including upstream emissions

Global Warming Score

- ◆ Scale to reflect CO2 equivalent based on Section 1961.1

$$\text{CO2 Eq} = \text{CO2} + 296 \times \text{N2O} + 23 \times \text{CH4} - \text{A/C}_{\text{Direct Allowance}} - \text{A/C}_{\text{Indirect Allowance}}$$

- ◆ To include upstream emissions
 - Gasoline fuel sets standard
 - Other fuels modified relative to the standard
- ◆ Can be adjusted for A/C direct and indirect emissions

CO2 Data From 2007 MY California Certifications

- ◆ 373 cars certified in CA
- ◆ 137 voluntarily provided exhaust CO2 data
- ◆ Sample = 37% of population
- ◆ CO2 measured in grams/mile

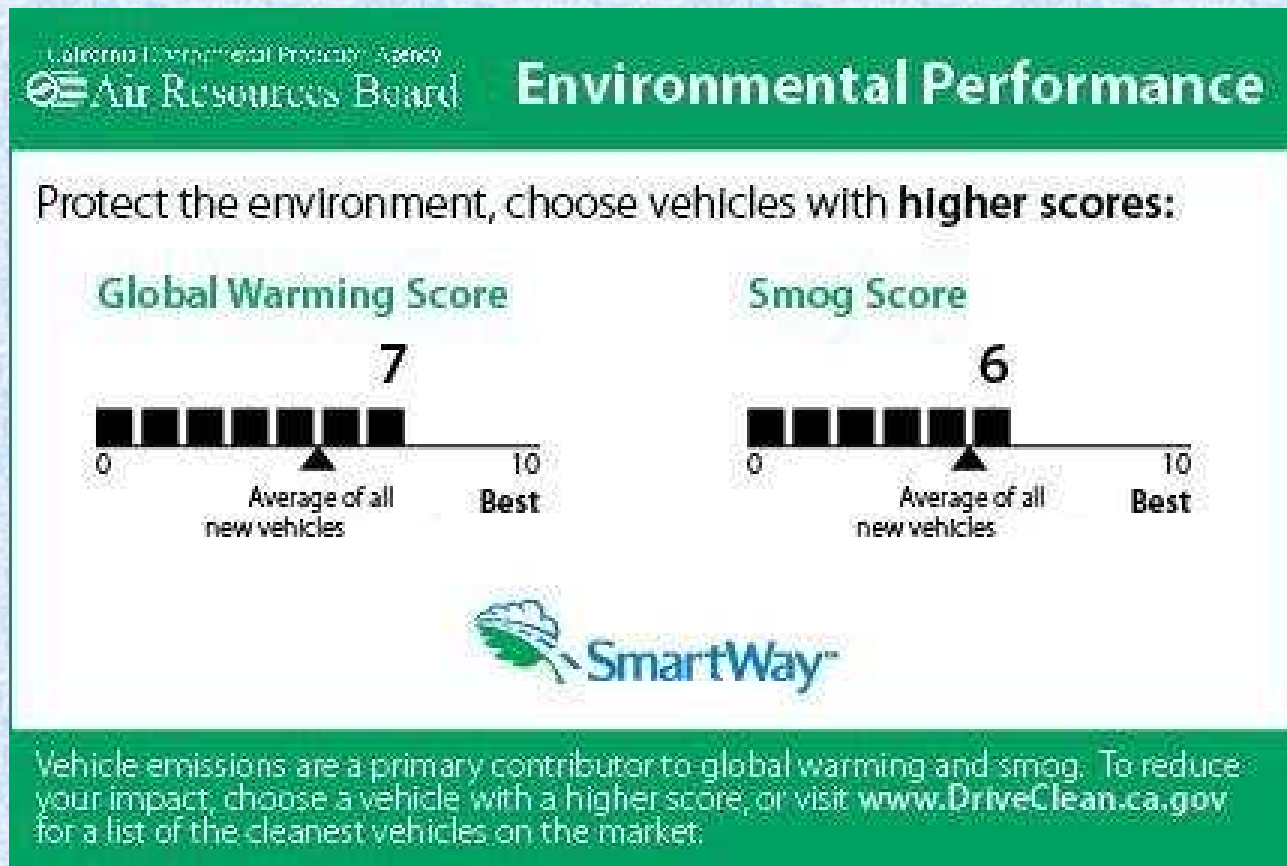
Data Distribution

- ◆ Min = 130
- ◆ Max = 874
- ◆ Ave = 359
- ◆ Range = 744
- ◆ Standard Deviation = 103

Proposed Global Warming Scale

- ◆ Fleet Ave as defined in Section 1961.1
- ◆ Request additional CO2 data from manufacturers
- ◆ Will have scale available at next Workshop
 - March 16, 2007

Sample Label



Label Parameters

◆ Ink Color

- Potential Issue: Most, if not all, OEM's use only black ink printers for labeling

◆ Propose

- Use pre-printed color border or color printer for 2009 MY
 - Color to be specified by ARB
- Phase in color "SmartWay" logo by 2010

Label Parameters

◆ Size

- Current Smog Index label for one scale averages 1.5-inches x 4-inches
- Therefore Label size must be increased to display 2 scales

◆ Propose

- New label size to be 4 inches x 6 inches

Label Parameters

- ◆ Placement
 - On either side window to the rear of driver
 - OEM may incorporate into Monroney sticker
- ◆ Font to be specified by ARB
- ◆ Scale style to be specified by ARB
- ◆ Lead Time
 - Goal is to complete regulation in time for 2009 MY vehicles

Timeline

- ◆ Second Workshop
 - March 16, 2007
- ◆ Release of Staff Report
 - Early May 2007
- ◆ Board Hearing
 - June 21, 2007

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