



California's Regulations to Control Greenhouse Gas Emissions from Motor Vehicles:

Hearing on Request for
Waiver of Preemption Under
Clean Air Act Section 209(b)

Dr. Robert Sawyer, Chair
Catherine Witherspoon, Executive Officer
California Air Resources Board

Sacramento, California
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California's Motor Vehicle Greenhouse Gas Emissions Regulations: Overview

AB 1493 Regulations -- Pollutants Regulated

- Combined GHG emissions
 - (CO_2 , CH_4 , N_2O , HFCs)
- All vehicular GHG sources
 - (tailpipe, air conditioner)
- “ CO_2 -equivalent” emissions
 - (weighted according to “global warming potential”)



California's Motor Vehicle Greenhouse Gas Emissions Regulations: Overview

AB 1493 Regulations

- Two categories (as in LEV II)
 - PC/LDT1
 - Passenger cars, small trucks and SUVs
 - LDT2/MDV
 - Large trucks and SUVs
- Exemption for work trucks



California's Motor Vehicle Greenhouse Gas Emissions Regulations: Overview

AB 1493 Regulations: Fleet-Average Emission Standards

Tier	Year	CO ₂ -equivalent emission	
		PC/LDT1	LDT2
Near-term	2009	323	439
	2010	301	420
	2011	267	390
	2012	233	361
Mid-term	2013	227	355
	2014	222	350
	2015	213	341
	2016	205	332

~22% reduction
in 2012

~30% reduction
in 2016



California's Motor Vehicle Greenhouse Gas Emissions Regulations: Overview

AB 1493 Regulations

- Flexibility
 - Credit Trading between PC/LDT1 and LDT2/MDV and between manufacturers
 - Optional Compliance Mechanism for Alternatively Fueled Vehicles
 - Early Credits
 - Less stringent requirements for small & intermediate volume manufacturers



Legal and Policy Framework for EPA Review

- Overview
 - Only 3 Issues Before EPA
 - Protectiveness
 - CA Conditions Justifying State Standards
 - Consistency with 202(a)
 - Burden on Opponents
 - Deference to California's Judgments



Protectiveness

First Issue: Protectiveness

- Was CA *arbitrary & capricious* in determining its standards are at least as protective as applicable federal standards? NO
 - recent EPA decisions confirm California's program remains more protective



Protectiveness

First Issue: Protectiveness

- Was California required to compare its standards to non-EPA standards (e.g. EPCA/CAFE) ? **NO**
 - Comparison is to EPA standards only
 - EPA has no GHG standards



Protectiveness

First Issue: Protectiveness

- Was California required to compare its standards to non-EPA standards (e.g. EPCA/CAFE) ? **NO**
 - Even if comparison were made, CA GHG standards clearly more protective than EPCA/CAFE standards: inherent in manufacturers' opposition to our standards

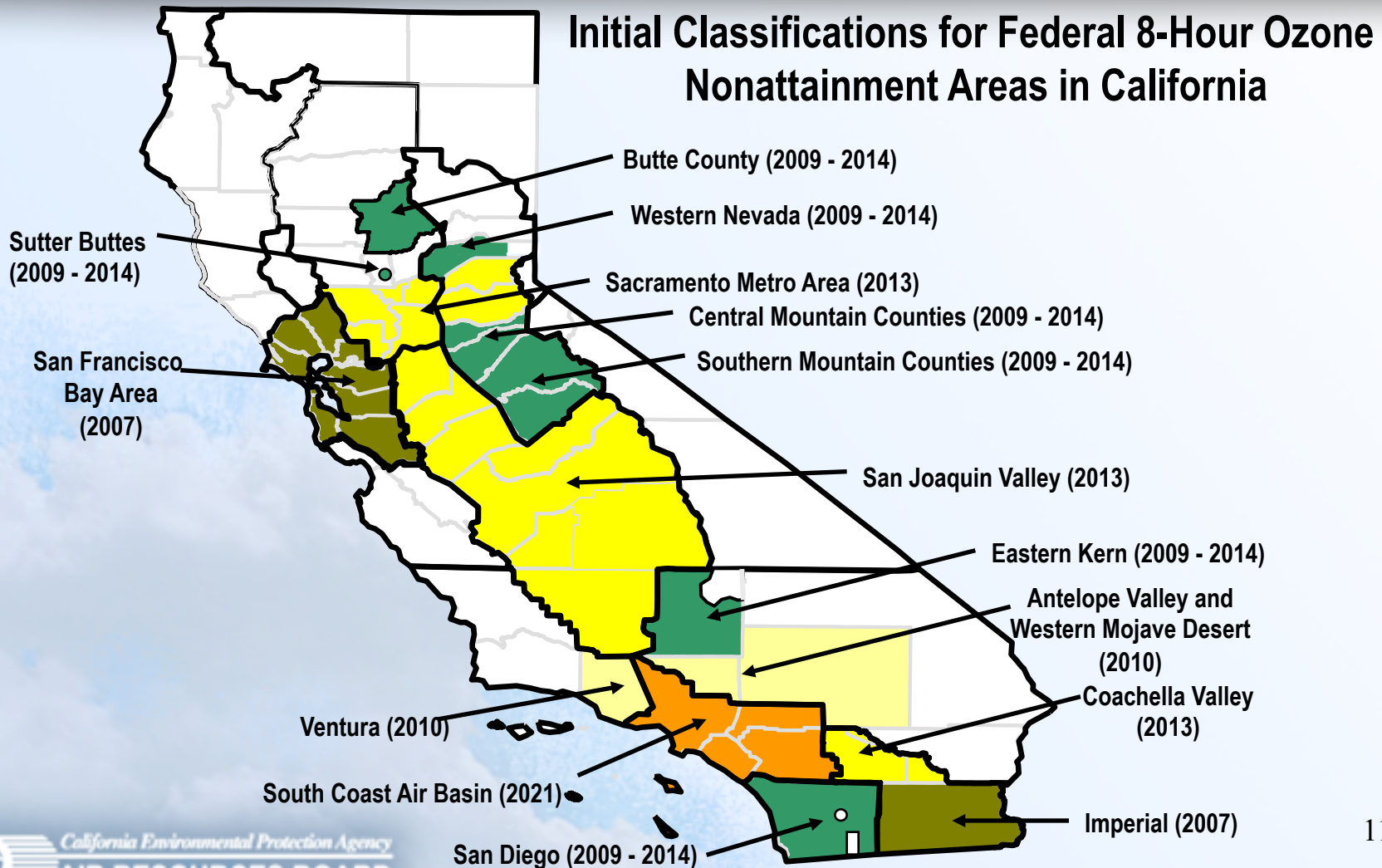


Extraordinary & Compelling Conditions

Second Issue: Does CA need its state standards to meet extraordinary and compelling conditions? YES

- Nothing Has Changed Since Recent EPA Waiver Approvals: CA Needs Its Motor Vehicle Program to Address Smog and other Traditional Pollutants

Extraordinary & Compelling Conditions





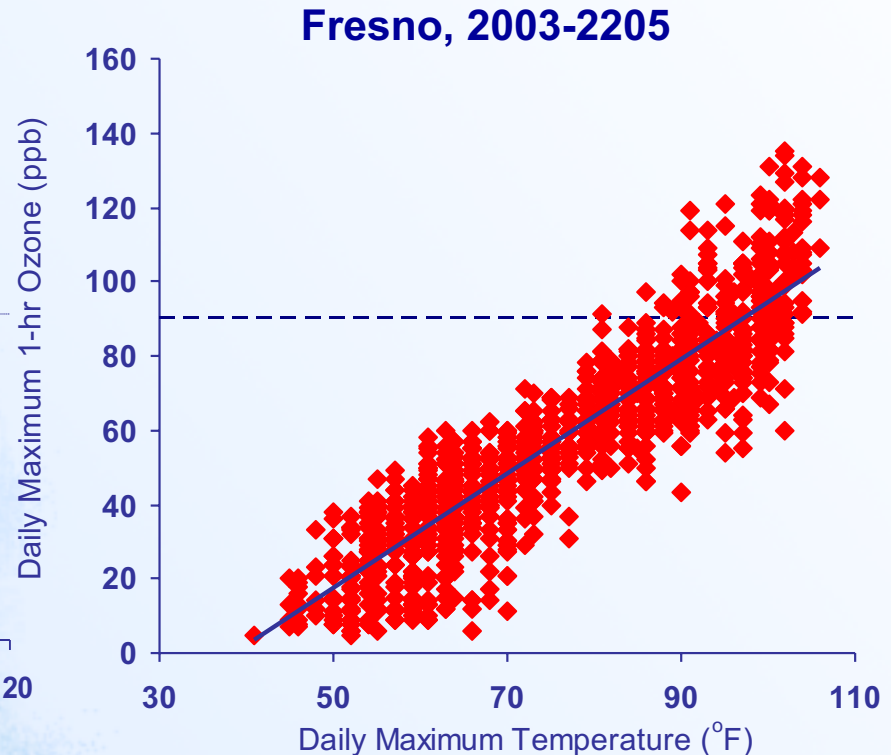
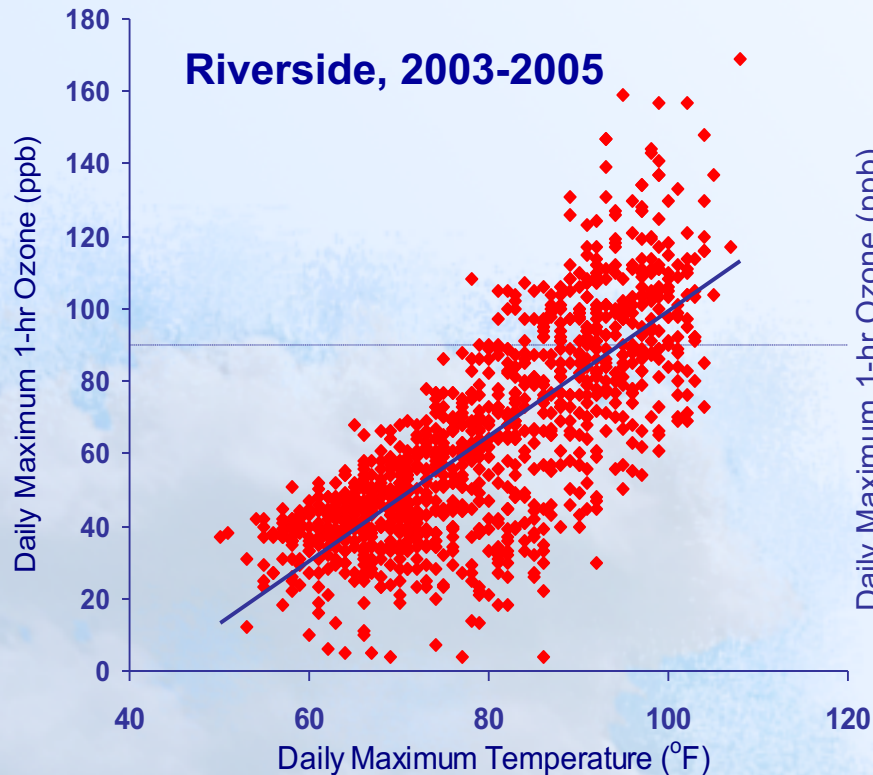
Extraordinary & Compelling Conditions

- Even if EPA improperly considers solely California's need for our greenhouse gas emissions standards, California still meets the “extraordinary and compelling conditions” criterion



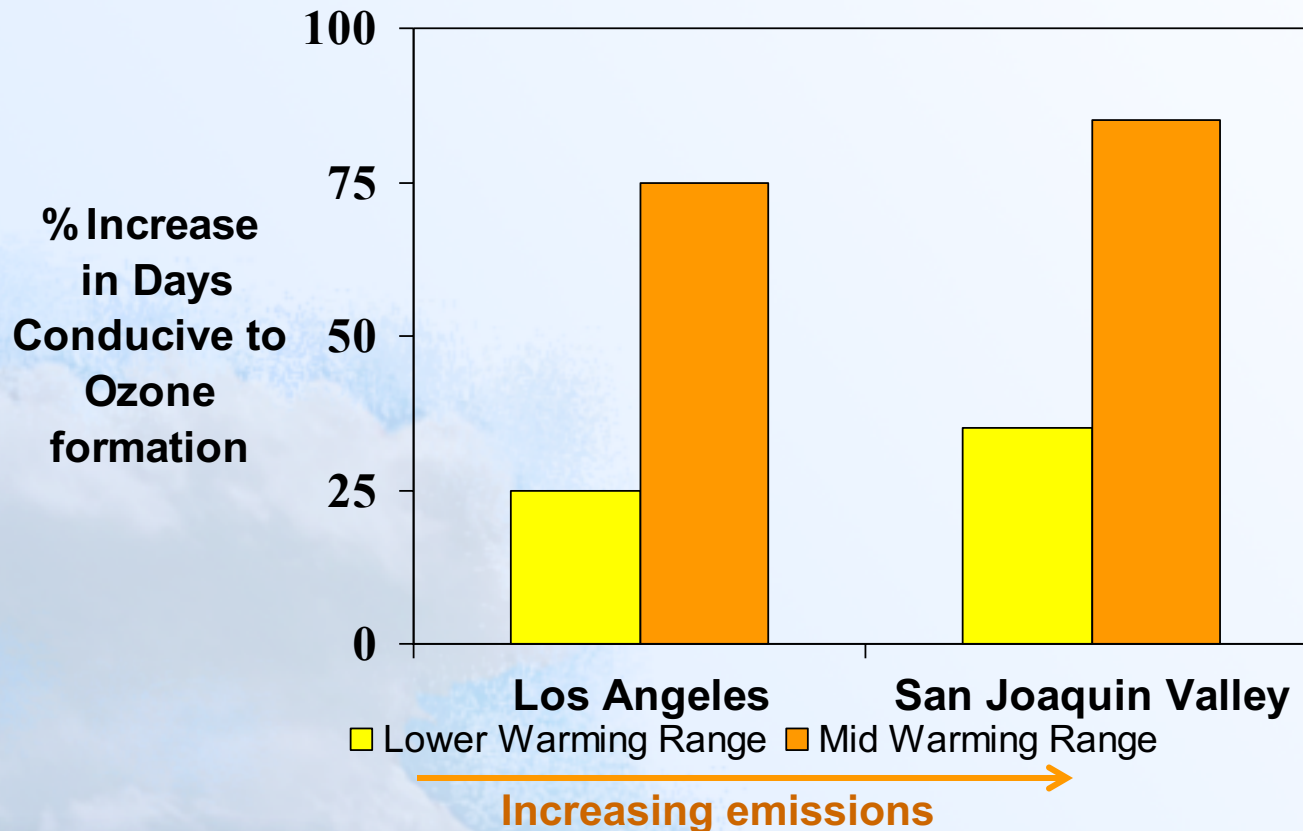
Extraordinary & Compelling Conditions

Hotter Days Lead to More Ozone

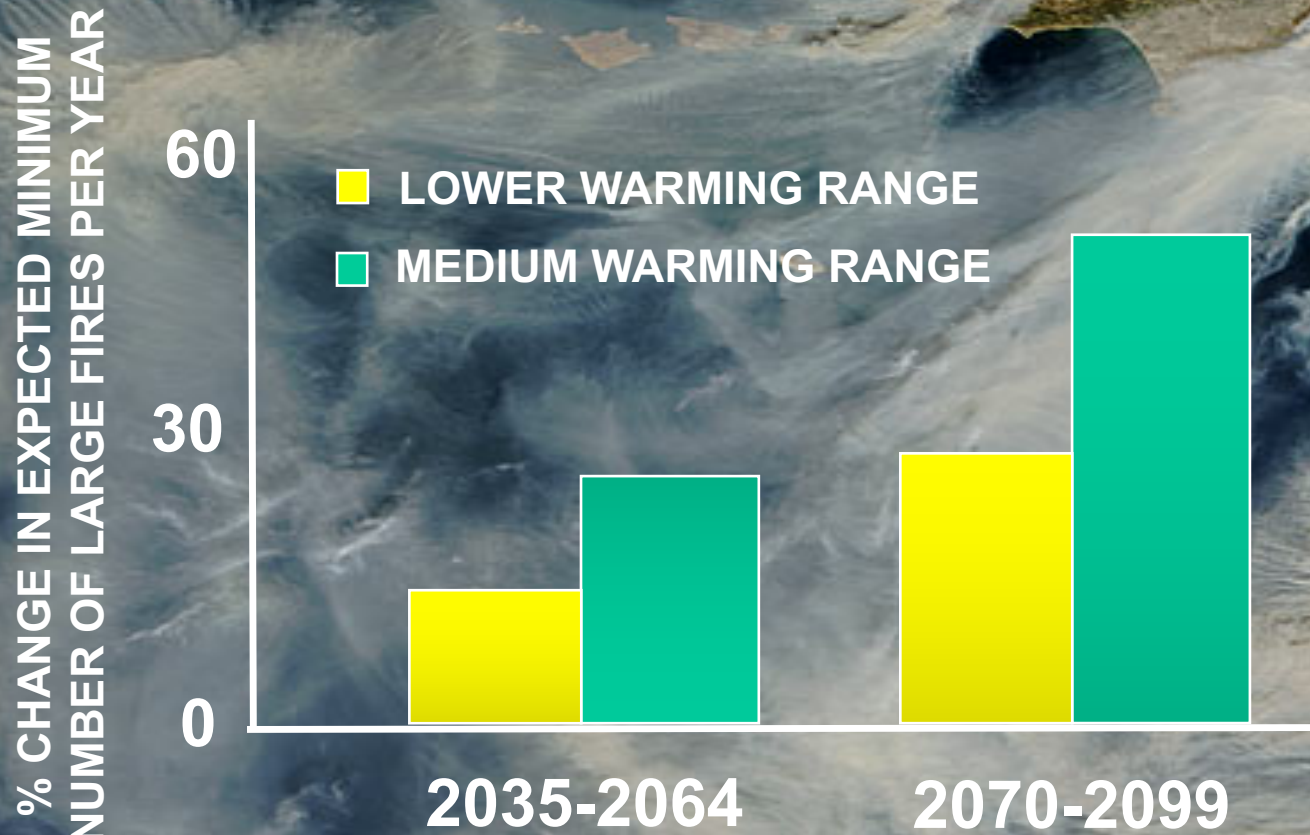


Extraordinary & Compelling Conditions

More Smog Likely: Section 209(b) clearly covers this extraordinary and compelling condition



Increase in Wildfires



Source of data : Westerling and Bryant, "Climate change and wildfire in and around California: Fire modeling and loss modeling" (2006), www.climatechange.ca.gov



Extraordinary & Compelling Conditions

- Additional California Impacts
 - Snow pack
 - Sea level rise
 - Agricultural (wine, dairy)
 - Tourism
- Expert Reports



Extraordinary & Compelling Conditions

- Must California demonstrate a temperature impact from these specific regulations? NO
 - EPA cannot second-guess the effectiveness or need for any particular standard



Extraordinary & Compelling Conditions

- Must California demonstrate a temperature impact from these specific regulations? NO

“The law makes it clear that the waiver request cannot be denied unless the specific findings designated in the statute can properly be made. The issue of whether a proposed California requirement is likely to result in only marginal improvement in air quality not commensurate with its cost or is otherwise an arguably unwise exercise of regulatory power is not legally pertinent to my decision under section 209...

EPA Administrator Train, 36 Fed.Reg. 17158 (August 31, 1971)



Extraordinary & Compelling Conditions

- Modeling is not required
 - No ozone modeling can show similar impacts for small precursor reductions
 - No regional GHG models can show impact



Extraordinary & Compelling Conditions

- Modeling is not required
 - “tragedy of the commons” status quo rejected in *Massachusetts v. EPA*

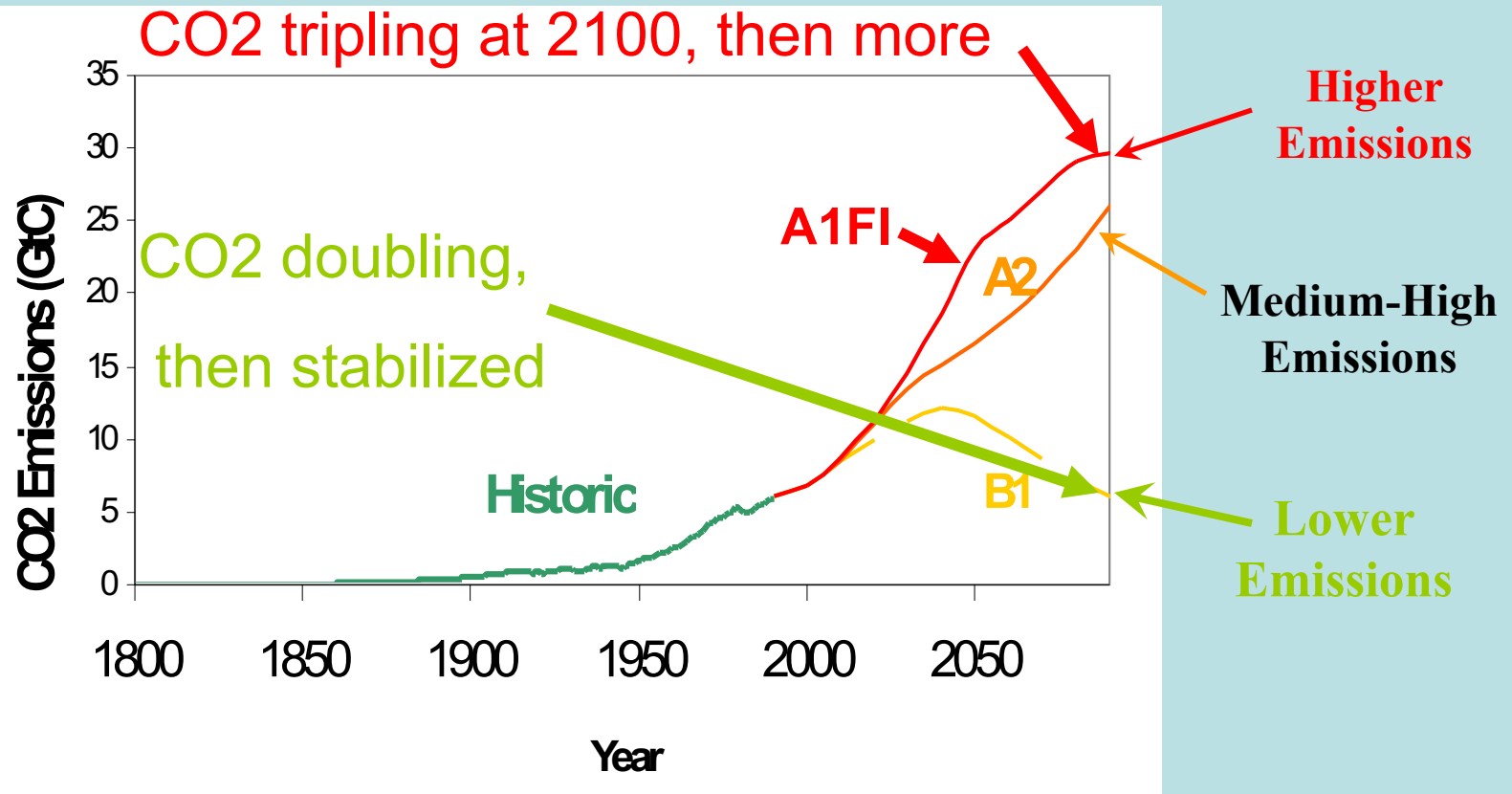


Extraordinary & Compelling Conditions

- These emission standards *are* needed to address effects of global warming in California
 - One of many such actions needed

We can Choose our Emissions Future

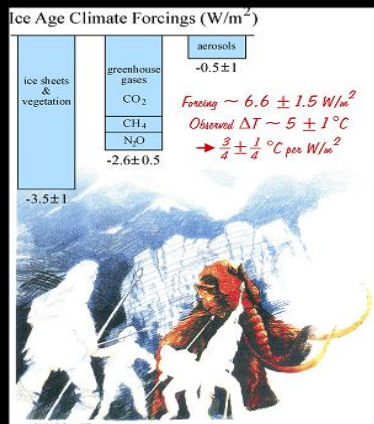
(Intergovernmental Panel on Climate Change Emission Scenarios)



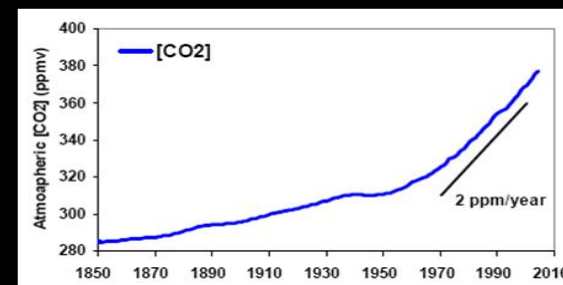
Just fossil fuel emissions shown in graphic.

Extraordinary & Compelling Conditions: All GHG Reductions Matter

TARGET = 2°C INCREASE

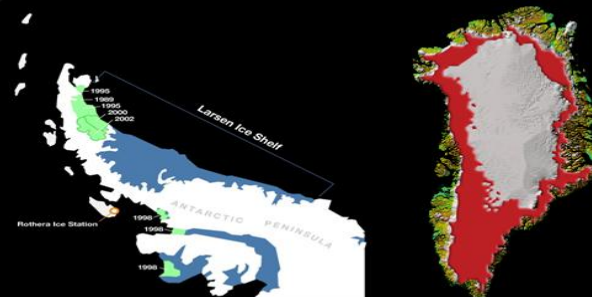


DRIVER



OBSERVED WARMING
 ATMOSPHERE 0.7 °C
 OCEANS 0.6 °C

PPM CEILING
 400-450 ppm CO₂E

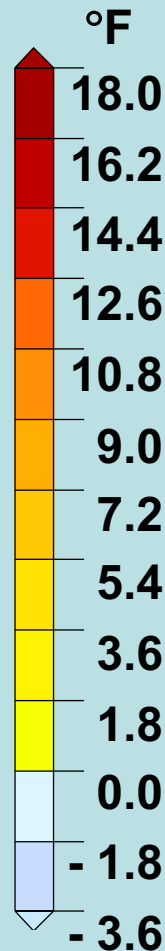
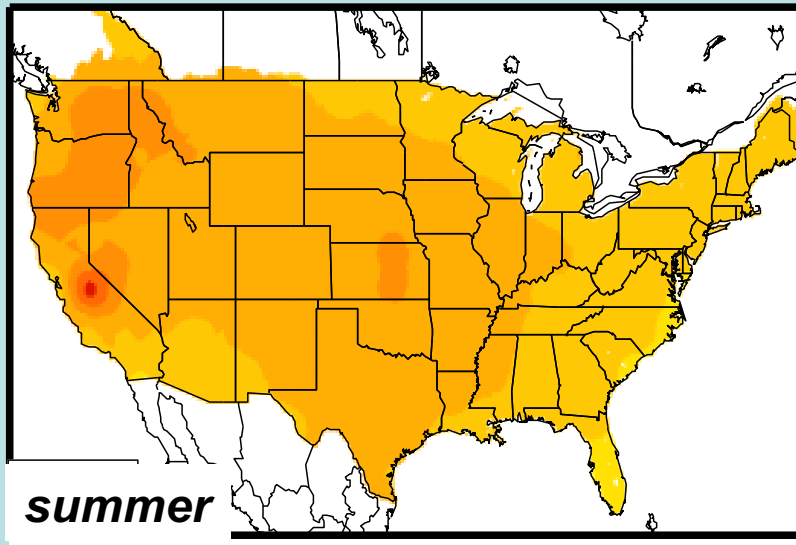


2050 TARGET
 20% of 1990
 EMISSIONS

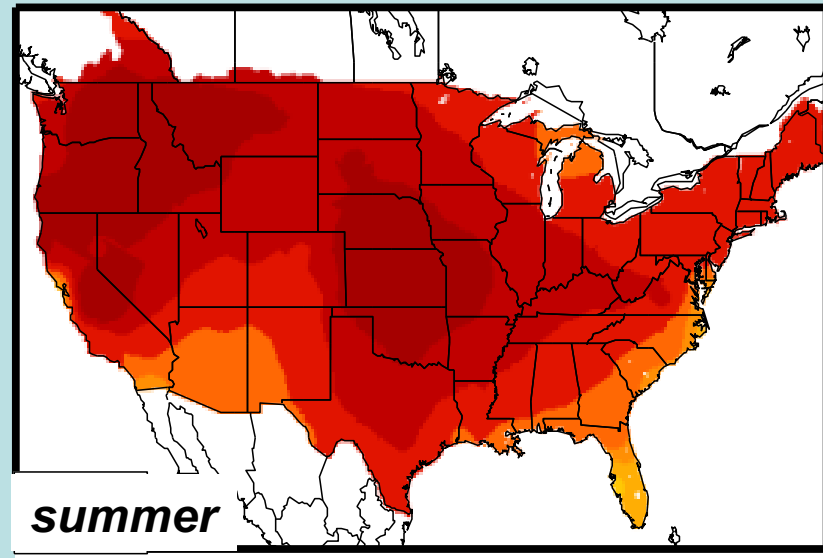
Rising Temperature

EMISSIONS MATTER!

LOWER EMISSIONS



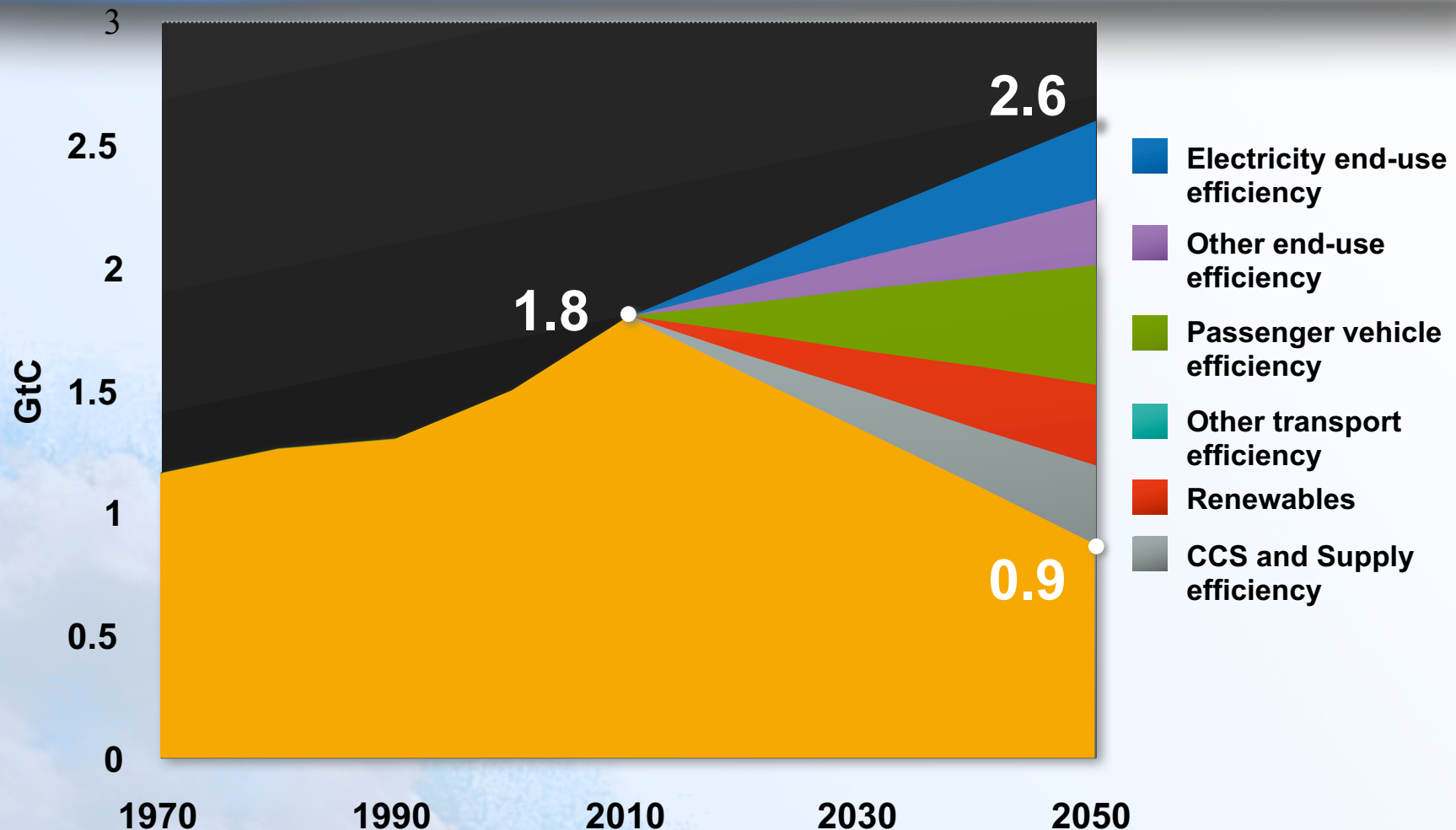
HIGHER EMISSIONS



Notes: HadCM3 model results for 2070-2099 vs. 1961-1990. Higher emissions = A1fi; lower emissions = B1 scenario from IPCC Third Assessment Report. Downscaled results from E. Maurer (<http://www.engr.scu.edu/~emaurer/index.shtml>).



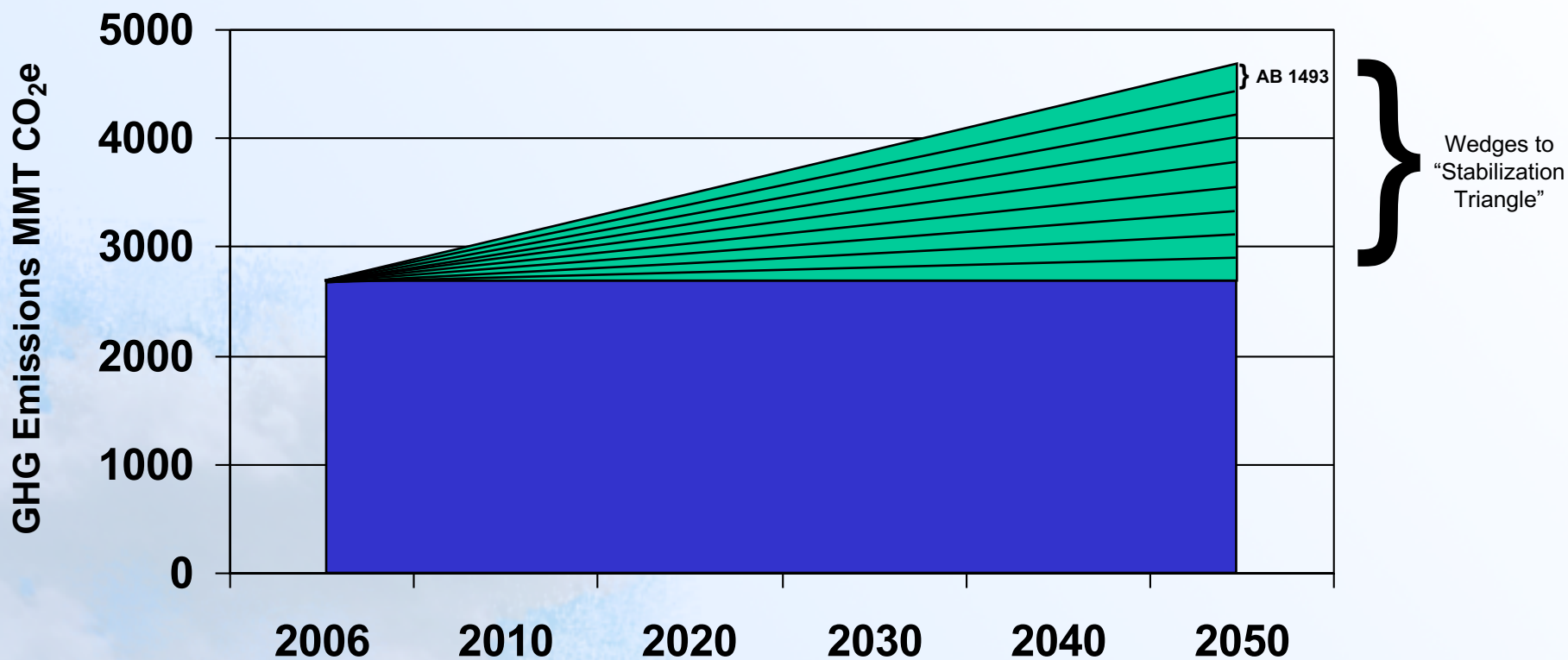
Extraordinary & Compelling Conditions: Driving a Wedge Toward Stabilization





Extraordinary & Compelling Conditions: AB 1493 Contribution

U.S. Transportation Sector

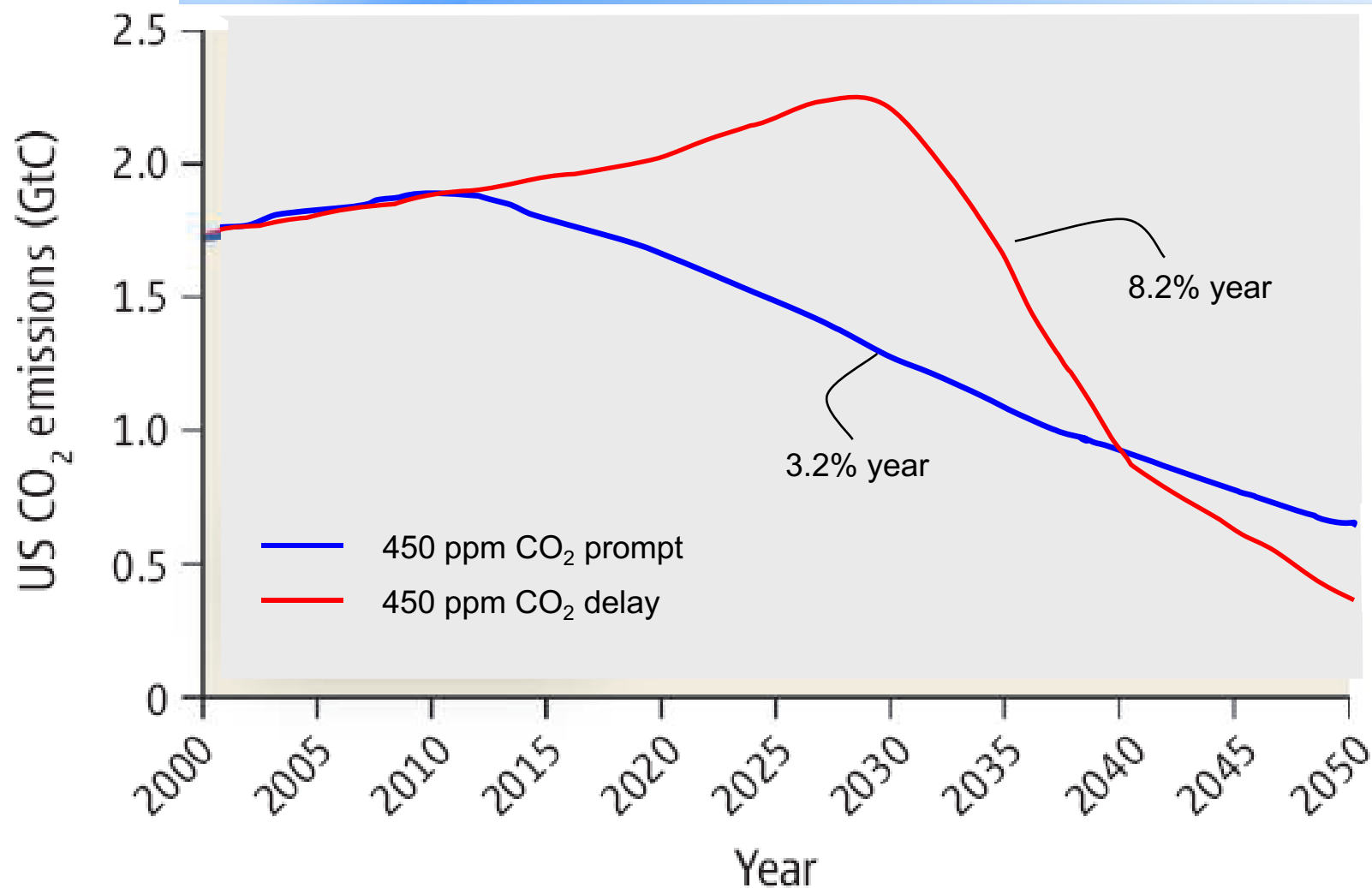


AB 1493 cumulative benefit– 3800 MMT CO₂e
reductions needed from light-duty vehicles

Sources: "A Wedge Analysis of the U.S. Transportation Sector", USEPA. April 2007
"Northeast State GHG Emission Reduction Potential from Adoption of the California
Motor Vehicle GHG Standards Summary of NESCAUM Analysis", October 2005



Extraordinary & Compelling Conditions: Putting off Action Is Costly





Extraordinary & Compelling Conditions

- Must global warming impacts in California be worse than in other States? NO
 - Diesel PM: Need for program as a whole
 - Section 177 – Other states can have similar needs
 - Even if this were a proper legal requirement, California meets



202(a) Consistency

- Third Issue: Are the standards and enforcement procedures inconsistent with Clean Air Act §202(a) ?
 - not technologically feasible within lead time provided (giving appropriate consideration to compliance costs), or
 - inconsistent with federal test procedures



Technological Feasibility (Near-Term)

2

Category	Vehicle Class	Technology Package	% GHG Reduction
PC/LDT1	Small Car	DVVL, DCP, AMT, EPS, ImpAlt	19.9
		GDI-S, DCP, Turbo, AMT, EPS, ImpAlt	26.4
	Large Car	GDI-S, DeAct, DCP, AMT, EPS, ImpAlt	23.2
		GDI-S, DCP, Turbo, AMT, EPS, ImpAlt	27.2
LDT2	Small Truck	DeAct, DVVL, CCP, AMT, EPS, ImpAlt	26.2
		GDI-S, DCP, Turbo, AMT, EPS, ImpAlt	28.4
	Large Truck	DeAct, DVVL, CCP, AMT, EHPS, ImpAlt	18.4
		DeAct, DVVL, CCP, AMT, EHPS, ImpAlt	22.6



Technological Feasibility (Mid-Term)

Category	Vehicle Class	Technology Package	% GHG Reduction
PC/LDT1	Small Car	CVVL, DCP, AMT, ISG-SS, EPS, ImpAlt	25.7
		gHCCI, DVVL, AMT, ISG, EPS, eACC	29.9
	Large Car	ehCVA, GDI-S, AMT, EPS, ImpAlt	29.9
		gHCCI, DVVL, ICP, ISG, AMT, EPS, eACC	32.9
		GDI-S, Turbo, DCP, A6, ISG, EPS, eACC	35.1
LDT2	Small Truck	DeAct, DVVL, CCP, A6, ISG, EPS, eACC	29.0
		ehCVA, GDI-S, AMT, EPS, ImpAlt	30.5
	Large Truck	HSDI, AMT, EPS, ImpAlt	31.0
		ehCVA, GDI-S, AMT, EHPS, ImpAlt	25.5
		DeAct, DVVL, CCP, A6, ISG, EHPS, eACC	26.2



Technological Feasibility: Conclusions

- Feasibility assessment of GHG reducing technologies sound
 - Technologies we assessed are used increasingly
 - Other GHG technologies (e.g. E85, HEVs, diesel) expanding
 - Industry criticism unfounded or minor
 - Doesn't affect conclusions
- Cost estimates remain sound
- Lead time adequate
- No safety issues
- ARB GHG emission standards are feasible and can be complied with as adopted



Supplemental Questions from Notice

- Are EPCA/CAFE fuel economy provisions relevant to CA **authority** to implement vehicle GHG regulations?

NO:

- Emission control and fuel efficiency have always overlapped
- NHTSA takes California and EPA standards as a given. 49 USC §32902(f)
- *Massachusetts et. al. v. EPA* decides the issue



Supplemental Questions from Notice

- Are EPCA/CAFE fuel economy provisions relevant to **EPA's consideration** of this CA waiver request ?

NO:

- Effect of EPCA/CAFE on California's authority is not among the three permissible waiver review criteria
- *Massachusetts et. al. v. EPA* reinforces that EPA must stick to factors in the statute



California's Motor Vehicle Greenhouse Gas Emissions Regulations: Request for Clean Air Act §209(b) Waiver

Conclusion

- AB 1493 vehicles will look, cost, and perform like today's vehicles
- California's request meets the three permissible prongs of EPA's waiver analysis
- Neither the Supplemental Issues EPA noticed nor Constitutional concerns change that analysis
- *Mass v. EPA* decision strengthens that analysis and provides no excuse to delay deciding this request
- Law and policy require *more*, not less, deference to CA to regulate vehicular climate change emissions
- U.S. EPA must grant CA's request by October 24, 2007



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