

Update on the California Reformulated Gasoline Program and Proposed Amendments to the Phase 3 Regulations

July 25, 2002

California Environmental Protection Agency



Air Resources Board

Overview

- ✦ **Program update & CaRFG3 implementation**
- ✦ **Proposal to delay the phase out of MTBE**
- ✦ **Recommendation**



CaRFG3 Program Update

CaRFG3 Regulations

- ✦ **Approved on December 9, 1999**
- ✦ **Implements the Governor's Executive Order**
- ✦ **Removes MTBE from California gasoline by December 31, 2002**
- ✦ **Provides additional flexibility to remove MTBE and use ethanol**
- ✦ **Enhances emission benefits of current program**
- ✦ **Accommodates need for imports on routine basis**
- ✦ **Additional follow-up needed**

Resolution 99-39

Provide status reports to the Board on:

- ✦ Refiner's progress to meet CaRFG3 regulations
- ✦ Real-world emission impacts of commingling
- ✦ Results of permeability testing
- ✦ CaRFG3 sulfur levels
- ✦ CaRFG3 Driveability Index
- ✦ California's oxygenate waiver request

California Gasoline Refineries



California Gasoline Refineries

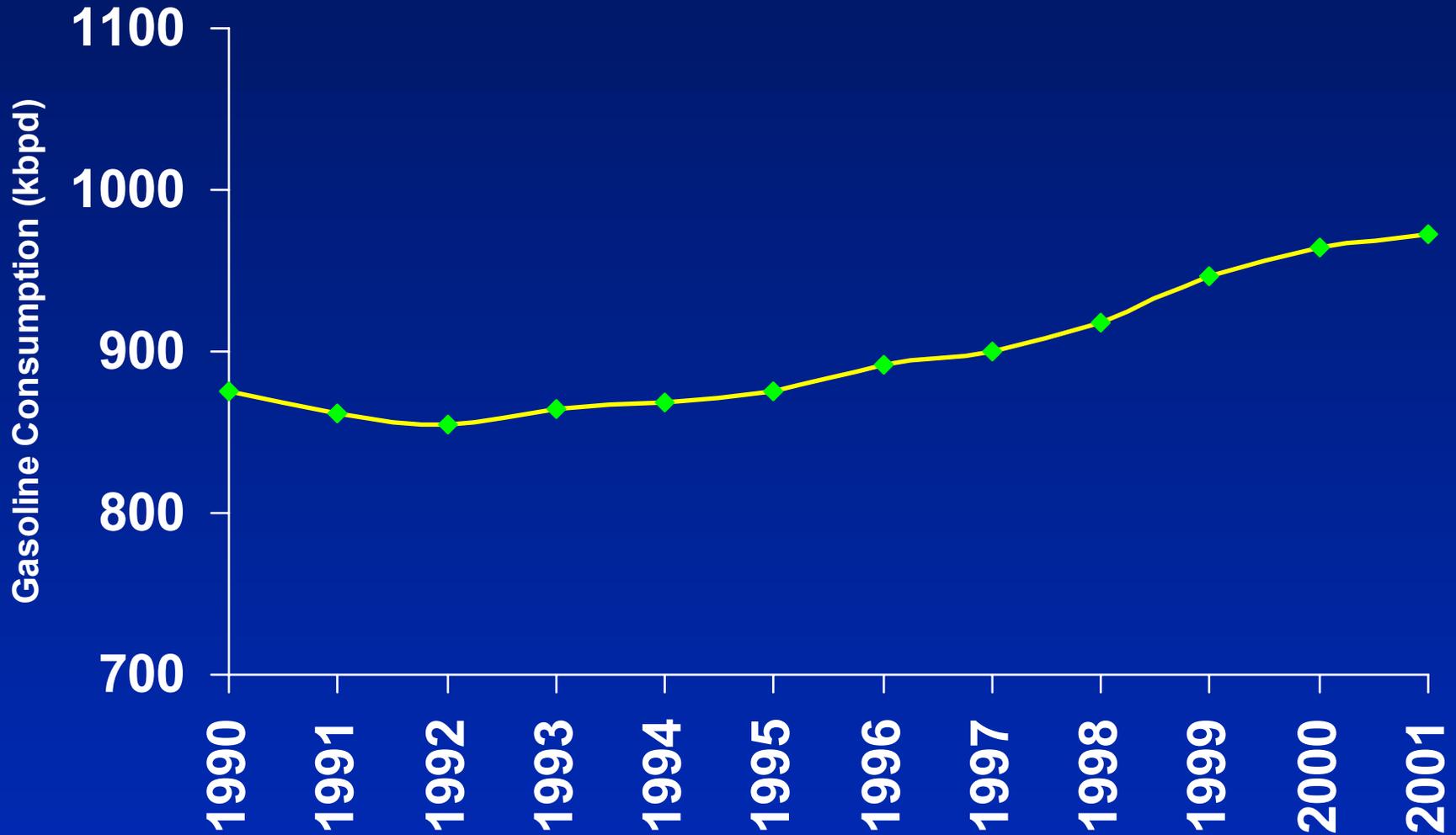
South Coast Air Quality Management District		
Refinery	Location	History of Ownership
BP	Carson, CA	Arco
ChevronTexaco	El Segundo	No recent changes
Shell	Wilmington, CA	Equilon / Texaco
ExxonMobil	Torrance, CA	Mobil
Phillips	Wilmington, CA	Tosco / Unocal
Valero	Wilmington, CA	Ultramar Diamond Shamrock
Bay Area Air Quality Management District		
Refinery	Location	History of Ownership
ChevronTexaco	Richmond	No recent changes
Shell	Martinez	Equilon
Phillips	Rodeo	Tosco / Unocal
Tesoro	Avon (Martinez)	Ultramar D.S./ Tosco
Valero	Benicia	Exxon
San Joaquin Valley Unified Air Pollution Control District		
Refinery	Location	History of Ownership
Shell	Bakersfield	Equilon / Texaco
Kern Oil	Bakersfield	No recent changes

California Gasoline Refiners

	CA Refineries	Other North American Refineries
BP	1	4
ChevronTexaco	2	8
ExxonMobil	1	13
Phillips	2	8
Shell	3	6
Tesoro	1	5
Valero	2	10
Kern Oil	1	0
Total	13	54

Gasoline Consumption for California

1990 through 2001





CaRFG3 Implementation

Findings

	Refineries		Refinery Terminals: CEQA & Permits
	CEQA	Permits	
BAAQMD	All completed	All completed	On Schedule except Valero
SCAQMD	All completed except Valero	All completed except Valero	On Schedule except Shell
SJVUAPCD	N/A	On Schedule except Kern	On Schedule

Ethanol Distribution



Status of Ethanol Distribution System

Into California:

- ✦ Ethanol is expected to be delivered into CA by rail and marine vessel
- ✦ While a significant quantity of ethanol is expected to be delivered by train, no new rail facility has been built or permitted
 - Facility in Carson in process of permitting

Status of Ethanol Distribution System (con't)

Within California:

- Delivery to distribution terminals will occur by either trucks or dedicated pipeline

Common Carrier Pipelines



Status of Common Carrier Terminals

Common Carriers:

- Kinder Morgan
- ST Services

Status:

- Two key terminals not ready by Dec 2002
 - Sacramento
 - Colton
- Two smaller terminals also not ready
 - Barstow
 - Imperial

Refiners Switching to Ethanol by 2003

- ✦ Refiners switching to ethanol by 2003
 - BP
 - ExxonMobil
 - Phillips
 - Shell
- ✦ Represents approximately 55% of state supply

Other CaRFG3 Follow-Up Items

- ✦ **Commingling**
- ✦ **Permeation**
- ✦ **Commitment to monitor sulfur levels & DI**
- ✦ **California's Oxygenate Waiver Request**

Commingling Emissions Evaluation

Based on field study and simulation model:

- the likely statewide RVP increase due to commingling is less than 0.1 psi**
- the Predictive Model already provides this protection**

Permeation Emissions

Evaluate the potential for increased evaporative hydrocarbon emissions due to the permeation of ethanol

- Study confirms that ethanol increases permeation emission losses**
- CRC Test Program started**

Monitor Sulfur Levels and Driveability Index

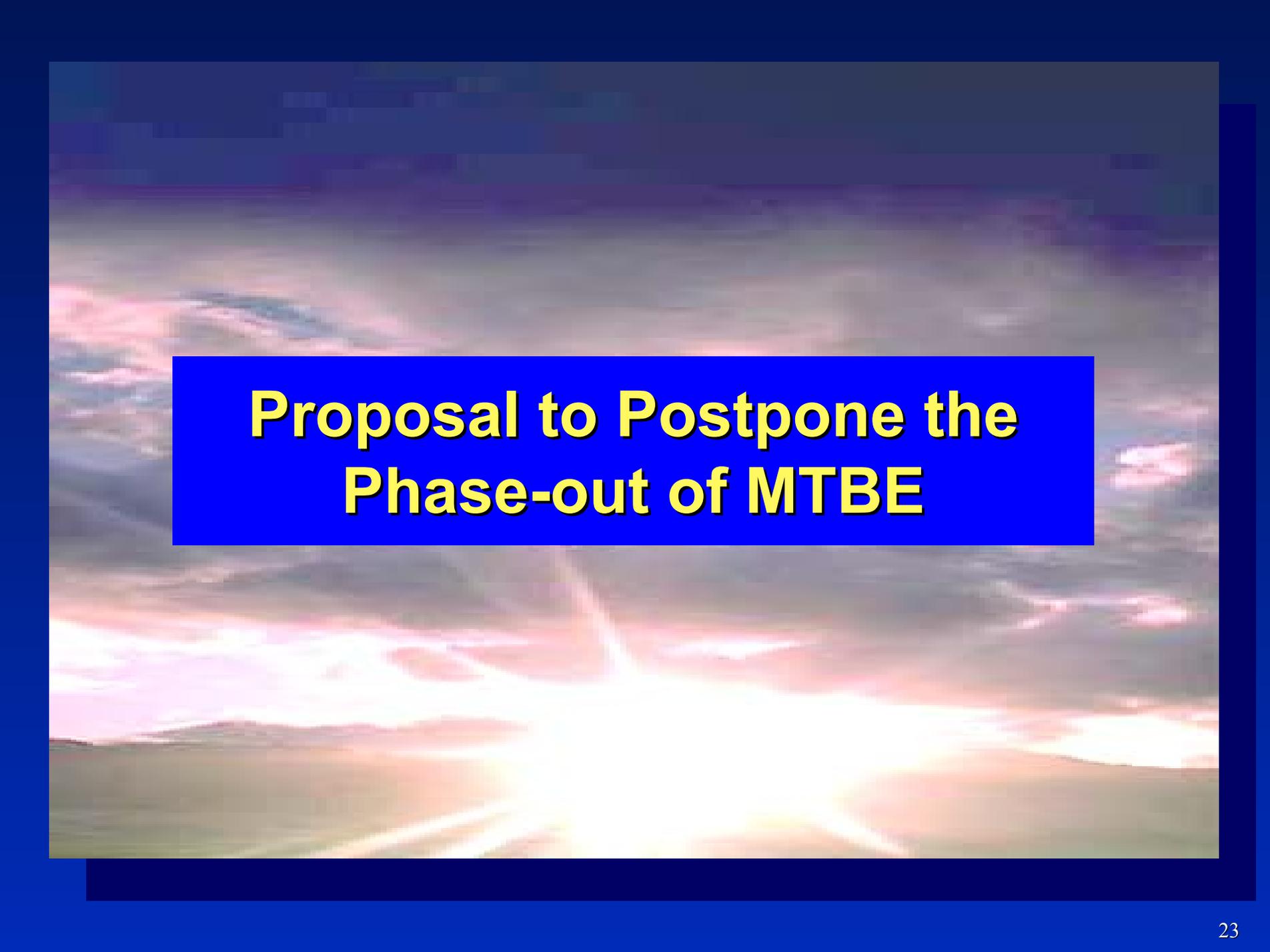
✦ Commitment to monitor:

- sulfur levels
- Driveability Index

✦ Report back to Board

Status of Waiver Request

- ✦ Case pending in court



Proposal to Postpone the Phase-out of MTBE

Governor's Executive Order D-52-02



On March 14, 2002, Governor Davis issued Executive Order D-52-02 to postpone for one year:

- the prohibitions of the use of MTBE and other specified oxygenates in California gasoline, and**
- the related requirements for California Phase 3 reformulated gasoline.**

Rationale for Postponing MTBE Ban

- ✦ **The current timetable for the removal of MTBE could not ensure adequate supply and availability of gasoline**
- ✦ **Significant disruption in gasoline supply would:**
 - **substantially increase prices,**
 - **harm California's economy, and**
 - **impose an unjustified burden on California's motorists**

Rationale for Postponing MTBE Ban (con't)

- ✦ Denial of request for waiver from federal RFG oxygen content requirement

Proposed Amendments to the CaRFG3 Regulations

Postpone for one year:

- the prohibition on the use of MTBE in California gasoline
- the current schedule for reducing allowable residual levels of MTBE
- the prohibition on the use of non-MTBE oxygenates other than ethanol in California gasoline, and
- the imposition of CaRFG3 standards

Additional Proposed Amendments

- ✦ Simplify testing provisions for determining whether CARBOB will comply with CaRFG standards after it is oxygenated with ethanol
- ✦ Correct error in the assignment of RVP regulatory control periods for the North Coast Air Basin and the North Central Coast Air Basin

Proposed Revisions to Staff Proposal

Sulfur cap reduction

- Postpone for one year the reduction of the sulfur cap limit from 60 ppm to 30 ppm

Proposed Revisions to Staff Proposal (con't)

- ✦ **Wintertime oxygen requirement for South Coast**
 - Retain the original 2002 date to remove the month of October from the wintertime oxygen season in the South Coast Air Basin
- ✦ **South Coast spring RVP season**
 - Postpone start of season in 2003 from March to April for refiners switching to ethanol before the mandated deadline



Impact of Today's Proposal

Emissions Effects of Postponement of MTBE Ban

- ◆ **Potential small loss of benefits**
 - **Minimized to the extent that refiners switch to ethanol before the mandated deadline**

Effects of Postponement of MTBE Ban on Commingling and Permeation Emissions

- ✦ No adverse commingling impacts expected
- ✦ Permeation emissions increase
 - depends on the extent to which individual refiners continue to use MTBE to produce CaRFG

Effects on Water Quality

- ✦ **Leaks from underground tanks are significantly reduced compared to 1998 leak rates**
- ✦ **MTBE continues to be in liquid and vapor leaks of gasoline from underground storage tanks and in spills of gasoline**
 - **Mitigated to the extent that refiners switch to ethanol before the mandated deadline**

Other Environmental Impacts of Proposed Postponement of MTBE Ban

- ✦ No significant change in greenhouse gas emissions
- ✦ Neighborhood impacts:
 - continued risk of contamination of groundwater and drinking water
 - mitigated to the extent that refiners switch to ethanol before the mandated deadline

Economic Impacts

- ✦ **Potential savings for California's motorists**
- ✦ **Costs to companies that have made investments to comply with the current December 31, 2002 deadline and do not remove MTBE early**
- ✦ **Economic benefit to companies that have not completed the necessary modifications to produce MTBE-free gasoline**

Economic Impacts (cont.)

- ✦ **Ethanol demand in California in 2003 may be significantly less than originally anticipated**
- ✦ **Benefit to MTBE producers who may continue to supply MTBE in California for up to an additional year**
- ✦ **Some additional costs to water districts due to additional MTBE contamination**

Recommendation

The staff recommends that the Board adopt the staff proposal as modified today to postpone the phase out MTBE