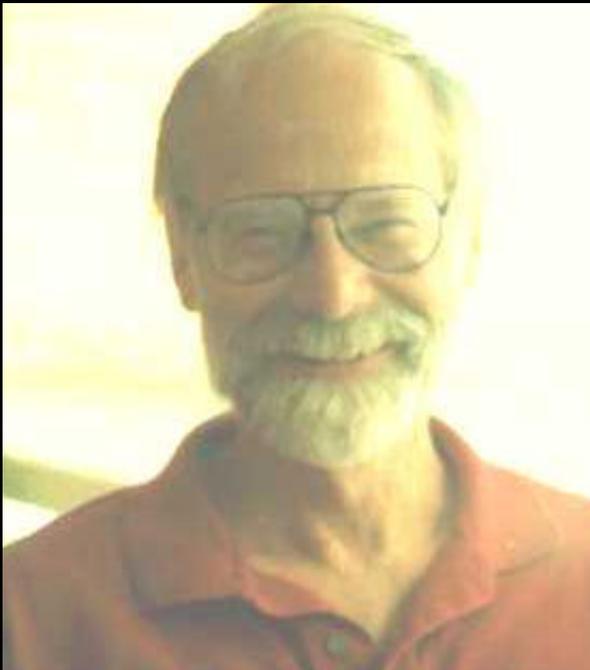


THE CARL MOYER MEMORIAL AIR QUALITY STANDARDS ATTAINMENT PROGRAM STATUS REPORT



**Dr. Carl Moyer
(1937-1997)**

**Board Hearing
January 27, 2000
On-Road Controls Branch
Mobile Source Control Division**

CALIFORNIA ENVIRONMENTAL PROTECTION AGENCY



Air Resources Board

Today's Agenda

- ◆ **Background and History**
- ◆ **Program Overview**
- ◆ **Status of District Programs**
- ◆ **Types of Projects Funded**
- ◆ **Estimated Program Benefits**
- ◆ **Future Program and Continued Funding**
- ◆ **Recommendations**

Background and History

- ◆ **1994 Ozone State Implementation Plan (SIP)**
- ◆ **1998 -**
 - **\$25 million for a NOx reduction incentive**
- ◆ **1999 -**
 - **ARB approved Carl Moyer Program guidelines**
 - **ARB distributed funds to districts in June**
 - **Governor authorized additional \$23 million**
 - **Governor signed AB 1571 October 10, 1999**

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Purpose of the Program

- ◆ **Early NOx emission reductions from engines**
- ◆ **Clean air goals (1994 ozone SIP)**
- ◆ **Grants for the incremental cost of cleaner engines**
- ◆ **Reduce NOx, also particulate**

Program Overview

\$2 ARB

Program Overview

\$2 ARB



\$1 Air Districts

Program Overview

\$2 ARB

\$1 Air Districts

**On-road
Heavy-duty**

**Off-road
Equipment**

Locomotives

**Marine
Vessels**

**Agricultural
Pumps**

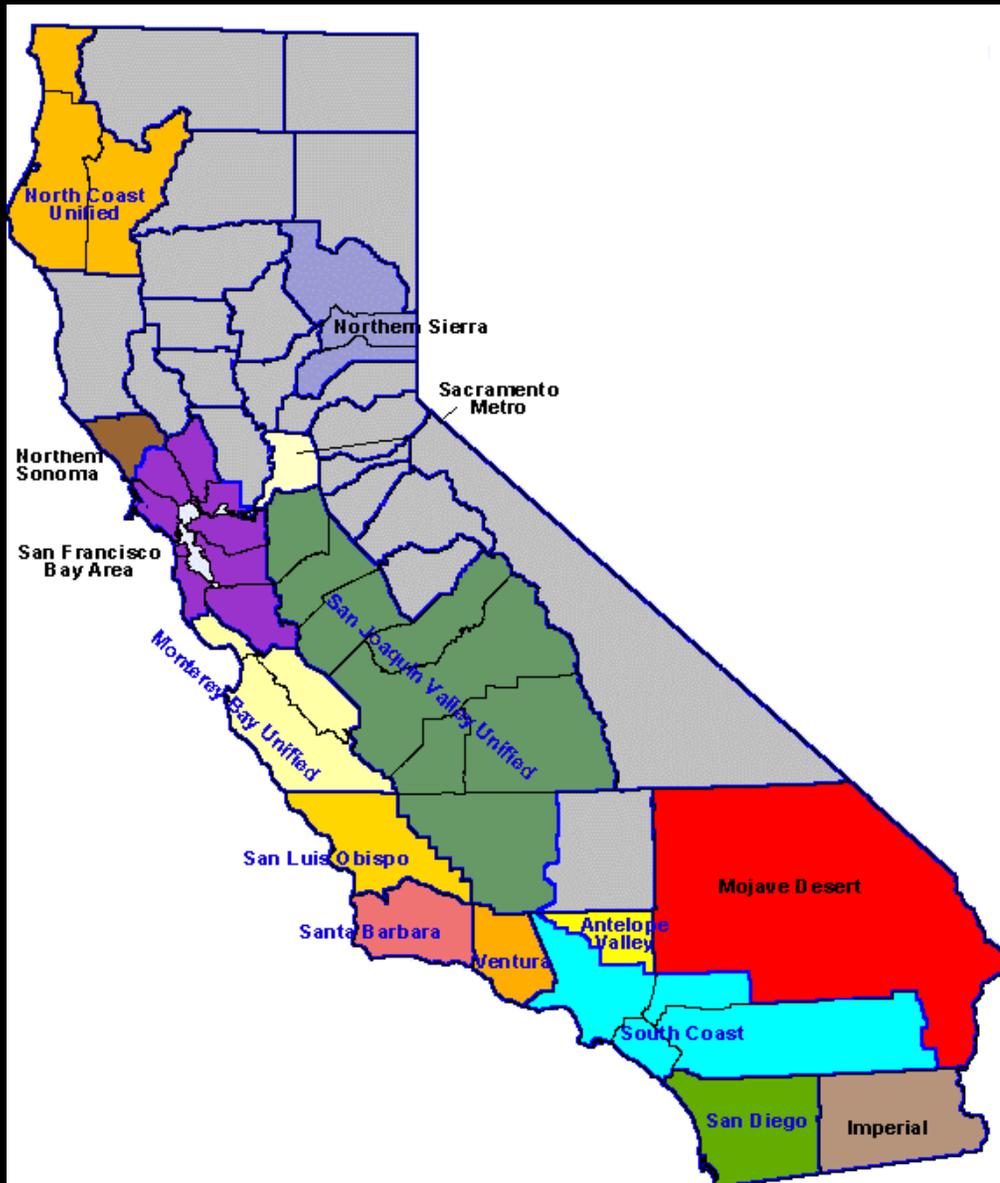
**Electric
Forklifts**

**Airport
GSE**

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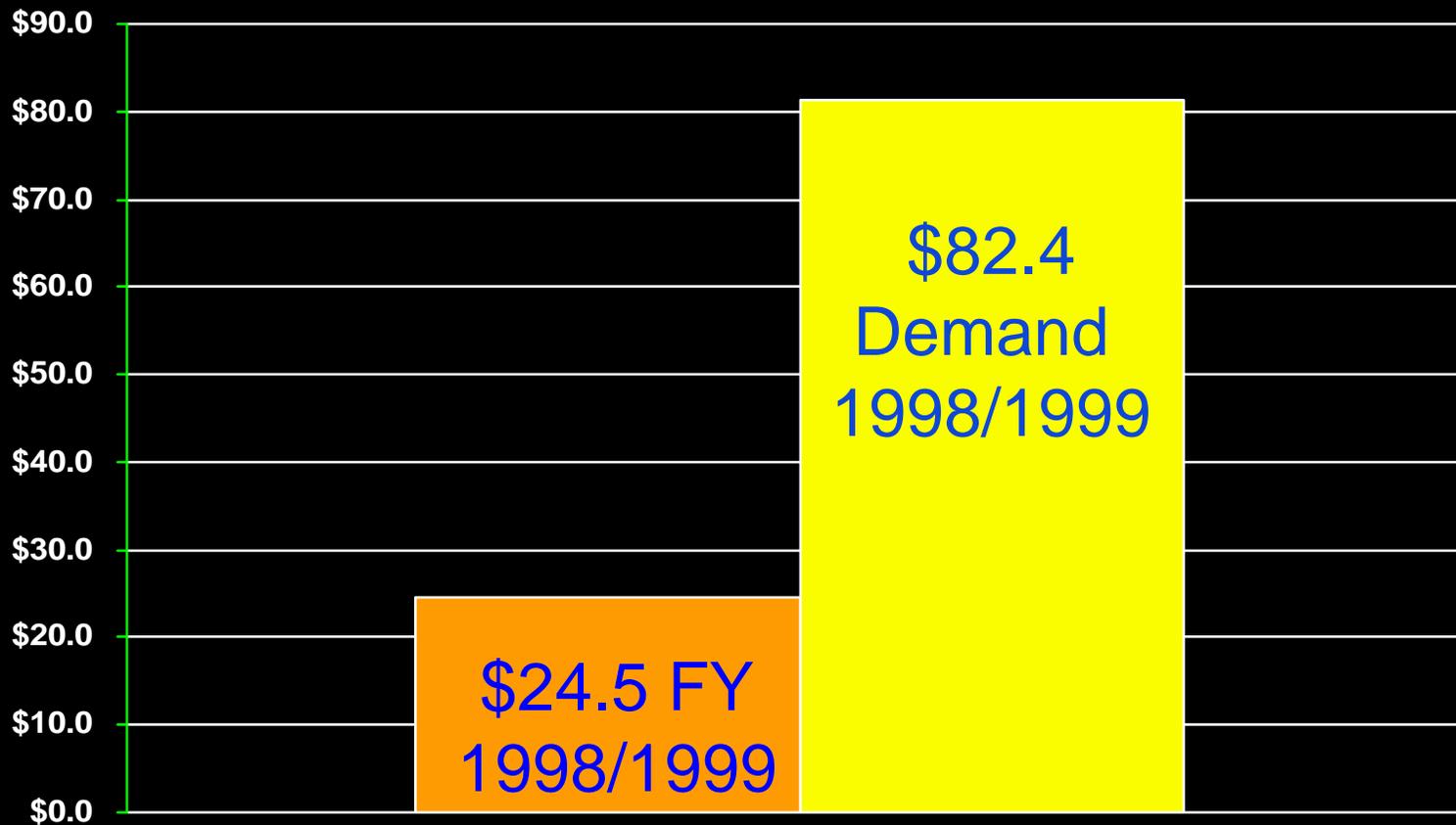
Participating Districts



- ◆ 16 districts received funding
- ◆ Each with different air pollution challenges
- ◆ Programs tailored to meet air quality needs

Demand for Project Funding

Demand is 3 Times First Years Funding



Status of Districts' Programs

District	State Allocated Funds	Obligated Funds (% of total)
South Coast	\$11,275,593	100
San Joaquin Valley	\$ 4,399,801	100
Bay Area	\$ 2,500,000	100
Sacramento	\$ 1,927,791	100
San Diego	\$ 1,085,661	100
Ventura	\$ 860,221	100
Mojave Desert	\$ 845,791	100
Antelope Valley	\$ 302,571	100
Santa Barbara	\$ 302,571	60

Status of Districts' Programs (continued)

District	State Allocated Funds	Obligated Funds (% of total)
Monterey Bay	\$ 265,800	14
San Luis Obispo	\$ 157,800	100
Imperial County	\$ 134,800	100
Northern Sierra	\$ 127,700	None to Date
Northern Sonoma	\$ 113,900	79
Glenn County	\$ 100,000	100
North Coast	\$ 100,000	100
STATEWIDE	\$24,500,000	97

Today's Agenda

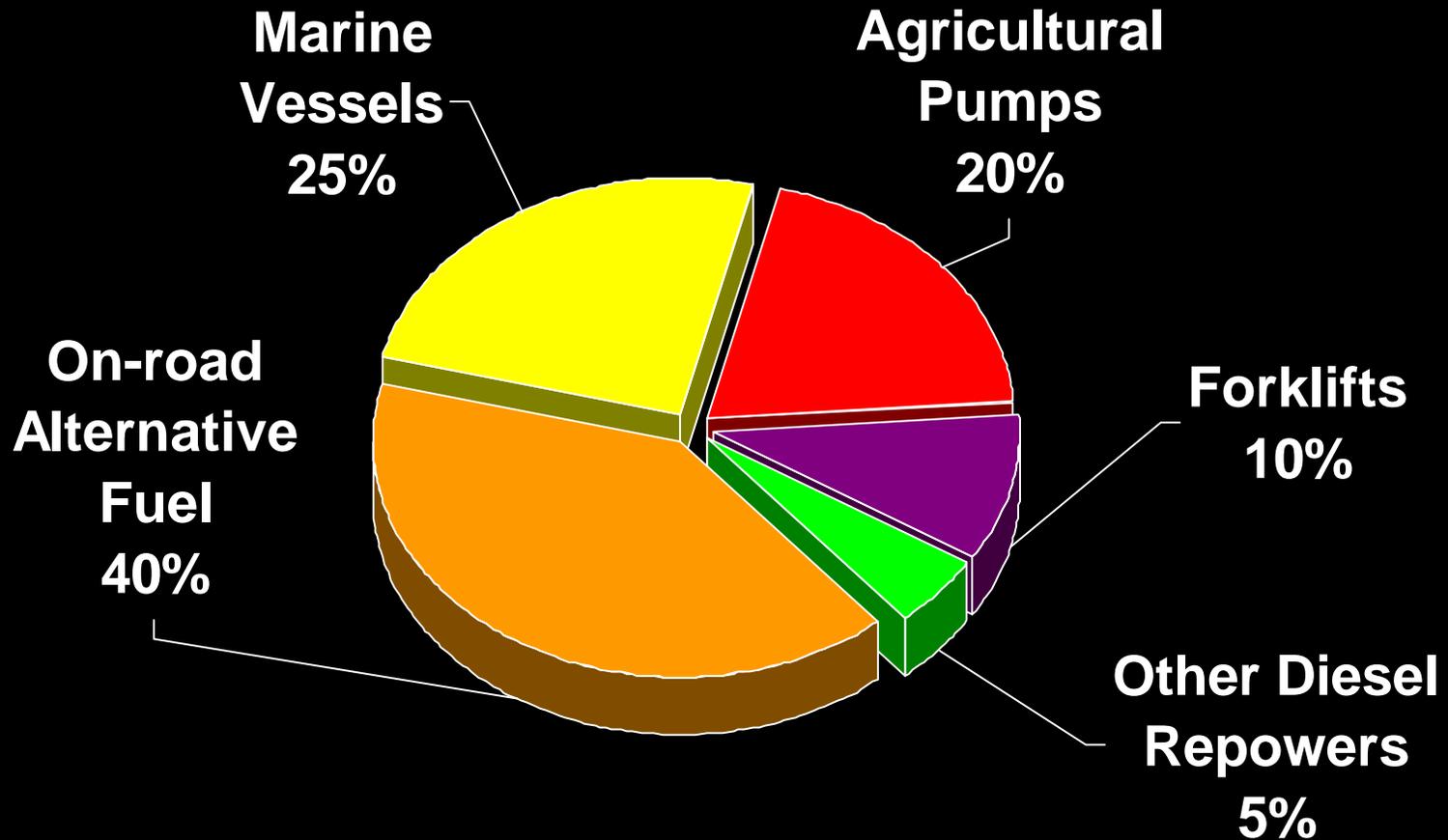
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Types of Projects Funded

- ◆ **Alternative fueled engines**
 - Line-haul truck
 - Refuse hauler
 - Urban Transit Bus
 - School bus
 - Tractor
- ◆ **Electric forklifts**
- ◆ **Diesel-to-Diesel marine vessel and agricultural pump repowers**

Types of Projects Funded

Preliminary Estimates



Alternative Fuel Projects

On-Road Project



- CNG refuse truck
- About 11 tons of NOx
- About \$3,800/ton
- About 150 refuse haulers statewide



On-Road Project



- ◆ Dual Fuel LNG/diesel line haul truck
- ◆ About 4 tons of NOx
- ◆ about \$1,000/ton
- ◆ 12 new vehicles

On-Road Project: Infrastructure



- ◆ LNG Station
- ◆ To fuel new LNG fleet

On-Road Project



- ◆ **CNG Urban Transit Buses**
- ◆ **About 9 tons of NO_x**
- ◆ **About \$770 to \$2,450/ton**
- ◆ **Over 170 buses statewide**

On-Road Project



- ◆ **CNG school bus**
- ◆ **8 buses funded**
- ◆ **About 3 tons of NOx**
- ◆ **\$12,000/ton**

Forklift Project



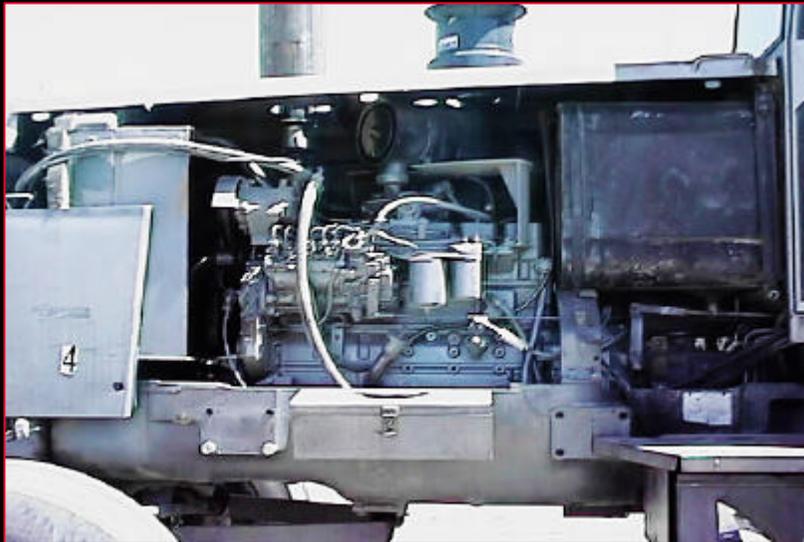
- ◆ **Electric forklifts**
- ◆ **About 5 to 15 tons**



- ◆ **About \$980 to \$5,320/ton**
- ◆ **Over 100 forklifts funded**

Diesel-to-Diesel Repowers

Off-Road Project



- ◆ **Agricultural tractor repower**
- ◆ **About 7 tons of NOx**
- ◆ **About \$300/ton**
- ◆ **2 engines**

Agricultural Pump Engine



- ◆ Diesel-to-diesel agriculture pump engine repower
- ◆ Up to 38 tons of NOx

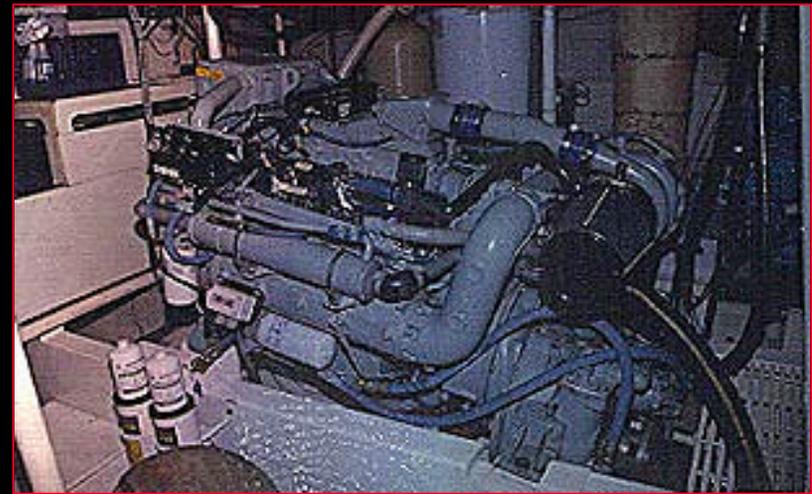
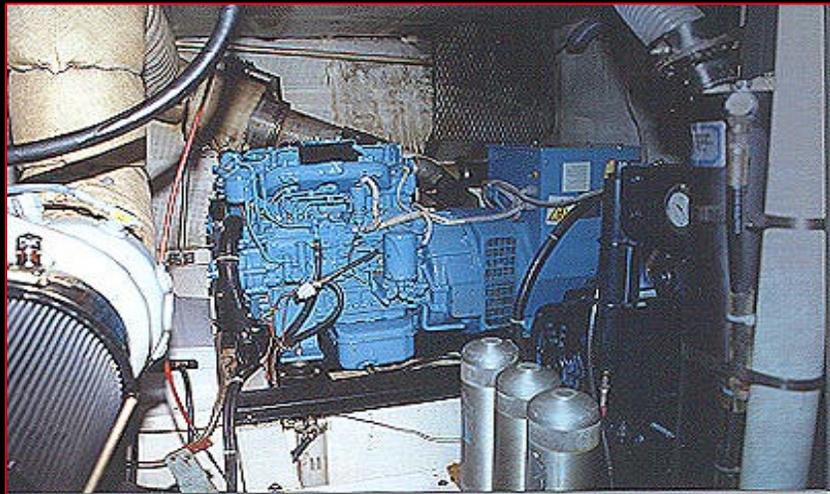


- ◆ About \$300 to \$5,000/ton
- ◆ Over 430 engines statewide

Marine Vessel Project



- ◆ Diesel-to-diesel tug boat repower
- ◆ This tug - About 30 tons of NOx
- ◆ About \$4,500 per ton
- ◆ Close to 40 marine vessels



Locomotive Repower Project



◆ Napa Valley Wine Train

◆ CNG locomotive

◆ About 800 tons

◆ About \$1,700/ton



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Estimated Program Benefits

- ◆ **About 4 tons/day of NOx**
- ◆ **About 4 lbs/day of particulate matter**
- ◆ **Cost - Under \$3,000/ton**

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AB1571 (Villaraigosa/Brulte)

- ◆ **Codifies the Carl Moyer Program**
- ◆ **ARB - project portion with \$19 million**
- ◆ **CEC - advanced technology development and infrastructure portion with \$4 million**
- ◆ **Creates a 13 member Advisory Board with ARB Executive Officer as Chairman**

Advanced Technology & Infrastructure

- ◆ **CEC developed both programs with \$2 million each**
- ◆ **PON sent by CEC, applications by:**
 - **February 2000 - Advanced Technology**
 - **January 2000 - Infrastructure**
- ◆ **Projects by:**
 - **Late March 2000 - Advanced Technology**
 - **After March 31, 2000 - Infrastructure**

Advisory Board

▶ Appointed by:

- Secretary of California EPA - nine members
- Assembly - two members
- Senate - two members

▶ Advisory Board must:

- Review ARB's report & develop recommendations
- Hold one public hearing on Advisory Board's report
- Submit report to Legislature and Governor

Need for Continued Funding

- ◆ **Program reduces emissions and helps us to:**
 - **Meet state & federal ozone attainment deadlines**
 - **Mitigate off-cycle emissions**
 - **Reduce exposure to toxic air contaminants**
- ◆ **Demand 3 times first year of funding**
- ◆ **20 tons/day in 2005 at \$30 million/year through 2005**

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Recommendations

- ◆ **Continue the Carl Moyer Program**
- ◆ **Approve status report**
- ◆ **Update Status Report January 2001**