Emission Reduction Plan for Ports and Goods Movement in California: *Update on Implementation*

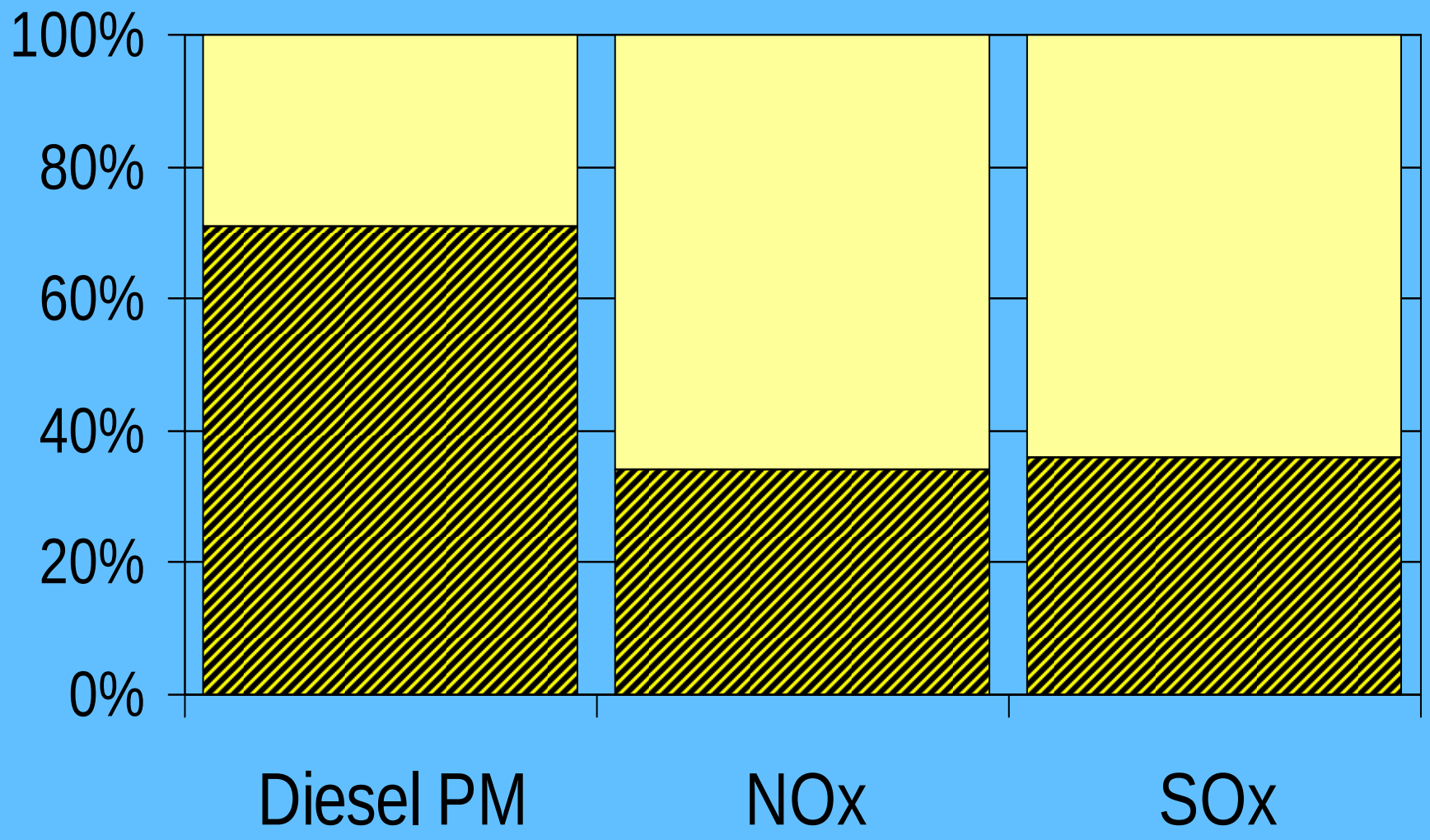
Air Resources Board Meeting
April 24, 2008
Oakland

Air Resources Board

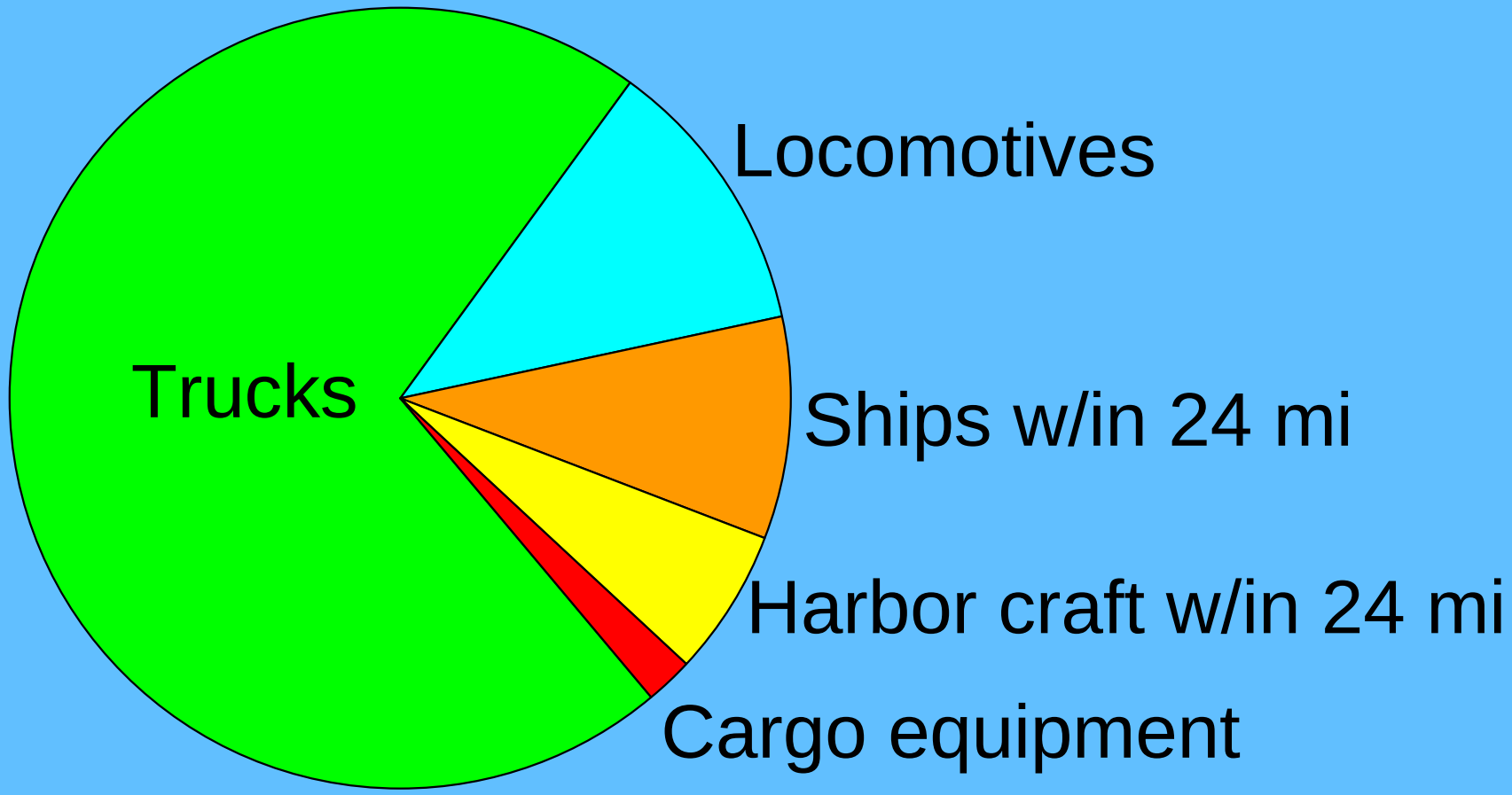
California Environmental Protection Agency

Where We Started in April 2006…

Goods Movement Contribution to Statewide Emissions in 2005



Goods Movement Contributed to ~ 2,400 Premature Deaths in CA in 2005



2006 Emission Reduction Plan for Ports and Goods Movement
Board Goals

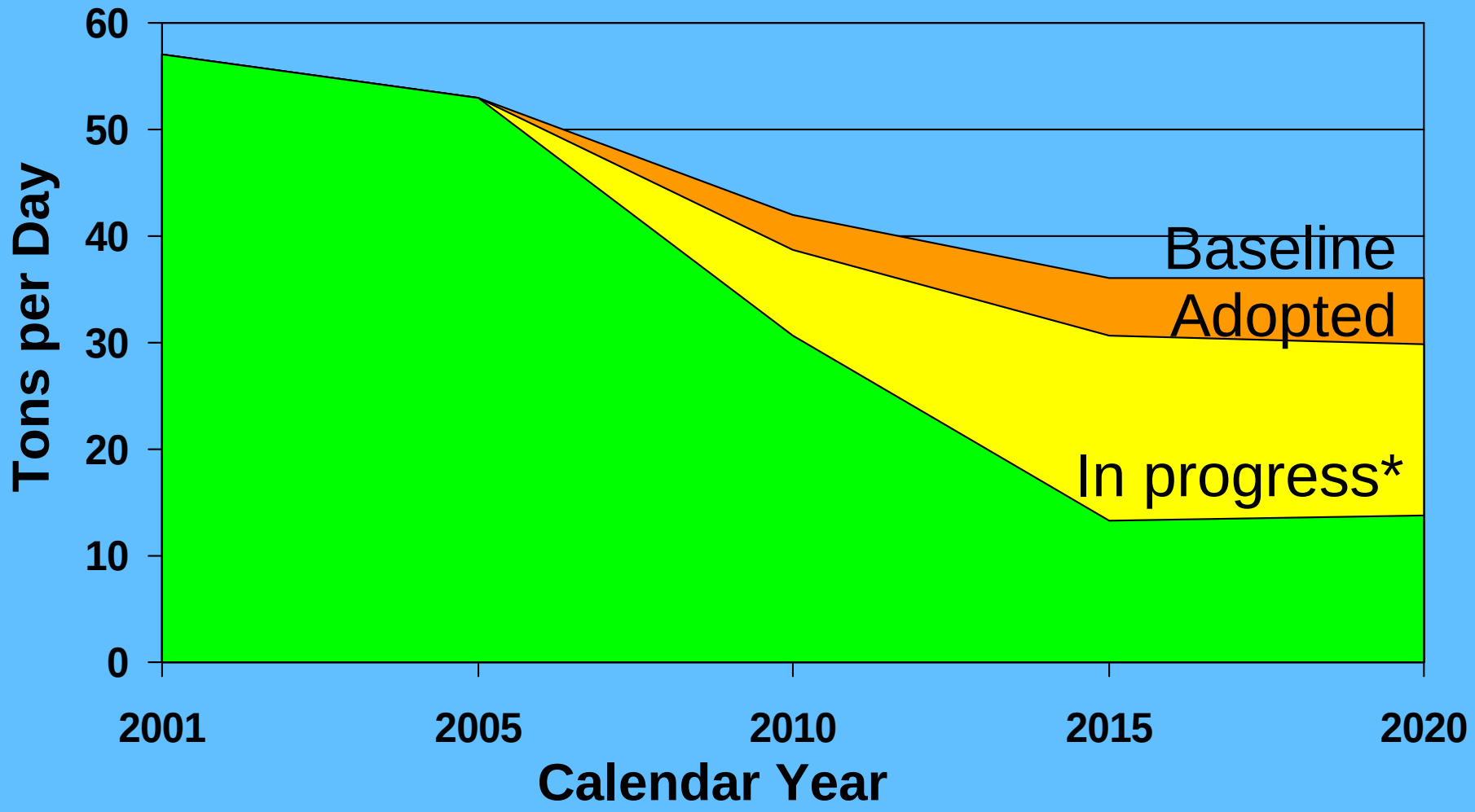
- Reverse growth in emissions
- Reduce diesel PM risk
  - Rapid reduction in community risk
  - By 2020, reduce statewide risk 85%
- Attain federal PM2.5/ozone standards

Now in April 2008…

ARB's Program Today

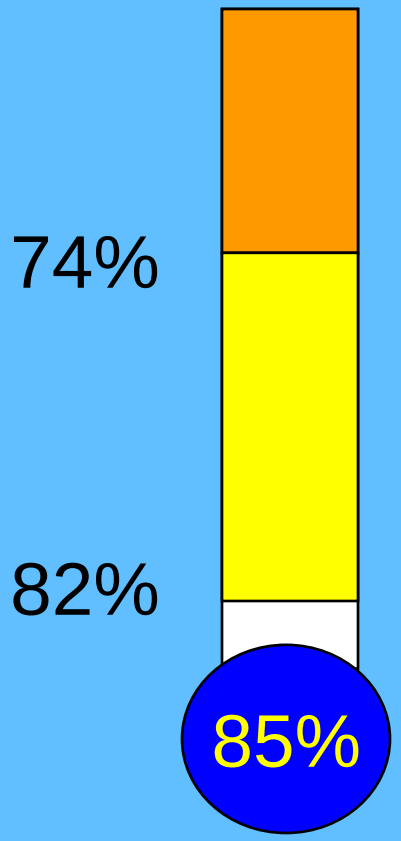
- Special air monitoring studies
- Health risk assessments
- Plans and technology evaluations
- Rulemaking and enforcement
- Incentives and agreements
- Advocacy for national/international action
- Support for local initiatives
- Addition of greenhouse gas strategies

Diesel PM Emissions from Ports and Goods Movement



**Statewide Truck & Ship Main Engine Fuel Rules*

Goal: 85% Reduction in Statewide Diesel PM Health Risk by 2020



Adopted

In progress -- statewide truck and ship main engine fuel rules

How do we reach 85% and beyond?

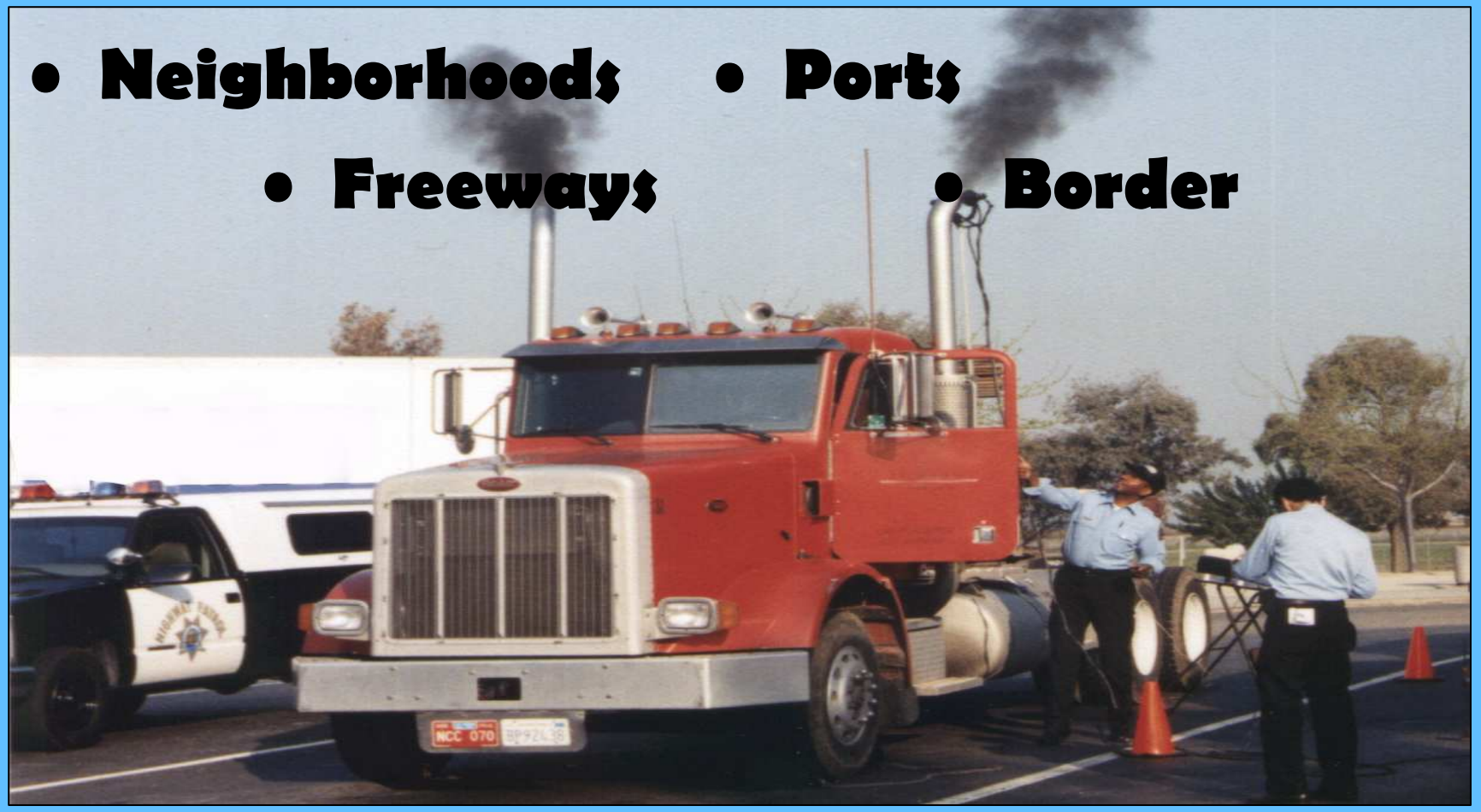
- ARB statewide truck rule
- ARB ship main engine fuel rule
- CA agreement for cleaner locomotives
- Tough international ship/fuel standards and CA agreement for cleaner ships
- Greenhouse gas measures that provide multi-pollutant benefits
- Effective implementation of incentives

Strategies

ARB - Trucks

- ✓Idling limits
- ✓Requirements for international trucks
- ✓Transport refrigeration unit (TRU) upgrades
- ✓Drayage truck modernization
- Statewide truck and bus rule

ARB - Truck Enforcement (2007)



20,250 inspections: 663 violations (3%)
1,470 idling checks: 125 violations (8.5%)

ARB - Statewide Truck & Bus Rule
(in development)

- Driven by State Implementation Plan needs
  - 2014: PM and NOx for PM2.5 attainment
  - 2017-2020+: NOx for ozone attainment
- Key issues
  - 2 rounds of truck turnovers
  - Cost and impacts on individual fleets
  - Need for government sponsored financing

ARB - Ships

- ✓Lower sulfur fuel for auxiliary engines
  - – 5,000 ppm in 2007, 1,000 ppm in 2010
  - – Injunction to be reinstated
- ✓Shore power/at dock reductions-phase 1
  - – 50% by 2014, 80% by 2020
- ✓Ship incineration ban
- • Lower sulfur fuel for main engines
- • At-dock - phase 2
- • “Green ships”

ARB – Ship Main Engine/Boiler Fuel Rule *(in development)*

- Draft staff proposal
  - 5,000 ppm sulfur by mid-2009
  - 1,000 ppm sulfur by Jan 2012

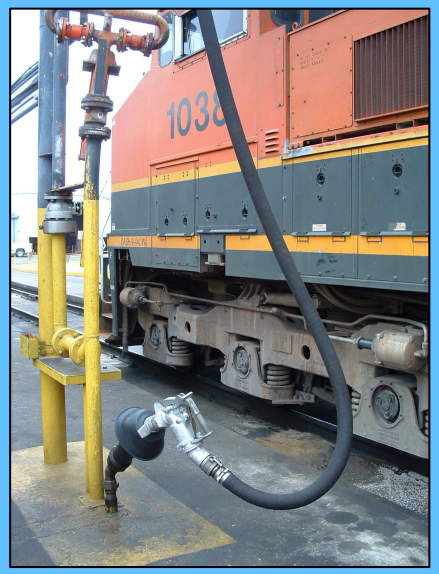
- Operational challenges
  - Operator experience
  - Fuel viscosity
  - Availability
  - Cross-contamination

Ships

- International Maritime Organization proposal
  - SOx Emission Control Areas (SECAs) are key
  - Fuel: 1,000 ppm sulfur in SECAs by 2015
  - New ships: 80% NOx control in SECAs by 2016
  - Recommendation to full IMO in Nov 2008
- Federal government
  - Congress still needs to ratify existing treaty
  - Pending bills direct US EPA to move ahead on national standards

ARB - Locomotives

- ✓Low sulfur diesel fuel use
- ✓Fleet average NOx limits for South Coast
- ✓Diesel PM risk reduction at rail yards
- Cleaner line-haul locomotives in CA service



ARB - Harbor Craft

- ✓Low sulfur diesel fuel use
- ✓In-use harbor craft upgrades – tugs, tows, ferries, and excursion vessels
- Evaluation of rule for other harbor craft

ARB - Cargo Handling Equipment

- ✓Low sulfur diesel fuel use
- ✓In-use diesel equipment upgrades
  - ½ of pre-2003 yard trucks retired
  - ¼ of pre-1988 non-yard truck equipment retired, replaced or retrofitted
- ✓In-use gas forklift upgrades

Additional Concepts for Greenhouse Gas Reductions

- Early action: truck efficiency, slower ship speeds, less cargo equipment idling, and no use of transport refrigeration units for extended cold storage
- Near-term (2020): smaller carbon footprint for ports/rail yards, better harbor craft maintenance, and truck/trailer efficiency
- Long-term (post-2020): greening the freight transportation network

Funding and Regional Actions

Key State/Local Funding

- Cleaner technology
  - Prop 1B goods movement (ARB)
  - Carl Moyer and local programs (ARB/districts)
  - Port tariffs (Los Angeles/Long Beach)
- Infrastructure
  - Prop 1B trade corridors improvement

Prop. 1B: Goods Movement Emission Reduction Program

- ✓Program Guidelines
- ✓$25M in early grants
- Board to award $221M in FY2007-08 funds on May 22
- Governor's FY2008-09 budget includes second installment of $250M

Applications for $221M in FY2007-08 Funds

- 6 air districts and 3 seaports
- 19 projects covering all source sectors
- Requests total $732M:

	Truck	Rail	Other
LA/Inland Empire	$394M	$6M	$15M
Central Valley	$258M	$10M	--
Bay Area	$26M	$3M	$4M
San Diego	$13M	--	$3M

Staff Direction

- Divide the $221M based on the corridor targets approved by the Board

Corridor	Target	Funding
LA/Inland Empire	55%	$122M
Central Valley	25%	$55M
Bay Area	14%	$31M
San Diego/Border	6%	$13M

- Discuss funding levels for specific proposals at workshops next week

Prop. 1B: Infrastructure Funding

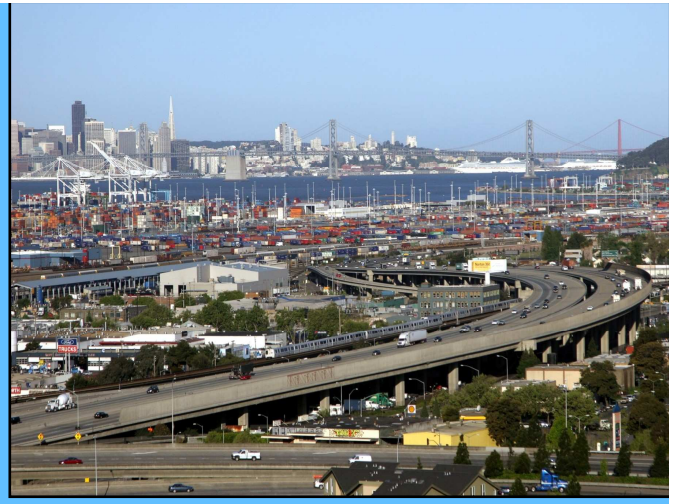
California Transportation Commission

- Trade Corridors Improvement Fund ($2B)
  - CTC approved $3B in projects April 10
  - North: Port improvements, Donner Summit rail, Valley freeway/rail, ship channel deepening
  - South: Port rail/truck and freeway access, bridges, San Diego/border freeways, rail crossings/grade separations

Port of Los Angeles and Port of Long Beach

- All trucks are 2007+ by end of 2011
- Gate fees ($35/TEU) to fund cleaner trucks
- Grants cover up to 80% of new truck cost
- Trucking concession requirements
  - Employee drivers only (Los Angeles)
- Incentives for cleaner main engine fuel

Port of Oakland Maritime Air Quality Policy



- Goal: cut diesel PM health risk 85% by 2020
- Adopt fees to raise $520M over 7 years for air quality measures and infrastructure
- Evaluate employee driver requirement
- Early actions - $ for cleaner technology, enforce ban on port trucks in neighborhoods

Conclusions

- State/local actions are steadily reducing emissions/health risk toward Plan goals
- Upcoming ARB rules for statewide trucks and ship main engines are vital to success
- North American SECA looks critical for ship reductions
- Greenhouse gas/efficiency strategies can further progress toward all goals